

WELBECK PARK:
THE IMPACT OF LANDSCAPE MANAGEMENT ON
PARKLAND ANIMALS
1769 TO 1879

SUSAN AVRIL JEAN BESTWICK, B.A. (HONS), M.A. MERIT

Thesis submitted to the University of Nottingham for the degree of
Doctor of Philosophy

2019

Abstract

Eighteenth and nineteenth century landscape parks have been the focus of scholarly attention by historians and geographers from differing perspectives. parkland studies have included landscape and garden design, political and economic aspects, farming and forestry. This thesis takes a different approach as the key aim of the study is to discover the impact of landscape management within Welbeck Park, Nottinghamshire, on parkland animals. The thesis examines the tenures of the 3rd to the 5th Dukes of Portland, 1769-1879 by means of a case study approach. This will enable the close study of parkland animals and the implications of landscape change at Welbeck from an environmental perspective.

The interests and financial positions of the three Dukes are seen as essential to the thesis in order to contextualise the changing aspects of parkland management. Consecutive chapters will address the management of grazing animals such as deer, sheep, cattle and horses, the breeding and rearing of game birds as well as all aspects of pisciculture within the park. The study focuses upon the particular animals chosen because they relate to the main parkland landscape features such as grassland, agricultural land, woodland and waterscapes. The principal resources for this thesis are the Portland archival collection at the University of Nottingham Manuscripts and Special Collections, and the Portland papers at Nottinghamshire County Council archives. The rich archival sources used include estate and gamekeeper records as well the diary of the steward to the 3rd Duke of Portland. This material is invaluable and underused because it gives insight into the day to day management of the park, including the animals which inhabited the parkland.

It is now understood that historical parkland provides important habitats for a diversity of species and NGOs such as the National Trust, Natural England and regional Wildlife Trusts are working to preserve the long-term environmental management of landscape parks. Also, it is known that historical parkland has a higher ratio of priority habitats compared to the wider landscape, the ecology of these habitats is crucial to the survival of threatened species. The findings from this thesis will inform future policies and the conservation efforts of various NGOs regarding parkland ecosystems and habitats. The thesis will also contribute to the study of the environmental history of English parkland, which has been overlooked and undervalued as a site of ecological importance.

Contents

Abstract.....	2
Contents.....	3
Acknowledgements.....	11
Abbreviations.....	12
CHAPTER ONE: INTRODUCTION.....	13
1.1 Methodology.....	16
1.2 The University of Nottingham, Manuscripts and Special Collections.....	22
1.3 Nottinghamshire Archives.....	23
1.4 Other Archives consulted.....	23
1.5 Eighteenth & Nineteenth Century published sources.....	24
1.6 Outline of Thesis Chapters.....	25
CHAPTER TWO: LITERATURE REVIEW.....	33
2.1 Landscape Studies.....	33
2.2 Parkland and the Landed Estate.....	41
2.3 Parkland Animals.....	46
2.5 Conclusion.....	62
CHAPTER THREE: THE PARK AND OWNERS.....	64
3.1 The Early Landscape History of Welbeck.....	64
3.2 The 3 rd Duke of Portland's tenure.....	67
3.3 The 4 th Duke of Portland's tenure.....	78
3.4 The 5 th Duke of Portland's tenure.....	89
3.5 Conclusion.....	99
CHAPTER FOUR: GRAZING ANIMALS.....	122
4.1 The tenure of the 3rd Duke.....	123
4.2 Parkland Deer.....	124
4.3 Parkland Sheep.....	130
4.4 Parkland Cattle.....	136
4.5 Parkland Horses.....	139

4.6	The tenure of the 4th Duke.....	142
4.7	Parkland Deer.....	142
4.8	Parkland Sheep.....	145
4.9	Parkland Cattle.....	151
4.10	Parkland Horses.....	155
4.11	The tenure of the 5th Duke.....	159
4.12	Parkland Deer.....	160
4.13	Parkland Sheep.....	168
4.14	Parkland Cattle.....	171
4.15	Parkland Horses.....	174
4.16	Conclusion.....	177
CHAPTER FIVE:	GAME BIRDS.....	196
5.1	The tenure of the 3rd Duke.....	197
5.2	Pheasants, numbers and management.....	197
5.3	Partridges, numbers and management.....	200
5.4	Game Bird protection of pheasants and partridges.....	202
5.5	The tenure of the 4th Duke.....	205
5.6	Pheasants, numbers and management.....	205
5.7	Partridges, numbers and management.....	206
5.8	Game bird protection of pheasants and partridges.....	208
5.9	The tenure of the 5th Duke.....	210
5.10	Pheasants, numbers and management.....	211
5.11	Partridges, numbers and management.....	213
5.12	Food for pheasants and partridges.....	217
5.13	Pheasants and Partridges, vermin control.....	218
5.14	Conclusion.....	222
CHAPTER SIX:	AQUATIC SPECIES OF FISH AND WILDFOWL.....	229
6.1	The tenure of the 3rd Duke.....	229
6.2	Water features and their management.....	229
6.3	Fish species, numbers and management.....	234

6.4	Wildfowl breeds and management.....	240
6.5	The tenure of the 4th Duke.....	243
6.6	Water features and their management.....	243
6.7	Fish species, numbers and management.....	247
6.8	Wildfowl breeds and management.....	248
6.9	The tenure of the 5th Duke.....	248
6.10	Water features and their management.....	248
6.11	Fish species, numbers and management.....	252
6.12	Wildfowl breeds and management.....	257
6.13	Conclusion.....	259
CHAPTER SEVEN:	CONCLUSION.....	279
7.1	Ideas for future research.....	284
	Bibliography.....	286

FIGURES

CHAPTER 1: INTRODUCTION

Fig.	1.1	Areas of Priority Habitats.....	28
	1.2	Photograph of Welbeck Park showing bottom of Goulds Lake.....	29
	1.3	Photograph of Welbeck Park showing head of Shrubbery Lake.....	30
	1.4	OS Map 1885 showing public footpath across Welbeck Park.....	31
	1.5	Harley Gallery map of Robin Hood Walk across Welbeck Park.....	32

CHAPTER 3: THE PARK AND OWNERS

3.1	William Senior Map c.1629.....	102
3.2	Francis Richardson map c.1748 of the park.....	103
3.3	Richardson's proposals for Welbeck c.1748.....	104
3.4	Repton's proposed designs for Welbeck c.1790.....	105
3.5	Ingham's map of central area of Welbeck c.1766.....	106
3.6	Ingham's map of Welbeck c.1766 showing lake and island.....	107
3.7	Repton's proposed extension to lake and river c.1790.....	108
3.8	Welbeck painting by Malton c.1788.....	109
3.9	Repton's view of Welbeck estate c.1794.....	110
3.10	Senior's map c.1629 showing deer park and wren park.....	111
3.11	Ingham's map of Welbeck c.1629 showing fields, meadows, parks.....	112
3.12	Repton's map c.1790 of sheepwalk and deer park.....	113
3.13	Map of central area of Welbeck Park c.1844.....	114
3.14	Repton's plan of Welbeck Park c.1793.....	115
3.15	Map of Welbeck Park c.1844 showing new plantations.....	116
3.16	OS map c.1885 showing Carburton Water meadows.....	117
3.17	OS map c.1885 showing meadows and woods.....	118
3.18	OS map c.1885 showing pheasantries and stables.....	119
3.19	OS map c.1885 showing fields, woods, meadows, kennels.....	120

Fig.	3.20	Parish Map of the Nottinghamshire Estates 1774.....	121
CHAPTER 4:		GRAZING ANIMALS	
Fig.	4.1	William Senior map c.1629 deer park.....	182
	4.2	Repton's arrangement of sheepwalk and deer park.....	183
	4.3	Red book by Repton showing South and East fronts of Welbeck.....	184
	4.4	OS map c.1885 showing plantations and upper meadows.....	185
	4.5	Painting of Alderney Bull by Barrett Davis (1782-1854).....	186
	4.6	Ingham's map c.1766 showing stable blocks and meadows.....	187
	4.7	Painting of Tiresias Derby winner c.1819 by Pollard.....	188
	4.8	OS map c.1885 showing white and black deer parks.....	189
	4.9	Plan of boundary change between Welbeck and Clumber c.1856.....	190
	4.10	Iron deer fence c.1857.....	191
	4.11	Proposed paddocks by Boaler keeper c.1865.....	192
	4.12	Sketch of access points for deer by Boaler c.1870.....	193
	4.13	Pencil drawing of Welbeck Park c.1850.....	194
	4.14	OS map c.1885 showing Scotland farm and Hazel gap.....	195
CHAPTER 5:		GAME BIRDS	
Fig.	5.1	Ingham's map c.1766 of woodland in Welbeck Park.....	225
	5.2	OS map c.1885 Carburton Lodge.....	226
	5.3	OS map c.1885 showing pheasantries pheasant wood plantations.....	227
	5.4	Painting, Wheatley, 1 st Duke of Newcastle Return from shooting c.1788	228
CHAPTER 6:		AQUATIC ANIMALS	
Fig.	6.1	Ingham's map c.1766 showing island in Lake and fish pond.....	264
	6.2	Ingham's map c.1766 showing engine drain at head of lake.....	265
	6.3	OS map c.1885 showing Walling and Millwood Brook and kennels.....	266
	6.4	Repton's designs for Lake c.1790.....	267
	6.5	Repton's designs for river and lake extension.....	268

Fig.	6.6	Repton's plan of Welbeck Park c.1793.....	269
	6.7	OS map c.1885 showing duck decoy pleasure ground and roses.....	270
	6.8	A view of Welbeck c.1790 Men fishing the lake.....	271
	6.9	Photograph of Carolina Wood duck from North America.....	272
	6.10	OS map c.1885 showing Carburton and Kennel Water meadows.....	273
	6.11	Goulds Meadow c.1854.....	274
	6.12	Mr Fox's Meadow c.1854.....	275
	6.13	Sketch of New Pond Goulds Meadow c.1859.....	276
	6.14	OS map c.1885 showing Shrubbery lake and Carburton pond.....	277
	6.15	Sketch of Brick Culvert c.1872.....	278
CHAPTER 7:		CONCLUSION	
Fig.	7.1	Inventory of Woodland in wider landscape and parkland c.2015.....	285

TABLES

CHAPTER 3: THE PARK AND OWNERS

Fig.	3.1	William Senior survey of Welbeck and its environs c.1629.....	65
	3.2	The extent of work carried out by Repton 1790-1795.....	74
	3.3	Mud removed from lakes 1827-1828.....	83
	3.4	Costs for draining, levelling grassland training ground 1837-1844.....	86
	3.5	Agricultural seeds shipped from abroad 1819.....	88
	3.6	Stock cleared from park 1801.....	89
	3.7	Proposed brick culvert 1872.....	92
	3.8	Measurements of Deodora tree in Rough Breck 1860.....	95
	3.9	Grazing and mowing grassland 1860.....	97

CHAPTER 4: GRAZING ANIMALS

Fig.	4.1	Number of deer in Welbeck Park 1780.....	126
	4.2	Land in hand for deer at Welbeck 1782.....	127
	4.3	Calculation of deer prices keeper place Welbeck 1780.....	128
	4.4	Lincolnshire sheep at Welbeck 1779.....	131
	4.5	Numbers of sheep at Welbeck 1778 1779 1781.....	133
	4.6	Weights of sheep wool in the Forest district 1798.....	134
	4.7	List of horses at Welbeck and Bolsover 1778.....	139
	4.8	Number of horses kept at Welbeck and Bolsover 1778-1782.....	140
	4.9	Horses purchased at Welbeck 1782.....	141
	4.10	Sheep shorn in park 1799.....	147
	4.11	Sheep shorn in 1801.....	148
	4.12	Sheep bought in 1846 1848.....	148
	4.13	Account of grass from Carburton water meadows 1829.....	150
	4.14	Types of cattle 1799.....	153
	4.15	Cattle disposed of 1801.....	153

Fig.	4.16	List of mares, fillies and stallions 1794.....	155
	4.17	Cost of upkeep of racehorses 1844.....	156
	4.18	Sale of horses 1821-1826.....	157
	4.19	Number of deer in Cowclose 1872.....	161
	4.20	Requests and thanks for game 1864-1875.....	167
	4.21	Pastures for sheep 1860-1875.....	170
	4.22	Ground for Mowing 1860.....	176
	4.23	Numbers of grazing animals 1769-1879.....	177
CHAPTER 5:		GAME BIRDS	
Fig.	5.1	Vermin control Cuckney Parish 1766-1791.....	202
	5.2	Gould's accounts of vermin killed at Welbeck 1789-1795.....	203
	5.3	Vermin killed at Welbeck 1811-1816.....	209
	5.4	Partridge coveys seen in 1858 1860 1861 1879.....	214
	5.5	Vermin account at Welbeck 1859 1860.....	220
	5.6	Vermin account at Welbeck 1871.....	220
	5.7	Vermin account at Welbeck 1876.....	221
CHAPTER 6:		AQUATIC SPECIES	
Fig.	6.1	Fish caught with shuttle at Welbeck 1784-1795.....	235
	6.2	Deepening lake 1861.....	250
	6.3	Game birds shot at Welbeck 1861 1864 1879.....	259

Acknowledgements

I would like to thank the staff at the University of Manuscripts and Special Collections at Kings Meadow for their continuing help and advice in locating archival material from the Portland Collection. This is a very large collection to navigate but the catalogue is online which made the pre-ordering of material less stressful and it was available to view immediately on arrival at the archives.

Also, thanks to Nottinghamshire County Council Archives who hold a considerable collection of Portland material which includes many detailed estate accounts written by stewards and game keepers over substantially long time periods.

In particular though I would like to thank Dr Susanne Seymour for her continued support with this work, her guidance has been crucial in enabling the completion of this thesis. Also, many thanks to Professor Charles Watkins for his positive encouragement and sage advice.

I am also very grateful for the constant support of Barry Cook in this endeavour; without his encouragement and patience it would have made the undertaking much more difficult.

Abbreviations

The following abbreviations are used throughout the thesis:

UNMSS	The University of Nottingham Manuscripts and Special Collections
NA	Nottinghamshire Archives

Chapter 1 Introduction

English parkland has been an important focus of study within the disciplines of geography, history and ecology for some considerable time. A mid twentieth century seminal text on landscape parks by Prince charts the changing areas of parkland over time. He outlines in detail the existence of deer parks which were “widely scattered throughout rural areas”.¹ However, it is the focus upon eighteenth century parkland which offers an important insight into the development of parks by their aristocratic owners and according to Prince “During the creative years of landscape gardening from 1760 to 1820, the number of parks almost doubled in the Home Counties and increased considerably throughout the country”.² This text provides a comprehensive account of the impact of ‘improvement’ in relation to parkland as Prince suggests “Since the eighteenth century many changes taking place in the surrounding landscape have been affected by the presence or proximity of parks”.³

Landscape historians, historical and cultural geographers have produced important studies which consider landscape parks from a wider ‘estate’ viewpoint, as well as the park itself, notably work by Williamson, Daniels, Seymour and Watkins. Eighteenth century parkland design by the leading proponents, Brown and Repton is a recurring focus and these designers have been extensively researched, including in Daniels’ wide-ranging studies of Repton. However, according to Williamson designed landscapes are not “*just* about gardens but many other topics [such as] politics, and economics, farming and forestry and changing patterns of social organisation”.⁴

However, the study of English parks and gardens has also been undertaken from philosophical and aesthetic viewpoints which sometimes can disassociate the parkland from the reality of a working landed estate. As Williamson and Taigel argue “Gardens were not just ‘art’ their form was moulded by all aspects of the lives of their creators”.⁵ Williamson particularly singles out the work of art historians towards parks and gardens as problematic, by arguing that “in most (art history) books gardens seem to be removed from economic and environmental concerns [and] there is little impression that they existed in a real world”.⁶

Conventional history studies of landed estates which include Beckett, *The Aristocracy in England* and Mingay, *English Landed Society in the Eighteenth Century*, whilst often including parkland, focus

¹ Prince H, (1967) *Parks in England*, Pinhorns, Shalfleet Manor, Isle of Wight, p. 1.

² Ibid. p. 9.

³ Ibid. p. 14.

⁴ Williamson T, (1995) *Polite Landscapes, Gardens and Society in Eighteenth Century England*, Alan Sutton Publishing Ltd. The John Hopkins University Press, Baltimore, Maryland, p. 1.

⁵ Taigel A, Williamson T, (1993) *Know the Landscape, Parks and Gardens*, B T Batsford Ltd. London, p. 11.

⁶ Ibid.

more upon the political and economic aspects of managing a landed estate in its entirety. The administration of estates has been well documented by academics such as Beckett who argues that “The responsibility exercised by the aristocracy in economic development [of their estates] was matched by a similar concept of duty and service in regard to the leadership of both the locality and the nation”.⁷ Although there have been studies of parkland in an estate context, notably by Seymour, Webster, Daniels, Watkins and Laws, a significant ‘gap’ within past research is the close study of parkland animals. Studies of parkland include, Seymour, *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, Daniels, *Humphry Repton Landscape Gardening and the Geography of Georgian England*, and Webster, *Agents and Professionalisation, Improvement on the Egremont Estates*.

This thesis focuses on the key components of eighteenth and nineteenth century landscapes, most notably grassland, woodland and waterscapes, together with some cultivated agricultural land and their associated grazing, game bird and aquatic species. It is important because it focuses upon the ecological ramifications of ‘improvements’ and their effects upon parkland animals and landscapes over a 100 year period through a detailed case study of Welbeck Park. Although Welbeck belonged to an important aristocratic family, the Dukes of Portland, this research has avoided the “handful” of more ‘famous’ parks, focused on garden and design history such as Stowe, Rousham or Chatsworth. The time period chosen (c. 1769-1879) allows long-term consideration of the changes made by successive Dukes to the parkland, animal husbandry, and the management of woodland and water courses. The study also encompasses the late Georgian and Victorian time periods which are often considered separately in garden and landscape histories for example, Williamson, *Polite Landscapes, Gardens and Society in Eighteenth Century England* and Brent Elliott, *Victorian Gardens*.

The study considers the environmental impacts of landscape changes made to facilitate the successful breeding and rearing of parkland animals including the ecological impacts upon wild flora and fauna. Parkland grazing animals encompass domestic animals such as cattle, sheep and horses as well as deer. The parkland game bird species studied are pheasants, and partridges (English Grey and Red Leg), and to a lesser extent woodcock and snipe. Parkland aquatic species include a variety of fish breeds, including coarse fish and game fish, wildfowl and waterfowl, including resident and migratory birds. The parkland animals which were of most interest to the owners of the time are focused upon and this is reflected in the choice of archival material. Overall this case study of Welbeck Park enables the thesis to closely examine the breeding and management of parkland animals and importantly their environmental impact upon the Park and subsequent wildlife.

⁷ Beckett J V (1986) *The Aristocracy of England 1660-1914*, Basil Blackwell Ltd. Oxford, p. 9.

The primary aim of studying Welbeck Park is to chart the effects of landscape changes over time on particular parkland animals and subsequently their impacts upon the Park landscape. The environmental value of studying historical parkland cannot be underestimated in terms of the management and conservation of flora and fauna in the twenty first century. Although some of the landed estates of the eighteenth and nineteenth centuries have either been broken up and/or sold into private ownership, others have been acquired by non- governmental organisations (NGOs) such as the National Trust and County Wildlife Trusts. One of the many aims of such organisations is to restore parks and to “safeguard the rare and surviving features of the eighteenth century parkland landscape”.⁸ Parkland held privately is also valued culturally and ecologically for nature conservation. Welbeck is still in private ownership and studies of this type have potential to inform future conservation projects by private owners, NGOs and government bodies. Also, national government agri-environmental schemes such as Countryside Stewardship have since 1991 offered grants to landowners for conservation and to “boost diversity and help protect and enhance farmland and the countryside, including historic parkland”.⁹ Measures focused on parkland are important aspects of the current Countryside Stewardship schemes which aim to “benefit the environment by maintaining existing lowland wood pasture and parkland on sites that still support mature and veteran trees”.¹⁰

According to Natural England in 2016 “Historic designed landscapes today contribute many environmental benefits yet they remain an undervalued resource”.¹¹ The interest in parks was given a further boost during the Capability Brown Festival in 2016 which celebrated the tri-centenary of Brown’s birth in 1716. The ecological significance of Brown’s landscapes is evident in a research paper given by Natural England in the same year which reported on two projects “focussing on ecosystem services, ecology and ecological connectivity, including data collected from Brown sites”.¹² This emphasises that diversity of species is of primary concern when managing historic parkland: “Provision of genetic diversity is significant for paleo-biology and decomposition biology in undisturbed soils in ancient woodland, permanent pasture and semi-natural habitats”.¹³ It highlights that the successful existence of parkland species ensures the “genetic survival of medieval deer

⁸ <http://www.naturalengland.org.uk>, *Helping to bring a Georgian Park landscape back to life*, Accessed 19th December 2017.

⁹ <http://www.gov.uk/government/news/countryside-stewardship-detail-of-new-simplified-offers> accessed 5th February 2018. P. 1.

¹⁰ <http://www.gov.uk/countryside-stewardship-grants-of-wood-pasture-and-parkland> accessed 10th September 2018.

¹¹ http://www.capabilitybrown.org/sites/default/files/sheffield_hallam_conference_paper_2016pdf accessed 21st December 2017, Natural England, p. 1

¹² <http://www.capabilitybrown.org> accessed 21st December 2017, p. 1

¹³ *Ibid.* p. 1

herds, veteran trees over 500 years' old, rare or pure native species and pedigree or rare breeds".¹⁴ Figures (Fig. 1.1) compiled by Natural England and the Forestry Commission reveal the higher ratio of priority habitats within historic parkland when compared to the wider landscape.

The conservation of wildlife habitats (to which historical parkland contributes) is high on the priority of previously mentioned NGOs as well as government bodies such as county councils and Natural England. In Nottinghamshire the National Trust, Nottingham City Council, Natural England and Nottinghamshire Wildlife Trust are amongst many organisations who are partners in the *Nottinghamshire Local Biodiversity Action Plan* or NBAG. Wood pasture is very important to the diversity of species and this is apparent because "Birklands Forest, the wood pasture core of Sherwood was designated as the Sherwood Forest National Nature Reserve (NNR) in 2002".¹⁵ It is the intention of the Biodiversity group to restore parkland and wood pasture locally because "Wood pasture and parkland are important habitats in Nottinghamshire, both for their wildlife value and their role in shaping some of the characteristic landscapes of the county [particularly in the Sherwood Area]".¹⁶

1.2 Methodology

This thesis is predominately an archival research study and the primary source material used comes from public university and private repositories, including material lodged at Welbeck estate. It is a single case study and micro history of Welbeck Park, giving the thesis a local perspective. The case study method is used because it allows in depth research of the park in a variety of historical circumstances and settings. This depth of focus is an important strength of the case study method and according to Zainal "case studies are considered useful in research because they enable researchers to examine data at the micro level".¹⁷ This method of research enabled close analysis of written documents, maps, letters, surveys and drawings. As Zainal argues "Case studies have various advantages, in that they present data of real-life situations and they provide better insights into the detailed behaviours of the subjects of interest".¹⁸ Also, using a case study method ensures that an in depth study can be achieved over a long time period. This thesis is rich in archival research and as Shurmer-Smith argues "Central to the analysis of case studies is thoroughly knowing all the research

¹⁴ <http://www.capabilitybrown.org> accessed 21st December 2017, p. 1

¹⁵ <http://www.nottbag.org.uk> *Parkland and Wood Pasture, Nottinghamshire Local Biodiversity Action Plan*, accessed 20th December 2017.

¹⁶ <http://www.nottbag.org.uk> *Parkland and Wood Pasture, Nottinghamshire Local Biodiversity Action Plan*, accessed 20th December 2017.

¹⁷ Zainal Z, (2007) *Case Study as a Research Method, Faculty of Management and Human Resource Development, Universiti Teknologi Malaysia*, Jurnal Kemanusiaanbil. 9. Jun 2007, p. 5

¹⁸ Ibid. p. 5.

material and moving between its detail and the objectives of the research, using the two to impact upon each other”.¹⁹ Environmental debates inform the research and the ecological impact of landscape change on parkland animal species is an important aim of the study. The primary material used in this study includes letters, diaries, agents’ correspondence and accounts, maps, surveys, paintings, gamekeeper records, original drawings and other documentary evidence for example pamphlets and newspapers.

Maps are an invaluable archival source and many are included in the thesis to chart the nature and extent of significant changes to Welbeck Park over time. Estate maps are particularly useful as they show in detail the layout of the park. However, it is not always possible to find maps which cover all of the area in question as Harley argues “In England, although a complete blank will seldom be drawn, roughly only one in ten estate maps covers the *whole* parish”.²⁰ According to Harley rural estate maps do though “mirror the diversity of the landscape as a whole [and] an *aggregate* list of the features shown on estate maps is well nigh a complete inventory of the rural landscape”.²¹ However, as Harley argues “the local historian must not expect to encounter all, or even a large proportion, in any *one* map”.²² Therefore, it is evident that care must be taken when using estate maps as there may be ‘gaps’ in the cartographic evidence. There are maps from as early as 1629 in the form of a survey of the park by William Senior for the first Duke of Newcastle. Development of the landscape park continued in 1748 when Francis Richardson’s surveyed the park and according to Seymour he “landscaped the Welbeck grounds for the Countess of Oxford”.²³ There are very detailed maps of Welbeck from 1766 by Ingham, which closely show the extent of the field systems, especially in the area of Carburton. Maps of Welbeck from the 1790s include the proposals for altering the park by Repton, including extending the lake, woodland planting and the creation of sheep walks. Further maps from the early to the late nineteenth century detail landscape changes in the park over time. These earlier maps can be usefully compared to the later Ordnance Survey map of 1885. Landowners commissioned professionals to survey their estates and produce detailed maps and drawings which were then used to make planning changes for possible improvements to the landscape. In his work, *Humphry Repton, Landscape Gardening and the Geography of Georgian England*, Daniels argued that landscape gardeners such as Repton “refashioned landscape gardening as a profession from a range of paid skills and amateur accomplishments concerned with the

¹⁹ Shurmer-Smith, Ed. (2002) *Doing Cultural Geography*, p. 206.

²⁰ Harley J B, (1972) *Maps for the local historian, A guide to the British sources*, Blackfriars Press Ltd. Leicester, p. 20.

²¹ Ibid. p. 25, p. 26.

²² Ibid. p. 26.

²³ Seymour S (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 144.

portrayal and improvement of landed property".²⁴ Repton's proposed improvements for Welbeck were illustrated in his Red Books which as Daniels argues "functioned in various ways: as plans, often as a base for working drawings and itemised directions; as a record of work in progress which Repton had already recommended on site or by letter; as an album of views".²⁵ He produced three Red Books for Welbeck, in 1790 and 1793 for the third Duke of Portland, then in 1803 for the Marquis of Titchfield (subsequently the 4th Duke).

Riden explains that maps of the eighteenth and early nineteenth centuries were "either a single sheet or part of an atlas, with extensive use of colour and elaborate cartouches and scales".²⁶ The early Repton maps of Welbeck Park were designed this way and the originals are held by Welbeck estate private archives, Daniels used these archives for his work on Humphry Repton as is evident with the photographs of the "lakeside from the Red Book for Welbeck (1790), Private Collection".²⁷ They are quite large maps, unsuitable for copying, but the archivist agreed for them to be photographed and these have been successfully used in the thesis. However, by the nineteenth century maps were less decorative but more detailed, as Riden argues "landowners employed surveyors to produce maps of their property, usually accompanied by a 'terrier' listing tenants and holdings".²⁸ Also, according to Riden "Since about 1880 large landowners public and private have mostly relied on marking up 25-inch or larger OS maps to identify their property".²⁹

Although the use of maps is essential to the study there are issues with them which can create difficulties with their interpretation. According to Harley all types of historical maps can misrepresent. He argues that "Both the symptoms and causes of their inaccuracies are numerous; and their interpretation, despite an apparent graphic simplicity, may bristle with difficulty".³⁰ One problem identified by Harley relates to their lack of uniformity because different surveyors used their own unique symbols to represent the same feature. So, it is not always clear what the surveyor is representing and even the terminology can be different to describe the same feature. However, an equally important concept regarding maps is that they represent the hegemony of the ruling classes because a map can be created to reinforce the discourse of ownership and according to

²⁴ Daniels S (1999) *Humphry Repton Landscape Gardening and the Geography of Georgian England*, p. 1.

²⁵ Ibid. p. 10.

²⁶ Riden P, (2000) *Local History, A Handbook for Beginners*, Merton Priory Press, Cardiff, p. 108.

²⁷ Daniels S (1999) *Humphry Repton Landscape Gardening and the Geography of Georgian England*, p. 159.

²⁸ Ibid. p. 107.

²⁹ Ibid. p. 107.

³⁰ Harley J B (1972) *Maps for the local historian, A guide to the British sources*, (Published for the Standing Conference for Local History, by the Bedford Square Press of the National Council of Social Service, London) Blackfriars Press Ltd. Leicester, p. 36.

Foucault acts as “an instrument of power/knowledge”.³¹ Foucault suggests that mapping supported colonialism and large scale business, therefore the numerous maps made of Welbeck Park maintained the sense of ownership for the Portland family. According to Riden “they were not plans commissioned by munificent landowners who wished to provide the community with a beautifully coloured large-scale plan of their village; they are plans of what one person owned”.³² Riden’s argument is not dissimilar to that of Foucault who maintained that “Seventeenth century travellers and nineteenth century geographers were actually intelligence-gatherers, collecting and mapping information which was directly exploitable by colonial powers, strategists, traders and industrialists”.³³ The historical context highlights important issues of the eighteenth and nineteenth centuries including land expansion, enclosure and the power of landowners when consolidating their estates.

However, it must be noted that archival sources themselves are not unproblematic in their representation of the past. Historians and geographers view historical records with caution, according to Craggs “Historical sources are always fragmentary because not everything in the past leaves a trace, and not all traces produced are then preserved”.³⁴ This suggests that historical records are narratives which give partial accounts of the past rather than the ‘whole story’. Therefore interpretation of primary evidence has to be carefully considered. According to Dymond “Given the patchy and uneven nature of historical evidence, our knowledge of the past inevitably displays gaps and doubts [therefore] we should candidly acknowledge the flaws in our sources and interpretations”.³⁵ These gaps can be due to a number of reasons as Shurmer-Smith argues “We should note the fragility of the material in both public and private archives. Over time, some items get lost, stolen or deliberately destroyed; others merely fall apart and disintegrate”.³⁶ Therefore, sometimes it is more significant what is ‘left out’ of historical narrative rather than what has been discovered, as Tosh argues “Historical writing of all kinds is determined as much by what it leaves out as by what it puts in”.³⁷ It is also important to understand how archival sources are collated, as well as by whom. Archival material is collected and catalogued using specific systems designed by

³¹ Gordon C, Ed. ((1980) *Power/Knowledge, Selected Interviews and other Writings 1972-1977*, Michel Foucault, p. 74.

³² Riden P, (2000) *Local History, A Handbook for Beginners*, p. 107, p. 108.

³³ Gordon C, Ed. (1980) *Power/Knowledge, Selected Interviews and other Writings 1972-1977*, Michel Foucault, p. 75.

³⁴ Clifford N, Cope M, Gillespie T, French S, Eds. (2016) *Key Methods in Geography*, (3rd Edition) Sage Publications Ltd. London, Section 7.

³⁵ Dymond D, (2009) *Researching and Writing History, a guide for local historians*, Carnegie Publishing Ltd. In association with the British Association for Local History, Salisbury, p. 93.

³⁶ Shurmer-Smith P, Ed. (2002) *Doing Cultural Geography*, Sage Publications Ltd. London, p. 119.

³⁷ Tosh J (2002) *The Pursuit of History, Aims, Methods and New Directions in the study of modern history (Revised 3rd Edition)* Longman, Pearson Education Ltd. Harlow, p. 172.

archivists, who are employed in private and public archives such as government (national and local), educational bodies and the church. However, official records can be problematic in their approach, as according to Shurmer-Smith “Despite their outwardly omniscient character, archives are selective in the sources that they collate”.³⁸ The archival estate papers mainly consulted in the study are included in the collections of ‘important’ families at the University of Nottingham.

The Portland collections held by both by the University of Nottingham and Nottinghamshire Archives were deposited by the 6th Duke of Portland and the surviving family in the twentieth century and then catalogued by both institutions. So, it was decided by archivists how the material was organised as well as whether it was deemed to be useful for retention. Material can be withheld from public viewing because “it is deemed to be too sensitive [and] archivists, in turn, select from this material documents they perceive to be significant for the public”.³⁹ However, cataloguing archival sources can also reflect the dominant cultural values of the period in which they were collated. The materials used in this thesis include many letters and directives by the Dukes and their stewards; therefore it is possible that the influence of the family could decide which archives are to be retained. Also, private archives which cannot be accessed will affect the outcome of the research as there will be ‘gaps’ in the historical knowledge, which inevitably can distort the interpretation of evidence. The destruction of archives can happen through neglect but also unexpectedly from water or fire damage which can create inconsistency with time periods. This destruction is evident when Tosh argues “Written documents are also fragile, and the fact they have weathered the hazards of fire, flood and sheer neglect in such profusion also requires explanation”.⁴⁰

Transcribed primary documents are another way of presenting archival sources; an approach used in relation to this is the Diary of William Gould, steward to the 3rd Duke of Portland and his son the Marquis of Titchfield. These original diaries are privately held, and have been transcribed and edited by Hanson in four volumes from 1783 to 1795. They are a rich source of evidence regarding the landscape changes taking place in the period, which included the landscaping of the park by Humphry Repton in the late 1790s. The very detailed accounts reveal how the park was managed in terms of agriculture, game birds, domestic animals, fish breeding planting schemes and water bodies. According to Dymond “Transcribed sources and edited texts must be approached with the same caution as raw manuscripts”.⁴¹ Sometimes original documents are hard to interpret; therefore the editor has to maintain a consistently high method of transcription to ensure accuracy. It is

³⁸ Shurmer-Smith, Ed. (2002) *Doing Cultural Geography*, p. 114.

³⁹ Ibid. p. 114.

⁴⁰ Tosh J, (2002) *The Pursuit of History, Revised Third Edition*, Longman, London, p. 75.

⁴¹ Dymond D, (2009) *Researching and Writing History, a guide for Local Historians*, p. 55.

important to consider the problems which can arise. Dymond argues that “Editors have been known not only to make mistakes but also to select, omit, alter, add and transcribe freely – all without proper acknowledgement”.⁴²

Historical archives are not transparent in that they are not necessarily narrating the ‘truth’, as Tosh argues “For however spontaneous or authoritative the source, very few forms of writing arise solely from a desire to convey the unvarnished truth”.⁴³ It is therefore important to consider who wrote the document, what it was for and who was the recipient. These are crucial questions to consider because they can be skewed, to either bolster the author’s views or to present to the recipient what he/she wishes to hear. This can happen with personal and business letters where the author wants to be seen in a favourable light such as correspondence between stewards, business concerns and landowners. However other documents can also be biased and according to Tosh “A document that appears to be a straightforward report of something seen, heard or said may well be slanted – either unconsciously, as an expression of deep-seated prejudice, or deliberately, from a wish to please or influence the recipient”.⁴⁴ These concerns reveal how the concept of ‘truth’ is complex when applied to primary material, as Craggs argues “Historical evidence represents the views, priorities and knowledge of those who produced it”.⁴⁵ Primary documents produced by government, members of the aristocracy and any other powerful members of society could be constructed to maintain the political, economic, cultural and social values of the hegemonic status quo. Foucault links truth with power when he argues truth “is produced and transmitted under the control, dominant if not exclusive, of a few great political and economic apparatuses (university, army, writing, media)”.⁴⁶ So, the dominant hegemony of a historical period is sustained within archival sources as Foucault argues “Truth” is linked in a circular relation with systems of power which produce and sustain it,

Estate archives in the form of letters, accounts, stock records and notes on agricultural management can be subject to bias as they were produced by stewards, gamekeepers, and other employees of the landowner and relate to the running of the estate. There are fewer records by ordinary employees, especially women, resulting in male dominated statements, by influential employees regarding estate matters. Therefore, correspondence directed to the landowner could be weighted in favour of providing biased information to satisfy the concerns of the park owner.

⁴² Dymond D, (2009) *Researching and Writing History, a guide for Local Historians* p. 55.

⁴³ Tosh J (2002) *The Pursuit of History, Aims, Methods and New Directions in the study of modern history (Revised 3rd Edition)*, p. 93

⁴⁴ Ibid.

⁴⁵ Clifford N, Cope M, Gillespie T, French S, Eds. (2016) *Key Methods in Geography, (3rd Edition)* Section 7.

⁴⁶ Gordon C Ed., (1980) *Power/Knowledge, Selected Interviews and other Writings 1972-1977, Michel Foucault*, Harvester Press, Hertfordshire, p. 131 p. 132.

1.3 The University of Nottingham, Manuscripts and Special Collections

The University holds a very significant collection of family and estate records and the collections “represent some of the most important Nottinghamshire landowning families”.⁴⁷ These archives are comprehensively organised into different family collections but my focus is on the Portland papers. This collection is a vast archive containing the “personal and political papers of a number of members of the Portland family which had been part of the library at Welbeck Abbey in Nottinghamshire”.⁴⁸ For the purpose of this thesis the archival materials accessed are mainly steward accounts, letters, maps, sketches, gamekeeper accounts and papers relating to the management of Welbeck Park during the prescribed time period. The whole Portland collection relating to Welbeck is catalogued under the prefix Pw and the London correspondence is under Pl. The archives are then catalogued further still with the 3rd Duke found under Pwf, the 4th Duke, Pwh and the 5th Duke Pwk and it is these archives which make up the largest body of material consulted in the University archives, for this study. These archives have a detailed online catalogue which allows precise word searches. Heritage Lottery funding has been awarded to the University for many projects and the Portland archive is one of the Nottinghamshire collections which in 2005 “were Designated as Outstanding Collections by the Museums, Libraries and Archive Council (MLA)”.⁴⁹

Correspondence by the 3rd Duke’s head gardener William Speechly in the mid to later eighteenth century is catalogued under Pwf and refers directly to the woodland planting schemes of the period and to wild fowl breeding including indigenous and resident and foreign species. Letters and directives by the head gardener of the 4th Duke are accessed via the Portland archives under Pwh.

A detailed 20 page account relating to the 5th Duke’s tenure exists in the University archives. This comprises a personal view by a female employee, Miss Ellen Butler, laundry maid to the 5th Duke from 1869 to 1879. Butler recounts the Duke’s interests and his day- to- day routines within the estate. Management of the woodland, the exercising of his horses within the newly built riding school, as well as the Duke’s penchant for feeding the deer all feature within the description by Butler. However, this account is a personal recollection and presents difficulties in terms of the accuracy of her statements as they were from a later period. Although Butler’s account is not a diary, as Tosh argues she “is as much preoccupied with [her] own subjective response as with the

⁴⁷ <http://www.nottingham.ac.uk/manuscriptsandspecialcollections/collections/allcollections/family> accessed 6th February 2018.

⁴⁸ Ibid.

⁴⁹ <http://www.nottingham.ac.uk/manuscriptsandspecialcollections/collections/allcollections/family> accessed 6th February 2018.

external events that [she] has witnessed”.⁵⁰ So, there could be inaccuracies with remembering the detail from earlier years as well as reiterating the author’s own opinions and values about the 5th Duke.

1.4 Nottinghamshire Archives

The archives managed by Nottinghamshire County Council hold a substantial amount of Portland estate records, including many relating to Welbeck Park. These archives hold a vast amount of estate records which include gamekeepers’ accounts, stewards’ accounts and letters which become more comprehensive by the mid to later nineteenth century. These records were invaluable to the study because they revealed the changes made to the park over time such as agricultural methods, management of water courses and the breeding of game birds.

Gamekeeper records are a rich source of material as to which types of birds and animals were targeted for extermination in order to ‘protect’ game. According to Lovegrove many estates “maintained records of the vermin totals killed by the keepers which were reported periodically to the landowners”.⁵¹ Letters by the Dukes are very insightful regarding the running of the estate as they recount in detail the changes made to the park landscape. They include directives regarding moving livestock to different areas of the park as well the buying and selling of animals. The method of cataloguing at Nottinghamshire archives is by using letters and numbers in order which are then listed in hardback volumes. For the Portland collection the letters DD/4P as well as DD/P6 are used.

1.5 Other Archives consulted

The private archives at Welbeck hold a considerable number of original maps of the estate which were photographed to show how the parkland changed in size and land use over time. However, the ‘Red Books’ compiled by Humphry Repton, which detailed the landscape designs he provided for the 3rd Duke of Portland and his son the Marquis of Titchfield were not publicly available for me to consult. This meant that it was necessary to use material from secondary sources which outlined some evidence from the Red Books. Another method I attempted to use was to examine direct landscape evidence in the park. However, because the estate is privately owned I was not permitted to access the park alone and there were no available staff to accompany me. There is a public footpath which crosses the park known as the Robin Hoods Way, so a visit was made to Welbeck to walk the footpath. The length of the path is about 2 miles and traverses the park from the Nursery Lodge past the Burial Ground Plantation and then goes between the bottom of Gould’s Meadow

⁵⁰ Tosh J (2002) *The Pursuit of History, Aims, Methods and New Directions in the study of modern history*, (Revised 3rd Edition), p. 72.

⁵¹ Lovegrove R (2007) *Silent Fields, The long decline of a nation’s wildlife*, Oxford University Press, p. 10.

Lake (Fig. 1.2) and the head of Shrubbery Lake (Fig.1.3) which is the closest lake to the Abbey, the photograph in Fig. 1.3 shows the mown areas close to the Abbey. The base map shows where the two lakes are separated (Fig 1.4), but Gould's lake is actually called Fish Pond on the 1885 OS map. Care was taken not to veer off the footpath as there are several CCTV cameras along the way and signs warning of private roads with no access. This walk was very informative although rather restrictive but it "follows the Robin Hood Way from the Harley Gallery and through Welbeck estate to end at South Tunnel Lodge, for a distance of 2.1 (3.8 km) miles each way".⁵² A map of the walk shows the exact route of the footpath and where it traverses the park (Fig. 1.5). It was useful to compare the 1885 OS map with the information from the contemporary map provided by the Welbeck Estate. The Harley Gallery map shows the OS 'Fish Pond' lake as 'Goulds Meadow Lake' which again reiterates the ambiguity of maps. These walks were important to visually consider the position of both lakes and their close proximity to the Abbey as it is not very clear from old maps. It put into focus the approximate size of the lakes and the woodland planting down to the water's edge. Also, the walk helped to understand the topography of the park landscape north of Welbeck Abbey, with views of the Burial Ground Plantation, Cowclose Wood, Lord Harley's wood and Hill Woods.

Eighteenth and nineteenth century published sources

As well as archival research the thesis examines a significant number of contemporary sources, some containing specific details on Welbeck that were published throughout the time period. These sources were used in their own right to put archival research into its historical context.

Contemporary works include Lowe's *General View of the Agriculture of the County of Nottingham*. Lowe was a surveyor for the Board of Agriculture and in 1794 and 1798 he produced agricultural surveys of Nottinghamshire outlining ways of 'improving' farming methods. This source is invaluable because it considers land usage throughout the county in detail, from agriculture to pasture land and woodland planting. A particularly important section of the text is written by William Speechly in 1775, and gives an account of the planting methods used at Welbeck, including the parkland area and its environs. Also, in 1790 the antiquarian, Hayman Rooke produced a very detailed publication of the 'Remarkable Oaks' in Welbeck Park. Equally broader treatises on agriculture in the early nineteenth century were useful in contextualising the changing agricultural practices within the park. Two notable treatises are by Marshall in 1806 and Morice in 1824 which were particularly valuable when considering the major changes in farming methods during the tenure of the 4th Duke. Also, a number of contemporary texts of the period included methods regarding the breeding and rearing

⁵² <http://www.harleygallery.co.uk> accessed 6th February 2018.

of domestic animals and the deer herds within landscape parks. A valuable source regarding the management of deer is Shirley's *Account of English Deer Parks in 1867*. Shirley traces the history of deer parks in England from the Norman Conquest to the time of his writing in the 1860s. The section on the management of different breeds of deer including the red, fallow and roe is especially valuable because it provides in depth information regarding types of pasture, enclosing the animals, feedstuffs used for stall and paddock fed deer as well as recommended killing times to achieve the finest venison. These contemporary sources informed the thesis and are used in conjunction with the archival evidence to evaluate the methods used by successive Dukes in order to 'improve' the park landscape.

Outline of thesis chapters

Chapter two provides a scholarly context through a review of the literature on landscape, parkland in the context of the landed estate, parkland animals and their management. It also identifies the key 'gaps' in the existing literature which the thesis seeks to fill. The chapter is divided into four sections for ease of organisation. The first section examines interdisciplinary approaches to landscape studies and includes material from landscape history, conventional history including economic, political as well as agricultural history, environmental history and historical and cultural geography.

Section two analyses academic writing on parkland in the context of the landed estate by historical and cultural geographers. Historical geography studies of parkland and estate 'improvement' consider changes made to parkland layouts and uses, with a focus on agriculture, animal husbandry, and deer management. The more recent sub- discipline of animal geography focuses specifically upon human-animal relationships from biological, cultural, ethical, geographical and political perspectives. Combining these aspects expands the focus into a study of human and non-human relationships in which non-human animals become 'subjects'.

Section three reviews studies relating to parkland animals, which include farmed domestic animals, deer and game birds, as well as wildlife. This section examines past studies on animals and birds which were integral to landscape parks particularly from economic, aesthetic, sporting and status perspectives. Many of these animals were introduced for the purposes outlined; however, there are also studies which examine environmental issues concerned with wildlife including resident and migratory animals as well as vermin.

The fourth section of chapter two identifies the key 'gaps' in the existing literature which this study intends to address. The examination of current and past studies enables this thesis to contribute additional academic evidence to a body of scholarship which has important environmental value.

Chapter three is the first empirical chapter which focuses upon the development of Welbeck Park from the late eighteenth century to the later nineteenth century charting the layout and management changes made by the successive Dukes. The chapter begins with a brief outline of the early landscape history of Welbeck dating back to the twelfth century, and summarises the activities of earlier owners. This chapter draws on maps and surveys dating from the seventeenth century to the nineteenth century to show the changes made to the park landscape. The financial positions of the respective owners are highlighted as an important influence on the ongoing development of the park. The interests of the owners are discussed in detail, as they directly link to the 'improvements' made to the park landscape. Primary and secondary sources are used to outline the development of the park woodland, grassland, the lake and other water bodies over time.

Chapter four has parkland grazing animals as its focus, namely sheep, cattle, horses and deer. The management of the park landscape to accommodate these animals had significant ecological effects upon the grassland. Sheep were bred and raised in greater numbers than any other park animal. However, the environmental impact of all grazing animals is discussed in detail using primary evidence to illustrate the changing practices adopted by the successive landowners and their impacts. An account of the breeding of deer in the park over time is an important aspect of this chapter with the containment of these animals an ongoing problem mainly due to their destructive browsing tendencies. The chapter also considers the growing of crops within the park specifically for use as animal fodder and the wider impacts of this practice.

Chapter five analyses the rearing and subsequent management of game birds charting the changes made to the park landscape in order to provide food and cover for pheasants and partridge. Provision of habitat for game birds is a key theme within this chapter including the creation of woodland coppice, grassland and open farmland. The 'sport' of shooting game birds changed markedly over time due to technological developments such as the advent of the breech loading gun which in turn facilitated demand for a much greater quantity of reared birds. This increase in game bird breeding led to an enhancement of their 'protection' from predators. Therefore, game preserving equated to 'vermin' destruction and the ecological effects of exterminating perceived 'vermin' such as raptors, corvids, polecats, foxes, weasels and badgers is examined.

Chapter six examines aquatic animals, waterfowl and fish and their management with reference to the lake, river, ponds and water meadows. Pisciculture is charted throughout the period with consideration of changes to the breeding practices of store fish such as carp, tench and perch and game fish such as trout and grayling. The presence of water within the park is important because many aquatic species relied on water habitats to breed successfully. Species of resident water fowl such as mallards, herons, moorhens, and mute swans as well as migratory birds such as whooper swans, and breeds of geese are considered in relation to habitat and numbers over time. Also, records of game birds which relied on wet landscapes including the snipe and woodcock are researched to record any fluctuation in numbers due to changes in shooting styles and landscape management. The environmental effects of the creation of water meadows are examined as the actions of flooding and draining the land affected particular species of ground nesting birds. Water meadows encouraged some species to breed but they also reduced habitat for others.

Chapter 7 concludes the thesis by bringing together the key findings of the research and highlighting its contribution to existing knowledge of parkland in the context of the landed estate and the management of parkland animals. It outlines the environmental importance of parkland animals and how landscape changes over time has impacted upon their habitats. The changes made by the successive Dukes are discussed in relation to the management of grazing animals, game birds and aquatic species including fish and waterfowl. The contribution made by this thesis to filling the 'gaps' in parkland literature in relation to the study of parkland animals from an environmental perspective is assessed. Further ideas for future research are identified.

Table 3 Areas of Priority Habitats

(Source: Natural England data)

HABITATS	Historic Parkland		Wider Landscape	
	Area (ha)	%	Area (ha)	%
Deciduous woodland	7641	18%	53,659	5.5%
Fens	46	0.1%	704	0.07%
Saline lagoons	0	0.0%	13	<0.01%
Mudflats	0.3	<0.01%	1167	0.1%
Maritime cliff and slopes	0	0.0%	0.01	<0.01%
Coastal sand dunes	0	0.0%	9.4	0.00%
Coastal floodplain and grazing marsh	78	0.2%	10,339	1.0%
Blanket bog	0	0.0%	350	0.04%
Lowland raised bog	0	0.0%	28	<0.01%
Reedbeds	180	0.4%	940	0.1%
Purple moorgrass and rush pasture	0	0.0%	1174	0.1%
Undetermined grassland	383	0.9%	2205	0.2%
Lowland heath	744	1.8%	3559	0.5%
Lowland acid dry grassland	52	0.1%	3507	0.4%
Lowland calcareous grass	59	0.1%	2019	0.2%
Lowland meadow	41	0.1%	1366	0.1%
Upland calcareous grass	0	0.0%	126	0.01%
Upland hay meadow	0	0.0%	27	<0.01%
Upland heath	114	0.3	5532	0.6%
Traditional orchard	24	0.06%	1511	0.2%
SUBTOTAL Priority habitats excluding woodpasture and parkland	9364	22%	90,014	9.2%
Wood pasture and parkland (does not include south-east and Greater London regions)	18,909	57%	11,613	1.7%
TOTAL PRIORITY	28,273	67%	101,626	10.4%
Total habitats excluding London and South East sites, for which wood pasture and parkland data are not available)	25,897	79%	64,610	9.6%

Fig. 1.1 Source: Natural England, Areas of Priority Habitats

From: sajbestwick@gmail.com
Subject: Lake
Date: Today at 10:11
To: sajbestwick@gmail.com



Fig. 1.2 Welbeck Park showing the bottom of Gould's Lake

From: sajbestwick@gmail.com
Subject: No Subject
Date: Today at 10:20
To: sajbestwick@gmail.com



Fig. 1.3 Welbeck Park showing the Head of the Shrubbery Lake in the proximity of the Abbey with the Lawns down to the Lake

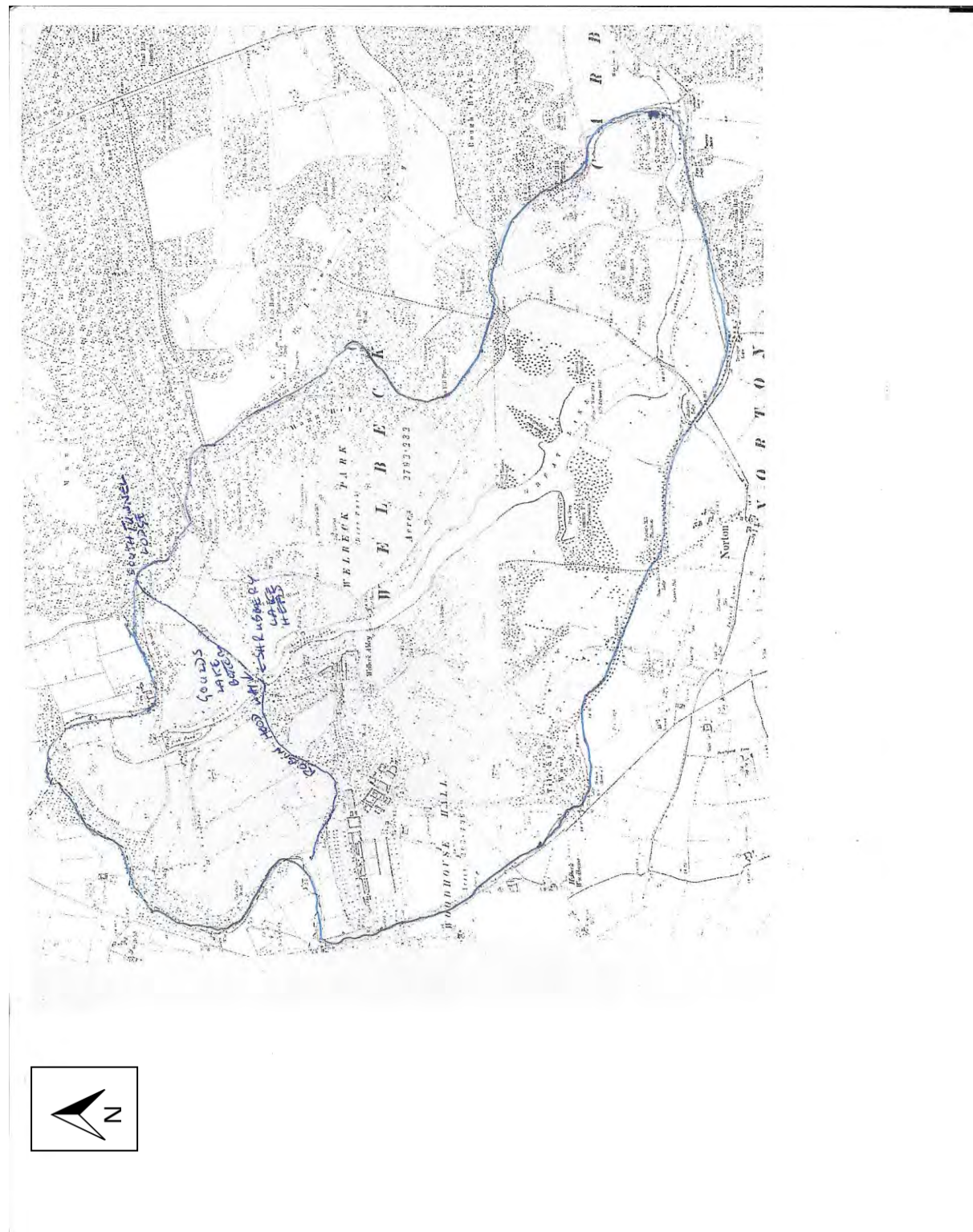


Fig. 1.4 Base Map of c.1885 showing where the Public footpath traverses the Park to the South Lodge Tunnel

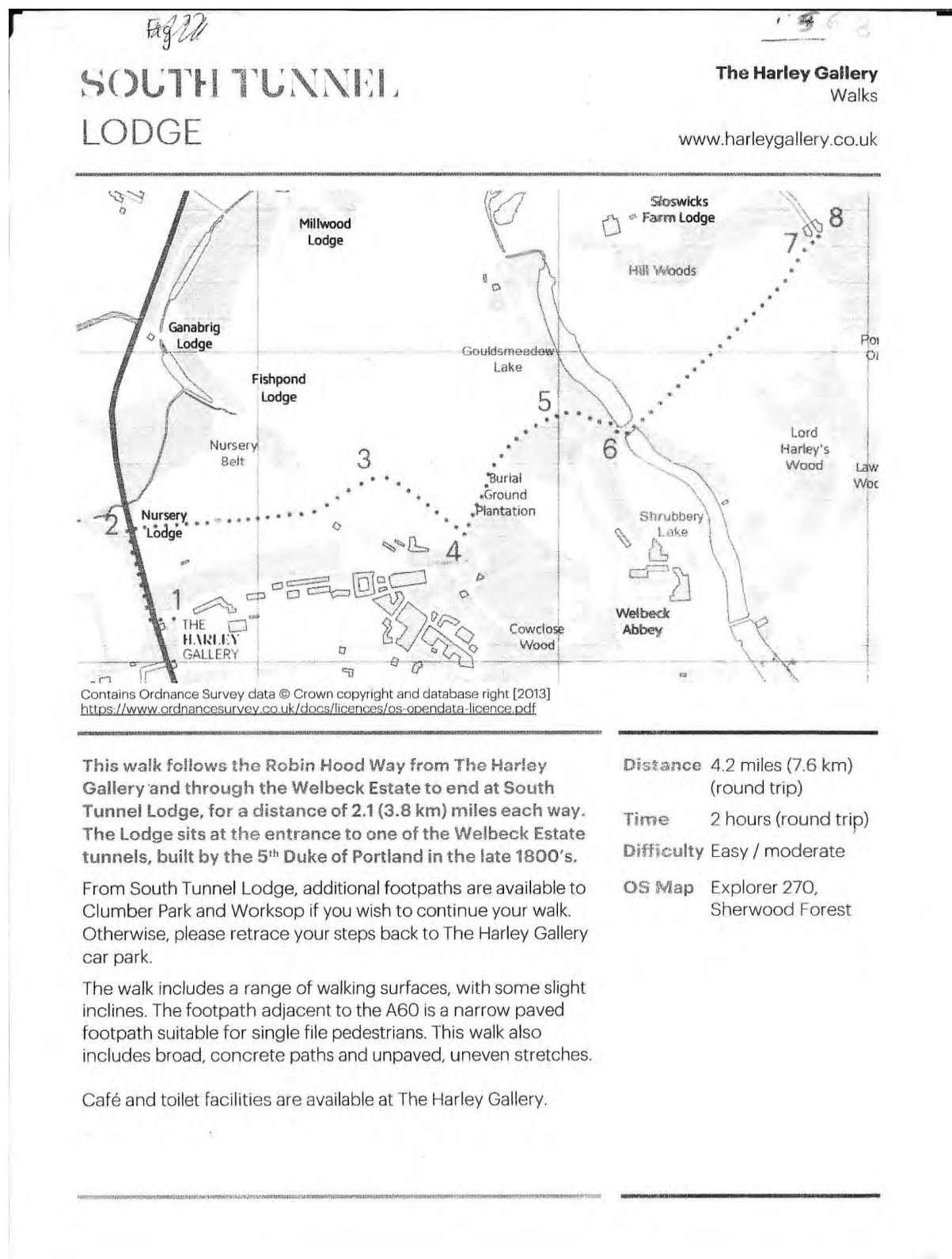


Fig. 1.5 Map of Robin Hood Way Walk traversing Welbeck Park to the South Tunnel Entrance.

Chapter 2, Literature Review

Introduction

This chapter presents a critical evaluation of historical and geographical debates on landscape studies, estate parkland and parkland animals. It reviews the literature relating to these areas as well as aspects of landed estate management in England from the late eighteenth to the later nineteenth century.

The chapter is divided into four sections; the first examines the varied academic approaches to landscape studies and includes landscape history, and historical and cultural geography. Section two investigates the body of scholarship concerned with parkland in the context of the landed estate. Section three examines scholarly contributions to the study of parkland animals and their management, during the prescribed period. Section four identifies gaps in the existing literature and outlines how this thesis will address them.

2.1 Landscape Studies

The term ‘landscape’ is recognised by academics as a complex and fluid concept which according to Muir “has several aspects and nuances of meaning”.⁵³ It is the fluidity of meaning which contributes to the significant breadth of the concept. According to Lowenthal “Landscape is all-embracing – it includes virtually everything around us. The sheer multiplicity of interests that impinge on landscape – economic, aesthetic, political – suggest the magnitude of the subject but at the same time to preclude the development of any unified perspective (1986, p. 1)”.⁵⁴ The interests put forward by Lowenthal do not include all aspects of the interpretation of landscape but reveal the problematic nature of the concept.

Landscape studies have been undertaken by scholars from many different disciplines, and according to Muir “The disciplinary backgrounds of some of the figures associated with the interpretation and popularisation of cultural landscapes underlines the interdisciplinary nature of this field of study”⁵⁵ The differing academic perspectives are numerous and include, history, archaeology and geography. However, these disciplines are then further sub-divided into approaches such as landscape history as well as historical, cultural humanistic and physical geography.

⁵³ Muir R, (1999) *Approaches to Landscape*, Macmillan Press Ltd. p. 2.

⁵⁴ Ibid. p. 5 [Lowenthal] D. ‘Introduction’ in Penning-Roswell, E. C, and Lowenthal D. (eds.), *Landscape and Meaning and Values* (London: Allen and Unwin, 1986]

⁵⁵ Ibid. p. xiii.

Landscape history has contributed widely to the interpretation of landscape and one of the most important texts which considered the evolution of the English landscape was written by Hoskins in 1955. This seminal text was influential because, according to Phythian-Adams “[Hoskins] forces all of us [to notice] the world immediately around us, and then seek to understand that world rationally, historically, above all organically, and thereby as something *connected* to us”.⁵⁶ The unique contribution by Hoskins is that he succeeded in making the history of the landscape relevant not only to academics but to ordinary people. His approach was to “systematically link the results of field work to documentary and cartographical information, visual evidence and all kinds of archival source materials”.⁵⁷ According to Johnson, by using these themes and methods, Hoskins “had a tremendous impact on the public consciousness of the historic landscape”.⁵⁸ Hoskins describes “The English Landscape itself [as] the richest landscape record we possess.... to write its history requires a combination of documentary research and of fieldwork.... the result is a new kind of history which it is hoped will appeal to all those who like to travel intelligently”.⁵⁹ This ‘new’ landscape history was very influential in changing the way historians viewed landscape by usurping the traditional narrative of topographical history. According to Hoskins, landscape was ever changing because of humankind’s interaction with the land, his chronological account reveals the changing scene from the pre-roman period to the twentieth century post-war landscape.

While landscape history is an important facet of some conventional historians’ work, according to Baker it “has not been welcomed into the family of history as warmly as some other new perspectives and perhaps not as cordially as its close relation, environmental history”.⁶⁰ It is perhaps the approach of conventional historians towards landscape studies which circumvents the ‘new perspectives’ upon landscape. According to Baker “In 1962, a collection of essays on the major approaches to history did not include landscape history (Finberg 1962a) and almost thirty years later, a similar collection treating new perspectives on historical writing again did not embrace landscape history (Burke 1991a)”.⁶¹ Baker also discusses Hoskins’ work and suggests that he “contributed very significantly to the construction of a new landscape history... beyond doubt”.⁶² However, criticism has been levelled at Hoskins for his idealist views of past landscapes, and according to Baker “Hoskins love of the past was accompanied by disquiet, even disgust at the

⁵⁶ Phythian-Adams C, (1992) *Hoskin’s England: A Local Historian of Genius and the Realisation of his Theme* (Trans. Leicestershire Archaeology and History Society, LXV1 (1992) p. 143.

⁵⁷ Ibid. p. 144

⁵⁸ Johnson M (2007) *Ideas of Landscape*, Blackwell publishing Ltd. p. 34.

⁵⁹ Hoskins W G, (1955) *The Making of the English Landscape*, Hodder & Hodder, Stoughton London, p. 14-15.

⁶⁰ Baker A R H, (2003) *Geography and History, Bridging the Divide, Cambridge Studies in Historical Geography*, p. 115.

⁶¹ Baker A R H, (2003) *Geography and History, Bridging the Divide*, p. 115. P. 276.

⁶² Ibid. p. 116.

changes being wrought upon the English landscape in the twentieth century”.⁶³ This criticism is reiterated by Matless who argues that “Hoskins crucially sets past against present. History becomes a site not for tracing continuities from past through present to future, for finding a tradition with which to align the modern, but an escape hatch”.⁶⁴

It is evident that geography greatly contributes to the study of landscape, especially through the interpretation of ‘place’ within art, landscape gardening, urban landscapes, historical landscapes and ‘visual’ images such as maps, paintings, photographs and film. Cultural geographers introduced the idea of landscape as a ‘way of seeing’ landscape which can signify “a landscape as a cultural image, a pictorial way of representing, structuring or symbolising surroundings”.⁶⁵ Daniels draws out political and ideological perspectives of landscape, arguing for example that “Trees and woodland have proved as rich a symbolic resource as a material one, frequently being exploited to represent ideas of social order”.⁶⁶ Daniels elaborates that tree planting in Georgian England represented the social standing of the landowner and “accentuated the impression of power in the land”.⁶⁷ Other geographical perspectives explore past landscapes as sites of culture and identity as well as pleasure and beauty. According to Matless, the concept of landscape is not just about what it can mean but also how it can work culturally “as a vehicle of social and self identity, as a site for the claiming of a cultural authority, as a generator of profit, as a space for different kinds of living”.⁶⁸ He explores the “intertwining of landscape and senses of Englishness”,⁶⁹ two challenging concepts as “Landscape and Englishness are seen to be constituted through problematics of class, gender and race, and formulations of environmental conduct and citizenship, working through each of these”.⁷⁰ Therefore, historical and cultural geography examines landscape from various viewpoints and demonstrates the complex nature of the concept.

According to Baker there are also types of historical geography which consider landscapes more from physical geography perspectives, such as “historical biogeography, historical soil geography, historical hydrology, historical geomorphology and historical climatology”.⁷¹ The history of landscape is an important mode of enquiry pursued by historical geographers which considers the long term effects of human manipulation of the natural environment. This area of study

⁶³ Baker A R H, (2003) *Geography and History, Bridging the Divide* p. 117.

⁶⁴ Matless D (1998) *Landscape and Englishness*, Reaktion Books Ltd. p. 12

⁶⁵ Cosgrove D, Daniels S, Eds. (1988), *The Iconography of Landscape*, Cambridge University Press, Cambridge, p. 1.

⁶⁶ Ibid., p. 43

⁶⁷ Ibid. p. 45.

⁶⁸ Matless D, (1998) *Landscape and Englishness*, p. 12.

⁶⁹ Ibid. p. 14.

⁷⁰ Ibid.p. 14.

⁷¹ Baker A R H, (2003) *Geography and History, Bridging the Divide*, p. 85.

encompasses the sub-discipline of historical biogeography which according to Simmons adopts “an ecological-functional viewpoint [and] is also a one-way study of human impact on the environment and not the other way round”.⁷²

Economic historians such as Mingay have outlined the importance of landownership in the eighteenth century with “the great landlords’ domination of government and political life [which] was matched by their growing stake in the countryside”.⁷³ While Mingay notes the merits of “The gardens and park of a country house [being] almost equal in importance to the house itself”⁷⁴, his work focuses upon the political, economic and agricultural interests of elite landowners and “the effectiveness of [them] as landlords and efficient estate managers and providers of fixed capital”.⁷⁵ In the eighteenth century landowners’ incomes came from rents and estate profits and according to Mingay “The level of estate revenue was much higher in 1790 than it was in 1760 and the gain in this thirty years was at least twice as large as the gain in the seventy years before 1760”.⁷⁶ These figures represent the rising economic success of landed estates by the end of the eighteenth century which has received much scholarly attention. According to Beckett “For the majority of their wealth English aristocrats depended on the produce of their estates, either in the form of rents, or via the profits of agricultural and industrial enterprise”.⁷⁷ Agrarian economic historians have analysed in detail the economic position and capital investment of landed estates. According to Mingay “The Landlord-tenant system had the further advantage of maintaining stability and ensuring at least a minimum level of efficiency in farming”.⁷⁸ It was in the interest of landowners to make sure that tenants were provided with the means to farm well and Mingay argues that “In bad times landlords reduced rents and offered other inducements”.⁷⁹ Capital investment was crucial to the economic success of a landed estate. Mingay highlights “In addition to the produce of agricultural land, the capital and enterprise of many landowners played a major part in the development of mining, iron production, brick making, quarrying and other estate activities”.⁸⁰ These themes are also examined by Williamson and Bellamy who argue that “Many landowners were also able to subsidise their

⁷² Simmons I G, (1989) *Changing the Face of the Earth, 2nd Edition, Culture, Environment, History*, Blackwell Publishers, Oxford, p. vii.

⁷³ Mingay G E (1963) *English Landed Society in the Eighteenth Century*, Routledge and Kegan Paul Ltd. p. 50

⁷⁴ Ibid. p. 210.

⁷⁵ Ibid. p. 172.

⁷⁶ Ibid. p. 51.

⁷⁷ Beckett J V, (1986) *The Aristocracy in England 1660-1914*, p. 139.

⁷⁸ Mingay G E, (1977) *The Agricultural Revolution, Changes in Agriculture 1650-1880*, A and C Black Ltd. London, p. 56.

⁷⁹ Ibid. p. 56.

⁸⁰ Mingay G E, (1977) *The Agricultural Revolution, Changes in Agriculture 1650-1880* p. 9.

estates with the profits from their commercial ventures".⁸¹ These included "various forms of non-agricultural income such as lucrative government offices, pensions, sinecures, ambassadorships, governorships and army commissions".⁸² However, the eighteenth century was characterised by landowners investing in the 'improvement' of their estates, and Williamson and Bellamy argue that "Instead of merely living off rents many landlords started to take an interest in their estates and in the details of investment, innovation and improvement".⁸³ They claim that "In the course of the eighteenth century, it was they [landowners] rather than the gentry who were in the forefront of the agricultural revolution".⁸⁴ Therefore, by the early nineteenth century "big landowners were able to finance far larger improvement schemes than could be carried out by their tenants or the gentry and had the resources to concern themselves with areas where the soils were light and infertile".⁸⁵ The estates of the landed elite became more profitable in their own right and their agricultural enterprises helped to increase their income considerably.

The ownership of thousands of acres of land represented not just wealth but according to Beckett "stability and continuity, a fixed interest in the state which conferred the right to govern".⁸⁶ There is a clear link between land and political domination which ensured landowners entered the "inner sanctums of power, both social and political".⁸⁷ Beckett's study of the English aristocracy charts the dominant political and economic success of the landed elite and argues that "since leadership was a duty, it is hardly surprising that aristocrats continued to set social standards and to control the reins of government unless they were challenged".⁸⁸ The political importance of landed estates and their ownership has been studied in depth as the landed aristocracy dominated political life for many decades, and according to Beckett "even in the 1890s, aristocrats loomed large in government".⁸⁹

However, designed landscapes were not always necessarily produced for privileged landowners in the Georgian period, according to Spooner "Garden and landscape historians have focused their attention on a relatively restricted range of sites, principal among these is the landscape park at the period after 1750".⁹⁰ Spooner's work "takes a regional approach to the development of landscape

⁸¹ Williamson T, Bellamy L, (1987) *Property and Landscape, A Social History of Land Ownership and the English Countryside*, George Philip, London, p. 120.

⁸² Ibid. p. 120.

⁸³ Ibid. p. 121.

⁸⁴ Ibid. p. 121.

⁸⁵ Ibid. p. 121.

⁸⁶ Beckett J V, (1986) *The Aristocracy in England 1660-1914*, Basil Blackwell Ltd. Oxford, p. 43.

⁸⁷ Ibid. p. 43.

⁸⁸ Ibid. p. 324.

⁸⁹ Ibid. p. 325.

⁹⁰ Spooner S, (2015) *Regions and Designed Landscapes in Georgian England*, Routledge, p. 1.

design in the late eighteenth century, examining a sample of areas".⁹¹ She investigates upland landscapes as well as the North and West of England where they were affected by urbanisation and industrialisation. Also, this approach to landscape design differs from other landscape studies by considering areas outside of London where "small villas on the fringes [of London] might have park like gardens of ten or twenty acres".⁹² Spooner argues that she "does not seek to undermine the importance of [sites such as Stowe, Rousham and Stourhead]".⁹³ However, as she suggests "By the end of the eighteenth century, there were thousands of designed landscapes in England and only a minority of these were [designed] by Kent, Brown [or] Repton".⁹⁴ Also, Spooner argues that these designed landscapes were owned by people who were not part of the intelligentsia or even members of the landed elite".⁹⁵

For most of the eighteenth and nineteenth centuries the aristocracy were at the pinnacle of the class hierarchy and this often manifested itself within the political arena. The larger landowners such as the 3rd Duke of Portland played significant roles in political life and much has been written about their influence in politics and society. Land ownership was a precursor for voting as well as being involved in the political arena. A seminal economic and social study of the landed elite by Cannadine charts the decline of the British aristocracy in the nineteenth century. To attempt to understand the decline and fall of the landed elite Cannadine analyses the concept of class and argues that "Ultimately, the limits to patrician survival were set, not so much by what they themselves were willing and able to do on their own initiative, but rather by what people from other classes allowed them to do. And in the century from the 1880s they were allowed much less freedom than ever before".⁹⁶ Studies by Beckett, Mingay and Cannadine give important insights to the power and influence of a small section of English society but also reveal how the landed elite were losing their powerful hold in political and social arenas by the end of the nineteenth century.

The administration of large landed estates usually depended upon the abilities of, firstly the landowner and then the land agent, lawyer/auditor and various farm managers and keepers. The importance of land agents cannot be underestimated in terms of successfully managing landed estates and they have been the subject of specific academic enquiry. Agents became known as stewards, and according to Spring this "substitution was a sign of the land-agents growing self

⁹¹ Spooner S, (2015) *Regions and Designed Landscapes in Georgian England*, Routledge, p. 3.

⁹² Ibid. p. 1.

⁹³ Ibid. p. 17.

⁹⁴ Ibid. p. 17.

⁹⁵ Ibid. p. 17

⁹⁶ Cannadine D, (1990) *The Decline and Fall of the British Aristocracy*, Anchor Books, New York, USA, p. 6.

consciousness”⁹⁷, in becoming a professional. In her thesis Webster examines the “relationships between the various people (or agents in the widest sense) that influenced the management and potential ‘improvement on the landed estates of the Earl of Egremont from 1763 to 1837”⁹⁸, aiming “to shed light on the changing cultures of ‘improvement’ on British estate landscapes during the late eighteenth and nineteenth centuries, with a particular interest in the professional networks of those who actually made these landscape changes”.⁹⁹ According to Webster “despite the acknowledged importance [of agents] John Beckett has argued that relatively little is known about individual eighteenth century stewards”.¹⁰⁰ Also, the beginning of the process of professionalization of agents is questioned by historians. Webster notes that “F. M. L. Thompson and John Beckett have argued that this process occurred in the nineteenth century, while Edward Hughes and G. E. Mingay saw it as an eighteenth century phenomenon”.¹⁰¹ The resident agent’s responsibilities were wide-ranging, and according to Spring they “specialised in the close, day-to-day supervision of a farming tenancy: receiving rents, selecting tenants, negotiating agreements and leases, maintaining and improving the permanent equipment of the estate, spurring tenants to greater enterprise, participating in local government, even invigilating parochial morality”.¹⁰² These observations reveal the complexity of managing a large landed estate and the land agent’s vital contribution economically and socially. However, the tendency has been to portray agents as “rapacious, untrustworthy and weak willed”.¹⁰³

The study of historical landscape is also deployed in relation to specific landscape components. A key area of focus has been changes made to water courses, such as rivers, lakes, and ponds. According to Williamson and Cook “Past water management systems have left many traces on the landscape and have moulded the semi-natural environment in many ways”.¹⁰⁴ Their study identifies the importance of studying water management “as a collection of inter related practices [including]

⁹⁷ Spring D, (1963) *The English Landed Estate in the Nineteenth Century, Its Administration*, The John Hopkins Press, Baltimore, Maryland, USA, p. 97.

⁹⁸ Webster S (2011) *Agents and Professionalism: Improvement on the Egremont Estates c.1770-1860*, Unpublished PhD thesis, University of Nottingham, p. 9

⁹⁹ Ibid. p. 11.

¹⁰⁰ Ibid. p. 30.

¹⁰¹ Webster S (2011) *Agents and Professionalism: Improvement on the Egremont Estates c.1770-1860* p. 31 (F. M. L. Thompson, *English Landed Society*; J. V. Beckett, ‘Land Ownership and estate management; E Hughes ‘The eighteenth century estate agent’, G. E. Mingay, ‘the eighteenth century land steward’.

¹⁰² Spring D, (1963) *The English Landed Estate in the Nineteenth Century, Its Administration*, p. 97, p. 98.

¹⁰³ Webster S (2011) *Agents and Professionalism: Improvement on the Egremont Estates c.1770-1860* p. 30 (F. M. L. Thompson, *English Landed Society*; J. V. Beckett, ‘Land Ownership and estate management; E Hughes ‘The eighteenth century estate agent’, G. E. Mingay, ‘the eighteenth century land steward’.

¹⁰⁴ Cook H, Williamson T, Eds. (1999) *Water Management in the English Landscape, Field, Marsh and Meadow*, Edinburgh University Press, Edinburgh, p. 4.

the various processes – social, economic, biological and soil-related which underlie these practices”.¹⁰⁵

Cook and Williamson argue that “the control of water has played a key, and much neglected, role in the development of agriculture in England”¹⁰⁶, and recognise that agricultural landscape changes such as drainage schemes were responsible for diminishing habitats, such as marsh as well as damp meadow land. However, they also highlight that “The irrigation of water meadows had profound effects upon flora and fauna”.¹⁰⁷ This work by Cook and Williamson is a key piece of research which “attempts to bridge an interdisciplinary gap”,¹⁰⁸ but is not primarily concerned with the relationship between water management and parkland animals.

Agriculture was in a period of depression in the post-Napoleonic war period of the early 1800s, according to Beckett “Tenants were badly affected by the depression and it was widely believed that substantial farmers could only be attracted by high levels of investment by owners”.¹⁰⁹ Landowners invested in their estates in this period by pursuing programmes of ‘improvement’ and modern agricultural methods. Subsequently ‘improvements’ in agriculture and livestock farming encouraged landowners “to invest in high farming during the 1850s and 1860s in order to maximise their returns”.¹¹⁰

However in the 1870s agriculture entered a period of recession which negatively impacted upon landowners as well as tenant farmers. According to Beckett some “Landowners who had borrowed in the heady years of high farming found themselves in dire straits”.¹¹¹ In the 1870s a contemporary agriculturalist wrote “The inferior quality of the fodder crops shows itself in the reduced condition of all kinds of livestock. In nine years there have been seven defective harvests”.¹¹² This year of 1879 was characterised by “continued rain and low temperatures [which] damaged the hay crop beyond measure, and over many English counties left behind it the seeds of disease, which in the winter and spring carried off by rot many thousands of the sheep stock”.¹¹³

¹⁰⁵ Cook H, Williamson T, Eds. (1999) *Water Management in the English Landscape, Field, Marsh and Meadow*, p. 1

¹⁰⁶ Ibid. p. ix.

¹⁰⁷ Ibid. p. 3.

¹⁰⁸ Ibid. p. 1.

¹⁰⁹ Beckett J V (1986) *The Aristocracy in England 1660-1914*, p. 179.

¹¹⁰ Ibid. p. 180.

¹¹¹ Ibid. p. 181.

¹¹² Mingay G E, Ed. (1977) *The Agricultural Revolution, Changes in Agriculture 1650-1880*, p. 313, (From J Caird, *The Landed Estate Interest and the Supply of Food*, 1st Edition 1878, 4th Edition 1880, reprinted 1967, pp. 157-64, 169, 175.)

¹¹³ Ibid. p. 313.

It is evident that landscape history is interdisciplinary and includes various sub-sections of geography and history as well as ecology, hydrology and climatology ensuring that it cannot be easily interpreted as a distinct discipline in its own right. But the diverse scholarly approaches to the theme of landscape history are extremely informative and indispensable to my own field of study.

2.2 Parkland and the Landed Estate

English parks have been the focus of several academic studies from different disciplinary perspectives. The landscape gardening movement and wider ideas of 'improvement' were key influences on eighteenth century parkland. Designers such as Brown and Repton were commissioned to 'improve' the environs of country houses. The parkland of this period was complex in terms of meaning and function. Daniels et al argue that the Dukeries parks in Nottinghamshire were "complex, multi-purpose enterprises – including various kinds of woodland, water-courses, gardens, nurseries, lawns, horse gallops, deer enclosures, sheep paddocks, and cattle meadows".¹¹⁴ It is evident that parkland had a multitude of uses revealing that "the park was not just a place, but a fluent dynamic system with multiple functions and meanings".¹¹⁵ 'Improvement' is a key topic in many scholarly contributions to parkland studies, and historical geographers and landscape historians have studied this concept in detail.

The discourse of the picturesque featured largely in late eighteenth century designed landscapes, and directly informed the concept of the 'improvement' of landscape parks. Repton attained the mantle of his predecessor Capability Brown by the end of the eighteenth century, and while he was critical about aspects of Brown's naturalistic landscapes designs he championed Brown's professional success. However, in the same period Repton was vehemently criticised by 'improvers' of their own estates, Richard Payne Knight and Uvedale Price. According to Daniels they "reformulated picturesque aesthetics in terms of two horizons of knowledge; estate management in the home county of Herefordshire and the connoisseurship of the Grand Tour".¹¹⁶ This picturesque controversy was most evident between 1794-95 a period of heightened landed anxiety regarding the war with France. What was at stake according to Daniels was "the patriotism of landscape improvement, its allegiance to various geographical identities, local and national, provincial and metropolitan, English and British".¹¹⁷ So, the 'improvement' of parkland was in the late eighteenth century at the centre of a range of social, political, economic and aesthetic debates. However,

¹¹⁴ Daniels S, Seymour S, Watkins C, (1992) *Landscaping and Estate Management in Later Georgian England*, The Journal of Garden History: Issues, Approaches, Methods, pp. 359-371, p. 363.

¹¹⁵ Ibid. p. 363

¹¹⁶ Daniels S, (2000) *Humphry Repton Landscape Gardening and the Geography of Georgian England* p. 104

¹¹⁷ Ibid. p. 104.

'improvement' of landscape parks was also informed by the environmental components of the land such as topography and soils. According to Bellamy and Williamson the soil "was an important element in many land improvement schemes, [and they argue that] "sandy or chalky soils were ripe for improvement".¹¹⁸ Aesthetics played a key role in the design of parkland, and the notion of the picturesque has frequently been referred to in estate parkland studies. Seymour for example argues that the 3rd Duke of Portland possessed a "pictorial sensibility in landscaping [which was] reminiscent of the picturesque landscape theorists Knight, and particularly Price".¹¹⁹ According to Daniels "Repton made much of Portland's pictorial sensibilities [and] stated a claim to an area that overlapped with parkland improvements by William Speechly".¹²⁰ This relationship between the 'picturesque' and the notion of use was a recurring theme in Repton's work as Williamson argues "The Red Books exuded the idea that the landscape around a country house needed to be lived in and used, not just looked at, they must combine beauty and utility".¹²¹ According to Seymour "A combination of beauty and usefulness was also found in a single wood at Welbeck: Lord Harley's plantation".¹²² A variety of products were realised from the plantation, including "rails, stoups, hedge stakes and scaffold poles".¹²³

The numerous roles of parks indicate why they increased dramatically from the late eighteenth century. According to Prince "during the creative years of landscape gardening from 1760 to 1820 the number of parks almost doubled in the Home Counties and increased considerably throughout the country".¹²⁴ This trend continued well into the nineteenth century and "by 1880 the second edition one-inch Ordnance Survey maps show that the area of parkland was greater than it had ever been".¹²⁵

The notions of 'private' and 'public' are often considered by academics in relation to parkland because the aristocracy were increasingly consolidating their estates. According to Bellamy and Williamson, the rise of the landed estates ensured that "most of the land of England was firmly under the control of a very small minority of the population. The landscape was no longer a patchwork of smallholdings, it was now largely enclosed into private fields, and exploited by

¹¹⁸ Williamson T, Bellamy L (1987) *Property and Landscape, a Social History of Land Ownership and the English Countryside*, p. 122.

¹¹⁹ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 157.

¹²⁰ Daniels S (1999) *Humphry Repton, Landscape Gardening and the Geography of Georgian England*, p. 157, p. 158.

¹²¹ Williamson T, (1995) *Polite Landscapes, Gardens and Society in Eighteenth Century England*, p. 151.

¹²² Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire* p. 263.

¹²³ Ibid. p. 264.

¹²⁴ Prince H, (1967) *Parks in England*, p. 9.

¹²⁵ Ibid. p. 10.

standardised and efficient agricultural methods".¹²⁶ By the early nineteenth century the success of emparking, was evident because "the whole of the English Landscape embodied the tenurial hegemony of the landed elite".¹²⁷ According to Cowell "Demands of privacy were in conflict with a desire to display, and in practice parks were both public and private, at different times for different audiences".¹²⁸ This argument is reiterated by Williamson who suggests that "In one sense the park was a private landscape, designed to exclude the poor. Yet at the same time it was a public one for the entertainment of the polite, and access to the largest parks was often open to all who appeared to be respectable".¹²⁹ Who was 'respectable' is a complex notion because as Williamson argues landed estates "were important markers of social status [and] the crucial feature of the park in this context was that it was a form of landscape which could be shared by the great landowners and lesser gentry".¹³⁰ This is a vital point because according to Williamson parks were "completely unavailable to the broad mass of the [lower] middle class, parks could only be created by those who owned land in abundance".¹³¹ However, polite society also included the "upper echelons of this middling social group – successful merchants, financiers [and] some professionals".¹³² This middling group "could aspire to a small property with a park on the fringes of town, but not the rest".¹³³

Woodland planting is a key theme in parkland studies, and includes the importance of the commercial aspects of timber production as well 'picturesque' aspects. For example, Seymour argues that "Speechly's [the 3rd Duke of Portland's head gardener at Welbeck] picturesque taste was translated into executable woodland designs through a thorough understanding of the practicalities of woodland management".¹³⁴ The cultural value of parkland trees has been explored in detail, and according to Williamson "Careful examination of eighteenth century parks reveals how painstakingly their makers utilized existing trees in order to create, from the start, an appearance of antiquity".¹³⁵ Ancient trees were venerated in the eighteenth century and as Thomas suggests "There was a conflict between economic forestry, which required regular felling and the needs of ornament, amenity and display".¹³⁶ Thomas argues that "Some English aristocrats refused to cut down trees for

¹²⁶ Bellamy L, Williamson T, (1987) *Property and Landscape*, p. 192

¹²⁷ Ibid. p. 192.

¹²⁸ Cowell B, (1998) *Patrician Landscapes, Plebian Cultures, Parks and Society in the English Counties c. 1750-1850*, UNMSS, p. 30.

¹²⁹ Williamson T, (1995) *Polite Landscapes Gardens and Society in Eighteenth Century England*, p. 111.

¹³⁰ Ibid. p. 113.

¹³¹ Ibid. p. 113.

¹³² Ibid. p. 113.

¹³³ Ibid. p. 113.

¹³⁴ Watkins C (1998) *European Woods and Forests, Studies in Cultural History*, Cabi Publishing p. 122.

¹³⁵ Williamson T, (1995) *Polite Landscapes, Gardens and Society in Eighteenth Century England*, Alan Sutton Publishing Ltd. p. 94.

¹³⁶ Thomas K (1983) *Man and the Natural World, Changing Attitudes in England 1500-1800*, p. 214

timber [and] Walpole observed it was a curiosity to see old trees".¹³⁷ Therefore, culturally and symbolically ancient trees, according to Thomas "were increasingly cherished, not just for their use, not even just for their beauty, but because of their human meaning, what they symbolised to the community in terms of continuity and association".¹³⁸ It is evident that representations of woodland by historians and geographers are complex in their meaning but as Watkins argues "in the eighteenth and nineteenth centuries, several layers of meaning are uncovered, the trees were ascribed different values by different people at different times".¹³⁹

During the period of 'improvement' in parks in the late eighteenth century, the scale of tree planting was phenomenal; according to Williamson "it was not until after 1750 that there was a significant expansion of forestry in England".¹⁴⁰ The 'spirit of planting' in aristocratic parkland was carried out with enthusiasm. Williamson argues that the number of trees planted on just a few estates from the mid to late eighteenth century was very substantial, as with "Thomas Johnes who put in nearly 5 million trees between 1786 and 1816 at Hafod (Cardiganshire)".¹⁴¹ Also "The Earl of Selbourne who planted over 150,000 trees every year in the 1770s and 80s at Bowood (Wilts.); the Duke of Portland, who established between 60 and 100 acres of trees each year at Welbeck and Thomas Coke, no less than 2 million at Holkham (Norfolk)".¹⁴² This reveals the scale of woodland planting, and parkland was a favoured location, as Williamson suggests "A quick glance at contemporary maps soon reveals that the majority [of woods and plantations] were concentrated in and around the homes of landowners".¹⁴³

Woodland planting symbolised the prestige and high status of the landowner as Thomas argues "The motives for aristocratic planting were thus a complex mixture of social assertiveness, aesthetic sense, patriotism and long-term profit".¹⁴⁴ Also, exotic tree species were considered as significant additions to the park, so much so that according to Simmons "Destroying ornamental trees was a hanging offence after 1722".¹⁴⁵

The 'improvement' of farming methods in estate parkland, particularly from the early nineteenth century is another theme and included livestock production as well as arable farming. However, it is

¹³⁷ Thomas K (1983) *Man and the Natural World, Changing Attitudes in England 1500-1800* p. 214 (Walpole, *Anecdotes of Painting*, iii, 92)

¹³⁸ Ibid. p. 214.

¹³⁹ Watkins C (1998) *European Woods and Forests, Studies in Cultural History*, p. 3.

¹⁴⁰ Williamson T, (1995) *Polite Landscapes Gardens and Society in Eighteenth Century England*, p. 125.

¹⁴¹ Ibid. p. 125.

¹⁴² Ibid. p. 125.

¹⁴³ Ibid. p. 126.

¹⁴⁴ Thomas K (1983) *Man and the Natural World, Changing Attitudes in England 1500-1800*, Penguin Books, p. 209.

¹⁴⁵ Simmons I G, (2001) *An Environmental History of Great Britain*, p. 142.

very difficult to measure increases in agricultural output because according to Turner and colleagues “so little is known about farm output during the eighteenth and nineteenth centuries, the shortfall in statistical data is well known”.¹⁴⁶ Nonetheless extensive studies have been made of agricultural production in England, perhaps the most comprehensive being *The Agrarian History of England and Wales*, from the eleventh century to the mid twentieth century. This 6th volume is a comprehensive account of 1750 to 1850. This period “has always been considered one of vital importance in agrarian history as that of being the classical ‘agricultural revolutions’”.¹⁴⁷ This extensive volume provides “the essential background of technical changes in agriculture and the changes in the rural landscape, the character of land ownership and landed estates and social developments in the countryside [including parkland]”.¹⁴⁸ According to Fowkes in this period “there was a trend towards a greater degree of ornamentation and beautification within many parks [but also] there was an apparently contradictory trend towards a more practical and profitable use of parkland, particularly in terms of a greater degree of agricultural usage”.¹⁴⁹

The ecological importance of historic parkland was formally recognised in the later twentieth century when “A Nature Reserve Agreement was eventually concluded between the owners (of Moccas Park in Herefordshire) and the Nature Conservancy Council”.¹⁵⁰ The nature reserve agreement “ran from 1978 (with) Moccas Park being declared a National Nature Reserve in 1981, the first parkland to have this status”.¹⁵¹ The important contribution of historic designed landscapes to ecology and the protection of wildlife habitats has been recognised more fully in recent research by Natural England. Its study in 2016 has revealed their value as ecological sites contributing “many environmental benefits”.¹⁵² Nonetheless the study also concluded that “they remain an undervalued resource”.¹⁵³ Data collected in 2016 by Natural England on priority habitats in England, reveals that 18,909 hectares of historic parkland [not including the south east and Greater London regions] accounted for “57% of priority habitats for wood pasture and parkland”.¹⁵⁴ Wood pasture and

¹⁴⁶ Turner M E, Beckett J V, Afton B, *Farm Production in England 1700-1914*, Oxford University Press, p. 2.

¹⁴⁷ <http://www.cambridge.org/vi/academic/history/british-history-after-1450/agrarian-history-england-and-wales-volume-6> accessed 12th February 2018

¹⁴⁸ Ibid.

¹⁴⁹ Fowkes D V, (1967) *Nottinghamshire Parks in the Eighteenth and Nineteenth Centuries*, (Barley M W, Smith R S, Eds., Transactions of the Thoroton Society of Nottinghamshire, Volume LXXI, Derry and Sons Ltd. Nottingham, pp. 72-89, p. 72

¹⁵⁰ Harding P T, Wall T, (2000) *Moccas an English Deer Park, The history, wildlife and management of the first parkland National Nature Reserve*, English Nature, Peterborough, p. 12. (backed by a report by Harding, 1977)

¹⁵¹ Ibid. p. 12.

¹⁵² http://www.capabilitybrown.org/sites/default/files/sheffield_hallam_conference_paper_2016pdf accessed 28th February 2019 (What Capability Brown did for Ecology: the legacy of biodiversity, landscapes and nature conservation, Natural England)

¹⁵³ Ibid.

¹⁵⁴ Ibid.

parkland were found in the wider landscape, this contains only “1.7% of priority habitats”.¹⁵⁵ These findings reveal that historic designed landscapes are hugely important to the survival of many wildlife habitats. Ancient park woodland has been recognised as a significant habitat for a number of species of birds, mammals and invertebrates.

Although it was acknowledged that Brownian landscapes “resulted in loss of [some] ancient trees and natural wetland systems; they also incorporated existing habitats and created new habitats such as species rich grassland, scattered parkland trees, woodlands and water bodies”.¹⁵⁶ Also according to Natural England “Connectivity of grassland areas within historic designed landscapes is relatively unhindered, formal grassland areas do not significantly reduce connectivity of flowering grassland meadow areas”.¹⁵⁷ Moccas Park was redesigned by Brown who “made small scale changes to the medieval deer park and natural lake and is now designated as an SSSI”.¹⁵⁸ Ongoing conservation efforts at Moccas include “felling a conifer plantation, [and growing] acorns from the Old Man of Moccas 800 year old oak”.¹⁵⁹

Parkland water bodies are also the subject of habitat restoration as with the Great Lake at Welbeck. In 1983 the lake was given SSSI status because “The site comprises a complex of habitats centred on the Great Lake and Carburton Dams. Welbeck is notable for its breeding bird community, which includes a heronry, and for its wintering wildfowl”.¹⁶⁰ In 2005 a detailed statement by English Nature sets out the principal conservation interests of Welbeck Lake and its environs. These include “swamp habitats, broadleaved semi-natural woodland, Heronry and grazing areas”.¹⁶¹

2.3 Parkland Animals

The creation of landscape parks in the late eighteenth century gave impetus to different and innovative ways of keeping and managing park animals. The ‘traditional’ small park animals were no longer important to the park landscape as Williamson argues “Fish, rabbits and pigeons, fell somewhere between the new enthusiasms for agricultural ‘improvement’ and for shooting and

¹⁵⁵ http://www.capabilitybrown.org/sites/default/files/sheffield_hallam_conference_paper_2016pdf accessed 28th February 2019 (What Capability Brown did for Ecology: the legacy of biodiversity, landscapes and nature conservation, Natural England)

¹⁵⁶ http://www.capabilitybrown.org/sites/default/files/sheffield_hallam_conference_paper_2016pdf accessed 28th February 2019 (What Capability Brown did for Ecology: the legacy of biodiversity, landscapes and nature conservation, Natural England)

¹⁵⁷ Ibid.

¹⁵⁸ Ibid.

¹⁵⁹ Ibid.

¹⁶⁰ <https://designatedsites.naturalengland.or.uk> accessed 28th February 2019 (Welbeck Lake SSSI Natural England)

¹⁶¹ English Nature (2005) *Welbeck Lake, Views about Management, Countryside and Rights of Way Act 2000, Schedule 11 (6)*.

hunting of animals which were more clearly 'wild'".¹⁶² Therefore, according to Williamson "Fish ponds, rabbit warrens and the like thus came to occupy an uneasy position in the minds of landowners, and appeared archaic and unfashionable".¹⁶³ However, there has been interdisciplinary research into the breeding of domestic parkland animals, game birds and the containment of deer.

Deer were not totally banned from the park environs and substantial scholarly attention has been paid to the importance of deer as a reflection of an elite landowner's status. In the Middle Ages deer were recognised as aesthetic additions to parkland as well as a source of venison as Fletcher argues "The ornamental element of a deer park is interconnected with its role as a hunting park and as a provider of the most prized of meats".¹⁶⁴ However, it was only the privileged few who had access to the keeping and killing of deer, and according to Williamson "The hunting and consumption of deer had been activities reserved for the elite since the earliest times".¹⁶⁵ By the later Middle Ages "the appearance, location and significance of parks were changing".¹⁶⁶ It is important to consider how medieval deer parks were managed; deer were subjected to being hunted but it was not necessarily just for the 'sport' of the chase. According to Birrell "How often in practice, lords chose to hunt in their parks is open to debate".¹⁶⁷ Deer were managed in orderly fashion, they were not just wild animals to be chased as Birrell argues "Deer were managed in the Middle Ages, skilfully and intelligently [and] hunting there was, on a regular systematic basis, but by servants, charged with the task of supplying their employers with deer, alive or dead as required".¹⁶⁸ Therefore, although the animals were hunted, according to Birrell "the management of deer reached its most advanced form inside parks, where it can justifiably be described as deer 'farming'".¹⁶⁹ This reveals that the deer were primarily kept for their meat, as Birrell argues "Venison was highly prized [but] it was not as a rule produced for the market, owners of deer parks seem to have thought solely of producing deer for their households".¹⁷⁰ Therefore, the actions of the Lords of deer parks regarding their animals were not dissimilar to the landowners in the eighteenth century because as

¹⁶² Williamson T, (2013) *An Environmental History of Wildlife in England, 1650-1950*, Bloomsbury Publishing, Plc, London, New York, p. 128.

¹⁶³ Ibid. p. 128. (T Williamson, 'Fish, fur and feather: man and nature in the post-medieval landscape', in K Barker and T Darvill (eds), *Making English Landscapes* (Bournemouth University School of Conservation Sciences Occasional Paper, 1997), pp. 92-117.

¹⁶⁴ Fletcher J, (2011) *Gardens of Earthly Delight, The History of Deer Parks*, p. 85.

¹⁶⁵ Williamson T (1995) *Polite Landscapes Gardens and Society in Eighteenth Century England*, p. 22.

¹⁶⁶ Ibid. p. 24.

¹⁶⁷ Birrell J, Deer and Deer Farming in Medieval England, p. 113. *Agricultural History Review*, 40, II, pp 112-126

¹⁶⁸ Ibid. p. 113.

¹⁶⁹ Ibid. p. 113.

¹⁷⁰ Ibid. p. 114, p. 115.

Birrell suggests, the Manorial Lords “gave away their flesh, never taking a penny for the same, in which case of course, the gain consisted rather of the status and prestige such gifts conferred”.¹⁷¹

There were significant changes in the early modern period to the location of deer parks, it was the beginning of the transition from a deer park to a landscape park. According to de Belin “When we consider the location of later deer parks, enclosed in the sixteenth and seventeenth centuries, some parks such as Holdenby, were made at the same time a new great house was built on the site of an old Manor”.¹⁷² Therefore deer were now considered as a grazing animal rather than a wild animal to be hunted as de Belin argues “Deer parks were becoming ‘essential adjuncts’ to the great house rather than distant deer farms, so the density of trees within the park was reduced while the wide areas of pasture became more prominent”.¹⁷³ This type of landscaping ensured that a deer park was a precursor to a landscape park as de Belin argues “How many of the deer parks that we have identified as extant in Northamptonshire went on to be incorporated into what is now regarded as a ‘landscape park’”.¹⁷⁴ In the early 1700s at Deene Park, Northamptonshire “detailed plans were drawn up on the best way to manage the park to support deer, this included the number of does and bucks to be kept, as well as the number of sheep and horses thought to complement the keeping of deer”.¹⁷⁵ Grazing animals on open pasture land now included deer with other domestic animals as de Belin suggests “The deer might also find themselves sharing their grazing with cows or sheep”¹⁷⁶

The elite were increasingly establishing deer herds “immediately adjacent to the gentleman’s residence and considered a fitting – indeed – an essential – adjunct to a great house”.¹⁷⁷ Therefore, by this period deer were considered as aesthetically pleasing animals which should be ‘displayed’ to represent the prestige and wealth of the landowner. The significance of ‘gifting’ venison enhanced elite status. According to Fletcher venison was considered as “a source of gift without price”¹⁷⁸, and venison given away by the landowner “was the most prestigious advertisement of the park owner’s status”.¹⁷⁹ According to Thompson “the gift of game [venison] was one of the more delicate means

¹⁷¹ Birrell J, *Deer and Deer Farming in Medieval England*, p. 113. *Agricultural History Review*, 40, II, pp 112-126 p. 115.

¹⁷² Belin A J, (2010) *Traditional Hunting Landscape: Deer Hunting and Foxhunting in Northamptonshire 1600-1850*, Thesis Leicester University p. 99.

¹⁷³ Ibid. p. 104.

¹⁷⁴ Ibid. p. 104.

¹⁷⁵ Ibid. p. 105.

¹⁷⁶ Ibid. p. 100.

¹⁷⁷ Ibid. p. 24.

¹⁷⁸ Fletcher J, (2011) *Gardens of Earthly Delight, The History of Deer Parks*, Windgather Press, Oxbow Books, Oxford, p. 4.

¹⁷⁹ Ibid. p.199

by which the gentry expressed influence and solicited favour”.¹⁸⁰ The gifting of venison was also a form of political currency, as Seymour argues “Venison was bestowed upon inferiors as an indulgence, especially at election times when it was used to influence voting patterns”.¹⁸¹ The importance of deer within landed estates is reflected with the introduction of the ‘Black Act’, an Act of Parliament which was passed in 1723. The Black Act was so named due to deer poachers blacking their faces. The ‘Windsor Blacks’ were particularly infamous and they stole deer from many parks such as Earl Cadogan’s “whose own park at Caversham had been raided by the Blacks”.¹⁸² The penalty for deer stealing was particularly gruesome, and according to Thompson poachers were “to be hung in chains, with one’s body left to rot within sight of relatives and neighbours”.¹⁸³

However, the era of ‘improvement’ from the mid eighteenth century had significant effects upon parkland animals such as deer. According to Williamson deer were one of first animals to be “increasingly excluded from parks and replaced by sheep and cattle. In part this was because they played havoc with the planting schemes and thus made unsuitable denizens of these manicured and designed landscapes”.¹⁸⁴ Landowners were increasingly ‘improving’ the domestic livestock on their estates and as Seymour argues “By the later eighteenth century, a Pastoral outlook had changed into a Georgic one, and deer numbers were in decline”.¹⁸⁵ Sheep became the favoured parkland animal, mainly due to the problems of confining deer, and according to Seymour at Welbeck “Repton’s suggested solution was to convert the “part of the park near the house....into a sheep walk”.¹⁸⁶

It was not just ornamental trees which were damaged by deer, they devastated new plantations as well as mature trees, and according to Seymour “deer debarked trees, killing them or stunting their growth”.¹⁸⁷ However, in the 1730s and 40s the rise of landscape parks embodied, according to Williamson, as its “most fundamental development... the way in which the concept of the *park* was gradually ceasing to have any necessary association with deer”.¹⁸⁸ The landowners were “laying out large parks but making no provision for deer-proof fencing”.¹⁸⁹ Williamson suggests the reason for

¹⁸⁰ Thompson E P. (1977), *Whigs and Hunters*, Penguin Books Ltd. Middlesex (Comments of Douglas Hay in D Hay, P Linebaugh and E P Thompson, eds. *Albion’s Fatal Tree*, 1975, pp. 246-7) p. 158.

¹⁸¹ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, (Hay, Douglas, Linebaugh, Peter, Rule, John G., Thompson E P, and Winslow, Carl, *Albion’s Fatal Tree: crime and society in eighteenth century England*, (London, 1975) p. 246) p. 411.

¹⁸² Thompson E P. (1977), *Whigs and Hunters*, Penguin Books Ltd. Middlesex, p. 76.

¹⁸³ Ibid. p. 76, See Hay, Linebaugh and Thompson, op. Cit., p. 50.

¹⁸⁴ Ibid. p. 128.

¹⁸⁵ Seymour S (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 411.

¹⁸⁶ Ibid. p. 415.

¹⁸⁷ Ibid. p. 413.

¹⁸⁸ Williamson T (1995) *Polite Landscapes Gardens and Society in Eighteenth Century England*, p. 75.

¹⁸⁹ Ibid. p. 75.

this was “the more money and effort that was invested in the design and ornamentation of these landscapes, the less keen landowners were to keep deer within them”.¹⁹⁰ The destructive habits of deer made them unwelcome in parks and according to Williamson “It is hard to over-emphasise the importance of these deer-less *transitional parks*”.¹⁹¹ Therefore, by the mid eighteenth century deer were losing their value as revered animals and Williamson argues “The park’s significance as an essentially aesthetic landscape has now overtaken its importance as a place where deer were kept”.¹⁹²

Venison was not commonly sold on the open market, as Seymour argues, there was not “such a developed market in venison as there was in the meat of improved breeds”.¹⁹³ However Fowkes suggests that in the Dukeries “deer and game also formed a valuable supplementary source of income”.¹⁹⁴ Fowkes’ mention of ‘deer and game’ is problematic in this context as it is unclear where venison was taken to be sold, and landowners often either ‘gifted’ the meat for political favours or gave it to employees such as the agent and his family. Fowkes’ reinforces his argument with “the proceeds from the sale of game and venison must have, to some extent offset the high costs of upkeep, in terms of the provision of keepers, food, fences and coverts”.¹⁹⁵ Therefore, he reiterates that it is venison as well as game which are sold but there is no reference to where it went or who bought it.

The selective breeding of domestic animals such as sheep and cattle in the eighteenth and nineteenth centuries and their association with parkland has generated a considerable amount of scholarly attention. According to Goddard “The Smithfield Club had the more specialist interest of stock raising and was established at the Woburn Sheep Shearing of 1799 held in Woburn Park under the patronage of such leading agriculturalists as Lord Somerville, Arthur Young and the Duke of Bedford as President”.¹⁹⁶ The selective breeding of livestock became increasingly important from the later eighteenth century and throughout the nineteenth century and landowners took a keen interest in the judicious breeding of farm animals in order to produce the finest animals. As Ritvo argues “Experimental stock breeding could be understood as one component of the agricultural revolution, which inspired many eighteenth century landowners with a new interest in the actual

¹⁹⁰ Williamson T (1995) *Polite Landscapes Gardens and Society in Eighteenth Century England*, p. 75, 76.

¹⁹¹ Ibid. p. 76.

¹⁹² Ibid. p. 76.

¹⁹³ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 413.

¹⁹⁴ Fowkes D V, (1967) *Nottinghamshire Parks in the Eighteenth and Nineteenth Centuries*, Transactions of the Thoroton Society of Nottinghamshire, Volume LXX1, (Barley M W, Smith R S, Eds.) Derry and Sons Ltd. P. 76.

¹⁹⁵ Ibid. p. 76.

¹⁹⁶ Goddard N, (1988) *Harvests of Change, The Royal Agricultural Society of England 1838-1988*, Quiller Press, London, p. 4.

working of their estates".¹⁹⁷ 'New' breeds of sheep were created in the eighteenth century as Hall and Clutton-Brock argue "The New Leicester sheep can be taken as a symbol of the eighteenth century livestock improvers".¹⁹⁸ This importance of the development of this breed was that "above all others Robert Bakewell established his principles of inbreeding to produce a new type of livestock animal".¹⁹⁹ Popular longwool sheep were the Lincolnshires and as Trow-Smith notes "These sheep, were, Defoe said by far the largest and heaviest fleshed of all the sheep in England, they also wore the greatest fleeces".²⁰⁰ Other sheep were improved in the eighteenth century and Trow-Smith argues that the "closest rivals to Lincolnshire longwools in size weight and fleece were the sheep of Romney Marsh".²⁰¹ But these animals were not as popular because they "were few in number in comparison with the vast flocks of East Midland longwools".²⁰²

Several studies argue that sheep were the most numerous parkland animal from late eighteenth century to the later nineteenth century because they were of economic value in terms of the provision of meat and wool. According to Seymour "the most important animal enterprise [at Welbeck Park] in the 1770s was that of sheep [and] the most important of the sheep products was not wool but the animals themselves".²⁰³ The crossing of new breeds such as the, South Down and Lincolnshire longwool with established regional breeds such as the Forest sheep reflects the enthusiasm to 'improve' the animals to produce higher carcass weights and finer wool. According to Pickersgill "The breeds of sheep found mainly on the Welbeck farms were the old forest breed and Southdowns".²⁰⁴ Large landowners such as Thomas Coke, Lord Somerville and the 4th Duke of Portland also acquired Merino sheep from Spain and embarked upon a programme of cross breeding known as the 'Merino experiment'. These animals were renowned for their fine wool and they were bred with British stock to 'improve' the wool, initially on "George III's experimental farm at Kew Gardens".²⁰⁵ However, the experiment failed, according to Hall and Clutton-Brock "Coke admitted that the crosses from his Southdown ewes that had been put with Merino rams were not

¹⁹⁷ Ritvo H, (1987) *The Animal Estate, The English and Other Creatures in the Victorian Age*, p. 47.

¹⁹⁸ Hall S J G, Clutton-Brock J, (1995) *Two Hundred Years of British Farm Livestock*, The Natural History Museum London, p. 151.

¹⁹⁹ Ibid. p. 151.

²⁰⁰ Trow-Smith (1959) *A History of British Livestock Husbandry 1700- 1900*, Routledge , p. 15

²⁰¹ Ibid. p. 15

²⁰² Ibid. p. 15

²⁰³ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 445.

²⁰⁴ Pickersgill A C, (1979) *The Agricultural Revolution in Bassetlaw in Nottinghamshire 1750-1873*, p. 324 (Pwh 1293, 1799)

²⁰⁵ Armstrong P (2016) *Sheep*, Reaktion Books, p. 94.

thriving”.²⁰⁶ Therefore, although Merinos were introduced to George Third flocks by Joseph Banks, the experiment was abandoned.

However, there is a positive argument for running sheep in the park because “sheep folded on agricultural land played an important role in replenishing the fertility of the soil, without sheep progressive rotations could not be practiced in the light soil areas”.²⁰⁷ Improving the fertility of the soil by folding sheep on the arable land has been investigated by academics such as Pickersgill and Seymour who both reiterated the importance of sheep folds. Seymour argues that the Dukeries parks owners practiced rotational agriculture, ‘improved’ animal breeding and then “exploited the practical value of their sheep, running them not only on the park grass but also folding them on their agricultural land”.²⁰⁸ Folding systems ensured that high sheep numbers could be enclosed on agricultural land.

However, a few authors have highlighted that there could be negative ecological consequences related to sheep numbers and according to Pickersgill “complications followed from the need to keep flocks of different kinds of sheep separate, and the state of the pastures [in Welbeck]. It was essential to protect the grass as well as to feed the sheep”.²⁰⁹ Too many sheep on pasture land had the effect of degrading the quality of the grass. Thomas argues that “maximum utilization of pasture growth can result in pasture deterioration when carried to excess, for sheep can defoliate herbage plants too thoroughly if left on pastures for too long a period”.²¹⁰ Williamson also refers to the problems of overstocking when discussing the concepts of beauty and utility, regarding landscape parks. According to Williamson there was “an inherent tension at the heart of this sensible combination of beauty and utility”.²¹¹ He argues that “Stocking at too high a density could disfigure the park. Bare muddy patches might be created, especially in winter months”.²¹²

The selective breeding of cattle on landed estates, in the eighteenth and particularly the nineteenth centuries is the subject of intense debate amongst academics from several disciplines. Cattle were increasingly bred to enormous sizes, and according to Ritvo “In their magnificence as well as in their metonymic association with agricultural improvement, the Durham Ox and its portly kindred embodied the values of the wealthy, often aristocratic landowners who produced exemplary

²⁰⁶ Hall S J G, Clutton-Brock J, (1995) *Two Hundred Years of British Farm Livestock*, p. 149.

²⁰⁷ Ibid. p. 458.

²⁰⁸ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 458.

²⁰⁹ Pickersgill A V (1979) *The Agricultural Revolution in Bassetlaw, Nottinghamshire 1750-1873*, Unpublished thesis, p. 329.

²¹⁰ Thomas J F H (1949) *The Grazing Animal*, p. 55.

²¹¹ Williamson T (1995) *Polite Landscapes, Gardens and Society in Eighteenth Century England*, p. 119.

²¹² Ibid. p. 119, p. 120.

livestock".²¹³ She also includes the breeding of sheep in her work, especially by Robert Bakewell, who "often received aristocratic visitors who came to examine the evidence of his technical prowess: the fleshy, symmetrical and fine boned strain of sheep called New Leicesters or Dishley breed that he developed out of the old Leicesters".²¹⁴ There was however, a significant difference between 'prize' animals such as the 'Durham Ox' and other cattle, according to Ritvo, "They were elegant as well as ample, they were expensive to produce and maintain, they did not seem to be judged according to the same standards as the lesser beasts that were the mainstay of the livestock industry".²¹⁵ These 'prize' cattle symbolised the prestige of landowners because they were "valued for the qualities that distinguished the human elite: dignity, social position and breeding".²¹⁶ The interest in breeding and showing these animals increased significantly in the early nineteenth century, particularly with the advent of the Smithfield Society which "held its first show in 1799".²¹⁷ However, the wealthy landowners dominated the specialist breeding of cattle and the predilection for larger beasts was criticised by the agricultural press at the Christmas cattle show in 1821. As Ritvo notes "At the 1821 show the judges were guided in their decisions by the quantity of flesh [the cattle were] gross, coarse-boned and excessively fattened".²¹⁸ 'Improvements' to livestock began with Bakewell "in the 1760s with the Longhorn breed of cattle".²¹⁹ According to Mingay "Bakewell's methods had a lasting influence on the course of livestock improvement".²²⁰

According to Ritvo the influence of elite livestock breeding declined by the mid to later nineteenth century and argues that "The counter to this hegemonic rhetoric came from people who interpreted livestock breeding defined by individual worth not by social position but by skill and enterprise".²²¹ The success of cattle breeding now lay in "a smaller and less expensive animal providing equal opportunity for careful discrimination of rank".²²² The expense of breeding 'prize' animals by the elite has been questioned by some agrarian historians who believe that yeoman farmers [such as Robert Bakewell] contributed more to the improvement of cattle breeds. According to Mingay it was not just the breeders and breed societies who were responsible for 'improving' animals but also

²¹³ Ritvo H, (1987) *The Animal Estate, The English and Other Creatures in the Victorian Age*, p. 46.

²¹⁴ Ibid. p.66.

²¹⁵ Ibid. p. 46.

²¹⁶ Ibid. p. 60.

²¹⁷ Ibid. p. 50.

²¹⁸ Ibid. p. 76.

²¹⁹ Hall S J G, Clutton-Brock J, (1995) *Two Hundred Years of British Farm Livestock*, p. 12.

²²⁰ Mingay G E, (1977) *The Agricultural Revolution, Changes in Agriculture 1650-1880*, p. 30.

²²¹ Ritvo H, (1987) *The Animal Estate, The English and Other Creatures in the Victorian Age*, p. 79.

²²² Ibid. p. 81

“the work of a multitude of interested landlords and farmers who tried out different varieties and ascertained which were best suited to their local circumstances”.²²³

Selective breeding of horses has been practiced for centuries. According to Thomas “In the later fourteenth century a horse might be worth anything from two shillings to £50, depending on its breed and condition”.²²⁴ Horses were indispensable to landowners and farmers alike as Thomas argues “Horses were used in war, in hunting, in agriculture and in industry”.²²⁵ As well as these key areas of work and leisure, horses were vital as a means of transport, and according to Thomas “They pulled carts, wagons and private coaches [as well] as a means of private transport”.²²⁶ From the sixteenth century onwards “The demands of the economy led inexorably to the development of a specialised system of breeding horses for use in farming, industry and trade”.²²⁷ Therefore, landowners would require particular breeds for agriculture such as the Clydesdale and Suffolk Punch as well as hacks and hunters which were more finely bred for the chase. According to Thomas “By the later seventeenth century the thoroughbred racehorse had become an aristocratic obsession. Its strength, speed and courage symbolised the superior status of its owner”.²²⁸ Breeding superior thoroughbreds was the ultimate goal for aristocrats and their “stud books and pedigrees were maintained with a precision”.²²⁹ Therefore, by this period the emphasis was upon breeding and owning the best pedigree horses and according to Thomas “Blood was important; there was a social hierarchy among animals no less than men, the one reinforcing the other”.²³⁰ Therefore it is clear that aristocratic interest in racehorses was paramount in this period and it was to continue into the nineteenth century. However, the way racehorses were bred and kept on landed estates, including the creation of studs and racing stables has not received considerable academic interest. There is however, a detailed account of Lord George Bentinck, [the 4th Duke of Portland’s son,] and his interest in racing and according to Seth-Smith Lord George “maintained the largest racing establishment in the land”.²³¹ Lord George used Welbeck training areas occasionally as “his policy was to engage several jockeys to come to Welbeck to try out his 2yr olds, the best of whom was sent to be trained by Richard Prince at Newmarket”.²³² Horse portraiture by renowned artists such as

²²³ Mingay G E, (1977) *The Agricultural Revolution, Changes in Agriculture 1650-1880*, p. 31.

²²⁴ Thomas K (1984) *Man and the Natural World, Changing Attitudes in England 1500-1800*, (Beryl Rowland, *Blind Beasts*, ([Kent, Ohio], 1971), 128. p. 59.

²²⁵ Ibid. p. 59.

²²⁶ Ibid. p. 59

²²⁷ Ibid. p. 59.

²²⁸ Ibid. p. 59.

²²⁹ Ibid. p. 59.

²³⁰ Ibid. (William Cavendish, *A new Method and Extraordinary Invention to Dress Horses* (1667) sig. (b) 2; *Tracts on Liberty in the Puritan Revolution*, ed. William Haller (New York 1934), ii. (48-9) p. 60.

²³¹ Seth-Smith M (1971) *Lord Paramount of the Turf Lord George Bentinck 1802-1848*, Faber and Faber, p. 14.

²³² Ibid. p. 18.

George Stubbs was in vogue for elite landowners in the eighteenth century. The 3rd Duke of Portland commissioned Stubbs to paint his thoroughbred horses, according to Daniels “Stubbs showed an equestrian portrait of Portland in the 1767 exhibition, titled “*A nobleman on horseback*”.”²³³ Stubbs also produced paintings of Creswell Crags on the Welbeck estate which included “a finely bred specimen [of an Arabian horse] with the Crags soaring dramatically [appearing] to amplify the stallion’s progenitive power”.²³⁴ This portrait reflected the status of elite landowners and as Daniels argues “As the sun strikes the summit [of the Crags] so our eye is drawn to a woodland grove [which] is a mixture of native and exotic specimens of no less than seven different species of tree, oaks, ash, birch, larch, Scots pine and Lombardy poplar”.²³⁵ Stubbs’ paintings not only reflected the prestige of owning thoroughbred stallions but as Daniels argues, they also “displayed the botanical knowledge and planting ambition of Stubbs and his patrons (Portland was planting a range of such trees at the time)”.²³⁶

Heavy farm horses were important for agriculture and according to Brown “By the end of the eighteenth century the standards of horse breeding was rising, and the quality of heavy horses was improving”.²³⁷ The ‘improvement’ in horse breeding began earlier in the eighteenth century mainly due to Bakewell’s influence of breeding the best stallions which he ‘let’ out for breeding. According to Brown the most effective way of establishing pedigree lines “was the practice of letting a stallion for a season to individuals or groups of farmers who has mares available for breeding”.²³⁸ Bakewell applied the same methods of in-breeding for improving horse breeds as he did with sheep and cattle he “used the black horse of Leicestershire, crossed it with Dutch blood, and then applied his methods of in-breeding to establish improved lines”.²³⁹ Therefore, pedigree lines of heavy horses were established and “Bakewell’s work was influential, his example of letting his stallions helped to establish this practice more widely, and by the early nineteenth century stallion hiring societies were becoming numerous”.²⁴⁰ However, by the later nineteenth century the quality of hired stallions declined, as Moore-Colyer argues, due to “the widespread use of poorly-formed Thoroughbred sires”.²⁴¹ Although, aristocratic owners such as Admiral Henry Rous maintained that “the value of a riding- or driving-horse increased in direct proportion to its level of Thoroughbred blood, the fact

²³³ Hearn K, Daniels S, (2008) *Horses and Landscapes: George Stubbs at Welbeck, The Rise of horse portraiture and landscape painting in Britain*, Pineapple Press, published for the Harley Gallery, p. 17.

²³⁴ Ibid. p. 14.

²³⁵ Ibid. p. 15.

²³⁶ Ibid. p. 15.

²³⁷ Brown J (1991) *The Horse in Husbandry*, Farming Press, Ipswich, p. 35.

²³⁸ Ibid. p. 35.

²³⁹ Ibid. p. 35.

²⁴⁰ Ibid. p. 35.

²⁴¹ Moore-Colyer R Aspects of Horse Breeding and the Supply of Horses in Victorian Britain, *Agricultural History Review*, 43,1,pp 47-60, p. 54.

remained that much of this blood derived from reject racing stallions often little better than useless hacks".²⁴² Therefore, it would seem that the level of care taken in the breeding of heavy horses outweighed the breeding programmes for hunters, riding and carriage horses, as the *Royal Commission on Horse breeding* argued in 1888 "certain categories of horses with inadequacies in quality and conformation by the late 1880s... 'this country has been left with the inferior and unsound animals...and the result has been the marked deterioration in the general breed, for which England at one time was famous'.²⁴³

The attitudes of humans towards animals often related to the particular species. According to Ritvo "Britons of all ranks were known for their love of horses and natural history writers characterise the horse as "noble" and sometimes as nobler than the class of humans generally charged with its care".²⁴⁴ This is an example of the social hierarchy of horses being not just equal with men but higher. So, animals were given almost human-like qualities (or otherwise) in order to 'place' their role within society, because they "appealed as subjects of human activity".²⁴⁵ Equally, particular groups of humans were seen as closer to animals. According to Wolch and Emel "In Western thought, women's bodies have been deemed 'like' animals due to their biological role, seemingly uncontrolled passions, and perceived irrationality".²⁴⁶ Debates about women's rights as well attitudes towards indigenous groups are closely aligned to these animal like representations. According to Wolch and Emel racial overtones are apparent when "people of colour (especially Africans) were historically situated as lower on the 'chain of being' and thus in closer evolutionary and behavioural proximity to non human animals (especially the great apes)".²⁴⁷ The British Empire reached its height in the nineteenth century and the hegemony of Western culture ensured that it was 'normal' and 'natural' for the colonisers to be recognised as 'superior' over the colonised. Binary oppositions of civilised/savage, superior/inferior identified the West as the superior race, and according to Said "Orientalism is never far from what Denis Hay has called the idea of Europe".²⁴⁸ Said uses a further binary opposition to support his claim of cultural hegemony which is "a collective notion identifying 'us' Europeans as against all 'those' non Europeans".²⁴⁹ These observations are particularly useful in my thesis as both 'wild' and 'tame' animals are closely examined, as well as

²⁴² Moore-Colyer R Aspects of Horse Breeding and the Supply of Horses in Victorian Britain, *Agricultural History Review*, 43,1,pp 47-60 (1 3366; for Rous and his life see R Mortimer, *The Jockey Club*, 1958, p. 79)

²⁴³ Ibid. p. 47 (BPP, 1888, XLVIII, *Royal Commission on Horse Breeding*, first report)

²⁴⁴ Ritvo H, (1987) *The Animal Estate, The English and Other Creatures in the Victorian Age*, p. 19.

²⁴⁵ Ibid. p. 11.

²⁴⁶ Wolch J, Emel J, (1998) *Animal Geographies, Place, Politics and Identity in the Nature-Culture Borderlands*, Verso, London, p. 83.

²⁴⁷ Ibid. p. 83.

²⁴⁸ Said E W, (1995) *Orientalism, Western Conceptions of the Orient*, Penguin Books, 7. (from Denys Hay, *Europe: The Emergence of an Idea*, 2nd Ed. (Edinburgh, Edinburgh University Press, 1968)

²⁴⁹ Ibid. p. 7.

human attitudes to perceived 'vermin'. Birds of prey, polecats, feral cats and corvids were considered as vermin and according to Ritvo "The dichotomy between domesticated animals and wild animals was frequently compared to that between civilised and savage human societies".²⁵⁰

There are several scholarly contributions to understanding the past relationships between humans and 'wild' animals. Interdisciplinary work is important and frequently the "porous boundaries of animal geography merge with those of cultural geography and species history".²⁵¹ Agricultural 'improvement' over the last two hundred years has been responsible for the loss of a number of particular species of wild animals in Europe and worldwide. A study of the decline of the wild boar in North West Italy pinpoints several reasons for the disappearance of this animal. According to Hearn et al "The nineteenth century was a period of rapid population growth in rural Liguria and the intensification of agriculture".²⁵²

Arguably the most important parkland species during the nineteenth century were the game birds which included pheasants and partridges. These birds were particularly valuable for the landowners because of the penchant for shooting which gathered pace in the nineteenth century. Williamson highlights the impact of shooting on parkland and argues that "The upsurge in [tree] planting was in part fuelled by the development of organised game shooting".²⁵³ The development of shooting styles affected wildlife as Williamson argues "In a wider sense it was through an obsession with field sports that great estates made their greatest impact upon the environment".²⁵⁴ The impact of game bird shooting was upon the park landscape was very significant as Williamson argues "Shooting was arguably *the* most important influence on the style of the landscape park".²⁵⁵ In particular pheasants needed cover as he argues "the pheasant is a woodland bird [but] a bird of the woodland edge"²⁵⁶, and coverts were created to ensure they bred successfully. According to Williamson "major campaigns of planting were required to provide it [the pheasant] with a suitable habitat".²⁵⁷ Therefore, the design of the park was closely aligned to the habitat requirements of game birds. According to Seymour "The careful siting of new plantations also allowed the appropriation of game from the neighbouring parks of Clumber and Worksop Manor, to enhance the sporting resources at

²⁵⁰ Ritvo H, (1987) *The Animal Estate, The English and Other Creatures in the Victorian Age*, p. 16.

²⁵¹ Hearn R, Watkins C, Balzaretto R, (2014) *The Cultural and Land Use implications of the reappearance of the wild boar in North West Italy: A case study of the Val di Vara*, Journal of Rural Studies 36 (2014) 52-63, p. 53.

²⁵² Ibid. p. 54.

²⁵³ Williamson T (2013) *An Environmental History of Wildlife in England, 1650-1950*, p. 122

²⁵⁴ Ibid. p. 122.

²⁵⁵ Williamson T, (1995) *Polite Landscapes, Gardens and Society in Eighteenth Century England*, p. 131, p. 132.

²⁵⁶ Ibid. p. 123.

²⁵⁷ Ibid. p. 123.

Welbeck".²⁵⁸ The increase in planting ensured that "many of the new plantations took the forms of clumps, or long narrow belts".²⁵⁹ The type of planting needed was indigenous flora such as box but increasingly 'alien' species were introduced "like snowberry, Oregon grape, Portuguese Laurel and Rhododendron".²⁶⁰ It is precisely the introduction of these species which ensured their 'relentless march' throughout parkland, particularly the Asian rhododendron. According to Williamson this shrub "was planted for game cover – in estate woodland [and] it has since spread through woods, carpeting the ground and suppressing growth of other plants"²⁶¹, resulting in the loss of habitat for many other species of avifauna which needed more open parkland to survive.

Game bird shooting in late eighteenth and early nineteenth centuries was practiced by the elite and according to Billett "The partridge was the main quarry rather than the pheasant".²⁶² However, the 'sport' became more popular from the mid nineteenth century. The increase in enthusiasm for shooting is mainly due to the introduction of the breech loading gun in the early nineteenth century, because it enabled birds to be shot in far greater numbers. Earlier muzzle loading guns were replaced by the breech loading shotgun and its "potential drew the attention of English sportsmen and by 1856 it had revolutionised shotgun shooting".²⁶³ The advent of rapid fire weapons gave rise to driven shoots instead of 'walking up' game. According to Billett "In driven shooting the guns remained stationary and 'beaters' drove the game birds from the coverts to fly over the guns".²⁶⁴ This change in the method of shooting ensured that "partridge shooting declined [because] pheasants flew higher and faster than the partridge [and] offered a greater test of marksmanship".²⁶⁵ Pheasant shooting became more popular in the later nineteenth century and as Williamson argues that it "was the way in which the needs of the pheasant helped determine the characteristic disposition of the park woodland".²⁶⁶ However, Williamson recognises that "The gentry's obsession with shooting cannot 'explain' the landscape park, any more than their love affair

²⁵⁸ Watkins, (1998) *European Woods and Forests, Studies in Cultural History*, (Seymour S, *Landed Estates, the 'spirit of planting' and woodland management in later Georgian Britain: a case study from the Dukeries, Nottinghamshire*, p. 121.)

²⁵⁹ Williamson T (2013) *An Environmental History of Wildlife in England, 1650-1950* p. 123 (P Delabere Blaine, *An Encyclopaedia of Rural Sports: or a complete account of.....Hunting, Shooting, Racing* (London, 1838), p. 854.D, Hill and P Robertson, *The Pheasant: Ecology, management and Conservation* (Oxford: BSP Professional 1988), pp. 38-45.

²⁶⁰ Ibid. p. 123.

²⁶¹ Ibid. p. 131.

²⁶² Billett M, (1994) *A History of English Country Sports*, Robert Hale, London, p. 106

²⁶³ Ibid. p. 102.

²⁶⁴ Ibid. p. 108.

²⁶⁵ Ibid. p. 108.

²⁶⁶ Williamson T, (1995) *Polite Landscapes, Gardens and Society in Eighteenth Century England*, p. 138.

with forestry, horse riding or the selective breeding of livestock. The park does not have a single 'explanation': and that is because it does not have a single function".²⁶⁷

Therefore game bird breeding intensified dramatically on aristocratic estates and landowners became increasingly protective of game such as pheasants and partridge as well as wildfowl. This resulted in many wild birds and mammals being targeted as 'vermin'. According to Lovegrove "species defined as vermin [were the] Fox, Badger, Polecat, Red Kite and Jay".²⁶⁸ Tapper also defines vermin such as "Stoats which are capable of killing game animals several times larger than themselves and Carrion and Hooded Crows [which] are adept nest robbers, particularly of ground nest birds".²⁶⁹ Raptors were also classed as vermin and Tapper argues that "the distribution of buzzard, red kite and hen harrier were all reduced in the early nineteenth century".²⁷⁰ The numbers of gamekeepers increased enormously by the end of the nineteenth century which resulted in the relentless depredation of raptors and animals which were accused of preying on game birds and their eggs. According to Tapper "Between 1871 and 1911 the numbers of gamekeepers was increasing, reaching a peak of 23,056 [and] most of Britain was covered with a contiguous network of well-kept estates".²⁷¹ The intensity of game bird breeding in this period was huge and according to Lovegrove "The extent of slaughter of predatory birds and mammals that was perpetrated in the nineteenth century on sporting estates is legendary and is cited as evidence of and the reason for the loss of many species".²⁷² This unhappy state of affairs is passionately reviewed by Shrubb who argues that "the destruction of our birds of prey in the mindless pursuit of increasingly gross bags of game was an inexcusable act of selfishness, greed and barbarity".²⁷³ Therefore, it could be argued that the sheer numbers of game birds being bred in parks encouraged predatory birds and animals to kill them for food as they were 'easier' prey than other, more 'wild' fauna. Studies of vermin parish payments examine the killing of perceived 'vermin' including the activities of professional vermin takers to indicate levels of species destroyed. Cragoe and McDonagh have studied the periods of enclosure, in Northamptonshire in the eighteenth and nineteenth centuries. According to them professional vermin takers "continued to have access to newly enclosed land when pursuing vermin which would have benefitted the landowner as well as the individual claiming his few pence

²⁶⁷ Williamson T, (1995) *Polite Landscapes, Gardens and Society in Eighteenth Century England* p. 140.

²⁶⁸ Lovegrove R, (2007), *Silent Fields, The Long Decline of a Nation's Wildlife*, P. 42.

²⁶⁹ Tapper S (1992) *Game Heritage, An Ecological Review from Shooting and Gamekeeping Records*, Joint Nature Conservation Committee, p. 90.

²⁷⁰ Ibid. p. 17.

²⁷¹ Ibid. p. 16.

²⁷² Lovegrove R, (2007), *Silent Fields, The Long Decline of a Nation's Wildlife* p. 11.

²⁷³ Shrubb M, (2003) *Birds, Scythes and Combines, A History of Birds and Agricultural Change*, p. 318.

of shilling on a dead fox, hedgehog or polecat”.²⁷⁴ This style of vermin management was very efficient because the sheer numbers of keepers employed in parks according to Lovegrove “waged unremitting warfare on any species that was either proved or suspected to prey on, the interests of his game”.²⁷⁵

Medieval deer parks have been the focus of fish breeding research, and according to Williamson “Fish ponds were known in the early Middle Ages, stocked with bream and pike, but exploited on a fairly casual basis”.²⁷⁶ However, the method of breeding and keeping fish changed significantly by the late fourteenth century, according to Currie “The introduction of carp would have opened up new areas of exploitation, their faster growth would have encouraged commercialism”.²⁷⁷

Williamson suggests that “the fish were mainly bred and kept in large ponds, ‘great waters’ usually created by damming a stream running along a narrow valley”.²⁷⁸ However, smaller ponds were also created, known as ‘stew ponds’, and Williamson notes that they “were widely established besides Manor Houses, Abbeys and castles, watery larders where the fish were stored”.²⁷⁹ Therefore, carp were bred as ‘store’ fish for the use of the manorial family, but the commercial production of freshwater fish, such as bream and pike was developed in the later fourteenth century and according to Currie there was “a thriving system of holding ponds operated by professional fishmongers to supply the open market”.²⁸⁰

Law’s thesis, *The Landscape of Rufford, 1700-1743* has a very detailed chapter on carp husbandry, which includes the creation of pond systems as well as the breeding and management of fish in the early eighteenth century, by the 7th Baronet, Sir George Savile. According to Laws “Savile gave high priority to water management and pisciculture from the outset of his inheritance, and to suggest that the system he inherited had been poorly maintained”.²⁸¹ A complex water system was devised at Rufford where “Three canals of significant length were constructed [and] all channelled river water and all were intended to be serviceable as growth ponds of carp husbandry”.²⁸² Dams were also created but there were technical problems and according to Laws “In 1708 a major breach ruptured Winkerfield Dam [and] Savile was informed of a near 20 yard breach in the head of the

²⁷⁴ Cragoe M, McDonagh B, (2013) *Parliamentary Enclosure, Vermin and the Cultural Life of English Parishes, 1750-1850*, Continuity and Change, 28, pp 27-50 doi: 10. 1017/S0268416013000118, p. 42.

²⁷⁵ Lovegrove R, (2007), *Silent Fields, The Long Decline of a Nation’s Wildlife*, p. 45.

²⁷⁶ Williamson T (2013) *An Environmental History of Wildlife in England 1650-1950*, p. 16.

²⁷⁷ Currie C K, ‘The early history of carp and its economic significance in England’. *Agricultural History Review* 39 (1991), pp. 97-107.

²⁷⁸ Williamson T (2013) *An Environmental History of Wildlife in England 1650-1950*, p. 16.

²⁷⁹ Ibid. p. 16.

²⁸⁰ Currie C K, ‘The early history of carp and its economic significance in England’. *Agricultural History Review* 39 (1991), pp. 97-107.

²⁸¹ Laws S, (2016) *The Landscape of Rufford, 1700-1743*, p. 230

²⁸² Ibid. p. 234.

dam”.²⁸³ Carp were the preferred table fish at Rufford, however their management in the early eighteenth century, included moving them around, as contemporary fish keepers “were in widespread agreement that ‘fish will grow much more upon transplanting’”.²⁸⁴ This suggests that the fish were moved regularly to ensure they grew to satisfactory sizes. According to Laws “It was not overstocking that was the principal danger, but inequality of fish size”.²⁸⁵ Therefore, “large fish starved smaller ones”²⁸⁶, Hale [fish keeper] considered that ‘once in three years every pond should be drained and the fish taken out and sorted’”.²⁸⁷ Therefore, issues affecting carp breeding in the early 1700s were concerned with fish of different sizes being kept in the same pond for too long. The soil type was also a major factor for successful fish keeping, as Laws argues “Fish husbandry its advocates argued, was the most profitable means of improving boggy ground, in particular clay land considered too heavy for agriculture”.²⁸⁸ The variety of fish breeds at Rufford were not considerable. According to Laws “there was a Jack (Pike) pond at Rufford, trout (which will not thrive in standing waters), eels (that never breed in standing waters) and were generally held in an eel pond in the kitchen garden [and] tench in small numbers were variously distributed amongst a wide range of ponds and stews”.²⁸⁹ Therefore, “it was carp that preponderated in Rufford’s ponds, canals and stews throughout the 7th Baronet’s ownership”.²⁹⁰

Fish breeding continued on eighteenth century landed estates and according to Currie “carp were much prized by the aristocracy and the methods used for the keeping and breeding of the fish achieved a very reasonable standard which was maintained until at least the beginning of the nineteenth century”.²⁹¹ However, Currie argues that “At some time [after] 1800 tastes changed and the fish declined in popularity as a table fish”.²⁹² Research in this area is not considerable, but game fish such as trout were becoming popular, both for breeding and angling. Game fishing was practiced by the wealthy as Billett argues “The eighteenth century brought an increase in the popularity of fishing for salmon and trout, but the oppressive game laws limited it to the favoured few estate owners”.²⁹³ Billett notes that up to the mid nineteenth century “the quarry was the wild

²⁸³ Laws S, (2016) *The Landscape of Rufford, 1700-1743*, p. 238, p. 239.

²⁸⁴ Ibid. p. 244 (North 1713, 33)

²⁸⁵ Ibid. p. 244.

²⁸⁶ Ibid. p. 244 (Hale 1758, Vol.2, p. 112)

²⁸⁷ Ibid. p. 244, p. 245 (Ibid. p. 115)

²⁸⁸ Ibid. p. 253.

²⁸⁹ Ibid. p. 243

²⁹⁰ Ibid. p. 243

²⁹¹ Currie C K, ‘The early history of carp and its economic significance in England’. *Agricultural History Review* 39 (1991), pp. 97-107. p. 107

²⁹² Ibid. p. 107.

²⁹³ Billett M (1994) *A History of English Country Sports*, p. 96

brown trout found in fast-flowing rivers and streams”.²⁹⁴ This interest in game fishing coincided with the decline in the popularity of carp as a table fish.

2.4 Conclusion

It is evident that the academic contributions to the study of parkland examine several elements of management and design. Much of this literature focuses on the eighteenth and early nineteenth centuries and the rise of landscape parks. However, the environmental effects of parkland management and design have not been widely considered. My research seeks to place the focus on these environmental impacts. While some parkland animals, such as game birds, deer and sheep, have been more extensively researched, others such as horses, fish and wildfowl, have been relatively neglected, and environmental perspectives have been less focused on. I intend to add to the existing literature on deer by concentrating more upon the impact of grazing deer upon parkland pastures as well as agricultural changes made to the park over time. These changes had profound effects upon how and where deer were kept in the park. Stocking densities are an important area which needs addressing as this is linked to the management of the grassland in the park. The ecological damage wrought by deer within the park has been highlighted by Seymour but my work intends to explore in depth the environmental consequences of elite landowners breeding deer in landscape parks. Birrell and de Belin have studied the management of deer in the medieval and early modern periods, considering the ‘farming’ of deer as well as the transition from deer parks to landscape parks. However, the environmental impacts of the keeping of park deer is not a key theme within Birrell’s article or de Belin’s thesis.

Likewise the negative environmental effects of high numbers of grazing sheep have not been examined in detail by many agrarian historians, particularly in relation to parkland studies. Therefore the recognition of the problematic nature of sheep stocking numbers in the park landscape fills a noticeable gap in parkland literature. The management of grassland in the wider landscape for domestic farm animals such as sheep and cattle has been examined by historians, according to Turner, Beckett and Afton “Too many or too few animals reduce the quality of the sward”.²⁹⁵ However, there is little research into domestic parkland animals regarding their environmental effects upon park pasture and efforts by landowners to redress the problems of overstocking.

²⁹⁴ Billett M (1994) *A History of English Country Sports*, p. 196.

²⁹⁵ Turner M E, J V Beckett, B Afton, (2001) *Farm Production in England 1700-1914*, Oxford University Press, p. 105.

The grazing actions of ruminants and non ruminants had ecological implications, particularly due to the poor, light soils of the Dukeries region. Therefore, the problems associated with the poor quality of a free draining sandy soil is an important environmental theme which is considered throughout my thesis.

The study of horses has been considered by some academics but has tended to focus upon the importance of heavy horses. The breeding and 'improvement' of the lineage of work horses by eighteenth century stock breeders such as Bakewell is covered by Brown and Thomas considers the importance of breeding thoroughbreds for enhancing the prestige of the aristocracy. However, there has not been a detailed study of the aristocracy's enthusiasm for horse breeding and racing within their parks. This thesis has researched the breeding and keeping of horses at Welbeck by the successive Dukes including the creation of studs, training areas and stables over time. However, an important aspect of the study of parkland horses is the environmental impact upon grassland in the park as well as the growing of specific crops for horses such as oats and hay.

Although some academic studies have examined the history of fish such as Currie's work, on the carp, this is typically not related directly to landscape parks. Williamson has investigated the creation of stew ponds for breeding table fish for Manorial families. Eighteenth century fish breeding in landscape parks has not received much scholarly attention, but Laws' study is a notable exception. She studies in detail the breeding of carp in particular, on the Rufford estate in the early eighteenth century as well as changes made to the water bodies on the estate. My thesis examines in detail the breeding and management of parkland fish in the eighteenth and nineteenth centuries. The changes made over time for breeding different species are linked to the changes made to the waterscapes at Welbeck and is a vital area of research.

This chapter shows that there is a significant body of scholarly knowledge relating to estate parkland and its management throughout the eighteenth and nineteenth centuries. A multi-disciplinary approach has enabled the review to consider studies by historians (agricultural, economic, environmental and landscape), historical and cultural geographers, animal geographers as well as ornithologists. Important themes evident in the academic literature are landscape as a 'way of seeing' as well as the concept of symbolic landscape, representing the wealth and power of aristocratic landowners. Historical and cultural geography contributes extensively to 'reading' the landscape in terms of the ideologies of power, politics and the overriding concept of the hegemony of the landowning classes. Cultural geographers and environmental historians also consider material changes to the landscape. The interests of the successive Dukes as well as the landscape changes made in each period are key themes which are investigated in the next chapter.

Chapter 3 The Park and Owners

The landscape/environmental changes within Welbeck Park from the 3rd Duke of Portland to the 5th Duke, 1769-1879

Introduction

The purpose of this chapter is to outline the main interests of the 3rd [1738-1809], 4th [1768-1854] and 5th [1800-1879] Dukes of Portland, and the main landscape changes made to Welbeck Park during their periods of ownership. Particular attention is paid to the development of woodland, the lake and other water bodies and the grassland. Similarities and differences in the Dukes' interests are also highlighted, such as the continual interest and significance of the keeping of horses. The financial position of the respective park owners is an important context for these developments. The chapter begins with a brief overview of the development of Welbeck Park before the 1760s.

3.1 The Early landscape history of Welbeck

During the monastic period Welbeck was situated within the royal hunting forest of Sherwood. According to Jacks, after the Norman Conquest, "Welbeck became part of the Manor of Cuckney, and was held by a family of that name, who founded the Abbey and dedicated it to St James, in the reign of Henry 2nd".²⁹⁶ Although the monks were prevented from hunting in the Royal Forest, according to Seymour they "hunted in their own Park at Welbeck [and] outside the small area of the early Park, lands were used as sheepwalk and for arable".²⁹⁷ However, the dissolution ensured that lands owned by the monks of Welbeck Abbey were broken up and by the mid seventeenth century these were subsumed into Welbeck Park. In the medieval period and before, deer were important animals which provided 'sport', a source of food as well as being status symbols reflected wealth and prestige. It is estimated that "between about 1100 and 1500 AD, England alone had two to three thousand deer Parks".²⁹⁸ Fletcher argues medieval deer Parks "had to function on a simple practical level as a source of venison and other mundane products [and they were] able to provide at least the illusion of a private hunting reserve".²⁹⁹

The monastic lands at Welbeck were transferred into different ownerships from the mid to late sixteenth century but by "1595 Welbeck Abbey and the estate passed into the hands of the Countess

²⁹⁶ Jacks L (1881) *The Great Houses of Nottinghamshire and the county families*, General Books LLC, 2009, p. 158

²⁹⁷ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement on the Dukeries Estates of North Nottinghamshire*, p. 140.

²⁹⁸ Fletcher J, (2011) *Gardens of Earthly Delight, The History of Deer Parks*, Oxbow books, Windgather Press p. 2.

²⁹⁹ Ibid. p. 104.

of Shrewsbury for her youngest son, Sir Charles Cavendish”.³⁰⁰ After the death of Charles Cavendish in 1610 his eldest son Sir William Cavendish inherited Welbeck, and he was “afterwards created Earl, Marquis and [later] the First Duke of Newcastle”.³⁰¹ William Cavendish lavishly entertained the King on more than one occasion at Welbeck and Bolsover and “as some reward for Newcastle’s services Charles II, created him Duke of Newcastle in 1665”.³⁰²

This was a particularly important period in the development of the park and the estate as in the early years of Newcastle’s tenure he employed William Senior to produce maps and surveys of all of his lands. These are especially significant because they detail the confines of the park which enabled the Earl to review the acreage of separate areas of woodland, fields, closes and the central area of the deer park which existed from the monastic period.

Senior’s map c. 1629 [Fig. 3.1] shows the extent of the park and its surrounding lands and as Seymour suggests “As part of this task, a survey was made of “Welbeck, Belhouse Grange, Sloswick and the Hages” in 1629, on which specific references to Welbeck Park were made”.³⁰³ The map shows a central monastic deer park which was “341 acres”³⁰⁴ in total and “in addition the map included a note which stated that: “Welbeck Park” was “four and three quarter miles about”.³⁰⁵ It is difficult to assess what the ‘park’ consisted of as there is mention of a deer park and the Wren park but if the outside boundary is taken into account then it would seem that the ‘park’ takes in the whole area of woods, closes, fields, Sloswicks, Cathills, Clown hills as well as the deer park which was surveyed and contained within the: “bounds of Welbeck Park”.³⁰⁶ However, it is suggested by Seymour that “As the perimeter of the total survey of 2,609 acres amounts to approximately 8.5 miles, it is apparent that not all of the mapped area was considered to form part of the park at this time”.³⁰⁷ The following table clearly shows how Welbeck was separated into specific areas.

William Senior Survey of Welbeck and its environs 1629, Table 3.1

<i>Area</i>	<i>Acres</i>
Welbeck	1150

³⁰⁰ Rodgers J, (1908) *The Scenery of Sherwood Forest*, T Fisher Unwin, p. 276.

³⁰¹ Ibid. p. 278.

³⁰² Ibid. p. 287.

³⁰³ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries estates of North Nottinghamshire*, p. 140.

³⁰⁴ Ibid. p. 140.

³⁰⁵ Ibid. p. 140.

³⁰⁶ Ibid. p. 140.

³⁰⁷ Ibid. p. 140.

Belhouse Grange	321
Sloswick	201
Clown Hills	562
Hages	375
TOTAL	2609

Source: NAO WC 1. S.

The areas of Welbeck identified in Table 3.1 were the basis of the significant changes which would take place in the development and ‘improvement’ of the park in the eighteenth century.

The landscape characteristics of the park were noted by Defoe who visited Welbeck in 1724 when he remarked “At Welbeck especially beautify’d with large additions, fine apartments and good gardens; but particularly the park, well stocked with large timber, as well as the largest quantity of deer that are anywhere to be seen, for the late Duke’s [Newcastle] delight being chiefly on horseback and in the chase”.³⁰⁸ The mention by Defoe of the ‘late Duke’ is a reference to the unfortunate demise of Duke John in 1711 “following a fall from his horse whilst out stag hunting”.³⁰⁹ So, it would seem that the first Duke of Newcastle wanted his estate to be laid out as a hunting park with the emphasis upon the deer as the main quarry.

However, a more informal parkland style at Welbeck was created later under the ownership of the Countess of Oxford. Seymour noted that Richardson “landscaped the Welbeck grounds for the Countess, over the late 1740s and early 1750s”.³¹⁰ Seymour argues that the changes made “dealt with an area of 900 acres and in fact, he actually reduced the park area by doubling the size of the gardens from 7.322 acres to 14.324 acres”.³¹¹

The survey by Richardson shows the existing landscape in 1748 [Fig. 3.2] and the full map shows what is proposed [Fig.3.3] with the inclusion of two lakes and wooded areas.

“The area of the park and gardens are as follows:

³⁰⁸ Defoe D, A (1948) *Tour through England and Wales Vol. 11*, J M Dent and Sons Ltd. London, p. 155.

³⁰⁹ Seymour S, Haggerty S, (2010) *Slavery Connections of Bolsover Castle 1600-c1830*, Final Report for English Heritage, University of Nottingham p. 5 (from Seddon, Holles John, Turberville *History of Welbeck 1* p. 225.

³¹⁰ Ibid. p. 145.

³¹¹ Ibid. p. 145. (From Richardson F., a general plan for the Park and Gardens 1748, WEO, private collection)

	Acres	Roods	Perches
"The Park containeth	892.	0.	10
The Gardens	7.	3.	32
	900.	0.	10 ³¹²

This would suggest that the "park area had diminished since the 1629 survey or that there was a different interpretation of what constituted a 'park'"³¹³, thereby revealing the complexity of the understanding of the meaning of what is a 'park' or 'parkland'.

The larger lake by was created by damming the local River Poulter and flooding the surrounding area. The lake was styled in the fashion of a serpentine design which had been made popular in the period by Charles Bridgeman "who joined a number of old fish ponds in Hyde Park into a great serpentine lake, hence its name".³¹⁴ A distinct feature of Richardson's lakes was the inclusion of islands, according to Seymour "the [large] lake stretched for about a mile and included an island".³¹⁵ Therefore, Richardson was instrumental in changing the layout of Welbeck Park. As well as including water he planted clumps of trees, as Seymour argues "Richardson disguised the limits of the park by long, thin border plantations [Fig 3.3]".³¹⁶

3.2 The 3rd Duke of Portland's tenure, 1762-1809

The Bentinck family name became synonymous with Welbeck Park when the "marriage of the 2nd Duke of Portland and Margaret Harley, the heiress of the Cavendishes, took place on the 11th July 1734".³¹⁷ The 3rd Duke of Portland, William Henry Cavendish-Bentinck inherited the title on the death of his father in 1762. Cavendish was added to his name after his marriage in 1766. Although Portland succeeded to the Bentinck estates when his father died "his mother, under the will of Lady Oxford had a life interest in all the Cavendish lands, and he did not succeed to these until her death in 1785".³¹⁸ This contributed to the financial difficulties of the Duke up to his death in 1809, exacerbated by his high political offices as they "were demanding roles and contributed towards his

³¹² Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries estates of North Nottinghamshire*, p. 142.

³¹³ Ibid. p. 142.

³¹⁴ Lasdun S, (1991) *The English Park, Royal, Private and Public*, Andre Deutch Ltd. London, p. 122.

³¹⁵ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries estates of North Nottinghamshire*, p. 144.

³¹⁶ Ibid. p. 145.

³¹⁷ Turberville A S, (1939) *Welbeck Abbey and its Owners Vol. 11, 1755-1879*, Faber & Faber Ltd. London, p. 1.

³¹⁸ Ibid. p. 60.

chronic financial difficulties".³¹⁹ The late 1770s marked a period of financial crisis and by 1780 Portland was in serious debt. According to Turberville "in the latter part of 1780 the Duke's man of business [steward] John Heaton revealed the disquieting fact that the borrowing of even a few hundred pounds was now proving difficult".³²⁰ The Duke was aware of his debt problem, he even sold rights to the Worksop hunt, and in 1780 he said "I bring my determination to part with my hounds rather than for the present to be at the whole expense of maintaining them".³²¹ Even after his mother died in 1785, the Duke's financial position was still precarious, in 1787 his [then] steward Gould remarked "I cannot but suppose His Grace is very unwise by attempting to build, considering the state of his finances, I am pretty confident he exceeds in his housekeeping, the tradesmen's bills in London cannot be paid at this time and he has other demands upon him which he cannot satisfy".³²² However, Portland continued with a programme of development for the park and he "expended a great deal of time and money on improving Welbeck"³²³, which ensured "his expenditure always exceeded his income".³²⁴

The Duke's interests were varied. His political career was of paramount importance and "despite rarely being in government, he was a prominent figure in opposition politics and political society".³²⁵ However, the interest he showed in the landscaping of the park was at times all consuming as Wilkinson comments "The Duke was self-consciously an improver".³²⁶ Although the Duke's political duties kept him from his estate for long periods he was always personally involved with landscaping at Welbeck. According to Seymour "From 1767-1794 he landscaped Welbeck Park and its adjacent lands in collaboration with William Speechly (head gardener)".³²⁷ The Duke was particularly interested in landscape design and gardens and the appointment of Repton enabled him to fulfil his ambitious plans for the park, according to Seymour "Repton stressed Portland's pictorial sensibility in landscaping".³²⁸ The Duke was also an accomplished rider; he had a great enthusiasm for horses and hunting.

³¹⁹ Turberville A S (1939) *Welbeck Abbey and its Owners, Vo. 11 1755-1879*, p. 60.

³²⁰ Ibid. p. 307 (from Welbeck MSS., Duchess of Portland to the Duke, 10 Oct., 1780)

³²¹ UNMSS, Pwf 9953

³²² Hanson E J, Ed. (2002) *Portland and Devonshire Agent William Gould, 1783-1795*, Part one, MS/736/5/1, p. 208.

³²³ Wilkinson D, (2003) *The Duke of Portland, Politics and Party in the Age of George Third*, Palgrave Macmillan, p. 61.

³²⁴ Ibid. p. 60.

³²⁵ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 147.

³²⁶ Wilkinson D, (2003) *The Duke of Portland, Politics and Party in the Age of George Third*, p. 62.

³²⁷ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries estates of North Nottinghamshire*, p. 155.

³²⁸ Ibid. p. 157.

With the professionalism and guidance of Speechly and Repton, Portland made significant changes to the parkland at Welbeck. Speechly directed the planting schemes, according to Daniels “In cultivating the grounds of Welbeck, growing tender fruits and vegetables, nursing trees from seed, planting huge stands on hillsides, co-ordinating the parkland cropping of turnips, potatoes and hay, Speechly became nationally renowned”.³²⁹ Repton sensitively followed the Duke’s wishes for redesigning the park in the first Red Book of 1790 [Fig 3.4]. The map shows the proposed extension of the head of the lake, as well as substantial planting schemes around the park of woodland, grassland, paddocks and single tree planting. The second Red Book was commissioned in 1793, and according to Daniels “The scope of this Red Book is much broader [and] covers a far greater area, to the borders of the park”.³³⁰ With work already completed on the lake, woodland areas, sheep walks, pleasure grounds and the house, Repton produced designs for buildings and driveways such as “cottages, lodges, gates and roads that form connections with the estate at large”.³³¹ So, many changes were made by the 3rd Duke who often walked with Repton and it was “through the walks with Portland [that] Repton staked a claim to an area that overlapped with parkland improvements by William Speechly”.³³² Although the third Red Book was completed for Titchfield in 1803 to include “a new Classical-style house on a knoll in the deer park”³³³, according to Daniels it was “an unexecuted scheme”.³³⁴

Woodland planting formed a key element in the design of the landscape park from the later eighteenth century, according to Seymour “by 1794 Robert Lowe reported that almost half of Welbeck Park was wooded (although much of this was established woodland)”.³³⁵ Ingham’s map of the central area of Welbeck Manor in 1766 shows the extent of planting which had taken place even by this time [Fig 3.5]. The area around the Great Deer park is shown as mainly plantations from the North to South, the most southerly known as the New Plantation [Fig. 3.5]. The planting requirements were directed by William Speechly who reported in 1775 “Few Noblemen plant more than His Grace the Duke of Portland; and I think I may say without vanity, none with greater success”.³³⁶ The quantity of trees planted amounted to tens of thousands, for example in 1771

³²⁹ Daniels S, (2000) *Humphry Repton, Landscape Gardening and the Geography of Georgian England*, The Paul Mellon Centre for Studies in British Art, Yale University Press, p. 156.

³³⁰ Ibid. p. 164.

³³¹ Ibid. p. 164.

³³² Ibid. p. 158.

³³³ Ibid. p. 166.

³³⁴ Ibid. p. 166.

³³⁵ Watkins C Ed. (1998) *European Woods and Forests, Studies in Cultural History*, p. 119

³³⁶ Lowe R, (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of Improvement. Drawn Up for the Consideration of the Board of Agriculture and Internal Improvement, (from account of plantations by Speechly)* p. 57

“Fifteen thousand Birch plants at 3s. 6d. a thousand”³³⁷, as well as “Three thousand large Birch at 3s. 6d. and ten thousand smaller size at 3s”³³⁸, were purchased. Gould, who became agent to the 3rd Duke in 1780, was sometimes quite critical of Speechly, he recounted that some ash trees planted in 1783 “appear in a starved condition [because they] only had a sod or two dug up and planted, this gives but little nourishment to the roots and scarce keeps them alive”.³³⁹ So, the Duke’s agent did not always agree with Speechly’s methods and even Portland added his disapproval when inspecting the New park in 1784 and “when he came to the part planted some years ago by Mr Speechly he was of opinion it would serve no good purpose unless made thicker with better or more plants”.³⁴⁰ However, Portland had a high regard for Speechly, evident with their correspondence, as Turberville argues “Numerous letters [were] written by Speechly to the Duke between 1767 and 1781 concerning the maintenance and improvement of the gardens and woods at Welbeck [which] attests the keenness alike of the gardener and his employer in these proceedings”.³⁴¹ Woodland had various functions which enhanced the park and wider estate both economically and aesthetically. These are documented in estate accounts as Seymour argues “plantings were made to serve various ends and were part of a wider campaign of estate improvements”.³⁴² According to Seymour, these improvements included “the creation of beautiful landscapes, the production of commercial timber, the provision of woodland products for use on the estate”.³⁴³ Sites for plantations were carefully chosen in consultation with the Duke “It is on the hilly grounds that we make our plantations”³⁴⁴, because “in time will make the vallies of much greater value”³⁴⁵, providing good agricultural land in the valleys, sheltered by the hilly wooded areas. The geology of the park landscape determined the planting schemes as Speechly observed “The soil is composed of a mixture of sand and gravel; the hills abound most with the latter, and the vallies with the former”.³⁴⁶ This light soil was prone to erosion on the higher ground as Speechly argues “The smaller particles are by wind and rain brought from time to time from the high grounds to the lower”.³⁴⁷ So, careful planting on the hills helped to maintain the fertility of the lower valleys for agriculture. Speechly also reports on the ancient oaks

³³⁷ NA DD4P58/98/6 (1771 plantation improvements)

³³⁸ NA DD4P58/98/20 (1771 plantation improvements)

³³⁹ UNMSS, Hanson M J Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, 1783 to 1st June 1785 Vol.1*, MS/736/5/1

³⁴⁰ Ibid. p. 75, p. 113.

³⁴¹ Turberville (1939) *Welbeck Abbey and its Owners, Vol. 11 1755-1879*, p. 312 (from Welbeck MSS., W. Speechly to the Duke of Portland, 17 Jan., 1778)

³⁴² Watkins C (1998) *European Woods and Forests, Studies in Cultural History*, p. 119.

³⁴³ Ibid. p. 119.

³⁴⁴ Lowe R, (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of Improvement. Drawn Up for the Consideration of the Board of Agriculture and Internal Improvement*, p. 57. (from account of plantations by Speechly)

³⁴⁵ Ibid. p. 57.

³⁴⁶ Ibid. p. 57.

³⁴⁷ Ibid. p. 57.

in Welbeck Park, with reference to the sheer size of the trees “for instance that remarkable tree called the Greendale Oak [and] this great curiosity is yet living, and frequently bears acorns”.³⁴⁸ This tree was of great symbolic value to Portland who directed that the acorns “be distributed as presents amongst his Grace’s acquaintances”.³⁴⁹ The Duke regarded the ancient Oaks as politically symbolic, as Seymour argues “It was just such ancient Oaks, that Burke had used in his naturalisation of the power of the English Aristocracy, and Portland’s landscaping incorporated similar imagery”.³⁵⁰ A local antiquarian Hayman Rooke documented the Oak trees in 1790 describing their remarkable size and their “superiority over all other trees”.³⁵¹ He said of the Greendale Oak that it was “thought to be above seven hundred years old [and] the circumference of the trunk above the arch is 35 feet 3 inches”.³⁵²

Indigenous species such as English Oak trees were a favoured species as Speechly commented in 1775 “The Oak is the sort of tree we cultivate in general [and is] a most valuable species”.³⁵³ Oaks were often grown from seed in nurseries within the park but not without difficulties, Speechly “sowed acorns in order to secure a crop, although the scheme had the appearance of a good one, I must not be too sanguine of its success for I fear that many of the acorns fell prey to vermin”.³⁵⁴ Other English species included Ash and Speechly also commented we “raise great quantities of beech, larch, birch and all sorts of firs as well as many other kinds, by way of thickening the plantations while young”.³⁵⁵ There were also imported varieties planted with enthusiasm such as Cedar of Lebanon, Spanish Chestnut as well as, according to Speechly “sent by sea three cases of American trees”.³⁵⁶ Some of these imported varieties were grown in nurseries and were also the subject of experimentation by Speechly as he argued “I have several times made trial of twelve or

³⁴⁸ Lowe R, (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of Improvement. Drawn Up for the Consideration of the Board of Agriculture and Internal Improvement*, p. 57. (from account of plantations by Speechly

³⁴⁹ Ibid. p. 68.

³⁵⁰ Seymour S (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 160 (from Sutherland L S (Ed.) *The correspondence of Edmund Burke* Cambridge, 1957-78, ii, p. 37.)

³⁵¹ Rooke H, (1790) *Descriptions and Sketches of Some Remarkable Oaks in the Park at Welbeck, in the county of Nottingham*, Kessinger Publishing, (2009) p. 5.

³⁵² Ibid. p. 9.

³⁵³ Lowe R, (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of Improvement. Drawn Up for the Consideration of the Board of Agriculture and Internal Improvement*, (from account of plantations by Speechly) p. 58.

³⁵⁴ UNMSS, Pwf 8468 (1777 Speechly to Duke)

³⁵⁵ Lowe R (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of Improvement. Drawn up for the Consideration of the Board of Agriculture and Internal Improvement*, (from account of plantations by Speechly) p. 60

³⁵⁶ UNMSS, Pwf 8438 (Speechly re. American trees 1769)

fourteen kinds of American Oaks sent over to His Grace in great quantities".³⁵⁷ Land had to be cleared for the new plantations and species such as heather suffered. Plantation improvements were made in 1771 such as "ditching round the new plantations at the bottom of Cow Close (and) eight hundred of Ling pulling at 2s. per hundred".³⁵⁸ Speechly's comprehensive account cited in the *General View of Agriculture* reveals the ecological effect of hoeing between the planted rows "More than once when I have tried this method on our forest hills, and always found after every hoeing that the soil was taken away by the succeeding winds into the vallies".³⁵⁹ Although Speechly was aware of the problem of soil erosion on the hill plantations, it was still a cause for concern.

According to Daniels, Repton's designs for the first Red Book centred upon areas in the vicinity of the house as well as major alterations to the lake, but he also included further plantations between the house and lake. Repton was mindful of ongoing planting schemes by Speechly and informed the Duke that "I have also enlarg'd the small wood your Grace mentioned by letter, giving it a concave line as a contrast to the plantation opposite".³⁶⁰ Repton discusses parkland aesthetics and how emparking can destroy pleasing scenery by careless tree and hedge removal. His landscape designs also included the restoration of the Duchess's garden which had become overgrown. He proposed some replanting and thinning of trees but included in this design were "views of some of the ancient oaks in the park [such as] the Seven Sisters".³⁶¹ However, Repton's complete designs for the park proved very expensive for the Duke, between 1790 and 1795 the total cost was "£4,197.6s.9d"³⁶², which only exacerbated an already dire financial situation. The felling and planting of trees by Repton served to open up vistas within the park which were pleasing to the eye as Seymour suggests "the design of trees at Welbeck allowed for the appropriation of a more acceptable view within the park [and] the layout of plantations in the foreground enhanced the size of the prospect by means of optical illusion".³⁶³ Therefore, it would appear that landscaping the park in this period did involve substantial planting schemes and Repton was influential in the redesigning of the park.

³⁵⁷ Lowe R, (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of its Improvement. Drawn up for the Consideration of the Board of Agriculture and Internal Improvement, (From account of Plantations by Speechly* p. 65)

³⁵⁸ NA DD4P 58/98/21, NA DD4P 58/98/7 (1771 ditching and Ling pulling)

³⁵⁹ Lowe R, (1798) *General View of Agriculture of the County of Nottingham: With Observations on the Means of the Improvement. Drawn up for the Consideration of the Board of Agriculture and Internal Improvement*, (2010) p. 66.

³⁶⁰ Daniels S, (2000) *Humphry Repton, Landscape Gardening and the Geography of Georgian England*, p. 158 (Red Book for Welbeck, 1790)

³⁶¹ Ibid p. 158.

³⁶² NA DD 4P58/122 (1790 -1795, Repton expenses)

³⁶³ Seymour S (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 260.

Intensive woodland planting, establishment of grassland and the creation of coverts [scrub such as gorse] ensured Welbeck Park provided excellent countryside for recreational 'sport'. All of these landscape changes meant that the Duke could enjoy leisure pursuits such as hunting and shooting, as Williamson and Bellamy argue these alterations helped initiate "the landed elites' obsession with ritual slaughter".³⁶⁴ The late eighteenth century saw the beginnings of the intensive rearing of game birds such as partridges and pheasants "which roosted in the coverts provided".³⁶⁵ Portland very rarely went shooting; Gould observed in 1787 "The Duke went out with Boaler to shoot on Carburton forest this morning, though I suppose he has not shot these twenty years".³⁶⁶ It would appear that the Duke was not fond of shooting as a recreation and reportedly said as much when Gould recounts "they found plenty of partridges and His Grace shot a number of times but did not kill a bird and on his return he told me he thought shooting the most insipid diversion a man could follow and thought he should not go anymore".³⁶⁷

The lake at Welbeck was originally proposed in 1748 by Francis Richardson but significant changes were made during the latter half of the eighteenth century. Ingham's map of 1766 [Fig. 3.6] shows the central area of Welbeck Manor and the extent of the lake, Richardson's island is clearly present [Fig. 3.6]. Speechly had also made some suggestions to change the lake, before Repton was employed "In a 1774 proposal Speechly hoped to produce not only a "very natural and beautiful landscape"³⁶⁸, but in doing so to reclaim "that quagmire" near the lake".³⁶⁹ Speechly was very involved with changes to some of the water bodies. In a letter to the Duke in 1776 he explained how work was progressing as well as potential difficulties "I have pleasure to inform your Grace that all different works here except the carting of earth out of the new fish pond (which can only be done in dry weather) goes on with spirit".³⁷⁰ Speechly is also mindful of problems with "the new fish pond head near Cow Close wood and the great job of making the ground proper to take water from the said pond to the lake in flood times".³⁷¹ Again, the issues are with substantial earth works to make sure that water from the ponds was diverted to the lake rather than overflowing and flooding the surrounding land which would have led to negative environmental impact upon wildlife, such as ground nesting birds and burrowing mammals as well as vegetation such as heather. The river

³⁶⁴ Williamson T, Bellamy L, (1987) *Property and Landscape, A Social History of Land Ownership and the English Countryside*, George Philip, London, p. 198.

³⁶⁵ Ibid. p. 199.

³⁶⁶ Hanson M J Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, Part 2, 1787-1788*, p. 206.

³⁶⁷ Ibid. p. 206.

³⁶⁸ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 157. (from Speechly letters 2 January 1769 NUMD PwF 8431)

³⁶⁹ Ibid. p. 157.

³⁷⁰ UNMSS, PwF 8459/2 (Speechly earth from fishpond 1776)

³⁷¹ UNMSS, PwF 8459/2 (Speechly water into lake from fishpond 1776)

Poulter which ran through the park was altered by Richardson in 1748 according to Seymour “A major work undertaken by Richardson was the damming and flooding of the river Poulter to form a lake feature”.³⁷² In 1784 there were problems for the Duke when he wanted the bed of the river lowering as he comments “I am just now informed [about] some obstruction to his proceedings [Mr Smith] in lowering the bed of the river”.³⁷³ Portland doesn’t identify what these problems were but the lowering of a river bed would have been a massive undertaking because of the necessity of digging out of tons of mud and redistributing it.

Significant changes to the lake were proposed in Repton’s first Red Book for Welbeck in 1790, and his map [Fig. 3.7] clearly shows the proposed extension to the lake. The work began in 1790 and continued for another five years. According to Seymour, Portland already had views about the head of the lake and in his discussions with Repton “had proposed the extension of the water, as much for *pragmatic* as for aesthetic reasons”.³⁷⁴ The Duke realised that the area was “wet meadow land, and one solution to its flooding problems was to turn it into water”.³⁷⁵

Table 3.2 charts the extent of work carried out.

1790	For punt boat to remove earth	£19.11s.
	Removing stone from lake head	£41.2s.6d.
1791	For removing earth in this year	£515.1s.2d.
	For deepening at the lake head	£6.16s.4d.
	For 13 plants for lakes	£0.7s.
1792	For removing earth in this year	£632.12s.3d.
	For shrubbery plants	£5.7s.
1793	For removing earth in this year	£696.14s.6d.
1794	For removing earth in this year	£506.9s.5d.

³⁷² Seymour S (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 144.

³⁷³ NA, DD 4P62/18/3 (Lowering bed of river 1784)

³⁷⁴ Seymour S (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, (from Speechly letters 2 January 1769 NUMD Pwf 8432) p. 159.

³⁷⁵ *Ibid.* p. 159.

1795	For removing earth in this year	£202.17s.
------	---------------------------------	-----------

Source NA DD 4P58/122 (Work completed by Repton 1793 -1795)

It is clear from the above accounts that the greatest expense was for the removal of earth which could have had negative implications in terms of the local environment and habitats, as it was not just from the lake but also from the grounds around the house within the park. Mud taken from the lake ensured it was made much deeper but it was also significantly wider than it was in 1748, which created problems of how to cross it. Some years earlier Portland “had commissioned an ambitious three-arch bridge, with a total span of 240 feet [and] was a very costly undertaking [which] removed many fine Oaks from the park and collapsed as soon as it was completed”.³⁷⁶ It would appear that Repton had this unfortunate incident in mind when he proposed his plans for traversing the lake “he rejected ‘a handsome bridge’ as ‘an enormous expense’, favouring the expedient of an island joined by two smaller bridges at half the cost”.³⁷⁷ Unfortunately Repton badly misjudged Portland’s reaction to his form of ‘cost cutting’, as the Duke angrily responded “I thank you Mr Repton, but when I receive a hint from you, I do not expect to find my best expedient”.³⁷⁸ As an aristocrat who was heavily in debt Portland did not wish to be reminded of it in any way, albeit subconsciously and Repton was suitably rebuked.

However Repton’s 1790 and 1793 plans for the lake were executed. Although the alterations to the lake was the largest undertaking, there were also other water schemes carried out such as the creation of ponds, It is evident from the substantial amount of work carried out on the lake that the environment and ecology of the park was significantly altered during this period. The changes made are reflected in engravings and paintings of the period, such as Malton’s engraving of the lake in 1788 [Fig. 3.8] and Repton’s sketch of the lake in 1794 [Fig. 3.9]. The digging out of thousands of tons of earth and moving it elsewhere in the park would have damaged the local flora and destroyed particular habitats for wildlife. However, it may have created habitats for other species, particularly when grassland was created for livestock and ‘sport’ such as hunting.

The landscaping of the Deer park at Welbeck was central to the continuing programme of ‘improvement’ in this period, as was the area adjacent to the house. The Deer park is clearly shown on Senior’s map of 1629, as well as the Wren Park south of the Abbey [Fig. 3.10]. Richardson refers to an area of park in 1748 but he does not name it. However, in 1766 Ingham’s map identifies the

³⁷⁶ Daniels S, (2000) *Humphry Repton, Landscape Gardening and the Geography of Georgian England*, p. 160. (from Thoroton, *Antiquities of Nottinghamshire*, 383; Bray, *Sketch of a Tour into Derbyshire*, 341) p. 160.

³⁷⁷ Ibid. p. 160.

³⁷⁸ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire* (from Repton, *Memoir*, p. 15), p. 158.

Great Deer Park, and also shows a small park to the south of the Abbey, which is now called the Little Park, [Fig 3.11]. This map also shows the expansion of grassland with meadows above the head of lake, namely Upper Long Meadow, Lower Long meadow and Cook Meadow and other fields and paddocks. The south aspects of the park below the Abbey reveal the Far park Field, Greendale Oak field, as well as the Little Park and Great Deer Park grassland [Fig. 3.11]. Therefore, by the end of the eighteenth century there were significant changes to the inner area of the park, especially what had originally been the monastic deer park where red deer had been the main quarry for hunting. Deer did not disappear altogether in the park although the number decreased by the 1780s. In January 1782 the “Welbeck stock of deer in the park to be reduced to between 350 or 400 head”,³⁷⁹ this figure contrasts with “618 in 1780”.³⁸⁰ This reduction in deer numbers is linked to Portland’s serious financial situation. Inventories were taken of the numbers of animals including deer, horses and sheep, and some were reduced considerably to save money. Deer though, could be problematic in terms of destroying crops and debarking trees in the new grassland and plantations and “Portland it seems, was experiencing particular difficulty in ‘confining the deer at Welbeck within certain limits’”.³⁸¹ Repton had a solution to this as the 1790 map shows [fig. 3.12], and that was to “convert the ‘part of the park near the house.... Into a Sheep Walk’”.³⁸² He proposed keeping sheep in the park, closer to the house and confining the deer to the distance because of their destructive nature. However, Repton changed his mind about the distant appearance of deer within the park and “by 1793, the idea had been abandoned, perhaps because of “the beautiful appearance of deer on that lawn”.³⁸³ It would seem then that Repton had a better understanding of the importance of deer as an aesthetic addition to an aristocratic park and as Seymour suggests “The Duke may also have been particularly sensitive about displaying commercialism [sheep] in his park because of his own acute financial problems”.³⁸⁴ Also keeping deer was associated with the high standing of the park owners as Williamson argues an “equally potent symbol of status was the deer park”.³⁸⁵

Grassland was important in this period not just for grazing deer, but also for other livestock such as sheep and cattle. The relationship between aesthetics and economics was an important

³⁷⁹ UNMSS, PI E12/1/6/43 (1782 deer numbers reduced 1782)

³⁸⁰ Ibid. PI E12/1/6/12 (deer numbers 1780)

³⁸¹ Seymour S (1988), *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, (from Repton H, *Plans, Hints and views for the improvement of Welbeck in Nottinghamshire, a seat of His Grace the Duke of Portland*, 1790, Welbeck Estate, private collection) p. 413.

³⁸² Ibid. p. 415.

³⁸³ Ibid. p. 415.

³⁸⁴ Seymour S (1988), *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 415.

³⁸⁵ Williamson T, (1995) *Polite Landscapes, Gardens and Society in Eighteenth Century England*, Alan Sutton Publishing Ltd. The John Hopkins University Press, Baltimore, Maryland, p. 22.

consideration for the parkland so landowners “could benefit from the visual beauty of the landscape while enjoying a financial return from pedigree livestock”.³⁸⁶ Sheep and cattle were also very important to the production of the park, though sheep in particular which were the most profitable grazing animals.

However, it must also be considered that some of the parkland was ploughed up for planting preparation in order to grow feedstuffs for livestock. The poorer, light, sandy soils of Welbeck were particularly suitable for growing turnips which “provide an excellent source of winter fodder”.³⁸⁷ Turnips were an important fodder crop at Welbeck. An inventory of the value of land laid down to turnips was taken in 1780 outlining “26 acres three times ploughed - £45. 12s. 16 acres ploughed twice - £6. 8s. (and) value of turnips - £169. 5s”.³⁸⁸ Therefore, a significant acreage was given over to turnips and the value shows the profitability of the crop. William Gould regularly inspected the park to view the state of the grass as well as fodder crops. In July 1787 he “rode out with haymakers and found they have cleared a considerable quantity of land, but the crops of hay are very light. I ordered that only a small part of the lower Wren park [South of the abbey in the East Prospect] should be mown and the other left for pasture on account of it being very light and thin of grass”.³⁸⁹ The grassland in the park did not always fare very well, particularly in a dry summer. Hot weather in June 1793 was responsible for the dearth of pasture land as Gould remarked “Viewed our pastures which are all burning up exceedingly”.³⁹⁰ So, in this period the pastures suffered in dry, hot spells and could be quite thin. The light soils were not suitable for growing lush pasture land, but they were effective for growing turnips which were an excellent feedstuff for livestock. Speechly mentions this crop in his account of the plantations at Welbeck. According to him “If the ground intended to be planted [with young trees] it should be fenced at least twelve months before it is wanted to plant on and immediately got into order for a crop of turnips; two chaldrons of lime being laid on an acre, as it will be a means of procuring a better crop of turnips”.³⁹¹ Speechly mentions the

³⁸⁶ Harvey G, (2002) *Parkland*, The National Trust, Living Landscapes, National, The National Trust Enterprises Ltd. London, p. 86

³⁸⁷ Williamson T, (2002) *The Transformation of Rural England, Farming and the Landscape 1700-1870*, University of Exeter Press, Exeter, p. 62.

³⁸⁸ UNMSS P1 E12/1/6/27 (Inventory of land, 1780)

³⁸⁹ Hanson M J (2002) *Portland and Devonshire Agent, The Diary of William Gould, Part Two, 1787-1788* MS/736/5/2.

³⁹⁰ Ibid. Part Three 1789-1795. MS/736/5/3.

³⁹¹ Lowe R, (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of Improvement. Drawn Up for the Consideration of the Board of Agriculture and Internal Improvement, (from account of plantations by Speechly)* p. 61.

need for livestock to eat the crop “After the turnips are eaten off, we plough the ground”³⁹², the animals were usually sheep.

3.3 The Fourth Duke of Portland’s tenure, 1795-1854

The 4th Duke of Portland inherited the title in 1809 and according to Wilkinson the 3rd Duke of Portland’s “debts amounted to nearly £520,000”.³⁹³ However, the 4th Duke redeemed the situation and “sold Bulstrode and other properties managing to pay off £350,000 by 1815”.³⁹⁴ However, his own fortunes were very much boosted when he married a rich woman “Henrietta the eldest daughter and co-heir of Major General John Scott of Balcomie in the county of Fife”³⁹⁵, as a consequence of which he changed his name to Scott Bentinck. The marriage took place in 1795 when the Duke was still the Marquis of Titchfield, and it was then that he took over the management of Welbeck estate. But it was not just his marriage to a wealthy heiress which helped to change the fortunes of Welbeck around. According to Turberville, the 4th Duke possessed great “business acumen and practical ability”.³⁹⁶ His great nephew the 6th Duke of Portland was lavish with praise for Scott Bentinck when he said “he was widely known as a practical agriculturalist of great experience and progressive views”.³⁹⁷

The 4th Duke was also able to amass fortunes out of the Manor of Marylebone which the Portlands' had acquired in London in 1758. Beckett recounts how this “was to prove a far more lucrative source [of income] in the nineteenth century”.³⁹⁸ There was a huge increase in rents when ‘improved’ rents replaced ground rents. These rose from £43,316 in 1828 to £52,894 and £56,876 in 1845”.³⁹⁹ These figures represented fairly astonishing increases in rents but the profits were to soar even more in 1844 when “the Duke reported to his son that the property was yielding £50,000 annually, and that there can be little doubt it will receive additions”.⁴⁰⁰ According to Turberville, by the mid nineteenth century yearly “income from Marylebone, £50,000, from Nottinghamshire, £20,000, from Northumberland, £7,000, from Scotland, £14,000, from money invested in

³⁹² Lowe R, (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of Improvement. Drawn Up for the Consideration of the Board of Agriculture and Internal Improvement, (from account of plantations by Speechly)* p. 61.

³⁹³ Wilkinson D, (2003) *The Duke of Portland, Politics and Party in the Age of George Third*, p. 62.

³⁹⁴ *Ibid.* p. 62.

³⁹⁵ Turberville A S, (1939) *A History of Welbeck Abbey and its Owners 1755-1879, Vol. 11*, p. 326.

³⁹⁶ *Ibid.* p. 347.

³⁹⁷ The Duke of Portland, (1938) *Men, Women and Things, Memories of the Duke of Portland K.G., G.C.V.O.* Faber and Faber, p. 89.

³⁹⁸ Beckett J V (1988) *The Aristocracy in England 1660-1914*, Blackwell Publishers, p. 282.

³⁹⁹ *Ibid.* p. 282.

⁴⁰⁰ *Ibid.* p. 282.

Government stocks, £13,000, making a total income of £104,000".⁴⁰¹ This considerable change in fortune for Welbeck ensured that the Duke was able to make significant alterations to the parkland, which included the creation of water meadows, more intensive farming method, livestock breeding and a horse stud.

Titchfield held some political offices, before and after he inherited "In December 1790, he was elected member of Parliament for the borough of Petersfield [Hampshire]"⁴⁰², and in "1795 he became Lord-lieutenant of Middlesex, an office he held for the next forty years".⁴⁰³ After taking over Welbeck during the 3rd Duke's lifetime the Duke through his father's influence "was invited to join [Canning's new government] and he accepted the office of Lord Privy Seal but retained it only from April to July".⁴⁰⁴ Unlike his father, the 4th Duke did not aspire to holding high political office and after the third Reform Bill in 1832 "he withdrew entirely from the political arena".⁴⁰⁵ It was his 3rd son Lord George who was to have a prominent political career, up to his untimely death in 1848, according to the 6th Duke "Lord George Bentinck died suddenly in Welbeck Park in September 1848".⁴⁰⁶ Throughout his tenure at Welbeck, Portland's interests were very much centred on managing the estate. His many letters to his steward Turner related to "every kind of activity on the estate, the rearing and sale of stock, the cultivation of crops, the means and prevention of curing disease in plant or animal".⁴⁰⁷ Titchfield completely took over the management in 1795 and commissioned the 3rd Repton Red Book in 1803 but it was not acted upon. However, according to Daniels "When Titchfield took over Welbeck, he undertook a new programme of estate improvements, incorporating some of Repton's proposals for the grounds".⁴⁰⁸ So the 4th Duke continued with some of his father's interests in landscape design, tree planting and improvements for Welbeck.

The 4th Duke also had an overriding passion for the breeding of horses and this manifested itself into the creation of a stud. It was started before he inherited the estate in 1795 and in November of that year the stud contained "5 brood mares, 3 filly foals, 8 hacks, One 3 year old filly, Two 2 year old fillies, 1 stallion".⁴⁰⁹ This was to be the start of one of the most successful studs in England by the

⁴⁰¹ Turberville A S, (1939) *A History of Welbeck Abbey and its Owners 1755-1879*, Vol. 11, (UNMSS, Duke of Portland to Marquis of Titchfield, 17 May 1844) p. 347

⁴⁰² Ibid. p. 325.

⁴⁰³ Ibid. (from *Letters at Welbeck* p. 143) p. 326.

⁴⁰⁴ Ibid. p. 332, p. 333, p. 334.

⁴⁰⁵ Ibid. p. 339.

⁴⁰⁶ The Duke of Portland. (1935) *Memories of Racing and Hunting, The Duke of Portland, K.G., G.C.V.O.*, Faber and Faber, p. 3.

⁴⁰⁷ Turberville A S, (1939) *A History of Welbeck Abbey and its Owners, 1755-1879*, Vol. 11, p. 347.

⁴⁰⁸ Daniels S, (2000) *Humphry Repton Landscape Gardening and the Geography of Georgian England*, p. 166.

⁴⁰⁹ UNMSS, Pwh 2769 (1794 stud at Welbeck)

early nineteenth century, which prevailed into the twentieth century as a foremost racing stud and it “was situated at Woodhouse Hall near Welbeck”.⁴¹⁰ The success of the stud is reflected in the number of winners and value of their stock, according the 6th Duke in the late nineteenth century, the horse known as St Simon, owned by the Duke “headed the list of winning sires for no less than nine years in succession and the value of the races won by his stock reached the enormous total of £575,000”.⁴¹¹ The 4th Duke pursued his passion with gusto and “had his greatest success on the Turf when Tiresias won the 1819 Derby”.⁴¹² The 4th Duke spent a great deal of his time at different courses, particularly Newmarket where, according to Turberville “the excellence of the turf is due in no small measure to the improvements which the Duke introduced from 1820. He built the Portland stand and he established the Portland Handicap”.⁴¹³ He was not a betting man and in fact “he never staked a shilling in his life and is said to have held betting in utter detestation”.⁴¹⁴ However, the Duke’s interest in race horses was a costly pursuit, as early as 1822 his account with the “Jockey Club, including expenses such as salaries to Jockeys, taxes, etc. [was] £2576. 11s. 2d”.⁴¹⁵

The 4th Duke was also keen on shooting as a leisure pursuit and the breeding of game birds was important to the management of the estate. So, it is clear that the 4th Duke enjoyed country ‘sports’ and that the passion for horses and racing was shared by both father and second son. This would have affected how the park was managed not only for training but also for grazing and stabling of thoroughbreds which had more specialist requirements than work horses. However, Portland continued to be very much involved with all matters relating to estate management. He was constantly reviewing estate business as Turberville argues “giving it all his thorough, methodical, and personal attention, so there was very little chance of waste or slackness on the part of either his agents or his tenants”.⁴¹⁶ He was very ‘hands on’ with all aspects of estate management. He “liked to be seen as a working farmer in a weather beaten coat and huge leather shoes, extending above his knees”.⁴¹⁷ In his late seventies “he enjoyed the calm comforts of the peaceful retirement of Welbeck Abbey”⁴¹⁸, until he died in 1854 aged eighty six.

⁴¹⁰ The Duke of Portland, K.G., G.C.V.O., (1935) *Memories of Racing and Hunting*, p. 108

⁴¹¹ Ibid. p. 116

⁴¹² Seth-Smith M, (1971) *Lord Paramount of the Turf, Lord George Bentinck 1802-1848*, Faber and Faber p. 18.

⁴¹³ Turberville A S, (1939) *Welbeck Abbey and its Owners, Vol 11, 1755-1879*, p. 383.

⁴¹⁴ Ibid. p.384.

⁴¹⁵ NA DD/P6/9/32/3 (Jockey club expenses)

⁴¹⁶ Turberville A S, (1939) *Welbeck Abbey and its Owners, Vol. 11, 1755-1879*, p. 348.

⁴¹⁷ Gray A (2008), *Sherwood Forest and the Dukeries*, p. 75

⁴¹⁸ Thoroton R, (1790) *The Antiquities of Nottinghamshire, extracted out of records, original evidences, leiger-books, other manuscripts and authentic authorities. Beautified with maps, prospects, and portraitures* (first published 1790) Vol.3 of 3, Lightning Source UK Ltd. Milton Keynes, (2010) p. 385.

The 4th Duke enlisted professional advice from J E Denison [his son-in-law] regarding the management of the plantations at Welbeck. Denison recalled in his paper of 1848 that “A hundred years ago there can have been no great quantity of wood at Welbeck [but] now there are on the property of the Duke of Portland alone, in Nottinghamshire, 4334 acres”.⁴¹⁹ The 1844 map of the central area of Welbeck Park shows the extent of planting near the Abbey and lake [Fig. 3.13]. By the early to mid- nineteenth century Welbeck was very well supplied with trees in various stages of growth with the view to having a continuous production of timber. Different experiments were undertaken in the park aimed at maximising the value of timber, and the system of thinning was tried in various ways. According to Denison “an experiment of much interest as to the thinning of trees is the course of proof among some young oaks planted near the Icehouse at Welbeck”.⁴²⁰ The land was split into “Four portions measured off in the Plantation, 20 square yards each”.⁴²¹ These areas were monitored between 1814 and 1848 to check growth rates. The motivation for these practices was to compare the results of leaving oak saplings to grow on without thinning with plantations which were thinned to observe the results in the production of timber. Oaks which had been sown in 1814 were not thinned as “it is intended they should be left in a complete state of nature, without any interference of art, till the year 1864”.⁴²² This ensured that the oak trees were left to grow for 50 years without any thinning but they were manured on occasion, the Duke also made notes about the price of the timber, “The trees measured in 1831 were valued at £51.4s. each; the wood being valued at 2s. per foot [and] between 1831 and 1843 this plantation was manured, which may account for this great increase in their value”.⁴²³ The practice of leaving woodland without thinning was ongoing, as is mentioned when discussing the experiments. In 1836 “Girth of ten trees in each of three experimental divisions in the Oak plantation of 1814 near the tea house, the inside division left to nature – 146”.⁴²⁴ These observations clearly show how the Duke involved himself with the plantations at Welbeck and the future profit to be made from the timber.

The Duke was specific about which trees were to be planted and Denison reports “The only trees planted by the Duke of Portland are Oak, Spanish Chestnuts and Larch”.⁴²⁵ The professionalism of the management of tree planting under the fourth Duke’s tenure is comparable with Speechly’s schemes in the eighteenth century, with careful thought about soil types, location and species.

⁴¹⁹ Denison J E, (1848) The System of Planting and the Management of Plantations at Welbeck, *From the Journal of ‘The Royal Agricultural Society of England Vol. 1X., Part 11*, RAS, London, p. 3.

⁴²⁰ Ibid. p. 5.

⁴²¹ Ibid. p. 5

⁴²² Ibid. p. 5.

⁴²³ Ibid, p. 5 (*From Notes by the Fourth Duke of Portland*)

⁴²⁴ UNMSS, Pwk 5316 (girth of several trees in Park 1836)

⁴²⁵ Denison J E (1848) The System of Planting and the Management of Plantations at Welbeck, *From the Journal of the Royal Agricultural Society of England Vol. 1X, Part 11*, p. 7.

Denison himself observed that “The system of planting and thinning at Welbeck is thought to combine a fair return of annual profit, with the production of the largest growth of straight and profitable timber”.⁴²⁶ Speechly was advocating the practice of thinning techniques which helped to maximise numbers of trees within a smaller space, ensuring a greater profit margin. This is evident with the experiments undertaken at the Ice house Denison wrote to the Duke in 1849 regarding the profitability of oak trees, in “1838 156 [trees] worth each £6.3s.6d, in 1849 117 [trees] worth each £10.0.0”.⁴²⁷ Although the price had risen, Denison did not feel that growing oaks was very cost-effective, he argues “Thus in eleven years from 38 to 49 the increase has been £209, so it does not look gainful to grow Oak trees at that rate of increase”.⁴²⁸ Therefore, by the mid nineteenth century Welbeck moves to make timber production more commercially successful. Spanish chestnut trees were planted in large numbers, in 1842 “one hundred and seventy casks of chestnuts were received [from Europe] at London Docks weighing 467cwt”.⁴²⁹ According to Denison these trees “grow much quicker than Oak but they are not thinned earlier, being left very close to prevent their shaking”.⁴³⁰ Spanish Chestnuts were favoured as commercially viable timber because “In the early years during the process of thinning they are more durable than oak, and in the more advanced stages they seem fully equal to oak for rafters and all building purposes”.⁴³¹ Larch was also grown at Welbeck and Denison argued that “Larch appeared to be the most profitable of woods; but about the year 1839 a terrible disease showed itself among Larch trees of all ages”.⁴³² Before 1839 disease was found in Larch “every now and then but within the last eight years the disease has become general, attacking trees of all ages, in all situations, and on all soils”.⁴³³ So, there was intensive experimentation with the three main species during the 4th Duke’s tenure. The imported Spanish Chestnut seems to have been commercially successful whereas Larch exhibited signs of disease after a few years in the plantations. When comparing Repton’s 1793 map of Welbeck Park [Fig. 3.14] and the 1844 map [Fig. 3.15] there is evidence of plantations not yet completed [marked with a P] in the earlier map. The areas of new plantations, denser planting schemes as well as felled areas are marked on the 1844 map [Fig. 3.15].

⁴²⁶ Denison J E (1848) The System of Planting and the Management of Plantations at Welbeck, *From the Journal of the Royal Agricultural Society of England Vol. 1X, Part 11*, p. 8.

⁴²⁷ UNMSS, Pwk 5173 (copy of letter from 1849 to 4th Duke sent by 5th Duke to Denison 1854)

⁴²⁸ UNMSS, Ibid.

⁴²⁹ NA, DD P6/8/7/3/26 (1842 casks of chestnuts received at London Docks)

⁴³⁰ Denison J E, (1848) The System of Planting and the Management of Plantations at Welbeck, *From the Journal of the Royal Agricultural Society of England, Vol. 1X, Part 11*, p. 7.

⁴³¹ Ibid. p. 7.

⁴³² Ibid. p. 7.

⁴³³ Ibid. p. 7.

The management of the lake and surrounding area was ongoing during the 4th Duke's tenure. Drainage schemes were implemented such as in 1813 "for draining pleasure ground 7 acres at 25s – 7 yards - £8. 7s. 6d".⁴³⁴ Mud was being removed on a regular basis from different parts of the lake and moved elsewhere during the period 1827- 1828, see table 3.3. This dredging of the lakes was likely due to them silting up and the necessity of removing mud to ensure that a required depth was maintained.

Table 3.3

<u>East of Lake</u>	<u>Cubic Yards</u>
By Bennett	3099
Jeffrey	4231
Smith	4988
<u>In between Head of Lake</u>	<u>and Angling Garden</u>
By Moulton	276
Moulton	3532
<u>Valley near Wood</u>	<u>Between New Head</u> <u>and Black ?</u>
Bennet	73
Smith	6692
Jeffrey	3681
<u>West of Lake</u>	<u>Near Welbeck and</u> <u>near to the</u> <u>Wilderness</u>
Bennett	2458
Jeffrey	3398

⁴³⁴ NA DD P5/5/2 (draining pleasure ground)

Smith	4129
Moult	1462
Bennett	670
Smith	1811
Part of Lake near Island	2919
Top of Small lake	2798

Source UNMSS Pwk 2734 (Neale 13th Dec. 1828)

Fig. 3.7 shows where the above areas are in the park. Mud was taken from different areas of the main lake as well as the small lake. However, extracting mud from the bottom of the lake would also remove aquatic plant life, which other species rely upon for shelter and food. According to Marquiss “Lush aquatic plant life acts as a source of food for water creatures and, in turn supports [a variety] of fish”.⁴³⁵ Therefore, lake mud is very important to the ecology of the water and the chain of aquatic life which survives within the lake. As Rackham argues about removing sediments from ponds “The mud contains part of the meaning of the pond, and to remove it is to destroy an unread document”.⁴³⁶

The 4th Duke was very interested in improving the quality of the grazing land at Welbeck and as “early as 1819 the idea of converting waste lands to useful purposes by the creation of water meadows had first occurred to the Duke of Portland”.⁴³⁷ The scheme adopted was a ‘Catchwork irrigation system’ and according to Cook and Williamson at “Clipstone park Farm Nottinghamshire 120ha of land described as having ‘very little value’ was improved albeit with varying degrees of success”.⁴³⁸ By the 1830s progress was made in overcoming the many difficulties with creating water meadows and they were working successfully providing lush fodder for sheep early in the year.

Carburton adjacent to the park, [Fig.3.16], was an important addition to the water meadows project at Welbeck. The environmental effect upon the park landscape was very significant because as

⁴³⁵ Marquiss R, Ed. (1987) *The Nature of Nottinghamshire, The Wildlife and Ecology of the County, In aid of the Nottinghamshire Trust for Nature Conservation*, Barracuda Books Ltd. Buckingham, p. 57.

⁴³⁶ Rackham O, (1994) *The Illustrated History of the Countryside*, BCA by arrangement with George Weidenfield and Nicolson Ltd. P. 183.

⁴³⁷ Turberville A S, (1939) *Welbeck Abbey and its Owners, Vol. 11*, p. 353

⁴³⁸ Cook H, Williamson T Eds. (1999) *Water Management in the English Landscape, Field, Marsh and Meadow*, Edinburgh University Press, p. 159.

Denison argues in 1830 “The land immediately occupied by these [water] meadows was in its wild state a line of hill-sides, covered with gorse and heather, - a rabbit warren, over which a few sheep wandered – and a swampy valley below, thick set with hassocks and rushes, the favourite haunt of wild ducks and snipes”.⁴³⁹ It is evident that the creation of water meadows in this period would have significantly impacted upon the success of heathland species such as lapwing and skylark as well as water birds such as ducks and snipe in the wetter areas.

Grassland continued as an important feature of Welbeck and different areas such as the New park, Little park and the Deer park were used for livestock as well as for producing hay. Also, meadows and fields formed other parts of the parkland such as the Carrs, Porter’s meadows, Cow close, the Wilderness and upper meadows at New Grange [Fig. 3.17]. Grass produced in the water meadows at Carburton was central to feeding sheep in late Winter/early Spring when the park grassland was of poor quality. According to Denison “Ewes are put on [water meadows] with their lambs as they are born and gain strength; and in this way from January to the end of March, even till late May they are devoted ewes and lambs, feeding the lambs fat, which are sold at that early season from 24s. to 30s. each”.⁴⁴⁰ It is clear lambs on water meadows could be sold earlier to command a higher price at market.

Although the 4th Duke spent long periods away from Welbeck he was in regular contact with Turner [steward] regarding all aspects of estate management, particularly agriculture and animal husbandry. The Duke was especially interested in modern farming methods for crop growing and he experimented with different types to improve yields. Turnips were an important crop and were grown in different areas within the Park and outside. As early as July 1799 Titchfield ordered Turner to “tell Thomas Wood to hoe out two acres of Swedish Turnips in each place into rows with a horse hoe sufficiently wide to be afterwards moulded up with a montbound plow”.⁴⁴¹ It is not clear where the area for hoeing was, but in the same correspondence Titchfield instructed Turner “Those not yet sown [turnip seeds] must therefore be sown thick in the park”.⁴⁴² Swedish turnip seeds were a variety which was being regularly experimented with at Welbeck in the late eighteenth and early nineteenth centuries.

⁴³⁹ Denison J E, (1830) *The Duke of Portland’s Water Meadows at Clipstone* “ (From the Journal of the Royal Horticultural Society, Vol. 1 1830), p. 359.

⁴⁴⁰ Ibid. p. 365

⁴⁴¹ UNMSS Pwh 1308 (hoeing turnips 1799)

⁴⁴² Ibid. (turnips sown in Park 1799)

Major work for draining and levelling the grassland, lake course, training ground in the park and its environs, was ongoing from 1837 to 1841. Accounts reveal the costs incurred for these significant activities in Table 3.4

Table 3.4

Area	1837	1841	1842	1843	1844
Park	£25.3s.9d. [Draining and Levelling, April]	£12.16s.3d. [Levelling Lake course, April.] £25.11s.3d. [Levelling Training ground, May.] £21.3s.9d. [Levelling Training ground, June]			
Clowsbery Close			£2.1s.3d. [Draining, March]		
New Grange Meadows			£22.14s. [Draining, June]		
Hollaway Close				£3.17s.6d. [Draining, November]	
Area	1837	1841	1842	1843	1844
Norton Cow Pasture					£2.9s.6d. [Draining, September]
Cow Close					£31.19s.9d. [Draining]

					£22.8s.6d. [Draining, 414 yards April]
--	--	--	--	--	---

Source NA DD 4P/58/160/3-13 (Draining and Levelling 1837-1844)

This represents many hours of work over a period of years which changed the landscape of the park considerably and would have had an environmental effect upon native flora and fauna.

The vast amounts of mud removed from the lake over many years at Welbeck were used to fertilise the surrounding grassland. This was an important part of grassland management in the park because the poor quality of the light soil ensured it dried out quickly, which significantly damaged the grass. It is clear that mud was transferred to the grassland, and according to Neale [steward] in 1828 “There were also 2919 cubic yards filled into carts from that part of the lake near the island and taken into meadow”.⁴⁴³ It is not clear which meadow the mud was taken to but if it was close by it is possible it would have been the meadow below the Wilderness plantation.

The 4th Duke’s passion for horse racing would have had some effect upon the landscape as training areas were needed for the horses as is indicated in the correspondence in August 1822, of the Duke to Fisher “Be so good as to put this question separately to G Bailey, R Hudson and J Thompson whether in his opinion a racehorse in full training could be safely and effectually be sweated in Welbeck Park and let me know the answer of each”.⁴⁴⁴ It is not clear who the gentlemen were, but it is probable that Fisher was a trainer and the other men were connected to the racing fraternity as they would have knowledge about training racehorses. It is evident that an area of grassland in the park was levelled and used as a training ground for racehorses as Table 3.5 shows the cost of the undertaking and when the work was carried out, which was in May and June of 1841.

Experimentation with different crops took place in the park and the Duke bought seeds from abroad in order to ‘improve’ the land to grow fodder crops such as turnips, clover and trefoil as the following order in 1819 shows, in Table 3.5

Table 3.5

25cwt. Finest Red Clover	£140.00
--------------------------	---------

⁴⁴³ UNMSS PwK 2734 (Mud taken from lake 1827-1828)

⁴⁴⁴ UNMSS, PwH 2563 (horse training in Park 1822)

24cwt Finest Clover	£134.8s.
16cwt. Trefoil	£52.16s.
7cwt. Cow Grass	£41.6s.
20 Swedish Turnip	£1.00
Insurance	£3.4s.
Shipping aboard Mary Ann	£379.15s.

Source NA DD P6/7/10/295/58 (Seeds shipped from abroad 1819)

It is clear from the seed purchase that it was quite expensive to import seeds, whilst it is not explicitly stated where the seeds came from, it is evident that there were Swedish turnip seeds in the order. Portland continued with introducing agricultural schemes, sometimes this included the ploughing up of tenants land for agricultural purposes. In October 1821 Neale [steward] informed the Duke “I have made known to the tenants at Clipstone and to Mr Turner your Grace’s wish with respect to ploughing the allotment adjoining Hangar Hill”.⁴⁴⁵ This was outside of the park but the preparation for the work included “firing the ling and will use great precaution to prevent any damage nearby”.⁴⁴⁶ Firing the heather was practiced at Welbeck to make the land easier to plough but in this case, according to Neale “In consequence of the long continuation of wet weather the firing of the ling cannot be accomplished until a short time of dry weather has sufficiently dried it”.⁴⁴⁷ Why the allotments were ploughed is not clear but the Duke probably wanted the heather burned off to enable crops to be sown as soon as possible.

Livestock were kept in different areas of the park but were moved at times possibly to ‘rest’ the land, an example being in 1801 “The Reindeer park has been cleared of stock”.⁴⁴⁸ This stock comprising cattle, sheep and horses were then moved as indicated in Table 3.6

Table 3.6

<u>Animal</u>	<u>Area of the Park</u>
10 best fat oxen	In Porters Meadows

⁴⁴⁵ UNMSS Pwh 924 (ploughing up allotment 1821)

⁴⁴⁶ Ibid.

⁴⁴⁷ Ibid.

⁴⁴⁸ UNMSS PWH 1129 (stock cleared from Reindeer Park 1801)

5 oxen	In the Carrs
Heifers and steers	In the park near the cottage
Horses and Foals	In the park
21 Ewes and Lambs	In the park
Milk Cows	Cow Close in day, calf croft at night
40 Wethers and 47 Ewes	In the Carrs

Source UNMSS Pwh 1129 (Stock cleared in Park 1801)

Parts of the park were fertilised with bought in material, and in 1804 Titchfield instructed Turner “I desire the bones must be immediately laid on that part of the fallows in the park which is not muddled and is east of the road to Wood Barn [and] I hope [Wright] has spread those in the Porter’s meadow”.⁴⁴⁹ The Duke wrote to Turner regularly, telling him what crops to sow and where, for example in 1811 he ordered “Tell Sam Field that I wish the Porter’s meadow to be sown with wheat on four furrow work”.⁴⁵⁰ This suggests that Portland turned grassland into arable at different times, probably to keep up the fertility of the parkland soils.

3.4 The Fifth Duke of Portland’s tenure, 1854-1879

He inherited the title due to the unfortunate early demise of his elder brother William Henry Bentinck who died in 1824 aged only 28. The Duke’s eldest son died during a period of political upheaval when there was “a considerable reconstruction of the Cabinet”.⁴⁵¹ In 1822, Portland’s friend Canning accepted the Foreign office and wanted to “bestow upon the Bentincks a small piece of patronage, namely the position of private secretary to himself”.⁴⁵² However, according to Turberville “The eldest, the Marquis of Titchfield, gave great promise of making his mark in politics – a promise disappointed by his early death eighteen months later”.⁴⁵³ John Cavendish Scott Bentinck was the second son of the fourth Duke of Portland and he became the Duke after his father died in 1854. However, the Marquis was not enthusiastic about inheriting the title. According to Beckett, in 1844 “the Fourth Duke [his father] proposed ‘that we change places, that you [Marquis]

⁴⁴⁹ UNMSS PwH 1319

⁴⁵⁰ UNMSS PwH 1429

⁴⁵¹ Turberville A S (1939) *Welbeck Abbey and its Owners, 1755-1879, Vol. 11*, p. 331.

⁴⁵² Ibid. p. 331.

⁴⁵³ Ibid. p. 331.

should make me an allowance to allow me to live in a corner of this house [Welbeck]”.⁴⁵⁴ This proposition did not persuade the Marquis to take up his father’s offer, according to Beckett the Duke’s “appeal fell on deaf ears”.⁴⁵⁵ Titchfield was adamant in his refusal and replied “Upon the general scheme the more I think the greater horror I have of it altogether. I cannot reconcile myself to the thoughts of it at all”.⁴⁵⁶ Therefore, it is perhaps not surprising that he was reclusive when he became the 5th Duke. According to Turberville “The Duke of Portland, for his part, was determined not to obtrude upon the world. He probably inherited a habit of seclusion from his mother; but what had been at first but a predisposition became in the course of time an obsession”.⁴⁵⁷

The 4th Duke remained in control of Welbeck until his death in 1854. By this time the fortunes of Welbeck were in a very healthy position mainly due to the 4th Duke’s successful management of the estate in the first half of the nineteenth century and his marriage to an heiress. However, in the context of British agriculture the mid nineteenth century was a prosperous period known as ‘high farming’ and according to Mingay “The flexibility and productivity of high farming was facilitated by drainage, improved buildings, machinery, and the new fertilisers”.⁴⁵⁸ The 5th Duke’s income was disputed, according to Beckett, a list compiled in the late nineteenth century of landowners annual income is open to conjecture. The list by Bateman of “Landowners with a gross annual income exceeding £100,000 in 1883”⁴⁵⁹ did not include the Portlands. Although this is outside of the 5th Duke’s tenure, it is important to note because according to Beckett “Portland [5th Duke] received nearly £105,000 net from his London estates in 1872, which when added to the £88,350 recorded by Bateman, would put him fourth in the list”.⁴⁶⁰ This considerable income was certainly a far cry from the Third Duke’s enormous debts in the late eighteenth century.

As a young man the 5th Duke had an army career from “1818 [when] entered the army as an ensign [and] from 1824 to 1830 was captain in the Royal West India Rangers, on half pay”.⁴⁶¹ He was also a Member of Parliament for Kings Lynn in 1824, but “In 1826 surrendered his seat in favour of his younger brother, George”.⁴⁶² On his inheritance Turberville reports “He had taken no part in politics

⁴⁵⁴ Beckett J V (1988) *The Aristocracy in England 1660-1914*, p. 139. (UNMSS Pwk 502a Duke of Portland to Marquis of Titchfield, 17 and 22 May 1844; Pwk 370d)

⁴⁵⁵ Ibid. p. 139

⁴⁵⁶ Ibid. p. 140. (UNMSS, Titchfield to Portland, 20 May 1844)

⁴⁵⁷ Turberville A S (1939) *Welbeck Abbey and its Owners*, Vol. 11, p. 433.

⁴⁵⁸ Mingay G E, (1977), *The Agricultural Revolution, Changes in Agriculture, 1650-1880*, p. 62.

⁴⁵⁹ Beckett J V, (1988) *The Aristocracy in England 1660-1914*, (J Bateman, *The Great Landowners of Great Britain and Ireland* (1883), Leicester, 1971 edn) p. 291

⁴⁶⁰ Ibid. p. 290

⁴⁶¹ Turberville A S, (1939) *Welbeck Abbey and its Owners*, Vol. 11, p. 398, p. 399.

⁴⁶² Ibid. p. 399

since he left the House of Commons".⁴⁶³ The lack of a political career had certain resonances with his father and similarly it meant that the 5th Duke had much more time to devote to the management of Welbeck, culminating in "about 1860, a huge programme of building development".⁴⁶⁴ Because the Duke was rather a reclusive character, he only used a small part of the house, and his dining habits were eccentric, as the 6th Duke confirmed when first visiting the house after the 5th Duke's death. The 6th Duke found a building "which had been the stables of the 3rd Duke of Portland, [and] there is the great kitchen, the Duke's perpetual chicken was always roasting on a spit, so that whenever he should ring for it, one should be ready roasted and in a fit state for eating".⁴⁶⁵

The 5th Duke's greatest passion was breeding and training thoroughbred horses, as is evident from the building of an immense riding school and according to Turberville "It was the second largest riding-house in the world, being exceeded only by the one in Moscow".⁴⁶⁶ The interior and exterior of the School reveals the sheer magnitude of the building where horses were trained. Turberville reports "The Duke constructed an immense new riding house, 396 feet in length, 108 in breadth, and 50 in height, and enclosing a tan gallop of 422 yards".⁴⁶⁷ The Duke's interest in horses was well known and according to Jacks, the animals were "exercised, generally, in the presence of their owner, who had the reputation of being a keen judge of horse flesh".⁴⁶⁸ Many contemporary observers were greatly impressed with the style and size of the riding house, there were "stalls for 96 horses, and [the stables] are fitted in the most beautiful manner, being quite resplendent with Minton's encaustic tiles, and the polish of the brass work of the doors and mangers".⁴⁶⁹ There were stables and coach houses as well as the riding house, and "The Welbeck Stables [were claimed to be] as large as a small village".⁴⁷⁰ However, unlike his father and the future 6th Duke of Portland, the Fifth Duke did not attend race meetings, though "he always sent a groom to the telegraph office at Worksop to bring him the earliest news of the Derby or the St. Leger".⁴⁷¹

The sound financial position of Welbeck in this period meant that the Fifth Duke could spend freely, when he commenced the huge alterations he made to the buildings in the park. The excavations under the house and new buildings ensured that "a series of improvements on a scale of

⁴⁶³ Turberville A S, (1939) *Welbeck Abbey and its Owners*, Vol. 11 p. 402.

⁴⁶⁴ Adlam D, (2002) *The Enigmatic Fifth Duke of Portland*, Pineapple press for the Harley foundation, p. 8.

⁴⁶⁵ The Duke of Portland, (1938) *Men, Women and Things, Memories of the Duke of Portland*, K.G., G.C.V.O., p.34

⁴⁶⁶ Turberville A S (1939) *Welbeck Abbey and its Owners*, Vol 11, p. 437.

⁴⁶⁷ Ibid. p. 437

⁴⁶⁸ Jacks L, (1881) *The Great Houses of Nottinghamshire and the County Families*, (2010) p. 161.

⁴⁶⁹ White R, (1875), *Worksop, The Dukery and Sherwood Forest*, Simpkin Marshall, p. 146 .

⁴⁷⁰ Jacks L, (1881) *The Great Houses of Nottinghamshire and the County Families*, (2010) p. 161,162.

⁴⁷¹ Turberville A S, (1939) *Welbeck Abbey and its Owners*, p. 399, 400.

unprecedented extent, and for upwards of eighteen years Welbeck was in the hands of builders”.⁴⁷² It must have been a very demanding time for all of the Duke’s employees during this period but he had the reputation as a kindly man who was responsible for the creation of constant employment for thousands of both locals and a sizeable contingent of Irish people “who were painting fences and had a camp to themselves near the fish-pond known as the ‘Sligo’, named after a county on the North West coast of Ireland”.⁴⁷³ The Irish workers would have camped in the park probably near the fish pond above the Shrubbery lake as it is fairly close to the Abbey and the underground tunnels.

Excavating in the park was ongoing for most of the 5th Duke’s tenure, it was done for a variety of reasons. In January 1864 men were employed at “Welbeck Lake – 94 men removing out black earth and [building] 28 houses, Welbeck New Pond side of Gould’s Lake – 12 men excavating – puddling and making wall and 6 houses, Welbeck New Works – 6 men getting out foundations for masons and removing rubbish and 2 houses”.⁴⁷⁴ A substantial amount of soil must have been moved in order to build 36 houses which would then have been moved elsewhere in the park. Also there were significant proposed excavations in June 1872 “proposed for a brick culvert from Carburton Forge Lake along south east side of Welbeck Lake as Table 3.7 shows.

Table 3.7 “For One Hundred Yards Finish” 1872

Work Proposed	Cost
Excavating and refilling sand	Not Known
Remaining on Drain and resodding	£35
20 thousand bricks at Kiln	£25
Carriage from kiln to culvert	£8
Lime and labour of building	£10
Length of Excavations	Total Cost
About 21 thousand yards average at 13 and a half feet deep, 6 thousand yard average at 5 and a quarter feet deep – 27 thousand	£2,106

⁴⁷² Jacks L, (1881) *The Great Houses of Nottinghamshire and the County Families*, (2010) p.158.

⁴⁷³ UNMSS, (1931) E Butler, (Laundry maid to the 5th Duke), *Recollections, 1869-1879*, PwK 5326/10 p. 10.

⁴⁷⁴ NA DD 4P/62/101/8 (excavating in January 1864)

yards	
-------	--

Source UNMSS Pwk 3614 (Proposed excavation for culvert 1872)

This was an extensive proposed works as the excavations were very deep at 13 and half feet and 5 and a quarter feet deep, this represented a substantial amount of soil to be moved because of the length of the excavations. As these works were being carried out in all areas of the park and its environs, the disturbance to the landscape would have been considerable.

In his early years the Duke rode regularly and he had “as much zest for hunting and shooting as any other member of his family, his hunting diary covering November 1820 to March 1821 showed that he hunted every single week day during the sixteen weeks”.⁴⁷⁵ Fox hunting continued unabated throughout the 5th Duke’s tenure at Welbeck and the animals were ‘protected’ to ensure that that their numbers did not decline. John Boaler the park keeper reported from Welbeck Park in 1860 “Regarding the death of a female vixen fox, four cubs have been seen [and] I think it would be the best plan to let them remain where they are, they can eat anything we can give them, they will be far better living this way than to put them up in the fox houses”.⁴⁷⁶ It is clear that foxes were encouraged to stay in the park by being regularly fed as is evident in 1859 when food was supplied in the form of ‘sheep bags’ by G Blythe “food for foxes at £9.10s.”.⁴⁷⁷ Therefore, hunting was considered as important as a leisure activity and foxes were carefully ‘looked after’ and fed so that there were enough of them to hunt.

However the Duke was also interested in the breeding of game birds which substantially increased during this period. Shooting game was a very popular ‘sport’ and this is reflected in the numbers of pheasants reared, as is noted by Boaler in June 1879 “I beg to inform your Grace that we now at Rough Breck Pheasantries about 1300 young birds of 300 which hatched last week”.⁴⁷⁸ Pheasants were reared in ‘pheasantries’ which were situated in the park [Fig.3.18], there was one near the White Stone Piece and one in Rough Breck. There were others which were outside of the park as Allertson [keeper] reported in 1879 “I give below the number of pheasant eggs already found under the hens at the pheasantries, - Gleadthorpe and Welbeck Side, Clipstone and Ratcher Hill pheasantries, Harlow and Thieves Wood and coverts at Clipstone” – 2,260 eggs”.⁴⁷⁹ The numbers of pheasantries in the park and elsewhere shows how rearing the birds had changed significantly because of the need for many more birds for shooting. Partridges were not reared in the same way,

⁴⁷⁵ Turberville A S, (1939) *Welbeck Abbey and its Owners*, p. 399.

⁴⁷⁶ NA DD 4P 76/45-46 (Park keeper reports 1860-1875)

⁴⁷⁷ NA DD P6/7/10/1137/80 (expenses for fox food 1859)

⁴⁷⁸ NA DD 4P 76/48/18 (Pheasants hatched 1879)

⁴⁷⁹ NA DD 4P 76/48/15 (Pheasantries in 1879)

they were left in coveys to nest in the wild, but then the eggs were taken to be hatched underneath bantam hens. However, the breeding of partridges was not always successful as Allertson reported in July 1879 “I am afraid there will be few young partridges, only 2 or 3 coveys have been seen so far”.⁴⁸⁰

Although the Duke made enormous changes to the landscape of the park, there is not very much documented on the planting of many indigenous varieties of trees. It is curious that according to Adlam “Improvements continued across the park, trees were planted in prodigious numbers”⁴⁸¹, but the evidence is not so apparent. However, after a severe storm in February 1860 many trees including indigenous Oaks and Beech were blown down, according to Swift [tree professional] the “Rough estimate for the estate in 1860 of trees blown down – in excess of 600 but probably more, well over a thousand trees”.⁴⁸² It is not clear whether some of the trees were in the park but it was probably the case, so it would have been necessary to replace trees lost in this period. Replanting must have taken place because in May 1868 Boaler reported that “The rooks' nests in Cavendish Wood were in both old and the young trees. I thought I had seen some in the old trees myself but I find that I was wrong about this as they are all young trees”.⁴⁸³ Also, according to Ellen Butler [laundry maid to the 5th Duke] in 1869 “Some women used to work in the woods [at Welbeck] and helped with the tree planting, or with watering the young trees”.⁴⁸⁴ It is evident that trees were being planted by the 5th Duke because the young trees were watered by women. The Ordnance Survey map [Fig. 3.17] does show the number of plantations which existed in the park, they would have been present when the 5th Duke resided at Welbeck as he died in 1879 not many years before the map was created in 1885.

The Duke was very interested in exotic tree species of trees and the contemporary historian, White documents various species that were planted in his account of Welbeck pleasure grounds. He reports in 1875 “In the pleasure grounds many of the new species of the fir tribe from Mexico and from the Himalayan mountains are growing with great luxuriance and have braved our cold and damp climate”.⁴⁸⁵ There were other exotics planted such as “*Cedrus deodara* (or sacred cedar of the HIndoos) as well as two fine fir trees and Araucarias in the Pinetum near Carburton”.⁴⁸⁶ White refers explicitly to the planting of exotics in the pleasure grounds, he believes “these trees will quite alter the forest scenery in parks and plantations, when they get to their full size, by their graceful and

⁴⁸⁰ NA DD 4P 76/48/19 (partridge coveys 1879)

⁴⁸¹ Adlam D, (2007) *The Enigmatic Fifth Duke of Portland*, p. 12.

⁴⁸² UNMSS Pwk 4506 (trees destroyed in February 1860)

⁴⁸³ NA DD 4P 76/45/73/79 (Rooks nests 1868)

⁴⁸⁴ UNMSS Pwk 5326/5 (from E Butler recollections of Welbeck 1869-1879)

⁴⁸⁵ White R, (1875) *Worksop, The Dukery and Sherwood Forest*, Simpkin Marshall, Worksop, p. 148, p. 149.

⁴⁸⁶ Ibid. p. 148.

tropical appearance”.⁴⁸⁷ A specimen of this tree was recorded by Swift in 1860 with his measurements of the Deodora in the Rough Breck, the size of the tree above ground is shown in Table 3.8.

Table 3.8

“Swift’s measurements in 1860 of the Deodora in the Rough Breck

Height of tree from Ground	Height of trunk	Height of Tree	Circumference of gavels feeding branches	Diameter
Round the tree close to ground	4ft 4 inches	37 feet and half an inch	29 feet 2 inches	27 feet
1 foot above ground	4ft 9 inches			
3 feet above ground	4ft 3 inches and a half			
4 feet above ground	4ft 1 inch			
5 feet above ground	3 feet 9 and a half inches			

Source NA DD 4P/62/68/6 (Measurements of Deodora tree by Swift 1860)

This tree is an exotic but it is not clear whether it was planted by the 5th Duke, it is unlikely though as he had only been in tenure at Welbeck 6 years earlier in 1854, and the height of the tree was considerable at 37 feet. There is evidence of other species of trees and shrubs which were planted by the Duke but some were not hardy such as fuchsia in 1860 “Fuchsia Conica – 5 feet high flower red pendulous, Duke of Lancaster, flower red and white, Sidonica fuchsia red flowers”.⁴⁸⁸ There were also border shrubs, probably planted in the gardens, as noted in 1860 “Oleander, Box, Persian Lilac, Evergreen Privet, Berberis [and] Creepers – White and Yellow Jasmine, Mistletoe, White

⁴⁸⁷ White R, (1875) *Worksop, The Dukery and Sherwood Forest*, p. 148.

⁴⁸⁸ NA DD 4P/62/68/6 (fuchsia plants 1860)

Clematis".⁴⁸⁹ Although these plants were not large trees they were an important part of the 5th Duke's improvements to the park, in particular the gardens and pleasure grounds.

The 5th Duke further developed the lake as part of his extensive alterations to the park. According to White "The lake has been altered and made deeper in some places to prevent the growth of weeds; it now extends from the old lake-head at Sloswicks to Carburton, it is about three miles in length".⁴⁹⁰ Although the length of the lake is not much different, White suggests that "It has been considerably widened, [Fig 3.18] shows the full length. The Duke himself took personal charge of the alterations to the lake and sent several letters to his agent in 1860 regarding what he wished to be done. In February 1860 he observed in relation to the Upper lake [Fig. 3.18] "I was agreeably surprised to find in no part of the lake is there less depth than 6' 3" and the greater part of it is from 6' 4" to 6' 6".⁴⁹¹ Portland commented further that "I conclude there is about 6 inches of mud to be got out, when this has been done will all the good stuff for manure have been got?".⁴⁹² This suggests mud was required for manuring the park as the Duke advises "I should be disposed to get all the mud I could which would be good for the land since it should have to be carried a very short distance".⁴⁹³

The Duke was also interested in keeping various boats on the lake so was very concerned about the depth remarking that: "I hope the weeds will not get up in water of 6' deep".⁴⁹⁴ Even the laundry maid noticed major management processes many years later "In May 1878 the Duke had the lake before the Abbey emptied and cleaned out"⁴⁹⁵; something which was done regularly during the 3rd and 4th Dukes' tenures. These alterations to the lake also meant that more species of fish such as trout and grayling could be bred as Boaler's account to the Duke in 1862 suggests "The best thing to do with trout in the great lake will be to put them in the old upper lake until Gould's lake is finished [and] temporary grates must be put down to stop the fish from going into the old lake [Fig. 3.18]".⁴⁹⁶

⁴⁸⁹ NA DD 4P/62/68/3 (border shrubs planted 1860)

⁴⁹⁰ White R, (1875) *Worksop, The Dukery and Sherwood Forest*, (From White's Guide Map around Worksop), p. 10, p. 149.

⁴⁹¹ NA, DD/P6/13/7/104 (1860 Upper lake in Park)

⁴⁹² Ibid.

⁴⁹³ Ibid.

⁴⁹⁴ Ibid.

⁴⁹⁵ UNMSS, (1931) E Butler (Laundry maid to the 5th Duke) *Recollections 1869-1879*, PwK 5326/17 p. 17.

⁴⁹⁶ NA, DD 4P/46/44 (1862 Boaler's account of trout)

The falls in the lake head at Welbeck were also considerably altered and dams put in place, the height of the falls overall in 1863 was quite astonishing the total from “Carburton lower lake to the Upper lake was 39 feet 3 [Fig. 3.18]”⁴⁹⁷.

The main parkland is the deer park which lies on the East side of the lake and sheep and deer were kept in this area [Fig. 3.19] But there are other areas of the park which were used for specific purposes and these include the Black deer park at Sloswicks [Fig. 3.19], The White Deer paddocks [in the park] and Clown hills in the park. To the West of the lake are the Wilderness, Greendale Oak fields, and Cow Close Paddocks. To the south of the park are the kennels paddocks and forge meadow by the Carburton forge dam (Fig. 3.19). The pasture land for grazing sheep and the land for mowing was recorded in 1860 as is shown in Table 3.9

Table 3.9

Pastures for Sheep 1860

Mr Cutts Farm 160 acres	Mr Mellors Farm 180 acres	Mr Adfields Farm 100 acres	Hazel Gap 50 acres	The Ground in the Park 400 acres	Scotland Farm 70 acres	Total 960 acres
-------------------------------	---------------------------------	----------------------------------	-----------------------	--	------------------------------	--------------------------------------

Ground for Mowing 1860

White Stone Piece 60 acres	Lucerne Brecks 140 acres	Burns Brecks 20 acres	Forge Meadow by the Lake 60 acres	Milnethorpe meadow 20 acres	Allcroft 20 acres
Norton Common 80 acres	Reindeer Park 60 acres	Greendale Lake field 20 acres	Chappell Close field 30 acres	Kiln Croft meadow 20 acres	Clown Hills 20 acres
Woodhouse Hall farm 120 acres	By the Kennels 50 acres	Cuckney Lawn 50 acres			Total 770 acres

Source NA DD 4P/63/68/11 (Grazing and Mowing Grassland 1860)

⁴⁹⁷ NA DD/4P/62/68/5 (1863 falls from lakes)

These acreage figures show that the largest area for sheep grazing was the park which would have significantly reduced the quality of the grass if too many sheep were put on the pasture, particularly in a dry summer. The acreage for mowing was considerably less in the park but areas outside were mown which would have increased the amount of hay needed for livestock feeding in winter. It is evident that there were years when the park pasture was of poor quality, as in 1863 when Boaler reported that “The park has been too much eaten down with sheep”.⁴⁹⁸

The importance of deer at Welbeck was recognised by Shirley in his 1862 *Account of English Deer Parks*, when he noted “Welbeck is an existing and very extensive (deer) park”.⁴⁹⁹ Different breeds/colours of deer were kept in the white and black deer parks and roe and fallow deer in the deer park. What is more unusual for the estate is that according to White, red deer still existed, with “a small herd preserved in Welbeck Park, in a semi-domesticated condition”.⁵⁰⁰ However, the Duke recognised that deer could be troublesome, especially if they moved into plantations. In 1860 the Duke asked Boaler how much damage the deer had caused “Did the roe deer damage 20 year old trees, did they bark the trees, did they damage by eating the 6 or 7 year old trees, what trees do they damage most [and] what kind of trees does the plantation consist of?”.⁵⁰¹ Boaler gave an account of the damage “They only nibbled a few leaves and buds on the lower branches, [they damaged the most] Ash Mountain Ash, Sycamore, and dwarf shrubs principally by browsing on the buds on the lower branches”.⁵⁰² It was for these reasons that one of the first improvements the Duke made, was in 1856 to erect “deer park fencing around the whole of Welbeck Park”.⁵⁰³ It is evident that deer could extensively damage trees and shrubs, the deer fence was made of iron which ensured that it was strong enough to keep deer out of the park.

There is scant material regarding the keeping of sheep in the 5th Duke’s tenure, the focus is much more upon deer, the breeding of the specific types such as black, white, roe and fallow. However, the lack of evidence for livestock management during the 5th Duke’s tenure is probably due to the incompetence of the farm manager, John Field. He unfortunately was an alcoholic and did not keep account records of sheep or cattle at Welbeck. The steward Cripwell frequently informed the Duke of Field’s failings. In 1872 according to Cripwell “...Field’s report...says nothing. It is very annoying that he cannot be more straightforward and truthful, but I fear he is so muddled with drink that he

⁴⁹⁸ NA DD 4P/76/45/55 (Park pasture poor quality 1863)

⁴⁹⁹ Shirley E P, (2007) *Some Account of English Deer Parks with notes on the management of Deer*, (first published 1867), The Grimsay Press, Glasgow, p. 184

⁵⁰⁰ White R, 91875) *Worksop, The Dukery and Sherwood Forest*, p. 256.

⁵⁰¹ NA DD 4P/62/68/30 (damage to trees from deer in 1860)

⁵⁰² Ibid.

⁵⁰³ NA P1 E12/15/2/4 (deer fence 1856)

scarcely knows what he is saying".⁵⁰⁴ The situation did not improve and Cripwell complained in 1873 "There are so many things that connect the farms with the other departments that it is impossible to complete other accounts without first having the farm accounts to refer to".⁵⁰⁵ As well as the accounts for sheep, there were no records of cattle either at Welbeck as Field did not keep any accounts, according to Cripwell.

However, there are references to cow houses by Jacks in 1881 which were probably built by the 5th Duke. According to Jacks "The cow house which is of great size, is divided into stalls, each stall being of galvanised metal and slate. There is a second cow house, of similar proportions to this one, to which the animals are transferred when the place requires cleaning".⁵⁰⁶ These cattle were probably a milking herd which required to be kept inside for periods of time.

While the training of horses took place within the riding school where "the floor is covered with a soft tan".⁵⁰⁷ Horses were also put through their paces in a building next to the riding school, known as the "Gallop", [which was] 1,270 feet long, with a roof of glass, of which it contains about 64,000 feet".⁵⁰⁸ So, significant areas of land in and around the park were set aside for the sole purpose of the training and exercising of horses. However, training grounds were also created for exercising horses in the wider parkland, during the 4th Duke's tenure but these courses were converted from open parkland to indoor training areas by the 5th Duke. Larger stables were built by him and they covered a wide area of the park, there were also stables and paddocks for horses near Sloswicks to the North East of the park [Fig. 3.17].

3.5 Conclusion

A map of the Nottinghamshire estates of the 3rd Duke of Portland in 1774 is included as the last figure of this chapter [Fig. 3.20.] The map shows all of the estates owned by Portland but the parishes of Welbeck, Carburton, Worksop and Cuckney are the lands which form the main focus of this study. According to Seymour "The bulk of the lands [owned by Portland] in north Nottinghamshire were located in the environs of Welbeck [and] when the 4th Duke died in 1809 the

⁵⁰⁴ Pickersgill A C (1979) *The Agricultural Revolution in Bassetlaw Nottinghamshire 1750-1873*, p. 473 (Pwk 968 1872, Cripwell's reports about John Field 1872)

⁵⁰⁵ Pickersgill A C (1979) *The Agricultural Revolution in Bassetlaw Nottinghamshire 1750-1873*, p. 474 (Pwk 1158, farm accounts not submitted 1873)

⁵⁰⁶ Jacks L (1881) *The Great Houses of Nottinghamshire and the County Families*, p. 162.

⁵⁰⁷ Sissons F, (1888) *Beauties of Sherwood Forest, a Guide to the Dukeries and Worksop, with maps and illustrations* Sissons, Worksop, p.100.

⁵⁰⁸ Ibid. p. 100.

Portland estate was the ninth largest in the country”.⁵⁰⁹ However, in 1883 a survey of all landowners of three thousand acres and upwards in Great Britain was compiled by John Bateman and Welbeck estate was included in the study. According to Bateman the Portland family owned “43,036 acres in Nottinghamshire, valued at, £35,752”.⁵¹⁰ Of all of the English estates owned by Portland in this period, Nottinghamshire was the largest.

It is evident that the interests of the three Dukes varied, for example the 3rd and 4th Dukes were enthusiastic regarding landscape design, and woodland planting, whereas the 5th Duke executed huge building schemes in the park. However, there were continuities throughout the period, such as the passion held by all the Dukes about horses, which impacted upon the park landscape to accommodate the animals. Although the 3rd Duke was not interested at all in shooting, the 4th and 5th Dukes did shoot, and their interest in game birds led to a significant increase in breeding and rearing game throughout the nineteenth century. The 3rd Duke’s interest in politics was an important part of his life, but this was not taken up by either the 4th or 5th Dukes’ who kept out of the political scene for most of their tenures. The overriding interest of the 4th Duke for was for agriculture and animal husbandry, which had a very significant environmental effect upon the park landscape. The period of high farming saw many changes to agricultural methods and the 4th Duke enthusiastically embraced these changes, including crop rotations, new grassland species, water meadows, and experimenting with different crops and animals to achieve higher yields.

The management of Welbeck Park over a hundred year period varied both in style and according to the interests and finances of each successive Duke. The transformation from a deer park to a carefully designed landscape park began in earnest in the mid eighteenth century with designers such as Richardson who created the lake in the park. Repton was commissioned by the 3rd and 4th Duke’s in the late 1790s and early 1800s to redesign the parkland, enhancing the plantations, reorganising the grazing areas, lengthening the lake and diverting the river Poulter. William Speechly oversaw much of the planting schemes at Welbeck in the mid to late eighteenth century. Speechly was responsible for the tree nurseries where he planted acorns and the subsequent Oaks were integrated into different plantations both in the park and the environs. He also raised other species such as Beech, Larch, Pine and Firs, his planting methods included trenching, making large holes after deep ploughing and thinning where necessary. The upsurge in planting continued into

⁵⁰⁹ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 147.

⁵¹⁰ Bateman J (1883) *The Great Landowners of Great Britain and Ireland; a list of all owners of three thousand acres and upwards...also, one thousand three hundred owners of two thousand acres and upwards in England, Scotland, Ireland and Wales, their acreage and income from land culled from The Modern Domesday book...* London, Harrison, p. 365.

the nineteenth century and ensured that many acres of heathland habitat disappeared; 'ling' [as it was known] was destroyed with regularity. A variety of tree species were planted in the park by the all three Dukes, indigenous trees such as Oak, Ash and Beech, as well as imports such as American Oak, Spanish Chestnut and the many exotics such as Deodora, introduced by the 5th Duke. It was not only the tree planting schemes of the eighteenth and nineteenth centuries which changed the landscape in Welbeck Park, agriculture also played a major part in transforming the local topography. Grassland was also important and hundreds of acres were a feature of the park landscape which was key to supporting herds of deer and sheep, cattle and horses. Pasture land was an aesthetic feature of the park and the animals were symbolic of the status of the landowner, as well as providing food.

The tenures of the three Dukes greatly influenced the environmental and ecological state of the park, from the early tree planting 'improvements' made by the 3rd Duke to the agricultural methods of his son the 4th Duke. The changes to the park by the 5th Duke were dominated by his intensive building programme, but leisure activities included training horses and shooting. Therefore, grassland was managed in the later nineteenth century to accommodate horses and pheasantries were created which for the increase in breeding game birds. This thesis examines how these landscape changes impacted on and were impacted by parkland animals. Subsequent chapters focus on the nature and management of particular species, both domestic and wild animals. Chapter four focuses upon parkland grazing animals, including sheep, cattle, horses and deer. It studies in detail how park landscape changes impacted upon grazing animals and the environmental effect they had upon park grassland and plantations, including through the types of crops grown specifically for animal fodder. Chapter five examines the relationship between the breeding and rearing of game birds, including pheasant, English and red leg partridges, landscape changes and the subsequent environmental impacts. It considers changes made to the parkland to provide cover for game, and examines the destruction of perceived 'vermin' which predated upon game birds. Chapter six focuses on key aquatic animals, notably fish and wildfowl and their relationship with landscape changes. It examines in detail the impacts of water management within the park on these species.

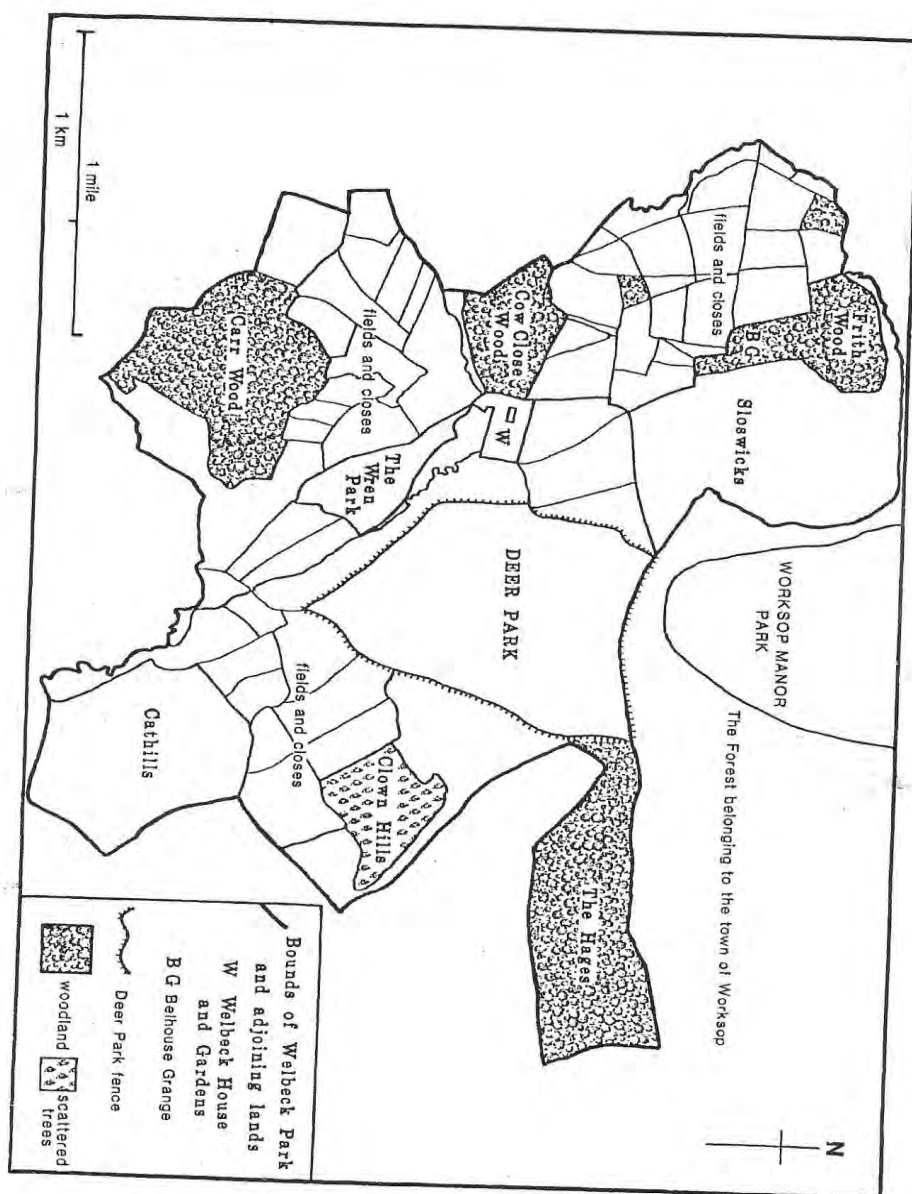


Figure 3.2 William Senior map of Welbeck (c.1629) redrawn

139
 from Seymour, S (1988) Eighteenth-century parkland 'improvement' on the Dukeries
 estates of North Nottinghamshire (unpublished manuscript)

Fig. 3.1 William Senior Map c. 1629



Fig. 3.2 Richardson c.1748 – Existing Landscape

1 – The Park

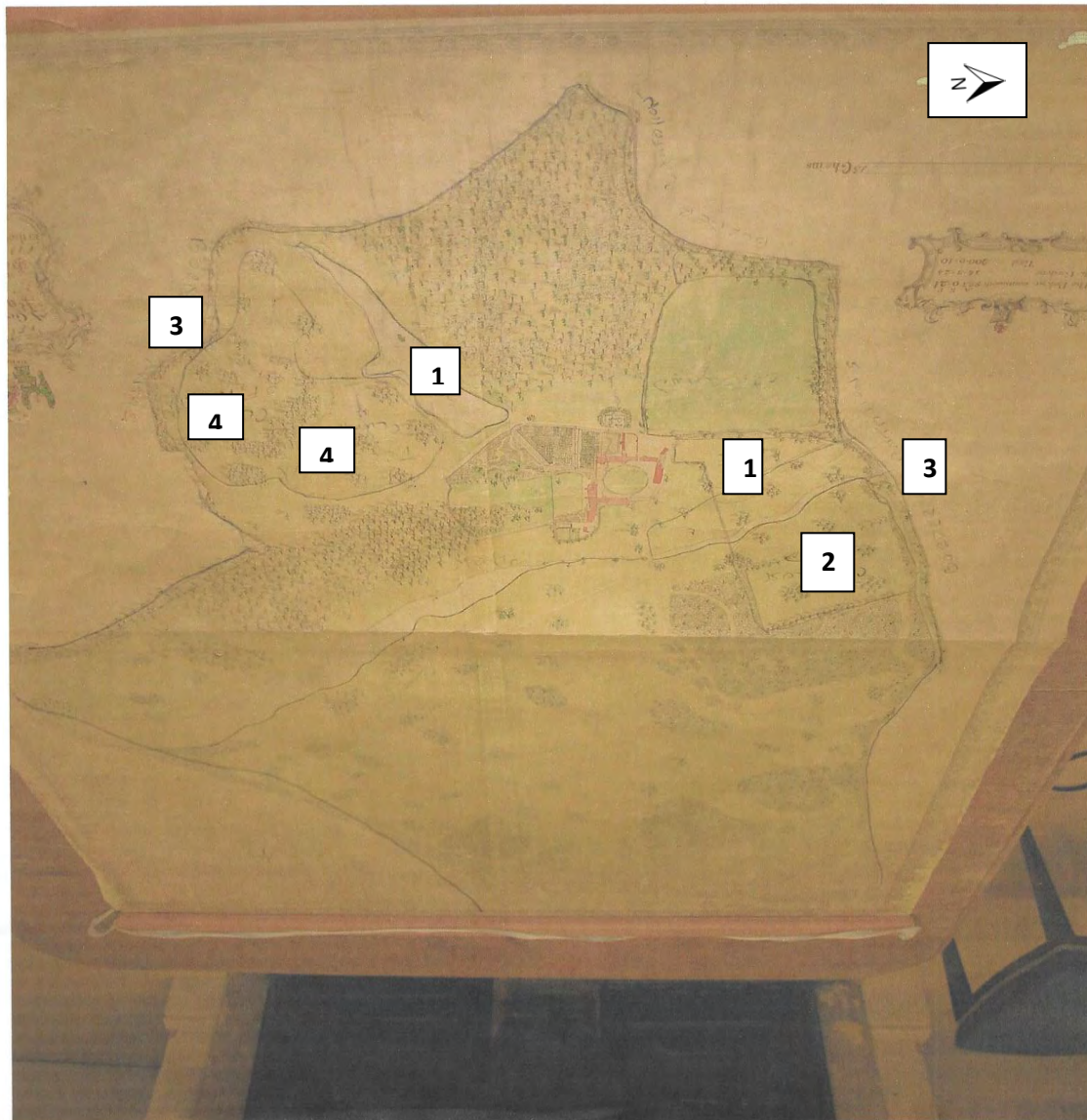


Fig. 3.3 Richardson's Proposals for Welbeck c1748 including Lakes and Wooded areas

1 – Lakes

2 – Cowclose Wood

3 – Border Plantations

4 - Plantations

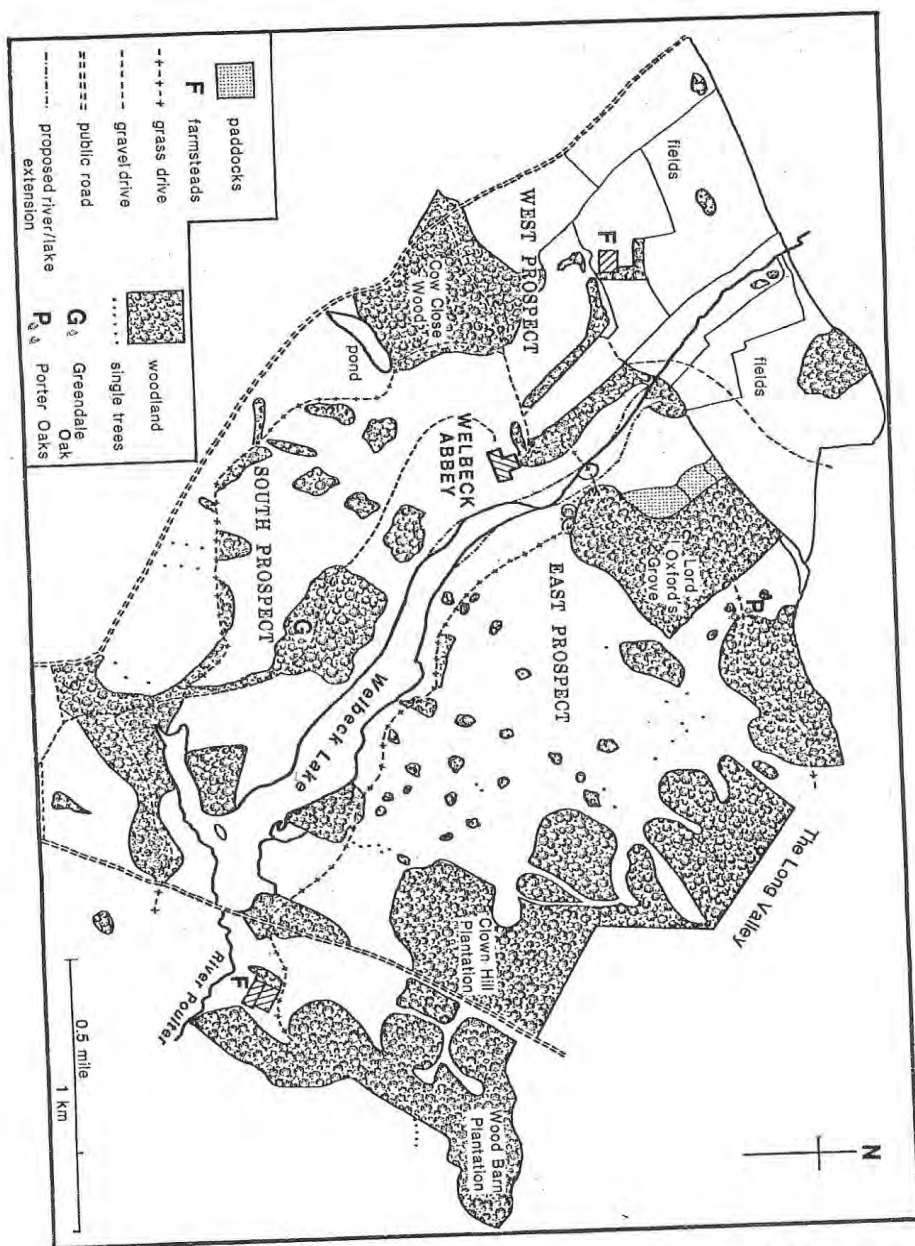


Figure 3:3 Humphry Repton: designs for Welbeck (c.1790)

143

Fig. 3.4

Repton's proposed designs for Welbeck c1790

Lake Extension and Woodland Planting



Fig. 3.5

Central Area of Welbeck Manor c. 1766 Ingham

1 – New Plantation

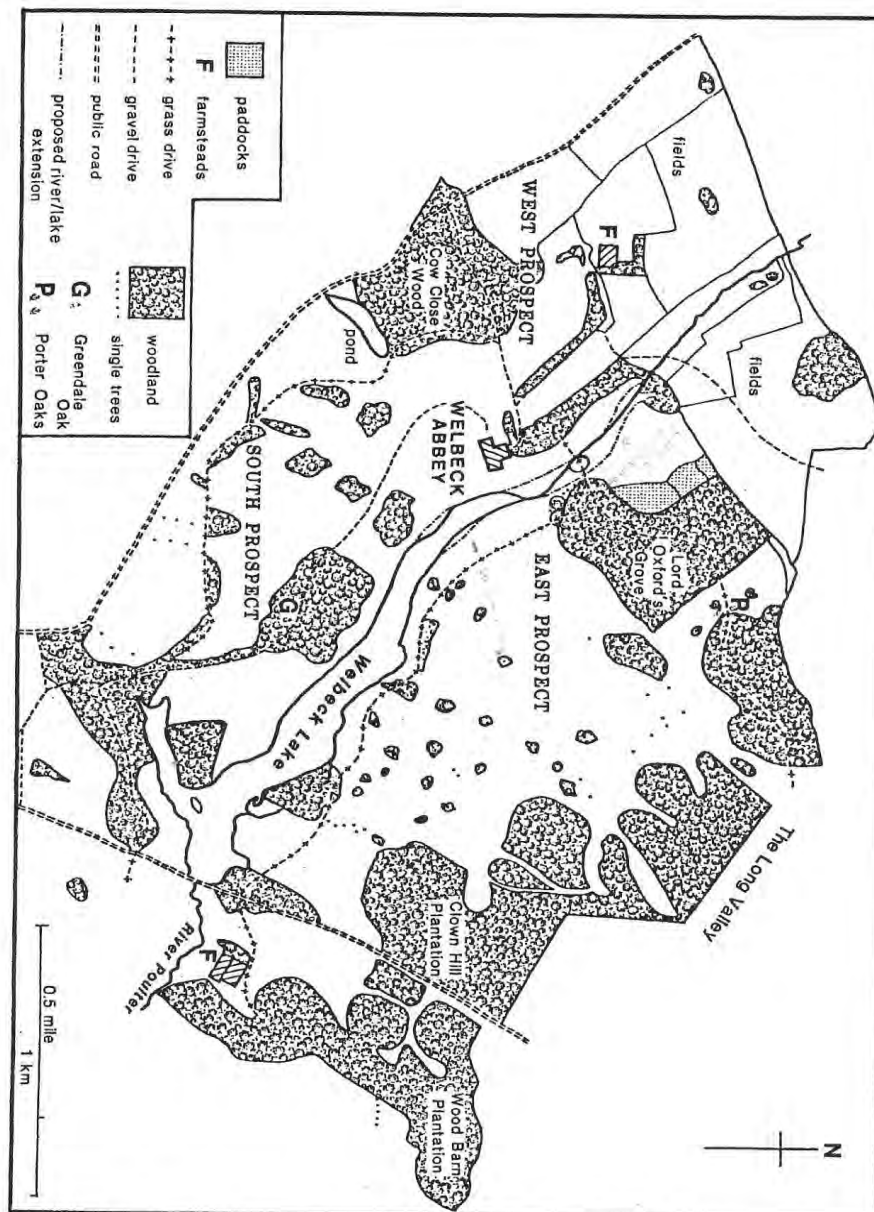


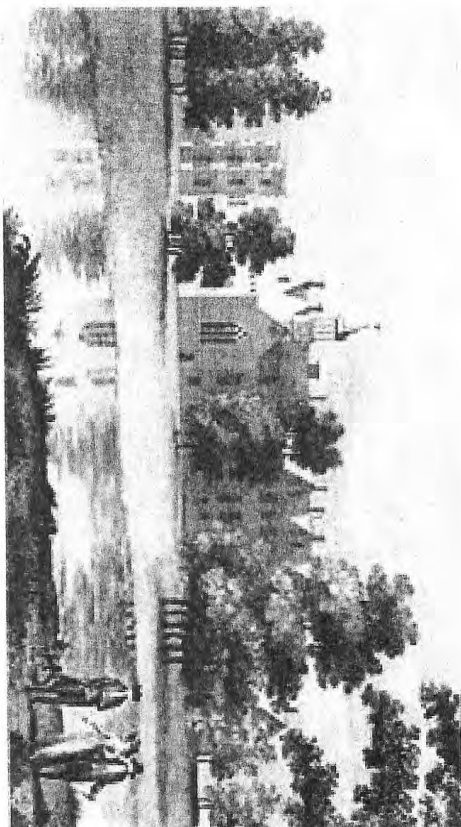
Figure 3:3 Humphry Repton: designs for Welbeck (c.1790)

redrawn

143

Fig. 3.7

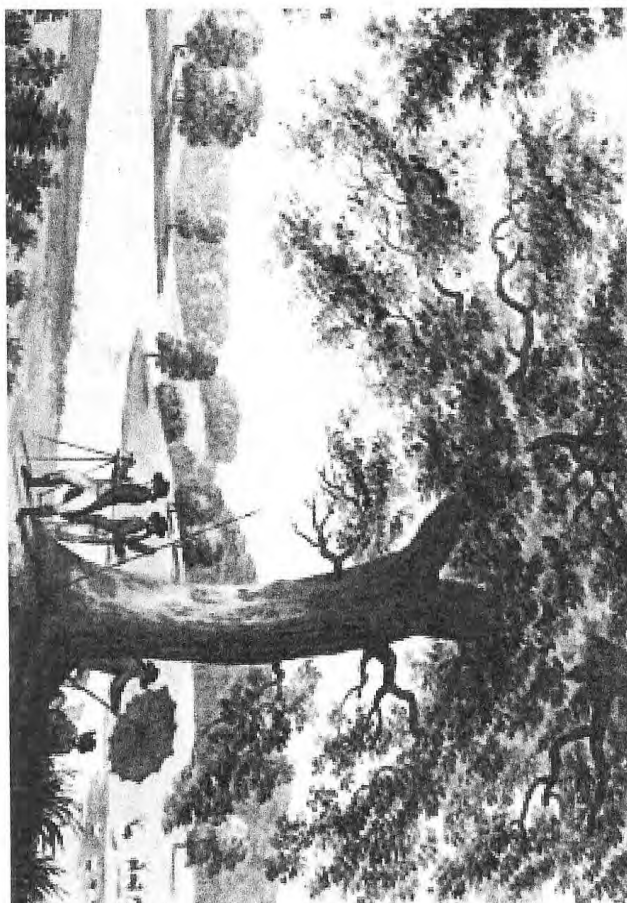
Repton's proposed extension to Lake and River c. 1790



'Welbeck, Nottinghamshire', by T. Malton, published 1788

Fig. 3.8

Welbeck by Malton c. 1788



*View of the Welbeck Estate, Humphry
Repton (1752–1818), Sketches and Hints
on Landscape Gardening (London, 1794).*

Fig. 3.9

Repton's view of Welbeck Estate c.1794

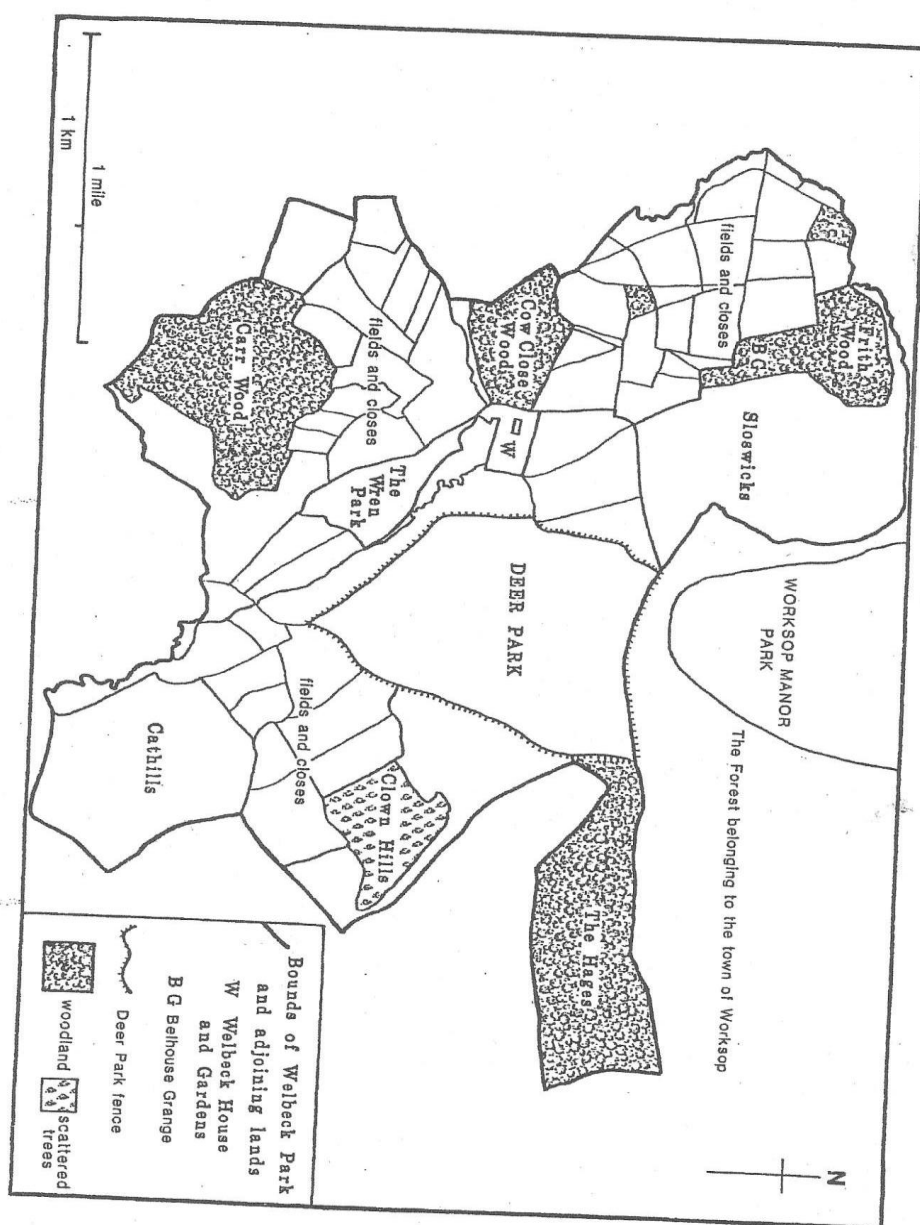


Figure 3.2 William Senior map of Welbeck (c.1629) redrawn

139
 from Seymour, S (1988) Eighteenth-century parkland 'improvement' on the Dukeries
 Estates of North Nottinghamshire (unpublished map)

Fig. 3. 10

Senior's Map of Welbeck c.1629

Showing the Deer Park and the Wren Park



Fig. 3.11 Ingham's Map of Welbeck Park c. 1766

1 – Great Deer Park and Grassland

2 – Little Park

3 – Upper Long Meadow

4 – Lower Long Meadow

5 – Cook Meadow

6 – Far Park Field

7 – Greendale Oak Field

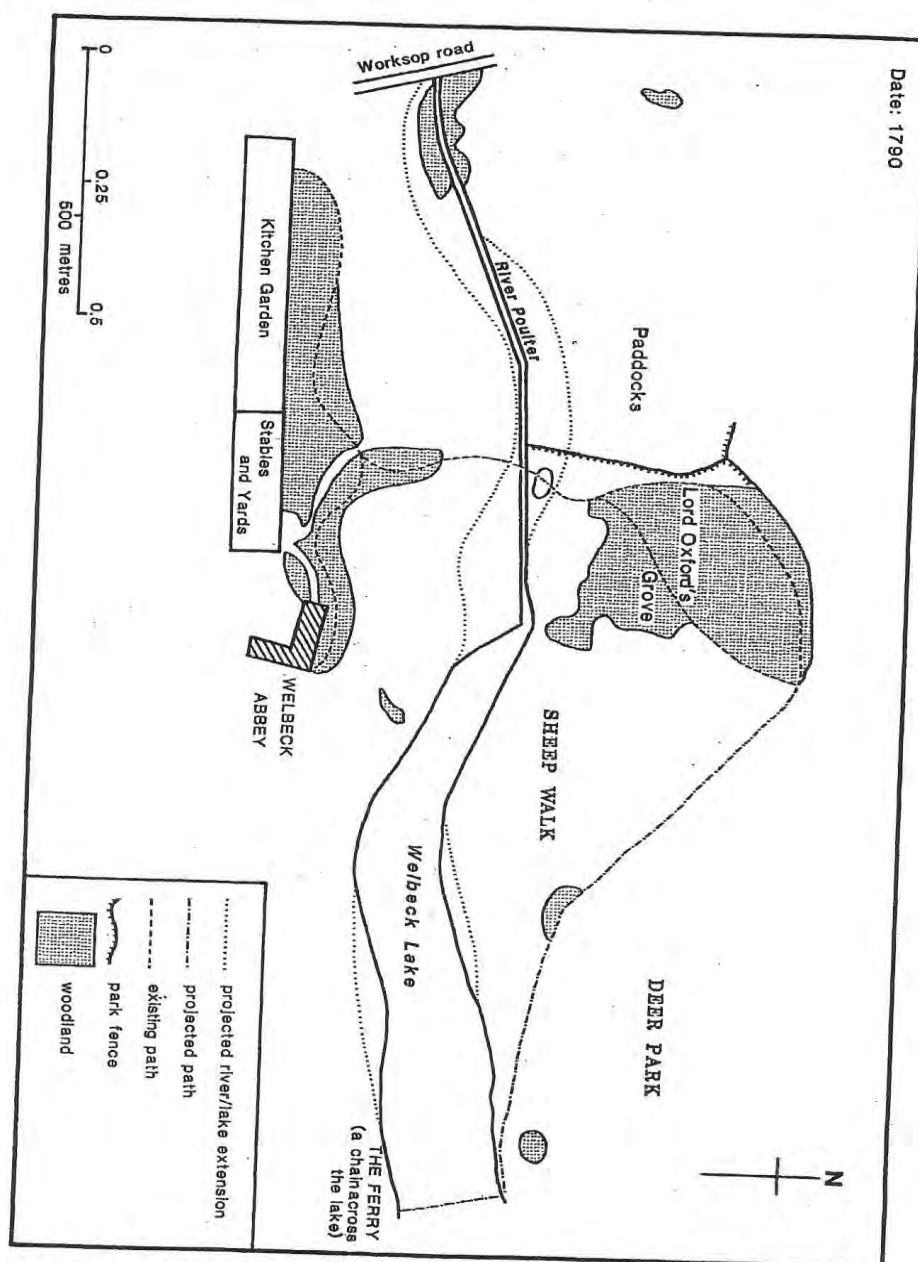


Figure 6:1 Repton's arrangement of the Sheep Walk and Deer Park at Welbeck
(1790) redrawn

Fig. 3.12

Repton's Map of Sheepwalk and Deer Park at Welbeck c. 1790

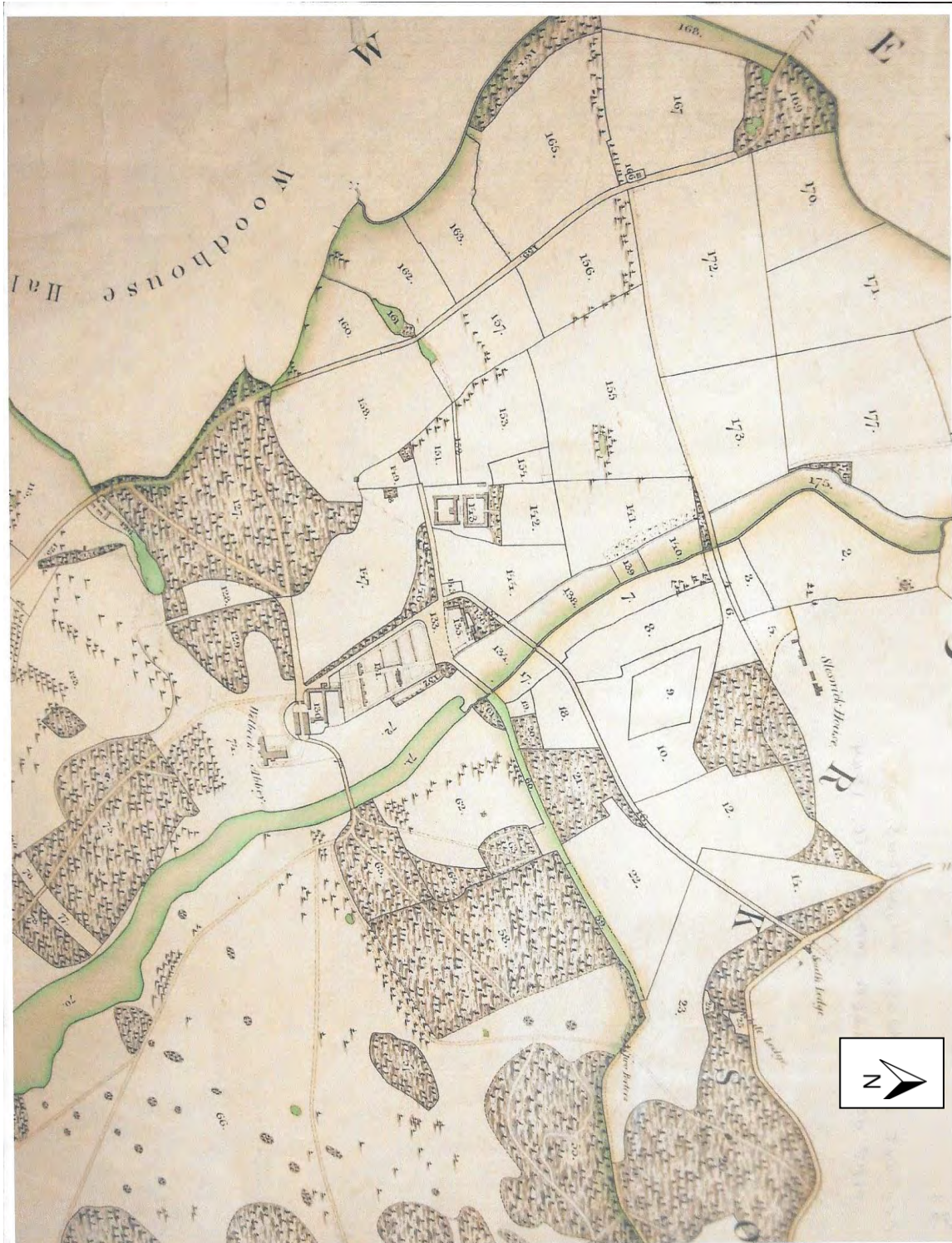
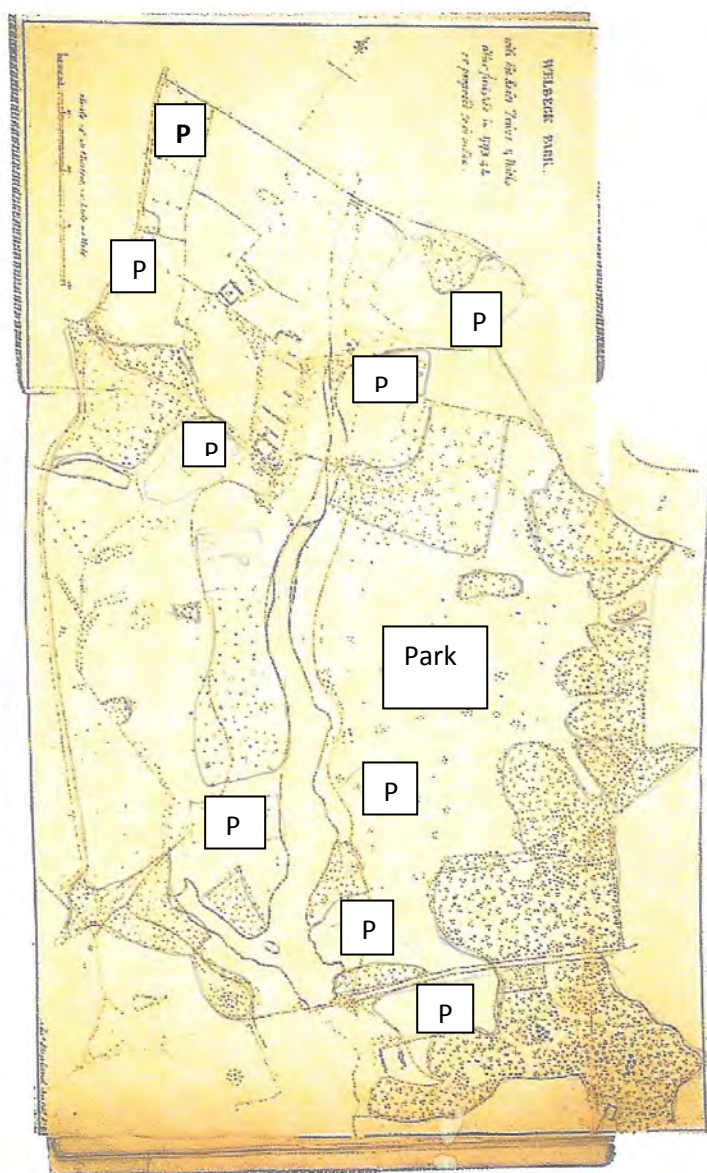


Fig. 3.13

Map of Central Area of Welbeck Park c.1844

Showing extent of planting near Welbeck Abbey and Lake

Repton's 1793 plan of Welbeck Park



159 Welbeck Park, 'with the Roads, Drives & Walls either finished in 1793 & 4, proposed to be made', from the Red Book for Welbeck (1793). Private collection.

Fig. 3.14

Repton's Plan of Welbeck Park c1793

P, Plantations not completed



Fig. 3.15

Map of Welbeck c.1844

Areas 1 – 6 New Plantations

Felled areas shown

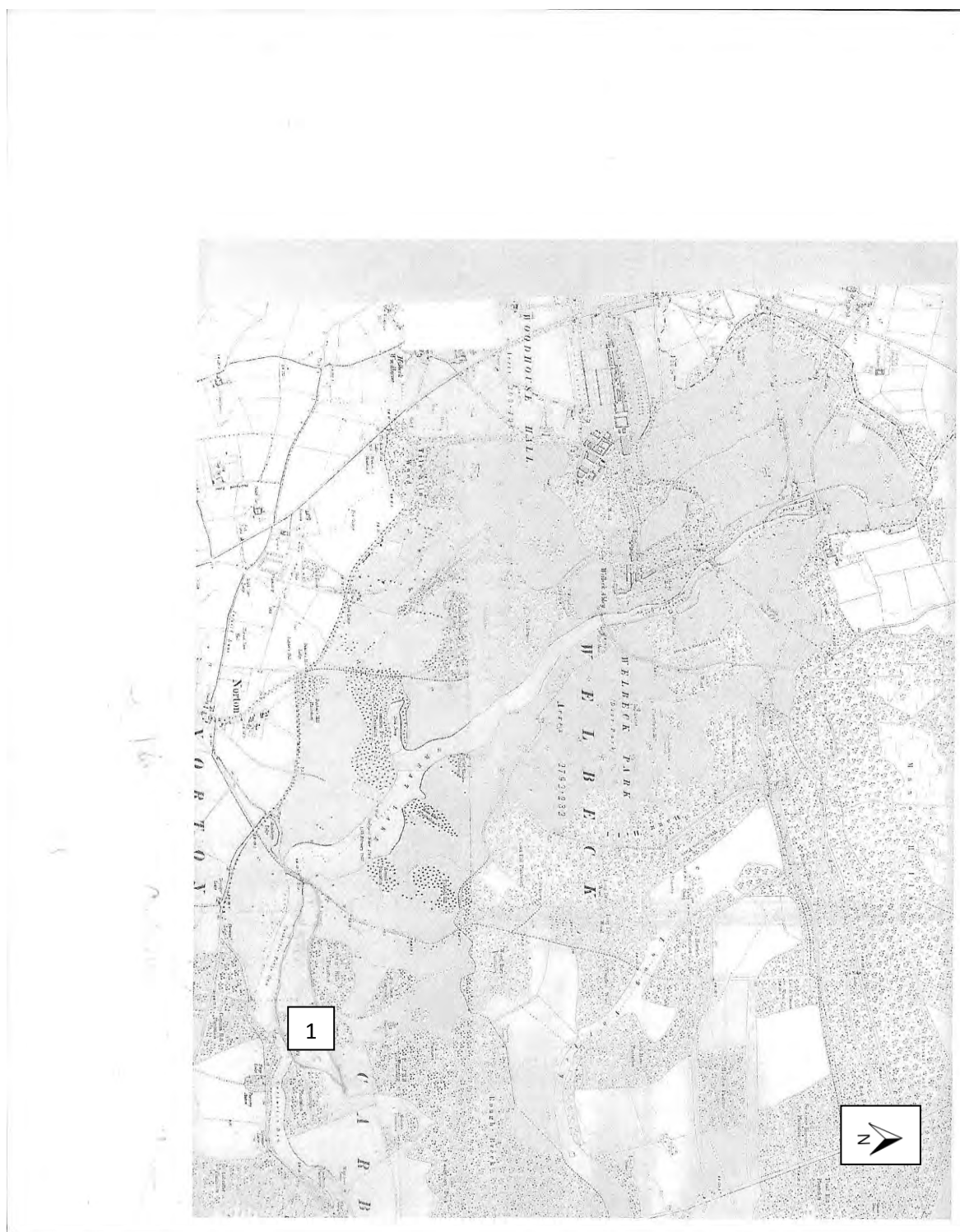


Fig. 3.16

Ordnance Survey Map c. 1885

1 – Carburton Water Meadows

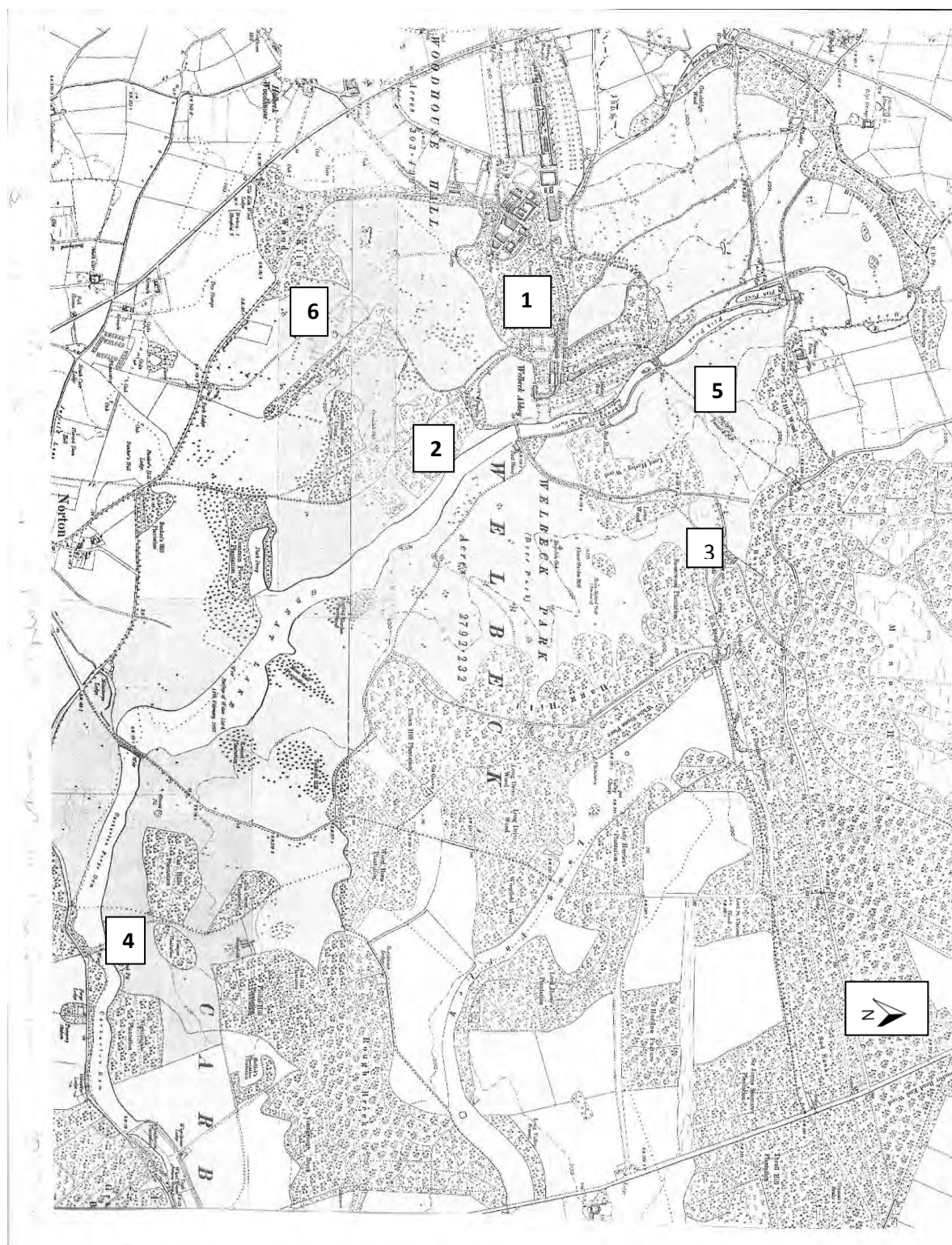


Fig. 3.17 Ordnance Survey Map c.1885

1 – Cowclose Wood

2 – Wilderness

3 – Porters Meadows

4 – Carburton Meadows

5 – Upper Meadows

6 - Carrs

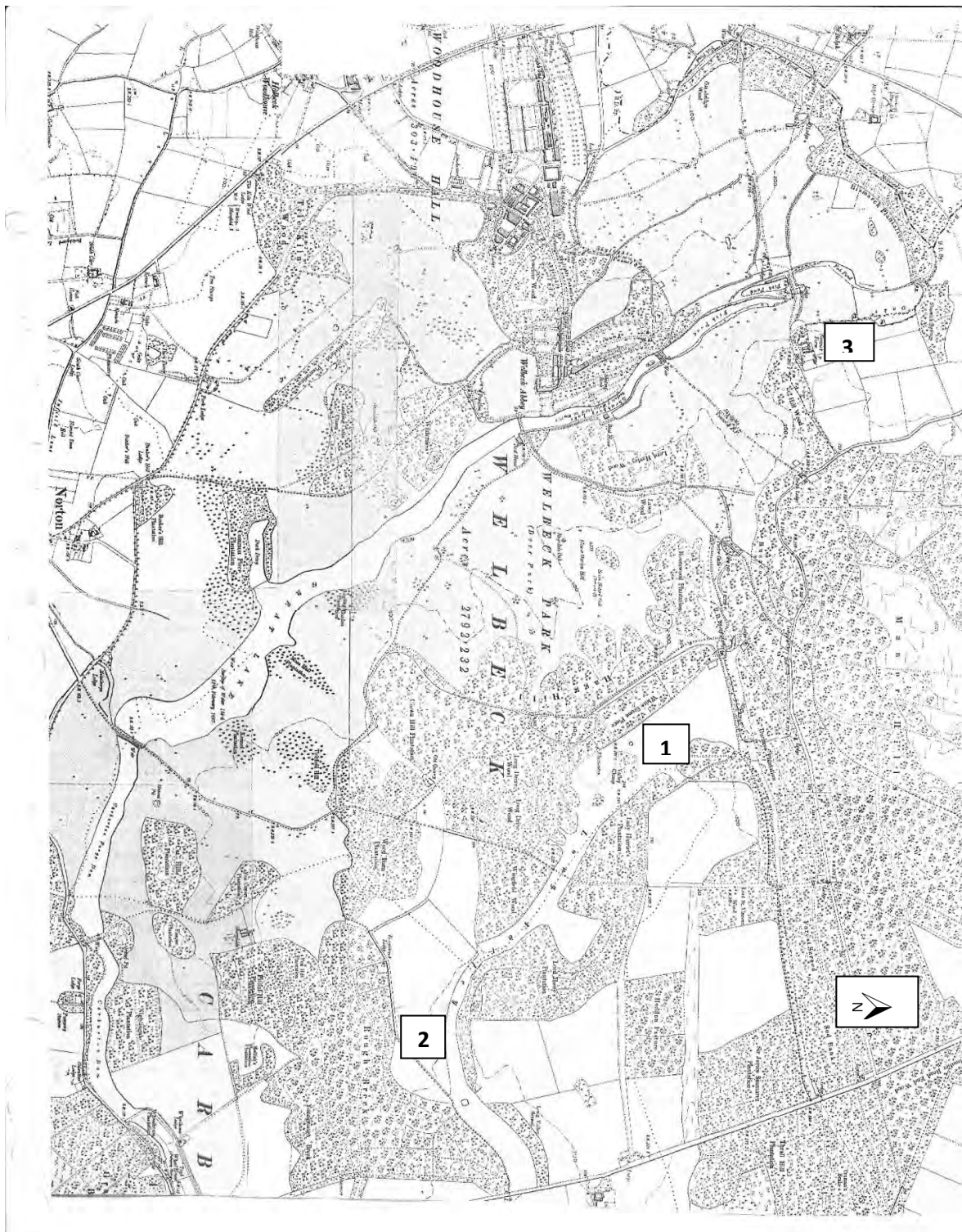


Fig. 3.18 Ordnance Survey Map c.1885

1 – Pheasantry

2 – Rough Breck Pheasantry

3 – Sloswicks, Stables

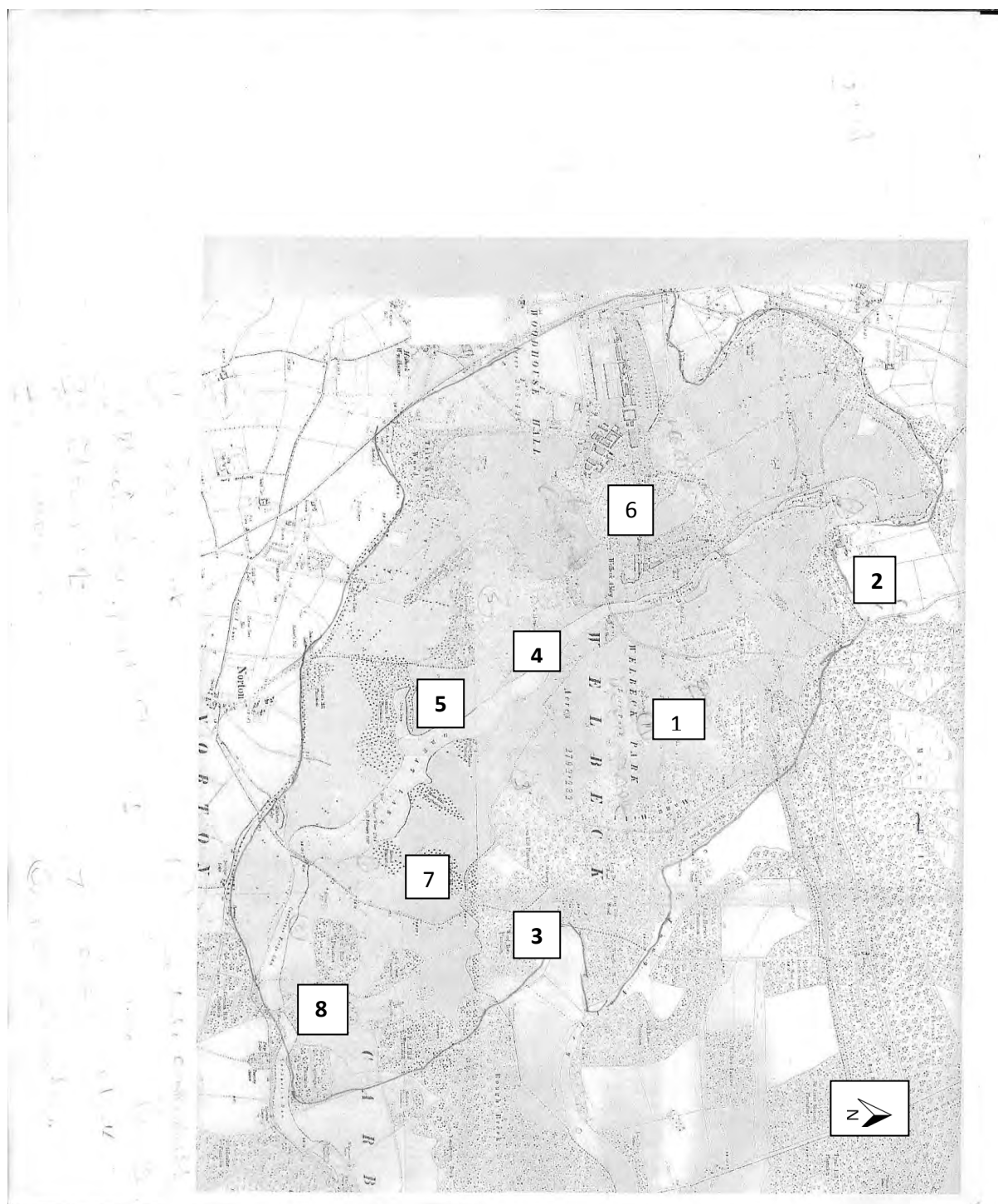


Fig. 3.19 Ordnance Survey Map c.1885

1 – Deer Park

2 – Black Deer Park

3 – Clown Hills

4 – Wilderness

5 – Greendale Oak Field

6 – Cowclose Wood

7 – Kennels

8 – Forge Meadow

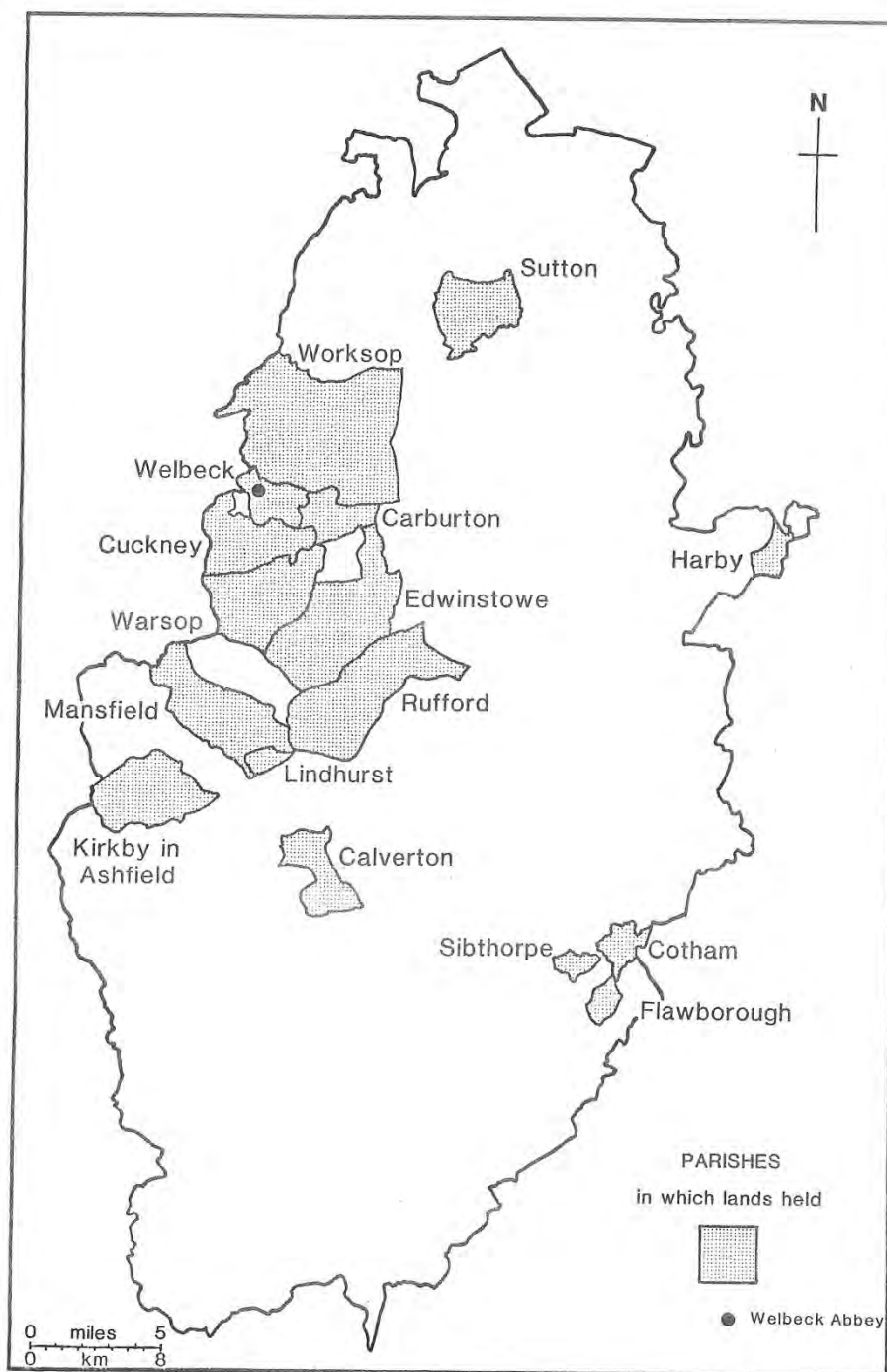


Figure 3:4 The Nottinghamshire estates of the Duke of Portland (1774)

Fig. 3.20 Parish Map of the Duke of Portland's estates 1774

Source: NA DD 4P 54/3

Chapter 4

Grazing animals, including deer, sheep, cattle and horses

This chapter investigates the environmental impacts upon Welbeck Park of grazing and browsing animals, notably deer, cattle, sheep and horses as well as their relationships with the wider park landscape change. This will include husbanded, domestic animals such as ‘improved’ sheep and cattle breeds and horses, as well as ‘wild’ grazing animals such as deer. The chosen time period will ensure that any agricultural/livestock husbandry changes as well as deer management and the breeding/training of horses made by the park owners, will be examined.

Horses require a better quality of herbage than sheep and beef cattle and the poor sandy soils of Welbeck Park did not produce good grass, also “soil types can have a profound effect on the growth of heavy breeds such as the Shire, and on the performance in training of race-horses”.⁵¹¹ However, unlike cattle and sheep, horses are “non-ruminants [so they] must masticate their food whilst grazing, whereas ruminant animals can swallow grass as fast as they can obtain it from growing plants”.⁵¹² Horses grazing action would be more beneficial to the grass but it also “promotes close-biting and obviously a short dense sward will suit horses much better”.⁵¹³ Deer are also grazers but in a different way to cattle and sheep as they are not as destructive to the grassland. They are useful as close grazers, according to Fletcher deer are “always useful as close grazing ungulates which do not, like sheep, tear the grass out by its roots, or create tracks, nor as cattle, leave large soft dung pats followed by unsightly green patches”.⁵¹⁴ However, all types of grazing animals were not without their problems, and according to Simmons “domesticated grazing animals exert selective stresses on pre-existing vegetation”.⁵¹⁵

The environmental effects to be considered will be changes made to the park grassland to accommodate grazing animals. The grazing effects of sheep on parkland are important, particularly when numbers increased, especially in the context of the poor sandy soils, which in dry weather significantly thinned the grass. The condition of grassland depends on the soil “because soil type determines not only the nutritive quality of pasture grass, but also its mineral deficiency”.⁵¹⁶ Pasture land was also created for animal containment such as paddocks and fields. Woodland management will be examined, particularly the effects of browsing animals, notably deer. The

⁵¹¹ Thomas J F H, (1949) *The Grazing Animal*, Faber and Faber Ltd., p. 65.

⁵¹² Ibid. p. 65.

⁵¹³ Ibid. 65, p. 66.

⁵¹⁴ Fletcher J (2011), *Gardens of Earthly Delight, The History of Deer Parks*, Windgather Press, Oxbow Books Oxford, p. 182.

⁵¹⁵ Simmons I G, (1993) *Environmental History, A Concise Introduction, New Perspectives on the Past*, p. 61.

⁵¹⁶ Thomas J F H, (1949), *The Grazing Animal* p.65

ploughing up of grassland for fodder crops will be considered and the creation of water meadows by the 4th Duke for grazing sheep will be investigated, as the flooding of land periodically is an important environmental issue. Also, the thesis will examine the environmental impacts of the changing park landscape upon the species themselves. The relationship between particular grazing species is important because of the competition for grassland due to fluctuating animal numbers in the different periods. The ecological impacts upon wild grazing animals, such as deer, due to changes in the parkland will also be considered in detail.

Domestic grazing animals had important roles within the park. They were necessary for the provision of meat and hides and sheep and cattle were the principal animals kept for these purposes. Also, other purposes for the animals included selling livestock, meat for home consumption and breeding 'improved' animals, which exhibited modern husbandry. Aesthetically grazing animals were displayed to show the prestige of the landowner, especially deer which were seen as a sign of status and power. According to Fletcher "Venison from the park was the most prestigious advertisement of the park owner's status".⁵¹⁷ Horses played a significant part in the management of the park; their role was eclectic as they were crucial for transport as well as necessary for the sports of hunting and racing. Breeding horses was an important pursuit at Welbeck, the 3rd Duke was keen on breeding hunters, and the 5th Duke was also enthusiastic about horse breeding. However during the 4th Duke's tenure, the breeding of racehorses was very important to satisfy his love of the turf. It was however, sheep which were the more commonly kept domestic animal on the sandlands of the Dukeries. According to Lowe in 1798 the crossbreeds of Nottinghamshire "sheep, by experience, proved that they make a more profitable return, for what they consume, than any other sort; not only that, but suit more various kinds of land".⁵¹⁸

The chapter will be organised chronologically and the various animals will be discussed in the same order for each time period. The animals are covered in the order of; deer, sheep, cattle and horses. The themes for each section in this order, are species, numbers, the management of the animals as well as their location within the park.

4.1 The tenure of the 3rd Duke, c.1769 to c.1795

The tenure of the 3rd Duke of Portland was characterised by substantial landscape changes to Welbeck Park, which included considerable landscaping schemes such as the establishment of large plantations, redesigning the lake as well as increased agricultural activity in the park environs.

⁵¹⁷ Fletcher J, (2011) *Gardens of Earthly Delight, The History of Deer Parks*, p. 199.

⁵¹⁸ Lowe R, (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of its Improvement. Drawn up for the Consideration of the Board of Agriculture and Internal Improvement*, Lightning Source UK Ltd, Milton Keynes, p. 128.

Livestock breeding was important in this period, they were regarded as integral to the idea of agricultural ‘improvement’, as Seymour argues “The livestock enterprise of the 3rd Duke of Portland at Welbeck was the largest of any of the Dukeries parks when it was at its height in the 1770s and the most important animal enterprise was that of the sheep”.⁵¹⁹ The keeping of horses was important to the 3rd Duke; he was keen on hunting and a number of horses were kept specifically for this purpose. This is evident with his involvement with the Worksop hunt which he funded before his financial difficulties became apparent in the late 1770s. Deer were present in the park in the later eighteenth century. The keeping of deer by Portland enhanced his aristocratic prestige and power in political circles both nationally and locally. An example of the local ‘gifting’ of venison was in 1794 when “The Duke of Portland chose[n] Recorder of this town [Nottingham], Sep 10; he gave a dinner to 200 gentlemen; plenty of fruit and venison”.⁵²⁰ William Senior’s map of 1629 identifies an area of Welbeck known as the Deer park [Fig. 4.1], which had been longstanding at Welbeck. However, in 1790 Repton’s projected design of a sheep walk by the lake reduces the deer park in size to show it behind the sheep walk [Fig. 4.2]. This study identifies where the different deer species within the park were managed, either in the deer park itself or elsewhere in the wider regions of Welbeck Park. This chapter will systematically discuss the different species, their numbers, management, location and uses, within each time period.

4.2 Parkland deer

Species

It is important to differentiate which species of deer were present within the park as habitat changes could affect the number and distribution of the different animals. Some species of deer are evident in the park from Repton’s Red Book in 1803 [Fig. 4.3]. Red deer were numerous in the Sherwood Forest, [which included Welbeck] in the early to mid eighteenth century. According to the Crown Commissioners in 1793 “This examinant remembers there were great numbers of Red Deer in the Forest between thirty and forty years ago and for several years after”.⁵²¹ However, red deer were destructive to plantations and agricultural crops, mainly due to the forest being depleted; so they needed to roam further afield to find food. According to Seymour “a deer herd [was not]

⁵¹⁹ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries’ Estates of North Nottinghamshire*, p. 444.

⁵²⁰ Henstock A (1980) *The Diary of Abigail Gawthorn of Nottingham 1751-1810*, Thoroton Society Record Series 33, p. 60.

⁵²¹ Fourteenth Report on Land Revenue 1792-1793, *Journal of the House of Commons*, v.48 p. 481. <https://babel.hathitrust.org/cgi/pt?=chi.78146622,view=1up;seq=481> accessed 2nd November 2018

compatible with 'agricultural improvement' or symbolic of it".⁵²² Deer were considered as problematic because of their penchant for escaping and causing damage to the new plantations. These deer were troublesome to tenant farmers who "were obliged to watch and blow horns and keep fires by night to keep them out of their corn fields".⁵²³ Tenants of the 3rd Duke were adversely affected by the animals; according to the Commissioners "great damage was done in their plantations as well as neighbouring corn fields, particularly those of Mr Ellis tenant of Gleadthorpe Grange under the Duke of Portland".⁵²⁴ So, by the end of the eighteenth century wild red deer had disappeared in the wider forest environs as is stated in 1793 "There are not now any [red] deer in the Forest except in Thorney wood close which are fallow deer".⁵²⁵ Shirley states "According to the Reports of the Commissioners of the Land Revenue of the Crown, there were in 1616, 1263 head of red deer in Sherwood Forest; in the year 1722 they had greatly diminished, and the last of the race were destroyed about the year 1773".⁵²⁶ These figures show the extent to which red deer were destroyed in the forest.

There is evidence of cross breeding deer in this period to try to 'improve' the Welbeck deer. In 1784 a request was made for "a few young bucks from Hardwick to cross breed at Welbeck, our fawns for some years past are dwindled and very small".⁵²⁷ This would suggest that the deer were neither large nor particularly robust, so they could have been the smaller species of fallow or roe deer.

Numbers of Deer

The numbers of deer during the 3rd Duke's tenure did fluctuate from larger herds in the 1770s to relatively smaller numbers by 1782, which was a period of financial crisis for Portland. In 1776 the keeper Stocks reported to the Duke that "there is now twenty braces of five and six years old male deer in Welbeck Park [but] your Grace may kill seven brace of six and seven year old bucks in a season, there is a good stock of young deer coming forward".⁵²⁸ So, this was not an overly large number but it only included the male deer over 5 years old, not the young stock and females. An

⁵²² Seymour S (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 413.

⁵²³ Ibid. p. 481.

⁵²⁴ Ibid. p. 481.

⁵²⁵ Ibid. p. 481.

⁵²⁶ Shirley E P, (1867) *Some Account of English Deer Park with notes on the management of deer*, Lightning Source UK Milton Keynes, p. 182.

⁵²⁷ UNMSS P1 E12/1/6/52 (Cross breeding deer from Hardwick)

⁵²⁸ UNMSS Pwf 8594 (Stocks reporting on numbers of male deer 1776)

inventory of stock was collated in 1779 which included all the deer and “About 600 head of deer”⁵²⁹, were present in the park at this time.

By 1780 a more concise report of the numbers was given as follows in Table 4.1:

Table 4.1

“An Account of the Number of Deer in Welbeck Park in 1780

Male Deer	From 6 years old and above	58
	From 4 years old to 6 years	80
	And all under 4 years old	134
Female Deer	Does and female fawns	346
Total in all		618

Source UNMSS P1 E12/1/6/2 (Numbers of Deer in 1780)

The evidence suggests that there was a slight increase in numbers within a year of taking stock of the deer within the park. However, numbers of deer significantly decreased by 1782 when a very detailed inventory was drawn up by Heaton in 1779 [steward to the 3rd Duke] regarding all livestock, including “Total of horses [and feed], at the Dairy [total and feed], in the park [deer and feed], at the Kennels [horses and hounds]”.⁵³⁰ This inventory was an attempt to reduce the expenses of Portland who by this time was in severe financial difficulties. A memorandum was sent to Heaton in 1780 on how to reduce the expenses of Welbeck, it is unclear who drew this up, but it was suggested to “Consider the state of Deer in the park also, [and] reduce the number if it can be properly done”.⁵³¹ So, by January 1782 it was reported that at Welbeck the “stock of deer in the park to be reduced to between 350 and 400 head”.⁵³² It is evident that the numbers of deer present in the park during the 3rd Duke’s tenure was dependent upon his worsening financial situation in the later years, and they were reduced by 200 to 300 head by 1782. However, in 1792 Gould had orders from Heaton the steward who “said our stock of deer was low and ordered me to send for five brace of bucks from Londesborough, a seat of the Duke of Devonshire in Yorkshire”.⁵³³ Therefore, deer were being brought from Yorkshire to replenish the stock at Welbeck but it was in fairly small numbers, as well as the five brace of bucks “three brace of does for Welbeck and a brace of bucks for Hardwick,

⁵²⁹ UNMSS P1 E12/1/6/7 (Numbers of deer in 1779)

⁵³⁰ UNMSS P1 E12/1/6/7 (Numbers of livestock 1779)

⁵³¹ UNMSS P1 E12/2/6/17 (Severe rationalisation of Duke’s expenditure 1780)

⁵³² UNMSS P1 E12/1/6/43 (Deer herd reduced in 1782)

⁵³³ Hanson M J Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, 1792 MS 736/5/3*, p. 423.

arrived safe and well”.⁵³⁴ The 3rd Duke was married to the Duke of Devonshire’s sister. Records kept in the late eighteenth century set out the numbers and sometimes the sex and ages of deer in Welbeck Park, but not the species.

Management and Location of deer

At the same time that the deer stocks were reduced in the park, a list of land suitable for stocking with deer was compiled, which shows the areas of the park where the animals could be managed. In January 1782 the following land was identified for the deer:

Table 4.2

“Lands in hand for the deer at Welbeck, January 1782

	A	R	P
In the New Park exclusive of Woods	149	1	8
White Stone Corner exclusive of Woods	65	3	7
Great Deer Park exclusive of Woods	285	1	16
The Lawn	35	3	33
House and Little Park	83	0	7
Total	619	1	31”

Source NA DD 4P 76/36/37 (Land identified for keeping deer)

The total area of land in the park for deer was quite significant but it shows that the Great Deer park and the New park were the most suitable areas for deer. Also, the lands in hand for deer do not include the wooded areas, as deer were destructive to trees, often debarking and subsequently killing young plantations.

The management of deer was difficult at times because of their ability to ‘escape’ from the designated parkland. The 3rd Duke’s agent Gould, recognised the destructive tendencies of deer even within the confines of the park and in 1784 he reported “His Grace wished me to consider some kind of fence at the lake side in order to keep deer out of the pleasure ground”⁵³⁵, though he does not identify the species of deer. In 1789 Gould commented again about the deer getting out of the park when he met Mr Heaton, they “took a walk into the Pleasure Ground in order to examine

⁵³⁴ Hanson M J Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, 1792* MS 736/5/3, p. 425.

⁵³⁵ Ibid. MS/736/5/1, p. 82.

the best mode to prevent deer from coming out of the park”.⁵³⁶ So, it is evident that managing the deer by ensuring they stayed in the chosen park areas was an ongoing problem. Repton’s designs for the sheepwalk in 1790 addresses the issue of keeping deer away from areas of the park where they could do the most damage.

Uses of deer

Deer were an important source of food and they were kept in the park for fattening. It was essential that park keepers kept their charges in a good state of health because the deer were killed for their meat at particular times of the year. The 3rd Duke of Portland was an important political figure in the period and carcasses of venison were used as ‘gifts’ in return for political favours. In July 1768 Portland sent “a buck to Mr Pennant of Liverpool”⁵³⁷ typically “gifts of venison increased around elections”⁵³⁸, and Pennant [a Whig] was re-elected in 1768. Pennant “thanked the Duke of Portland for the offer of venison”.⁵³⁹ Venison was also given to friends such as in 1781 “venison delivered to Mr Gould of Swanwick, half a buck, Mr Drummond of Blidworth, half a buck”.⁵⁴⁰ The meat was also ‘gifted’ by Portland to estate employees but they were usually important figures such as the agent, and the steward. In 1787 Gould was given “a present of a haunch of venison which I [Gould] ordered cooked for the Steward’s room”.⁵⁴¹ So, Gould had the meat prepared for the steward Heaton, and the agent and his wife then “dined at the steward’s table”.⁵⁴² Gould received venison on a few occasions; in 1789 he stated “Joseph Boaler [park keeper] has given me a neck and breast of venison about a week ago”.⁵⁴³ Deer were killed for the family as well as for sale. This included the meat, skins, tallow and horns as highlighted in 1780, Table 4.3:

Table 4.3

“Calculation of the keepers place at Welbeck 1780

Numbers killed	Remains	Price
20 brace of bucks	14 brace at 2 guineas each brace	£29.8s.
Deduct 5 brace for family’s use	40 buck skins at 13s.	£26.

⁵³⁶ UNMSS P1 E12/1/6/58 (How to keep deer from getting out of the park)

⁵³⁷ UNMSS Pwf 9428 (buck sent to Mr Pennant 1768)

⁵³⁸ Fletcher J, (2011) *Gardens of Earthly Delight, The History of Deer Parks*, p. 207, 208.

⁵³⁹ UNMSS Pwf 706 (thanks to Duke from Pennant for venison gift)

⁵⁴⁰ NA DDP/7/4/18/2 (Venison as gifts in 1780)

⁵⁴¹ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, (1787) Vol. 2*, MS 736/5/2, p. 208.

⁵⁴² Ibid. MS 736/5/2, p. 208.

⁵⁴³ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould (1789) Vol. 3*, MS 736/5/3 p. 359.

1 brace not warrantable shot in haunches	80 shoulders at 2s.	£8.
Does 15 brace	10 brace at a guinea each brace	£10.10s.
Deduct 5 brace used by family or not warrantable	15 brace of skins at 13s. each brace	£9.15s.
70 bucks and does tallow weigh 4lbs each one with another	20 stone at 4/3 a stone	£4.5s.
Bucks and does	Horns	£3.10s.
Total		£138.14s

Source UNMSS P1 E12/1/6/13 (Use of deer carcasses 1780)

Therefore, 10 brace of bucks and does were reserved for the family's own use but it is not evident where the rest of the meat, skins, tallow and horns were sold. However, it is a significant total of over £100 for the deer remains which represents a good financial return. However, these profits from the deer compare favourably with the Welbeck Farming and Grazing Accounts for the Home farm between 1775 and 1777. Seymour attests the substantial losses in this period from Fletcher's [steward] accounts "1775 [loss] -£568.00s.08d, 1776 [loss] - £602.10s.00d, 1777 [loss] - £339.12s. 10d".⁵⁴⁴ According to Seymour, Fowkes ascribes these losses "principally to the expensive methods of cultivation employed".⁵⁴⁵

When significant numbers of deer were killed the carcasses were rendered down to create the important by-product of tallow. In ecological terms the rendering down of the deer remains created offensive smells and noxious gases and "tallow melters were regularly denounced and condemned in evidence before official enquiries".⁵⁴⁶ Therefore, the processing of deer carcasses as well as other park animals contributed to the negative environmental effects of smoke pollution and odious smells during the Industrial Revolution.

By this period the hunting of free ranging deer in Welbeck and its environs had all but ended as Seymour argues "In the Dukeries stag hunting had probably ceased by the 1750s or 1760s".⁵⁴⁷ However, in 1787 Gould mentioned that a hunting party used a deer for 'sport' when he recalled

⁵⁴⁴ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, (Accounts of Joseph Fletcher steward at Welbeck 1775-1779, NAO DD.5P 4/1) p. 339

⁵⁴⁵ Ibid. p. 339 (Fowkes *Progress of agrarian change Nottinghamshire*, p. 80)

⁵⁴⁶ Clapp B W, (1994) *An Environmental History of Britain since the Industrial Revolution*, Longman, London, p. 31.

⁵⁴⁷ Seymour D, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 413.

that “Lord Scarborough brought a doe which was turned out but did not make a good diversion”.⁵⁴⁸ This suggests that a park deer was used as a ‘carted’ deer where according to Fletcher “Live deer were taken to the meet in a cart, hunted and then returned to their paddock so that they could live to run another day”.⁵⁴⁹ This method of hunting deer, according to Fletcher “reached its zenith in the eighteenth and first half of the nineteenth century [and] the number of English and Irish Deer parks which became involved with the hunting of carted deer during the eighteenth and nineteenth centuries was very large indeed”.⁵⁵⁰

Poaching deer was also encountered with some regularity at Welbeck in this period. In March 1788 Gould was concerned that people “fish in the lake and rivers, kill young fawns and sometimes old deer, snare hares, and in short commit every depredation that can be thought of”.⁵⁵¹ However, the poachers were not estate workers, according to Gould they were “wool combers [who were] under sentence of transportation [for] destroying game etc. about Welbeck”.⁵⁵²

4.3 Parkland sheep

Species

It was evident that sheep were valued as commercially viable animals at Welbeck and the forest breeds of sheep were more numerous in the 1770s. According to Lowe in 1798 “The old Forest breed are a small polled breed (though some are horned) with grey faces and legs”.⁵⁵³ However, there is an indication of other breeds of sheep being introduced, shown in an account of sheep in 1778. This account shows on Welbeck farm “on the side of the valley [there were] 68 Lincolnshire sheep wethers”.⁵⁵⁴ The agent Cleaver was instrumental in introducing new sheep to the Home Farm, Seymour reports “In 1778, 121 sheep were bought at Boston Fair for high prices [which would] indicate that the sheep were probably the ‘improved’ Lincolnshire longwool breed”.⁵⁵⁵ More Lincolnshire longwool sheep numbers were recorded in 1779 in the Park and its environs, shown in Table 4.4:

⁵⁴⁸ Hanson M J, Ed (2002) *Portland and Devonshire Agent, The Diary of William Gould* Vol. 1 (1783) MS/736/5/1 p, 82.

⁵⁴⁹ Fletcher J, (2011) *Gardens of Earthly Delight, The History of Deer Parks*, p. 220.

⁵⁵⁰ Ibid. p. 220, p. 221.

⁵⁵¹ M J Hanson Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, Part Two: 1787-1788 and Indexes to 1788* MS736/5/2. P. 221.

⁵⁵² Ibid. p. 221.

⁵⁵³ Lowe R, (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of its Improvement. Drawn up for the Consideration of the Board of Agriculture and Internal Improvement*, p. 124.

⁵⁵⁴ NA DD P6/7/2/34 (Lincolnshire sheep 1778)

⁵⁵⁵ Seymour S, (1988), *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 447.

Table 4.4

“Sheep [Lincolnshire] 1779

Lincolnshire ewe shearlings on Pleasure Ground	93
Lincolnshire ewes at Rape	73
Lincolnshire shearling wethers at Rape	78
Lincolnshire shearlings at Rape	86
Lincolnshire Hogs on Carr Hills	121
Total	451”

Source NA DDP6/7/2/34 (Lincolnshire sheep 1779)

By the late 1770s more Lincolnshire sheep were recorded as a result of the steward’s efforts of ‘improving’ the sheep on the Home Farm, which by this time he was running independently.

The wool produced was an important part of the income generated. The old forest breeds of sheep still existed in the 1790s but were small and therefore less valuable in terms of fleeces, as is indicated by Lowe “the fleeces [the old forest breed] may run from thirteen to eighteen to the tod of twenty-eight pounds; the wool fine, the price of 1792 being from thirty four to thirty six shillings”.⁵⁵⁶

The forest sheep was a shortwool breed and Seymour reported that “in the 1760s and 1770s shortwool breeds probably considerably outnumbered longwools as more shortwool was produced”.⁵⁵⁷ The native forest breed was crossed with ‘newer’ breeds such as the Leicestershire, which ensured that the small stature and shortwool of the forest sheep was bred out. Lowe comments upon the crossing of the forest breed “the breed [forest] has been much improved by various crosses; sometimes the Lincolnshire pasture sort, but of late more the new Leicestershire, or Dishley with the forest kind”.⁵⁵⁸ There was interest shown in 1792 of some rams belonging to “Mr Bettinson at Holme Pierrepont [near Nottingham]”.⁵⁵⁹ According to Gould “Renshaw and myself viewed and examined minutely about 50 of his [Bettinson] rams which for beauty and fat exceeded

⁵⁵⁶ Lowe R, (1798) *General View of Agriculture on the County of Nottingham: with observations on the means of its Improvement: Drawn up for the consideration of the Board of Agriculture and Internal Improvement* p. 124.

⁵⁵⁷ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 445 (Shortwool production was higher despite the production per head of shortwool sheep being less than longwool breeds)

⁵⁵⁸ Lowe R, (1798) *General View of Agriculture on the County of Nottingham: with observations on the means of its Improvement: Drawn up for the consideration of the Board of Agriculture and Internal Improvement* p. 125.

⁵⁵⁹ Hanson M J (2002) *Portland and Devonshire Agent, The Diary of William Gould* Vol. 4, 1792, MS 736/5/4 p. 465.

anything I had ever before seen and they are called the New Leicestershire breed".⁵⁶⁰ Gould explained that "these rams are let out to hire for the season from ten to two hundred guineas each and are chiefly originally from Mr Bakewell's stock of Dishley".⁵⁶¹ It is not evident that Gould hired any of these rams to cross with the Welbeck sheep but it shows that there was much interest in 'newer' breeds of sheep such as the Leicestershire, which greatly manifested itself during the 4th Duke's tenure.

Numbers of sheep

The numbers of sheep at Welbeck were not necessarily kept exclusively within the park, as Seymour suggests, they also "played a vital role in the extensive enclosures being implemented during the 1760s and 1770s on the wastes to the east".⁵⁶² The 3rd Duke was increasing his flocks considerably right up to the time of his financial crisis. The intention was to buy in as many animals as he could and this is evident in 1768 when Bacon suggests "I told them [the tenants] your Grace would buy them [the sheep] at a fair price, as you will want a great many sheep".⁵⁶³ During the early to mid 1770s the number of sheep increased dramatically, according to Seymour "in 1774 the flock numbered around 1,436 sheep, rising to 1,860 at the end of 1775 and leaping to a massive 4,266 by the end of 1776".⁵⁶⁴ Sheep were important to the fertility of the land, particularly after enclosing them upon fields of turnips. A fertile soil was necessary for planting young trees which took place after the sheep were removed. According to Speechly "It will be necessary to have a part of the turnips eaten off [by sheep] soon in autumn, in order to get the ground in readiness for early [tree] planting".⁵⁶⁵ Sheep were kept by the steward Cleaver on the Home Farm, which he took over from the 3rd Duke in order to make the farm financially viable as well as to 'improve' the sheep. According to Seymour "Cleaver was obviously concerned to raise the quality of his stock".⁵⁶⁶ He achieved this by selling some of the "existing stock [which] were sold at Rotherham [and] in 1779 240 more

⁵⁶⁰ Hanson M J (2002) *Portland and Devonshire Agent, The Diary of William Gould* Vol. 4, 1792 p. 465.

⁵⁶¹ Ibid. p. 465.

⁵⁶² UNMSS, Seymour S, (1988), *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 445.

⁵⁶³ UNMSS Pwf 178 (Letter from Bacon to Duke re. Tenants' sheep, 1768)

⁵⁶⁴ Seymour S, (1988), *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 445.

⁵⁶⁵ Lowe R, (1798) *General View of Agriculture on the County of Nottingham: with observations on the means of its Improvement: Drawn up for the consideration of the Board of Agriculture and Internal Improvement*, (Speechly, Account of Plantations) p. 61.

⁵⁶⁶ Seymour S, (1988), *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 447.

“ewes” were bought from “Weighton Fair”.⁵⁶⁷ However, the numbers of sheep reduced significantly by the time of the Duke’s severe financial situation in the late 1770s as shown in Table 4.5:

Table 4.5

“Account of sheep, 1778, 1779, 1781

Month/Year	Number
April 1778	1773
June 1778	1619
September 1779	1690
January 1781	1651

Sources NA DD P6/7/2/34 (Sheep numbers 1778-1779), UNMSS P1 E12/1/6/15 (Sheep numbers 1781)

It is evident from these figures that Cleaver reduced the sheep numbers, the Welbeck flock just a few years later was less than half of the figure for 1776. The numbers from 1778 to 1781 were fairly constant between 1600 and 1700. This reduction was part of the overall plan by the steward and agent at Welbeck in significantly cutting the cost of running the estate due to the excessive expenditure of the 3rd Duke of Portland from 1780.

Management and location

Although the numbers of sheep were reduced, they were kept both in the park and its environs. In 1778 there were “259 great ewes on the side of the valley, 183 shearlings and forest ewes and lambs in Sloswicks [pasture], 277 ewes and lambs in the long valley”.⁵⁶⁸ These areas include the park as well as outside but there were significant numbers kept in the park. In 1779, a total of “253 Lincolnshire ewes and wethers [were kept] on the Pleasure ground”⁵⁶⁹, which being close to the abbey would have exhibited evidence of the Duke’s improving skills. A reasonable number of sheep were run in the parkland and they were moved around the park at different times. In 1792 Gould “rode out along with Thomas Walkden down to the middle and lower Wren Park to view the stock of horses, sheep, etc.”⁵⁷⁰ Gould remarked “I find 14 horses which look tolerable well, I think the sheep very well”.⁵⁷¹ So, it is evident that different species of grazing animals were managed on the same

⁵⁶⁷ Seymour S, (1988), *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire* p. 447.

⁵⁶⁸ NA DD P6/7/2/34 (Locations of sheep in 1778)

⁵⁶⁹ NA DD P6/7/2/34 (locations of sheep in 1779)

⁵⁷⁰ Hanson M J (2002) *Portland and Devonshire Agent, The Diary of William Gould*, Vol. 4, MS 736/5/4, p. 458

⁵⁷¹ Ibid. p. 458.

park pasture land at times, but Gould's opinion of the state of the animals was that the sheep appeared to be doing better than the horses.

The ecological effect upon some grass species could have been harmful, according to Williamson, "The emphasis from the eighteenth century upon sheep rather than cattle was in part due to changes in agriculture of lowland areas [and] sheep tend to be selective grazers and at high densities suppress the growth of the more palatable plants and grasses and of heather".⁵⁷² However, sheep were also put on the agricultural areas of the park as well, because they were fed on turnips within the park area, which helped to fatten them. According to Gould In 1789 "Rode along with Walkden into the park [where] the sheep on the turnips are in good condition".⁵⁷³

Uses of sheep

Sheep were an important capital investment for the 3rd Duke both for wool and for meat, but it was the carcasses which commanded the higher returns. Wool production was quite substantial at Welbeck particularly in the mid 1770s. According to Seymour "in 1775, 2,632 lbs of 'Short Wool' was marketed at 9d a lb yielding in total £101.01.00".⁵⁷⁴ Longwool was not produced in the same quantity as Seymour states "In 1775, 1,400 lbs were sold at 7d a lb, fetching £42.19.06, whilst in 1776, 2,240 lbs were sold at 7.5d a lb, yielding £72".⁵⁷⁵ So, more profit was made from the shortwool sales but it was the longwools such as the Lincolnshire which produced the heaviest weight of fleeces. The following Table 4.6 shows the difference in weights of sheep in the forest district:

Table 4.6

Breed	Weight of Fleece in lbs
Fleece of all Lincolnshire weighed	10
Forest and Lincolnshire Mixed	8
All Forest	5
New Leicester	7

⁵⁷² Williamson T, (2013) *An Environmental History of Wildlife in England, 1650-1950*, Bloomsbury, London, p. 100.

⁵⁷³ Hanson M J, Ed. (2002), *Portland and Devonshire Agent, The Diary of William Gould, 1789*, MS/736/5/3 p. 348.

⁵⁷⁴ Ibid. p. 446.

⁵⁷⁵ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 446.

Source Lowe R, (1798) *General View of Agriculture on the County of Nottingham: with observations on the means of its Improvement: Drawn up for the consideration of the Board of Agriculture and Internal Improvement*, p. 125

These figures are significant as the cross breeds did not produce quite as much wool, but the Forest breed was lacking in fleece, probably because it was small in stature. Also, the New Leicester was not as productive as the longwool Lincolnshire sheep. However, in terms of profit the most important product derived from sheep were their carcasses, according to Seymour “467 sheep were sold in 1775 and 860 more in 1776, bringing in an income of £248.10s.0d and £713.00.06d respectively”.⁵⁷⁶ A considerable amount of mutton was consumed by the family household which would have added towards the financial viability of Welbeck. As Seymour states “In 1776, 164 sheep were killed at Welbeck, contributing to the 2,869 stones of meat delivered to the kitchen and valued at £573.17.09 [4s a stone]”.⁵⁷⁷ These amounts would have diminished when the flocks were reduced in size, mainly due to the Duke’s financial crisis.

An important by product of sheep rearing was the value of their manure for fertilising and enriching the light soil of the parkland. They were often folded on arable land, particularly turnips which were an important fodder crop for sheep. In 1789 Gould inspected the sheep when he “rode along with Walkden into the park [Welbeck]. The sheep on the turnips are in good condition and everything appears regular”.⁵⁷⁸ As well as manuring the ground the sheep also trampled it and ensured it was suitable for planting arable crops or young trees, this was a key role for sheep in preparation for tree planting.

Park sheep were also aesthetic symbols of agricultural ‘improvement’ in the late eighteenth century which according to Seymour displayed “the park owner as a patron of agriculture who was actively contributing to agricultural development”.⁵⁷⁹ Sheep were recognised as easier to manage than deer as well as very useful ‘mowers’ of the parkland which saved the time and effort of cutting the lawns near the house. It was also the successful breeding of newer forms of sheep which was important to display the capital investment of parkland sheep. According to Seymour “These symbolic and popularising roles performed by park sheep were more important than the actual money which the

⁵⁷⁶ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire* p. 445.

⁵⁷⁷ Ibid. p. 446.

⁵⁷⁸ UNMSS P1 E12/1/6/58 (Gould inspecting sheep folded on turnips 1789) p. 348.

⁵⁷⁹ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 471.

park flock brought in".⁵⁸⁰ Repton recognised this when he designed the sheepwalk in the park in 1790 where they were on display rather than the deer.

4.4 Parkland cattle

Species

The keeping of cattle in the park at Welbeck was not common, they were fewer in number and sheep were the main commercial enterprise. There was a distinction in species of cattle as both dairy and fattening beasts were kept. A dairy herd was kept at Welbeck and according to Seymour "at least some of these animals were Alderneys as seven cows of this breed were purchased in 1776".⁵⁸¹ Alderney cattle were often bought in by the 3rd Duke. In 1790 Gould was travelling from Derby to Nottingham and "found a man with eight Alderney cows coming to Welbeck [but] he found some of them unable to proceed further on their journey and ordered them to stop at Arnold till they could travel to Welbeck".⁵⁸² Fattening beasts were also kept in the park, and in 1779 "in the deer park and Whitestone corner there has been in general from 30 to 50 Scots beasts".⁵⁸³ According to Seymour "The majority of [fattening beasts] kept at Welbeck were of the Scots breed".⁵⁸⁴

Numbers

Fattening stock were the most numerous cattle at Welbeck, according to Seymour "in 1774, there were 192 "beasts" with numbers rising to 199 in 1775 and reaching 371 in 1776".⁵⁸⁵ However, these beasts were more likely to be bought in rather than being bred as Seymour states "surprisingly few cattle were bred by Portland: 4 in 1775 and only 1 in 1776".⁵⁸⁶ This is a minimal number which meant the expense of buying in would be considerable. According to Seymour these numbered "181 in 1775 and 274 in 1776".⁵⁸⁷ In the mid 1770s cattle were sold as well, for substantial sums, and according to Seymour, "In 1775 181 cattle were sold for a total of £809.03.06".⁵⁸⁸ The sale of cattle was an important source of revenue for the 3rd Duke and Seymour reports "Lord Torrington, a

⁵⁸⁰ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 472.

⁵⁸¹ Ibid. p. 456.

⁵⁸² Hanson M J, Ed. (2002) *Devonshire and Portland Agent, The Diary of William Gould*, Vol. 3, MS/736/5/3, p. 394.

⁵⁸³ UNMSS P1 E12/1/6/3 (Scots Beasts 1779)

⁵⁸⁴ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 456.

⁵⁸⁵ Ibid, p. 456.

⁵⁸⁶ Ibid. p. 456.

⁵⁸⁷ Ibid. p. 456.

⁵⁸⁸ Ibid. p. 456.

close friend of Portland was a substantial purchaser [but] the rest of the sales were generally made through markets, especially Rotherham".⁵⁸⁹ However, the numbers of stock for sale began to reduce, as in "1776, when 46 Scots beasts, 5 Scots heifers, 2 oxen. 5 cows and 12 calves were marketed".⁵⁹⁰ In contrast to the fattening beasts, the numbers of dairy cattle were very small. An inventory of stock was carried out in 1779 which showed that "At the dairy [were] 18 cows, 1 bull [and] 4 yearling calves [and] 57 Scots beasts".⁵⁹¹ The numbers of fat stock was considerably lower in the late 1770s, due to the Duke's worsening financial situation. In this period the steward Cleaver ran the Home Farm and kept cattle but he was intent upon reducing the stock to save money. Because of the costs incurred in the early years, Cleaver "greatly reduced the numbers of fattening beasts and probably closed the fattening stalls".⁵⁹²

Management and Location

Cattle have a different feeding requirement to sheep, they need richer pasture land, so they were not popular parkland livestock. The inferior nature of the light sandy soil ensured that "numbers would tend to be restricted by the poor quality of grassland".⁵⁹³ Cattle will thrive on 'improved' pastures, but keeping the grassland in good condition required watering the park regularly in dry weather and manuring the soil. Some cattle were kept in the meadows but also in stalls, in 1779 "18 cows, 1 bull and 4 yearling calves [were kept] in the Dairy".⁵⁹⁴ Dairy cattle would have required a more intensive feeding programme than fat stock, to ensure they produced sufficient rich quantities of milk. Although it is not evident, it is probable that dairy cows were given supplementary feedstuffs and housed inside at times, but both dairy and fattening beasts were fed on hay. In 1771 Arthur Young discusses what extra feed cattle need "He finds that turnips much exceed [cabbages] in fattening oxen and are upon the whole are more advantageous".⁵⁹⁵ Young also comments on stall fed cattle "In stall feeding he [Mr Wharton] feeds on Turnips, [and] finds that they fat much faster than when in the field".⁵⁹⁶ The amount of hay used at Welbeck is shown in the Granary".⁵⁹⁷

⁵⁸⁹ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 456.

⁵⁹⁰ Ibid. p. 456.

⁵⁹¹ UNMSS P1 E12/1/6/7 (Numbers of dairy cattle in 1779)

⁵⁹² Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 457 (Vouchers to Mr Cleaver's farming accounts for the park area May 1778, NA, DD 4P 58/119)

⁵⁹³ Pickersgill A C, (1979) *The Agricultural Revolution in Bassetlaw, Nottinghamshire, 1750-1873*, p. 332.

⁵⁹⁴ UNMSS P1 E12/1/6/7 (cattle kept in dairy 1779)

⁵⁹⁵ Young A, (1771) *The Farmer's tour through the East of England*, La Vergne USA (2010), p. 46.

⁵⁹⁶ Ibid. p. 46

⁵⁹⁷ UNMSS P1 E12/1/6/7 (Hay supplies recorded 1779)

However, cattle are not indiscriminate grazers in the same way as sheep, so were not destructive to the ecology of the park by eradicating nutrient rich species of grass. Because they pull at the pasture it meant that “in the case of grasses, this often leaves the site of leaf growth, the meristem tissues intact, the plant will thus grow up again”.⁵⁹⁸

Uses of Cattle

The numbers of cattle bought in during the early 1770s was quite significant, not many beasts were bred by the Duke. According to Seymour “Surprisingly few cattle were bred by Portland: 4 in 1775 and only one in 1776. This placed a great reliance on the more expensive practice of buying in stock: 181 in 1775 and 274 in 1776”.⁵⁹⁹ Beasts were not bred in any large quantities, but their meat would have been required by the family. So, some fattening cattle would be kept for domestic consumption but they were not particularly home reared “only 10 fattening cattle were bought in from 1778 to 1779”.⁶⁰⁰ This suggests that by this time these animals were used for home consumption as only 10 beasts were not likely to be sold on. Cattle were killed specifically for home use by the family, in December 1790 “Sam Turner [was paid] 6s.6d. for killing beasts and sheep during the family’s residence at Welbeck”.⁶⁰¹

The acquisition of Alderney cows was an important step forward in agricultural ‘improvement for Welbeck. These animals were excellent for milk production as Seymour argues “The Alderney was one of the best milk-producing breeds of the late eighteenth century”.⁶⁰² So, by acquiring a highly regarded milking breed at Welbeck it showed that Portland was ‘improving’ his stock.

Similar to the types of sheep in this period, cattle would be symbolic of the concept of ‘improvement’. Aesthetics played a part in Repton’s designs for the park in the late 1790s, and animals were an important addition to the landscape. As with other grazing animals Repton included cattle to enhance aesthetically the scene near the house, which then “gave a material use in having cattle to feed the lawn in view of the windows”.⁶⁰³ Therefore, according to Repton cattle were an important visual feature of the park landscape.

⁵⁹⁸ Simmons I G, (1993) *Environmental History, A Concise Introduction, New Perspectives on the Past*, p. 61.

⁵⁹⁹ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 456.

⁶⁰⁰ Ibid. p. 457.

⁶⁰¹ NA DD P6/7/2/44 (Killing beast for home consumption 1790)

⁶⁰² Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 456.

⁶⁰³ Repton H, (1806) *An Inquiry into the changes of Taste in Landscape Gardening*, p. 101, p. 102.

4.5 Parkland Horses

Species and Uses

The 3rd Duke was an accomplished horseman and kept a number of horses both at Welbeck and his nearby property of Bolsover. There were a variety of different types. Table 4.7 shows a list of the type, number of horses and their use at both sites in 1778:

Table 4.7

“A List of horses at Welbeck and Bolsover 18th January 1778

Breed and Use	In the house	At Grass	Other Work
His Grace's hunters	8		
His Graces' hacks	5		
Her Grace's hacks		4	
For Marquis of Titchfield	2	3	
Coach horses	7		5 that goes to the plow
Phaeton ponies & coach horses	4		
Hacks for use of family		9	
Fletchers chestnut mare	2		
A pony	1		For boy to go errands
Fillies from Southwell		2	
Horse	1		To lead out dung
Brood mares		4	
Colts and Fillies		13	
Farm horse	1		
Total	31	35	5

Source UNMSS Pwf 100042 (List of Horse types at Bolsover and Welbeck 1778)

The types listed range from hunting to hacks for general estate riding, coach, horses, phaeton ponies and various other types for work such as ploughing, leading dung and ponies for errands. It is not evident what type of horses were used for 'leading fence wood' but they would probably have been farm horses.

It is evident that horses were a vital part of the running of the estate, they were essential for transport and as work horses for ploughing, leading dung, carting wood, hay and agricultural implements. They were also an important animal for the sport and leisure interests of the 3rd Duke and were used primarily for hunting. However, the presence of thoroughbreds in the park also had a symbolic function which enhanced the prestige of the landowner. Portland's keenness for horses was evident with the breeding of thoroughbreds. These finer bred animals showed that the Duke had considerable knowledge about horse breeding.

Numbers

It is clear that the Duke bred horses because of his brood mares and some young colts and fillies at grass. In total there were 71 horses, but a few months later [April 1778] some of the horses were being sold off as the Duke's financial situation worsened. Twenty horses were to be "sold, turned over to the huntsman, to with chaises and cut and parted with".⁶⁰⁴ At this time Portland financed the Worksop hunt and kept horses and hounds, in April 1778 the number and cost of keeping hunters for "a whole year [was] 53 horses at hand - £28.1s.6d".⁶⁰⁵ In 1779 there were "50 horses under the direction of the Head Groom (and) 5 horses under the Gardener at present. In summer part of them are employed in leading fence wood".⁶⁰⁶ The numbers of horses kept at Welbeck in this period did change over time as Table 4.8 shows:

Table 4.8

Number of horses kept at Welbeck and Bolsover from 1778 - 1782

Welbeck and Bolsover 1778	Welbeck 1779	Bolsover 1780	Welbeck 1782
71	59	1 Stallion	7

Source UNMSS Pw 100042 (Number of horses 1778) P1 E12/1/6/7 (Number of horses 1779)

P1 E12/1/6/17 (Number of horses 1780) UNMSS P1 E12/1/6/36 (Number of horses 1782)

The number of horses kept at Welbeck and Bolsover changed significantly by the end of the 1770s, the steward Heaton was responsible for reducing the estate's expenses on behalf of the Duke. In December 1779 an inventory was taken at Welbeck and "the total of horses [was] 59 and hay intended for them – 84 ton".⁶⁰⁷ Two months later in February 1780 a memorandum was sent to Heaton which stated that "Horses at Bolsover (except the stallion) to be disposed of".⁶⁰⁸ So, it was evident that the all horses kept at Bolsover were to be sold. In the same period Portland relinquished control of the Worksop hunt and "The hounds and horses to be disposed of – His Grace's 2 hunters and two other horses to be kept".⁶⁰⁹ These reductions were very drastic as it appears that only four horses were kept out of a total of 53 hunting animals. The total number of horses had been reduced considerably by 1782, leaving just 2 horses for the Duke plus another 5 animals for various people.

⁶⁰⁴ NA DD P6/7/5/5 (Account of horses to be sold 1778)

⁶⁰⁵ NA DD P6/7/5/2 (Cost of upkeep of hunters 1778)

⁶⁰⁶ UNMSS, P1 E12/1/6/7 (estate accounts 1779)

⁶⁰⁷ UNMSS P1 E12/1/6/7 (Number of horses in 1779)

⁶⁰⁸ UNMSS P1 E12/1/6/17 (Horses kept at Bolsover to be disposed of 1780)

⁶⁰⁹ UNMSS P1 E12/1/6/17 (Hounds and horses to be disposed of 1780)

However, the sale of 1782 was also accompanied by purchases of horses in the same year, these animals were acquired for the use of the family as well as coach horses and hunting horses.

As table 4.9 shows:

Table 4.9 Horses purchased in 1782

Hunters and Hacks stable		
Type	Family members	Cost
7 hunters at £25 each		£175
17 hacks or hunters at £25 each		£425
4 horses at £20 each	For Lord Titchfield and Lord William	£80
2 cart horses at £20 each		£40
8 horses at grass allowed corn at 12.12s.		£100.16s.
3 horses at £25 each	For Lord Edward	£75
7 horses at grass and a bushel of corn a week each at 15s.	For Lord Edward	£105
5 horses at £25 each	Belonging to the occasional visitor	£125
Coach Horse stable		
2 coach horses at £25 each		£50
Hunt		
4 horses at £35 each	Purchased annually	£140

Source UNMSS P1 E12/1/6/42 (Horses purchased in 1782)

The number of horses bought in this period was 59 which equated to the same number of animals kept at Welbeck in 1779, which were then drastically reduced in 1782. The buying in of these horses was an expensive business and it was recorded that the “loss in buying and selling horses [amounted to] £300”.⁶¹⁰ So, the selling of the Welbeck horses and the buying in of more animals did not give a sound financial return, especially at a time of monetary instability for the 3rd Duke.

Management and Location

⁶¹⁰ UNMSS P1 E12/1/6/17 (Hounds and horses to be disposed of 1780)

Horses were kept 'in house' at times, which was probably in stalls or outside in yards, but they were also turned out on the grassland in the park. It was evident in 1782 that pasture was in short supply for horses when agent Gould informed the Duke that "I could wish to observe to your Grace that we have not sufficient quantity of grass land for every gentleman that wishes to leave their mares".⁶¹¹ So, it was recognised that horses were not beneficial to the park pasture in higher densities. Horses could also be destructive to young trees in new plantations as Wilcocks reported in 1768 "They have took down a great deal of the plantation fencing quite from Carburton gate to a great part of Roomwood Hill by which all those plantations are now exposed to their destruction by horses, beasts and deer".⁶¹²

The racing of horses did take place in the park, but they were not racehorses as such but horses brought by the hunt. A race was organised in February 1790 "for a sweepstake of 5 guineas each"⁶¹³ by some of the Worksoy hunt members. According to Gould the race drew "a great number of people (and) the race was run in Welbeck Park today [but] they committed but little depredation".⁶¹⁴ However Portland did have a stud at Welbeck and this was at Woodhouse Hall adjacent to the park. In 1780 Edward Gould informed the Duke "Yesterday I took the liberty of showing Lord Chatham and Tom Thoroton your Grace's stud at Welbeck [to view a horse for sale]. Mr Thoroton will be very glad to give your Grace 70 guineas for him".⁶¹⁵

4.6 The tenure of the 4th Duke from c.1795 to c.1854

Titchfield assumed the main control of the park which continued after he inherited Welbeck. The 4th Duke did hold various titles within government, but by 1832 "he felt less and less desire to take part in politics, thus he withdrew entirely from the political arena".⁶¹⁶ However, his overriding interests were in agricultural improvements which included crops, maintenance of pasture land in the park tree planting as well as following his greatest passion of breeding horses for racing.

4.7 Parkland Deer

Species and Uses

The 4th Duke's directives by letter to Turner were mainly concerned with the sheep flocks, agricultural issues such as planting and ploughing as well as instructions to care for his horses

⁶¹¹ UNMSS, Pwf 4296.(Not enough grass for horses 1782)

⁶¹² UNMSS Pwf 9432. (Horses in plantations 1768)

⁶¹³ Hanson M J, Ed. (2002), *Portland and Devonshire Agent, The Diary of William Gould 1789-1791, Vol. 3 MS 736/5/3*, p. 369.

⁶¹⁴ Ibid. p. 369 (Gould sweepstake 1790)

⁶¹⁵ UNMSS Pwf 4284 (Horse for sale 1780)

⁶¹⁶ Turberville A S *Welbeck Abbey and its Owners*, p. 339.

whether by feeding or exercising. Therefore, the management of deer including the particular species and numbers of the animals was not evident in the memorandums. The exceptions of instructing Turner regarding the deer was when Portland wanted the animals killed for gifts to be sent to various destinations around the country. The game/park keepers in this period came from the same family, the Boalers, Joseph Boaler [son of George] was the senior game keeper from the late 1790s to 1833 and he was in charge of the deer at Welbeck. A family history manuscript described in detail the work of the game keepers and Joseph Boaler “was asked to increase the deer at Welbeck in 1799 due to the demand from the infantry”⁶¹⁷, who were stationed in the park under Lord William Bentinck. This period was epitomised by the Revolutionary and Napoleonic wars which dragged on from 1793 to 1815. Therefore, during these protracted military conflicts there was a need for increasing the food rations for the military but it is not evident which branch of the infantry division venison was being supplied for.

In June 1808 Titchfield ordered Turner [steward] “Pray tell Boaler I wish two young stags to be preserved and one hind”.⁶¹⁸ It is not clear what the deer were being preserved for, but because they were young they could have been used for breeding. There is no mention of the species involved or where they were located. Also, deer were killed for the 4th Duke and sent to other parts of the country. The Duke ordered Turner in 1811 “I wish killed a whole buck to be sent Monday the 9th September from Welbeck”.⁶¹⁹ As the Duke was not interested in politics it is unlikely that the venison was used for political favours. Portland asked for the buck “to be directed to Kilmarnock to be left at the Sun Inn there. And a letter should be directed to the Inn Keeper at Carlisle to secure it being sent by the Kilmarnock coach”.⁶²⁰ So, it is not clear who was receiving the deer but the Duke did own the large estates of Caithness and Ayrshire in Scotland, so it could have been for an acquaintance.

Although the 4th Duke retired completely from politics he did make ‘gifts’ of venison to some very high ranking royalty. In May 1822 the Duke instructed Fisher “Be so good as to tell Boaler to kill the fattest buck there is in the paddock on Thursday morning”.⁶²¹ Portland wanted Fisher “to send one half of it [buck] to HRH The Duke of York, Stable Yard, St. James London and the other half to His Grace The Duke of Wellington, Hyde Park Corner London”.⁶²² The Duke required the buck to be sent as soon as possible “I imagine they will be fit to be sent off on Friday or at the latest Saturday

⁶¹⁷ <http://01246540243.talk.talk.net> accessed 19th September 2016 (A Manuscript produced by Rachel Boaler in Australia and Sara Gill in France, as a tribute to their families who produced it, entitled the ‘Boaler Book’)

⁶¹⁸ UNMSS, Pwh 1398 (Preserving deer, 1808)

⁶¹⁹ UNMSS, Pwh 1424 (Killing a buck for sending on, 1811)

⁶²⁰ Ibid. (Venison to be sent to Kilmarnock and then on to Carlisle 1811)

⁶²¹ UNMSS, Pwh 2551 (Gifts of venison to Dukes of York and Wellington 1822)

⁶²² UNMSS Pwh 2551 (Gifts of Venison 1822)

morning”.⁶²³ It is apparent that Portland was keen on securing the patronage of the Dukes of Wellington and York by ‘gifting’ venison.

Management

To some extent there was ongoing management of deer during Titchfield’s tenure, by considering new methods of ‘cutting’ deer to maximise the quality of venison as well as ensuring the deer were less aggressive to manage. In June 1796 a memorandum was sent to Welbeck by the keeper to Lord Middleton at Wollaton, Nottingham regarding ‘cutting’ deer and it was “An account of the utility of the new method of cutting male deer when found which are called by the name of Full-Heads”.⁶²⁴

The species of deer are not mentioned but the ‘cutting’ of the animal was probably a form of castration. Apparently this method was practiced by “this long experience found out by John Sleight keeper to the Right Hon. Lord Middleton of Wollaton”.⁶²⁵ There were important reasons for cutting a male deer, and they were normally castrated when young. Sleight argues “These deer [full-heads] have horns every year the same as bucks and slew them the same as a deer that is not cut”.⁶²⁶

Sleight reports that the ‘nature’ of the deer “is totally stopped so that they have no inclination”.⁶²⁷ Therefore, the animals lose their natural urges to mate during the rutting season in Autumn. These deer were probably older animals, according to Sleight “As to Full-heads they always herd with the bucks excepting in the rut and then they herd chiefly by themselves and always feed quiet”.⁶²⁸

Sleight does mention the prepubertal deer that were castrated “As to havers [castrated when young] I have always found them in Wollaton Park to be a shy deer and not above one in six fat in the season, and the other not much better than a good doe, they always herd with the does and seldom are ready [to kill] at any other season but the Autumn”.⁶²⁹

Managing deer with this ‘new’ method of castrating older animals was clearly useful for having deer ready for killing at all times of year, as Sleight argues in 1796 “They [for killing] the summer and winter seasons as well as the Autumn when a haver is not, they may be killed in summer instead of a buck and are much finer as they are never heated in the rut and keep up their flesh in winter more than a buck”.⁶³⁰ There were also other good reasons for cutting these deer as they keep their antlers “Their horns are large and fine and have the use of ornament”.⁶³¹ Deer were aesthetically pleasing

⁶²³ UNMSS Pwh 2551 (Gifts of Venison 1822)

⁶²⁴ UNMSS Pwf 9837 (cutting deer 1796)

⁶²⁵ Ibid.

⁶²⁶ UNMSS Pwf 9837 (cutting deer 1796)

⁶²⁷ Ibid.

⁶²⁸ Ibid.

⁶²⁹ Ibid.

⁶³⁰ Ibid.

⁶³¹ Ibid.

for landowners to see in the park, but particularly when they were in full antler, whereas, deer that are castrated very young do not grow antlers. However, the most advantageous consequence of this method of castration was according to Sleight “Your deer receives no damage by fighting and legs support them in winter as they do not lay at fodder as a buck that is run down in the rut [and] the venison is exceedingly well flavoured and may be killed from five years old to nine or ten”.⁶³²

4.8 Parkland sheep

Species

The 4th Duke kept different breeds of sheep at Welbeck but his interest in particular species began in the late 1790s when he was the Marquis. According to Pickersgill “There is reference to the hire of a Herefordshire ram for the sheep at one of the farms [1803], but ‘foresters’ and South Downs formed the bulk of the flocks [1799]”.⁶³³ Herefordshire sheep were an old breed known as Ryelands and according to Hall and Clutton-Brock “The Finest English wool came from the Ryeland sheep of Herefordshire”.⁶³⁴ The Marquis was enthusiastic about keeping South Down sheep and instructed Turner in 1799 “From the great demand and fashion of South Down ewes I should wish you to keep out of the second lot of 105 some few though more than four years which as are well shaped”.⁶³⁵ Titchfield was eager to keep this breed at Welbeck and asked Turner “Could not the park carry some few of these sheep for some time”.⁶³⁶ He was also aware of the high prices which this breed commanded. He reiterated to Turner “The breed has come into such repute that 150 guineas have been refused for the hire of a ram and 250 guineas were offered for the purchase of two [and] the ewes and lambs sell at 3 guineas a couple”.⁶³⁷ Interest in the Duke’s South Downs was shown by a local landowner John Denison [the Duke’s son-in-law], who corresponded with Portland in 1811 to say “I am obliged to you for the offer of some of your Grace’s South Down ewes and my bailiff will ride over the first day he can be spared this week [and] will you have the grace to leave directions with some of your people to show him the sheep”.⁶³⁸ Also, there is mention of the Ryeland breed again several decades later, when it appears that the 4th Duke was trying to secure some of these sheep for breeding at Welbeck. Mr Hardacre contacted the Duke to say “What few Ryeland sheep

⁶³² UNMSS Pwf 9837 (cutting deer 1796)

⁶³³ Pickersgill A C (1979) *The Agricultural Revolution in Bassetlaw, Nottinghamshire, 1750- 1873* Vol. 11, p. 324 (UNMSS Pwh 1291)

⁶³⁴ Hall J G, Clutton-Brock J, (1995) *Two Hundred Years of British Farm Livestock*, The Natural History Museum, London HMSO, p. 176.

⁶³⁵ UNMSS, Pwh 1291 (South down ewes 1799)

⁶³⁶ UNMSS, Pwh 1291 (Run South Downs in the Park 1799)

⁶³⁷ UNMSS, Pwh 1291 (Price of south down sheep 1799)

⁶³⁸ UNMSS, Pwh 2054 (Interest in south downs by Denison, 1811)

the Mr Tomkins has last year to spare were chased by a nobleman at enormous price”⁶³⁹, Portland was unsuccessful in buying these Ryeland sheep. It is not clear who Mr Hardacre was but he could have been a livestock dealer.

The 4th Duke was very enthusiastic about ‘improving’ the flocks in the park with imported breeds such as the Spanish Merino. Portland acquired some Merinos in October 1808 with what was a reciprocal arrangement of sending some of his animals to Spain. Captain Tower reported to the Duke “I had the honour of your Grace’s letter requesting to be informed what time it may be proper to send a person from Bulstrode to take sheep of Your Grace’s and to export to Don Juan Frances Aragio yours of unexpected arrival of so liberal a present from the Junta overseas which I have done”.⁶⁴⁰ Tower explained “Don Juan is furnished with a letter of introduction to your Grace from the Junta and it appears to be most advisable to send all the sheep with Spanish shepherds (as soon as they are able to travel) to Richmond where a Mr Smart who is sent from Windsor to convey them from here by land”.⁶⁴¹ This arrangement made with the Junta ensured that the Spanish Merinos would be delivered safely to Welbeck. Two years later [1810] the Duke corresponded with Turner “It is very right to keep the Spanish sheep that are lame separate from the all the others, those that are sound may go with the others”.⁶⁴² This suggests that the sheep were probably not suited to the climate in Britain and suffered from the damp. However, Portland participated in what was known as the British Merino Experiment in an attempt to enhance the quality of British wool. According to Trow-Smith “The Merino carried a fleece of wool of the finest staple in Europe, it established its great reputation in Spain”.⁶⁴³ However, in the eighteenth century the “export of Merinos was made a capital offence in Spain”.⁶⁴⁴ This particular breed was highly valued for its wool and even though exporting the animals was prohibited “The Spanish Crown eventually itself made gifts of Merino sheep”.⁶⁴⁵ According to Hall and Clutton-Brock “The first sheep to reach Britain were a pair obtained from France by Sir Joseph Banks in 1785, and then in 1789 George the Third was persuaded to obtain some”.⁶⁴⁶ However, according to Trow-Smith “the first crosses were poor in carcass and when further British blood was introduced in later generations, and when another dose of Merino blood was introduced the carcass became bad again”.⁶⁴⁷ This resulted in a failed experiment as the

⁶³⁹ UNMSS, Pwh 1959 (Ryeland sheep 1842)

⁶⁴⁰ UNMSS Pwf 8769 (sending sheep to Spain 1808)

⁶⁴¹ Ibid. (sheep returning from Spain to England 1808)

⁶⁴² UNMSS Pwh 1406 (Lame Merinos 1810)

⁶⁴³ Trow-Smith R, (2005) *A History of British Livestock Husbandry, 1700-1900*, Routledge, p. 151.

⁶⁴⁴ Armstrong P, (2016) *Sheep*, Reaktion Books, London p. 94.

⁶⁴⁵ Ibid. p. 94.

⁶⁴⁶ Hall S J G, Clutton-Brock J, (1995), *Two Hundred Years of British Farm Livestock*, Natural History Museum, London, p. 149.

⁶⁴⁷ Trow-Smith R, (2005) *A History of British Livestock Husbandry, 1700-1900*, p. 153.

wool was not as fine and the carcasses were small according to Trow-Smith “in due time the Merino trials were abandoned”.⁶⁴⁸ Pickersgill commented that the experiment failed because “In the Duke’s opinion the Spanish rams had not been mated with ewes of the right quality and the result was that the wool lacked the fineness”.⁶⁴⁹ However, the importance of wool declined in the early to mid nineteenth century and sheep became more important as producers of mutton. Towns and cities grew rapidly in the Industrial Revolution and according to Armstrong “The result was a fast expanding urban demand for meat, which combined with the sinking demand for British grown fleeces”.⁶⁵⁰

Numbers

As well as buying in stock for breeding Titchfield reduced the flocks at Welbeck Park in the late eighteenth century. In July 1799 he instructed Turner, his steward how they were to be disposed of. He ordered “That 20 of the largest sheep be immediately sold. That the old ewes be immediately drawn out of the folding flock and put to the best keep which can be afforded to them”.⁶⁵¹ This suggests that the folding stock were manuring the land and improving the soil, whereas the old ewes would be fattened for slaughter. There is no evidence of an inventory of the total number of sheep but table 4.10 shows the number of sheep in the park and sheep shorn in 1799:

Table 4.10 Sheep in the park, sheep shorn, 1799

Sheep in the park 1799	
<u>Type</u>	<u>Number</u>
Feeding Wethers	72
Ewes	415
Lambs	340
TOTAL	827
Sheep Shorn 1799	
<u>Type</u>	<u>Number</u>
Fat Wethers and Rams	92
Ewes	413
Wethers and Hogs	479
TOTAL	984

⁶⁴⁸ Trow-Smith R, (2005) *A History of British Livestock Husbandry, 1700-1900* p. 153.

⁶⁴⁹ Pickersgill A C, (1979), *The Agricultural Revolution in Bassetlaw, Nottinghamshire, 1750-1873*, vol. 2, p. 326.

⁶⁵⁰ Armstrong P (2016) *Sheep*, Reaktion Books, p. 117, p. 118.

⁶⁵¹ UNMSS, Phi 1289 (Letter from Titchfield to Turner steward 1799)

Source NA DD P6/7/9/1 (Sheep in park and sheep shorn 1799)

The totals for the park and shorn sheep are 1326, but the shorn sheep include rams and hogs, and the park sheep includes lambs. The latter figures probably included sheep from inside and outside of the park area. A list of sheep shorn was compiled in 1801 as in the following table:

Table 4.11 Sheep shorn 1801

Welbeck Flock	Scotland Farm	Wood Barn	Feeding Sheep
361 minus 47			
TOTAL WELBECK	314		
	47	501	161
TOTAL	862		
GRAND TOTAL	1023		

Source NA DD P6/7/9/1 (Sheep shorn in 1801)

The number of shorn sheep in 1801 for the Welbeck flock numbered 314, but this would not have included lambs or fattened stock ready for market.

The late eighteenth and early nineteenth centuries were characterised by a succession of poor harvests, according to Williamson “The period between 1780 and 1820 saw a significant deterioration in the climate, with a higher than average number of wet summers”.⁶⁵² It would have been a difficult period for providing fodder for sheep, according to Pickersgill “The depression in agriculture must have induced a number of producers to wish to reduce their flocks”.⁶⁵³ The weather coupled with “The decline in wool prices from £3.15 per tod to £1.95”⁶⁵⁴, depressed the wool trade. However, by the middle of the nineteenth century smaller numbers of sheep were being bought in as the following table shows:

Table 4.12 Sheep bought in 1846, 1848

Sheep bought in 1846	Number	Price each	Total price
Ewes	43	38s.9d.	£85.3s.

⁶⁵² Williamson T, (2002) *The Transformation of Rural England, Farming and the Landscape, 1700-1870*, University of Exeter Press, p. 157.

⁶⁵³ Pickersgill A C, (1979) *The Agricultural Revolution in Bassetlaw, Nottinghamshire, 1750-1873, Vol. 1*, p. 332.

⁶⁵⁴ Ibid. p. 332

Lambs	45	30s.	£70.8s.
Sheep bought in 1848			
Ewes	25	72s.6d.	£40.13s.
Lambs	35	30s.	£52.3s.
Wethers	20	52s.	£57.18s.

Source NA DD P6/7/4/6/35 (Sheep bought in 1846, 1848)

It is not clear why these sheep were bought at this time but it could be that ewes were bought as breeding stock, lambs for future stock as well as animals for fattening.

Management and Location

Titchfield continued to dispose of sheep which he considered as bad stock because he wanted to buy in good breeding stock in order to improve the Welbeck flocks. In July 1799 he ordered many more animals to be disposed of when reiterating to Turner “If Mr Gould is at Welbeck propose to him to part with as many of the 109 old ewes with bad mouths [and] with all of that lot of 105 which are more than four years old and of the other lots, as many as are very bad ones. Those which are determined for sale should be taken out of the fold”.⁶⁵⁵ It is evident from the Titchfield’s instructions, regarding the flocks in this period he was determined to get rid of what he saw as the inferior animals that were old and had bad mouths. The Duke’s management aims were to continue to ‘improve’ the Welbeck flocks by crossing them with the new breeds such as the South Down.

The beginning of the nineteenth century was the period where water meadows were first created in the park. In 1853 the 4th Duke wrote an account of them, where they were and how they were used for feeding sheep. Portland stated “about the year 1800 the water meadows were made below the Lake Head at Welbeck”.⁶⁵⁶ However, these first meadows were not successful because they did not drain well and “Flags appeared when the land was laid down to grass, consequently when watered were never very productive and were never early”.⁶⁵⁷ However, by improving the drainage in the lower part of the meadows “Spring sheep might be fed on water meadow without danger of rot”.⁶⁵⁸ Therefore, the water meadows improved over time with more careful management and were important for feeding sheep early in the year when there was no available parkland grass. The account shows the number of acres and the price paid in the following table:

⁶⁵⁵ UNMSS, Phi 1291 (Poor quality sheep taken out of fold 1799)

⁶⁵⁶ UNMSS, Phi 2694/1 (Creation of first water meadows in Park 1800, from an 1853 account by the Duke)

⁶⁵⁷ Ibid.

⁶⁵⁸ Ibid.

Table 4.13 Account of grass had from Carburton Water Meadows by Edward Vickers for 1829

Acres	Roods	Perches	Price	
8	2	21		
Park Meadows	at £3.00 per acre		£26.10s.0d.	

Source NA DD P6/4/135/5 (Account of grass mowed from Carburton Water Meadows 1829)

However, this amount did not reflect any labour costs, it “showed the produce and keeping to amount to £58.12.8d without any deductions being made for labour”.⁶⁵⁹ The 4th Duke “decided that £26.10s should be charged for this year but that it should be no criterion for the future”.⁶⁶⁰

In the early nineteenth century land within the park continued to be ploughed and sown with root crops and grasses to feed sheep. The practice of ‘folding’ was used at Welbeck and this was a “technique of folding sheep in hurdles, [which] had an ancient history”.⁶⁶¹ The sheep were fenced by hurdles on the cultivated parkland and beyond and fed directly from the standing crops such as turnips, ryegrass, tares and other seeds [grass leys], and this approach “kept the hurdled flock on the move over the arable land”.⁶⁶² This was evident when Titchfield in 1804 asked Turner “I hope they take care to put the sheep which are on the new seeds, off them at night”.⁶⁶³ Turnips were planted inside the park as well as the environs as in 1804 Titchfield stated “The forty three acres which were turnips last year in the Boundary dale breck I shall do nothing to, both leave as they are”.⁶⁶⁴ The land was rotated in order to keep the instance of disease to a minimum, because turnips were prone to root fly. This was evident when Titchfield asked his steward Turner in 1799 “Let me know to what extent fly had done mischief to the turnips”.⁶⁶⁵ In 1817 the 4th Duke instructed Turner that “Thomas Wood may sow 4 acres of underground turnips wherever he thinks proper”.⁶⁶⁶ This root crop was highly recommended for feeding sheep by experienced agriculturalists such as Arthur Young and Thomas Cosens. The latter produced an influential treatise in 1837 in which he suggested “The best method of getting sheep fat and ripe for market, is to allow them a great plenty both of turnips and

⁶⁵⁹ UNMSS, Phi 2694/1 (Creation of first water meadows in Park 1800, from an 1853 account by the Duke)

⁶⁶⁰ Ibid.

⁶⁶¹ Trow-Smith R, (1959) *A History of British Livestock Husbandry, 1700-1900*, Rutledge & K Paul, London, p. 37.

⁶⁶² Ibid. p. 37.

⁶⁶³ UNMSS, Phi 1330 (Protecting newly sown ground 1804)

⁶⁶⁴ UNMSS, Phi 1329 (Turnips planted 1804)

⁶⁶⁵ UNMSS, Phi 1290 (Turnip fly 1799)

⁶⁶⁶ UNMSS, Phi 1491 (Letter from 4th Duke to Turner, Steward 1817).

hay, as sheep improve much faster when they can feed on the turnip shells after they have been sweetened by the sun”.⁶⁶⁷

Uses

According to Mingay prior to the mid-eighteenth century “Sheep were valued most for their wool and their manure”.⁶⁶⁸ However, these two functions of sheep did change and the provision of meat became paramount because “In the 1790s farmers changed to breeding the animals with the new object of improving carcasses both of ewes and lambs of quality rather than their quantity”.⁶⁶⁹ However, wool was still a significant commodity; this was evident with the ‘British Merino experiment’ which was practiced by Portland at Welbeck. However, this experiment failed because crossing Merinos with British breeds resulted in the carcasses and wool being of poor quality. Therefore, by the 1820s more emphasis was placed upon meat production rather than the declining capital received from wool production.

The keeping of sheep was very important to the agricultural development adjacent to and within the parkland and the success of crop growing. It was “recognised that heavy dunging and concentrated treading of closely folded sheep produced a far better and consolidated and highly fertilised seed bed, particularly on thin soils”.⁶⁷⁰ During the development of the farms in the Welbeck environs, the forest lands were liberally supplied with sheep dung. Sheep dung was even bought in, Titchfield ordered Turner in 1799 “By all means buy the 50 quarters of sheep dung”⁶⁷¹, and suggested to Turner to “buy all the sheep dung you can lay your hands on”.⁶⁷² The Duke’s obvious concern to acquire as much sheep dung as possible reflects the importance of sheep for fertilising agricultural land.

Parkland Cattle

Species

A number of different breeds already introduced by the 3rd Duke were still bred by Titchfield, including “Alderney, North Devon, South Devon, and Scots beasts”.⁶⁷³ Although the breeding of

⁶⁶⁷ Cosens T, (first published 1837) *A New Treatise on Agriculture and Grazing, clearly pointing out to landowners and farmers the most profitable plans*, Kessinger Publishing, USA, p. 40.

⁶⁶⁸ Mingay G E, (1990) *A Social History of the English Countryside*, Routledge, London, p. 34.

⁶⁶⁹ Turner M E, Beckett J V, Afton B, (2001) *Farm Production in England, 1700-1914*, p. 193.

⁶⁷⁰ Trow-Smith R, (1959) *A History of British Livestock Husbandry, 1700-1900*, p. 38.

⁶⁷¹ UNMSS, Pwh 1298 (Sheep dung 1799))

⁶⁷² Ibid.

⁶⁷³ Pickersgill A C, (1979) *The Agricultural Revolution in Bassetlaw in Nottinghamshire, 1750-1873*, p. 333, (Pwh 1125)

cattle by the 4th Duke was not on the same scale as the sheep flocks, there was some experimentation with different breeds during his tenure. Titchfield was already knowledgeable about superior cattle breeds, when in 1798 he wrote to Turner [steward] to say “If the calf is out of the best North Devon it must be kept and reared but I think you are mistaken and that it is out of a South Devon. You will enquire and if a South Devon, the calf must be fattened”.⁶⁷⁴ It is evident that Titchfield intended to breed the best animals. Both of these breeds are lowland cattle but the North Devon was considered as a superior beast because they “were bred for beef and draught with milking qualities only a minor consideration”.⁶⁷⁵ In 1801, Titchfield made an arrangement with a Mr Ramsden a country squire of Carlton Hall, Carlton on Trent, Nottinghamshire, who bred Alderneys and ‘loaned’ out his bull for breeding purposes. Turner notified the Duke “Mr Ramsden has desired me to inform your Lordship he has got his Alderney bull again, and will be glad if your Lordship will make use of him when necessary”.⁶⁷⁶

Numbers

Some cattle were also bought in and Titchfield ensured that he paid what he saw as the ‘right’ price instructing Turner in 1805 “If you can meet with any Scots at a low price, that is £7 such as were bought last spring for £9 or £10 I should be glad that ten be bought. Otherwise I should wish you to buy some calves out of the Dairy counties and about double the number”.⁶⁷⁷ This buying and selling of cattle continued throughout his tenure. In 1846 he bought “4 heifers at £20.10s each, 5 heifers at £22.10s each”.⁶⁷⁸

Cattle numbers were never as high as the sheep population because cattle were not as well suited to the meagre grassland of the Dukeries. In 1799 the Marquis asked Turner for an account of the numbers and condition of cattle within the park. He requested “what size are the oxen and what cows are feeding and the latter in what condition. If beef is still a good price two more oxen may be sold”.⁶⁷⁹ Turner replied to the Marquis in 1799 “46 4yrs and over oxen not yet put to better feed [and] 70 milking 3yr olds”.⁶⁸⁰ Although the figures are not particularly high for fattening oxen, the number of milking cows at this time is very significant and shows the growing importance of the dairy herd.

⁶⁷⁴ UNMSS, Pwh 1286 (North and South Devon cattle 1798)

⁶⁷⁵ Hall S J G, Clutton-Brock J, (1995), *Two Hundred Years of British Farm Livestock*, p. 67.

⁶⁷⁶ Pickersgill A C, (1979) *The Agricultural Revolution in Bassetlaw in Nottinghamshire 1750-1873*. (Pwh 1336), (Pwh 1125) p. 333

⁶⁷⁷ Ibid. p. 333 (Pwh 1336)

⁶⁷⁸ NA, DDP6/7/4/6/4 (1846 Livestock bought)

⁶⁷⁹ UNMSS, Pwh 1308 (How many oxen and milkers 1799)

⁶⁸⁰ Ibid. (Turner’s reply regarding numbers 1799)

Management and Location

Different types of cattle were kept in various locations in 1799, as Table 4.13 shows:

Table 4.14 Types of cattle in different pastures, 1799

Cow Pasture	Carrs	Park
Black lowland	Speechlys	Red Scot
White face lowland	Scot heifer	Black heifer
Long legs	White leg heifer	White faced heifer
		Red heifer

Source UNMSS Pwh 1308 (Types of cattle in different locations 1799)

It is not clear what breed all of the cattle were as some were given names which distinguished their colouring rather than the species, and some beasts belonged to Speechly. The animals were in different areas including the park, but there is no mention of numbers. Two years later in 1801 Turner reported to the Marquis about the number of cattle disposed of and where they were located, shown in Table 4.15

Table 4.15 Stock in Welbeck are disposed of in 1801

Location	Type	Numbers
Porters Meadows	Best Fat Oxen	10
Carrs	Oxen	5
In Park near Cottage	Lean oxen heifers and Steers	Remainder
Cow Close in the day Calf Croft at night	Milk cows	No Number

Source UNMSS Pwh 1129 (Cattle to be disposed of and where located 1801)

Cattle were regularly bought and sold at Welbeck and Titchfield ordered Turner in 1804 “If lean oxen are cheap I think the sooner they are bought the better”.⁶⁸¹ So, lean oxen were sold in 1801 but the Marquis wished for some more to be bought 3 years later.

Cattle at Welbeck often had to be given supplementary fodder because the soils of the park were thin and sandy which meant that they were porous, resulting in parched, stunted grass. In 1814 the Duke contacted Turner to inform him of receipt of a “letter from Thomas Wood, a tenant

⁶⁸¹ UNMSS, Pwh 1330 (Lean oxen to be bought 1804)

recommending that the horses and cattle should be kept in the yards and fed with hay rather than be turned out into the Upper Meadows of the New Grange, and the seeds at Wood Barn [Fig. 4.4]”.⁶⁸² Keeping the cattle in yards and feeding them hay suggests that this pasture land needed a rest in order to conserve the grass, perhaps for a hay crop. The Duke’s advice was that “Thomas Wood should turn his cattle into part of the Upper Meadow, keeping them in as small a portion of grass [to] keep them a week”.⁶⁸³ It was particularly difficult to keep decent pasture in the park during prolonged dry spells, as is evident in August 1818 when the vagaries of a hot summer, ensured that the park had to be watered regularly. The Duke instructed Turner to “Tell George Bailey that if the weather continues so dry as to make the want of water keenly felt, I wish him to report to me the effect of watering the park. A little had better be done well than much inefficiently”.⁶⁸⁴ The park grassland suffered during such dry spells and affected all species of grazing animals. Shifts of men were used in August 1818 by the Duke “in consequence of the continuous of the dry weather [with] ten men employed every day in pumping water over parts of the park nearest the lake”.⁶⁸⁵ There is no evidence to suggest how long the men were working but the Duke wanted them “to be employed by shifts five at a time and to be employed incessantly from 4am to 8pm. The first shift to begin at 4 to be relieved by others at 8 to resume at 12 and to be relieved at 2 and 4pm”.⁶⁸⁶ The Duke’s instructions suggest that the men were continuously watering almost all day until they were told to stop.

Uses

There was a mention of Alderney cattle in 1848 when “Two Alderney bullocks, £53.7s”⁶⁸⁷ were bought, however, these were relatively expensive for animals that could not be used for breeding purposes, they were kept for the production of meat.

The main uses of cattle at Welbeck were for providing milk and meat for home consumption as well as for selling meat on the open market. Beef cattle included the Scots, Alderney oxen and Devon but the latter were also used as draught animals for working the land, and dairy cattle were important for producing milk for the family. The 4th Duke instructed Turner from London in 1811 “You may send the half Alderney ox and another to Rotherham”⁶⁸⁸, possibly for an acquaintance of the Duke. The Duke also told Turner that “We shall be at home on Monday 2nd June [1811] and remain there

⁶⁸² UNMSS, Pwh 1455 (Horses and cattle kept in yards 1814)

⁶⁸³ Ibid.

⁶⁸⁴ UNMSS, Pwh 1514 (Watering park 1818)

⁶⁸⁵ UNMSS, Pwh 1514 (Watering park 1818)

⁶⁸⁶ UNMSS Pwh 1514 (Shifts of men employed for watering 1818)

⁶⁸⁷ Ibid. DD P6/7/4/6/35 (1848 Livestock bought)

⁶⁸⁸ UNMSS Pwh 1414 (Killing an ox to be sent to Duke and elsewhere 1811)

about 6 weeks and you had better reserve as many oxen as will serve for our consumption while we remain there”.⁶⁸⁹ The animals were closely monitored to decide when they should be sold for slaughter. In 1817 the Duke replied to a letter from Turner regarding selling oxen, saying “I received a letter from you enquiring whether you should sell the oxen as they become fat. I now write to decree that they may be sold as they get fat”.⁶⁹⁰ Cattle grazing in the park at Welbeck were also an aesthetic ‘improvement’ to the park landscape. Symbolically cattle such as the Alderney showed the success of the 4th Duke’s agricultural/livestock ambitions for Welbeck Park [Fig. 4.5]

Parkland horses

Species and Numbers

As well as being a keen agriculturalist, the 4th Duke’s overriding passion was the breeding of horses, specifically thoroughbred race horses. A few years before his marriage Titchfield owned some thoroughbreds, present in his stud at Welbeck in 1794:

Table 4.16 List of Mares, fillies, stallion at stud 1794

Stud at Welbeck November 19th 1794	
<u>Type</u>	<u>Number</u>
Brood Mares	5
Filly foals	3
3 years old filly	1
2 years old filly	2
Stallion (Honisty)	1
Hacks	8

Source UNMSS Pwh 2769 (Number of horses at stud 1794)

All of these horses except for the hacks were thoroughbreds; hacks were kept for general riding purposes. While twelve did not represent a large number of horses, the Duke’s interest in breeding continued throughout his tenure. The Duke bred many successful race horses such as Tiresias which won the Derby in 1819. In a letter to his father in 1820 the 4th Duke’s son, Marquis Bentinck noted “I am much obliged to you for sending me the Newmarket lists. Tiresias worked very fine in the list

⁶⁸⁹ UNMSS Pwh 1414 (Killing sufficient oxen to provide for family 1811)

⁶⁹⁰ UNMSS, Pwh 1486 (Selling oxen for slaughter 1817)

standing by himself and no one daring to face him”.⁶⁹¹ It is evident that this race horse was of topmost quality, in comparison to other horses in the period.

As well as race horses there were other breeds kept at Welbeck, such as general riding hacks, ponies and coach and farm horses. The Duke contacted Turner in 1819 saying “By a letter which I have received from Thomas Woods I find that a stallion which I wished to cover my cart mares is gone out of the country. He must be told that I know of no other and consequently that they must do with the mares that are to be covered the best they can”.⁶⁹² This suggests that the 4th Duke required the best of stallions even for breeding with cart horse mares. Work horses were important to the Duke’s agricultural programme of ‘improvement’.

Management and Location

Because Portland used Newmarket training grounds, some of his horses would be stabled there for long periods, and the use of the park training ground was perhaps limited to certain times of the year. This would probably have been out of the flat racing season from November to April.

Portland owned racehorses which were costly in their upkeep as the Table 4.17 shows:

Table 4.17

“Bills Mr Henry Boyce,

1844 His Grace the Duke of Portland – To Henry Boyce

Horse	Time Period	Cost
The Souvenir filly	May 5 th to October 30 th 25 weeks and 4 days	£51. 3s.
The Thebes colt	May 5 th to October 30 th 25 weeks and 4 days	£51.3s.
The Ruth filly	October 7 th to October 30 th 2 weeks and 2 days	£6.11.6d.
The Thebes colt	October 7 th to October 30 th 2 weeks and 2 days	£6.11s.6d.

Source NA DD P6/9/35/1 (Fees for stabling and general upkeep 1844)

It is not clear but these horses were probably kept at Newmarket and the fees billed by Henry Boyce, possibly the stable manager, were for stabling, feeding and general care. Not included in the above fees are accounts for a saddler and blacksmith, saddles and shoeing for the same period was “Holland the saddler - £23.11s.2d., Stevens the blacksmith - £12.2s.6d”.⁶⁹³ Although the animals

⁶⁹¹ UNMSS, Pwh 350 (Letter from Marquis Bentinck regarding Tiresias 1820)

⁶⁹² UNMSS, Pwh 1525 (Stallion for cart mares 1819)

⁶⁹³ NA DD P6/9/35/1 (fees for saddler and blacksmith 1844)

were not kept at Welbeck, these figures represent the high cost of owning and taking care of top quality race horses which increased over the Duke's tenure.

Although there are no exact figures, the increase in numbers of race horses is evident with the rising cost of upkeep "In 1829 [the cost of his stables was] £641.13s.6d. [but by] 1851 [it had risen to] £3874.13s.10d".⁶⁹⁴ This represents a significant increase in the expense of keeping thoroughbred race horses.

The buying and selling of horses was done on a regular basis, as Table 4.18 shows for 1821 to 1826.

Table 4.18 An account with his Grace the Duke of Portland – with Benjamin Smith 1821-1826 for Horses sold.

Type
Bay mares
Grey mares
Bay coach horse
Chestnut mare and foal
Bay horses
Black mare
Brown mares
Grey pony
Roan horse
Total price - £1557.15s.

Source NA DD P6/9/66/1 (Sale of horses 1821-1826)

Although this is over a five year period, a substantial sum was realised. There are no definite numbers of how many horses were sold but they appear to be general riding horses, a coach horse and pony as opposed to thoroughbreds.

It is possible that the stud at Welbeck was situated North West of the Abbey near Sloswicks Meadow where there were stables and mare pastures as is indicated on Ingham's map of 1766 [Fig. 4.6]. On the map there is also a collection of buildings just below Stable Close which suggests these would have been for housing the thoroughbreds and the pasture was called 'New mare pasture' which could have been for brood mares. According to the racehorse trainer, Kent, the Duke "kept a few well selected brood mares at Welbeck, where he caused their produce to be broken as yearlings,

⁶⁹⁴ NA, DDP6/9/44 (Stables accounts 1829)

and to be exercised and trained as two year olds”.⁶⁹⁵ This suggests that race horses were exercised and trained on gallops in the park which would have been prepared specially for this purpose. The Duke even “engaged four or five good jockeys to come to Welbeck in order to try out his two year olds, the best and most promising of which he sent to Newmarket to be trained by Richard Prince”.⁶⁹⁶ Areas of the park were set aside for the specific purpose of exercising racehorses and in 1819 the groom Bailey was instructed “if the ground gets too hard he should lunge the two colts on a fallow or somewhere where it is not hard”.⁶⁹⁷

Portland had large tracts of land drained and levelled from 1837 to 1844 and in 1841 the “Levelling [of] the training ground in the park [at a cost of £38.7s.6d]”⁶⁹⁸ was undertaken, but no indication of exactly where the training ground was in the park. However, there was mention of training racehorses earlier in 1822 when the Duke enquired whether “A race horse in full training could be safely and effectually sweated in Welbeck Park”.⁶⁹⁹ This suggests that there were areas in the park being used for training purposes before it was levelled in 1841.

Working horses required a variety of feed other than grass, the main crop grown for horses was oats, which, according to Brown “were always the staple diet of the horse”.⁷⁰⁰ In 1801 Turner reported “I was at Retford yesterday [and] new rye was 26d s load and 42s a load was asked for new wheat, the best mealing oats are not worth more than 40s and horse fodder 30s a quarter”.⁷⁰¹ It is not clear what the fodder was but it was possibly hay. Hay and oats were the main feedstuffs for horses at Welbeck, in December 1830 they were included in the “Expenses for taking care of horses, including oats, hay, saddlers, blacksmiths, wages for grooms etc - £717.14s”.⁷⁰²

Grassland was important for the summer feeding of horses but hay was necessary in winter and areas were kept primarily for mowing, these included the water meadows. In 1816 the Duke noted to Turner “As the weather has been favourable lately for the growth of grass I hope the mowing grounds will have been cleared of stock”.⁷⁰³ He recommended “The New Grange water meadows to be watered plentifully after the stock is withdrawn and the other- Kennels as much as Thompson

⁶⁹⁵ Kent J, Lawley F C, (1892) *Racing Life of Lord George Cavendish Bentinck M.P. and other Reminiscences* (2010) General Books LLC, p. 12.

⁶⁹⁶ Ibid. p. 12.

⁶⁹⁷ UNMSS, Pwh 1525 (Lunge colts 1819)

⁶⁹⁸ NA DD 4P 58/160/1/5-6 (Levelling training ground 1841)

⁶⁹⁹ UNMSS, Pwh 2563 (Duke to Fisher trainer 1822)

⁷⁰⁰ Brown J, (1991) *The Horse in Husbandry*, Farming Press, Ipswich, p. 53.

⁷⁰¹ Ibid. Pwh 1128 (Feedstuffs 1801)

⁷⁰² NA DD P6/9/85/1 (Expenses for horses 1830)

⁷⁰³ UNMSS Pwh 1464 (Mowing water meadows 1816)

judges safely to apply”.⁷⁰⁴ So, the water meadows were crucial for providing pasture that could be grazed as well as mown for hay.

Uses

It is evident that the 4th Duke’s interest in horses lay with the breeding and owning of first class racehorses. Therefore the animals were given priority over other horses kept at Welbeck. The breeding of racehorses and the number of winners ensured that Portland was held in high esteem within the racing fraternity. Being the owner of The Derby, winner Tiresias in 1819 [see fig.4.7] showed the power and prestige which was enjoyed by the 4th Duke of Portland for most of his life.

However, the other interests of the Duke involved the use of horses, particularly with his agricultural endeavours within the park. Work horses were a necessity for ‘improving’ the land and they were employed throughout the park and its environs for most of the agricultural activities during his tenure. In 1804 the Marquis instructed Turner “The only ground I will sow with turnips this year is 13 acres in the field where the barn stands which were turnips last year and for that purpose I would have two horses to work them”.⁷⁰⁵ Titchfield wanted a permanent labourer and horses to work the fields as he indicated “If there is a cottage at Hazelgap farm, I would have a labourer established there with the two horses, if not they must be worked by horses from the Wood Barn”.⁷⁰⁶ So, work horses were integral to the success of crop sowing, ploughing, hoeing and general agricultural work which had increased significantly during the 4th Duke’s tenure. Although the Duke’s interests were primarily horse racing and farming, he also kept hacks and hunters and he went hunting when he was in residence at Welbeck.

4.11 The tenure of the 5th Duke from c.1854-c.1879

The 5th Duke, similar to his father, had a passion for the breeding of horses, particularly thoroughbreds. However, he did not attend race meetings; he was much more concerned with the training of his horses on the indoor tan gallop in the riding school; which were constructed during his tenure. Sheep and cattle were still bred at Welbeck, but the Duke was not involved as much as his father was, with farming or the livestock enterprise. However, the 5th Duke’s interest in livestock did extend to the breeding of different species of deer, he was very involved with the cross breeding of deer species, which was practised with enthusiasm by keepers such as George Boaler who was in the Duke’s employ for many years.

⁷⁰⁴ UNMSS, Pwh 1464 (Mowing water meadows 1816)

⁷⁰⁵ UNMSS, Pwh 1329 (Work horses for turnips 1804)

⁷⁰⁶ UNMSS, Pwh 1329 (Labourer and horses 1804)

4.12 Parkland Deer

Species

The species of deer present in the park in this period included red, white, black and roe deer, of various colours. In 1863 Boaler informed the Duke “The Black Paddock doe is just an average one”.⁷⁰⁷ Paddocks were used for the particular types of deer, in August 1870 Boaler reported “I consider the Black Deer Paddock at Sloswicks overstocked”.⁷⁰⁸ In 1879 the keeper Allertson informed the Duke “The Deer of all sorts are doing well – Stubbings has not reported any young roe deer yet, in the South Park there are about 12 red deer calves. In the White Deer park a fine male calf was dropped”.⁷⁰⁹ A White red deer were also an important part of the herds at Welbeck in this period, a letter from Colonel Augustus Liddell to the Duke stated “I write to say that the Queen will give the Duke of Portland 13 brace of White red deer with great pleasure”.⁷¹⁰ This letter was not dated but Liddell was the “Groom in waiting to HM Queen Victoria [and] Deputy Ranger of Windsor Great Park”.⁷¹¹ However, these deer were probably sent from London in the early part of the 5th Duke’s tenure because “In 1859 [there was] transport of live deer from London”.⁷¹²

Black deer existed much earlier, they were a black strain of fallow deer and “according to Chapman black fallow were present in Windsor Park in 1465”.⁷¹³ It is evident that white and black deer were present in the Royal parks such as Windsor Great Park and were at times ‘gifted’ to high ranking landowners such as the Portland family. The roe deer appeared to be a distinct species and not coloured, but in 1867, Shirley did not refer to them in his publication of English deer parks, although they were in existence in Welbeck Park. This was evident in 1878 when “A roe deer post-mortem [revealed] the immediate cause of the animal’s death was as a result of cold”.⁷¹⁴

Numbers

The numbers of deer kept in the park was closely monitored because if they became too numerous, pressure was placed upon the grassland. In 1872 49 deer were recorded by Boaler in Cowclose as Table 4.19 shows

⁷⁰⁷ NA DD 4P/76/45/56 (black paddock doe 1863)

⁷⁰⁸ NA DD 4P/62/68/23 (Black deer paddock 1870)

⁷⁰⁹ NA DD 4P/76/48/18 (white deer park 1879)

⁷¹⁰ UNMSS Pwk 5210 (Gift of white red deer from the queen no specific date)

⁷¹¹ <http://www.thepeerage.com> accessed 19th November 2018

⁷¹² NA DD P6/7/10/1137/3 (Live deer transported from London 1859)

⁷¹³ Ibid. p. 172 (from Chapman and Chapman 1975)

⁷¹⁴ NA, DD 4P/62/68/27 (Deer post mortem 1878)

Table 4:19 Deer in Cowclose March 1872 [Fig 4.8]

Type/Age	No.		No.		No.
<u>Bucks</u>		<u>Does</u>		<u>Fawns</u>	
Bald faced	1	Black does	6	Buck dirty white	1
White bucks 3 years old	5	Bald faced	3	Remainder all colours	9
Old White bucks	3	Dirty White	2		
White buck 2 years old	1				
Total	31	Remainder various colours		Total number in Cowclose	49

Source NA DD 4P 76/46/89 (Number of Deer in Cowclose 1872)

Unlike the Black Deer and White Deer parks, the deer kept in Cowclose [Fig. 4.8] were all colours from black to white and ‘dirty white’ which was not what the keeper or the Duke wished for.

Boaler’s account is clear regarding the importance of white deer being ‘pure’ white as opposed to ‘dirty white’. In 1878 there were fewer “Hinds in the park when counted in the winter - 37”⁷¹⁵, but this number did not include fawns or stags.

The exchange of deer was a two way process with deer sent regularly to other estates including Windsor Royal Park and Woburn. For example in 1872 “1 buck fawn, 1 doe fawn, 1 doe 1yr old, 1 doe 2yr old, 1 buck 2yr old all sound and right when put in boxes”⁷¹⁶ were dispatched possibly to Woburn or Windsor. In 1879 a keeper reported that “In the White Deer park this morning I found the old hind had dropped a calf of a very fair colour [and] I don’t know of any reason why the Woburn hinds should not be turned into the White Deer park [Fig. 4.8]”.⁷¹⁷

In 1878 it was asked “Can the deer from elsewhere be caught and if so what would they be like at Welbeck?”.⁷¹⁸ The deer being discussed were Highland deer which were from the Duke’s estate in Scotland; however, they were discounted because “The Caithness deer are not a good example of Highland deer”.⁷¹⁹ Live deer were transported from Welbeck to the Scottish estates to ‘improve’ the Scottish deer as reported by Fletcher “Among the first was the Duke of Portland who brought some stags from his park at Welbeck to Langwell in Caithness”.⁷²⁰ It is evident that the deer breeding

⁷¹⁵ NA DD 4P/62/68/25 (37 hinds in park 1878)

⁷¹⁶ UNMSS, Pwk 3736 (List of deer sent and boxed by Donald Ross 1872)

⁷¹⁷ NA, DD/4P/76/48/17 (Report to the Duke by keeper 1879)

⁷¹⁸ Ibid. DD 4P/62/68/25 (Different deer species 1878)

⁷¹⁹ Ibid.

⁷²⁰ Fletcher J, (2011) *Gardens of Earthly Delight, The History of Deer Parks*, p. 97.

programme at Welbeck was much more intensive than it had been earlier in the century, and some animals were transported great distances in order to 'improve' the local population.

Management and Location

The management of deer became more intensive in the 1860s and George Boaler was instrumental in changing the way the deer were contained within the park. Paddocks were created inside the park and stocked with deer. Within these paddocks deer were housed and stall fed in sheds as well as being outside, as Boaler commented in 1879 "We have succeeded in catching five stags this morning [and] they are now turned into the sheds".⁷²¹ The feeding of deer was managed carefully, according to Boaler it would seem that "stall fed bucks usually keep well".⁷²² This was different to the way deer were managed previously and it facilitated the taming of the animals, which in turn made them easier to control. There were problems though, with ensuring all deer species were contained in the park areas and this was addressed by the Duke.

Deer were mainly kept in paddocks in the park but they were also kept and fed in sheds in this period. In 1863 Boaler reported to the Duke "I killed a paddock doe and found her but little work, not having more fat on her than some shedded does that I have seen in the park".⁷²³ Boaler discussed the numbers of does in the park with the Duke in this year "There are more does in the park than ever, at any rate 40 of them should be killed, the reason for this is that the annual quantity have not been killed for the last five or six years".⁷²⁴ It is evident that a number of deer were killed each year in an attempt to ensure that the paddocks did not become overstocked.

In 1875 a comprehensive report by Boaler, on the state of the deer paddocks within the park was tabled, and questions were asked about the number of deer within the areas of the park including the paddocks. The Black Deer paddocks in Sloswicks [Fig. 4.8] were considered to have too many deer, in "Sloswicks black deer paddock, the deer are not wanted and get fat, the pasture wants to be closed down to improve it".⁷²⁵ Concerns were over the number of deer per acre "The Black Deer paddock, Mr Hardwick's is over stocked, there is 55 head of deer on that small plot of ground".⁷²⁶ It was suggested that the calculation for "the meadows to be about 16 acres and would keep about 25 to 30 head of deer".⁷²⁷ This reveals a significant incidence of the over stocking of deer in a small

⁷²¹ NA, DD 4P/76/48/14 (Catching stags 1879)

⁷²² NA, DD 4P/76/48/16 (stall fed bucks 1879)

⁷²³ NA DD 4P/76/45//54 (deer not fat in 1863)

⁷²⁴ Ibid. (Too may does in park 1863)

⁷²⁵ NA, DD/4P/62/68/22 (Report on state of deer paddocks 1875)

⁷²⁶ Ibid.

⁷²⁷ Ibid.

area. Shirley's advice in 1867 of "never allowing more than one deer to the acre"⁷²⁸ is not followed, and these figures show twice the number of animals. However, in some areas of the park stocking densities were lower as in the White Deer paddock [see fig. 4:8] which in 1875 "would carry 50 head of deer and there is only 18 head of deer".⁷²⁹ It could be that breeding white deer presented more challenges for Boaler due to the need to keep them totally separate from the other herds and so encourage inbreeding. There is no evidence of the number of acres in the white deer paddock. The review however, stated "The Cow close paddocks [Fig. 4.8] would carry more deer, there is 52 head of deer in the paddocks and I calculate there is another 50 acres of grass which is good land for feeding purposes. I would think it would be able to carry from 80 to 100 head of deer".⁷³⁰ These figures also imply almost double the stocking density recommended by Shirley, and shows the intensity of the breeding programme during the 5th Duke's tenure.

Almost immediately the 5th Duke took up residence at Welbeck there were plans agreed for the erection of a continuous wrought iron deer fence around the boundary of the park. This was a huge undertaking, which even involved slightly changing the boundary line between the Duke of Portland's estate and that of the Duke of Newcastle. The plan for this was drawn up in 1856 by Charles Neale, Portland's agent and sent to Henry Henning, agent of Clumber Park, for perusal and the permission to alter the estate boundary. Neale explained the reasons for the boundary change [Fig. 4.9] in August 1856 as follows "In fixing a new Iron boundary Deer fence around Welbeck Park between the two properties near Sloswicks as shown in the amended plan and marked A and B were found inconvenient for fixing the said fence and [the two Dukes] at once considered that the boundary should be diverted as shown by the red line on the plan".⁷³¹ The plan shows a small triangular piece of land being taken from the Portland estate and given to Clumber and Neale confirms this, saying "The said portion of land given and taken will be clearly shown [Fig. 4.9]".⁷³² It can be assumed from this correspondence between the two agents that the boundary was diverted because the terrain made the land too difficult to attempt to erect the fence. The drawings for the deer fence do show the size and quality of the materials used and the specification of the "continuous deer fence – joining standards standing 16 feet apart and 6ft high above and 1ft 6" under the ground of 1 and $\frac{3}{4}$ inches of iron".⁷³³ It was a Staffordshire firm of ironmongers who made the fence, and they were highly recommended in 1867 by Evelyn Shirley who gave "preference to

⁷²⁸ Shirley E P, (2007) *Some Account of English Deer Parks with notes on the management of deer* (first published 1867), p. 240.

⁷²⁹ NA DD/4P/76/62/68/22 (Report on state of deer paddocks 1875)

⁷³⁰ NA, DD/4P/76/62/68/22 (Report on state of deer paddocks 1875)

⁷³¹ NA DDP6/13/27/5 (Boundary fence 1856)

⁷³² Ibid. DDP6/13/27/5 and DDP6/13/27/8 (Map 1856)

⁷³³ UNMSS PLE12/15/2/2 (Deer fence 1856)

Messrs. Hill and Smith, of Brierley Hill near Dudley, whose invention of a patent notched bar and joint is a great improvement, and tends to keep the uprights and bars in their proper position".⁷³⁴ So, this was a very substantial fence [Fig. 4.10] and Hill and Smith would "make, deliver, erect, fix and finish a good, sound iron Deer park fencing round the whole of Welbeck Park".⁷³⁵ The boundary around the length of the park would amount to several miles so it was a very extensive undertaking on behalf of the 5th Duke. The upkeep of the fence was written into the deeds as follows "after the expiration of the said term of twenty years keep the whole of the said fencing and gates in such form of such appearance and in such complete repair order and condition for a further term of twenty years in consideration of the payment by the Duke to Hill and Smith of the sum of one pound per annum for every mile in length of fencing and gates".⁷³⁶ The iron fence erected by the 5th Duke was very substantial, and could have had negative implications for any deer which attempted to escape from the park.

Boaler produced several sketches of other fences and paddocks. In 1865 he sent a sketch to the Duke detailing proposed paddocks, number 1 and 2 in the Causeway close and the Brick Kiln field within the park [fig. 4.11]. The detailed proposal commented that "the paddock should be made at brick kiln holes, any quantity of land could be taken from the Causeway close but not to run up to the Whitwell Road for fear of any accident happening as the deer jumping out of the park".⁷³⁷ The escape of deer was a constant worry for the park keepers and "in any paddock for this purpose it would be as well to make a new fence that is outside but if he [the deer] ever got out of the park he would not make his way in again".⁷³⁸ So, it was proposed to make a new fence on one side of the paddock and "the present park fence [the iron fence] would be the boundary on one side [as well]".⁷³⁹ It would appear though that even the iron fence was not completely secure, as according to Boaler, "I have seen one of our own stags go over the iron fence when forced and outlying deer are not easily turned by any ordinary park fence".⁷⁴⁰

As well as the creation of paddocks, Boaler also sent a very detailed sketch in 1870 of three different access points for deer to move between the paddocks [Fig. 4.12]. These included one made of wood, one made of refuse from an old building and the third, same as the second but with the top of the wall to be taken away [Fig. 4.12]. This suggests that either a wall was already present or the intention was to build a wall to contain the deer. It is not evident whether these proposals

⁷³⁴ Shirley E P, (1867) *Some Account of English Deer Parks with notes on the management of deer*, p. 239

⁷³⁵ UNMSS, PLE12/15/2/1 (Deer fence 1856)

⁷³⁶ Ibid.

⁷³⁷ NA DD 4P/76/45/73/1 (proposed paddocks 1865)

⁷³⁸ Ibid.

⁷³⁹ Ibid.

⁷⁴⁰ Ibid.

were implemented but if they were it would have been more difficult for small mammals to move easily within the park area if there was a continuous wall. However, the proposed entry points for deer would have also allowed wildlife to move more freely, thus ensuring access to favourable areas of habitat and sources of food.

Paddock deer were fed mainly on the grassland in the park, but, in dry years the pasture suffered in summer through overstocking, with sheep as well as deer. In 1863 according to Boaler "It has not been a good year for the park, there is nothing [grass] after the sheep have eaten it down and where there is a little grass left, the deer are driven off by the sheep".⁷⁴¹ There was a recurring problem of the competition between sheep and deer for park pasture land. In 1875 the Duke was concerned about this issue and enquired whether deer were "competing with sheep".⁷⁴² However, a number of the deer were kept in sheds and stall fed. It is not clear whether this practice was deployed in summer or just in the winter, although Boaler caught some deer "in February 1879 [and] turned them into sheds".⁷⁴³ It could be that they were kept in sheds for a period of time before killing because according to Boaler in May 1879 "stall fed bucks usually keep well".⁷⁴⁴ Boaler's comment suggests that stall fed deer are in better condition for killing because if the animals are "drove about in the park the deer becomes heated and if killed then the venison never keeps well".⁷⁴⁵ While there were advantages for keeping stall fed deer, according to Boaler "It is only under favourable circumstances that they can be killed as in the boxes".⁷⁴⁶ The weather conditions had an influence upon the optimum killing time for deer as Boaler argues "damp weather is the worst we have to contend with as the venison never sets but continues moist and becomes clammy".⁷⁴⁷ This would have a more detrimental effect upon paddock fed deer, however, with the right conditions "when fed altogether on grass the venison appears more delicate and takes less tendering".⁷⁴⁸

A variety of crops were grown in the park specifically for feeding deer. According to Shirley, deer feed crops included "beans as the most valuable of artificial productions which are used most extensively in almost every park, [and] turnips extensively used for winter feeding".⁷⁴⁹ However, Shirley does not mention an arable crop which was widely grown within Welbeck Park and that was

⁷⁴¹ NA DD4P/76/45/55 (deer driven off by sheep 1863)

⁷⁴² NA DD P4/62/68/22 (sheep competing with deer 1875)

⁷⁴³ NA, DD 4P/76/48/14 (deer kept in sheds 1879)

⁷⁴⁴ NA DD 4P/76/48/16 (Stall fed bucks in better condition 1879)

⁷⁴⁵ NA DD 4P/76/48/16 (Paddock deer venison not as good as stall fed 1879)

⁷⁴⁶ Ibid. (Right time for killing stall fed deer 1879)

⁷⁴⁷ Ibid. (Weather conditions for killing deer 1879)

⁷⁴⁸ Ibid. (Venison better when deer grass fed 1879)

⁷⁴⁹ Shirley E P, (2007) *Some Account of English Deer Parks, with notes on the Management of deer*, (first published 1867), p. 245.

tares, a “flowering legume [vetch] in the pea family grown for feed for ruminants”.⁷⁵⁰ This protein rich plant which was forage or collected as hay was mentioned by Boaler on a number of occasions. In 1863 he was particularly disappointed with the poor condition of some of the deer in the paddocks noting “I killed one [deer] which I found to be better but not as good as I should have expected from the quantities of tares they have eaten”.⁷⁵¹ Tares likely had a positive environmental effect upon the light sandy soils of Welbeck Park by releasing nitrogen as well as enriching the land if used as a green manure. In 1860, the mowing of the water meadows included mowing tares and the keeper reported “The first mowing of the water meadows at Carburton and Cuckney, I calculate to be 70 acres and the second mowing 50 acres of tares, the third mowing water meadows, the second time”.⁷⁵² As flowering legumes tares would have been valuable in attracting butterflies as well as providing pea seeds as food for birds. Therefore, by sowing this crop, specifically for sustaining deer, Boaler inadvertently ensured that a beneficial source of food was made available to other wildlife.

Deer are browsing animals as well as grazers and this sometimes put them in direct conflict with the planting of young trees within the park. Although the browsing of brambles, ivy or even heather was not a problem, it was the damage done by debarking, nibbling buds and tree shoots which was of the most concern. This is evident at Welbeck, in 1860 in correspondence between the Duke and Boaler, when the Duke asked “Did the Roe deer damage the 20 year old trees in the plantation [and] did they bark the trees with their teeth as well as their horns and to what age of trees?”.⁷⁵³ Boaler replied that the deer did not damage the older trees and “they only nibbled a few leaves and buds on lower branches of 6 or 7 year old trees”.⁷⁵⁴ The deer did bark the trees “with their horns principally on trees 3 or 4 years old, [especially] in the rutting season for mischief”.⁷⁵⁵ It is not clear which plantation was being damaged but it was the roe deer that ate tree shoots and debarked trees with their horns, the most damage being done to “Ash, Mountain Ash, Sycamore and dwarf shrubs, principally by browsing on the buds of lower branches”.⁷⁵⁶ The intensive breeding of deer in this period was responsible for causing significant environmental damage to young trees and in some cases deer destroyed them completely by debarking. When trees were debarked by deer, as happened in the rutting season, the trees could not recover from bark being stripped completely around the circumference of the tree.

⁷⁵⁰ <http://www.seedaholic.com> accessed 3rd October 2016

⁷⁵¹ NA, DD 4P/76/45/54 (poor condition of deer 1863)

⁷⁵² NA DD 4P/63/68/11 (Mowing of tares in water meadows 1860)

⁷⁵³ NA, DD/4P/62/68/30 (Concern of Duke about damage by deer 1860)

⁷⁵⁴ NA, DD/4P/62/68/30 (Reply from Boaler re- damage 1860)

⁷⁵⁵ Ibid.

⁷⁵⁶ Ibid.

Overstocking with deer was a problem in Welbeck at times and it would have negatively affected the light pasture land within the park. It was evident that some deer did suffer and indeed died as a result of lack of nourishment. In 1872 according to the veterinary Naylor “I have examined the two deer, the probable cause of the fawn dying is that the does are not giving as much milk as normal, they are therefore thrown upon their own resources to obtain sufficient food and the supply of natural food being scarce they are induced to eat such as they get and no doubt there are several poisonous herbs”.⁷⁵⁷

Uses

The breeding of deer was primarily for providing venison for home use but it was also sent to acquaintances of the Duke as well as societies, clubs and hotels. The 5th Duke was a generous benefactor as is shown in Table 4.20:

Table 4.20 Requests and thanks for game 1864-1875

Place	Thanks	Year
Great Northern Railway, Station Hotel Leeds	Thank your Grace very much for the valuable present of venison your Grace has so kindly sent to me	1869
Great Northern Railway, Leeds Station	To thank your Grace that the Hamper containing half a buck has been greatly received	1869
Nottingham and District Working Mens Constitutional Association	We would like to ask your Grace for a final present of venison for this occasion	1872
Caythorpe Grantham	Colonel Pack expresses his thanks for the kind present of venison	1873

Source Na DD 4P/76/58/3,4,8,9 (Gifts of Venison 1869-1873)

All but one of these were ‘gifts’ of venison to various hotels and railway societies, and included the Working Mens Club who asked the Duke for a present of venison. The 5th Duke did not just send venison to persons of high rank, but gave it away as ‘presents’ to working people. He was also very

⁷⁵⁷ NA, DD 4P/76/57/8 (Veterinary report on deer dying 1872)

generous to his own tenants and 'gifted' venison to them. Boaler reported to the Duke in December 1863 that "All the principal tenants had venison in the summer [but] there are some ones who occupy from 20 to 100 acres that had none, there may be from 10 to 15 of these".⁷⁵⁸ It is possible that venison was gifted to the tenants who farmed the most land because it would be favourable to the Duke at local election times. Some venison was sent to London, particularly to Harcourt house where the Duke stayed when he was resident in London. Boaler informed the Duke in December 1863 "I will send the two black does to Harcourt house tomorrow, I will write on the directions which is the park doe and which is the paddock one".⁷⁵⁹ According to Boaler the park does were in better condition than the paddock does "as very few of the paddock does in the park are fit to kill".⁷⁶⁰

Deer were also an aesthetic addition to the parkland at Welbeck as they represented the wealth and prestige of the landowner [Fig 4.13]. The 5th Duke also spent time most days with the animals as Butler observed about 1870 "He [Duke] was very fond of deer, I think, since he used to go out in the morning, a footman with him carrying a bag of corn or something to feed them. I remember bags of corn used to stand in the North entrance for them".⁷⁶¹

4.13 Parkland sheep

Species

The Duke was conscious of continuing with 'improving' his flocks as is evident in 1871 with his interest in the sale of a Southdown flock in Norfolk. The sale was held at Merton Hall Farm Norfolk and it included "the dispersion by the auctioneers hammer of the celebrated flock of Southdown sheep with which the late Lord Walsingham achieved so much success in the show grounds of the Royal and other Agricultural Associations".⁷⁶² The 5th Duke's representative succeeded in acquiring two Southdown rams "A yearling ram by Perfection, dam by Viceroy, 16gs. [and] a yearling ram by Perfection, dam by Clipper, 24gs".⁷⁶³ These animals were obviously from a prestigious sire and dam and they commanded a high price of "£22.0s.6d [each, and] the total price for all [the flock] £1431.13s.6d".⁷⁶⁴ It is evident that flocks at Welbeck would have been 'improved' by using two young rams from a well bred flock, which had won prizes at important agricultural shows such as the Royal Show. The breeding of sheep such as the Southdown was still developing in the

⁷⁵⁸ NA DD 4P/76/45/55 (Gifts of venison to tenants 1863)

⁷⁵⁹ NA DD 4P/76/45/56 (Letter from Boaler to Duke about venison sent to Harcourt house 1863)

⁷⁶⁰ Ibid.

⁷⁶¹ Butler E, (1931) *Ellen Butler's account of her time as a Laundry maid, 1869-70*, p. 7

⁷⁶² NA DD 4P/62/109/8 (Sale of Southdown sheep in Norfolk 1871)

⁷⁶³ Ibid. (Two Southdown rams bought by the 5th Duke 1871)

⁷⁶⁴ Ibid. (Price of rams 1871)

nineteenth century and cross breeding was practiced to achieve the maximum carcass weight during the 5th Duke's tenure. According to Turner, Beckett and Afton "there was a pattern of rising [slaughter] weights from near 50 pounds from 1720-1770, something above 50 pounds thereafter, and to 60 pounds in the mid nineteenth century and to 65 pounds average weight in the last quarter of the nineteenth century".⁷⁶⁵ The increase in carcass weights was significant from the eighteenth century to the end of the nineteenth century and it was from the "1790s the emphasis (on manure-bearing qualities) altered, and farmers changed to breeding the animals [sheep] with the new object of improving carcasses".⁷⁶⁶

Numbers and Location

There is a lack of evidence about the numbers of sheep during the 5th Duke's tenure, because farm managers did not keep sufficient records of livestock, such as sheep and cattle. Portland did not involve himself with the management of the farms, according to Pickersgill the Duke's "main preoccupation was with buildings, [and] since he did not direct farm operations in the way that his father was accustomed to, the management of the home farms near Welbeck was much less effective".⁷⁶⁷ Portland did employ a farm manager, John Field who was the son of a previous manager, Samuel Field, but according to Pickersgill "this hereditary principle in the case of the Field family, brought some loss and embarrassment to the estate".⁷⁶⁸ Problems occurred at Welbeck regarding the management of the farms in this period, because according to Pickersgill "the manager of the Welbeck farms by this time had become an alcoholic".⁷⁶⁹ Field "in the early 1870s was responsible for farms at Welbeck, Cuckney, Norton, Carburton and Gleadthorpe [which] were at the heart of the Portland estate".⁷⁷⁰ Therefore due to management problems, the lack of evidence about sheep [and cattle] in particular, was mainly due to accounts not being written up. The steward Cripwell informed the Duke on many occasions about Field's lack of account keeping, as Pickersgill comments in 1873 "Cripwell recorded that he had been obliged to write a "very strong letter" complaining of his previous neglect of duty".⁷⁷¹ According to Pickersgill "His neglect [Field] consisted in not attending to the haymaking and not submitting accounts".⁷⁷²

⁷⁶⁵ Turner M E, Beckett J V, Afton B, (2001) *Farm Production in England 1700-1914*, p. 184

⁷⁶⁶ Ibid. p. 193

⁷⁶⁷ Pickersgill A C, (1979) *The Agricultural Revolution in Bassetlaw in Nottinghamshire, 1750-1873* p. 472.

⁷⁶⁷ Ibid. p. 472.

⁷⁶⁸ Ibid. p. 472.

⁷⁶⁹ Ibid. p. 472.

⁷⁷⁰ Ibid. p. 473

⁷⁷¹ Ibid. p. 474 (UNMSS Pwk 1158, 1873)

⁷⁷² Ibid. p. 474.

The number of sheep kept with other livestock species was an important consideration because sheep competed intensely for parkland grazing. In 1867, Shirley gave advice in his treatise and suggested that “it is a wise and safe rule never to allow more than one deer to the acre and even less a proportion if sheep are suffered to be with them”.⁷⁷³ However, when in 1875 Boaler calculated how many sheep should be kept with deer in the white deer paddock, he suggested to “allow 2 deer for 3 sheep”.⁷⁷⁴ These calculations were rather different to Shirley’s recommendation, as “the white deer paddock would carry 50 head of deer and there is only 18 head of deer in the paddock [and] I calculate to be about 40 acres of Sloswicks ground”.⁷⁷⁵ It would appear that the proposed figure was more than one deer per acre as well as more sheep than the paddock could safely hold. According to Boaler’s calculations there would always be 50% more sheep in the paddocks than there would be deer, but it is not clear whether open parkland was included in his figures.

Although there are no definite numbers of sheep, the location and acreage of pasture land used for the animals is shown in Table 4.21

Table 4.21 Pastures for the sheep 1860-1875

Location of pastures	Number of Acres
Mr Cutts farm	160
Mr Mellors farm	180
Mr Adfields farm	100
Hazel Gap	50
The Ground in the Park	400
Scotland farm	70
Total Acreage of Pasture for sheep	960

Source NA DD 4P/63/68/2 (Number of acres of pasture land for sheep 1860-1875)

The total number of acres given over to sheep in the 5th Duke’s tenure is significant. The areas totalling 440 acres were probably land on tenants’ farms, outside of the park area. However, 520 acres of sheep pasture mainly within the park and includes Scotland farm on the edge of the park and Hazel Gap near Norton [Fig. 4.14]. Therefore, the sheep in these pastures were part of the 5th Duke’s flocks in the park as well as animals belonging to tenants of the Duke inside and outside the

⁷⁷³ Shirley E P, (2007) *Some Account of English Deer Parks with notes on the Management of deer*, (first published 1867), p. 240 (from Downs, *The Select Committee of the House of Commons, &c., in 1848-9*)

⁷⁷⁴ NA, DD 4P/62/68/22 (Stocking sheep with deer 1875)

⁷⁷⁵ Ibid.

park. If Boaler's calculations were used of 50% more sheep than deer, it would be 75 head of sheep in 40 acres, so, in the park alone that would mean approximately 750 sheep. Therefore, the numbers of sheep at Welbeck would be many more than a thousand. Although it is outside of the 5th Duke's tenure there is evidence of there being "938 sheep"⁷⁷⁶, of differing breeds in the late nineteenth century [1899].

Management and Uses

Overgrazing by sheep in the park was evident in 1863, according to Boaler "It is alright to eat grass down with cattle in a park of deer but not to the extent with sheep as there is nothing after the sheep have eaten it down, for the deer, there is after cattle".⁷⁷⁷ Boaler was aware of the detrimental effects of grazing sheep on the park pasture land and if the rainfall was low in 1863, the grass on the light soils of Welbeck Park would have suffered. Boaler confirmed the lack of food for the deer "It has not been a good year for the park there has not been an acorn, a beech nut or chestnuts for them [deer] to get this year and the park has been too much eaten down with sheep for the does to get much fat on them".⁷⁷⁸ It is clear that the management of sheep was an acute problem for the park keeper in this period due to overgrazing, resulting in other grazing animals suffering from undernourishment.

There is evidence of the production of wool in 1873 when "At the wool weighing at Carburton he [Field] had not appeared at nine o'clock, the result was that the weighing was not completed until 7.30 in the evening".⁷⁷⁹ However, by the later nineteenth century, the most valuable end product of breeding sheep was the carcass weight; meat was a more saleable commodity than the production of wool in this period. Although there is no evidence of animals sold at market, but this would have happened as well as sheep being killed for home use. However, the 5th Duke did not particularly require mutton for himself, according to Turberville "His diet was of the simplest".⁷⁸⁰

4.14 Parkland Cattle

Species and Numbers

The dairy cattle at Welbeck which included Lincolns Ayreshires and Alderneys, the latter were supposedly recognised as a much improved herd and "a letter from the owner of a nearby estate to

⁷⁷⁶ NA DD P6/18/27/3 (sheep numbers in 1899)

⁷⁷⁷ NA DD 4P/76/45/55 (Sheep overgrazing in 1863)

⁷⁷⁸ Ibid. (no food for deer 1863)

⁷⁷⁹ Pickersgill A C (1979) *The Agricultural Revolution in Bassetlaw in Nottinghamshire, 1750-1873*, p. 475.

⁷⁸⁰ Turberville A S, (1939) *Welbeck Abbey and its Owners*, p. 433.

the 5th Duke provides evidence of this”.⁷⁸¹ But, there were problems regarding the breeding of dairy cattle locally and in 1864, a farmer explained to the 5th Duke some of the problems inherent with particular breeds. Some years previously Portland’s agent had apparently advised the farmer about “converting our pastures into good profitable butter”.⁷⁸² Seemingly, the farmer “pleaded the cause of your Ayreshires against the Alderneys, I am bound to admit my failure”.⁷⁸³ The two breeds were crossed successfully in the beginning, as he said “all our crosses whether with Ayreshires or Alderneys for several years made our dairy a subject of pride to us and envy to our friends”.⁷⁸⁴ However, the herd became unproductive subsequently and were “worn out reverting I suppose to the unprofitable characters of the successive short horn lines”.⁷⁸⁵ There is no mention of specific numbers regarding the dairy herd but there were two quite large cow houses which suggests that a significant number of dairy cattle were housed.

There is little mention of beef cattle in this period but the numbers appeared to be low. According to Pickersgill, the steward Cripwell complained that Field [Farm manager] “was inattentive to business”.⁷⁸⁶ This resulted in little or no records being kept by the farm manager as Cripwell stated “...Field’s report...says nothing”.⁷⁸⁷ The mismanagement by Field meant that “he submitted no accounts and did not answer letters”.⁷⁸⁸ In 1872 Cripwell reported to the Duke that “J. Fields in difficulty how to convert his large quantity of straw into manure through not having had the usual supply of cattle”.⁷⁸⁹ The situation regarding numbers of parkland cattle was serious; Cripwell stated that “all he [Field] has on the different farms in Cuckney, Norton and Carburton is two very large Scotch bullocks at Scotland farm which he is keeping until Christmas”.⁷⁹⁰ Therefore, the numbers of beef cattle was quite depleted due to Field’s mismanagement.

Management and Location of Housed cattle

Alderney cattle were a relatively small breed and originated from a milder climate which may have been detrimental to their productiveness as far north as Nottinghamshire. However, the Alderneys at Welbeck were housed, probably during the coldest months where they would have escaped the worst vagaries of an English winter. Although the animals produced very rich butter and cream,

⁷⁸¹ Pickersgill A C (1979) *The Agricultural Revolution in Bassetlaw in Nottinghamshire, 1750-1873*, p. 334.

⁷⁸² Ibid. p. 334, (UNMSS Pwh 4211, 1864)

⁷⁸³ Ibid. p. 334

⁷⁸⁴ Ibid. p. 334.

⁷⁸⁵ Ibid. p. 334

⁷⁸⁶ Ibid. p. 473.

⁷⁸⁷ Ibid. p. 473. (UNMSS Pwk 968, Steward’s complaint about Field 1872)

⁷⁸⁸ Ibid. p. 474. (UNMSS Pwk 1022 1872)

⁷⁸⁹ Ibid. p. 474 (UNMSS Pwk 1022, Few cattle 1872)

⁷⁹⁰ Ibid. p. 474 (UNMSS Pwk 1022, Only 2 bullocks 1872)

other cattle breeds were more productive as “on average it would require two Alderneys to give the butter furnished by one good Holderness or Lincolnshire cow”.⁷⁹¹ Also, these island cattle would have required verdant pasture land rather than being housed in order to thrive, which was available on wetter lower pastures near the lakes but park pasture land could be quite thin, particularly in a dry year.

It was during the period of ‘high farming’ many improvements were made for keeping dairy cattle. They were increasingly housed inside, a large stone cow house was erected which according to Jacks “is of a great size, divided into stalls, each stall being of galvanised metal and slate [with] a roof of revolving shutters, so that the part which is open in good weather, can be closed in days of cold”.⁷⁹² The cow houses and dairy were “amongst the buildings connected with Welbeck Abbey and housing cattle meant that “provision was generally made for the new methods of processing stock food”.⁷⁹³ Therefore, ley fodder from the park was processed for cattle food by steaming in nearby buildings. These methods were used at Welbeck where boilers were run by “a small vertical engine [and the resulting] waste steam from the boilers was put to excellent use”.⁷⁹⁴ However, keeping cattle inside meant that dung and urine needed to be removed, so, there existed “a second cow house of similar proportions to which the animals are transferred when the [first] place requires cleaning”.⁷⁹⁵ It could be argued that housing cattle had positive outcomes for the grass land in the park because it lessened the ecological damage caused by competing species of livestock.

Uses

The Alderney herd at Welbeck was kept for the richness of its milk although they were not as productive as other breeds such as the Lincoln and Ayreshire. The beef cattle would have been used to supply meat, either for selling or for supplying the needs of the estate. However, it is evident that beef cattle were not kept in sufficient numbers in this period mainly due to the farm manager’s reluctance to carry out his duties on the Welbeck farms. Because of the scarce numbers of beef cattle, there was also a problem with manure provision where cattle waste was mixed with straw, for fertilising agricultural land. The difficulty arose ‘through not having the usual supply of cattle’ therefore; very low cattle numbers would have been detrimental to crop growing.

The dairy herd at Welbeck was widely admired but it was the Alderneys which commanded the most interest according to Jacks “The Duke of Portland had some famous Alderneys and they were housed

⁷⁹¹ Pickersgill A C (1979) *The Agricultural Revolution in Bassetlaw Nottinghamshire 1750-1873*, p. 334.

⁷⁹² Jacks L, (1881) *The Great Houses of Nottinghamshire and the County Families* p. 162.

⁷⁹³ Trow-Smith R, (1959) *A History of British Livestock Husbandry, 1700-1900*, p. 313.

⁷⁹⁴ Jacks L (1881) *The Great Houses of Nottinghamshire and the County Families*, p. 162.

⁷⁹⁵ Ibid. p. 162.

in the most comfortable quarters”.⁷⁹⁶ Although these cattle were not the most prolific milk producers they were important as animals of ‘display’ which would have enhanced the status of the 5th Duke of Portland.

4.15 Parkland Horses

Species and Numbers

Hunting stables existed within the park in 1881 according to Jacks, which were close to the Abbey “which stood on a square acre of ground and were arranged in the form of a quadrangle [with]] accommodation for some fifty or sixty horses”.⁷⁹⁷ Jacks also comments “His Grace’s stud consisted of more than hundred horses”⁷⁹⁸, comprising mainly of thoroughbreds and hunters, but “this number [also] included carriage horses”.⁷⁹⁹ The large numbers of horses were evident when a laundry maid to the Duke recalled that “His Grace was very fond of horses and had great numbers, I have seen them coming in from exercise, a long line of couples reaching from the orchard to the stables”.⁸⁰⁰ Portland was very well informed regarding the attributes [or otherwise] of his horses. In 1856, he describes “A fine well foal [and] A horse named Cowslip [with] coarse ears, tail lowered, coarse and bony [and] two white hind legs and the foreleg white one near fetlock”.⁸⁰¹ These descriptions showed that Duke took a great interest in the condition of all of his horses, according to Jacks “Most days the horses were exercised, generally in the presence of their owner, who had the reputation of being a keen judge of horse flesh”.⁸⁰²

General hacks were provided for the Duke’s employees such as the keeper George Boaler. However, in 1865, Boaler reported that “The horse that I now have belonging to His Grace is nearly useless and had nothing occurred I would have asked to be replaced as it is so broken winded that I cannot ride it out of a foots pace for fear of it dropping down”.⁸⁰³ So, the horses used by the keeper were probably animals which were no longer useful for other purposes, either because they were too old or not in good condition. There were other work horses kept at Welbeck, which were necessary to haul materials for the Duke’s vast building programme and taking down trees was part of the work the horses were required to do. The laundry maid to the Duke saw these animals working in the late

⁷⁹⁶ Jacks L, (1881), *The Great Houses of Nottinghamshire and the County Families*, p. 162.

⁷⁹⁷ Ibid. p. 162.

⁷⁹⁸ Ibid. p. 162.

⁷⁹⁹ Ibid. p. 162.

⁸⁰⁰ UNMSS, (1931), *Recollections of Ellen Butler, Laundry maid, (1869-1879)* Pwk 5326/6, p. 6

⁸⁰¹ UNMSS Pwk 5161/1 (Description of horses by 5th Duke 1856)

⁸⁰² Jacks L, (1881) *The Great Houses of Nottinghamshire and the County Families*, p. 161.

⁸⁰³ NA DD 4P/76/45/73/1-2 (broken horse 1865)

1860s. According to her “there were many large oaks and the Duke had them cut down, the roots being dragged up by the horses of the Wood-steward”.⁸⁰⁴

There were also many donkeys kept at Welbeck at this time. The Duke provided them for the labourers to ride to work from villages such as Whitwell and Warsop. Ellen Butler witnessed on most days, the processions of men and donkeys and at mealtimes “a bell rang [and] there was a chorus of brays from the donkeys who were feeding on the grass behind the laundry”.⁸⁰⁵ There is no exact number of these animals but the Duke provided “employment for thousands of men, masons, bricklayers, joiners, plumbers and navvies”.⁸⁰⁶ It would also appear that visiting horses were brought on a regular basis to Welbeck from outside livery stables, as according to Butler “Horses were here [Welbeck] from East’s Livery Stable keeper of London which were used for taking servants to Cuckney church on Sunday”.⁸⁰⁷

Management and location

The 5th Duke wanted the very best facilities for the training and exercising of his thoroughbred horses and with this in mind he had an enormous structure built which was glass covered, and was known as the ‘tan gallop’. It was a very innovative building for its period because it “was a covered training gallop used in the winter months to train racehorses, the gallop was heated and the ground was covered with spent oak chippings, from the leather tanning process, which made it more comfortable for the horses hooves”.⁸⁰⁸ As Jacks stated the “outbuildings were connected with Welbeck Abbey [and] “the whole length of the tan gallop was 270 feet”.⁸⁰⁹ According to Jacks “The Welbeck stables are as large as a small village”.⁸¹⁰ The facilities for stabling and training horses during the 5th Duke’s tenure were lavish, which reflected Portland’s passion for the animals. According to Turberville the Duke “would be found inspecting the horses in the stables or watching the young horses being trained”.⁸¹¹

To maintain the health of horses they needed to have their diet supplemented with oats and hay, which were grown in the park at this time. Fodder grown specifically for horses included legumes [tares] and grass, and the estate records in 1860 mentions the crops known as “Green food for

⁸⁰⁴ UNMSS, (1931), *Recollections of Ellen Butler, Laundry maid, (1869-1879)*, p. 4.

⁸⁰⁵ *Ibid.* p. 3

⁸⁰⁶ Turberville A S, (1939), *Welbeck Abbey and its Owners*, p. 439.

⁸⁰⁷ UNMSS, *Recollections of Ellen Butler, Laundry maid, (1869-1879)* p. 3.

⁸⁰⁸ <http://www.harleygallery.co.uk> accessed 17th October 2016

⁸⁰⁹ Jacks L, (1881) *The Great Houses of Nottinghamshire and the County Families*, p. 161.

⁸¹⁰ *Ibid.* p. 161, p.162.

⁸¹¹ Turberville A S (1939) *Welbeck Abbey and its Owners, 1755-1879*, Vol. 11 p. 443.

horses”.⁸¹² The ‘green food’ provided for the horses was located in “The first mowing the water meadows at Carburton and Cuckney, [Boaler calculated it] “to be 70 acres and the second mowing 50 acres of tares, the third mowing water meadows, the second time”.⁸¹³ Mowing grounds in the park areas were also mentioned for hay which would have been for grazing animals such as horses, deer and cattle as shown in Table 4.22

Table 4.22 Ground for mowing, 1860

Location	Acreage
White Stone piece seeds	60
Lucerne Brecks	140
Forge Meadow by the lake	60
Rein Deer Park	60
Greendale lake field	20
Kiln Croft Meadow	20
Clown	20

Source NA DD 4P/63/68/11 (Mowing grounds in Park 1860)

Uses

The 5th Duke did not ride in his later years, according to Turberville he travelled the estate in a “wagonette with side curtains drawn by four horses”⁸¹⁴, so he had carriage horses for his own use. Work horses were invaluable to the park for hauling trees. The laundry maid stated in the late 1860s, they were “clever great animals [and] they would walk out so far with a rope attached to a ‘snatch block’ and then stop at a word and retrace their steps, leaving the roots on the lorry”.⁸¹⁵ However, it was the breeding of thoroughbred horses which interested the 5th Duke the most, he watched them regularly in the riding school and gave instructions on the best training methods suited to racehorses. The breeding of racehorses would have empowered the prestige of the Duke as he was a well known authority on finer qualities of the animals. The number of horses the Duke bred required large stable blocks to house all the breeds including thoroughbreds, carriage horses, visiting horses and work horses. Portland also owned hunters although he did not take part in fox hunting, preferring to travel in a carriage himself. There were also a considerable number of donkeys kept at Welbeck in this period which were used by work people to travel to and from the estate every day.

⁸¹² NA DD 4P/63/68/11 (Green food for horses 1860)

⁸¹³ NA DD 4P/63/68/11 (mowing water meadows)

⁸¹⁴ Turberville A S, (1939) *Welbeck Abbey and its Owners*, Vol. 11 p. 445.

⁸¹⁵ UNMSS Butler E, (1931) *Ellen Butler’s account of Welbeck 1869-1879*, p. 4, p. 5.

	deer not recorded		very low	Jacks L. Seymour
--	-------------------	--	----------	------------------

The indigenous red deer were declining in the vicinity of Welbeck Park during the 3rd Duke's tenure as they were considered as 'pests'. As the old forest land was developed for agricultural purposes, food became scarcer for free ranging deer and they enraged tenants by eating down their crops and gardens. However, deer were still kept in the park, they were important symbolically as 'display' animals to consolidate the high status of the 3rd Duke. He was an important political figure and he used gifts of venison to further his political ambitions, particularly at election times. There was a substantial number of deer in 1780 but by 1782 the numbers were significantly reduced. Fewer numbers of deer were kept, in part due to the 3rd Duke's worsening financial situation.

In the early part of the 3rd Duke's tenure [1776] there were large numbers of sheep; over 4,000 were kept in this year. However, the numbers reduced significantly from 1776 to 1778 when more than 2,000 sheep were sold, which helped to cut the estate expenses. Portland also relinquished his support of the Worksop Hunt and horses were sold leaving only 7 horses in 1782 for the Duke's own use, but more were bought in the same year. However, the situation at Welbeck did begin to recover by the end of the eighteenth century. The steward Cleaver ensured that inferior livestock, particularly sheep and cattle were sold off and he began to 'improve' the livestock, when he managed the Home farm. There were positive ecological impacts of sheep in particular, because they maintained the fertility of the park, according to Shrubbs "sheep were manure distributors and grazed in the day and were folded on arable land at night".⁸¹⁶ Manure was considered as a crucial fertiliser when the nearby forest was being enclosed into farms in the 1790s.

The numbers of cattle in 1776 was more than three hundred, but this declined substantially by 1779 to just 80 animals. However, by the end of the eighteenth century cattle were not kept in the same numbers as sheep as Pickersgill argues "There are fewer references to cattle than to sheep in the correspondence, reflecting their smaller numbers and importance to the estate".⁸¹⁷

Although the 4th Duke 'gifted' venison to high ranking aristocracy as well as acquaintances he did not involve himself with the breeding and welfare of the deer in the park. The 4th Duke's interests were very much centred upon improving the agricultural and livestock concerns at Welbeck. He corresponded with his steward Turner regularly but it was always concerned with agriculture, sheep

⁸¹⁶ Shrubbs M, (2003), *Birds Scythes and Combines, A History of birds and agricultural change*, p. 205.

⁸¹⁷ Pickersgill A C, (1979) *The Agricultural Revolution in Bassetlaw in Nottinghamshire, 1750-1873*, p. 332.

and cattle and the care of his numerous racehorses. Consequently there is little evidence of the management of deer in this period.

However, the importance of deer at Welbeck cannot be underestimated, venison was important for gifting throughout the tenures of the three Dukes which helped them to secure patronage both politically and socially. Also, aesthetically, deer were 'display' animals which brought prestige to all three Dukes' and secured their status to the wider community.

When Titchfield assumed control of Welbeck the numbers of sheep went down to just under a thousand in 1799, but the numbers started to steadily recover in the nineteenth century. He consolidated the finances of Welbeck and was able to pursue his agricultural interests which included 'improving' the sheep breeds. The cross breeding of sheep was of particular interest to the 4th Duke and he introduced the larger breeds such as the Southdown and crossed them with forest sheep to produce heavier carcass weights. Sheep were bred more for their meat value rather than wool production by this period, but the 4th Duke introduced imported sheep such as the Spanish Merino to improve the quality of wool from the Welbeck flocks. Unfortunately the increasingly intensive breeding programme of sheep by the 4th Duke ensured that the old forest breeds of Welbeck finally died out altogether, as the emphasis was upon much larger animals. According to Trow-Smith "In 1846 Notts. Forest sheep are now nearly extinct".⁸¹⁸

The 4th Duke did keep cattle but not in prodigious numbers, but they were grazed in various areas of the park such as the Upper Grange Meadows, the Carrs and Porters' meadows. Cattle were regularly bought and sold by Portland, breeds included North Devon, South Devon, Scots and Alderneys. By this period there was a dairy at Welbeck which consisted mainly of Alderney cattle which were considered as superior milking cows.

The Duke's other interests included the breeding of thoroughbred horses, which became very successful winners in the racing world. There is evidence of Titchfield's stud at Welbeck in 1794, with a total of 21 horses being stabled there. However, his interest in racehorses increased significantly throughout his tenure. Although there are no specific numbers, thousands of pounds were spent upon the upkeep of the animals, suggesting that he owned many horses. However, some of them were stabled at Newmarket as well as Welbeck, which made it difficult to assess the number of horses the Duke owned.

⁸¹⁸ Trow-Smith R, A (1958) *History of British Livestock Husbandry, 1700-1900*, p. 268 (R. A.S.E.,vi/l, 19-20,ii/ii, 329)

The breeding of all species of deer under the 5th Duke became ever more intensive. The keeper Boaler managed the herds and bred all types such as red, white red, roe as well as black and white fallow deer. The 5th Duke had a very long iron deer fence erected around the park at great expense, in order to keep the deer out of grassland and plantations. However, during this period deer were increasingly kept in sheds and stall fed as well as being turned out into the park which meant that by the 1860s deer were either paddock/park deer or shedded deer. There were still very frequent exchanges of deer with other estates such as Woburn and the Royal Park Windsor in an attempt to maintain the vigour and health of the animals.

Although there are no specific numbers of sheep recorded in this period, the keeper Boaler was concerned about too many sheep being run with the deer. This caused problems of overstocking which resulted in some of the deer being severely malnourished. However, the 5th Duke paid significant sums of money to acquire some of the best Southdown rams in the country which had the capability of 'improving' the Welbeck flocks.

During the 5th Duke's tenure there was a substantial dairy in the park which had been created by the 4th Duke. Alderney cattle were used for dairying and new, elaborate cow houses were built specifically to keep the cattle under cover, as the breed suffered under inclement winter conditions. However, beef cattle numbers seriously declined in the 5th Duke's period mainly due to mismanagement by the farm manager. According to Pickersgill "The Welbeck farms were amongst the most highly developed in England; they had more capital resources than almost any in the country".⁸¹⁹ Pickersgill argues that the resources at Welbeck "were seriously mismanaged over a number of years by an employee [John Field] whose abilities had failed".⁸²⁰

The 5th Duke's passion was the breeding and training of thoroughbred horses. His keen interest in horses resulted in him having a large Riding School built, as well as stables for housing and training the animals. Within the School there was a tan gallop which was used to put the horses through their paces. Portland involved himself with the training because he visited the School most days to see how the animals were performing and he gave instructions as to how they should be worked. The Duke was very knowledgeable about thoroughbreds and could assess their attributes or otherwise which ensured that he owned superior animals. The Riding School could house up to 100 thoroughbreds as well as stabling for carriage and work horses.

⁸¹⁹ Pickersgill A C (1979) *The Agricultural Revolution in Bassetlaw Nottinghamshire, 1750-1873*, p. 476

⁸²⁰ Ibid.

This chapter has revealed how the management of grazing animals changed considerably over time. The different management systems adopted by the three Dukes were directly related to substantial changes made to the park landscape. In the early eighteenth century, the transition from a deer park to a landscape park at Welbeck meant that by the period of the 3rd Duke emparkment was complete. The consolidation of landscape parks in the later eighteenth century had profound environmental impacts upon wild grazing animals such as red deer. These particular animals almost disappeared when forest areas were removed to facilitate the ploughing up of land for agricultural purposes or plantations. However, other species of deer including roe and fallow deer remained in the park environs where ongoing attempts were made to contain them, mainly due to the damage they caused to new plantations. Sheep became the most important grazing animals in the park economically for wool, meat as well as their role in 'improving' enclosed arable land by fertilising the poor soils. In the early period sheep were aesthetically important in displaying the wealth, power and prestige of the landowner. However, the management of deer and sheep over the whole period revealed the tensions due to competition for access to grassland. The impact upon parkland pastures was at times considerable, due to overgrazing by sheep in particular. Deer and sheep have similar grazing actions and the more active attempts to contain and manage deer and the greater husbandry of sheep brought the two animals into greater conflict.

Another important theme throughout the chapter is the enthusiasm demonstrated by all three Dukes for the keeping, breeding and training of horses. Studs, training areas and riding schools were created throughout the period and this impacted upon areas of the park. Under drainage was undertaken near the lake to create a training ground for the 4th Dukes racehorses which had negative environmental consequences for wetland wildlife, particularly wading birds. The riding school built by the 5th Duke involved moving many tons of earth in the park which permanently changed the landscape. Overall, it is clear that the management of grazing animals throughout the period was a key task for estate staff and had a profound impact upon the park landscape. Stewards and park keepers faced considerable challenges to contain deer in particular and to provide suitable pasture land for all grazing animals, particularly considering the light sandy soils of the Dukeries area where Welbeck is located.

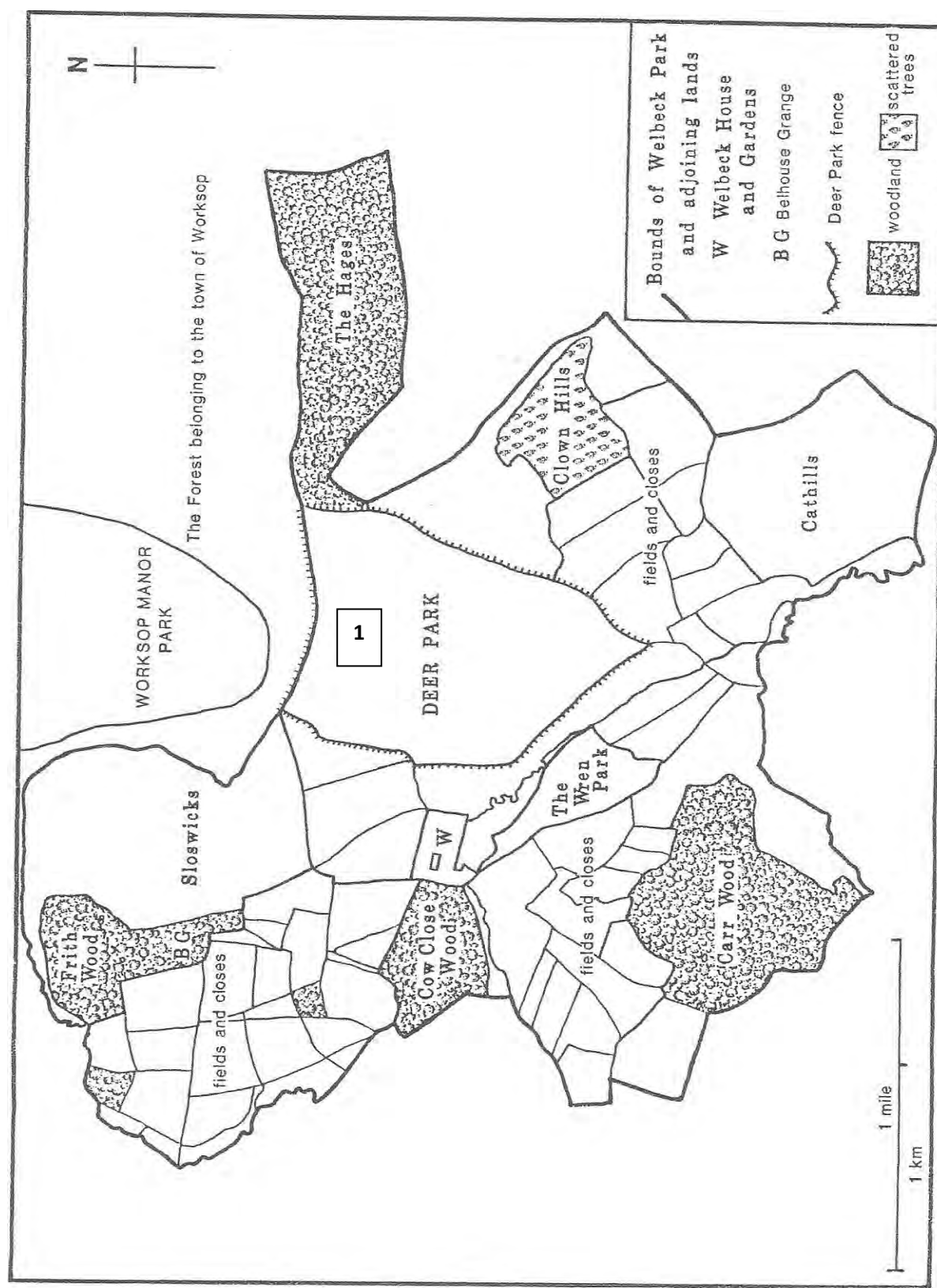


Fig. 4.1 - William Senior Map c.1629

1 – Deer Park

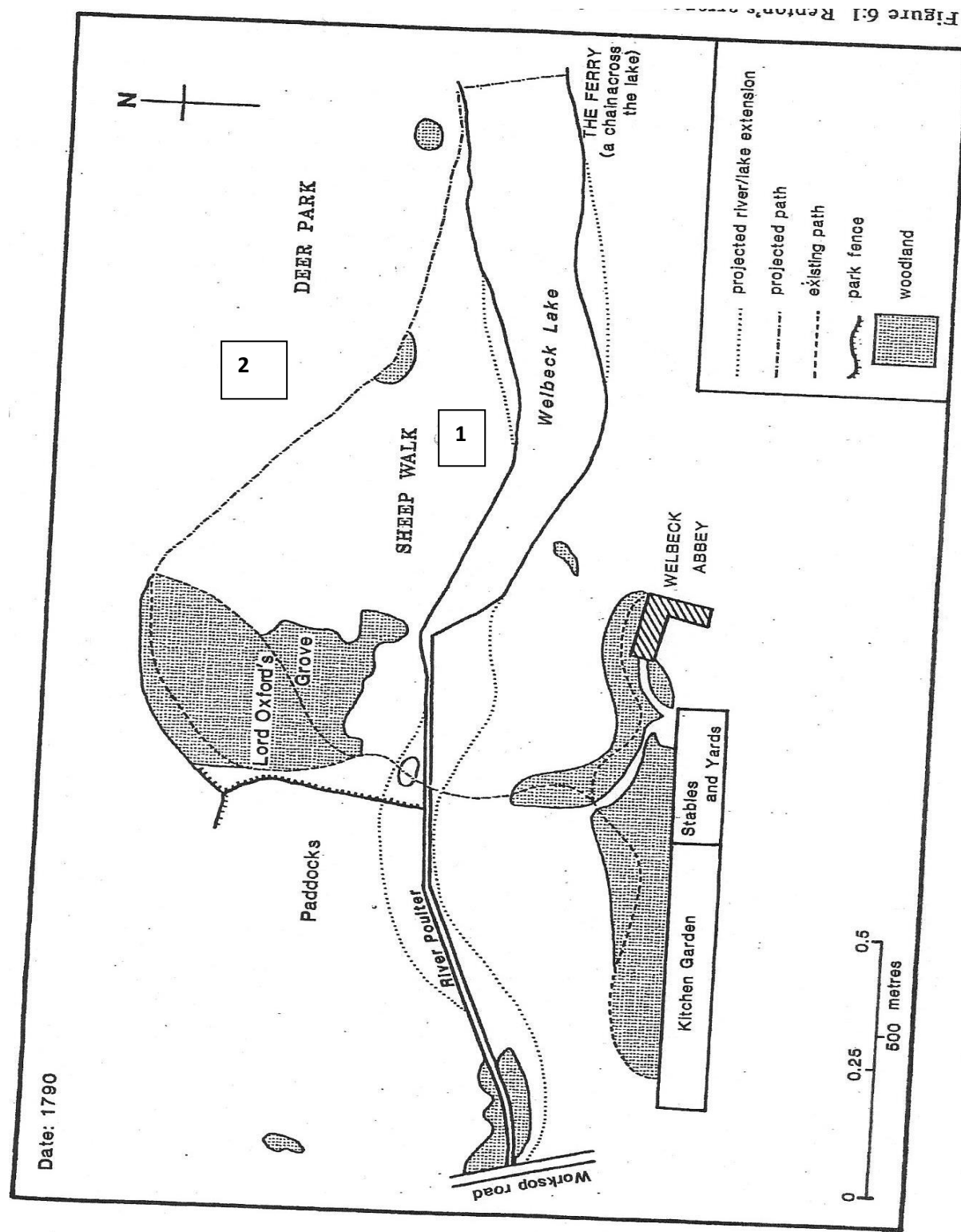


Fig. 4.2

Repton's arrangement of the Sheepwalk and Deer Park c. 1790

1 – Sheepwalk

2 – Deer Park



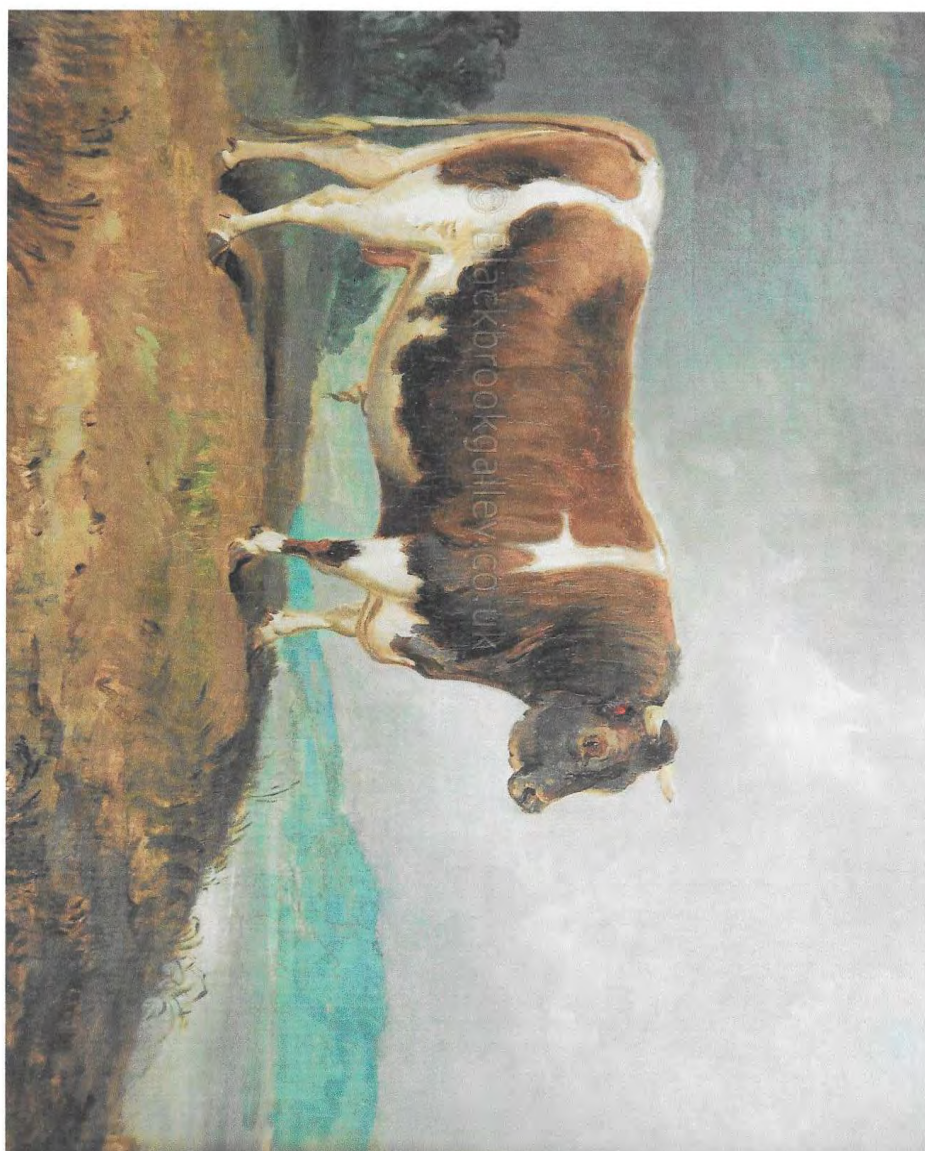
Fig. 4.3

General View of the South and East Fronts, [showing deer in the foreground] taken from mouth of the Valleys in the Park', from the Red Book for Welbeck (1803). Private Collection. Photograph Nottinghamshire County Libraries.

Source – Daniels S (1999) *Humphry Repton, Landscape Gardening and the Geography of Georgian England*, p. 165

1/28/2019

p0018-richard-barrett-davis-alderney-bull.png (1500x997)


<https://www.blackbrookgallery.co.uk/media/catalog/product/cache/1/image/9d73eab3525c096e5fb6d27136e95/p0018-richard-barrett-davis-alderney-bull.png>

1/1

Fig. 4.5**An Alderney Bull (Early 19th Century)**

(Unpublished) Catalogue of The Collection of Pictures and Drawings as Wormsley. The Property of F W Fane as 'An Alderney Bull, the property of John Fane Esq.

Painted by Richard Barrett Davis (1782-1854)

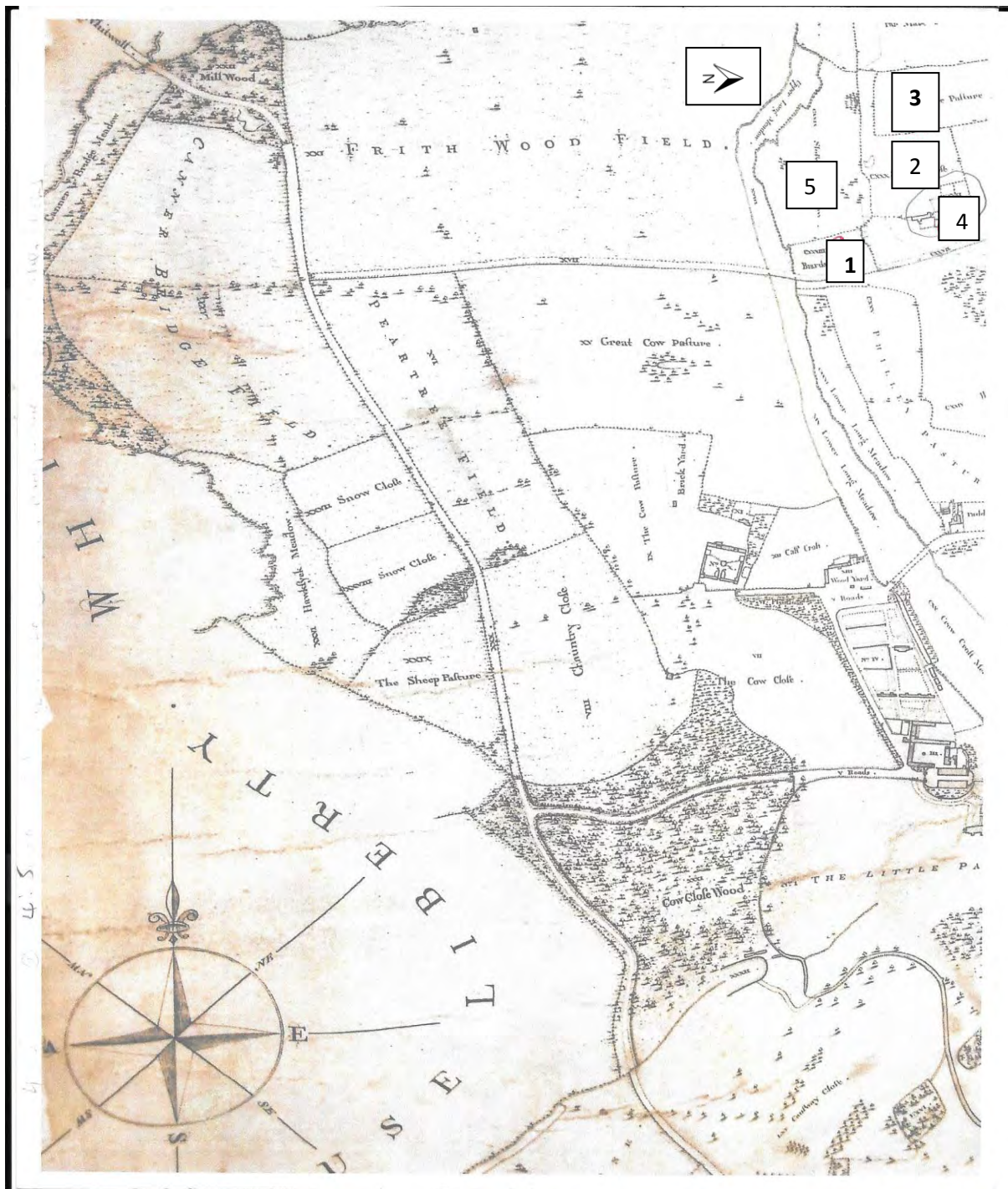


Fig. 4.6 Stables and pastures Ingham's Map c. 1766

- 1 Corner Stable**
- 2 Stable Close**
- 3 New Mare Pasture**
- 4 Stable blocks**
- 5 Sloswicks Meadow**



Fig. 4.7

Tiresias Derby Winner 1819 Bred and Owned by 4th Duke of Portland

James Pollard (1796-1867)

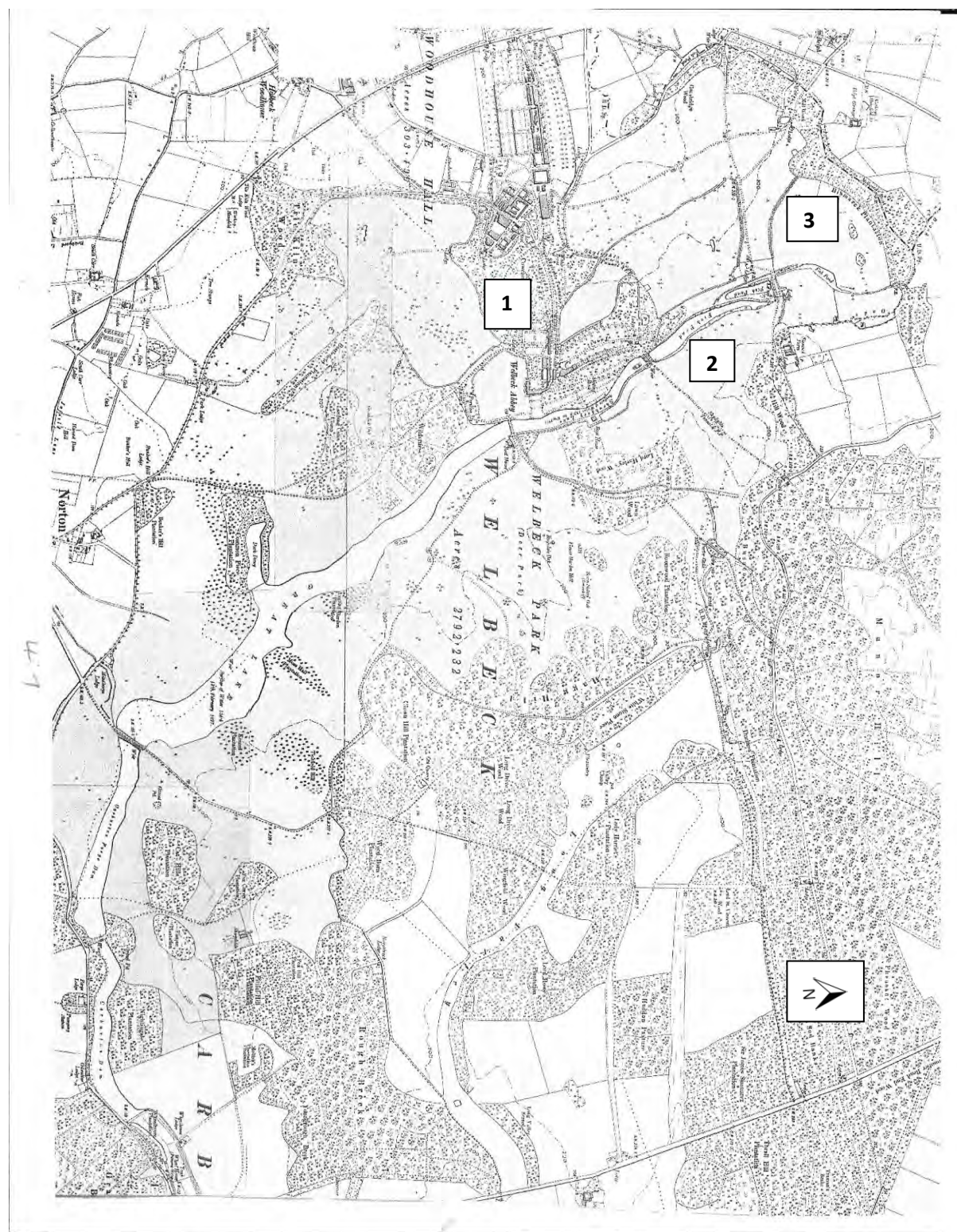


Fig. 4.8 Ordnance Survey Map c.1885

- 1 Cowclose**
- 2 White Deer Park**
- 3 Black Deer Park Sloswicks**

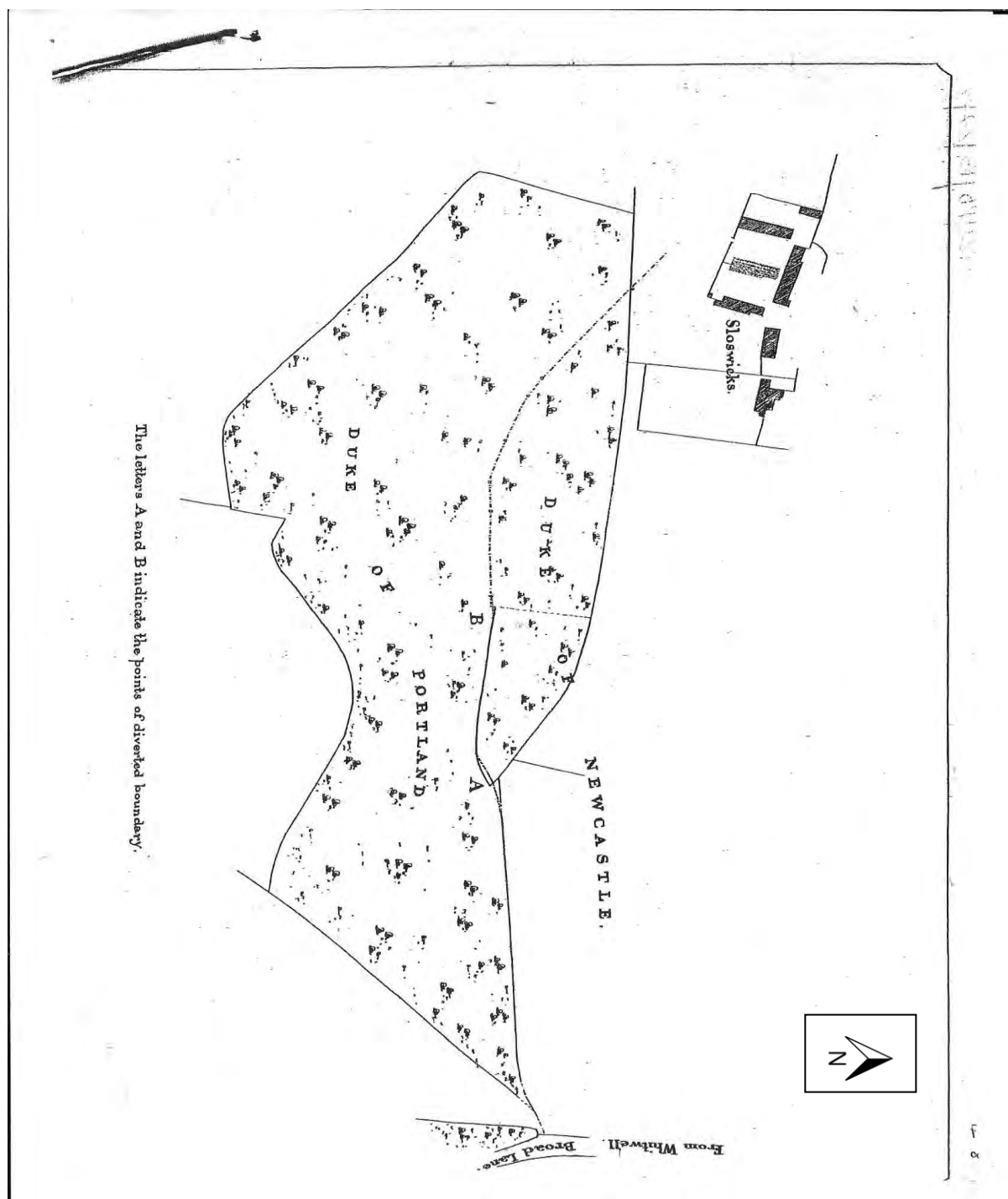


Fig. 4.9 Plan of Boundary Change between Welbeck and Clumber Parks 1856

Drawn by Charles Neale (Steward)

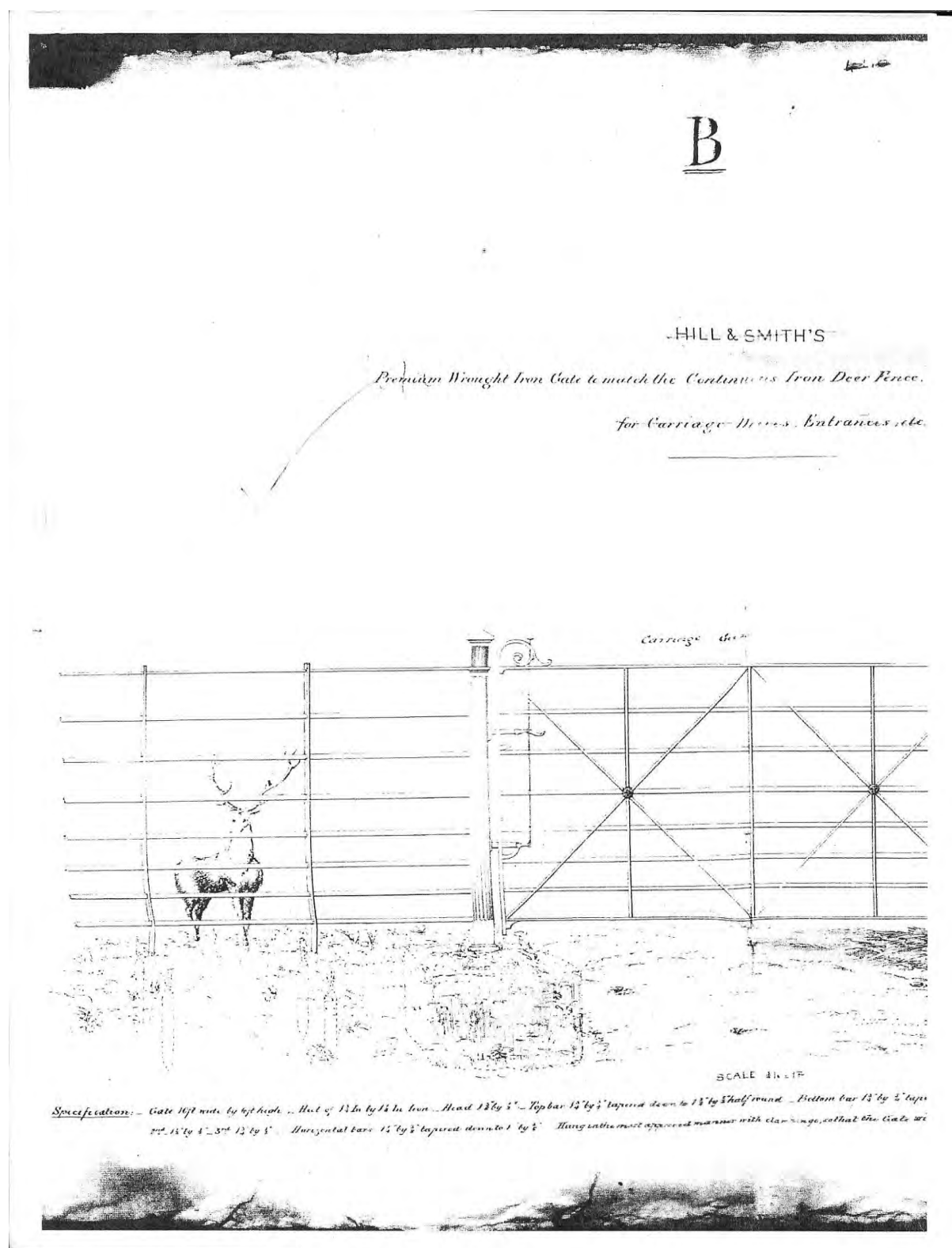


Fig 4.10 Iron Deer Fence c. 1867 by Hill and Smith Ironmongers

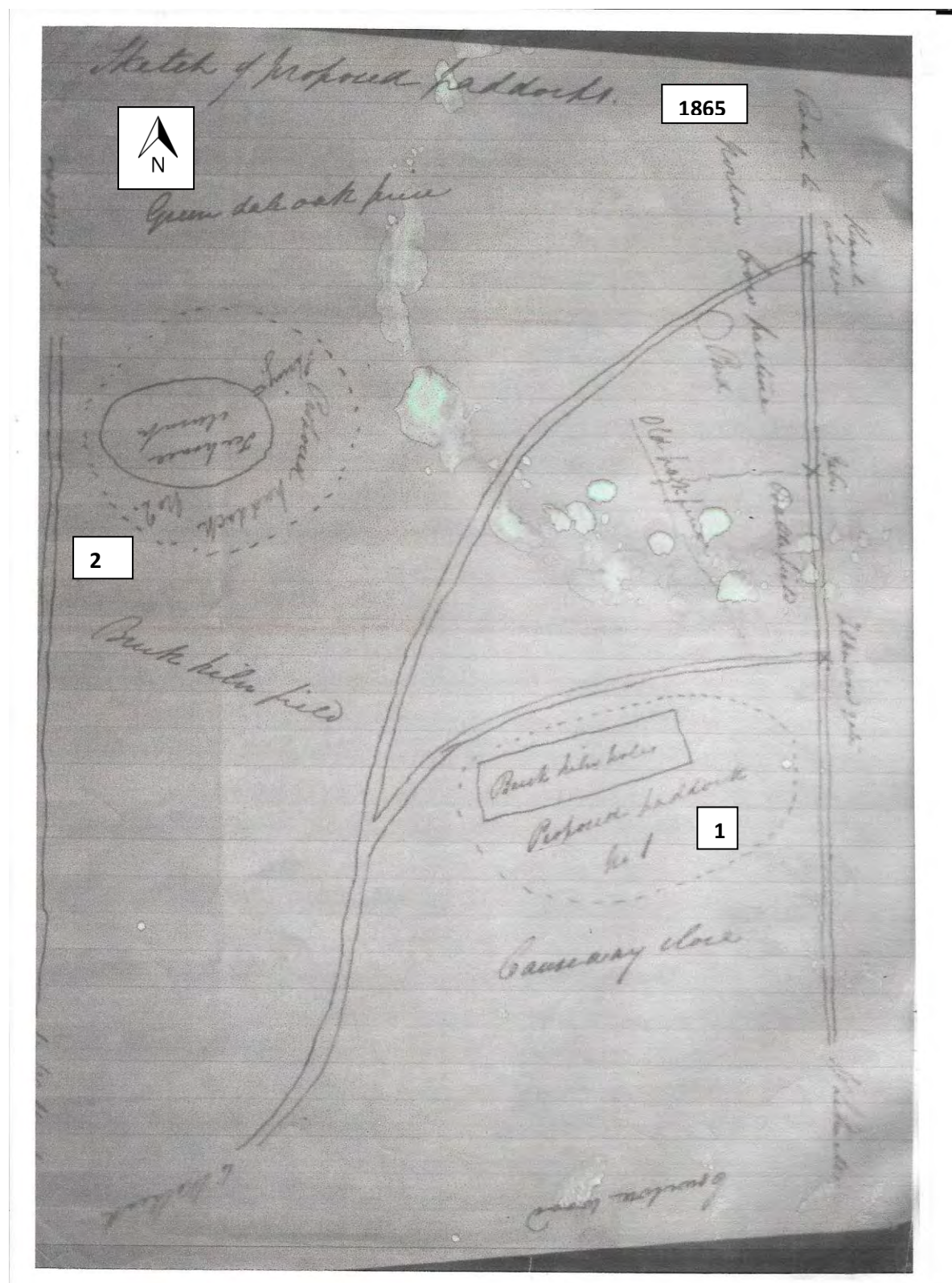


Fig. 4.11 Proposed Paddocks George Boaler, Keeper, c. 1865

- 1 Causeway Close**
2 Brick Kiln Field

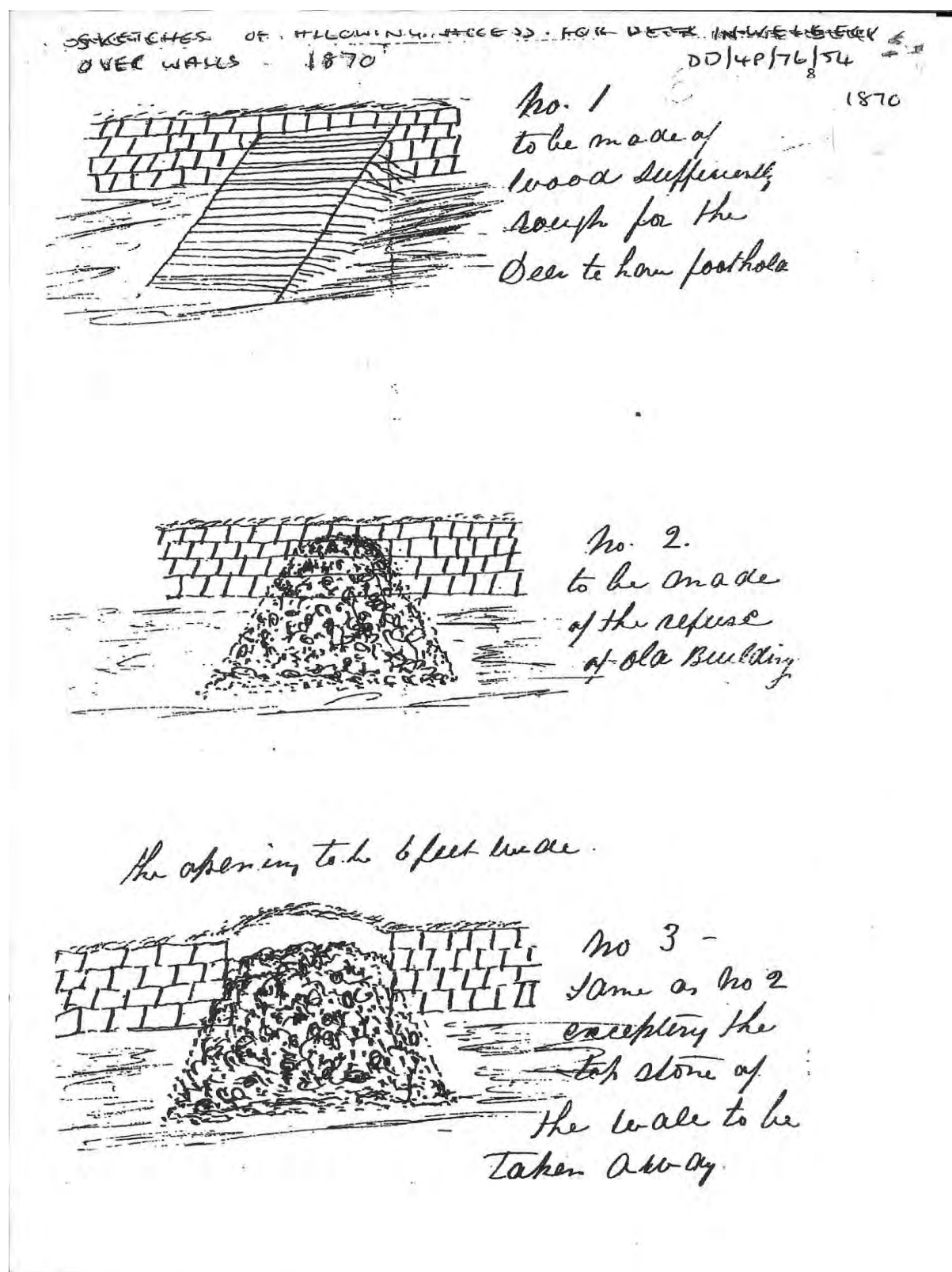


Fig. 4.12 Sketch by Boaler of Access points for deer c.1870



Fig 4.13 Pencil Drawing Welbeck Park –c.1850

Deer on Lawn in front of Abbey

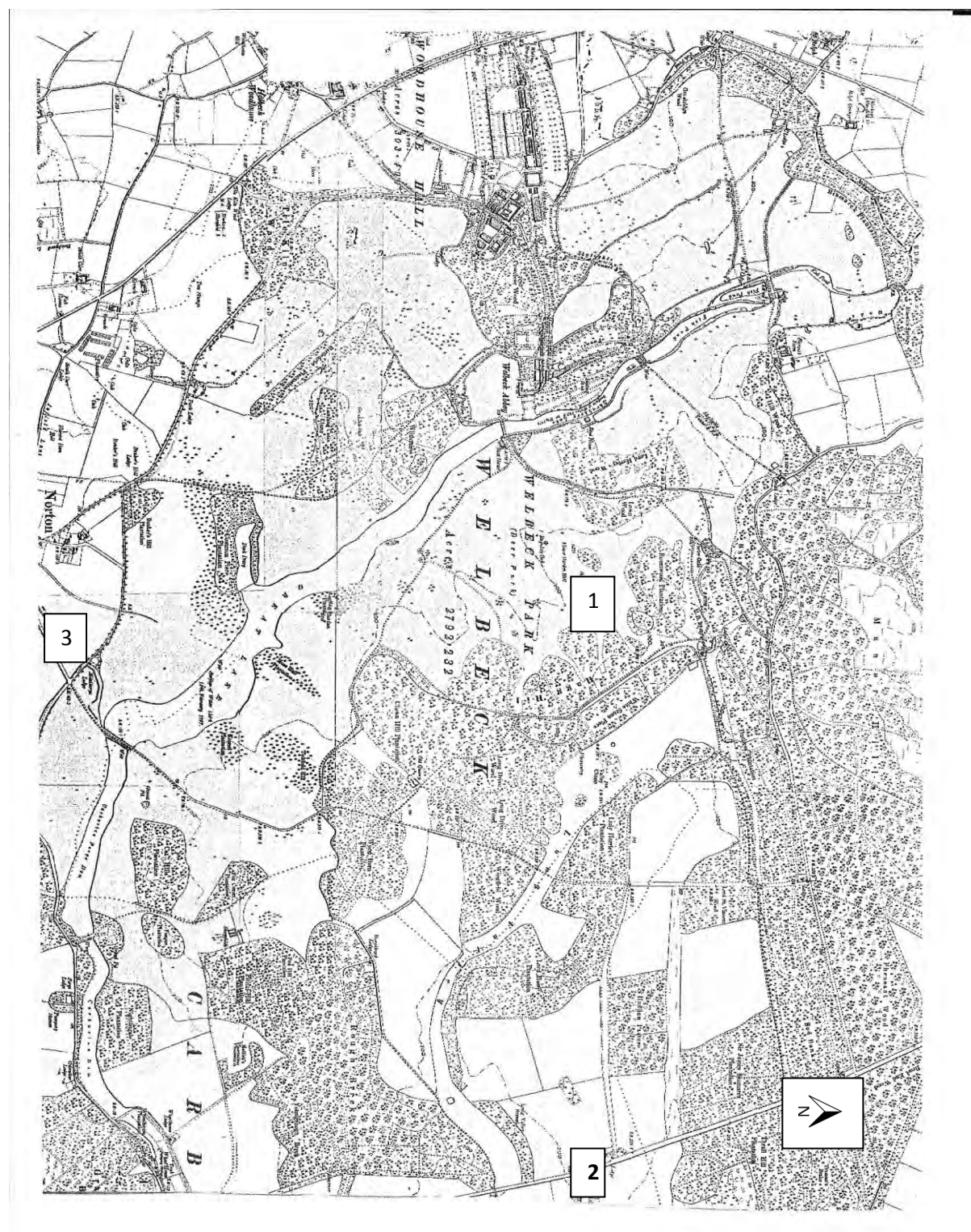


Fig. 4.14 Ordnance Survey Map c.1885

- 1 Welbeck Park**
- 2 Scotland Farm**
- 3 Hazel Gap**

Chapter 5 Game Birds

Introduction

The game birds which will be the main focus of this chapter include the pheasant, the English grey partridge and the red-legged partridge. According to Martin and Mcphail, the earliest introduction of the pheasant in England was *P. c. Colchicus* [or common pheasant] “but since the eighteenth century [first record 1785] stocks have been mostly *P. c. Torquatus* [or Ring necked pheasant]”⁸²¹, from China. However, after the introduction of the Chinese pheasant, it was not possible to keep both types as pure species, and Tegetmeier argues that “crosses between it and the common species [were] very prevalent. The interbreeding of the two species “in a comparatively short time”⁸²², meant that all pheasants became known as ‘ring necks’ because of the distinctive white ‘collar’.

The English grey partridge can be considered as indigenous to Britain because “after the last Ice Age the grey partridge arrived naturally in Britain”.⁸²³ The red-legged partridge was imported from France “about 1770, to supplement the native birds, the grey partridges”.⁸²⁴ The 2nd Duke of Newcastle, “a great shooting enthusiast”⁸²⁵, gave the 3rd Duke’s wife, the Duchess of Portland a very early gift of red leg partridge eggs in 1770 on the birth of her son. Newcastle gave “his compliments to the Duke of Portland [and] having received some red leg partridge eggs from France, the Duchess should choose to have some for her menagerie”.⁸²⁶ The red leg birds were regarded as a novelty for the Duchess but the Duke of Newcastle was not “in the least doubt of their doing well and intends to try the experiment himself to turn them out in Nottinghamshire”.⁸²⁷ However, the red legs did not do well initially and the Duchess “had more luck with Chinese Ring-necked pheasants which interbred with common pheasants in the woods”.⁸²⁸ Welbeck and Clumber were experimenting with these birds as game very early and the Duke of Newcastle ordered “fifty eggs to be sent to Welbeck as soon as they arrive”.⁸²⁹

The chapter focuses in the main on *reared* game birds but there were also wild pheasants and partridges, particularly in the earlier period when game birds were not so intensively reared. The

⁸²¹ Martin B P, Mcphail R, (1992) *Sporting Birds of Britain and Ireland*, David and Charles, Newton Abbot, p. 15.

⁸²² Tegetmeier W B, ((1904) *Pheasants their Natural History and Practical Management*, “The Field” London, p. 161.

⁸²³ <http://www.gwct.org.uk/game/research/species/grey-partridge> accessed 6th January 2017

⁸²⁴ Billett M (1994), *A History of English Country Sports*, R Hale Ltd. London, p. 106

⁸²⁵ Seymour, S (1998) ‘The Spirit of Planting’: eighteenth-century parkland ‘improvement’ on the Duke of Newcastle’s north Nottinghamshire estates’, *East Midland Geographer*, 12(1&2)5-13.

⁸²⁶ UNMSS, Pwf 2965 (Letter to Duke of Portland from Duke of Newcastle’s representative in London, 1770)

⁸²⁷ UNMSS Pwf 2965 (Letter to Duke of Portland from Duke of Newcastle’s representative in London, 1770)

⁸²⁸ Ibid. p. 130.

⁸²⁹ Ibid.

chapter considers key themes and issues of numbers and management of birds, habitat creation, crops grown for food and cover, vermin control and the impacts of changing gun technology in particular the advent of breech loading guns which heralded the introduction of 'driven shoots' with associated environmental effects. Game preserving ensured that all species of game birds were 'protected' from species considered as 'vermin' including raptors, corvids, polecats, hedgehogs, weasels and badgers. The chapter will be organised chronologically and pheasants, English and red leg partridges will be discussed in the same order for each time period.

5.1 The tenure of the 3rd Duke from c.1769 to c.1795

5.2 Pheasant, Numbers and Management

Although shooting had become a more organised sport by the later eighteenth century, the breeding and management of game birds was not as intensive as it later became. The main firearm used was a muzzle loading gun which "was unwieldy, long and difficult to load with powder, wadding and shot, especially in damp weather".⁸³⁰ Wild and reared pheasants were shot in this period, in 1784 Gould and Bullivant could "not find game in the forenoon but found plenty in the afternoon, they was wild".⁸³¹ The wild birds were killed by "Mr Bullivant [who] killed one partridge and a hen pheasant, I only killed a cock pheasant in Sloswick Spring".⁸³² The numbers killed were very small according to Gould in 1787 "I went this morning to meet with the Duke of Devonshire and Mr Heaton and found them shooting near Carburton. I stayed with them 2 hours, they found plenty of game but both of them shot very badly, his Grace killed a pheasant and one partridge".⁸³³ This reveals the difficulty of rough shooting where they walked over with dogs, using the unreliable muzzle guns. However, at this time "the practice of game shooting was undergoing dramatic change".⁸³⁴ Seasons were introduced "The Game Act 1831 stipulated close seasons when it was illegal to kill game. These were for partridges (1st February to 1st September, [and] pheasants (1st February to 1st October)".⁸³⁵ This ensured that game birds received some 'protection' during the Spring and Summer, which included the breeding period.

⁸³⁰ Billett M (1994) *A History of English Country Sports*, R Hale Ltd. London, p. 102.

⁸³¹ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould Part One: 1783-1786* MS/736/5/1

⁸³² Ibid.

⁸³³ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould Part 2, 1787-1788*, (Portland shooting with keeper Boaler 1787)

⁸³⁴ Harvey G, (2002) *The National Trust Living Landscapes: Parkland*, The National Trust Enterprises Ltd. London p. 86.

⁸³⁵ Billett M (1988) *A History of English Country Sports*, R Hale, London, p.215.

However, it is evident that partridges were the preferred quarry, Gould's account of the numbers killed in 1784, reported by the keeper "Joseph Boaler gave me an account of the game he killed this year [1784], viz. sent to His Grace 227 partridges, 46 hares, 39 ducks, 22 pheasants".⁸³⁶ By the later eighteenth century the sport of shooting game birds had developed into a very important leisure pursuit for landowners. Therefore, the 'protection' of game birds outside of specified shooting seasons was practiced during the tenure of the 3rd Duke. To ensure that birds had favourable conditions for breeding and access to cover, as well as a plentiful food supply, the creation of suitable habitat was vital. Game bird management involved habitat protection.

Management

Pheasants require suitable habitat for breeding and roosting and according to Williamson "The upsurge in [parkland] planting was in part fuelled by the development of organised game shooting and in a wider sense it was through an obsession with field sports that great estates made their greatest impact on the environment".⁸³⁷ The head gardener William Speechly managed the creation of plantations within Welbeck Park from the 1760s, with land agent William Gould another key influence in the 1780s and 1790s, though the Duke himself was also actively involved. However, there were already several established areas of woodland within Welbeck Park as is shown on the 1766 map of Welbeck Manor by Ingham [Fig. 5.1]. Therefore, suitable habitats for pheasants already existed within the park in the mid eighteenth century. In 1787 Gould informed the Duke that there were "a number of pheasants in Cow Close Wood which are tame and friendly".⁸³⁸ This would suggest that pheasants were 'reared' birds and encouraged into mature plantations by keepers. The smaller plantations such as Cow Close wood [Fig 5.1] were especially attractive to pheasants as "small woods have a greater proportion of the pheasant's preferred 'edge habitat' than large continuous blocks of woodland".⁸³⁹

As well as management for timber production planting for game preservation in the park had been ongoing under the guidance of Speechly since the 1760s. According to Seymour the new planting schemes made in this period "allowed the appropriation of game from the neighbouring parks of Clumber and Worksop Manor".⁸⁴⁰ This was a deliberate action by the Duke and Speechly, as

⁸³⁶ Hanson M J Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, Part 1: 1783-1786 MS 736/5/1*, (Numbers of game killed in 1784)

⁸³⁷ Williamson T, (2013) *An Environmental History of Wildlife in England 1650-1950*, Bloomsbury London, p. 122.

⁸³⁸ UNMSS Pwf 4296 (Letter from W Gould to the Duke of Portland, 1787)

⁸³⁹ Harvey G, (2002) *The National Trust, Living Landscapes: Parkland*, p. 88.

⁸⁴⁰ Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 260.

Seymour argues that “New plantings were made running from the borders of these parks into the heart of Welbeck territory”.⁸⁴¹ It is evident with a ‘scheme’ put in place in 1776, which was approved by the Duke and according to Speechly “Your Grace sees the Scheme is to make the plantation (on the New park side) a Leading string for game from one park to the other [Fig. 5.1]”⁸⁴², this encouraged pheasants to feed within Welbeck Park. In a letter to the Duke in 1776 Speechly advised Portland “I would also leave spaces unplanted all over the intended plantations in the New park on purpose to sow [with Buck Wheat &c], it is these retired places that will always [sic] be found most to encourage game”.⁸⁴³ Speechly reported to the Duke “As the pheasants come now in such plenty on the bare ground in both places where acorns are, and [p.3] where they are intended to be sown, there would not be the least doubt of the above scheme having the desired effect”.⁸⁴⁴

Coppice and small shrubby ‘clumps’ were used specifically for protecting game birds, in 1795 Gould “took Robert Mee to Carburton Forest [adjacent to the park] and was met by Joseph Thompson in order to set out some plantation clumps for the preservation of game”.⁸⁴⁵ These clumps were useful coverts where pheasants could hide as well as for nesting sites in the breeding season. The planting of shrubbery for game cover was practiced in the later eighteenth century and plants such as blackthorn and hawthorn were used for creating coverts for birds. In January 1783 Gould purchased “2,000 thorn quick [hawthorn] at 2s.6d. per thousand”.⁸⁴⁶ A native shrub which was common in Welbeck Park in this period was the gorse bush which grew wild upon heathland. However when land was enclosed and converted to arable, gorse was regularly removed and Gould supervised the destruction of gorse so the land could be planted with crops. In 1783 he reported “Rode in the forest along with Walkden to the unimproved piece of land (we have in hand) on Carburton forest [where] we found five labourers stubbing gorse”.⁸⁴⁷ A considerable number of the shrubs were removed as Gould suggests “I let them have the parcel they were upon for 16s per acre to clear of gorse, this piece with about 15 acres more is intended this year for turnips”.⁸⁴⁸ The removal of these plants would have had a negative environmental impact upon heathland species.

⁸⁴¹ Seymour S, (1988) *Eighteenth Century Parkland ‘Improvement’ on the Dukeries Estates of North Nottinghamshire*, p. 260.

⁸⁴² Ibid. p. 260 (UNMSS, Pwf 8453 Letter from Speechly to the Duke 1766)

⁸⁴³ Ibid p. 260 (UNMSS, Pwf 8453 Letter from Speechly to the Duke 1766)

⁸⁴⁴ Ibid.

⁸⁴⁵ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould*, Part Four: 1792-1795, MS 736/5/4, 1795, p. 560

⁸⁴⁶ Ibid. Part One: 1783-1786, MS/736/5/1

⁸⁴⁷ Hanson M J Ed. (2002) *The Portland and Devonshire Agent, the diary of William Gould*, Part one: 1783 – 1786, MS 736/5/1

⁸⁴⁸ Ibid.

Shooting pheasants was closely monitored because there sometimes disputes about who the birds 'belonged' to. According to Gould In 1783 "The Duke of Newcastle wrote to him and complained we killed his pheasants too near Clumber Park".⁸⁴⁹ An agreement was made between the Duke of Portland and the Duke of Newcastle "that no pheasants shall be shot in Carburton Lodge [Fig. 5.2] near Clumber Park, I have fixed the turnpike road for a boundary for our keepers not to exceed, the keepers of His Grace the Duke of Newcastle are not to come there, in consequence our Duke's table must be supplied from the larder at Clumber".⁸⁵⁰ This constituted a stern warning by Gould to Newcastle's keepers and he even suggested that Portland should be supplied with game from Clumber Park if the boundary line was crossed. This seemed to be an ongoing dispute between the two Dukes. A few years later in 1788, according to Gould "His Grace [Duke of Portland] said if the Duke of Newcastle would not allow farms at Carburton something handsome for the damage done by the game at that place, the keepers [Welbeck] should shoot there as usual".⁸⁵¹ Again in 1792, Gould reported having "a long conversation... with the 3rd Duke respecting the preservation of game at Carburton and Gould was asked to speak with Lord Titchfield to "persuade him [Duke of Newcastle] to consider himself a more Master of this place &c".⁸⁵²

5.3 Partridge Numbers and Management

During the 3rd Duke's tenure muzzle loading guns were the only firearm available for game shooting and as Billett argues "In the early days of shooting with the muzzle-loader, the partridge was the main quarry rather than the pheasant".⁸⁵³ Although the numbers of partridges shot in this period were not overly large. The number of partridges killed compared with pheasants in the early period was substantial, but according to Billett "the flintlock gun [muzzle loader] often proved dangerous because they misfired frequently [so] the quarry was always targeted when on the ground"⁸⁵⁴, which would make it very difficult to kill with a muzzle loading gun. The season for partridge shooting is slightly different to pheasant, as it begins a month earlier, on the 1st September. This date was observed by Gould who reported on Saturday 1st of September, 1787 "this being the first day of

⁸⁴⁹ Hanson M J Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould*, Part One: 1783-1786, MS 736/5/1 p. 28.

⁸⁵⁰ Ibid. MS 736/5/1

⁸⁵¹ Hanson M J Ed. (2002) *The Portland and Devonshire Agent, The Diary of William Gould* Part three, 1788-1792, MS 736/5/3, p. 257.

⁸⁵² Ibid.

⁸⁵³ Billett M, (1994) *A History of English Country Sports*, p. 106.

⁸⁵⁴ Ibid. p. 101.

partridge shooting I rode over part of Gleadthorpe farm, and the forest farms belonging to Bullivant and Cowley".⁸⁵⁵

The method of management for partridges involved the Duke's employees checking regularly on their nests. This was necessary because partridges laid eggs on open farmland, so were vulnerable to predation. Payments were made to preserve nests against predators. In May 1792 "Robert Hancock [was paid] for tending of game 120 days at ½ s a day - £7. 1s. 2d., [and again in November]) paid for attending game - £8.14s.2d".⁸⁵⁶ Therefore, during the 3rd Duke's tenure, partridges were not reared intensively but rather the protection of nests was a way of ensuring sufficient birds were bred for shooting.

The agricultural 'improvements' made in the eighteenth and early nineteenth centuries in Welbeck Park were ideal for the success of the English grey partridge. According to Tapper "During the nineteenth century the agricultural revolution led to an increasing acreage of cereals which provided a grass prairie habitat to which [grey] partridges were well adapted".⁸⁵⁷ However, although the 3rd Duchess of Portland received red leg partridge eggs from the 2nd Duke of Newcastle, evidence throughout the period does not distinguish between these birds or the English grey partridges. The Duchess "kept a considerable menagerie of animals and birds in the later eighteenth century, and was seriously interested in acclimatisation and turned out red leg partridges in the hope that they would breed in the wild".⁸⁵⁸ However, it would appear that the red legs did not breed well initially as "like many other landowners who attempted the same she was unsuccessful".⁸⁵⁹

The preservation of all types of game was important during the 3rd Duke's tenure and the keepers were vigilant for any signs of poaching. In September 1770 the keeper Stocks informed the Duke "I thought it very proper to acquaint your Grace that me and my man this day has been out but not in view of shooting any partridges upon account of your Grace's being away from home".⁸⁶⁰ Stocks explained that they were checking "particularly to see if we could light on any poachers and I was very glad to find nobody trespassing".⁸⁶¹ It was a serious offence for anyone caught taking game and even tenant farmers were watched closely to make sure they were not killing game birds as well as wildfowl without permission. This was evident in 1770 when it was reported to the Duke that "I

⁸⁵⁵ Hanson M J Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, Part 2, 1787-1788 MS 736/5/2*, p. 199.

⁸⁵⁶ NA, DD P6/7/2/40 (Wages for R Hancock for nest management, 1792)

⁸⁵⁷ Tapper S (1992) *Game Heritage, an Ecological Review from Shooting and Gamekeeping Records*, p. 36

⁸⁵⁸ Grigson, (2016) *Menagerie: The History of Exotic Animals in England*, Oxford University Press, p. 130.

⁸⁵⁹ Ibid. p. 130.

⁸⁶⁰ UNMSS Pwf 8592 (letter from Stocks to the Duke about poachers 1770)

⁸⁶¹ Ibid.

should be sorry to have a tenant of such kind of character on the estate as Gleadthorpe is just the centre of your Grace's estate for game and the only nursery on the estate for wildfowl".⁸⁶² This particular tenant on Gleadthorpe farm was problematic and it was suggested that "would it not be proper to refrain him from killing game and also from cutting down oak, ash or alder poles on the farm".⁸⁶³ Poles were created when a tree was coppiced and had a variety of uses including fencing. This was an important part of woodland management in the period, and coppiced trees provided cover for game birds as well. Joseph Boaler was appointed as gamekeeper/park keeper in 1782 by William Gould and asked "to find and provide and have experience to deploy of a good and sufficient person qualified to kill game for the use of the family at Welbeck".⁸⁶⁴ This suggests that Boaler had to select someone under his charge to kill game when it was required for the Duke's table which would have left more time for Boaler to 'protect' game birds from poachers as well as predators.

5.4 Game bird protection of pheasants and partridges, including 'Vermin' Control

It was not just the gamekeeper who killed perceived predators; local parishioners were also employed to destroy 'vermin' on a regular basis as Table 5.1 shows:

Table 5.1 The Cuckney Parish 1766-1791

Year	Name	Species	Number	Price Paid
1766	Rollison	Philomart [Polecat] Heads	2	4d.
		Foxes	5	5s.
1766	Beely	Fox	1	1s.
1766	Fairbanks	Philomart head	1	2d.
1767	Bennet	Foxes	2	2s.
1767	Lowe	Fox	1	1s.
1767	Halls	Foxes	2	2s.
		Philomart head	1	2d.
1767	Hocks	Fox	1	1s.
1767	Unwin	Foxes	4	4s.
1785	Westby	Philomart heads	8	1s.4d.
1786	Presley	Fox heads	2	2s.
		Philomart heads	3	6d.

⁸⁶² UNMSS Pwf 3841 (tenant at Gleadthorpe killing game and cutting down oak, ash, alder poles October 1770)

⁸⁶³ Ibid.

⁸⁶⁴ UNMSS Pwf/10070 (Appointment of J Boaler as keeper by W Gould for the Duke of Portland, 1782)

1789	Presley	Fox	1	1s.
1791	Presley	Philomart heads	3	6d.

Source NA PR/2699/2/1-4, 21,23,43,45 (Churchwardens accounts for Cuckney Parish 1766-1791)

These accounts are over a long period covering the late 1760s and 1785 to 1791, and does give an idea of how many animals were killed and the price paid to the parishioner. Foxes were high on the list of 'vermin' as well as polecats but the numbers killed were quite low.

Accounts were also kept by William Gould which reveal amounts paid for destroying vermin. These relate to the periods 1789 to 1795 but do not all include the numbers of vermin involved as Table 5:2 shows

Table 5.2 Gould's accounts of vermin killed 1789-1795

Year	Name	Species	Price paid
1789	Bradshaw	Moles	£4.15s.
1790	Drabble	Vermin	£4.18s.6d.
1790	Bradshaw	Moles	£4.15s.
1790	Drabble	Vermin	£4.18s.6d.
1790	Bradshaw	Moles	£4.15s.
1792	Alleroffe	Rabbits	£15.4s.
1792	Bradshaw	Moles	£4.15s.
1793	Palethorpe	Weasels (2)	2s.
1794	Ward	Hawks (8)	8s.
1794	Eyre	Weasel (1)	1s.
1794	Palethorpe	Philomart (polecat) 1	1s.
1794	Windle	Weasel (1)	1s.
1794	Bradshaw	Moles	£4.15s.
1795	Hancock	Vermin	£3.19s.
1795	Wardley	Weasels (3)	3s.
1795	Drabble	Vermin	£5.10s
1795	Hancock	Vermin	£1.13s.6d.

Source NA DD P6/7/2/38-47 (Gould's accounts for killing vermin, 1789-1795)

The yearly prices paid, suggest a very high number of vermin killed in each year, in sharp contrast to Churchwarden accounts which involve relatively low numbers. It is difficult to estimate the number

of vermin killed because it is not known what animals they were in some cases. However, if the price paid for moles in 1790 was 1d. each, then over a 1000 moles were killed in just one year. Also, the men hired by Gould such as Bradshaw the mole destroyer, would most likely have been 'experts' in their field. While types of vermin are not always mentioned but there are hawks, weasels, moles, rabbits and just one polecat included in the figures, and the amount paid was about the same as the Cuckney parishioners were paid per animal. It is notable that foxes do not appear as 'vermin' in Gould's accounts because they were also 'protected' for hunting purposes.

It is evident that some species of wildlife within the park were deliberately targeted as the 'enemies' of game birds mainly due to nest predation of eggs and chicks but also as adult birds which were easy prey for raptors and larger mammals. Raptors in particular were regarded as a serious threat to the successful rearing of game. However, the use of the word 'hawk' is problematic as according to Lovegrove "it was used generically throughout history to include a wide range of raptors"⁸⁶⁵, which "may well include occasional harriers, sparrowhawk, almost certainly goshawk and in all probability Buzzard and Red Kite".⁸⁶⁶ Corvids were nest predators as well as destroyers of crops, and Gould instructed men to kill them in 1788 "Yesterday I gave Mr Turner, Mr Hawkins and Robert Drabble leave to shoot rooks, they killed sixty one".⁸⁶⁷ Sixty one rooks is not a huge number of birds killed and it would be difficult to shoot high to kill them with muzzle loaders.

It would appear that perceived vermin were destroyed at Welbeck during the 3rd Duke's tenure in reasonably high numbers. Ironically however, the game birds themselves could be destructive, especially to the new plantations and Gould had to ensure the birds were managed appropriately. In 1787 Gould was inspecting the woods in the park, when "we went into Clown Hill plantation [Fig. 5.3] and found the beech nuts springing up very well, but the pheasants scratch them up and we are obliged to set a boy to watch them".⁸⁶⁸ Nonetheless, the changing landscape in Welbeck Park facilitated the preservation of game birds in larger numbers during the 3rd Duke's tenure.

⁸⁶⁵ Lovegrove R, (2008) *Silent Fields, The Long Decline of a Nation's Wildlife*, p. 132

⁸⁶⁶ Ibid. p. 132.

⁸⁶⁷ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould*, Part Two: 1787-1788, MS 736/5/2, 1788.

⁸⁶⁸ Ibid. Part Two 1787-1788 MS/736/5/2

5.5 The tenure of the 4th Duke c.1795 to c.1854

When the 3rd Duke moved from Welbeck to Bulstrode in 1795 and relinquished control of Welbeck Park to his son 1795, he made special mention recommending that “Lord Titchfield have more command over the tenants respecting the game and in other respects”.⁸⁶⁹

5.6 Pheasant Numbers and Management

Pheasants were not recorded in particularly high numbers in the early period of the 4th Duke’s tenure, as partridges continued to be the preferred quarry. Usually it was only one or two people such as Gould and Boaler who went shooting, so few pheasants were killed for ‘sport’.

Portland was enthusiastic about shooting, but birds were often killed ‘to order’ at the 4th Duke’s request. For example in 1811 he instructed his steward Turner to “Tell William Boaler to send the pheasants he may kill at Whitwell to Dr Oakes, Mr Swann of Ollerton, Mr Woolams, Mr Goodenough”.⁸⁷⁰ This does not suggest a high number of birds killed as they were only sent to four people. Gamekeepers such as Boaler were ordered to kill game birds [usually for gifts] and his game certificate in 1840 recorded his entitlement “This certificate will authorise a Game-Keeper to kill or take game anywhere, subject to the law of Trespass”.⁸⁷¹

However, because pheasants and partridges were shot by ‘walking’ up with dogs it meant that fewer pheasants and partridges were killed in this period. The 4th Duke and his sons had to regularly apply for game certificates which were introduced with the Game Act of 1831. In 1838 they were “issued to the Duke of Portland, The Marquis of Titchfield, Lord George Bentinck, Lord Henry Bentinck, George Boaler”.⁸⁷² These certificates covered the park as they were “for Welbeck, Sloswicks, Carburton [as well as] Norton, Gleadthorpe, Clipstone, Holbeck, Holbeck Woodhouse”.⁸⁷³ This method of shooting was reliant upon two breeds of dogs, the pointer and the spaniel, the former were “normally trained to search in pairs until one of the dogs scented game, it would then adopt the classic pose of freezing its movement with the foreleg raised, the head held high and the tail completely still”.⁸⁷⁴ Once the birds were located “Springer and Cocker spaniels played the dual role of flushing game and retrieving it”.⁸⁷⁵ These methods were used at Welbeck in the nineteenth

⁸⁶⁹ Hanson M J, Ed. (2002) *Portland and Devonshire Agent The Diary of William Gould Part three, 1789-1795* MS/736/5/3

⁸⁷⁰ UNMSS Pwh 1429 (letter from Duke regarding killing pheasants 1811)

⁸⁷¹ UNMSS, Pwh 2507 (Game Certificate for Boaler, 1840)

⁸⁷² UNMSS, Pwh 2506 (Game Certificates, 1838)

⁸⁷³ Ibid.

⁸⁷⁴ Billet M, (1994) *A History of English Country Sports*, p. 103.

⁸⁷⁵ Ibid. p. 109.

century, as is evident with the number of dogs owned by the Marquis of Titchfield confirmed in the “Inventory of Lord Titchfield’s pointers and spaniels, 1807”.⁸⁷⁶ Some 45 dogs were recorded, and the food and board amounted to “203 weeks and 5 days @1s.9d a day- £17.6s.1d”.⁸⁷⁷ This represented a large kennel of working dogs. The animals were sometimes expensive to buy, as is evident when Lord Henry Bentinck wrote to Turner “I have authorised Mr Boaler to buy two spaniels for me price £7”.⁸⁷⁸

However, food and cover was provided for the birds, one such food was potatoes, and a record of 1795 indicates “William Fowley was paid £1.14s. for getting 60 sacks of potatoes at 6d. for the pheasants”.⁸⁷⁹ As already noted, pheasants were woodland birds so they required suitable habitat which included the edge of woods and species of wild shrubs such as blackthorn and gorse. In 1827 the 4th Duke’s younger son Lord George was contacted about the merits of using gorse for pheasant cover and the expense of the seed. According to Childers a seed merchant “There is one point of expense which we had omitted but which I fear is absolutely [crucial], that is to find someone near each gorse to preserve it and keep out boys and dogs”⁸⁸⁰, so gorse had its challenges. However, Titchfield [Lord John] also voiced his concerns about blackthorn “I do not know anything about sloes which I should have thought might lead to cover being disturbed at particular seasons by birds in search of the fruit”.⁸⁸¹ In 1832, Lord Titchfield was considering where to acquire blackthorn from “there being a difficulty in procuring blackthorn but Swift tells me that the country around Belvoir is covered with blackthorn, I take for granted that the Duke of Rutland has no objection to them being taken from his woods and hedges for this purpose”.⁸⁸² These types of plants are extremely beneficial to a variety of wildlife as blackthorn produces berries [sloes] and gorse was a valuable nectar plant in late winter.

5.7 Partridge, Numbers and Management

Partridges were often sent to London and in 1799 Titchfield, the 4th Duke complained to his steward Turner “Some mistake has been made about the game, it has been sent to me instead of Burlington House”.⁸⁸³ He wanted the birds sent to his father instead and ordered “4 brace of partridges to be sent twice a week to the [3rd] Duke of Portland”.⁸⁸⁴ There were many instances of game birds

⁸⁷⁶ NA, DD P6/7/10/147/28 (Inventory of Titchfield’s dogs, 1807)

⁸⁷⁷ Ibid.

⁸⁷⁸ UNMSS, Pwh 2046 (letter to Turner from Lord Bentinck re- spaniels, 1817)

⁸⁷⁹ NA DD P6/7/2/47 (Potatoes for pheasant food 1795)

⁸⁸⁰ UNMSS, Pwl 98 (letter to Lord George 1827)

⁸⁸¹ NA, DD P6/1318/8 (letter from Titchfield to Neale 1832)

⁸⁸² NA, DD P6/13/18/9 (letter from Titchfield 1832)

⁸⁸³ UNMSS, Pwh 1299 (Game sent to wrong place 1799)

⁸⁸⁴ Ibid. (partridges sent to 3rd Duke 1799)

[usually partridge] being sent to family members from Welbeck to London. In 1818 “A total of 89 partridges sent”⁸⁸⁵, to Lord Charles Bentinck [4th Duke’s brother]. He received regular supplies of partridges, from November 1821 to January 1822 “84 birds were sent”.⁸⁸⁶ Although more birds were sent to family members in this period, from this evidence it appears that the number of birds killed were relatively small and the emphasis was upon partridges rather than pheasants. Baskets of partridges were also sent to other people by the 4th Duke, in 1821 “A basket [was] sent to Mrs Chalmers, Mrs Bentincks, Joseph Hunt”.⁸⁸⁷ There were a higher number of partridges shot than pheasants during the early period of the 4th Duke’s tenure. Shooting game birds with muskets ensured that the numbers killed remained relatively low. However, in 1835 “the Frenchman Le Fauchez patented the idea of a breech loading gun”⁸⁸⁸, but it was not available in England until the mid nineteenth century. However, this important change in firearms ensured that game shooting became a more popular and accessible sport for landowners and their families and friends in the later nineteenth century.

During the 4th Duke’s tenure, nest management was concentrated mainly upon wild partridges. The management of their nests was carried out by the gamekeeper and under keepers. This involved visiting the nests on a regular basis to control predation as well as possible disease due to unfavourable weather conditions. In July 1820 for example, according to the Marquis [4th Duke’s eldest son, Lord John] “3 partridges were found drowned in Boaler’s hay”.⁸⁸⁹ However, there was hope for saving birds if the weather changed as Lord John commented “Today is tolerably hot and if it lasts it will do wonders for the partridges”.⁸⁹⁰ There is no mention of the species of partridge affected but “William Boaler says the breed cannot now be called good but in consequence of a vast number of birds having been left to breed from there must be a great number next season unless very bad weather comes on immediately”.⁸⁹¹ These conditions were in evidence some thirty years later in October 1853 when a visiting Italian count was staying at Welbeck. On writing to his father in Italy the count described the weather at Welbeck and its effects on partridges “The country until now and every day looks wet and gloomy”.⁸⁹² He then remarked that “It seems however a little finer today but there has been a disease amongst the partridge so that those who were not drowned in the wet died of illness they are in consequence being scarce”.⁸⁹³ What disease the birds suffered

⁸⁸⁵ UNMSS Pwh 2253 (partridges sent to Lord Bentinck London 1818)

⁸⁸⁶ UNMSS Pwh 2254 (Ibid. 1821-1822)

⁸⁸⁷ UNMSS Pwh 2254 (baskets of partridge sent 1821)

⁸⁸⁸ Billett M, (1994) *A History of English Country Sports*, R Hale Ltd. London, p. 102

⁸⁸⁹ UNMSS Pwh 349 (Titchfield to 4th Duke re- partridges 1820)

⁸⁹⁰ UNMSS Pwh 350. (Titchfield to 4th Duke re partridges 1820)

⁸⁹¹ UNMSS Pwh 350 (Titchfield to 4th Duke re-partridges 1820)

⁸⁹² UNMSS Pwh 340/2 (Italian count wet weather at Welbeck 1853)

⁸⁹³ UNMSS Pwh 340/2 (Partridges dying from wet 1853)

from was not reported but in very wet conditions the important food source of insects would have not have been readily available.

Payments continued to be made to the keepers and under keepers for game nest preservation. The game keeper Boaler was paid in 1813 for “game bred and shot last season - £15.16s.6d”.⁸⁹⁴ He was also paid in 1814 “for game found last year - £16.2s.6d”⁸⁹⁵ as well as in 1815 “for game nests preserved - £417s.6d.”⁸⁹⁶ and in 1816 “for game nests preserved - £6.19s”.⁸⁹⁷ Boaler was employed not only to preserve game nests but also to destroy rabbit nests. Another keeper, Joseph Allertson was regularly employed throughout the year for “attending game, from July 1815 to June 1816”.⁸⁹⁸ To ensure that game birds bred successfully suitable habitat was necessary and Welbeck Park provided appropriate cover and food sources.

5.8 Game bird protection of pheasants and partridges including vermin control

In the late 1790s the Marquis of Titchfield was strict about preserving game and would not allow tenant farmers to kill pheasants, or other types of game. The directive was “In order to encourage the protection of the game and to indemnify the fairness for it”.⁸⁹⁹ The order began as follows “And to indemnify the tenants and occupiers for any cost which may accrue to them from the farms. Lord Titchfield proposes to allow such as may be willing to accept of such landowners ten pence for every partridge and one shilling for every hare and pheasant which may be killed by himself, his friends. Shooting with his permission or his gamekeepers”.⁹⁰⁰ He also proposed “to give them [tenants] for every covey of partridges bred on their land one brace of partridges to be claimed by them”.⁹⁰¹ There was also consideration given to the location of the birds “In order to prevent disputes all partridge will supposed to belong to the field which first found and pheasants to be killed in woods will supposed to belong to the proprietors or tenants of all the fields adjoining such woods among who the shillings will be divided equally”.⁹⁰² The tenants were required to adhere to these definitive rules, but the reasons were made very clear by the Marquis. He expected that “the strictest attention will be paid to the preservation of the game and to the prevention of poaching”.⁹⁰³

⁸⁹⁴ NA, DD P5/5/2 (game bird nest preservation 1813)

⁸⁹⁵ NA DD P5/5/2 (game bird nest preservation 1814)

⁸⁹⁶ Ibid. DD P5/5/3 (1815)

⁸⁹⁷ Ibid. DD P5/5/3 (1816)

⁸⁹⁸ Ibid. DD P5/5/3 (1815-1816)

⁸⁹⁹ NA, DD 4P 76/38 (A directive from Titchfield regarding protection of game no date but probably late 1790s)

⁹⁰⁰ Ibid.

⁹⁰¹ Ibid.

⁹⁰² Ibid.

⁹⁰³ Ibid.

Titchfield's [4th Duke] orders regarding the game were made specifically to ensure that game birds received 'protection'. If any tenant did not comply with the conditions set, they were ordered off their farm, Joseph Gould [William's son] reported in 1798 that he had "to serve Joseph Thompson of Carburton notice to quit his farm at Lady Day [because] his Lordship says there is little or no game upon his farm and he proposes to raise the rent..... [to ensure] his farm is well stocked with game as the other farms in Carburton".⁹⁰⁴ This reveals Titchfield's insistence in the late 1790s that game birds were an important part of his management of the estate and that he would not tolerate tenant farmers "destroying the game".⁹⁰⁵ Also, in 1798 Titchfield informed the steward that "Two muskets were sent from hence last week by the Mansfield wagon, the bayonets do not work, they must be taken care of and they may be given with directions to the persons who are to keep the birds from the corn".⁹⁰⁶ It is not clear what birds were going to be kept from the corn but it is possible that the muskets were for shooting rooks as they were troublesome to growing crops.

The steward Turner's accounts recorded that between 1811 and 1816 William Boaler was paid approximately "£67, 6s. 6d. for destroying vermin".⁹⁰⁷ However, it is not recorded what these 'vermin' were, other than "£1.17s.6d. in 1815".⁹⁰⁸ The price for paid for 'vermin' was dependent upon numbers and species so it is difficult to assess how many are included in this figure. The work of destroying the vermin was mainly done by Boaler in the five years up to 1816; there is just one instance where the keeper, Joseph Allertson in January 1816 "was paid £4.6s. For destroying vermin and the keep of his dog".⁹⁰⁹

There were also freelance 'vermin' killers, employed to target specific species which included moles, rats and even sparrows. According to Cragoe and McDonagh "the evidence suggests than many individuals earned useful pocket money from taking sparrows and moles".⁹¹⁰ There are many instances of these 'specialist' vermin catchers at work in Welbeck as is shown in Table 5.3:

Table 5.3 Vermin killed at Welbeck from 1811 to 1816

Year	Name	Species killed	Price paid
1811	John Ashberry	rats	£10
1811	Robert Taylor	143 rats @ 2d.each	£1.13s.10d.

⁹⁰⁴ UNMSS, P1 F7/5/4/4 (letter from Joseph Gould to John Heaton 1798)

⁹⁰⁵ Ibid.

⁹⁰⁶ UNMSS Pwh 1286 (muskets sent from Mansfield 1798 for killing birds)

⁹⁰⁷ NA, DD P5/1-3 (Turner's accounts for vermin killed by Boaler 1811-1816)

⁹⁰⁸ Ibid.

⁹⁰⁹ NA, DD P5/5/3 (Allertson destroying vermin 1816)

⁹¹⁰ Cragoe M, McDonagh B, (2013) Continuity and Change, *Parliamentary Enclosure, vermin and the cultural life of English Parishes, 1750-1850*, (Volume 28, issue 1 pp. 27-50) Cambridge University Press, p. 44.

1812	Robert Taylor	149 rats	£1.4s.10d.
1812	Robert Taylor	231 rats	£1.18s.6d.
1813	Robert Taylor	244 rats	£2.0s.8d.
1814	Robert Taylor	320 rats	£2.13s.4d.
1815	Robert Taylor	240 rats	£2.0s.
1815	Robert Taylor	30 bladders [adders?] @2d.	5s.
1816	Robert Taylor	322 rats	£2.13s.
1816	Robert Taylor	39 bladders [adders] @2d.	6s.6d

⁹¹¹ Source NA DD P5/5/1-3 (Taylor employed for destroying rats and adders 1811-1816)

Because it was the same man who killed the rats over a few years it suggests that he did this for a living, he also killed adders. John Ashberry is also mentioned in later years for destroying rats, in 1819 he “destroyed rats at the farms for the year and was paid £15”.⁹¹² As well as named and unnamed vermin, there is evidence that cats were persecuted at Welbeck as in 1812 John Faulkener was paid “£1.12s. for making 4 cat traps”.⁹¹³ These could have been used to trap and kill wildcats, but this is highly unlikely as the last record of wildcats in Nottinghamshire was at “Cuckney in 1732”.⁹¹⁴ It is more likely that these target animals were feral cats which had previously been domesticated but gamekeepers would still have considered them as ‘vermin’.

The killing of vermin during the 4th Duke’s tenure does not appear to be much higher than in previous decades, but it was much more organised with vermin control practiced by keepers and under keepers. There were also self employed, vermin control men such as mole and rat catchers. A turning point for game preservation was the 1831 Game Act which “gave legal recognition to the profession of gamekeeper”.⁹¹⁵ This then gave licence to keepers to ‘protect’ some species whilst ensuring the demise of many perceived ‘vermin’, such as raptors, corvids, polecats, hedgehogs, stoats, weasels, badgers, otters, and numerous others.

5.9 The tenure of the 5th Duke of Portland from 1854 to 1879

The 5th Duke presided at Welbeck for just 25 years which was considerably less than his father, but unlike the 4th Duke he rarely left the estate. Therefore, his influence was evident throughout this period regarding the management of game in the park. In this period as well as pheasants and partridges there was some experimentation with quail breeding. In August 1860 Boaler informed

⁹¹¹ NA DD P5/5/1-3 (Taylor employed for destroying rats and adders, 1811-1816)

⁹¹² NA DD P6/7/10/295/12 (vermin destroyed 1819)

⁹¹³ NA DD P5/5/1 (Making of cat traps, 1812)

⁹¹⁴ Lovegrove R, (2007) *Silent Fields, The Long Decline of a Nation’s Wildlife*, p. 225.

⁹¹⁵ Evans D, (1997) *A History of Nature Conservation in Britain (2nd Edition)*, Routledge, p. 30.

the Duke “In my opinion it is very doubtful whether quail would remain at Welbeck to breed, some time ago I saw a covey of 7 quail at Gleadthorpe”.⁹¹⁶ However, Boaler confirmed that “whether they bred at Gleadthorpe or not I cannot say, I frequently looked for them but never saw them again”.⁹¹⁷ Therefore this experiment with quail appeared to have failed and there was no more mention of these birds.

5.10 Pheasant Numbers and Management

Pheasants become a popular quarry during the 5th Duke’s tenure. There were several people who went shooting at Welbeck, however, there is little evidence of Portland joining a shoot. One rare record is when in 1879 the keeper Allertson asked the Duke “On account of the beaters being ready I wish to know if your Grace intends shooting at Clipstone on Wednesday and the gentlemen as well”.⁹¹⁸ It is evident that by 1879 ‘driven’ shooting was practiced at Welbeck, where “the guns remained stationary and ‘beaters’ assisted by dogs in a semicircle drove the game-birds from the coverts to fly over the guns”.⁹¹⁹ Earlier in the Duke’s tenure in 1864, George Boaler reported that the “Rough Breck in the park [Fig 5.3] was shot over, Mr Tebbitt brought his nephew, Mr Haddon a young gentleman with him, the following were killed, 169 pheasants, 69 hares, 25 rabbits, 4 woodcocks”.⁹²⁰ No partridges were killed and by far the greater number of birds shot were pheasants. Lord Galway [of Serlby Hall, near Worksop] shot regularly at Welbeck and in February 1864, according to Boaler, Galway and some other gentlemen shot “400 good pheasants, 175 good hares, 11 woodcocks, 2 partridge”.⁹²¹ It is evident that pheasant shooting was an increasingly important leisure pursuit and the gentlemen would have owned breech loading rifles by this date. Shooting took place at other times in the park in areas such as the Rough Breck and in 1862, Boaler reported that “20 pheasants and 5 partridges were killed in Sloswicks”.⁹²² The gamekeeper also shot pheasants to order, and in 1864 Boaler reported to the Duke “I have killed all of the pheasants and hares for the Hunts dinner at Rufford. From 80 to a 100 brace more of pheasants may be killed in the Rough park”.⁹²³ This represented a high number of pheasants to be killed, so, they must have been shot to be sent on behalf of the Duke to various acquaintances. The total number of pheasants killed in the year of 1864 was approximately 730 which was considerable, and shows how breech loading guns could kill many more birds. By 1879 the numbers of pheasants had noticeably

⁹¹⁶ NA DD 4P/76/45/12 (quail at Welbeck 1860)

⁹¹⁷ Ibid.

⁹¹⁸ NA DD4P/76/5 (Duke shooting)

⁹¹⁹ Billett M (1994) *A History of English Country Sports*, p. 108.

⁹²⁰ NA DD4P/76/45/62 (shooting Rough Breck, 1864)

⁹²¹ NA DD4P/76/45/66 (Lord Galway shooting 1864)

⁹²² NA DD 4P/76/46/72 (birds shot at Sloswicks 1862)

⁹²³ NA DD 4P/76/45/59 (pheasants killed for Hunt dinner January 1864)

increased, eggs were bought in as well as hatching in the park pheasantries. The keeper Allertson reported that “3000 eggs [had produced] 1300 young birds”.⁹²⁴ It is clear that breeding pheasants was very intensive by the later nineteenth century.

Pheasants were not confined in pens; they lived in coverts of shrubs such as gorse or blackthorn and built their own nests on the ground, which were monitored daily by keepers and under keepers. The nests were destroyed and the eggs taken to be hatched under hens in pheasantries. In 1859 keepers were “paid for 101 nests destroyed and placed under hens @2s.6d. a nest [these included some partridge nests as well]”.⁹²⁵ This was a regular occurrence with pheasants because they could be carefully watched to make sure the maximum chicks survived under the incubation by hens. As Tegetmeier argues “No birds [pheasants] whatever are penned up, they are allowed to lay in the coverts and the eggs are collected and hatched under farmyard hens”.⁹²⁶

With the keen interest in pheasant shooting there needed to be more intensive rearing methods. The keeper Allertson kept the Duke regularly informed regarding the numbers of birds and hatching rates. In 1879 Allertson discussed the numbers “I give below the number of pheasant eggs already found under the hens at the pheasantries – Rough breck pheantry [Fig. 5.3], eggs found on Gleadthorpe and Welbeck side – 1160”.⁹²⁷ There were also other pheasantries in the park, near White Stone Piece [Fig. 5.3], also there is a plantation known as Pheasant wood [Fig. 5.3] which probably attracted pheasants. Pheasant eggs and live birds were exchanged between estates in ever increasing numbers, the keeper Allertson informed Portland in September 1878 “that a second lot of 220 pheasants were sent off to Mr Clutton [and] by the middle of next week to get the pheasants together to send a lot off to Langwell”.⁹²⁸ It is not clear who Mr Clutton was but Langwell is in the Scottish Highlands, he was probably a landowner or farmer. To make sure that the birds arrived alive and well they were sent to Mr Clutton “by Midland railway and they are anxious for us to try a lot for Scotland by their route and offer to take them by any of their fast trains”.⁹²⁹ By this period the railway network was vital for the fast delivery of animals and birds throughout the country. Eggs were routinely picked up from under hens and gamekeeper Mellors gathered “3000 eggs”⁹³⁰, in 1879 but they were also bought from other sources though not always with success. Allertson remarked in 1879 “Hatching pheasant eggs – From what I said respecting the egg supplies from Mr Bailey I don’t wish to infer that I am of the opinion of having been supplied with bad eggs as I know it is

⁹²⁴ NA DD P4/76/48/18 (numbers of pheasants increasing 1879)

⁹²⁵ NA DD P6/7/10/1137/114 (nests destroyed and eggs removed 1859)

⁹²⁶ Tegetmeier W B, (1904) *Pheasants their Natural History and Practical Management*, p, 103.

⁹²⁷ NA, DD P4/76/48/15 (pheasantries 1879)

⁹²⁸ Ibid. DD P4/76/48/8 (pheasants sold 1878)

⁹²⁹ Ibid. DD P4/76/48/8 (pheasants from Scotland 1878)

⁹³⁰ Ibid. DD P4/76/48/15 (eggs picked up 1879)

impossible to insure their being good".⁹³¹ It is evident that by the later nineteenth century rearing game birds was a business in itself and the aim was to hatch as many birds as possible. According to Allerston in June 1879 "We have now at Rough Breck pheasantry [Fig. 5.3] about 1300 young birds off 3000 [eggs] which have been hatched off during last week".⁹³² So, the number of birds increased quite markedly and the management of them was much more intensive. The laundry maid to the 5th Duke saw many rearing pens, and commented in 1874 "In passing thro' the woods and quiet places in the park one came often on pheasant rearing, two or three keepers in charge of a number of hens in coops with eggs or young pheasants".⁹³³

Pheasants were also shot for consumption as well as 'sport' and the 5th Duke 'gifted' game birds with regularity. There is evidence between 1864 and 1875 of hampers sent to Missions and Public Houses. In 1864 the St Albans Mission sent a letter to the Duke in which "Sister Lucy Edith begs to thank the Duke for the nice hamper of 3 pheasants, they are most welcome for our sick poor of which we have many".⁹³⁴ In 1875 the Nags Head at Mansfield asked "May it please your Grace, the Anniversary Dinner of the Licensed Victuallers Association might feel highly honoured by a present of game from Your Grace for the above occasion".⁹³⁵ A white pheasant was seen in 1858 and it was shot by "Lord Galway by mistake [but] another clean white pheasant was seen, it went out of Rough Breck and flew into Scotland [farm] ranges".⁹³⁶ However, these birds were probably regarded as novelties as Boaler asked "If it please your Grace to ask if it is to be stuffed".⁹³⁷

5.11 Partridge, Numbers and Management

Partridges were reared in many areas of the estate and this included the park. According to Allertson "The birds might be reared in the Rein Deer park and at 5 weeks old be shifted when your Grace thought well".⁹³⁸ Partridges were also reared more intensively, as greater numbers were required for more organised shooting parties. According to Ellen Butler the laundry maid, in 1874 "Tho' the Duke kept no company (except thro' the post, we used to say) there were shooting parties here".⁹³⁹ The increased rearing of birds was evident in 1859 when Allertson was "paid £3.10s.8d. for

⁹³¹ NA, DD P4/76/48/17 (eggs from elsewhere 1879)

⁹³² Ibid. DD P4/76/48/18 (birds hatched off 1879)

⁹³³ UNMSS, (1931) E Butler (laundry maid to the 5th Duke) *Recollections, Account of Welbeck and the 5th Duke 1869-1879, (1874)* p. 15 Pwk 5326/10

⁹³⁴ NA DD 4P/76/58/13 (hamper of pheasants for poor 1864)

⁹³⁵ NA DD 4P/76/58/12 (asking for a present of game 1875)

⁹³⁶ NA DD 4P/76/51 (white pheasants 1858)

⁹³⁷ Ibid.

⁹³⁸ NA, DD P4/76/48/6 (game reports 1878)

⁹³⁹ UNMSS, (1931) Butler E, (Laundry maid to the 5th Duke) *Recollections, Account of Welbeck and the 5th Duke, 1869-1870, (1874)* Pwk 5326/10

hens to set partridge [and some pheasant] eggs for nest preserving”.⁹⁴⁰ Hatching pens and coops were made to house birds; again in 1859 “J Hufton was paid £5.15s. for making places for hatching partridges and for making partridge coops for rearing young partridges”.⁹⁴¹ Similar to pheasants, eggs were often taken from wild partridge nests in order to hatch them under bantam hens. These methods of harvesting eggs from the wild were used increasingly to ensure sufficient numbers of game birds were bred to meet the greater demand for shoots.

The management of egg collecting was the same for pheasants and partridges but partridges did not breed and nest in coverts. Because they were farmland birds they usually made nests in stubble and gathered together in groups or coveys, and the numbers were monitored by keepers. George Boaler and Allertson kept a record of the numbers of coveys of partridges they saw. The following Table 5.4 shows the numbers seen by the keepers

Table 5.4 Partridges seen in 1858, 1860, 1861 and 1879

1858	1860	1861	1879
September Carburton South Side 9 coveys seen (1 covey a large one, the remainder moderate from 8 to 14 [birds] and 3 of the coveys small in size and number	September to December 61 partridges taken at Elksley, it has been the most successful year, there are now no coveys of young birds.	January Number of partridges at Welbeck – 255 in September 1860 and 785 in January 1861 making a total of 1040	July 1879 There will be very few young partridges [this year] only 2 or 3 coveys have been seen so far and there are far too many harrier birds about to admit of a good breed [of partridges]
Carburton South side, Park grounds, 3 coveys seen, one of them small the others moderate. I			
Hazel Gap 2 coveys one 13 and the other nearly similar			
Carburton North side, 10			

⁹⁴⁰ NA, DD P6/7/10/1137/85 (nest preserving 1859)

⁹⁴¹ NA DD P6/7/10/1137/87 (making partridge coops 1859)

coveys seen, 3 of which very small, one had twenty and the others from about 9 to 15 each			
North East side only including Hatfield new grounds to the Clown turnpike, 11 coveys 2 or 2 of the coveys large the rest moderate with one small covey of birds			
East Field and ground adjoining the Forest [near Rough Breck] 22 coveys about 25 brace of birds and 1 covey had 24 others 2 to 4 and 5 to 15, many little birds Newlands farm 31 brace, coveys large and strong, very wild			

Source NA DD 4P/76/49/1-5 [1858], NA DD 4P/76/45/19, 21 [1860, 1861],

NA DD 4P/76/48/19 [1879]

The figures indicate that more partridges were seen in the 1850s and 1860s than in 1879, but according to Allertson it was the high numbers of harrier birds which were severely depleting the partridge stocks in this season. It suggests that 'vermin' control was not very successful in 'protecting' partridges in this particular year. Unlike pheasants, partridges usually stay together in groups and this would have enabled the keepers to keep a record of their numbers more easily as well as checking the nests for predator damage. According to Tapper the system for partridge management at this time, involved "dividing into partridge beats of between 800 to 1500 acres and on each beat an underkeeper was responsible for protecting the partridge stock and destroying vermin".⁹⁴² This method appeared to be used at Welbeck as nest preservation was practiced

⁹⁴² Tapper S, (1992) *Game Heritage, An Ecological Review from Shooting and Game keeping Records*, p. 36.

routinely as well as killing predators. However, another method used was known as the 'Euston' method where "In areas where foxes were preserved for hunting, eggs were removed from under the hen [partridge] at the start of incubation and replaced with dummy eggs. The real ones were then reared under bantams in the safety of the rearing field and when incubation was complete the eggs were replaced under a sitting partridge hen at the time of chipping".⁹⁴³ This practice of partridge rearing was introduced in the later nineteenth century by "Mr Pearson Gregory, sporting tenant of the Duke of Grafton's sporting estate in Suffolk".⁹⁴⁴ It is entirely possible that this method was also used at Welbeck because coops were made for partridges and bantam hens were certainly used for sitting on pheasant and partridge eggs.

Partridges were shot to meet the Duke's requirements as well as ensuring that old birds were removed. In 1858 "Partridges shot between 19th August and 4th September at Carburton and Norton – Old cocks 34, Old hens 18"⁹⁴⁵, old birds were shot out of season, birds were also netted to move them elsewhere, in the same period "Partridges netted – 24 old cocks, 11 old hens, 92 young birds".⁹⁴⁶ It is evident that the greater number of birds netted were young ones so they would be moved probably for breeding and shooting purposes.

The 5th Duke continued planting trees and shrubs within the park and other plantations, the trees present varied from Cedar of Lebanon, Silver firs, Spruce firs and Sweet Chestnut. Some of these trees are mentioned in 1860 because many trees were lost in a fierce storm of that year. According to Swift [tree professional] "A calculation of trees blown down are 8 Cedars of Lebanon, 13 Silver Firs and 80 Spruce Firs"⁹⁴⁷ Ellen Butler recalled that in 1870 "The Duke was very interested in tree planting both tiny trees and large ones, some women used to work in the woods and helped with the tree planting, or with watering the young trees".⁹⁴⁸ However, it is evident, that some of the tree species planted at Welbeck in this period would have suited pheasants. According to Tegetmeier, "Any plantation containing a due proportion of pines, or of spruce and silver fir, can be readily made a secure roosting place for pheasants".⁹⁴⁹ Therefore, the planting of different species of pine trees in the late nineteenth century was very beneficial for the large numbers of pheasants which were now being reared in Welbeck pheasantries. This type of woodland was also environmentally favourable

⁹⁴³ Tapper S, (1992) *Game Heritage, An Ecological Review from Shooting and Game keeping Records*, p. 36.

⁹⁴⁴ <https://www.fieldsportsmagazine.com/Shooting-Partridges/partridge-preservation> accessed 20th June 2018

⁹⁴⁵ NA, DD P4/76/49/1 (partridges netted and shot 1858)

⁹⁴⁶ Ibid. DD P4/76/49/1 (partridges netted 1858)

⁹⁴⁷ UNMSS Pwk 4506-4509 (letter from Swift to Duke re. Trees lost in 1860)

⁹⁴⁸ UNMSS, (1931) E Butler, (Laundry maid to the 5th Duke) *Recollections, Account of Welbeck and the 5th Duke 1869-1879*, (1870) p. 5 Pwk 5326/5

⁹⁴⁹ Tegetmeier W B, (1904) *Pheasants their Natural History and Practical Management*, Horace Cox, 'The Field' London, p. 46

for other wildlife species such as owls, hobbies, kestrels and buzzards. Therefore, inadvertently, continued tree planting was creating suitable habitat for many birds of prey, although gamekeepers persecuted these species throughout the later nineteenth century.

5.12 Food for Pheasants and Partridges

Pheasants and partridges required different types of food. Pheasants feed on seeds and grain, in January 1864 Boaler informed the Duke “Most of the pheasants have left the coverts near to the new buildings and half of them have taken to the ling in groups in the forest”.⁹⁵⁰ It is possible that the birds were feeding on heather seeds but they were more likely to eat grain left behind after harvest. The keeper Allertson reported to the Duke in September 1878 that pheasants released at Langwith “are now getting very shy and bad to catch, as there is much food in the stubbles adjoining the coverts”.⁹⁵¹ Stubble left after harvested crops would contain abundant grain for the birds to feed upon, ensuring they would be ‘shy’ to catch. Partridges were more likely to feed on recently cultivated ground as in 1878 Allertson reported “If your Grace desired the partridges for improving the breed the Reindeer park would be suitable but if your Grace wished them for next seasons shooting then more cultivated ground would be better”.⁹⁵² Partridges also fed upon seeds but they relied upon insects and soil larvae as well, therefore regularly ploughed agricultural land benefited these birds. Allertson also informed the Duke “I have heard from my uncle George Boaler [keeper] he would like them [partridges] near both corn and turnips and suggests hilly ground behind Holbeck”.⁹⁵³ This reveals the cultivated ground of turnip fields as well as seeds from corn were all beneficial to partridges. There is no evidence of pheasants or partridges given supplementary feed, but the young birds in pheasantries and partridge coops would have needed to be fed prior to being released. However, there is mention of hemp seed and Linseed being bought in at Welbeck. In 1859 “Allen and Co. were paid £1.16s.6d. for Hempseed for feeding young birds [as well as] Scotch Barley and Linseed”.⁹⁵⁴ Although there is no evidence of hempseed being grown at Welbeck it “was traded not just for growing hemp [both as a crop and to ‘improve’ land] but also as food for fowl [and] hempseed is sometimes included under the generic term of linseed”.⁹⁵⁵ Hempseed is derived from the plant *Cannabis sativa* but its uses include making fibres, feeding birds as well as being valued for its narcotic properties. So, this crop was very useful for ‘improving’ agricultural land as well as being an important feedstuff for the large numbers of game birds reared in this period.

⁹⁵⁰ NA DD 4P/76/45/59 (Pheasants move out of coverts 1864)

⁹⁵¹ NA DD 4P/76/48/10 (pheasants hard to catch due to available food 1878)

⁹⁵² NA DD 4P/76/48/6 (cultivated ground for partridges 1878)

⁹⁵³ NA DD 4P/76/48/6 (partridges near corn and turnips 1878)

⁹⁵⁴ NA, DD P6/7/10/1137/87 (Hemp seed 1859)

⁹⁵⁵ <http://www.british-history.ac.uk> accessed 17th February 2017

5.13 Pheasants and Partridges, Vermin Control

The 5th Duke's tenure was characterised by a massive increase in numbers of reared game birds resulting in the necessity of many more gamekeepers being employed at Welbeck. Wildlife which predated upon the game were regarded as 'pests' in need of eradication and according to Lovegrove on many estates "interest in wildlife focused more and more strongly on preservation of selected game species and concomitant control of competing vermin and predators to meet the sporting aspirations of land owning gentry".⁹⁵⁶ Shooting as a leisure pursuit gained more popularity as Lovegrove comments "this reached its zenith in the latter half of the nineteenth century and was accompanied by a renewed drive to control these species that impacted upon the aim of producing the largest bags possible".⁹⁵⁷

The destruction of 'vermin' at Welbeck was of paramount importance to ensure the loss of game birds was kept to a minimum. Raptors were high on the list for slaughter by keepers in this period. There is evidence of particular species of hawks when Allertson informed the Duke on July 13th 1879 "I am afraid there will be very few young partridge only 2 or 3 coveys have been seen so far and there are too many harrier birds about to admit of a good breed".⁹⁵⁸ These birds would most likely have been hen harriers which were, according to Lovegrove "a widely distributed and common bird throughout Britain in the eighteenth and early nineteenth centuries".⁹⁵⁹ Species of corvids were also targeted systematically and in 1860 three of the gamekeepers surveyed the estate, including the park, in order to count the number of rooks' nests "G Boaler and company – 2194, J Ward and company – 2159, F Ashton and company – 2192".⁹⁶⁰ Some areas inspected were "Causeway close, Cowclose wood, old kennels, Cavendish wood, mill wood and front of house and brewhouse".⁹⁶¹ Rooks killed in the park totalled 2,867 which was a substantial number and the highest figure was for "Lord Harley's plantation, 1129"⁹⁶², [Fig. 5.3]. These birds were often thought to destroy game bird eggs and were indiscriminately killed for this reason. According to Boaler in 1868 "Rooks were being watched when hunting for eggs [and] with regards to the pheasants nests they have found between 30 and 40 in Cavendish wood and round about, some in the nests sucked by the rooks".⁹⁶³ Boaler suggested "I make a claim that it was rooks, they set a trap at each nest where some of the eggs were partly sucked and caught a rook in it but this will need to be followed up or foxes will be caught

⁹⁵⁶ Lovegrove R, (2008) *Silent Fields, The Long Decline of a Nation's Wildlife*, p. 49.

⁹⁵⁷ Ibid. p. 49.

⁹⁵⁸ NA, DD P4/76/48/19 (hawks 1879)

⁹⁵⁹ Lovegrove R, (2008) *Silent Fields, The Long Decline of a Nation's Wildlife* p. 128.

⁹⁶⁰ NA DD P4/76/48/50 (rooks killed 1860)

⁹⁶¹ NA, DD P4/76/50 (rooks killed 1860)

⁹⁶² NA DD/4P/76/50 (list of rooks nests destroyed in Lord Harleys plantation 1860)

⁹⁶³ NA, DD P4/76/45/73/79 (rooks sucking eggs 1868)

as well”.⁹⁶⁴ Foxes received ‘protection’ from traps because their value as animals of the chase was much more important to ensure good ‘sport’ for the Duke, who was a keen foxhunter.

The killing of vermin was not just confined to preserving the game bird stocks; the 5th Duke was very concerned in 1860 regarding the status of wood pigeons. These birds had a complicated history as to whether they were ‘pests’ or not. It was not until the large estates increased their agricultural output that they began to increase in numbers. According to Lovegrove it was the appearance of various crop systems that made “Woodpigeons start to find alternative feeding opportunities”.⁹⁶⁵ Agricultural crops in the park probably encouraged these birds and the Duke wrote to Boaler in February 1860 about the numbers of the birds at Welbeck “I forgot to say about these that it was never my intention that they should be allowed to become so numerous on the land, I like to see them now and then in the woods one or two at a time but of late that rarely happens”.⁹⁶⁶ He wanted to have the birds scared off the crops and asked if “a bird scarer could be set up to fire a loaded gun at a flock of them and would perhaps succeed in frightening them especially if the birds he killed were suspended on sticks as in the case of carrions”.⁹⁶⁷ The Duke had concerns about wood pigeons causing damage to crops and commented that “I should think they are a ground feeder”.⁹⁶⁸ However, he was not really sure what the birds fed upon “Wood pigeon I presume do not feed on insects and grubs like rooks but I do not know”.⁹⁶⁹ He was right about the diet of the birds not including insects; they eat “crops like cabbages, and buds, shoots, seeds and berries”. The Duke also referred to a report in Germany in this period regarding the protection of all birds, not including game. He noted that in 1860 “A paragraph has been copied from a German newspaper into the English papers, that it has been proposed in many of the German papers forbidding the destruction of any birds (not game) not even sparrows may now be killed”.⁹⁷⁰ Portland’s observation shows that in this period the protection of birds in Germany was enshrined in law and confirms this with “I observe that no exception is made except of game in Germany all other birds are by law now protected”.⁹⁷¹

The Duke was not wholly convinced of the wood pigeon being harmless to crops and it would seem neither were local farmers as the Duke commented that “the argument is so strong against these birds with farmers and poisoned wheat is frequently and strongly recommended by many to be used

⁹⁶⁴ NA, DD P4/76/45/73/79 (rooks sucking eggs 1868)

⁹⁶⁵ Lovegrove R, (2008) *Silent Fields, The Long Decline of a Nation’s Wildlife*, p. 97.

⁹⁶⁶ NA, DD P6/13/7/69 (letter from the Duke in February 1860)

⁹⁶⁷ Ibid.

⁹⁶⁸ Ibid.

⁹⁶⁹ Ibid.

⁹⁷⁰ NA, DDP6/13/7/69 (letter from the Duke in February 1860)

⁹⁷¹ Ibid.

for their destruction".⁹⁷² However, he counters the use of poison by saying that it might be better to pay to have the birds destroyed which it seems was already being practiced as in 1860 the Duke reported "I believe I paid too much per head for wood pigeons when you see Boaler will you ask him what an average charge is per annum. It will be worthwhile to compare this with poison bird feeding".⁹⁷³ At Welbeck the status of the wood pigeon was that it needed to be culled regardless of whether it was a 'pest' or a 'game' bird.

Vermin accounts were kept by keepers during the 5th Duke's tenure. The following tables show the numbers killed in 1859, 1860, 1871 and 1876

Table 5.5 Vermin account Welbeck, 1859, 1860

1859	August	October	December
Flying vermin	62 - £1.11s.	162 - £8.2s.	151 - £3.15s.6d.
Running Vermin	186 - £9.6s.	57 - £1.8s.6d.	860 - £43.0.0
1860	January		Total for December £46.15s.6d. Paid in January 1860
Flying and Running Vermin from December 1859	£46.15s.6d.		

Source NA DD P6/7/10/1137/26 (August), NA DD P6/7/10/1137/119 (October), NA DD P6/7/10/1137/161 (December 1859, January 1860)

Table 5:6 Vermin Account Welbeck, for the year 1871

Name	Running Vermin, Number and Price Paid	Flying Vermin, Number and Price paid
Thomas Moore	68 - £3.8s.	25 – 12s.6d.
William Prebend	54 - £2.14s.	8 – 4s.
Name	Running Vermin, Number and Price Paid	Flying Vermin, Number and Price Paid
G Brammer	71 – £3.11s Rats – 46 – 7s.8d.	17 – 8s. 6d.

⁹⁷² NA DD/P6/13/69 (Letter from the Duke re- wood pigeons in February 1860)

⁹⁷³ Ibid.

Richard Evans	186 - £9.6s.	17 – 8s.6d.
William Turner	22 - £1.2s.	-
J Mitchell	9 – 9s.	6 – 3s.
G Hancocks	118 - £5.18s.	24 – 12s.
G Wells	8 – 8s.	-
Thomas Lindley	87 - £4.7s.	16 – 8s
Thomas Sturttons	32 - £1.12s.	13 – 6s.6d.
J Coupe	9 – 9s.	8 – 4s.
J Hancock	7 – 7s.	-
J Candlin	19 – 19s.	1 – 6d.
G Boaler	47 - £2.7s	35 – 17s.6d.
B Roper	13 – 13s	
Chas Stubbins	10 – 10s. Rats 59 – 9s.10d.	2 – 1s.
Total	Received January 1872	£43.3s.6d.

⁹⁷⁴Source NA (Fig. 5.4)

Table 5.7 Vermin Account

1876	December
Destroying vermin on the estate, attending Rink and Boat house 16 days at 5s per day To six ferrets at 5s. each	Price paid - £4.00 Price paid - £1.10s
	Total - £5.10s.

Source NA DD P6/7/10/1483/20 (Vermin destroyed 1876)

The paid figures in 1860 show a very high total for December 1859, but according to Joseph Boaler they were “vermin destroyed in the year 1859 at Welbeck, Carburton, Norton, Gleadthorpe, Cuckney, Langwith, Holbeck and Edwinstowe, 860 weasels and cats at 1s. each, 151 hawks, magpies, carrion crows at 6d. each”.⁹⁷⁵ Therefore the numbers include the wider environs of Welbeck estate and they do show the types of animals and birds killed, the cats would have been feral cats. In 1871 the total figures killed are “859 running vermin (of which 105 were rats, 182 flying vermin were

⁹⁷⁴ December 1871, Vermin Account Welbeck

⁹⁷⁵ NA DD P6/7/10/1137/161 (vermin killed in 1859)

destroyed”.⁹⁷⁶ The comparison between 1859 and 1871 shows the price paid for destroying vermin was similar with 1859 being slighter higher. However, as the vermin are not named [except in 1860] it is difficult to know which animals and birds were being destroyed, but raptors, corvids, weasels, rats and feral cats were probably included in the total numbers. In 1876 the vermin targeted were in a specific area near the house and the skating rink and a daily rate was paid rather than per animal. It was for 16 days which is quite a long period and ferrets were used so it was probably rats being destroyed and possibly rabbits as they were regarded as ‘pests’.

The prices paid varied depending whether they were ‘running’ or ‘flying’ vermin, the former were one shilling each and the latter 6d. each with rats at 2d. each. It is evident that the numbers of ‘vermin’ both birds and mammals destroyed, during the 5th Duke’s tenure at Welbeck, remained at high levels and was maintained in the interests of ‘preserving’ game birds. Gamekeepers’ duties were varied from the mass killing of wildlife to the catching of people who defied the game laws by poaching for game birds. In April 1861 George Boaler informed the Duke “I find that some of Mr Halloways friends shoot at Bolsover but he sends a keeper over from Glapwell to kill game occasionally”.⁹⁷⁷ Boaler had been told by Halloway “In a lack of shooting season a man is set to watch over the game but only for a time”.⁹⁷⁸ This lack of ‘protection’ informed Boaler “I am told that Bolsover poachers get the most part of it”.⁹⁷⁹ Therefore, evidence suggests that without closely monitoring game, poachers could kill and steal a considerable number of birds. In 1872 Boaler was involved with poachers at Mansfield. He reported to the Duke “Two poachers were caught shooting pheasants in Thieves Wood this morning at 4’o’clock, they will be tried at Mansfield in the morning. They killed three pheasants”.⁹⁸⁰ The punishment for poaching was severe, the perpetrators were sometimes transported and keepers were determined to catch anyone killing game.

5.14 Conclusion

It is evident that game birds were an important addition to the park, in particular for their ‘sporting’ attributes, as a source of food for the family, for gifts of patronage, as well as for profit when sold. In October 1859 John Methson from Mansfield who was “A licensed dealer in Game bought 65 brace of partridge for £5.13s.9d”.⁹⁸¹ It is not clear who sold them to the dealer but it was possible that they were from Welbeck as the birds were for ‘county orders’. However, the numbers of birds reared were relatively small in the 3rd Duke’s tenure in relation to the later periods. Shooting in the

⁹⁷⁶ DD P6/7/10/1376/139 (vermin destroyed 1871)

⁹⁷⁷ NA DD4P/76/45/40 (shooting at Bolsover 1861)

⁹⁷⁸ Ibid.

⁹⁷⁹ Ibid.

⁹⁸⁰ NA DD 4P/76/46/70 (poachers caught in 1872)

⁹⁸¹ NA DD P6/7/10/1137/144 (Partridges bought 1859)

late eighteenth century was a leisure pursuit for the elite [2nd Duke of Newcastle, 1788, Fig. 5.4].

This style of shooting involved 'walking up' using dogs to fetch shot birds and the main firearm was a musket. Because of the uncertainty of the firing mechanism of muskets coupled with the cumbersome size and weight of the gun it ensured that only a few birds were killed at any one time.

However, the numbers killed changed markedly by the mid nineteenth century with the advent of the breech loading gun which enabled birds to be shot using rapid fire, thus ensuring many more birds were killed. By the period of the 5th Duke there was evidence of shooting parties involving more gentlemen taking advantage of a very different style of shooting. The practice of 'walking up' was superseded in the later nineteenth century as 'driven shoots' using 'beaters' were the most popular way of pursuing all types of game birds. In conjunction with the changing style of shooting it meant that the breeding of game birds also increased rapidly. In the early period the birds reared were wild and were 'protected' from vermin by keepers. However, the numbers of pheasants and partridges noticeably increased from the mid nineteenth century and pheasantries appeared in the park and its environs by the 5th Duke's tenure. This meant that game birds could be reared by using hens to sit on pheasant eggs and many hundreds were hatched in this way. Coops were built to house bantams used for incubating partridge eggs and partridge nests were 'protected' by keepers who then removed some of the eggs for rearing in coops. Partridges stayed together in coveys and keepers checked the numbers in each covey regularly. Throughout the tenures of the three Dukes of Portland, poaching was a continuing problem and keepers had looked out for poachers, even at night. Men from outside of the estate such as wool combers from Mansfield were caught shooting or trapping game but the penalties were severe, they could be imprisoned or even transported.

The management of the landscape of the park was particularly important when considering the habitat required for pheasants and partridges. Pheasants are 'edge of woodland' birds whereas partridges are open farmland game. The changing landscape reflected the needs of both species. The later eighteenth century was a period of important landscape change as landowners were having their parks redesigned. The changes included the planting of thousands of trees as well as creating smaller plantations and shrubbery which were ideal habitats for pheasants. Also, major changes were made in the later eighteenth century where scrub woodland and heathland were destroyed and the land ploughed ready for planting crops. Many acres of farmland were created, particularly during the 4th Duke's tenure in his quest to 'improve' farming methods. Crops were grown which were specifically for feeding game birds, such as buckwheat and potatoes, for feeding pheasants. The increase in open farmland was exactly the right habitat for partridges to breed and thrive. By the tenure of the 5th Duke game birds were more intensively reared in pheasantries and

coops for partridges. However, the rearing of large numbers of game also meant that there were negative environmental consequences for other species of wildlife. It was inevitable that the practice of 'protecting' game involved the killing of wildlife, especially raptors, including harriers, corvids, such as crows, rooks and magpies as well as animals, including stoats, weasels, polecats and feral cats. The changes in forestry and farming methods from the periods of the 3rd to the 5th Dukes ensured that the breeding of game birds rapidly increased. However, the environmental consequences of these 'improvements' were particularly detrimental in reducing the numbers of some wildlife species both birds and mammals.



Fig. 5:1

Woodland in Welbeck Manor and Park c. 1766, Ingham

1 Cowclose Wood

2 Proposed plantations



Fig. 5.2 Ordnance Survey Map c.1885 UNMSS Ne 6P 10/1/2

1 Carburton Lodge

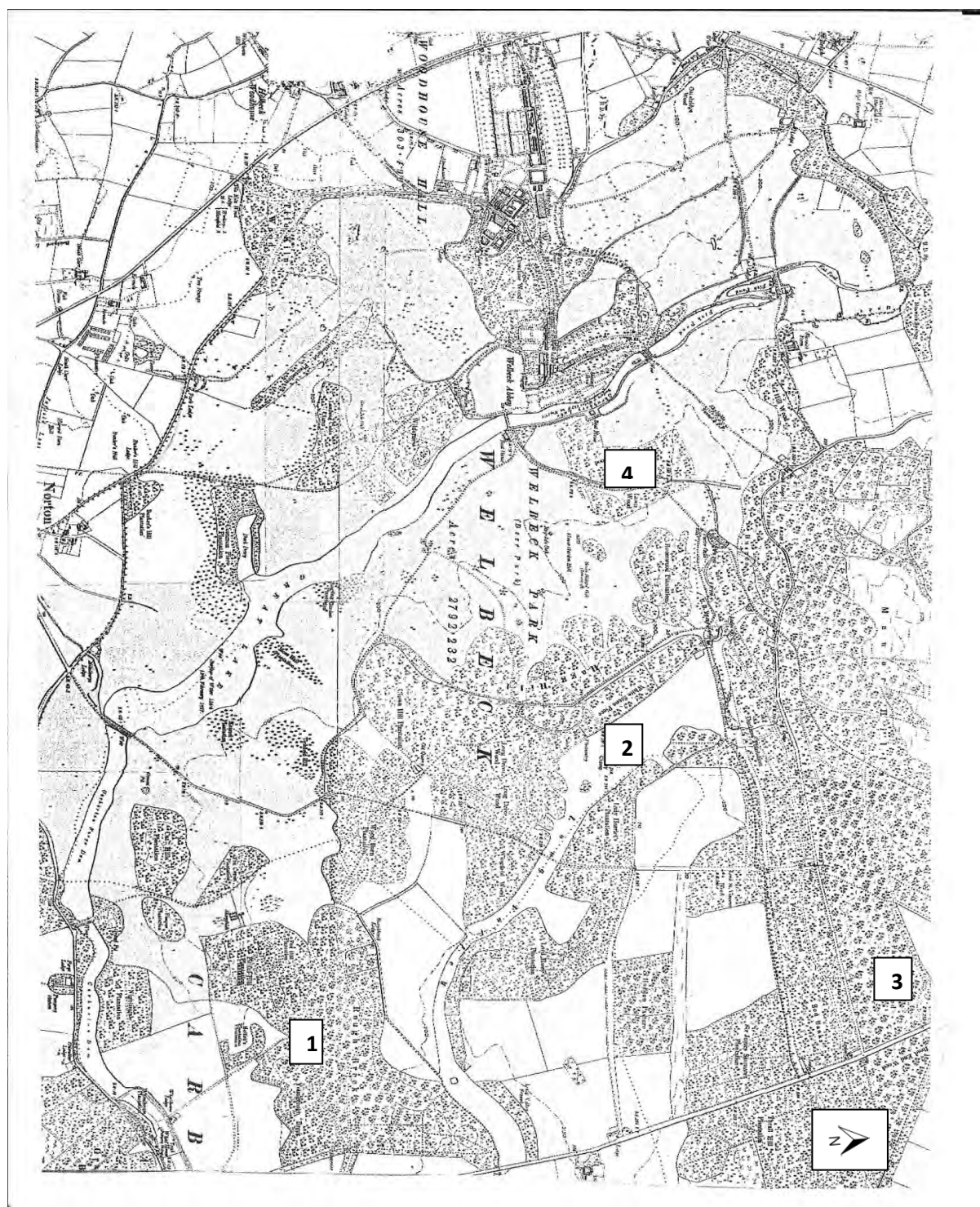


Fig. 5.3 Ordnance Survey Map c.1885

- 1 Rough Breck**
- 2 Pheasantry near White Stone Piece**
- 3 Pheasant Wood**
- 4 Lord Harleys Plantation**



Fig. 5.4

Return from Shooting 1788

Fig. 5. 4

Return from Shooting, 2nd Duke of Newcastle

Francis Wheatley 1788

Chapter 6, Aquatic species of Fish and Wildfowl

Introduction

This chapter analyses the impact of changing landscape practices on aquatic species of fish and waterfowl. Water in its many forms within Welbeck Park was highly important as a number of aquatic species relied solely upon the habitats created by water to thrive and breed successfully. Changes in the management of key water features, the lake, ponds and rivers are considered. The chapter also examines landscape change and the management of fish, including breeding and maintenance, and includes store fish for the table, such as carp, tench and perch as well as game fish such as trout and grayling.

The implications of landscape change for the numbers and habitats of indigenous waterfowl such as mallards, herons, moorhens, coots, grebes and mute swans is evaluated. Migratory waterfowl such as goosander, lapwing whooper swans, teal and varieties of geese, as well as introduced species, particularly the Canada goose are also examined. Wildfowl describes all types of wild birds, including waders as well as ducks, geese, swans etc. Waterfowls are birds which spend most of their non flying time on the water.

The chapter is organised chronologically from 1770, the tenure of the 3rd Duke, to death of the 5th Duke in 1879. The 3rd Duke inherited in 1762 but the timeline for the thesis begins in 1769. Sub sections within each Duke's tenure are key water features and management, species, numbers and management of fish and breeds and management of waterfowl. The creation of water meadows during the 4th Duke's tenure and the ecological impacts for aquatic birds and fish of land drainage and water body alteration within the park are of concern throughout the chapter.

6.1 The tenure of the 3rd Duke c.1769-c.1795

During the 3rd Duke's residence at Welbeck a considerable amount of landscaping work was carried out in order to 'improve' the park. An important aspect of these parkland 'improvements' involved the water features, especially the lake, but also, the fish ponds. According to Repton stately mansions needed "shelter from the wind, and a supply of water for store fish ponds [and these] were predominant considerations".⁹⁸²

6.2 Water Features and their Management

The main water bodies of Welbeck Park include the lake, the river Poulter and ponds. The lake was first created as early as 1748 by Francis Richardson by the damming of the river Poulter and the

⁹⁸² Repton H, (1806) *An Enquiry into the Changes in Landscape Gardening*, J Taylor, London, p. 83.

island at the end of the lake was also formed by Richardson [Fig. 6.1] The damming of rivers produced a large area of water which was very important for breeding most varieties of fish, both for the table and exchange. Alterations to the lake and the creation of fish ponds such as near Cow Close wood were subsequently made and are shown on Ingham's map of 1766 [Fig. 6.1]. This clearly shows the extent of the lake in this period and includes the island set within the lake at its widest part [Fig. 6.1]. While Ingham's 1766 map shows the extent of the lake in front of the Abbey with no large trees apparent, in 1767 the gardener, Speechly, informed the Duke "We have been busy in making good the planting of the large trees at the Lake head [Fig.6.1]"⁹⁸³ During this period 'improvements' were being undertaken on a large scale with the creation of new plantations but the lake was not enlarged. However, there were concerns about keeping the lake clear and different methods were used to clean out the weeds. In July 1764, landscaping work was being undertaken in the park by William Brounton the gardener who informed the Duke "The park does not look so well as I could wish particularly the lake for weeds are pretty much grown up either by its being done nothing to this season as we have cut none yet"⁹⁸⁴ Boats were used to help clear the lake and Brounton reported to the Duke "But now we are getting some instruments made to make a trial with the boats to cut them [weeds]"⁹⁸⁵ This implies that cutting tools were made to cut the weeds down more efficiently.

Another method of clearing the lake of weeds was by using flat bottomed boats, which could move more easily in shallow areas choked by weeds. The lake needed clearing regularly and in 1767, Bacon the keeper advised the Duke in relation to clearing the lake "I have got two flat bottomed boats coming from Gainsborough to clean the lake but cannot begin that work till harvest is over"⁹⁸⁶ The shallow hulled boats were less likely to ground and were able to dredge the water in order to clear out invasive submerged weed which probably included pondweed, floating duck weed and marginal surface aquatic plants such as bulrushes, sedges and reeds. Clearing the lake of weeds appeared to be done on a seasonal basis and timed to avoid interfering with other farming work such as the harvest.

When planting large numbers of trees, it was necessary to remove a substantial amount of soil in order to provide quite sizeable holes for the larger trees. However, additional fertile earth was brought in from dredging the bottom mud of the lake to the planting area. After the trees were planted at the lake head in 1767 Speechly reminded the Duke "Your Grace perhaps remembers the

⁹⁸³ UNMSS, Pwf 8429 (1767 Speechly to Duke re- planting)

⁹⁸⁴ UNMSS Pwf 1722 (letter to the Duke from William Brounton regarding lake overgrown with weeds 1764)

⁹⁸⁵ Ibid.

⁹⁸⁶ Ibid. Pwf 177 (1767 Bacon to Duke re- lake)

great quantity of black earth that was lead from the lake side to plant those trees in, there is now above four times as much left as has been made use of".⁹⁸⁷

The 3rd Duke had 'improvement' plans for the park in the later eighteenth century and water featured heavily. Under drainage in the park was an ongoing 'improvement' during this period, and if it was not properly executed there were negative implications. As early as 1764 drainage schemes were put in place in the park, according to Seymour "Portland was to make the river [Poulter] straighter and broader in order to drain the ground on both sides thereof".⁹⁸⁸ Seymour suggests that "the processes of widening and straightening required for better drainage may have been compatible with the creation and extension of Welbeck Lake".⁹⁸⁹ Therefore drainage schemes worked successfully in tandem alongside major alterations to the lake. According to Lowe [Board of Agriculture] in 1794 "The necessity of draining wet lands has of late years been much better understood and the rot amongst sheep in 1792 has alarmed and almost everywhere brought forth exertion in this respect".⁹⁹⁰ Wet pasture land was not suitable to run sheep on as they suffered badly with foot rot. The Duke's agent Gould was instrumental in directing improvement work from the 1780s to 1790s, and when out riding with the Duke in October 1787, he reported "we returned by the Lake head, he [the Duke] informed me it was intended at some future time to build a bridge over there, and to make a head of the tail at Carburton Dam to hold up the water with the level of the lake".⁹⁹¹ In 1787 Gould "walked with Robert Mee into our Long Meadow after the Engine drain side where we are cutting parallel drain to take off water from the land".⁹⁹² The Engine drain was at the point of the Lake head [Fig 6.2] and draining the surrounding land was important in order to avoid flooding, Gould also "gave orders to plant the same [area] with owlers [alders] and willows".⁹⁹³ Both of these native species of tree were excellent for colonising wet ground. Gould recognised the importance of planting particular tree species which anchored their roots into wet soil and in turn helped to avoid too much soil erosion around the lake side.

⁹⁸⁷ UNMSS, Pwf 8429 (1767 Speechly to Duke)

⁹⁸⁸ Seymour S (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, p. 336 (Memorandum re. land at Welbeck to be added to farms 1764, NAO DD 4P 58/11).

⁹⁸⁹ Ibid. p. 337.

⁹⁹⁰ Lowe R L (1798) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of Its Improvement. Drawn up for the Consideration of the Board of Agriculture and internal Improvement*, p.98.

⁹⁹¹ Hanson E J Ed. (2002) *Portland and Devonshire Agent, William Gould 1783-1795* part 11, MS 736/5/2, p. 180.

⁹⁹² Ibid.

⁹⁹³ Ibid.

The main river within the park at Welbeck was the river Poulter and it was included in the redesigning of the water features in the later eighteenth century. The river was also the subject of being diverted when in 1787 Gould “sent Turner to measure a river course intended to be cut below the head of the lake to divert the present course that now runs down by the kennels [Fig. 6.3]”.⁹⁹⁴ However, the diversion of the river could have caused problems with flooding as the water needed to be raised to the level of the lake. Gould and the Duke “had a great deal of conversation about making a head below the kennels to hold up the water to the level of the lake [but] Gould thought the scheme was not very practicable and was of the contrary opinion that it could not be done without damaging some part of the kennels”.⁹⁹⁵ Gould realised that major alterations to the river course could potentially flood the surrounding land.

The courses of other watercourses flowing within the park were diverted in the 1780s. In 1787 Gould “paid Mr Dixon [Land Surveyor] his demand for cutting the river (Walling) between Welbeck and Whitwell, he took a level of the piece of land below the lake head in order to see if there was sufficient fall to turn the river into a new channel”.⁹⁹⁶ The cutting of the Walling brook and other streams [Fig. 6.3] had the effect to “join the Millwood brook to grow into the artificially enlarged Welbeck lakes at Sloswicks on the eastern extremity of the parish [of Whitwell]”.⁹⁹⁷ Gould affirmed the practice of straightening the river in May 1789 when he reported “viewing the labourers who have now finished cutting the river straight, down our meadows above and below the bridge”.⁹⁹⁸ This work was completed after the severe flooding at Welbeck two years previously. The lake at Welbeck in the late 1780s was fed by several streams and brooks which were prone to flooding, in the event of continuous heavy rain. This is exactly what happened on 15th July 1787, Gould described the extreme weather conditions “In the afternoon we had six hours of the heaviest rain I almost ever saw accompanied with thunder and lightning”.⁹⁹⁹ However, the rain was not the only problem, on the same day in 1787 “About Carburton forge a large quantity of snow and hail fell which covered the land on an average a foot thick and in the hollows in Cat Hills it lay more than a yard thick”.¹⁰⁰⁰ The severe weather continued unabated until on the 10th August 1787 “Welbeck lake was burst, the trunk that conveys the water from the shuttle into the basin proven rotten and

⁹⁹⁴ Hanson M J Ed. (2002) *Portland and Devonshire Agent, William Gould, 1783-1798*, Vol. 3, MS 736/5/3

⁹⁹⁵ Ibid. 1783-1798, Vol. 3 MS 736/5/3

⁹⁹⁶ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, William Gould, 1783 to 1795* Vol. 1, MS 736/5/4 p. 193.

⁹⁹⁷ <http://www.wlhg.co.uk> Whitwell local history group, accessed 3rd April 2017

⁹⁹⁸ Hanson W J Ed. (2002) *Portland and Devonshire Agent, William Gould 1783 to 1795*, Vol. 3, MS 736/5/3, 1789, p. 351.

⁹⁹⁹ Ibid. Vol. 2, 1787, MS 736/5/2, p. 194.

¹⁰⁰⁰ Ibid.

decayed, the water found a vent in one side and washed away a great quantity of earth”.¹⁰⁰¹ This was a calamitous situation because the breach in the lake head needed repairing very quickly so “the labourers at the lake head [were] pouring in a great quantity of earth and gravel to secure the breach”.¹⁰⁰² However, according to Gould it was very fortunate that “the head did not burst when the lake was full for if that had been the case it undoubtedly would have blown up the head, and the torrent would have certainly carried down the head at Carburton Forge dam and would have attended with very bad consequence”.¹⁰⁰³

Land drainage could have the opposite result in terms of flooding and this was clear when in February 1795, there were adverse weather conditions. Gould was checking all of the dams and water courses when “the greatest flood that can be remembered by the oldest man living [occurred]”.¹⁰⁰⁴ Damage was expected as “last night and this morning we experienced a very rapid decline of the snow by wind and rain which swelled the rivers amazingly, about noon we had a large flood”.¹⁰⁰⁵ The environmental effects of swollen water levels would have been immense. According to Gould “We all expected the dam head at Carburton would be swept away [and] our bridges and all our other dam heads were in the greatest danger of being blown up”.¹⁰⁰⁶ However, the damage was limited, as Gould reported only the “bridges at Carburton and Clipstone dam are swept away”.¹⁰⁰⁷ Therefore, the ‘improvements’ to the water features at Welbeck in this period were in danger of being destroyed because of adverse climatic conditions.

When the lake was in the process of being redesigned by Repton in the 1790s he often accompanied Gould, and Heaton to view the park. In February 1789 Gould reported “I accompanied Mr Heaton and Mr Repton. We viewed the different situations respecting the taking of views to particular places and objects on both sides of the lake”.¹⁰⁰⁸ Repton’s designs for the lake included deepening and widening, as the 1790 proposals show [fig. 6.4]. The lake was proposed to be considerably longer at the head as well as much wider with the river Poulter being extended in both directions. The more detailed map of 1790 [fig. 6.5] reveals the widening of the lake as well as the incorporation of the Poulter from the lake head upwards. Repton’s proposals for the lake were designed to create a wider view of the water from the house resulting in a pleasing aesthetic scene. These proposed

¹⁰⁰¹ Hanson W J Ed. (2002) *Portland and Devonshire Agent, William Gould* Vol. 2, 1787, MS 736/5/2, p. 199.

¹⁰⁰² Ibid. p. 199.

¹⁰⁰³ Ibid. p. 199.

¹⁰⁰⁴ Ibid. MS 736/5/2, p. 556.

¹⁰⁰⁵ Ibid.

¹⁰⁰⁶ Ibid.

¹⁰⁰⁷ Ibid.

¹⁰⁰⁸ Hanson M J (2002) *Portland and Devonshire Agent, William Gould 1783 to 1795*, Vol. 3, MS 736/5/3, 1789

alterations to the lake were elaborated in the 1793 Red Book [Fig. 6.6] and were realised at considerable expense in the following years. They resulted in a waterscape considerably different to that represented in Ingham's 1766 map. Massive amounts of earth were removed around the lake and drains were cut at frequent intervals to take away surplus water. The 1790 Red Book included an estimate for the work but Gould felt that the changes were extravagant reporting in 1791 "New drains are being made from the house to the lake, it is the first time I have seen them and I think they are throwing away money by cutting them larger than they ought to be".¹⁰⁰⁹

The creation of fish ponds was ongoing in the park, as implied when Speechly informed the Duke in 1776 "....that all different works here except the care of earth out of the new fish pond goes on".¹⁰¹⁰ One of these fish ponds was designed to play an important role in the control of flooding in the park, as according to Speechly the "new fish pond head near Cow Close wood [is doing] a great job of making the ground proper to take water from the said pond to the lake in flood times (Fig. 6.1)".¹⁰¹¹

6.3 Fish Species, numbers, management

During the tenure of the 3rd Duke ponds were created such as Cow Close pond [Fig. 6.1] and several stew ponds in the same area. In 1789 problems occurred with the Cow Close pond, Gould "Gave orders for the Cow Close Wood pond to be drawn, [as] I saw the water was so much run off that the fish were greatly distressed".¹⁰¹² Gould had the fish moved quickly and "took out a great quantity [from Cow Close pond] part of which we put into the stew ponds at Cow Close Wood and the other into the Duck Pond".¹⁰¹³ However, this did not resolve the issues and fish were taken "from the stew ponds and what we could get from the large pond and all of which were turned into the engine drain to be disposed of at pleasure".¹⁰¹⁴ A pond also existed in the pleasure ground and in 1788 Gould "Drew the shuttle of the pond in the pleasure ground to take out some fish for the table".¹⁰¹⁵ A shuttle was a wooden piece of equipment that was opened and closed to alter the flow of water into or out of the watercourses. Gould was very much involved with the day to day management of all water features in the park including overseeing the breeding of pond fish. He identified where ponds could be created. In 1785 Gould "walked with Joseph Boaler to the Roses to view some

¹⁰⁰⁹ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, William Gould, 1783 - 1795*, Vol. 1, MS 736/5/4

¹⁰¹⁰ UNMSS Pwf 8459/2 (creating a new fish pond 1776)

¹⁰¹¹ Ibid.

¹⁰¹² Hanson M J Ed. (2002) *Portland and Devonshire Agent, William Gould, 1789-1792* Vol. 3, MS 736/5/3 p. 359.

¹⁰¹³ Ibid.

¹⁰¹⁴ Ibid.

¹⁰¹⁵ Ibid.

places I intend to clean out and convert into fish ponds to breed carp".¹⁰¹⁶ The Roses is a small plantation very close to the Abbey [Fig. 6.7]. Different species were bred at Welbeck but it was not just ponds which were important for fish stocks, the lake and rivers were also used for breeding fish for table use as well as for sale and exchange with other estates. The species bred at Welbeck included carp, tench, pike, perch and eels. Table 6:1 shows the species and numbers of fish over 10 to 11 years.

Table 6:1

Fish caught with shuttle from 1784 to 1795

<u>1784</u>	<u>1785</u>	<u>1786</u>	<u>1787</u>	<u>1788</u>	<u>1789</u>	<u>1790</u>	<u>1792</u>	<u>1795</u>
Carp 31 ½ brace		10 brace		358 ½ brace 266 brace	106 ½ brace	16 ½ brace	10 brace 53 brace	15 brace
Tench	38 brace	24 brace		30 brace	16 ½ brace 216 ½ brace	17 ½ brace	29 brace 330 brace	12 brace
Pike 19 ½ brace		10 brace		124 brace	30 ½ brace	40 brace	35 brace	25 brace
Perch 50 brace	7 ½ brace	23 brace			20 brace		52 brace	30 brace
Total brace	Total brace	Total brace		Total brace	Total Brace	Total brace	Total brace	Total brace
101	45 ½	67		778 ½	390	74	509	82
Number of fish								
201	91	134		1557	780	148	1018	164

Source Hanson M J Ed. (2002) *Portland and Devonshire Agent, William Gould*, MS 736/1-4, 1784-1795.

¹⁰¹⁶ Hanson M J Ed. (2002) *Portland and Devonshire Agent, William Gould, 1783-1786*, Vol. 1, MS 736/5/1, 1785 p. 113.

It is evident that the most popular table fish in this period were carp and tench, the numbers of both species are considerably higher than the other breeds, and the fish caught were usually the larger fish. However, the totals of all fish recorded varies significantly, in 1788, 1,557 were caught whereas in 1785 there were just 91 fish recorded. There are no fish recorded in 1787, this was the year of a storm where it “snowed in July”.¹⁰¹⁷ The numbers are also fewer in 1795, as there was a flood at Welbeck “the greatest flood that can be remembered”¹⁰¹⁸, and the lake head burst, and fish were probably lost. In 1791 fish numbers were not recorded but the weight of fish caught. An account of all of the fish used at Welbeck between the 28th July to the 26th September 1791 reveals the extremely large catches made in just three months “tench – 64.3lbs, carp – 57.5lbs, pike – 12.7lbs, perch – 77.8lbs, eels – 66.1lbs”.¹⁰¹⁹ The records this year included a substantial weight of eels caught, a species not mentioned in other years.

Carp along with other species were regularly bought in as well as exchanged with other local estates. In 1784 Gould “Sent to Worksop Manor 19 ½ brace of pike, they returned 31 ½ brace of carp from 2 to 4 pounds each fish which was an excellent exchange and much pleased his Grace, we turned them into the pool at Cow Close Wood”.¹⁰²⁰ Sometimes fish were exchanged for animals, in August 1785 Gould “sent Joseph Boaler to Mr Rodes of Barlborough for some store carp and tench for which I am to give a buck in exchange”.¹⁰²¹ The exchange of a deer realised “218 brace of carp and 225 brace of tench”¹⁰²² for Welbeck, which was a considerable number of fish. Some more carp were bought in from Worksop Manor again in 1785, Gould reports he “took 7 labourers to Inkersall dam to take some carp for Welbeck, we was met (by my desire) by Captain Chambers who brought the Duchess of Kingston’s net”.¹⁰²³ According to Gould “we took 38 brace of carp which we computed to weigh 6 pounds apiece, though several was 12 pounds per fish and brought them safe to Cow Close [Wood] pond [and] expect to pay about 8d. Per pound”.¹⁰²⁴ Cow Close Wood pond was frequently used to store fish from other ponds, in the park as well as its environs. Other species of fish were important to the fish breeding programme in ponds around the park and sometimes they were moved from one area to another. In 1786 Gould gave an account of “This day we fished Carburton dam and took out 10 brace of carp from fourteen pounds to 20 ditto a brace, 10 brace of tench about 4 pound apiece which we turned into the pond on the Pleasure ground [and] we took out 6 pike about 10

¹⁰¹⁷ Hanson M J Ed. (2002) *Portland and Devonshire Agent, William Gould* Vol. 2, 1787, MS 736/5/2 p. 194.

¹⁰¹⁸ Ibid. Vol. 4 MS 736/5/4, 1795.

¹⁰¹⁹ NA, DD 4P/58/121 (1791 accounts if fish)

¹⁰²⁰ Hanson M J Ed. (2002) *Portland and Devonshire Agent, William Gould*, MS 736/5/1 Vol. 1 1784, p. 79.

¹⁰²¹ Ibid, MS 736/5/1 Vol.1 , 1785

¹⁰²² Ibid.

¹⁰²³ Ibid.

¹⁰²⁴ Ibid.

pound each which we turned into Welbeck lake".¹⁰²⁵ The Pleasure ground and gardens were to the East of the Abbey [Fig. 6.7]. Sometimes it was necessary to alter the size of pond head to accommodate certain species as is evident when Gould ordered a labourer to alter the head of a park pond in 1785, he "viewed Matthew Porter making a head for a pond on the pleasure ground to keep large fish".¹⁰²⁶ It is evident that the movement of fish around the park was a regular occurrence and to ensure safe transportation the fish were moved in specially designed carts. Gould mentions these in 1786 when he "paid John Shaw's bill for ironwork for a fish cart for the Duke of Portland and one for the Duke of Devonshire".¹⁰²⁷

There is no clear evidence of the 3rd Duke 'gifting' fish for political favours. However, in October 1787 Gould recorded a visit to Welbeck by some of Portland's friends "The Duke walked about with his company, Major Rooke and Major Boothby paid him a morning visit [and] the Dean of Lincoln and Doctor Aldridge arrived here for dinner".¹⁰²⁸ The company were served with a fish which appeared to have been kept and killed for such an occasion, according to Gould "I gave them a perch for dinner which I had from Inkersall dam about 2 years since, its length was near 19 inches and 16 inches round, and weighed five and a half pounds".¹⁰²⁹ The fish seemed to have been reared in order to serve it for a special occasion as Gould reported "All the gentlemen declared they never saw so large a one before nor ever tasted any fish that had so good a flavour. His Grace said it was worth riding 150 miles to dine on such a fish".¹⁰³⁰ The unusually large size of this fish served to the Duke and his acquaintances would have shown the success of fish breeding at Welbeck and enhanced Portland's prestige.

However, because of the intensity of the pond breeding programme of different species there were instances of negative environmental effects upon some fish. Fish were taken out of the Pleasure Ground pond in 1789 for a political ally of the 3rd Duke, Lord Fitzwilliam of Wentworth. Gould reported "We drew off the water in the pond in the Pleasure ground to take out some carp to be sent to Lord Fitzwilliam's at Wentworth, and to my great surprise found them white and appeared in bad condition".¹⁰³¹ This reveals evidence of damage to fish and Gould "attributed it to the number of perch that are lately bred in this place".¹⁰³² Gould elaborated further "The fish taken out of the

¹⁰²⁵ Hanson E J Ed. (2002) *Portland and Devonshire Agent, William Gould, 1783-1786*, Vol. 1, MS 736/5/1, p. 136.

¹⁰²⁶ Ibid. Vol. 1 MS 736/5/1, p. 37.

¹⁰²⁷ Ibid. Vol. 1 MS 736/5/1, p. 147.

¹⁰²⁸ Hanson M J Ed. (2002) *Portland and Devonshire Agent, William Gould, 1787-1788* Vol. 2, MS/736/5/2

¹⁰²⁹ Ibid.

¹⁰³⁰ Ibid.

¹⁰³¹ Ibid. Vol. 3, 1789-1792, MS 736/5/3

¹⁰³² Ibid.

pond yesterday are in general poor and out of condition, owing in the great measure to the pond being overstocked with different sorts and kinds, the perch had bred to a very great quantity".¹⁰³³

It is important to consider that fishing in this period was not just about netting hundreds of fish for the table and sale, there was also an element of pleasure derived from angling. Welbeck Lake was a popular water body used for the enjoyment of fishing in this period. Gould himself along with family members and other employees fished on the lake. In 1785 Gould "took the boat and went to fish in Welbeck Lake accompanied by my wife, son William, Mr Turner and Joseph Boaler".¹⁰³⁴ Boats were used frequently for angling as shown in the painting (Fig. 6.8) of two men fishing on the lake in 1790. This was a leisure activity which enabled enthusiastic anglers to catch fish for their own use. Gould and his family "caught seven brace and a half of tolerable good perch [and] I took a pike about three pounds".¹⁰³⁵ Other people also wanted to fish in Welbeck waters. In 1787 Gould stated "I asked him [the Duke] about persons fishing Budby river [Poulter]. I informed him that I did not think that the river an object towards supplying Welbeck with fish".¹⁰³⁶ Gould had a reply from the Duke "He said if that was the case he had no objection for gentlemen to fish if they would ask leave".¹⁰³⁷ However, poaching was an ongoing problem and Gould ordered the keeper Joseph Boaler to make sure that there was no unauthorised fishing. In April 1787 Gould stated that "Boaler came in the evening and informed me he had found 11 night lines set in the river [Poulter] below Carburton Forge and he supposed by the Revd. Mr Bourn of Spittal".¹⁰³⁸ Gould "ordered [Boaler] to go down and place a part of them in the river the following morning and watch who they belonged to [and] Mr Bourn came and took them up in sight of Boaler, one of which had caught a small pike, he fished a little with his rod and then left the place".¹⁰³⁹ It is evident that fishing for pleasure was practiced by different people but normally only with permission from the Duke. However, in June 1787 Gould "wrote to Revd. Mr Bourn to prevent him in future from fishing in the Rover [Poulter] leading from Carburton Forge Dam to Clumber Park".¹⁰⁴⁰ Gould does not say why the Revd. Bourn was stopped fishing on the Poulter, but it could be that it was too close to Clumber Park. Poachers were caught fishing on occasion. Wool combers from Mansfield often fished illegally in the rivers at Welbeck. Gould reported in February 1788 "John Ashmore came here [Welbeck] and informed me that the

¹⁰³³ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, William Gould*, Vol. 3, 1789-1792, MS/736/5/3

¹⁰³⁴ Ibid. Vol.1, 1783-1786 MS 736/5/1

¹⁰³⁵ Ibid. 1783-1795, Vol. 3, MS 736/5/3

¹⁰³⁶ Ibid. 1787-1788, Vol. 2, MS 736/5/2, 1787, p. 208

¹⁰³⁷ Ibid. p. 208.

¹⁰³⁸ Ibid.

¹⁰³⁹ Ibid. Vol. 2, MS 736/5/2, p. 183.

¹⁰⁴⁰ Ibid. Vol. 2, MS 736/5/2, p. 186

combers fish in the lakes and rivers”.¹⁰⁴¹ It is not clear where the combers were fishing but if caught they were usually tried at Mansfield and they would be under the threat of transportation.

Welbeck Lake was managed to preserve different species of fish, and this was especially apparent during Repton’s redesigning of the lake in the 1790s. Huge quantities of earth were removed from the lake and its banks, which necessitated water to be diverted during the design alterations. This was evident in June 1793 when Gould “viewed the workmen on the pleasure ground, our people are carrying earth from the lake to the East front at Welbeck, there is a great quantity to be removed”.¹⁰⁴² The lake was very carefully managed with shuttles which allowed water out as well as filling it at different times. In June 1793 Gould reported that the men “let off the lower part of the lake in order to remove the fish, the water is stopped to preserve the fish left”.¹⁰⁴³ The management of water flow in and out of the lake and other water bodies was an important issue. In 1767 a carpenter, John Stanley was paid for “his bill for repairing the fish gates at the flood gates at Carburton Lodge”.¹⁰⁴⁴ Equipment such as fish gates and shuttles were necessary for preserving as well as catching the fish, the shuttle needed examining regularly to ensure that it was working properly. In 1787 Gould gave “Boaler orders to draw the shuttle in order to make some repairs”.¹⁰⁴⁵ The wooden equipment was liable to rot as it was under water, and this happened in 1787 when water breached the lake head and flooded the surrounding land.

Dams created bodies of water which were very important for holding and breeding stocks of fish. In April 1789 Gould reported on such example “This day was appointed to fish Carburton Dam, and I [Gould] rode down with Mr Speechly. Our people caught pike, carp, trench and perch. All carp were put back, 20 brace of small pike were sent to Worksop Manor. A quantity were kept out and others returned to the Dam “I think there could not be less than 150 stone of different sorts”.¹⁰⁴⁶ The weight of 150 stone of fish was considerably more than fish caught in 1791, but there was a serious flood in this year. Dams were also created elsewhere within the park. In 1790 Gould “attended on Mr Dixon and his men, who have begun to cut down the dam head on the Pleasure ground this morning”¹⁰⁴⁷ and there was a “temporary dam in the lake”¹⁰⁴⁸, in 1793.

¹⁰⁴¹ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, William Gould*, Vol. 2. p. 234.

¹⁰⁴² Ibid. Vol. 3 1789-1795 Vol. 3 MS 736/5/3, 1793

¹⁰⁴³ Ibid.

¹⁰⁴⁴ NA DD 5P/6/2/3 (bill for repairing fish gates 1767)

¹⁰⁴⁵ Hanson M J, Ed. (2002) *Portland and Devonshire Agent William Gould*, Vol. 2, 1787-1788, MS 736/5/2 p. 199

¹⁰⁴⁶ Ibid. 1789-1795, Vol. 3 MS 736/5/3

¹⁰⁴⁷ Ibid.

¹⁰⁴⁸ Ibid.

Damming the lake was also important not only to conserve fish but to produce ice. In December 1790 Gould gave details of this practice “This morning I set all our people and teams to work, to carry ice from the lake to fill the Ice House”.¹⁰⁴⁹ However, this was not without its problems as “The wind being high, it carried the ice away to the head of the lake and we was obliged to desist in collecting anymore”.¹⁰⁵⁰

It is evident that that all water courses during this period were subject to an intensive management system of fish production which was sometimes detrimental to other forms of wildlife. The breeding of fresh water fish in the park was an important source of food and facilitated the exchange and gifting of different species with other estates.

6.4 Wildfowl, Breeds and Management

There were several species of waterfowl present at Welbeck in this period, including resident species such as mallards, coots, moorhens, and mute swans and migratory wildfowl which over wintered at Welbeck, such as, woodcock, snipe and whooper swans. Resident species of duck such as the mallard were encouraged to breed on the lake and the ponds but were then subject to being shot for ‘sport’ and food. However, wildfowl were not killed in the same number as game birds for example in 1784 it was reported that the keeper “Joseph Boaler killed in this year 227 partridges, 46 hares, 39 ducks, 19 woodcock, 19 snipe”.¹⁰⁵¹

Duck decoy ponds had been in existence since the seventeenth century “they became widespread in Eastern England and were found throughout the country”¹⁰⁵² in the eighteenth century. Speechly was instrumental in breeding various species of duck and Gould mentions the duck pond when men were catching some water birds “Robert Mee, Mr Turner etc. [caught] six young ducks and the ducks we turned into Mr Speechly’s duck pond”.¹⁰⁵³ However, there is no evidence of Duck decoys being used in this later eighteenth century but Ingham’s map of 1766 shows a Duck decoy pond at the bottom of the Great Lake [Fig. 6.2].

Speechly frequently mentions the pleasure garden pond which could have been his pond for the breeding of wildfowl such as mallard but he also had a great interest in foreign species of ducks such as the American Carolina duck. He informed the Duke in 1769 “We have not any of the Carolina ducks hatch’d yet in the Garden; but above a week ago I was agreeably surprised to see one that can

¹⁰⁴⁹ Hanson E J, Ed. (2002) *Portland and Devonshire Agent William Gould* Vol. 1, MS 736/5/1, p. 397.

¹⁰⁵⁰ Ibid.

¹⁰⁵¹ Ibid. 1783-1786, Vol. 1, MS 736/5/1 (although snipe and woodcock were considered as ‘game’ in the nineteenth century)

¹⁰⁵² Ibid. Vol 1 MS/736/5/1 p. 312.

¹⁰⁵³ Ibid.

fly, in the pleasure garden pond, with fourteen young ones after her”.¹⁰⁵⁴ The management of these ducks proved to be quite a challenge for Speechly; he suggested that “They only want room. I suppose it is having so many penned up in so little room, the chief reason why we don’t breed more than we do. Suppose my Lord Duke, that the long piece of water by the garden side, above the stew ponds was to be paled about to put them in during the breeding season”.¹⁰⁵⁵

Speechly was very keen on establishing the North American Carolina ducks in the park as they were unusual ‘curiosities’ and he informed the Duke regularly on their breeding habits. He wrote in 1769 “I think we shall have great luck with the young Carolina ducks this year, we have above twenty in the garden, and two or three chances to come and I believe with the wild ones on the lake head there is more than the above number”.¹⁰⁵⁶ However, the breeding of these birds proved to be difficult. This is evident a year later in 1770 when Speechly informed the Duke “The Carolina ducks has made but poorly out this year, for tho’ we was lucky enough to raise a great number to a pretty good size, have had the misfortune to lose most of them”.¹⁰⁵⁷ It appears that Speechly did not fully understand the habitat requirements of these birds because they were essentially a ‘perching’ duck which needed very different nesting and cover to ‘dabbling’ ducks such as mallards.

Carolina ducks are known as ‘wood ducks’ [Fig. 6.9] and are “a member of the Tribe Cairinini being its only member native to North America. The Wood duck is most closely related to the brilliantly coloured Mandarin duck of the Orient”.¹⁰⁵⁸ The American ducks needed specific ecological conditions to thrive, “Wood ducks require forested wetland habitat for food and cover [and] they are cavity nesting birds, they depend on large mature trees for the availability of natural cavities”.¹⁰⁵⁹ Wetland habitat suggests very shallow almost bog type land so trying to rear these ducks in the garden and on the lake at Welbeck almost guaranteed their demise. The feeding habits of the ducks meant that they “are attracted to shallow water, depths of 3 inches to 3 feet are optimal [and] adequate cover is an important ingredient in determining quality wood duck habitat”.¹⁰⁶⁰ As they were ‘perching’ birds the ducks needed trees both for cover and nesting which were available in the park. However, it was the areas of the lake deeper than 3 feet which were unsuitable for these birds; therefore, they did not thrive or breed successfully.

¹⁰⁵⁴ UNMSS Pwf 8438 (1769 Carolina ducks)

¹⁰⁵⁵ Ibid.

¹⁰⁵⁶ UNMSS Pwf 8439 (1769 Speechly ducks)

¹⁰⁵⁷ Ibid. Pwf 8442 (1770 ducks)

¹⁰⁵⁸ http://216.27.39.101/Wildlife_Species_Con/documents/WOODDUCK/PDF North Carolina Wood Duck, Natural History and Management, accessed 14th April 2017

¹⁰⁵⁹ Ibid.

¹⁰⁶⁰ <http://216.27.39.101/Wildlifespeciescon/documents/WOODDUCK/PDF> North Carolina Wood duck Natural History and Management accessed 14th April 2017

The shooting of ducks appeared to be confined to the keeper Joseph Boaler, and occasionally one or two others. According to Gould in 1795 "Son Joseph and William went out to shoot accompanied by Samuel Hooley, Mr Bullivant and Mr Speechly, I sent the keeper Joseph Boaler with them, they killed only two brace of hares, a pheasant and a couple and a half of wild duck".¹⁰⁶¹ It isn't clear which species of duck was shot but they were shot only occasionally as they were not regarded as 'game' birds but more for the table.

Other resident wildfowl species were sometimes traded with other estates. It would appear that wildfowl were exchanged in a similar fashion to fish, possibly to boost local numbers. Catching waterfowl for exchange was a regular occurrence in June 1787 "Robert Mee, Mr Turner etc. went and took the boat on the lake to take bald coots and waterhens [moorhens], they caught there and at Cowclose wood ponds between twenty and thirty, the coots and waterhens are intended for Chatsworth".¹⁰⁶² Gould reported again in July 1787 "Sent the keeper to takes some fowls from the lake to be sent to Chatsworth, they caught 2 swans, and 6 bald coots, we got 8 of the coots before all of which I am to send to Staveley on Saturday to meet a cart from Chatsworth by appointment".¹⁰⁶³ Mallards, coots, moorhens and swans [probably mute] are all classified as 'dabbling' waterfowl as opposed to 'perching' and this would determine the type of habitat which they required.

The non indigenous Canada goose was present at Welbeck in this period and Gould kept the Duke informed of the presence of these geese reporting in 1782 "We now have two pair of Canada geese upon the lake one of which I have great reason to suppose is breeding upon the island".¹⁰⁶⁴ No person was allowed to shoot them on the Duke's orders, as Gould suggests "I have pleasure already to find the good effects of your Grace's prohibition for any person shooting about Welbeck".¹⁰⁶⁵ Whether this prohibition was for all water birds is not clear but the Duke himself was not interested in shooting as a 'sport' and the Canada geese could have been regarded as exotic additions to the lake. However, in 1784 Gould "informed his Grace I intended to exchange some 'Canady' geese with Mr Rhodes for some carp and tench, which he approved and wished one of the geese might be killed for his own table".¹⁰⁶⁶ Therefore, the prohibition of shooting Canada geese did not extend to the Duke's wishes of having a goose killed for his own use. The birds were also given to other elite landowners, in June 1787 Gould "Sent the keeper Boaler to take some fowls from the lake to be sent

¹⁰⁶¹ Hanson E J, Ed. (2002) *Portland and Devonshire Agent, William Gould, 1783-1795*, Vol. 4, MS 736/5/4

¹⁰⁶² Ibid.

¹⁰⁶³ Ibid.

¹⁰⁶⁴ UNMSS, Pwf 4296 (1767 Canada geese)

¹⁰⁶⁵ Ibid.

¹⁰⁶⁶ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, William Gould Vol.1 1783-1786*, MS 736/5/1

to Chatsworth, they caught 3 Canada Geese [amongst other fowl]”.¹⁰⁶⁷ The next year according to Gould in February 1788 “Mr Maynard sent over here for a Spanish goose, I had not one, but offered him two of the Canady ones”.¹⁰⁶⁸ It is not clear what species a Spanish Goose was or whether it was an introduced species as there is no mention of the birds in any other context. By the 1790s Canada geese appeared to be successfully breeding in the park and continued to be sent elsewhere by Gould. For example in March 1792 Gould “Sent Mr Poole of Radburn two swans and six Canada geese by consent of the Duke of Portland”.¹⁰⁶⁹ Whether these birds were encouraged to breed to be destined as ‘table’ birds is not clear but they were definitely breeding very well by the end of the eighteenth century. The people who received these birds from the Duke are not identified but it is possible that they were local farmers who wanted the prestige of owning geese given by Portland’s consent.

Although wading birds such as Snipe and Woodcock are mentioned in this period, it was mainly when they were shot by Gould, Boaler and tenant farmers such as Bullivant on the Home farm. However, one particular species of wading bird known as a Ruff was actually purchased by Gould in September 1790 at considerable expense “Thomas Towns from Lincolnshire brought ten dozen Ruffs and Reeves [female] for the Duke and I paid him twenty guineas for them”.¹⁰⁷⁰ On the same day according to Gould his son “William assisted Mr Dowland to survey the pleasure ground”¹⁰⁷¹, which suggests that these birds were purchased for display purposes. However, ruff were migratory so it did not seem feasible to try and confine them to areas within the park.

6.5 The Tenure of the 4th Duke 1795-1854

The 4th Duke was instrumental in creating water meadows at Welbeck in the early to mid nineteenth century. His keen interest in agricultural ‘improvement’ also meant that the draining of land was practiced fairly intensively in this period. Alterations to the lake continued with the large scale removal of mud as well as draining and levelling the land around the lake.

6.6 Water Features and their Management

During the 4th Duke’s tenure flooding the land was not just confined to the building of dams. The largest agricultural project undertaken by the Duke was the creation of numerous water meadows. While these were mainly outside of the park such as the Clipstone meadows, overseen by Denison,

¹⁰⁶⁷ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, William Gould.1787-1788*, Vol. 2, MS 736/5/2

¹⁰⁶⁸ Ibid.

¹⁰⁶⁹ Hanson M J, Ed. (2002) *Portland and Devonshire Agent, William Gould*, Vol. 4 1789-1795 MS 736/5/4

¹⁰⁷⁰ Ibid.

¹⁰⁷¹ Ibid.

but some lay within it, such as Carburton meadows. The creation of water meadows in Welbeck Park began in the early years of the nineteenth century, and according to the Duke “About the year 1800 the water meadows were made below the lake head at Welbeck by the diversion of water of the lake on a level about 12 feet higher than the channel of the natural course of the lake”.¹⁰⁷² By this period the lake had been extended by Repton which meant the head of the lake was further up the water course, but still within the park. By the middle of the nineteenth century there were “In Carburton, called Carburton water meadow – 56 acres, in Welbeck and Norton – 33 acres”.¹⁰⁷³ It is evident as is shown on the map of 1885 (Fig. 6.10) that Carburton water meadow is on the park boundary, but the Kennel water meadow is opposite the kennels at the bottom end of the lake.

According to Williamson the method used for creating the water meadows at Welbeck was a “Catchwork irrigation system”.¹⁰⁷⁴ It was a complicated system which “needed a free draining subsoil and a fall of at least 8-9 feet (Wilkinson 1861)”.¹⁰⁷⁵ The geology of Welbeck Park afforded a light soil in most areas but probably heavier near the lake. The diverted lake water level was raised by about 12 feet which would have been suitable for creating a water meadow. However, there were problems with turning pasture land into water meadows. This was evident with the Kennel Meadow, as Denison reports “An old meadow at Welbeck on the side of a hill opposite the dog kennels, though perfectly sound as a meadow in its natural state, no sooner was it turned into a water meadow than the drainage before sufficient showed itself to be incomplete, and still a deeper drain, and a lower level, and a quicker run for the water, was obliged to be had recourse to”.¹⁰⁷⁶

The effect on wildlife with the construction of water meadows is difficult to assess as it really depended upon the particular species, and it would seem there were ‘winners’ and ‘losers’. According to Williamson “High stocking densities in spring probably ensured that water meadows were of little use to ground nesting birds but they would have provided useful feeding and wintering sites for snipe and thrushes.”¹⁰⁷⁷ Portland gave orders for two water meadows [including the Kennel Meadow] to be flooded in the early spring of 1816 “I recommend the New Grange water meadows to be watered plentifully after the stock is withdrawn and the other [Kennel] as much as Thompson

¹⁰⁷² UNMSS, Pwh 2694/1 (1800 Duke re- water meadows)

¹⁰⁷³ Wood R, (2010) *A Visit to Sherwood Forest*, (first published 1850) Bibliolife LLC, USA, p, 69,70,71

¹⁰⁷⁴ Cook H, Williamson T Eds. (1999) *Water Management in the English Landscape, Field, Marsh and Meadow*, Edinburgh University Press, p. 159

¹⁰⁷⁵ Shrubbs M, (2003) *Birds, Scythes and Combines, A History of birds and Agricultural Change*, p. 207

¹⁰⁷⁶ Denison J E, (1830) *On the Duke of Portland's Water Meadows at Clipstone Park*, (From the Journal of the Royal Agricultural Society Vol. 1, 1830) p. 363, 364

¹⁰⁷⁷ Williamson T (2013) *An Environmental History of Wildlife in England 1650-1950*, Bloomsbury, p. 40.

judges safe to apply".¹⁰⁷⁸ The management of the 'drowner' Thompson was crucial as standing water would have 'poisoned' the grass sward. It is clear though that water meadows were an economically viable undertaking for feeding sheep early in the year. According to Portland in 1853 the water meadows "were of great use for as the opinion learned from books, that in the Spring sheep might be fed on water meadow without the danger of rot. The ewes and lambs were always put on them and the experience of several years confirmed the opinion learned from books".¹⁰⁷⁹ Also, the mowing of water meadows provided good grass for winter feed. This was evident, when in 1829 "An Account of grass had from Carburton water meadows by Edward Vickers [tenant] was – 8 acres, 2 roods, 21 perches [and] the Park meadows at £3.00 per acre = £26.10s.0d.". ¹⁰⁸⁰

Alongside water meadow management there was a regular system in place for draining large areas of the park during the 4th Duke's tenure. In 1807 Thomas Mellors was paid "19s. For 3 acres of draining on the Greendale Oak field".¹⁰⁸¹ In the ensuing years draining the park continued regularly "1811 - £6.12s.6d. to Turner for draining pleasure ground, 1812 – £23.3s.9d. to Johnson for draining Wilderness, 1813 – to Searstone for draining pleasure ground 7 acres - £8.7s.6d., 1814 – to Porter for stone for draining pleasure ground - £2.5s.6d. [and] in 1819 – to Searstone for draining 82 acres of land - £15.12s.3d.". ¹⁰⁸² Draining and levelling was still taking place from 1837 to 1844 as the following accounts reveal "For draining and levelling in the park - £25.3s.9d., for levelling the lake course in the park - £12.16s.3d. for draining in the New Grange meadows - £322.14s. For draining in the Cow close £313.19s.9d".¹⁰⁸³ Therefore it is evident that the 4th Duke ordered draining operations within the park over a number of years and this had environmental impacts upon wildlife. Also, continuous draining of the land must have had a detrimental effect on some species of indigenous flora which could not tolerate very dry conditions such as primrose, purple loosestrife, fritillary and ragged robin.

The 4th Duke's system of land drainage was also practiced on his large estates in Scotland. According to the local antiquarian, Eddison in 1854 "The Duke has not confined his draining operations to this locality [Welbeck]. In a pamphlet on Draining, published in 1847, he says 'During the last twenty years, I have furrow drained more than ten thousand acres with shallow drains in Scotland to the perfect satisfaction of my tenants'.¹⁰⁸⁴ Welbeck Park is not mentioned but it is clear

¹⁰⁷⁸ UNMSS, Pwh 1464 (Water meadows flooded 1816)

¹⁰⁷⁹ UNMMS, Pwh 2694/1 (Portland on the success of water meadows, 1853)

¹⁰⁸⁰ NA DD P6/4/135/5 (1829 grass accounts)

¹⁰⁸¹ NA DD P6/7/10/147/81 (1807 draining Greendale oak field)

¹⁰⁸² NA DD P5/5/1-2, 1811-1814, DD P6/7/10/295/54 (1819 bills for draining)

¹⁰⁸³ NA, DD 4P 58/160/3-13 (levelling and draining in park)

¹⁰⁸⁴ Eddison E, (1854) *History of Worksop: With Historical, Descriptive and Discursive Sketches of Sherwood Forest and the Neighbourhood*, (2009) Kessinger Publishing USA, p. 140.

that the Duke's draining operations were successful for creating more agricultural land at Welbeck and elsewhere. Eddison comments "His Grace has considerable estates in Ayrshire, and his introduction of the system of draining there has been the cause of its adoption throughout the county [and in recognition] the landowners and tenant farmers of Ayrshire subscribed for a piece of plate in the shape of a drain tile on its sole".¹⁰⁸⁵

There are also regular accounts of the removal of earth as in 1807 huge quantities of earth were moved by barrow from the bridge pasture, probably dredged "683 cubic yards at 4d and halfpenny a yard - £12.15s.01d".¹⁰⁸⁶ Also, mud was removed from the park lake, from 1827 to 1828 large amounts of mud were removed "East of lake – 12,318 cubic yards, In between head of lake and Angling garden – 14,254 cubic yards, west of lake – 29,116 cubic yards".¹⁰⁸⁷ These figures represent a huge undertaking during these two years and this earth was distributed on other parts of the Park as fertiliser. According to the Duke's agent Neale some of the mud was "filled into carts from that part of the lake near the island and taken to the meadow".¹⁰⁸⁸ Mud from the lake was considered as a valuable fertiliser to improve the pasture and agricultural lands. It is evident that the 4th Duke's intentions of 'improving' the park for agricultural purposes and the deepening of the lake were of paramount importance in this period.

The dredging of the lake at Welbeck was practiced in the early part of Titchfield's tenure. Turner informed him in 1801 that "The weeds in the lake shall be attended to at the first opportunity".¹⁰⁸⁹ The potential for disputes between the Dukeries landowners was very real due to the close proximity of their estates, as Seymour suggests "Clumber and Welbeck shared a West-East border and relied upon the same river to feed their lakes [and] over the water of the River Poulter as both Welbeck and Clumber stood on this small river".¹⁰⁹⁰ In 1831, a dispute did arise between the Duke of Newcastle and the 4th Duke of Portland; the problem appeared to be a build up of "silt and mud from the lake at Clumber"¹⁰⁹¹ into Portland's water meadows. There seemed to be an issue when Portland "began the operation at Carburton with water meadows".¹⁰⁹² However, the Duke of Newcastle was not overly concerned and said to Portland "If I can I will go to look at the effect on the water meadows which you describe, but I am afraid I may not be able to as I have so many other

¹⁰⁸⁵ Eddison E, (1854) *History of Worksop: With Historical, Descriptive and Discursive Sketches of Sherwood Forest and the Neighbourhood*, p. 140.

¹⁰⁸⁶ DD P6/7/10/147/76 (1807 earth moving)

¹⁰⁸⁷ UNMSS, Pwk 2734 (1827/1828 removal of mud from lake)

¹⁰⁸⁸ Ibid.

¹⁰⁸⁹ UNMSS Pwh 1128 (dredging lake of weeds Turner 1801)

¹⁰⁹⁰ UNMSS, Seymour S, (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries' Estates of North Nottinghamshire*, p. 137

¹⁰⁹¹ UNMSS, Pwh 495 (1831 dispute Portland/Newcastle)

¹⁰⁹² Ibid.

things to do today”.¹⁰⁹³ It is evident that intensive water management in this period was not without its environmental consequences and the frustration of Portland was evident. Portland informed Newcastle that “I will also demolish all aquatic plants in Carburton bottoms and remove another fruit of source evil and dreary”¹⁰⁹⁴ presumably he meant that dredging and removing water plants would solve the problem of silt in Clumber lake.

6.7 Fish, Species, numbers and Management

After Gould’s death in 1795, there is not as much evidence of such an intensive fish breeding programme at Welbeck from the accounts of Edward Turner who succeeded Gould as agent. The 4th Duke’s interests were very much concentrated upon agricultural ‘improvements’ to the park, as well as his passion for horse racing and shooting. It seems that by the nineteenth century the ‘farming’ of table fish for the family’s use was not as important as previously.

William Gould’s accounts in his diary give a rich source of information regarding the breeding and movement of fish in the eighteenth century, but after his death the record is rather more limited. However, there is mention of some breeds of fish as well as instances of fishing. In Edward Turner’s accounts from 1811 to 1813 he refers to fishing as follows` “April 1812 – Paid George Johnson for work to Carburton dam tunnel - £44.2s.2d. and fishing and repairing sluices - £1”.¹⁰⁹⁵ Also, in May 1814, Johnson was paid “£44.2s.6d. for Carburton Dam Dyke and £4.5s. for fishing”.¹⁰⁹⁶ This likely refers to fishing by nets to supply table fish for Portland and his acquaintances.

Turner mentions fish that appeared to be bought in to stock Welbeck waters when he refers to payment “To the following person, Chris Martin for 350 brace of Tench at 1s. - £17.10s.”¹⁰⁹⁷, 700 fish was quite a sizeable number and as tench were bottom feeding fish they would probably have been used to stock the lake as well as various dams. Trout were more likely in this period to be found in the river Poulter as they would have occurred naturally in a small stream. In 1816 there was an altercation between the keeper Allertson and one of the Duke’s men, “Joseph Allertson found William, the brother of Thomas Morton angling for Trout [and] Allertson was struck with the thick end of [Morton’s] fishing rod and caused his head to bleed”.¹⁰⁹⁸ However, Trout did not appear to be a ‘favoured’ table fish in this period. Species of Trout, Salmon and Grayling are considered as

¹⁰⁹³ UNMSS Pwh 498 (1831 dispute)

¹⁰⁹⁴ UNMSS Pwh 495 (1831 dispute)

¹⁰⁹⁵ NA, DD P5/5/1 (1812 Turner’s accounts)

¹⁰⁹⁶ NA DD P5/5/2 (1814 Turner’s accounts)

¹⁰⁹⁷ NA DD P5/5/1 (1812 Turner’s accounts)

¹⁰⁹⁸ UNMSS, Pwh 1470 (1816 poaching)

‘game’ fish and their habitat requirements differ from other fresh water species. The most likely species present in the river at Welbeck would have been the brown trout.

6.8 Wildfowl, Breeds and Management

There is little evidence of the breeding or management of waterfowl during the 4th Duke’s tenure. Draining the boggy areas of the park had some negative effects upon wading species such as snipe, which need boggy ground to search for food and nesting sites. However, the creation of water meadows in this period would have helped the birds to survive but even these meadows were dry at certain times of the year for sheep to graze on.

Although the 4th Duke did shoot there is not much evidence of him or any of his employees, acquaintances or family taking part in the shooting of waterfowl. It was probable that the presence of water birds on the lake in this period were more valued for their aesthetic appearance rather than for shooting purposes. Also, the numbers of woodcock and snipe were minimal compared to the higher numbers of pheasants and partridge.

6.9 The tenure of the 5th Duke 1854-1879

Almost from the beginning of his tenure the 5th Duke of Portland was extremely enthusiastic regarding ‘improving’ Welbeck estate. He had plans drawn up for alterations to the water features within the park as well as major work such as creating brick culverts for the purpose of diverting water to other parts of the park.

6.10 Water Features and their Management

It was only a matter of months after the 4th Duke died [March 1854] that Portland commissioned Thomas Tebbet [August 1854] to design considerable alterations to the Gould’s Meadow [Fig. 6.11] with the intention of creating a new lake, it shows the detail and depths of water in the proposed lake. The plan shows two meadows, Gould’s and Mr Fox’s [Just below Goulds] and according to Tebbet “Mr Fox’s meadow [Fig.6.12] is now a tolerable good one, it was under drained about 3 years back, to make it take water it would take about 11 days”.¹⁰⁹⁹ It is evident that major works and more flooding of the land was to take place and Tebbet suggests “If your Grace thinks well you could have Gould’s meadow only made into a lake”.¹¹⁰⁰ So, these were the initial plans for the proposed new lake but by 1859 Gould’s meadow was changed to ‘New pond Gould’s meadow’. This ‘pond’ was in

¹⁰⁹⁹ NA DD 4P 62/101/2 (Tebbet to Duke re- Fox’s meadow 1854)

¹¹⁰⁰ Ibid. (re-proposed Gould’s meadow 1854)

fact quite a large lake as the 1859 map [Fig. 6.13] shows with Gould's lake positioned within the park at the top of the Shrubbery Lake.

In the same year John Holliday, Welbeck Lakes near Worksop advertised as an artificial pond maker with himself, four men and a boy. The Duke employed them and the work to Gould's lake was ongoing from 1859 and in 1861 Holliday informed the Duke of the technical progress "As before added by the way of the concrete setting, the Creswell lime far exceeds my expectations and I have every reason to believe it will answer the end it is meant for".¹¹⁰¹ It is evident that the concrete used for the base of the lake, had lime in its mix, and there could have been environmental consequences for fish. However, Holliday suggested to the Duke "Respecting the lake being supplied with fish I should recommend the water to be drawn off and refilled two or three times. The water standing in the lake each time two or three days then I believe the fish will take no harm".¹¹⁰² It is evident that Holliday considered the possibility for the fish to be poisoned by the lime concrete, but it would have been difficult to assess the amounts used and the possible effects upon introduced fish. Lime is an agent which can "alter the PH value of the water making it deadly for the fish".¹¹⁰³

Also, Holliday realised that a concrete base to the lake would not allow fish to feed naturally as there would be no living organisms which lived in the silt and mud as well as it being devoid of aquatic flora. He then recommended that "As it is a concrete bottom it would be better to feed the fish for a time".¹¹⁰⁴ However, what form was taken to feed the fish, is open to conjecture because this was a very large lake [Fig. 6.13] and it would have been difficult to feed all species of fish to their own requirements. There was also a problem with using boats on the lake, as according to Holliday "There is some part of the lake injured by the boat, it had not been properly attended to but not withstanding all that there was not a yard washed up by the floods, we have filled the lake all over again".¹¹⁰⁵ There were further problems with the construction of Gould's lake because in 1862 fish had to be removed. The keeper George Boaler informed the Duke that "the best thing to do with the trout in the great lake will be to put them in the old upper lake until Gould's lake is finished [and] the grayling from Gould's lake had better go to Wayfield wood pond there is a grate there that will prevent them [fish] getting downstream".¹¹⁰⁶ This pond was located outside of the park, west of Goulds Meadow Lake. According to Boaler "The bank of the stream about where the water is turned off on the Duke of Newcastle's side is in a very bad state and the least flush of water causes it to run

¹¹⁰¹ NA, DD 4P 62/101/10 (1861 New Pond work)

¹¹⁰² Ibid.

¹¹⁰³ http://www.the-site.name/fishponds/fish_pages/poisoning.htm accessed 25th April 2017

¹¹⁰⁴ NA DD 4P 62/101/10 (New Pond work 1861)

¹¹⁰⁵ Ibid.

¹¹⁰⁶ NA, DD 4P 76/45/44 (1862 removal of fish in pond)

over and flow over the fields in to the lower stream near Sloswick's spring".¹¹⁰⁷ The water management in the park had to be sympathetic to the adjoining estates because flooding the land could happen unintentionally, especially if equipment was not kept in good order. Some new ponds were made specifically for preserving fish. At Carburton the dam was still used for breeding fish but Boaler informed the Duke in April 1863 "Tebbet wants the new small pond at Carburton [Fig. 6.14] where the pike are, emptying of water or nearly so, he cannot get on with his work on the dam without the water lowering, in this case the pike will have to be moved".¹¹⁰⁸

Major excavation work regarding the lake continued in this period. New railway lines were also being installed and a new river created through the park. The Duke wrote to Tebbet in February 1860 regarding the upper lake "I was agreeably surprised to find this so advanced in no part of the lake is there less depth than 6'3 and the greater part of it is 6'4 to 6'6 and the bed of the river 7'4 under these circumstances you wouldn't advise being concreted?".¹¹⁰⁹ The Duke wanted the lake deepening partly to supply manure for the nearby land and he concluded that "about 6 inches of mud to be got out for I should be disposed to get all the mud I could since it should have to be carried a very short distance".¹¹¹⁰ He also enquired about "how much more [mud] there is which would be good for the land".¹¹¹¹ The lake itself was not very deep so it would have been difficult to keep it free of weeds, and Portland was aware of this "I am a little afraid the flags and the weeds will get up on the bank slopes and perhaps it would be worthwhile to concrete or do something of the sort to the upper part of the slope where the water would be 3 or 4 feet deep".¹¹¹² Alterations to the lake in 1861 by Holliday were considerable, he employed many workers to excavate the lake in different areas of the park and outside, as Table 6:2 shows

Table 6.2 Welbeck Lake 1861

'Number of men	Alterations	Area of Park
16	Deepening lake and crossing	Pleasure ground with railway
13	Excavating in Lake adjoining And raising ground with Railway	Reindeer park
13	Excavating in Lake	Below Angling Garden

¹¹⁰⁷ Ibid. (fish kept in by grates on boundary of Welbeck and Clumber 1862)

¹¹⁰⁸ NA DD 4P 76/45/52 (1863 emptying pond)

¹¹⁰⁹ Ibid. DD P6/13/7/104 (depth of upper lake 1860)

¹¹¹⁰ Ibid.

¹¹¹¹ Ibid.

¹¹¹² Ibid. (1860 upper lake)

	And raising ground	On Easterly side of Lake
Old Lake Head		
9	Excavating Stone and Subsoil	Norton Common Piece
8	Excavating for 7 feet Culvert for the New River	From Cuckney Old Mill to Welbeck Park
29	Excavating for the water course	At Cresswell Langwith

Source NA DD 4P 62/101/4 (Letter from Holliday to Duke 1861)

As well as creating a new lake, falls were made at the heads of the completed lakes. The falls varied in height; “Carburton lower lake- 9ft 4”, Carburton forge- 8ft 2”, Great lake- 10ft, Shrubbery lake-3ft, Upper lake-8ft 9”.¹¹¹³ This represented a fall from the upper lake down to Carburton of 39 feet 3” which was a really steep decline leaving the course of the lakes open to flooding. This happened in 1864 when fish were lost due to severe weather conditions. Boaler informed Portland “There should be some young grayling in [the Shrubbery Lake, Fig. 6.14, but] in one of the heavy winds the water was blown over the head of the fields and lake and about 40 young grayling were brought over with waves on to the road”.¹¹¹⁴ However a quick thinking “navvy [labourer working in the park] put some down the drain which carries the water off the road into the lake”.¹¹¹⁵

Even by the 1870s the 5th Duke was having major works done to sections of the park for diverting water by way of culverts. The proposed plan in 1872 was for “a brick culvert from Carburton forge lake along south east side of Welbeck Lake as shown on lineal and crops section”.¹¹¹⁶ This represented a massive undertaking, the sketch provided shows a simple proposal for the culvert [Fig. 6.15]. The excavations for this culvert were “about 21 thousand yards average 13 and a half feet deep and about 6 thousand yards average at 5 and a quarter feet deep, total cost £2106”.¹¹¹⁷ This type of building programme from near the Shrubbery Lake would have negatively impacted upon habitat as it would have disturbed open grassland and agricultural land within the park [albeit temporarily] thus displacing species of wildlife reliant upon this type of habitat such as farmland birds and hares.

Water meadows were still in operation during the 5th Duke’s tenure, on the park boundaries in the 1860s. The steward Turner reported “The first mowing of the water meadows at Carburton and Cuckney I calculate to be 70 acres and the second mowing 50 acres of tares, the third mowing water

¹¹¹³ NA, DD 4P 62/68/5 (1863 height of falls at lake head)

¹¹¹⁴ NA DD 4P 76/45/71 (1864 fish lost)

¹¹¹⁵ Ibid.

¹¹¹⁶ UNMSS, Pwk 3614 (1872 plan of culvert)

¹¹¹⁷ Ibid.

meadows, the second time”.¹¹¹⁸ There is also mention in this period of “Ground for mowing, by the Kennels 50 acres”¹¹¹⁹, it is not clear though whether this is pasture land or water meadows. However, with innovations in agricultural practices [introduced by the 4th Duke] using water meadows for spring grazing was becoming less important. In the later nineteenth century a number of things changed in agricultural practice according to Williamson “The introduction of artificial fertilisers and the development of new forms of winter fodder root crops and ultimately oil cake gradually undermined the need for such [water meadow] management”.¹¹²⁰

6.11 Fish Species numbers and Management

During the later nineteenth century the interest in breeding fish for local consumption and for sale became more important than earlier in the century. The keeper George Boaler was very keen on providing many species of fish for the 5th Duke and his interest almost matched that of William Gould in the late eighteenth century. However, there were marked differences in the management of fish and more species such as trout and grayling were introduced.

In May of 1854 [barely two months after the death of the 4th Duke], Portland voiced his concerns to his steward Charles Neale over water quality for trout fishing. He informed Neale “I would say to Boaler what could be done regarding the trout fishing in any way with the water”.¹¹²¹ Portland instructed Neale that “Mr Wilson’s boundaries not even damming it at all leaving the stream precisely as it is now”.¹¹²² It would seem that the stream on Wilson’s [tenant] land was above a trout stream so manures used by Wilson on the land would leach into the water and contaminate the stream below. It is apparent that the Duke believed that the tenant may have caused this to happen and stated to Neale “in the event of the water above being poisoned for the fish by making any chemical experiments in making manure which is possible but not probable”.¹¹²³ There was a real concern for the health of trout and the Duke wished for the “water from above being scanty in quantity could be diverted from the stream below so that which little water may be left supplied on the ground and the land may continue as healthy water for the trout to live in”.¹¹²⁴ The Duke was very keen on raising trout from fry so the water quality needed to be very good and “the lower breeding stream [would be for] the young fish”.¹¹²⁵ It is not clear where Wilson’s boundaries are

¹¹¹⁸ NA DD 4P 63/68/11 (stewards accounts 1860-1875)

¹¹¹⁹ Ibid. (Stewards accounts 1860-1875)

¹¹²⁰ Cook H, (1999) Williamson T, *Water Management in the English Landscape, Field, Marsh and Meadow*, p. 164.

¹¹²¹ NA, DD P6 13/20 (1854 5th Duke water quality)

¹¹²² NA DD P6 13/20 (Wilson’s tenant)

¹¹²³ Ibid.

¹¹²⁴ Ibid. (poisoning of fish 1854)

¹¹²⁵ Ibid.

situated but the stream could have been a tributary off the River Poulter which was to be diverted in order to create a 'lower breeding stream'.

The exchange of fish continued with other landowners, however, one significant difference was that the most desirable fish were now game fish, and trout and grayling were the most popular. Boaler informed the Duke in November 1860 that "a letter has come to hand stating that the Duke of Rutland [Belvoir] is willing to exchange some grayling for trout. I intend sending or taking 50 brace [of trout] and bring 50 brace of Grayling back, also 50 brace more [trout] will be sent the following Thursday".¹¹²⁶ The fish were exchanged and Boaler informed the Duke "I have taken 50 brace of Trout and brought back 40 and a half brace of Grayling from the Duke of Rutland's. I also wish to state that your Grace is to have 100 brace of Grayling, no exact date can yet be fixed".¹¹²⁷ A few years later Boaler "proposed to give 100 brace of trout for the same number of grayling [to the Duke of Devonshire at Chatsworth] he reported that the return letter says nothing about trout and I conclude that the Duke does not want trout".¹¹²⁸ There is not as much evidence of trout suffering from spawning problems some were moved when they were about to spawn and sent to Belvoir estate. Boaler informed the Duke in 1860 "The trout are very near to spawning and they ought to be removed not later than next week so the Duke of Rutland might reap the benefit of their spawning in his river also there would be less work in removing them but as the grayling cannot be caught at present it would incur an extra expense in my having to go twice".¹¹²⁹ Boaler reported in 1872 that "many of the trout live up the river"¹¹³⁰, which reveals that trout preferred the river habitat of running water whereas coarse fish were likely to found in still waters.

These exchanges were made fairly locally with Chatsworth and Belvoir but they sometimes came from much further afield. According to Boaler in 1861 "No grayling have arrived yet from Scotland".¹¹³¹ These fish would likely have come from the 5th Duke's Caithness estates. Boaler was very keen to acquire as many of these fish as he could by exchanging for trout. Also, there were exchanges of fry and Boaler went elsewhere to try to acquire some young grayling "It is now about the time for the grayling to spawn. I wrote to the keeper at Ashton last week about this and he has fixed Wednesday next to try for fish. I shall go over on Tuesday afternoon to be ready for the next day".¹¹³² It is not clear where Ashton is but it was possibly local because Boaler was going to fish the following day. Grayling were evidently an important game fish but their management requirements

¹¹²⁶ UNMSS, Pwk 555 (1860 exchange of fish)

¹¹²⁷ NA, DD 4P 76/45/14 (1860 exchange of fish)

¹¹²⁸ NA DD 4P 76/45/52 (1863 fish exchange)

¹¹²⁹ NA DD 4P/76/45/15 (moving trout 1860)

¹¹³⁰ NA DD 4P/76/66/112 (trout living in river 1872)

¹¹³¹ NA DD 4P 76/45/40 (1861 grayling fish)

¹¹³² NA DD 4P 76/45/69 (1864 fish spawning)

were quite intense, in 1863 Boaler reported “I am not sure whether it is desirable to have any more grayling at Welbeck until the great lake is filled”.¹¹³³

The movement of game fish was an important part of their management because they required shallow running water to spawn as Boaler suggests in 1861 “Grayling come into the shallows to spawn”.¹¹³⁴ Trout and grayling needed these conditions for breeding successfully, after spawning the fry were left to grow in shallow water but they were carefully monitored as Allertson informed the Duke in 1878 “I have received a letter from Mr Parnaby’s man stating that the minnows are now up the stream by hundreds. I think they had better be fetched soon as possible as there might be a flood which would drive them all back again”.¹¹³⁵ When the fish were moved they were either put into the lake, ponds or dams but sometimes the lake itself was used for spawning, Allertson informed the Duke in 1878 “I think that the best plan would be to have 20 or 30 loads of gravel put in the lake at the weekend where it is now reduced to a stream or nearly so. The fish would naturally work up into the shallow water and this would be as means of them getting shut of the spawn and cleaning themselves in the gravel – the water should be kept at its present height until the fish have done spawning”.¹¹³⁶ While this artificial spawning ground was created for grayling Allertson noted “I do not think the spawn would ever hatch as it requires a stream to be constantly flowing over it. I have talked this over with Mr Swift and he thinks the best plan would be to have gravel put in where I have suggested”.¹¹³⁷ It is not clear whether the gravel was for the head or the bottom of the lake but it was very shallow, but there needed to be running water for the fish eggs to hatch. There would possibly have been a small tributary feeding the lake to ensure some water flowed over the deposited gravel. Grayling were put into dams but with running water nearby as in 1861 Boaler informed the Duke “I see no reason why some portion of grayling should not be put in Cuckney Dam, there is a good healthy stream attached to it and plenty of water”.¹¹³⁸ However, these fish were particularly difficult to move as Boaler reported to the Duke in 1872 “I rendered part of the fish in Cuckney Dam yesterday, I did not attempt to count them as that would have caused delay and grayling are so tender and I was afraid it might kill them”.¹¹³⁹

There were also problems with grayling kept within ponds as Boaler reported in April 1863 “Some of the grayling in Wayfield pond [West of Goulds Meadow lake] are dying. I took one out of the mouth of the pond last night and it was seemingly full of ova. I could not see anything had happened to it

¹¹³³ NA DD 4P/76/45/51 (Not desirable to have more grayling 1863)

¹¹³⁴ NA DD 4P 76/45/35 (1861 spawning)

¹¹³⁵ NA DD 4P/76/48/1 (fish fry to be moved in case of flooding 1878)

¹¹³⁶ NA DD 4P/76/48/2 (gravel put in lake 1878)

¹¹³⁷ Ibid.

¹¹³⁸ NA DD 4P/76/45/16 (grayling put in Cuckney dam 1861)

¹¹³⁹ NA DD 4P/76/66/112 (grayling moved from Dam 1872)

as an accident, a part of it was discoloured and I should say bleached nearly white, three others have been found at the same place one was said to have a hole in it".¹¹⁴⁰ This was an unusual occurrence, but it is possible that these grayling may have died from a bacterial disease which happens when fish are kept in ponds, especially if they are overcrowded. It isn't clear if Boaler knew the reason for the white appearance of the fish as he thought "it was not unusual for a fish or two to die at spawning time".¹¹⁴¹

There were other fish species managed during the 5th Duke's tenure but these were usually bred either in the lakes, ponds or dams, Boaler informed the Duke in 1862 "The small fish that your Grace saw on the old lake will be young dace and roach come up".¹¹⁴² Boaler meant that the small fish were near the surface when he said 'come up' as the Duke would have been able to see them. This is the first mention of these species throughout the tenures of the three Dukes; however, it could have been that they were not considered as important to breed as table fish. Dams were ideal fish breeding locations for coarse fish. Boaler reported in 1872 there were "about 30 brace of tench, about 9 or 10 carp and the most number of fish in the dam were perch".¹¹⁴³ In 1874 Boaler informed the Duke "Fish removed from large stew pond to Newlands pond, 54 carp, 42 tench and hundreds of perch and the carp are Old English carp not Brussels".¹¹⁴⁴ Although Newlands is situated near Clipstone, it shows how fish were moved around the estate on a regular basis.

Boaler informed the Duke in May 1879 about catching fish for killing and sending to the London markets for sale. The fish intended for sale were trout and Boaler was specific about where he could catch them. Although there are no references to fish being caught in the park water courses for selling, care was taken to protect lakes, rivers, ponds and dams in all areas including the park for signs of poaching. Boaler informed the Duke in March 1866 "The fish will be required to be watched by under keepers as they always have done both day and night. At the spawning season they will want looking after in the day time for a month or so at Clipstone, Cuckney, Welbeck and Cresswell".¹¹⁴⁵ It is evident that park fish were equally as important as in the environs and this close monitoring shows that they were a valuable resource for the 5th Duke. According to Boaler in March 1866 "Towards the latter end of April and May and some of the summer months they will want watching at nights against poachers spearing them".¹¹⁴⁶

¹¹⁴⁰ NA DD 4P 76/45/51 (1863 fish sick)

¹¹⁴¹ Ibid. (1863 fish sick)

¹¹⁴² NA DD 4P 76/45/44 (1862 fish species)

¹¹⁴³ NA DD 4P 76/66/112 (1872 fish no's)

¹¹⁴⁴ NA DD 4P 76/46/52 (1874 fish species)

¹¹⁴⁵ NA DD 4P 76/45/73/1-2 (watching for poachers 1866)

¹¹⁴⁶ Ibid. (poachers spearing fish 1866)

Nets were used for catching fish for table use as Boaler suggests in 1866 “In the event of a party of gentlemen being here to fish [an] order might be carried out as to the under keepers assisting as I myself could only wait on one gentleman and then when the waters are netted a good many hands are wanted”.¹¹⁴⁷ Although it is not clear where Boaler was fishing for these gentlemen, it shows a significant number of netted fish were caught for the Duke’s acquaintances as well as having fish for use of the house.

Fish were bought and sold between estates on a regular basis, but there were also other people who wanted to sell [live] fish to Welbeck. In August 1872 Boaler reported to the Duke regarding one of his tenants. According to Boaler he had received “a letter from a naturalist and tenant of Your Grace who wants to sell some tench and other fish, I have not yet answered his letter as at that time I did not know what quantity I should get from Grove”.¹¹⁴⁸ This was an unusual situation as tenants would not normally be allowed to sell fish from the estate as presumably the fish would have belonged to the Duke. It is not clear where Grove estate was but according to Boaler it “has got between six and seven hundred [tench] and Mr Greenhalgh of Mansfield has sent word he wishes to give your Grace some tench but what quantity I do not know, so that now we ought to be well stocked with tench”.¹¹⁴⁹ It is evident that there were people in the business of breeding and selling fish. However, according to Boaler the tenant needed to make some money to secure his lease long term from the Duke “It appears to me [Boaler] that this man [tenant] is fast for money and has to build upon his Leasehold and cannot do this without releasing some money in some way”.¹¹⁵⁰ There is no evidence of who the naturalist/tenant was but it is clear that he was in danger of losing his lease if he did not realise some money from his fish.

Fishing for pleasure was practiced by the Duke’s acquaintances, and he was informed when they wished to do so. On the 5th September 1878 Boaler reported to the Duke “Lord Lincoln and the fishing – I have seen his Lordship and delivered your Grace’s message and himself and Lord Francis will be most happy to come pike fishing as they are not sufficiently practiced in shooting or fly fishing for trout to avail themselves of your Grace’s offer”.¹¹⁵¹ It is evident that the 5th Duke asked the two Lords, sons of the Duke of Newcastle from Clumber if they would like to shoot or fly fish at Welbeck, and they took up the offer of fishing but only for coarse fish such as pike, as fly fishing for trout was a more specialised sport with different fishing equipment. A few days later on the 7th September 1878 the men arrived at Welbeck to fish for pike at Carburton. Boaler informed the Duke “I beg to

¹¹⁴⁷ NA DD 4P 76/45/73/1-2 (fish netted 1866)

¹¹⁴⁸ NA DD 4P 76/107 (tench for sale 1872)

¹¹⁴⁹ Ibid.

¹¹⁵⁰ Ibid.

¹¹⁵¹ NA DD 4P 76/48/8 (Lincoln and Lord Francis fishing for pike 1878)

inform your Grace that we had Lord Lincoln, Lord Francis and their tutor at Carburton yesterday, the day was very still and the pike did not bite well until near the time for leaving when 5 were taken".¹¹⁵² Boaler commented that "the largest was 15 ½ pounds [and] His Lordship [Lincoln] has arranged to come again on Wednesday afternoon next".¹¹⁵³

The distinction between lake and river fish was really significant during the 5th Duke's tenure. An important consideration was the health and breeding capabilities of the fish. It was necessary to ensure that river fish such as trout and grayling had running water at the time of spawning, but coarse fish needed the open habitat of the lake, dams and ponds to breed successfully. It is evident that fish management during the 5th Duke's tenure was intensive, particularly the breeding of grayling.

6.12 Wildfowl, Breeds and Management

During this period many of the water features within the park were greatly extended, including the lakes, river, ponds. The ongoing work inadvertently created more suitable habitats for several species of water birds. Waterfowl which inhabited Welbeck in the 5th Duke's tenure were mentioned frequently by the local Nottinghamshire naturalist, Sterland in the later nineteenth century. In 1869 he stated "At first thought it might perhaps be concluded that in a strictly inland district, comparatively few species of birds of purely aquatic habits would be found", however, ... "parks which have given the forest district the title of the 'Dukeries' are most of them graced by artificial lakes of greater or lesser extent, Thoresby covers ninety five acres and those at Clumber and Welbeck are not much smaller..., the artificial lakes I have mentioned are all tenanted by the Mute Swan, they are on the sheet of water at Thoresby [and] small parties of two and three arriving from Clumber or Welbeck".¹¹⁵⁴ Swans which were possibly Mute Swans, frequented the lake at Welbeck because a Mr Brewill of Nottingham was given a male bird but asked for a hen in 1874 "Last April, the present swan which you so kindly got for us until October, we might get a hen to go with him, he is a very fine bird but appears lonely. Will you kindly say is there is a chance for us to have a hen swan for him, we would willingly pay for it if required".¹¹⁵⁵ However, there were other species of swans at Welbeck as Sterland noted "I once saw the arrival on Thoresby Lake, of a pair of the Australian Black Swans which are kept by the Duke of Portland at Welbeck".¹¹⁵⁶ These relatively

¹¹⁵² NA DD 4P 76/48/9 (5 fish taken 1878)

¹¹⁵³ Ibid. (largest fish 1878)

¹¹⁵⁴ Sterland W J, (1869) *The Birds of Sherwood Forest*, p. 214. (Mute Swans)

¹¹⁵⁵ NA, DD 4P 76/57/9 (hen swan for male bird 1874)

¹¹⁵⁶ Sterland W J, (1869) *The Birds of Sherwood Forest*, p. 215. (black swans)

uncommon birds would have been introduced to Welbeck as aesthetic additions to the lake because of their colour and size.

Hérons were a common wading bird in this period but they were unwelcome predators of fish stocks at Welbeck and were often shot. According to Sterland “Hérons frequented the lake in Welbeck and Rufford Parks, and the surrounding streams, I regret to say all the birds were shot by keepers in 1856”.¹¹⁵⁷ Water Hens [moorhens] were also a common bird as Sterland comments “All the streams which intersect our neighbourhood [the Dukeries] and especially the large lakes in the parks are abundantly stocked with the Water-Hen”.¹¹⁵⁸ In 1875 White confirmed the presence of herons, moorhens and coots at Welbeck “coots may be seen on the lakes and the moor hen is common [and] the heron frequents the lakes and streams”.¹¹⁵⁹ Other common water birds found at Welbeck in the period included wild ducks as Sterland comments “The Wild Duck, I need hardly say, is a common species found on all our streams, and is particularly abundant on all the large sheets of water [in the Dukeries]”.¹¹⁶⁰ Wild Ducks appeared to be managed by Boaler and in 1860 he informed the Duke that he was concerned about the ducks being illegally killed by workers. He reported that “There are several objections to the wild ducks being turned upon the lake near Welbeck, they are so tame that very likely they would be stolen by some of the numerous labourers or else killed for mischief by some of the boys working there at Carburton forge”.¹¹⁶¹ Boaler’s description of the wild ducks being ‘tame’ suggests that they were reared specifically to be then turned out on the lake to perhaps eventually breed. Although there is evidence of a duck decoy in Welbeck Park on Ingham’s map of 1766 and again on the map of 1885 [Fig.6.10], it appears to be in disuse by the 5th Duke’s tenure. According to Payne-Gallwey the only duck decoys still in use in Nottinghamshire in the later nineteenth century were “Haughton, Park Hall and Ossington”.¹¹⁶²

Migratory water fowl such as goosander were winter visitors to Welbeck, in 1869 according to Sterland “Goosander regularly frequents the lakes in the parks, and in some years in considerable numbers, arriving about the end of October and generally leaving in March”.¹¹⁶³ Sterland regularly saw these birds on Thoresby and Welbeck Lakes “as many as thirty, or even forty [at Thoresby] in

¹¹⁵⁷ Sterland W J, (1869) *The Birds of Sherwood Forest* p. 191. (herons shot 1856)

¹¹⁵⁸ Ibid. p. 200. (Water hen 1860)

¹¹⁵⁹ White R, (1875) *Workshop, the Dukery and Sherwood Forest*, London: Simpkin, Marshall & Company: Workshop, p. 262

¹¹⁶⁰ Sterland W J, (1869) *The Birds of Sherwood Forest*, p. 220. (wild ducks 1854)

¹¹⁶¹ NA, DD 4P 76/45/13 (1860 wild ducks)

¹¹⁶² Payne-Gallwey, Bart R, (1886) *The Book of Duck Decoys Their Construction, Management, And History*, J V Voorst, Paternoster Row, London. P. 144.

¹¹⁶³ Sterland W J (1869) *The Birds of Sherwood Forest*, p. 223, 224. (Goosander)

1855 [and] Welbeck Lake is generally visited by a small party [of goosanders]”.¹¹⁶⁴ It is evident that both wading and diving water fowl were present at Welbeck but some species such as mute swans, black Swans and wild ducks were managed to a much larger extent than migratory birds such as the goosander.

Woodcock were important wading birds which according to Sterland “In our own Forest District [the Dukeries] have become constant denizens throughout the year, breeding regularly in our woods in great numbers”.¹¹⁶⁵ Woodcock were considered as game birds so were shot during organised shoots for pheasants and partridges at Welbeck. There are many instances of the birds being killed as part of a shoot, and they were often included in the game keeping reports. Table 6.3 shows the numbers reported killed in 1861, 1864 and 1879. The numbers of pheasants and partridges shot are shown as a comparison.

Table 6.3 Game birds shot at Welbeck 1861, 1864 and 1879

Year	Woodcock	Pheasant	Partridge
1861	27	482	39
1864	23	662	2
1879	4	40	20

Source NA DD 4P 76/46/65 (1861), NA DD 4P 76/61 (1864), NA DD 76/45/66 (1864), NA DD 4P 76/5 (1879)

These numbers do not represent all birds killed, by Mr Bowden and Mr Mappin, acquaintances of the Duke shot at Welbeck and game birds were also killed to order. However, the figures do reveal that pheasants were the most important game quarry by this period, and that woodcock were relatively few in number compared to other game birds. However, woodcock were shy retiring forest birds which were not easily seen for shooting purposes. According to Sterland “Instances of the woodcock’s breeding were only accidentally discovered in closely kept preserves, any curious and inquisitive deviations from the rides, paths through them which a naturalist might be inclined to make being forbidden”.¹¹⁶⁶

Conclusion

The management of water courses at Welbeck changed significantly over the complete time period, impacting positively and negatively upon different aquatic species. Under draining was part of the

¹¹⁶⁴ Sterland W J (1869) *The Birds of Sherwood Forest*, p. 223, 224p. 225. (goosanders 1855)

¹¹⁶⁵ Ibid. p. 195 (woodcock overwintering at Welbeck 1860)

¹¹⁶⁶ Ibid., p. 196, p. 197.

'improvements' made to the park during the 3rd Duke's tenure and increased significantly during the 4th Duke's tenure. Land drainage was practiced in the proximity of the lake, to enable the parkland to be more useable for agriculture, grazing and for leisure purposes such as hunting and shooting. However, there was a danger of flooding with these practices, the weather conditions in 1795 ensured that heavy rain swept one of the dams away due to swollen water levels. The resulting breach to the dam meant that many hundreds of fish were lost when they were swept away from the lake and dams. However, stew ponds were created in the park and pre-existing ones managed, for breeding purposes as well as keeping store fish for table use. The steward Gould was very involved with fish breeding in the 1780s and 1790s. Gould managed the stew ponds and the lake, but fish management was less intensive in the rivers in this period. Coarse fish rather than game fish were raised and included carp, tench, perch and pike. These species of fish were an important food source as well as being used as gifts of patronage by the Duke and they were also exchanged regularly in large numbers with other estates, such as Chatsworth and Belvoir.

Resident and migratory waterfowl were present in the park during the 3rd Duke's tenure, when water hens [moorhens] coots and mallards were the most common species. Some species of waterfowl were exchanged with other estates similarly to fish, coots and water hens were captured on the lake by boat and sent to Chatsworth. Canada geese were much prized birds which were introduced from abroad and were encouraged to breed successfully at Welbeck. Experiments were conducted with other foreign species, by Speechly who was keen to establish the North American Carolina duck to Welbeck. However, the introduction was not successful, as the breeding habits of these birds differed significantly from the indigenous wild ducks. Unusual wading birds known as ruffs [a species of sandpiper, male] and reeves [female] were bought by Gould in 1790 from an estate in Lincolnshire. However, these birds were migratory and they were wetland waders which would not have been suited to drained areas of the park, so they were not a successful introduction either.

The under draining of areas within the park intensified in the early nineteenth century, mainly due to the 4th Duke's interest in improving the land for agriculture. Many acres of parkland were drained and levelled in this period, especially in the boggy areas of the park. However, soil drainage on this scale had some negative effects upon wading birds such as Snipe. These were game birds but there was no evidence of them being shot or being seen in the later periods in the park areas. Snipe could only live and breed successfully if there was boggy ground, which was the ideal habitat for food and nesting. However, the 4th Duke was instrumental in creating a very intensive water meadow system at Welbeck during his tenure. Some of these meadows were within the park or adjacent to it, as

well as being elsewhere on the estate. The environmental effects of the flooding of grassland were detrimental to ground nesting birds such as skylarks but proved valuable in creating a suitable habitat for some wading birds such as woodcock.

Although there are fewer accounts of fish breeding during the 4th Duke's tenure, coarse fish were still bred in significant numbers and buying and selling between estates was still practiced. However, in this period there was more mention of game fish such as trout which were more likely to be found in the running water of rivers, such as the Poulter. Coarse fish were bought in large numbers to stock the lake and dams and men were employed to maintain sluices and grates to ensure that fish were not lost downstream. Labourers were also employed to catch fish from the lake and dams and move them elsewhere.

The 4th Duke enjoyed shooting as a leisure pursuit but there is not much evidence of him taking part in organised shoots. He was not active in politics and spent more time than his father at Welbeck, however, his interest in horseracing meant that he spent considerable time at Newmarket racecourse where some of his horses were stabled. His numerous letters to the steward Turner were often related to agriculture and the care of horses kept at Welbeck.

The tenure of the 5th Duke was characterised by extensive building work in the park, which included work on the lake. This included flooding land in order to create a new lake. Gould's meadow was flooded in 1859, and was then known as 'New Pond, Gould's meadow'; it was actually quite a large lake [Fig. 6.13] and was constructed using 'modern' methods of lining the lake with concrete which John Holliday from Worksop made. The environmental impact of this material is open to question because lime which lowered the pH value of the water was used. The Duke also ordered the upper lake to be deepened which resulted in large amounts of mud being removed and spread on the parkland as fertiliser. Extensive work created falls at the heads of completed lakes but the steep decline of 39 feet, left the lakes in danger of flooding and loss of fish. Water was diverted from lakes by way of culverts which were very large and in some areas were nearly 14 feet deep. The park was excavated to bury these culverts resulting in large amounts of earth being disturbed,

Fish breeding during the 5th Duke's tenure intensified but coarse fish such as tench, carp and perch were bred and kept in much reduced numbers, in the lakes, ponds and dams. By the later period the breeding of game fish such as trout and grayling was much more popular. However, there were significant differences in the successful breeding of game fish as they needed to spawn in running water, and care was taken for the fish to be kept in rivers during this crucial breeding period. When they were ready for eating they were then transferred to ponds and lakes where it was easier to net

them. Fish were exchanged with other estates, including Chatsworth and Belvoir. These included adult fish but the transfer of trout and grayling fry was also practiced. An important aspect of breeding game fish in particular was for sale and transport to London. Not all of these fish were from the park lakes, some were from different areas of the estate but the preparation for sending fish had to be carefully organised. Fish could be caught the day before they were sent but could only be killed just before they were transported by train from Worksop to London, to ensure they arrived in the best condition. The focus upon game fish was very different to the earlier periods and store fish such as carp were not as popular for eating in the later nineteenth century.

Waterfowl were present in the park on the lakes, throughout the time period. Indigenous species such as moorhens, coots and mallards were managed on the lake in the early period. Also, experiments took place to try and 'naturalise' imported species such as the Carolina Duck and the Canada goose. There was some success with imported birds as Canada geese bred very well but, the American Carolina duck did not breed successfully, mainly due to the wrong type of habitat for the species because it was a 'wood' duck rather than a dabbling duck. Game wading birds such as the woodcock had mixed fortunes in Welbeck as they needed marshy areas for feeding and forest areas for breeding. However wet areas had diminished by the mid nineteenth century due to the large draining projects implemented by the 4th Duke in order to expand areas of agricultural land. By the 5th Duke's tenure there was more mention of different waterfowl which inhabited the Lakes and Ponds. As well as the more common wild ducks, there were sightings of the migratory Goosander in the park at Welbeck. Also Mute Swans were present on the Lake and were given away sometimes to other estates. However, the more unusual Australian black swan was encouraged to breed on the Welbeck Lake with some success and it also bred on Thoresby Lake by the late nineteenth century. Herons were a common sight on Welbeck Lake, but because of their predatory nature of taking fish, many of them were shot by gamekeepers.

This chapter has revealed that water management by the successive Dukes' changed considerably with the result that more water features were created, extended or modified. Lakes were made much bigger by lengthening and deepening over the years and intensive drainage work was practiced throughout the whole period. All of these management changes impacted upon aquatic wildlife by creating on the one hand more water habitats on the other reducing the area of boggy land through intensive water management. The creation of water meadows had positive impacts for the breeding of wading birds such as the snipe although it was in serious decline by the later nineteenth century. The breeding of fish was a successful enterprise, both in the early and later periods. However, in the 5th Duke's tenure the focus was much more on game fish, particularly trout

and grayling which resulted in the decline of breeding coarse fish such as carp, tench and perch for table use.



Fig. 6.1 Map of Welbeck Manor Ingham c.1766

- 1 Island in bottom of Lake created by Richardson 1748**
- 2 Fish Pond Cow Close Wood created by Ingham 1766**
- 3 Head of Lake UNMSS Pwf 8429 Speechly 1767**



Fig. 6. 2 Map by Ingham of Central Area of Welbeck c.1766

1 Engine Drain at point of Lake Head

2 Long Meadow

3 Duck Decoy pond

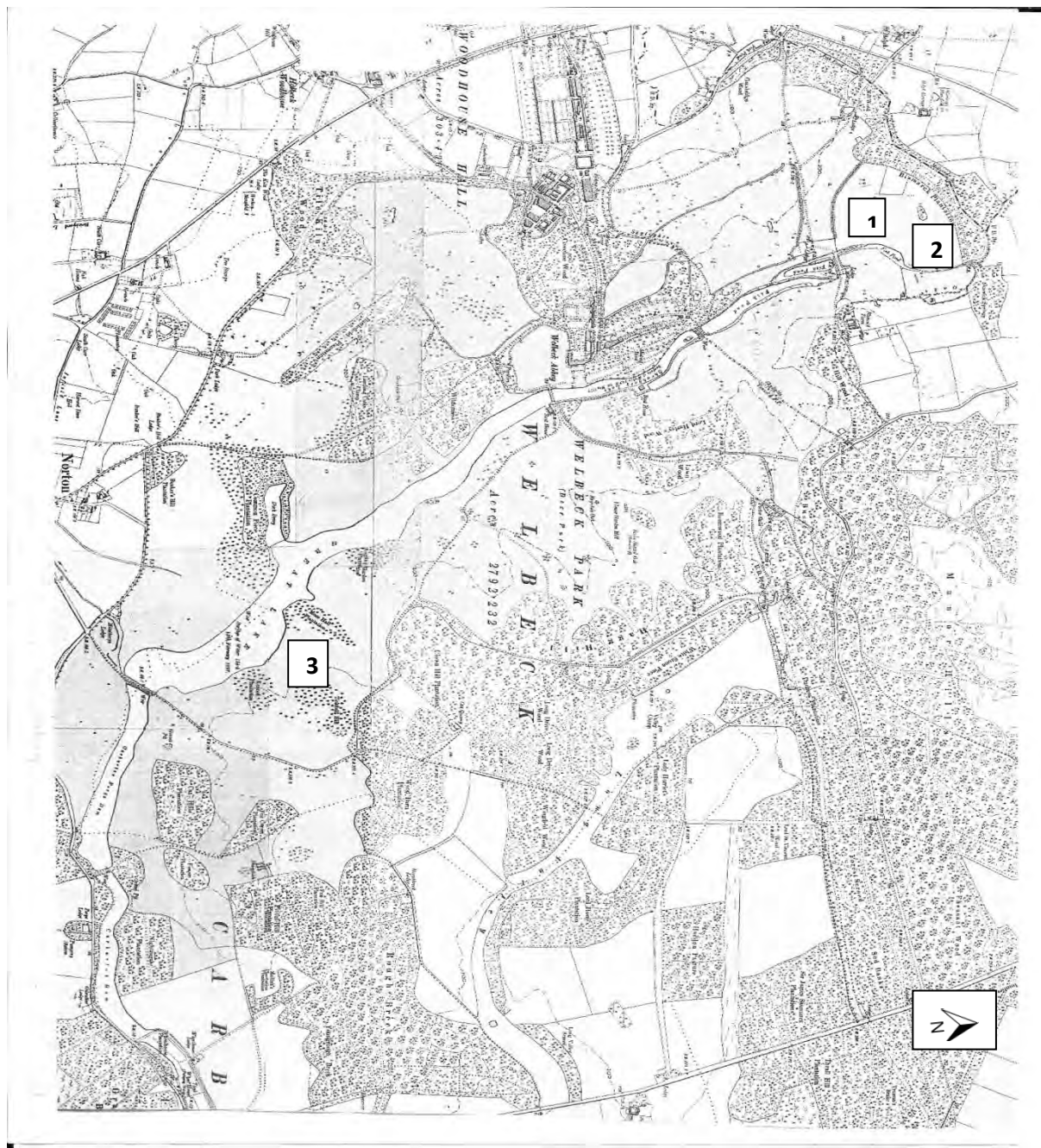


Fig. 6.3 Ordnance Survey Map c. 1885

- 1 Walling Brook**
- 2 Millwood Brook**
- 3 Kennels**

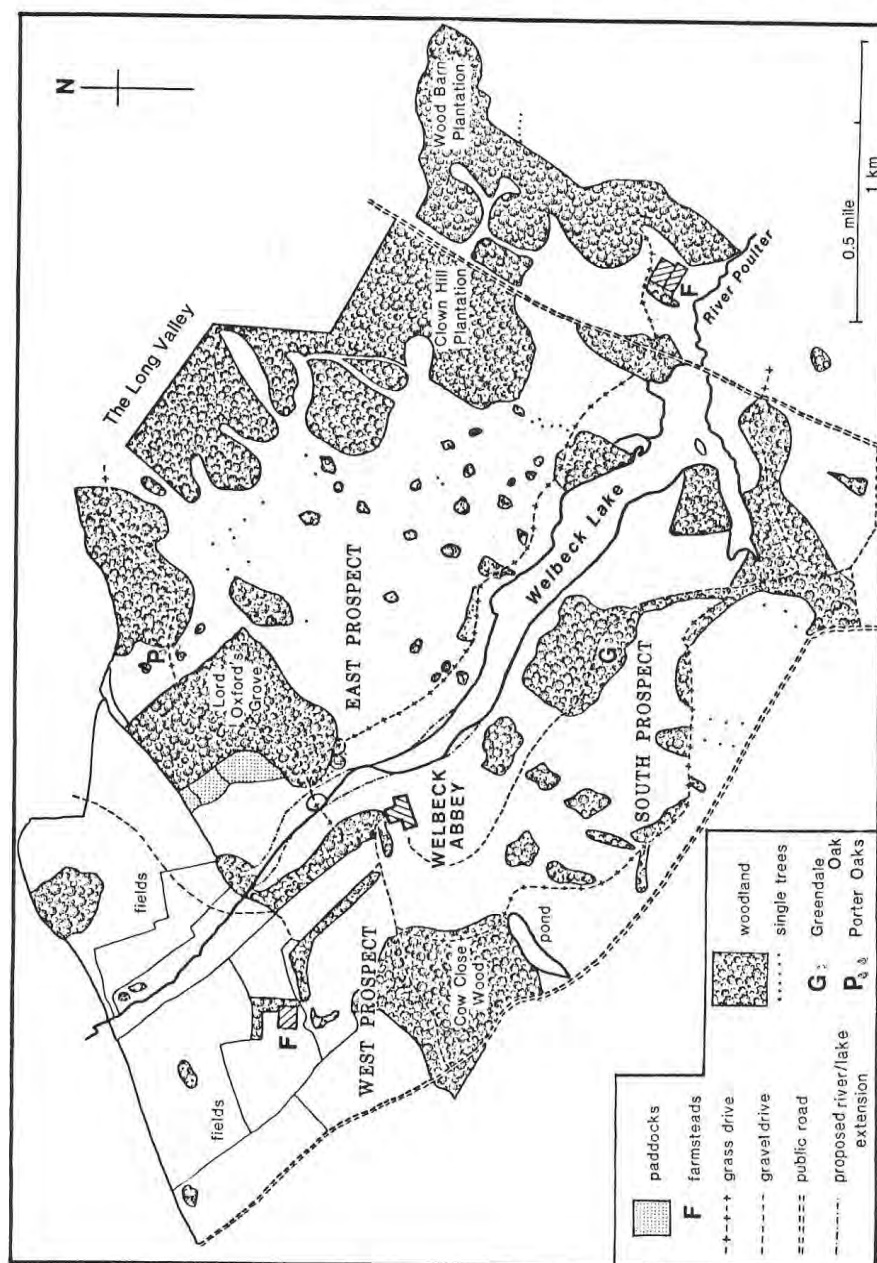


Figure 3:3 Humphry Repton: designs for Welbeck (c.1790)

Fig. 6.4 Repton's designs for the Lake c.1790

Included deepening and widening

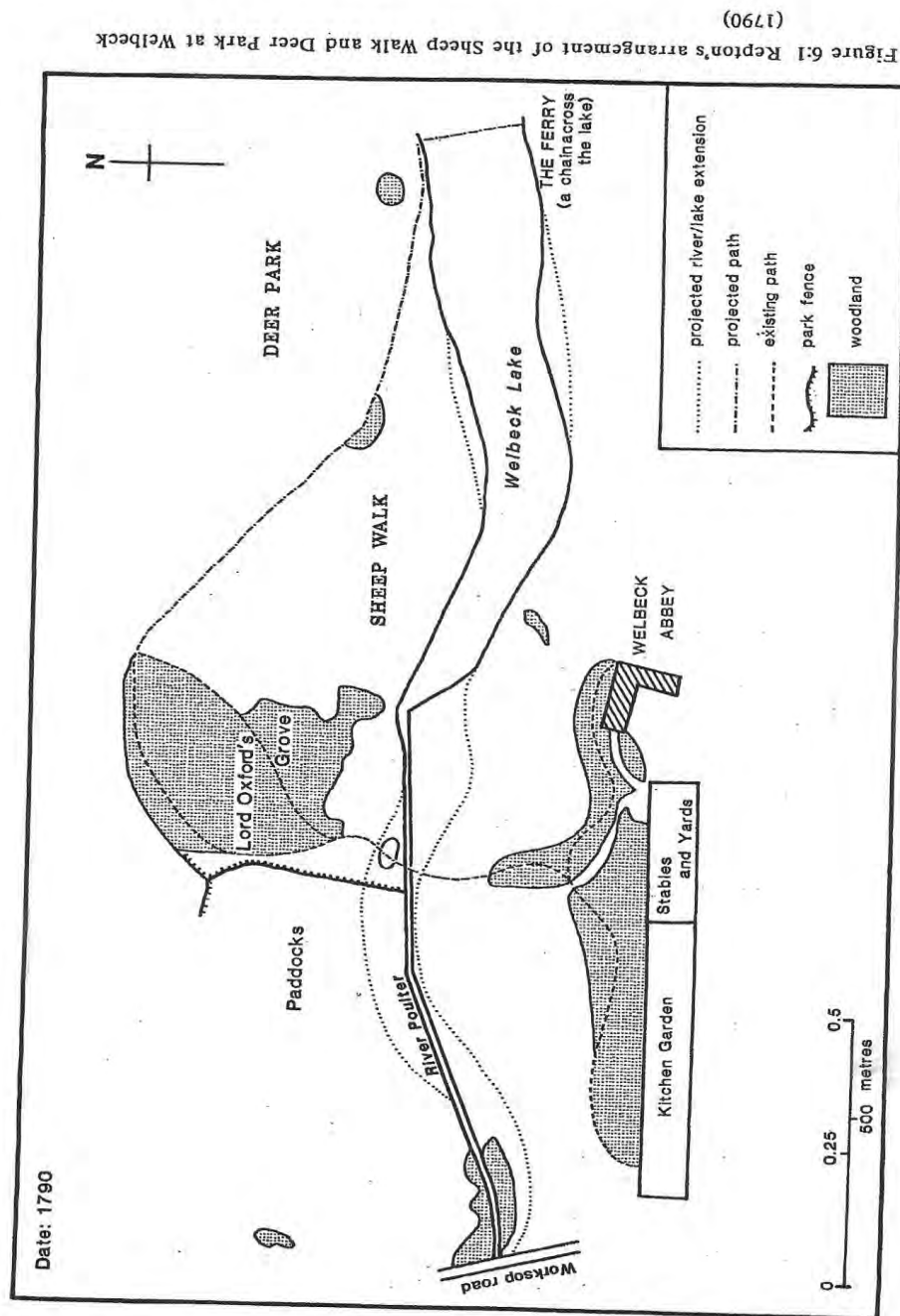


Fig. 6.5 Repton's designs c.1790

Showing the projected river and lake extension

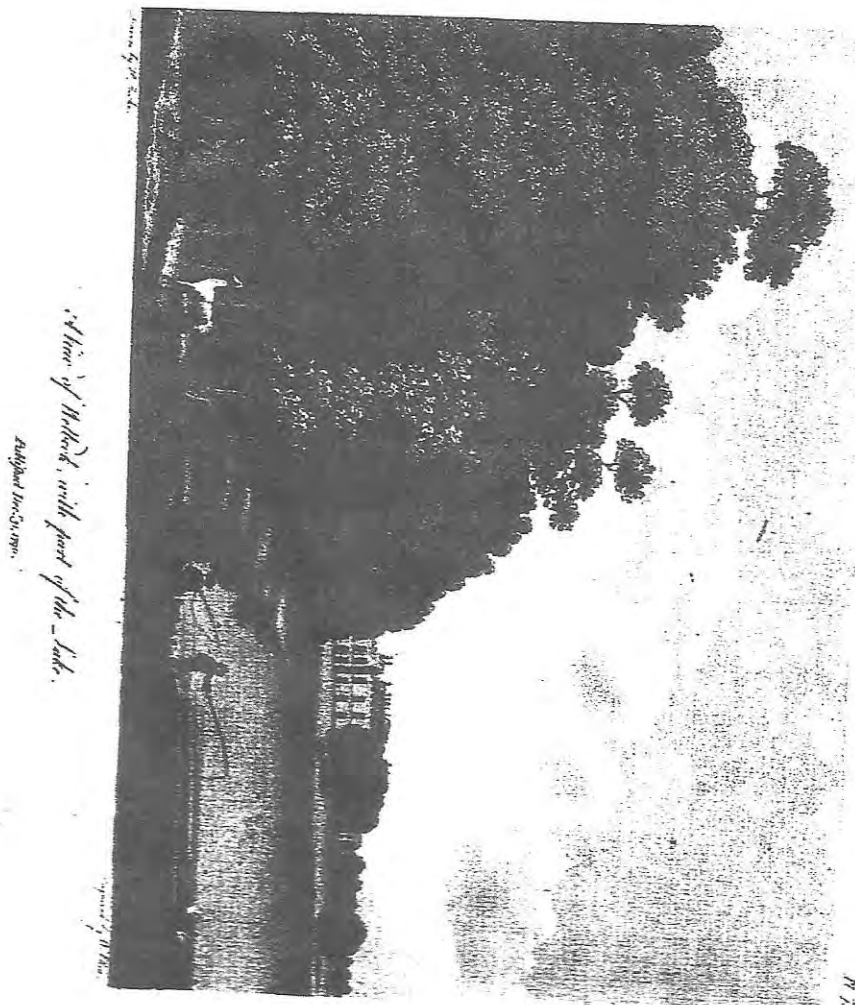
Repton's 1793 plan of Welbeck Park



159 Welbeck Park, 'with the Roads, Drives & Walks either finished in 1793 & 4, proposed to be made', from the Red Book for Welbeck (1793). Private collection.

Fig. 6.6 Repton's Plan of Welbeck Park c.1793

From the Red Book



A view of Welbeck, with part of the lake.
Engraved by J. H. P. 1790.

Fig. 6.8

A view of Welbeck with men fishing the lake

Published December 31st 1790

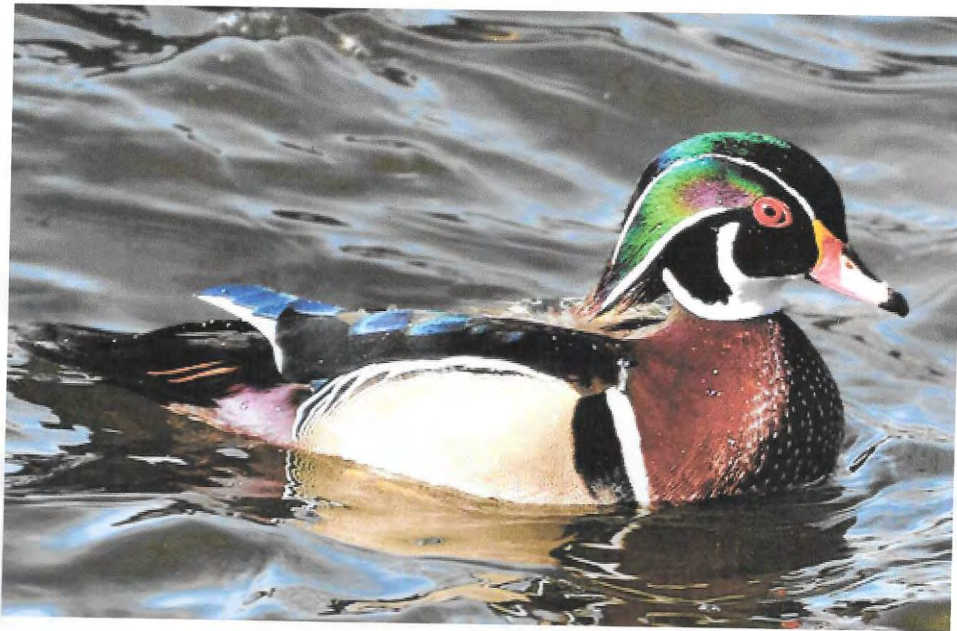


Fig. 6.9 www.flickr.com/photos/rickmaniov/3330583453

Carolina Wood Duck (North America)

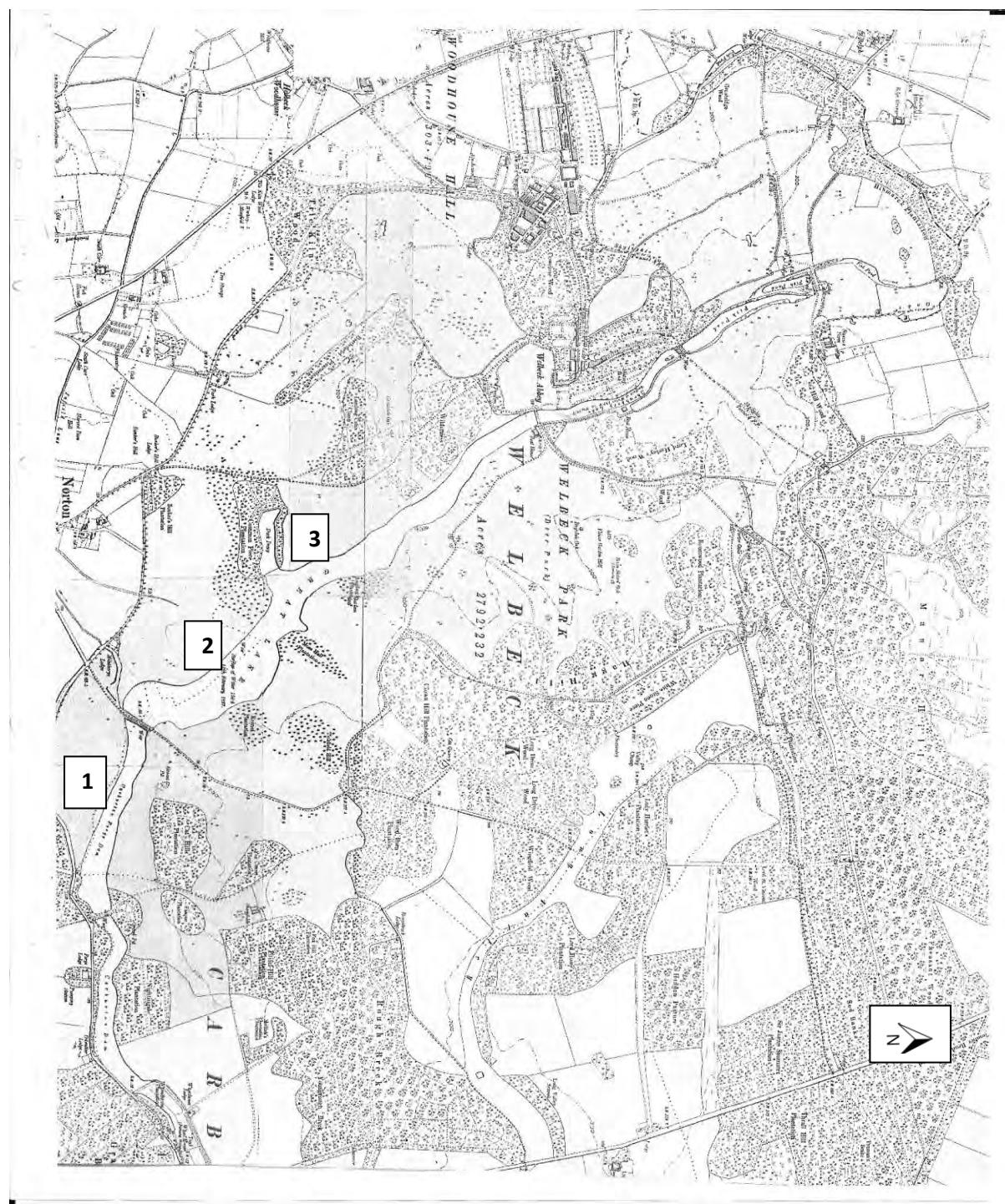


Fig. 6.10 Ordnance Survey Map c.1885

- 1** Carburton Water Meadow
- 2** Kennel Water Meadow
- 3** Duck Decoy

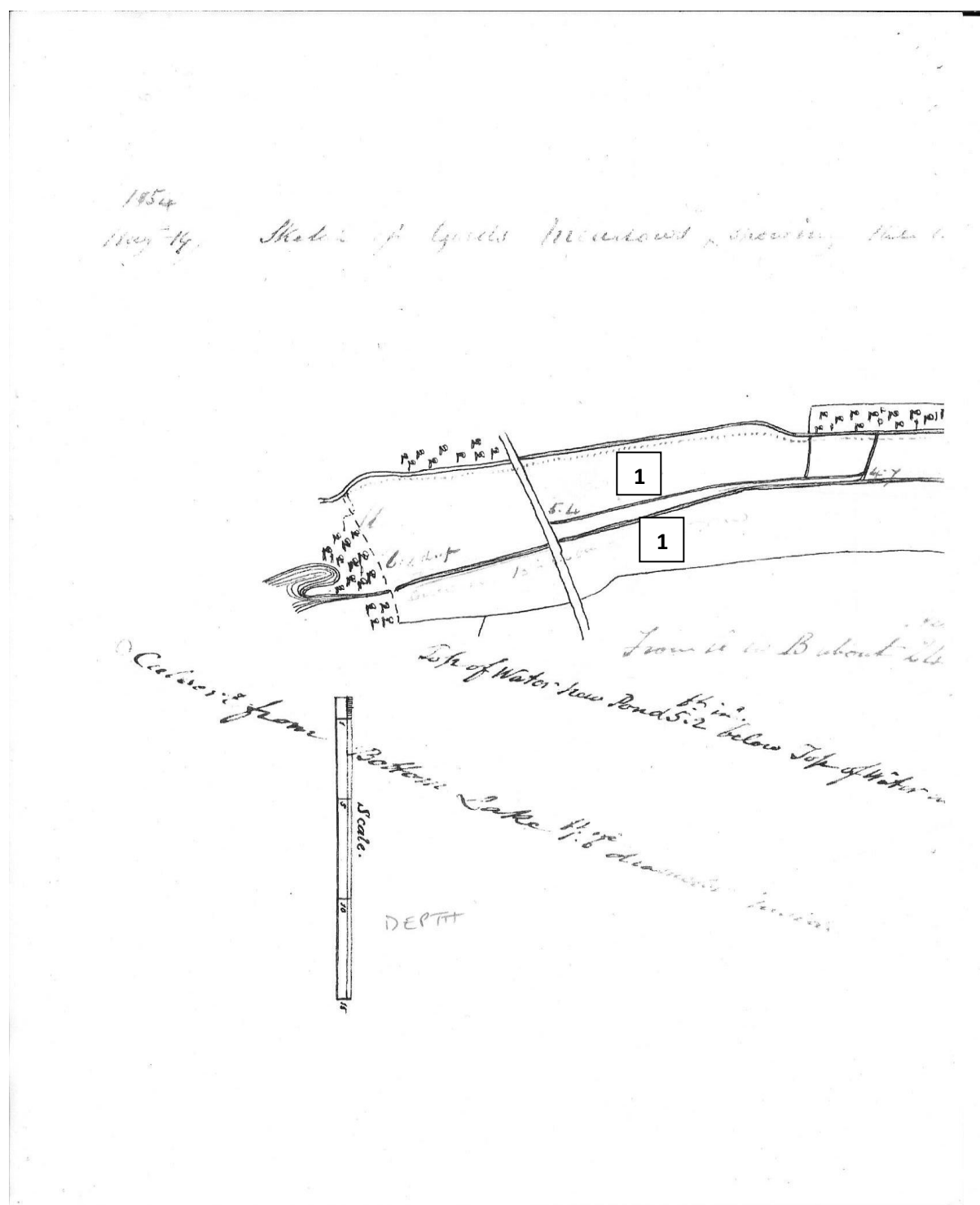


Fig. 6.11

1 Goulds Meadow 1854

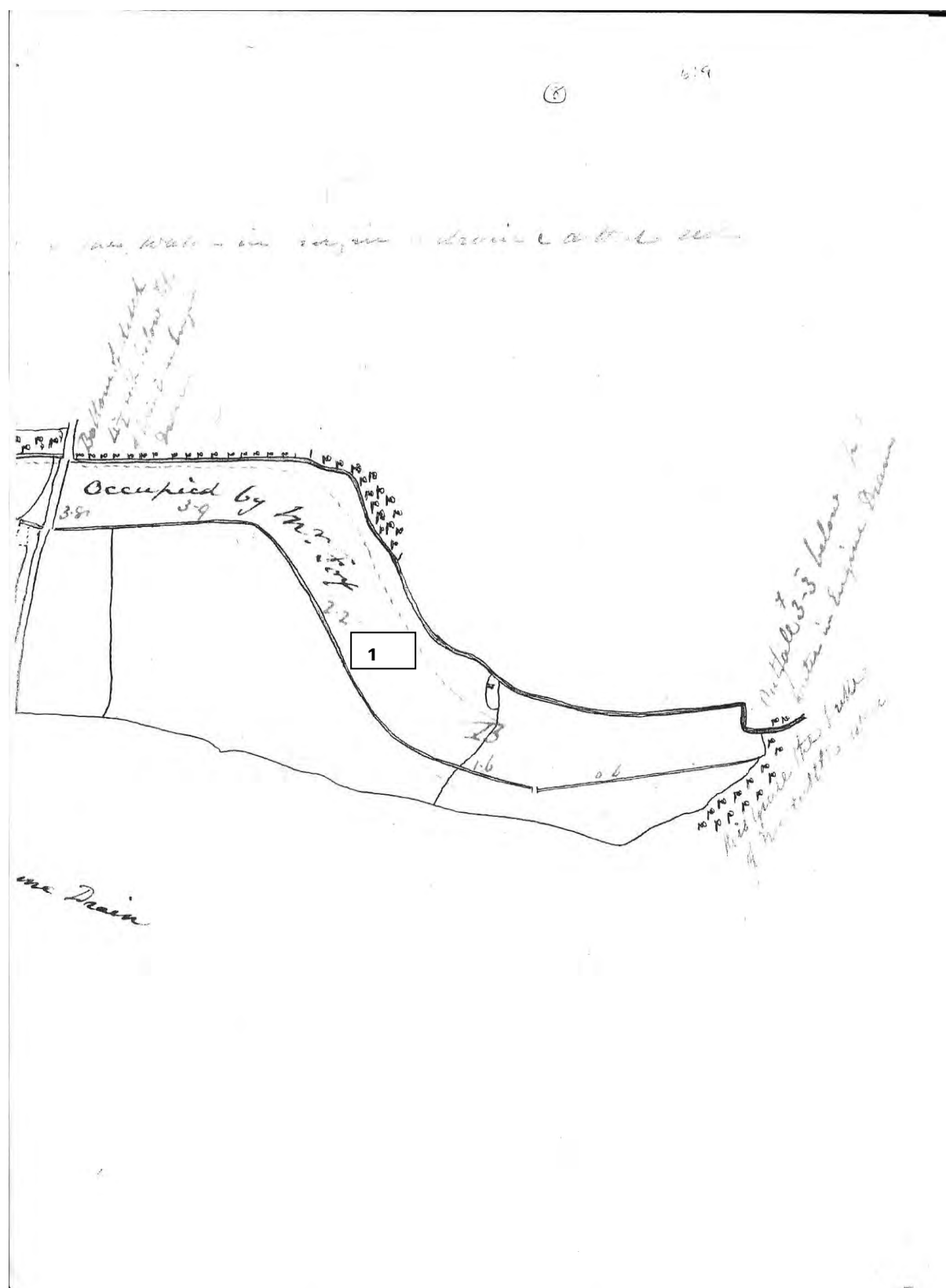


Fig. 6.12 Sketch of Mr Fox's Meadow 1854

1 – Mr Fox's Meadow

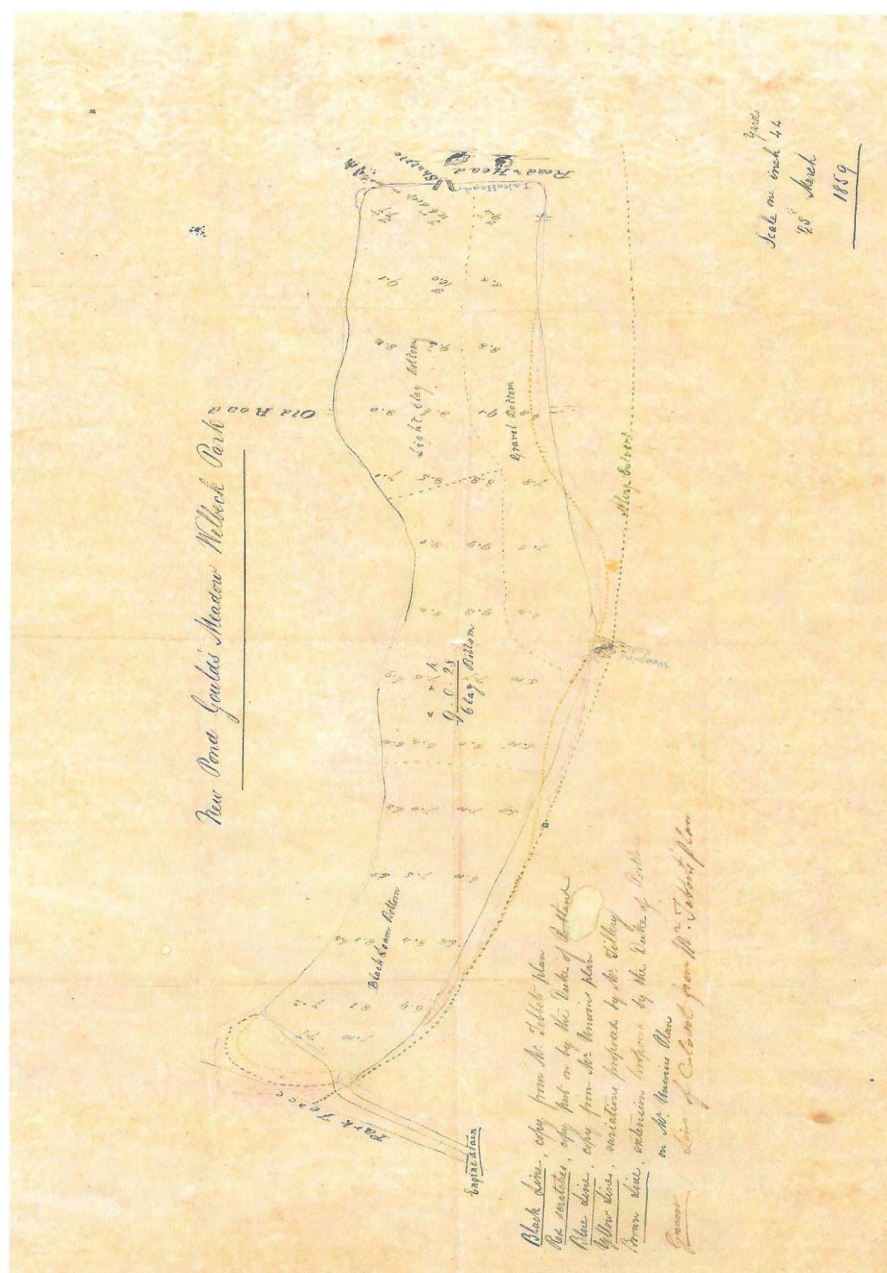


Fig. 6.13

Sketch of New Pond Goulds Meadow c.1859

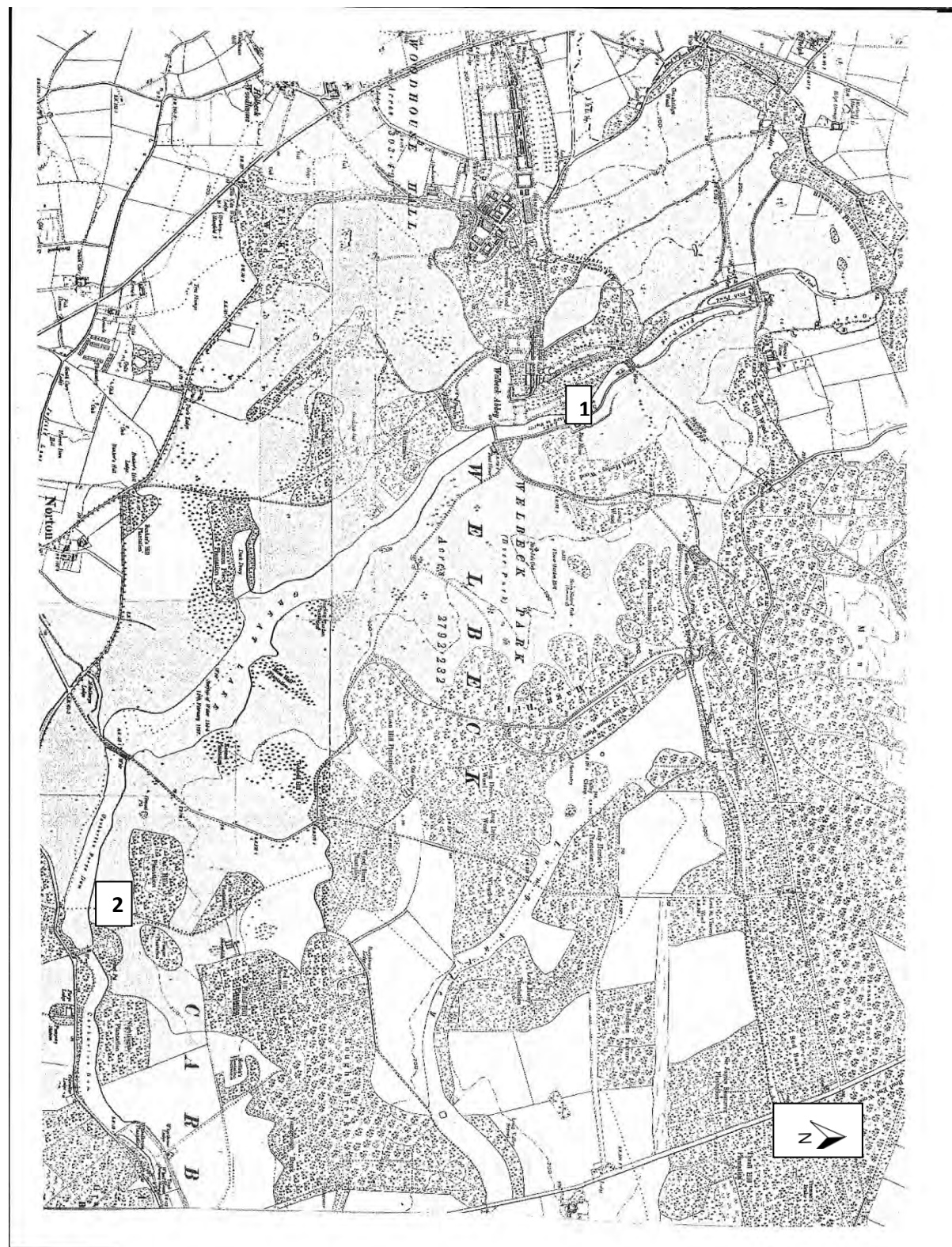


Fig. 6.14 Ordnance Survey map c.1885

- 1 Shrubbery Lake
- 2 Carburton Pond (Near Carburton Dam)

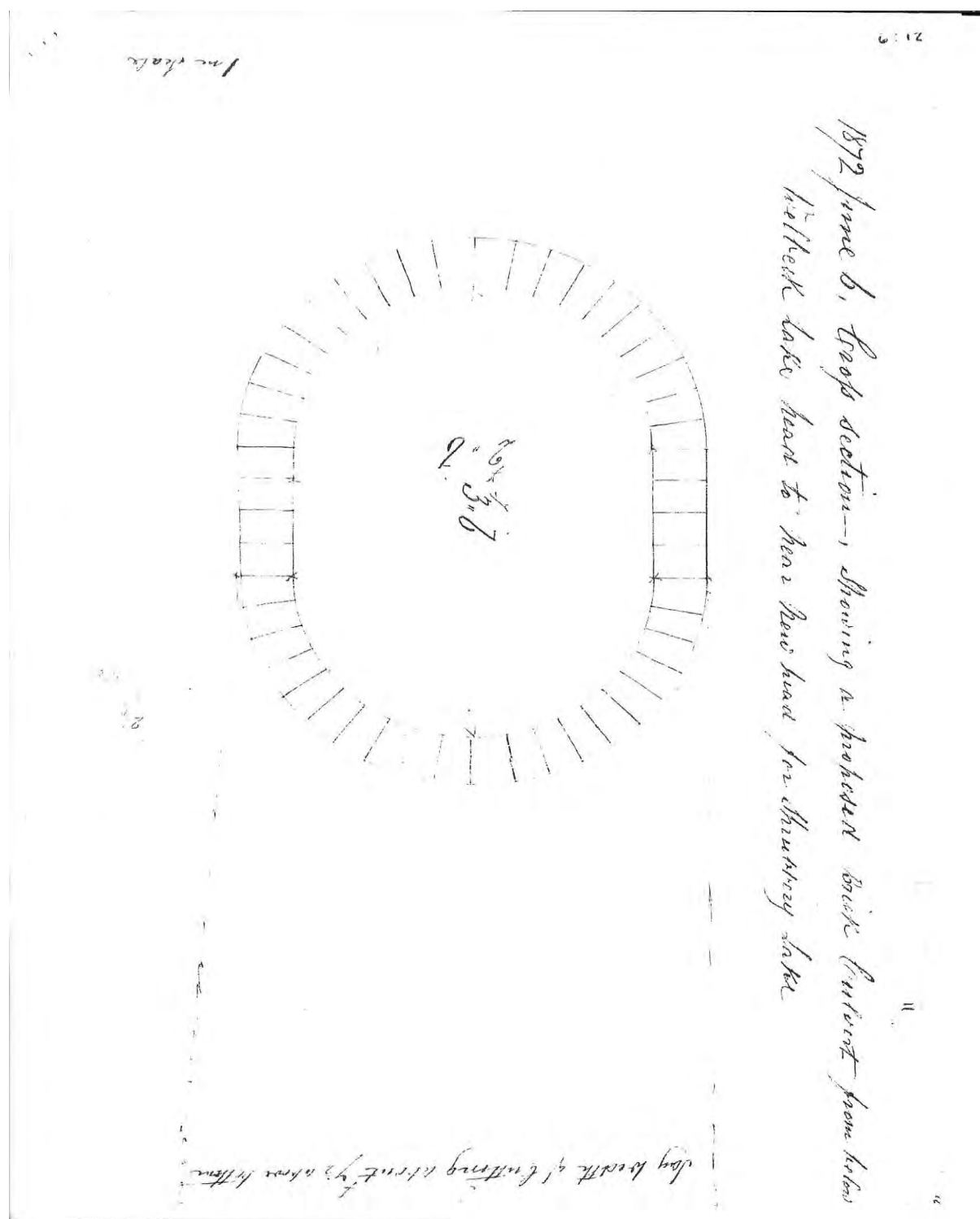


Fig. 6: 15

Sketch of Brick Culvert c.1872

Chapter 7,

7.1 Conclusion

This thesis has argued that the management of animals was a critical aspect of the parkland landscape at Welbeck over the tenure of three Dukes and made a vital contribution to many aspects of the entire aristocratic estate. These included economics, leisure (hunting, shooting, horse racing) as well as status, prestige and patronage. The effective management of parkland animals was central to the work of various employees from the steward, park/game keepers, tenant farmers and general labourers, but also included the Dukes themselves. Agents such as Gould in the later eighteenth century organised the management of grazing animals including deer, sheep and horses as well as game and fish and these activities were a considerable part of his everyday duties. It is evident that the interests of the Dukes were reflected in the changing park landscape, which then directly affected animal management. It is clear that the management of deer and sheep created tensions throughout the whole period especially where both species were run together on the same pasture, resulting in a lack of nourishment for deer. Equally it is evident that the management of game and fish impacted upon the park landscape itself, in particular due to the creation of coverts, continued tree planting and active water management. Altering water courses, creating ponds and dams as well as lengthening/deepening the lake to accommodate fish breeding systems had substantial impacts upon park landscape. However, the creation of water meadows by the 4th Duke was probably the most significant waterscape changes made as they alternately flooded and drained the land to provide lush pasture. This greatly affected species by ensuring loss of habitat for some but also inadvertently creating habitat for other animals and birds.

This study provides an alternative examination of parkland by directly focusing the research upon both domestic and wild animals. By considering in detail the different management practices over time it has revealed how important animals were to the functioning of the park. I believe that a close analysis of these animals and their interactions in a parkland setting gives an important and distinct understanding of the park landscape. The findings of the thesis will contribute to studies of historic parkland by providing animal centred research which had not previously been considered in detail. The thesis also strengthens the argument that the careful management of reintroduced animals within historic parkland today is vital to its conservation and habitat restoration and the provision of vital habitat for endangered species of both fauna and flora.

Changes in the landscape management of parkland animals within Welbeck Park from 1769 to 1879 were very significant and this chapter consolidates the findings of the research and reflects upon their implications for the wider existing literature. The key research findings of the empirical chapters are evaluated and the contribution made to the existing literature on parkland animals set out. The limitations of the thesis and ideas for future research are discussed.

The approach taken in this thesis is distinctive in that it contributes to the study of parkland animals and the implications of landscape change from an environmental perspective. The study highlights the importance of parkland for a wide variety of animals, with a focus upon those kept in grassland, woodland and waterscapes. Domesticated and 'wild' animals as well as 'native' and 'introduced' species are included. These were of fundamental importance to landscape parks providing an animating feature for the parkland setting, as well as supporting a range of leisure activities, gifts of patronage and symbolic capital. Grazing animals were important to the management of grassland and generated provisions for domestic use, and economic investment. This thesis expands upon the accounts of parkland by Prince and Williamson, which examine landscape parks from wider social, economic and political perspectives. Williamson's *Polite Landscapes*, reflects upon the concepts of 'beauty' and 'utility' with regard to parkland animals, revealing the inherent tension between aesthetically pleasing grassland and stock keeping. Prince's work, *Parks in England*, focuses on the changing landscapes of parks from the early modern period to the nineteenth century with some emphasis upon landscape designers such as Brown and Repton and the creative years of landscape gardening. Therefore, parkland animals are not examined in great detail. However, Ritvo's *The Animal Estate* is focused primarily on animals but from a social and historical perspective and although parkland animals do feature, Ritvo investigates the class relationships between elite and farming animal breeders. She examines the human-animal interactions in the Victorian Age and investigates cattle and sheep breeding, by emphasising the prominence of elite breeders who championed the production of so-called 'prize' animals of enormous proportions. Ritvo's argument suggests that landowners bred these oversized animals as they displayed the status and prestige of the aristocracy. She also argued that the elite thought they were doing their 'patriotic' duty, which ordinary farmers could emulate when breeding their own animals. However, she argues that a critique of fat cattle emerged in agrarian magazines in the nineteenth century which challenged the livestock breeding connection between aristocratic breeders and the nation's farmers.

The study also highlights that there were complementarities and contestations between parkland animals, particularly the relationship between deer and sheep. The damage caused by running thousands of sheep on park grassland was considerable because the animals cut the grass sward

down to bare earth. Sheep had to be moved to different areas of the park regularly to prevent the grass dying off and also because they competed with deer which often resulted in the deer suffering from lack of nutrition. The same problematic relationship also occurred with the increase of game birds in the park and the native wildlife. Particular wild animals and birds were identified as 'vermin' which preyed upon game birds. These included raptors, polecats and various other wild animals, and they were subsequently eradicated, especially in the later nineteenth century. Therefore, my study contributes to the wider literature on vermin. Cragoe and McDonagh's *Parliamentary Enclosure, vermin and the Cultural Life of English parishes 1750-1850* examines the impact of parliamentary enclosure on English villages, and their vermin eradication activities. The article traces the culture of vermin control in the county of Northamptonshire and argues that enclosure did not disrupt the recreational value of killing vermin. The study examines vermin eradication, using parish records, whereas my thesis takes a further stance to argue that parkland is also an important centre of vermin control. There is some evidence of parkland animals which were not major targets for protection or eradication, notably hares and waterfowl including snipe and woodcock.

The importance of sheep as parkland animals is confirmed in this study, which has been examined in detail in the work of Seymour and Williamson. However, it also highlights the environmental challenges related to sheep stocking densities and improved breeds on parklands in sandy soil areas such as Welbeck Park. Seymour's work on *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire* refers to the importance of sheep as providers of wool and meat and the improvement of sheep breeding. Williamson's *Polite Landscapes* refers to the aesthetic damage caused to the landscape park from high stocking densities of parkland animals. Competition for park pasture land between sheep, deer, and horses was a recurring theme at Welbeck. The thesis investigates the various ways employed for alleviating the pressure of overgrazing, such as the shedding of deer and feeding horses, deer and sheep with supplementary feedstuff, including oats, beans, turnips and hay. Parkland animals were also moved regularly and sheep were folded on agricultural land which helped to conserve grassland.

The thesis draws attention to previously neglected parkland animals, most notably horses and fish. Horses were important animals for the landed aristocracy in many different ways, for leisure, including riding, hunting and racing, for travel as saddle and coach horses and for work in landscaping, agriculture and silviculture. Horses were an overriding passion for each of the Dukes of Portland, but it was the 4th Duke whose interest in racing profoundly changed the types of animals which were bred at Welbeck. His father was an accomplished horseman but his interests lay more

with hunting rather than racing and he kept about 70 horses, though some were sold in the later 1770s and 1780s, due to the Duke's financial difficulties. It was recognised that overstocking with horses could result in some instances of lack of suitable pasture as well as occurrence of disease. Many acres of land in the park were levelled and drained to create training grounds for exercising racehorses which had to be highly maintained because of the light soils. Also, the negative environmental impact of draining land was evident with the loss of habitat for waders such as snipe. Moore-Colyer's article on the *Aspects of Horse breeding and the Supply of horses in Victorian Britain* examines the breeding of work horses and thoroughbreds in relation to the supply of the animals for agriculture, trade and the Army. However, the examination of parkland horses and their impact upon the landscape has been somewhat neglected. One notable exception to the study of horses and park landscapes are Hearn and Daniels essays on *Horses and Landscapes: George Stubbs at Welbeck*. This booklet charts 'the rise of English horse portraiture and landscape painting 1620-1770' and Daniels focuses upon Stubbs' paintings of well bred horses within the striking scenery of Cresswell Crag on the Welbeck estate. The 3rd Duke of Portland features in a painting by Stubbs entitled *A Nobleman on Horseback*. These paintings reinforced the status and prestige of the landowner but the emphasis was on the idealised composition of the thoroughbred horses rather than their use and place with the landscape park.

The breeding of fish is often associated with medieval and early modern landscapes but they were important eighteenth and nineteenth century parkland animals. Fish were bred for home consumption as well as for gifting and selling. The sport of angling was a popular activity for the elite and suitable waterscapes were created for coarse and game fishing. Intensive fish breeding programmes was evident throughout the period. In the mid to later eighteenth century carp were very popular as table fish and ponds were created in the park as well as in the wider estate. There were also a variety of other fish species such as perch, tench and pike. A comprehensive aquaculture system was practiced during the early period with fish regularly exchanged with other estates. Dams were created as holding spaces for fish and they were netted in their hundreds for selling as well as exchange. There is also evidence of fish being moved from ponds to the lake, the principal reason was to prevent overstocking. There are studies of medieval fish breeding such as Currie's *The Early History of the Carp and its Economic Significance in England* which charts the dominance of carp as the preferred table fish but endeavours to explain the decline in popularity by the beginning of the nineteenth century. Laws' thesis, *The Landscape of Rufford 1700-1743* examines carp husbandry in a landscape park setting and suggests that they were the most popular table fish in the early eighteenth century. This thesis contends that the breeding of freshwater parkland fish such as carp continued well into the nineteenth century and there was no mention of

‘game’ fish such as trout and grayling until the 1860s. However, from this period onwards the significance of game fish breeding became paramount, resulting in the breeding of thousands of trout and grayling. Fish were exchanged with other estates such as Chatsworth and Belvoir and as far afield as Scotland. The breeding of game fish, particularly grayling was complicated in that they needed running water to spawn which made it more difficult to provide enough suitable habitats.

Parkland was the venue for the negotiation of animal status, often related to the idea of ‘improvement’ and included domesticated and ‘wild’ animals. This is revealed particularly, in the management of parkland deer and fish, the decline of the ‘wild’ native red deer in favour of the more manageable fallow and roe deer attests to this. The popularity of game fish in the later nineteenth century also shows the increasing importance of trout and grayling. Also, ‘native’, ‘introduced’ or ‘exotic’ wildfowl were the subject of ‘improvement’ and experiments to successfully rear particular species were ongoing, particularly during the 3rd Duke’s tenure. The most successful introduction to the park was the Canada goose which was carefully monitored, resulting in its prolific breeding. Parks were important sites for introductions but they were not always successful, the species which failed to colonise the park was the perching Carolina wood duck. Frequent attempts were made by the head gardener, Speechly to raise these birds failed. However, their habitat requirements were very different to dabbling ducks as they were essentially a woodland bird which needed shallow water to breed successfully.

The findings of this thesis have shown where gaps in the study of parkland animals are apparent. I believe close research of archival sources has uncovered material which has not been extensively used. The rich source of Gould’s diary has opened up areas of study such as the breeding of fish which has not previously been explored in detail. Also, archival material from the later periods, particularly the 5th Duke’s tenure are very detailed for the breeding and management of game fish such as trout and grayling, as well as the management of parkland game birds, which have not previously been closely examined.

Also, the importance of historical parkland cannot be underestimated for wildlife conservation in the future because the protection of ancient woodland, broadleaf woodland, coppiced and coniferous woodland is paramount as they are all crucial habitats for wildlife. The careful management of parkland water courses also helps to maintain suitable habitats for a variety of aquatic species. The Forestry Commission reveal that historical parkland has more hectares of all types of woodland and waterscapes than in the wider landscape as shown in (Fig 7.1). This is recognised by NGOs such as Natural England the National Trust and Wildlife Trusts who are involved with maintaining historical parkland to provide vital habitats for endangered species.

7.2 Ideas for future research

Parkland horses were very important to elite society in the eighteenth and nineteenth centuries, therefore wider studies of the relationship between horses and their owners would be beneficial. There was considerable prestige attached to owning racehorses by the aristocracy, therefore, the breeding and racing of thoroughbreds could make a valuable contribution to an otherwise neglected area of study. The breeding of fish has tended to concentrate upon medieval deer parks, with the raising of store fish for consumption, but a wider consideration is needed of parkland fish in the eighteenth and nineteenth centuries. The assumption that fish breeding was an activity in decline, beyond the sixteenth century needs to be addressed. The importance of breeding fish for the table, exchanging breeds with other landed estates and selling on the open market are areas of study which could be explored in future research. Although there has been some research into parkland waterscapes, notably Williamson's work on park water meadows, there needs to be an extension of research into parkland waterscapes. This could include studying the different forms of aquatic life and their association with the landscape park, as water has been a relatively neglected aspect of parkland studies. Further study of the historical, ecological effects of parkland animals would greatly benefit modern ecological research being undertaken, especially in the areas of conservation and habitat preservation.

Table 4 Areas of Woodland Inventory Types

(Source: Forestry Commission data)

	Historic Parkland		Wider Landscape	
	Area (ha)	%	Area (ha)	%
Broadleaved woodland	12042	28%	88890	9%
Mixed broadleaved woodland	248	0.6%	1815	0.2%
Coniferous woodland	3325	7.9%	23620	2.4%
Mixed coniferous woodland	513	1.2%	2645	0.3%
Coppiced wood	4.11	0.01	492	0.05%
Shrub/scrub/sparse wood	338	0.8%	4843	0.5%
Other woodland	58	0.1%	2260	0.2%
TOTAL woodland	16,528	40%	124,565	13%

Table 5 Areas of Ancient Woodland Types

(Source: Natural England data)

	Historic Parkland		Wider Landscape	
	Area (ha)	%	Area (ha)	%
Ancient woodland	1935	4.6%	21,111	2.2%
Replanted ancient woodland	1663	3.9%	16,954	1.7%
TOTAL Ancient Woodland	3598	8.5%	38065	3.9%

Table 6 Areas of Surface Water (Source: OS Vector Mapping)

	Historic Parkland		Wider Landscape	
	Area (ha)	%	Area (ha)	%
TOTAL Surface Water Bodies	1026	2.4%	10186	1.0%

Tables 3–6 2013 Robert Harvey & Max Wade RPS

Fig. 7.1 Inventory of Woodland in the Wider Landscape and Parkland**Source Forestry Commission 2013**

Bibliography

Primary

Butler E, (1931) A Personal account of a Laundry maid to the 5th Duke of Portland, *Ellen Butler, 1869-1879*, UNMSS, Pwk 5326/4

Cosens T, (first published 1837) *A New Treatise on Agriculture and Grazing, clearly pointing out to landowners and farmers the most profitable plans*, Kessinger Publishing, USA.

Defoe D, A (1948) *Tour through England and Wales Vol. 11*, J M Dent and Sons Ltd. London (first published 1727)

Denison J E *On the Duke of Portland's Water-Meadows at Clipstone Park* (From the Journal of the Royal Agricultural Society, Vol. 1, 1830).

Denison J E, (1848) On The System of Planting and the Management of Plantations at Welbeck, *From the Journal of 'The Royal Agricultural Society of England Vol. 1X., Part 11*, RAS, London.

Eddison E, (2009) *History of Worksop: With Historical, Descriptive and Discursive Sketches of Sherwood Forest and the Neighbourhood*, (first published 1854) Kessinger Publishing USA.

Jacks L, (2010) *The Great Houses of Nottinghamshire and the County Families*, (first published 1881), General Books LLC.

Kent J, Lawley F C, (2012) *Racing Life of Lord George Cavendish Bentinck M.P. and other Reminiscences* (first published 1892), General Books LLC.

Lowe R, (2010) *General View of the Agriculture of the County of Nottingham: With Observations on the Means of its Improvement. Drawn Up for the Consideration of the Board of Agriculture and Internal Improvement*, (first published 1798) Lightning Source UK Ltd. Milton Keynes.

As above, from an account of Plantations by Mr Speechly, gardener to His Grace. *Extracted (by permission) from Dr Hunter's edition of Evelyn's Sylva, page 90*, Lightning source UK Ltd., Milton Keynes.

Payne-Gallwey, B R, (1886) *The Book of Duck Decoys their Construction, Management and History*, J V Voorst, Paternoster Row, London.

Repton (1969) H *An Enquiry into the Changes of Taste in Landscape Gardening*, (first published 1806) Republished by Gregg International Publishers Ltd. Hampshire.

Rodgers J, (1908) *The Scenery of Sherwood Forest*, T Fisher Unwin.

Rooke H, (2009) *Descriptions and Sketches of Some Remarkable Oaks: In the Park at Welbeck, In the County of Nottingham*, Kessinger Publishing, (first published 1790

- Shirley E P, (2007) *Some Account of English Deer Parks with notes on the management of deer*, (first published 1867)
- Sissons F, (1888) *Beauties of Sherwood Forest, a Guide to the Dukeries and Worksop, with maps and illustrations* Sissons, Worksop.
- Sterland W J, (1869) *The Birds of Sherwood Forest*, Bibliolife, Lightning Source UK Ltd. Milton Keynes
- Thoroton R, (2010) *The Antiquities of Nottinghamshire, extracted out of records, original evidences, leiger-books, other manuscripts and authentic authorities. Beautified with maps, prospects, and portraitures* (first published 1790) Vol.3 of 3, Lightning Source UK Ltd. Milton Keynes.
- White R, (1875), *Worksop, The Dukery and Sherwood Forest*, Simpkin Marshall .
- Whittaker J A, (2010) *A Descriptive list of the Deer-Parks and Paddocks of England-Primary Source Edition*, (first published 1892), Nabu Public Domain Reprints, USA.
- Whittaker J A, (1907) *Notes on the birds of Nottinghamshire*, Walter Black & Co. Ltd. Nottingham.
- Wood R, (2010) *A Visit to Sherwood Forest*, (first published 1850) Bibliolife LLC, USA
- Young A, (1771) *The Farmer's Tour through the East of England* La Vergne USA.

Secondary

- Adlam D, (2002) *The Enigmatic Fifth Duke of Portland*, Pineapple press for the Harley foundation.
- Armstrong P, (2016) *Sheep*, Reaktion Books.
- Baker A H, (2003) *Geography and History, Bridging the Divide*, Cambridge Studies in Historical Geography, Cambridge University Press, Cambridge.
- Beckett J V, (1986) *The Aristocracy in England 1660-1914*, Basil Blackwell Ltd. Oxford.
- Billett M, (1994) *A History of English Country Sports*, Robert Hale, London.
- Brown J, (1991) *The Horse in Husbandry*, (from *The Diary of a Working Farmer, 1906*) Farming Press Books, Ipswich.
- Cannadine D, (1990) *The Decline and Fall of the British Aristocracy*, Anchor Books, New York, USA.
- Chambers J D, (1932) *Nottinghamshire in the Eighteenth Century, A Study of Life and Labour under the Squirearchy*, P S King & Son Ltd.
- Clapp B W, (1994) *An Environmental History of Britain since the Industrial Revolution*, Longman, London.
- Clifford N, Cope M, Gillespie T, French S, Eds. (2016) *Key Methods in Geography, (3rd Edition)* Sage Publications Ltd. London.
- Cook H, Williamson T, Eds. (1999) *Water Management in the English Landscape, Field, Marsh and Meadow*, Edinburgh University Press, Edinburgh.

Cosgrove D, Daniels S, Eds. (1988), *The Iconography of Landscape, Cambridge Studies in Historical Geography*, Cambridge University Press, Cambridge.

Daniels S, (2000) *Humphry Repton, Landscape Gardening and the Geography of Georgian England*, Published for the Paul Mellon Centre for Studies in British Art, Yale University Press, New Haven and London.

Daniels S, Veale L, (2012) *Humphry Repton at Sheringham Park, Bringing Landscape to Life, 1812-2012*, Barnwell Print Ltd. Dunkirk, Aylsham, Norfolk.

Donald Hughes J, (2001) *An Environmental History of the World, Humankind's Changing Role in the Community of Life*, Routledge Studies in Physical Geography and Environment, Abingdon, Oxon.

Duke of Portland, (1938) *Men, Women and Things, Memories of the Duke of Portland K.G., G.C.V.O.* Faber and Faber.

Duke of Portland, (1938) *Memories of Racing and Hunting, K.G., G.C.V.O.*

Dymond D, (2009) *Researching and Writing History, a guide for Local Historians*, Carnegie Publishing Ltd. in association with the British Association for Local History, Salisbury.

Edwards K C, Ed., (1966) *Nottingham and its Region*, The British Association for the Advancement of Science, Nottingham Meeting, Derry and Sons Ltd., Nottingham.

English Nature (2005) *Welbeck Lake, Views about Management, Countryside and Rights of Way Act, 2000, Schedule 11 (6)*.

(2010) *Environment of Nottinghamshire: Nature Reserves in Nottinghamshire, Sites of Special Scientific Interest in Nottinghamshire*, Sherwood Forest Books LLC, Memphis Tennessee, USA (Lightning Source UK Milton Keynes).

Evans D, (1997) *A History of Nature Conservation in Britain*, Routledge.

Fletcher J, (2011) *Gardens of Earthly Delight, The History of Deer Parks*, Windgather Press, Oxbow Books, Oxford.

Goddard N, (1988) *Harvests of Change, The Royal Agricultural Society of England 1838-1988*, Quiller Press, London

Gordon C, Ed. (1980) *Power/Knowledge, Selecting Interviews and other Writings 1972-1977, Michel Foucault*, Vintage.

Gray A, (2008) *Sherwood Forest and the Dukeries*, Phillimore and Co. Ltd. Bognor Regis.

Grigson, (2016) *Menagerie: The History of Exotic Animals in England*, Oxford University Press.

Hall J G, Clutton-Brock, (1995) *Two Hundred Years of British Farm Livestock*, The Natural History Museum, London.

- Hanson M J Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, 1783 to 1st June 1785* (Vol. 1) UNMSS
- Hanson M J Ed. (2002) *Portland and Devonshire Agent, The Diary of William Gould, 1787-1788* (Vol. 2) UNMSS
- Harding P T, Wall T (2000) *Moccas an English Deer Park, The history, wildlife and management of the first parkland National Nature Reserve*.
- Harley J B, (1972) *Maps for the Local Historian, A guide to British Sources*, (Published for the Standing Conference for Local History, by the Bedford Square Press of the National Council of Social Service, London) Blackfriars Press Ltd. Leicester.
- Harvey G, (2002) *Parkland*, The National Trust, Living Landscapes, The National Trust Enterprises Ltd. London.
- Hearn K, Daniels S, (2008) *Horses and Landscapes, George Stubbs at Welbeck, The rise of horse portraiture and landscape painting in Britain*, Pineapple Press, published for the Harley Gallery.
- Hoskins W G, (1955) *The Making of the English Landscape*, Penguin Books London.
- Johnson M, (2007) *Ideas of Landscape*, Blackwell Publishing Ltd.
- Lasdun S, (1991) *The English Park, Royal, Private and Public*, Andre Deutch Ltd. London.
- Lovegrove R, (2007), *Silent Fields, The Long Decline of a Nation's Wildlife*, Oxford University Press.
- Marquiss E, Ed. (1987) *The Nature of Nottinghamshire, The Wildlife and Ecology of the County, In Aid of Nottinghamshire Trust for Nature Conservation*, Barracuda Books Ltd. Buckingham.
- Martin B P, McPhail R, (1992) *Sporting Birds of Britain and Ireland (Revised Edition)*, David and Charles Devon.
- Matless D, (1998) *Landscape and Englishness*, Reaktion Books Ltd. London.
- Mingay G E, (1990) *A Social History of the English Countryside*, Routledge, London.
- Mingay G E, (1963) *English Landed Society in the Eighteenth Century*, Routledge and Kegan Paul Ltd.
- Mingay G E, (1977) *The Agricultural Revolution, Changes in Agriculture 1650-1880*, A and C Black London.
- Muir R, (1999) *Approaches to Landscape*, Macmillan Press Ltd. London.
- Parry J (2003) *Living Landscapes, Heathland*, The National Trust Enterprises Ltd.
- Prince H, (1967) *Parks in England*, Pinhorns, Shalfleet Manor, Isle of Wight.
- Pythian-Adams C, (1992) *Hoskins England: A Local Historian of Genius and the realisation of his theme* (Trans. Leicestershire Archaeology and History Society, LXV1.
- Rackham O, (1987) *The History of the Countryside, The Classic History of Britain's landscape, flora and fauna*, Weidenfield & Nicholson, London.
- Rackham O, (1994) *The Illustrated History of the Countryside*, Weidenfield & Nicholson, London.

- Reed M, (1990) *The Landscape of Britain from the Beginnings to 1914*, Routledge, London.
- Riden P (2000) *Local History, A Handbook for Beginners*, Merton Priory Press, Cardiff.
- Ritvo H, (1987) *The Animal Estate, The English and other Creatures in the Victorian Age*, Harvard University Press, Cambridge, Massachusetts.
- Said E W, (1995) *Orientalism, Western Conceptions of the Orient*, Penguin Books, (from Denys Hay, *Europe: The Emergence of an Idea*, 2nd Ed. (Edinburgh, Edinburgh University Press, 1968)
- Seth-Smith M, (1971) *Lord Paramount of the Turf, Lord George Bentinck 1802-1848*, Faber and Faber.
- Seymour S, Haggerty S, (2010) *Slavery Connections of Bolsover Castle 1600-c1830*, Final Report for English Heritage, University of Nottingham (from Seddon, Holles John, Turberville *History of Welbeck*)
- Shrubb M, (2003) *Birds, Scythes and Combines, A History of Birds and Agricultural Change*, Cambridge University Press, Cambridge.
- Shrubb M, O'Connor R J, (1990) *Farming and Birds* Cambridge University Press.
- Shurmer-Smith P, Ed. (2002) *Doing Cultural Geography*, Sage Publications Ltd.
- Simmons I G, (2001) *An Environmental History of Great Britain, From 10,000 years ago to the Present*, Edinburgh University Press
- Simmons I G, (1989) *Changing the Face of the Earth, 2nd Edition, Culture, Environment, History*, Blackwell Publishers, Oxford.
- Simmons I G, (1993) *Environmental History, A Concise Introduction, New Perspectives on the Past*, Blackwell Publishers, Oxford.
- Spooner S, (2015) *Regions and Designed Landscapes in Georgian England*, Routledge Research in Landscape and Environmental Design, Routledge.
- Spring D, (1963) *The English Landed Estate in the Nineteenth Century, Its Administration*, The John Hopkins Press, Baltimore, Maryland, USA.
- Taigel A, Williamson T, (1993) *Know the Landscape, Parks and Gardens*, B T Batsford Ltd. London.
- Tapper S, (1992) *Game Heritage, An Ecological Review from Shooting and Gamekeeping Records*, Game Conservancy Ltd.
- Tegetmeier W B, (1904) *Pheasants their Natural History and Practical Management*, Horace Cox, 'The Field' London.
- Thomas J F H, (1949), *The Grazing Animal*, Faber and Faber Ltd, London.
- Thomas K, (1983) *Man and the Natural World, changing attitudes in England 1500-1800*, Penguin Books Ltd. London.
- Thompson E P. (1977), *Whigs and Hunters*, Penguin Books Ltd. Middlesex.

- Tosh J, (2002) *The Pursuit of History, Aims, Methods and New Directions in the study of Modern History (Revised 3rd Edition)* Longman, Pearson Education Ltd. Harlow.
- Trow-Smith R, (1959) *A History of British Livestock Husbandry, 1700-1900*, Routledge & K Paul, London.
- Turberville A S, (1939) *Welbeck Abbey and its Owners Vol. 11, 1755-1879*, Faber & Faber Ltd. London.
- Turner M E, Beckett J V, Afton B, *Farm Production in England 1700-1914*, Oxford University Press.
- Watkins C, (1998) *European Woods and Forests*, Cabi Publishing.
- Watkins C, (2014) *Trees, Woods and Forests*, Reaktion Books.
- Wilkinson D, (2003) *The Duke of Portland, Politics and Party in the Age of George 111*, Palgrave Macmillan, London.
- Williamson T, (2013) *An Environmental History of Wildlife in England, 1650-1950*, Bloomsbury Publishing, Plc, London, New York.
- Williamson T, (1995) *Polite Landscapes, Gardens and Society in Eighteenth Century England*, Alan Sutton Publishing Ltd. The John Hopkins University Press, Baltimore, Maryland.
- Williamson T, Bellamy L, (1987) *Property and Landscape, A Social History of Land Ownership and the English Countryside*, George Philip, London.
- Williamson T, (2002) *The Transformation of Rural England, Farming and the Landscape 1700-1870*, University of Exeter Press, Exeter.
- Wolch J, Emel J, (1998) *Animal Geographies, Place, Politics and Identity in the Nature-Culture Borderlands*, Verso, London.

Journals

- Birrell J, Deer and Deer Farming in Medieval England , *Agricultural History Review*, 40, II, pp 112-126.
- Currie C K, The Early History of the Carp and its economic significance in England, *Agricultural History Review*
- Cragoe M, McDonagh B, (2013) *Parliamentary Enclosure, Vermin and the Cultural Life of English Parishes, 1750-1850*, Continuity and Change, pp 27-50
- Daniels S, Seymour S, Watkins C, (1992) Landscaping and Estate Management in Later Georgian England, *The Journal of Garden History: Issues, Approaches, Methods*, pp. 359-371.
- Fowkes D V, (1967) *Nottinghamshire Parks in the Eighteenth and Nineteenth Centuries*, Transactions of the Thoroton Society of Nottinghamshire, Volume LXXI.

Hanson M, *Ducal Estate Management in Georgian Nottinghamshire, the Diary of William Gould 1783-1788*.

Hearn R, Watkins C, Balzaretto R, (2014) The Cultural and Land Use implications of the reappearance of the wild boar in North West Italy: A case study of the Val di Vara, *Journal of Rural Studies* 36 (2014) 52-63.

Moore-Colyer R, Aspects of Horse Breeding and the Supply of Horses in Victorian Britain, *Agricultural History Review*, 43, 1, pp 47-60

Seymour, S (1989) 'The Spirit of Planting': eighteenth-century parkland 'improvement' on the Duke of Newcastle's North Nottinghamshire estates', *East Midland Geographer*, 12(1&2)5-13

Zainal Z, (2007) *Case Study as a Research Method*, Faculty of Management and Human Resource Development, Universiti Teknologi Malaysia, Jurnal Kemanusiaanbil. 9. Jun 2007.

Theses

De Belin A J (2010) *Traditional Hunting Landscapes, Deer Hunting and Foxhunting in Northamptonshire c.1600-c.1850*. (PhD thesis University of East Anglia)

Cowell B, (1998) *Patrician Landscapes, Plebian Cultures, Parks and Society in the English Counties c.1750-c.1850*, (Unpublished thesis, University of Nottingham)

Laws S, (2016) *The Landscape of Rufford c.1700-1743, Reconnecting Archives with people and place*, (PhD thesis University of Nottingham)

Pickersgill A V (1979) *The Agricultural Revolution in Bassetlaw, Nottinghamshire 1750-1873*, (Unpublished thesis, University of Nottingham)

Seymour S (1988) *Eighteenth Century Parkland 'Improvement' on the Dukeries Estates of North Nottinghamshire*, (Unpublished PhD thesis University of Nottingham)

Webster S A, (2011) *Agents and Professionalisation: Improvement on the Egremont estates c.1770 to c.1860* (PhD thesis University of Nottingham).

Conferences

Sheffield Hallam Conference, 15-17 June 2016, *What Capability Brown did for Ecology: The legacy of biodiversity, landscapes and nature conservation*, Research Paper presented by Natural England

.

Websites

<http://www.capabilitybrown.org/garden/moccas>

<http://jncc.defra.gov.uk>

<http://www.gov.uk/government/publications/herefordshires-national-nature-reserves>

<http://www.gov.uk/countryside-stewardship-grants-of-wood-pasture-and-parkland>

<http://designatedsites.naturalengland.org.uk>

<http://www.naturalengland.org.uk>, *Helping to bring a Georgian Park landscape back to life,*

<http://www.gov.uk/government/news/countryside-stewardship-detail-of-new-simplified-offers>

<http://legacy.newarkadvertiser.co.uk/tourism/history/TimWarner97.asp>

<http://www.nottbag.org.uk> *Parkland and Wood Pasture, Nottinghamshire Local Biodiversity Action Plan,*

<http://www.nottinghamshirewildlife.org> *Sherwood's Historic Heathlands,*

http://www.capabilitybrown.org/sites/default/files/sheffield_hallam_conference_paper_2016pdf

<http://www.nottingham.ac.uk/manuscriptsandspecialcollections/collections/allcollections/family>

<http://mss-cat.nottingham.ac.uk/DServe/>

<http://www.harleygallery.co.uk>

<http://www.cambridge.org/vi/academic/history/british-history-after-1450/agrarian-history-england-and-wales-volume-6>

www.sherwoodforestvisitor.files.wordpress.com Hillman Dr J Lambert, Rodgers S, Bower R, *Nottinghamshire Water Meadows in the Landscape.*

<http://01246540243.talk.talk.net> (A Manuscript produced by Rachel Boaler in Australia and Sara Gill in France, as a tribute to their families who produced it, entitled the 'Boaler Book')

<http://www.seedaholic.com>

<http://www.harleygallery.co.uk>

<http://www.wlhg.co.uk> Whitwell local history group.

http://216.27.39.101/Wildlife_Species_Con/documents/WOODDUCK/PDF North Carolina Wood Duck, Natural History and Management.

http://www.the-site.name/fishponds/fish_pages/poisoning.htm

<http://www.gwct.org.uk/game/research/species/grey-partridge>

<http://www.fieldsportsmagazine.com/Shooting-partridge>

<http://www.british-history.ac.uk>

<http://www.wlhg.co.uk> Whitwell local history group.

http://216.27.39.101/Wildlife_Species_Con/documents/WOODDUCK/PDF North Carolina Wood Duck, Natural History and Management.

<http://www.gwct.org.uk/research/species/fish/trout> *Game and Wildlife Conservation Trust*.

<https://babel.hathitrust.org/cgi/pt?=-chi.78146622,view=1up;seq=481> Fourteenth Report on Land Revenue 1792-1793, *Journal of the House of Commons*, v. 48 p. 481.

<http://www.thepeerage.com>

