extending the park westwards.

- 3.29 After the Restoration of Charles II in 1660, Thomas's grandson, the 2nd Earl of Bridgewater, continued the process of enclosure, and expansion and development of his park. In the 1660s he enclosed into his park, land in Aldbury leading west to Thunderdell Wood. His portion of Pitstone Park Copse became the north tip of the park with Ivinghoe Common beyond. This allowed him to lay out the Princes and Ash Ridings and build the Old Park Lodge next to the Princes Riding. By 1701 a double avenue of beech was present, probably flanking the Princes Riding.
- 3.30 West of Ringshall Road the commons were now punctuated by three main enclosures including half Sallow Copse (partly owned by the Ashridge estate and partly by commoners) formerly part of Pitstone Common Wood. In Aldbury were the existing medieval enclosures of Old Copse enclosing Dairy Farm, and Meadleys meadow to the north. Dairy Farmhouse was probably rebuilt in 1690 (date stone). The rest was managed as before by commoners. Although little changed in the study area in the C18, work was carried out to the east in the park in the 1760s, when Lancelot Brown was called in, and Henry Holland Senior built a modest new house by the Abbey buildings. West of the study area, in Stocks Estate in Aldbury in the 1770s, Stocks House was rebuilt on the flatter land by Arnold Duncombe. The new position chosen for the house is on the line of the Princes/Monument Riding. The significance of this, if any, is unclear.

Phase 3: Early Nineteenth Century: major estate improvement and the Ornamental landscape on the commons

- 3.31 In the early C19, c.1806-33, the study area largely achieved its present ornamental character and layout in an extensive campaign. Even so, this was largely cosmetic, and the underlying remains of occupation established by that point were hardly disturbed. The 7th Earl and Countess and the late 8th Earl (via Baron Farnborough his executor) effected these major changes on the commons, retaining the existing enclosures in similar form. This was facilitated in the northern section, in Ivinghoe, the northernmost parish, by parliamentary enclosure (1821), resulting in the creation of the 1.5km long Duncombe Terrace between 1821 and 1828 via major earthworks. On the unenclosed Pitstone and Aldbury commons the landscaping was restricted to works which did not require major intervention that might affect commoners' rights. Even so the 0.5km long Aldbury terrace immediately below Old Copse was created by 1834 at a similar scale to the slightly earlier Duncombe Terrace (1820s), continuing the sweep of extensive views and allowing a view over Aldbury church tower all the way to Aylesbury. A network of formal rides around the spinal Monument Ride was framed with trees (1820s).
- 3.32 These changes were managed under the hands of three people: firstly the 7th Earl, during the period 1803-23, probably in concert with his wife Charlotte. The second person was Charlotte, the Dowager Countess, from 1823 into the early 1830s (although she continued to control the estate until her own death in 1849). The third was in the early 1830s, with the erection 1831-33 of the monument for the 3rd Duke under the stipulation of the late 8th Earl via his will, as executed by Baron Farnborough, while the Countess continued to manage the estate.

The 7th Earl 1803-1821

3.33 In the long enclosed Old Copse, now part of the Ashridge estate, a new private drive (built c.1806?) linked the new public road from Aldbury to Thunderdell Wood, with associated ornamental lodges built by Wyatville (c.1817-20s). Thunderdell Lodge was the more ornate and

dramatic in its style and form. The Tudor style with flint walls which it adopted, contrasted with the brick Old Copse (or Aldbury) Lodge which was in a more restrained Picturesque vernacular and rustic style.

- 3.34 A short section of the Ringshall Road was moved in 1822 from immediately east of Thunderdell Lodge to immediately west, extending the park slightly. The highway movement plan shows the layout of the Lodge and its environs including the present woodyard and NT estate office site to the north.³² It shows the original serpentine line of Old Copse drive, rather than the altered line which since the 1820s has entered at Old Copse/Aldbury Lodge and curves through Five Cross Rides to Thunderdell Lodge and gateway past Old Dairy Field.
- 3.35 Other lodges and cottages were built or remodelled in the study area echoing the rustic style of Old Copse Lodge including Monument Lodge and Clipperdown and Outwood Kiln Cottages. This style was adopted extensively elsewhere on the estate at the same time, such as at Ringshall. Outwood Kiln brickworks was created out of Aldbury common, and finally the great column was built by Wyatville (1831-33) to commemorate the 3rd Duke, a fitting finale to the works.
- 3.36 All this occurred as part of a huge campaign of developments on the wider estate. The house was rebuilt as a vast Gothic pile by James Wyatt and Sir Jeffry Wyatville from 1808-17, the garden was designed to great acclaim by Humphry Repton in 1813 and the park was extended northwards across lyinghoe Common to Ringshall. Farmsteads were rebuilt, old roads stopped up, and new roads made. The 7th Earl's building programme, including the construction of Ashridge house (basically a brick structure with a clunch skin), created a huge demand for building materials, notably bricks. A year's production in 1832 at the Outwood kiln was 237,450 common sized bricks, 9,600 large draining tiles, 175,450 common draining tiles, 1,760 large flat tiles and 590 9-inch square pavements (HALS AH 2482). The C19 kilns were new creations, but kilns were present in the area since at least the C16 including one at the Old Dairy (Davis, 1987) and pits throughout the estate indicate that the industry was widespread.
- 3.37 The 7th Earl was a great road builder, every road on the estate was straightened or rerouted during his time. There was probably a degree of altruism in this desire for general road improvement. This was a period of great rural unemployment following the agricultural boom years of the Napoleonic wars. The road schemes were probably an attempt to find work for as many of the local unemployed as possible. Four extensive new public approaches were laid down: from Pitstone via Ivinghoe Beacon to the north-west (which linked into the Duncombe Terrace), from Dagnall to the north-east, from Berkhamsted to the south and, within the study area, from Aldbury to Old Copse and Thunderdell across the common. Many new lodges and ornamental estate buildings were erected.
- 3.38 In the first early C19 phase a curving woodland private drive crossing Old Copse to the park at Thunderdell Wood (See 1806 OSD Figure 3.2) was realigned. Its origin is unclear, but with the realignment of the Aldbury road beyond Grimes Dell the Aldbury entrance was moved 90m east from the south-west corner of Old Copse to form a new entrance, which was later marked by Wyatville's Old Copse or Aldbury Lodge. From here the former serpentine line to the north-east corner of Old Copse was modified into a curve leading to the centre of the wood. The earlier line is

³² HALS Highway Diversion 70-72. A plan and two copies, 1822.

shown on an estate map of 1821 and a road movement map of 1822 (HALS), but the OSD shows the realignment was co-eval with the new line of the road from Aldbury.

3.39 This linked with a new road from Aldbury, taking a gentler route up the scarp than the old road and creating a switchback around Grymes Dell. Thunderdell Lodge at the east end of Old Copse Drive was designed by Wyatville c.1817 but perhaps not built until the early 1820s (it is shown in situ by 1822, HALS Highway Diversion 70-72). Monument Drive was in part lined with trees (c. 1821 Estate Map) Figure 3.3. Two short sections of the Ringshall Road were realigned alongside the park, one of which pulled Thunderdell Lodge and gateway into the park.³³ The brickworks was set up in the early 1820s. The Earl worked closely with his bailiff William Buckingham who may have contributed to the design of some of these features.

The Countess, 1823-1834

3.40 During the second phase, after the death of the 7th Earl in 1823, his wife managed the estate in the absence of the 8th Earl. She continued to implement the developments on the commons that were recorded fully formed on the 1828 estate map (HALS 56484, Figure 3.4), finalizing the designed landscape extension of the main park that hinged on the spinal Monument Ride. The 1821 Ivinghoe Enclosure liberated land so that the sweeping Duncombe Terrace was created in a major effort of earth moving by 1828, and Clipper Down Cottage built at the furthest, north-west end. The south section was within the already enclosed Isley's Wood, with at its south end a gateway to the northernmost of the three rides of the goosefoot on Pitstone Common. Duncombe Terrace made the greatest landscape impact of these changes, and provided a dramatic and panoramic view of the lower lying Chiltern land in contrast to the enclosed views of the park. By 1828 Old Copse and Thunderdell Lodges were built, along with Outwood Kiln and Clipperdown Cottages.

3.41 The final landscaped feature seems to have been the Aldbury Terrace, a southern pendant to Duncombe Terrace constructed by 1828 (Ashridge Estate Map), together with the adjacent circuit path in Old Copse. By 1834 (Stocks Estate Map), a new path above the terrace ride was created above on the slope on the west edge of Old Copse (Stocks Estate Map, HALS D_EBn_P27, Figure 3.5). This formed part of a loop of paths around the north, west and south boundaries of the wood. The terrace was designed as a carriage route or ride of similar scale to Duncombe to the north, but without the level grassy terrace above which apparently had a walk above the ride at Duncombe. Instead the uphill slope butted hard up to the woodland fence and bank, and followed a straight rather than a curved course. It would have enjoyed a different range of views west over the grazed scarp of the common to Aldbury and past the church tower to Tring Park (2.5 miles away) and the Tring gap through which Aylesbury and its church spire were just visible some 10 miles away (now dominated by the 1960s County Council tower block). This view remains evident above the village where a section of the woodland has been cleared. The north end was reached from the Princes Riding and the deer leap via the southern arm of the goose foot of rides. It is possible that a loop was intended that led from the south end of the terrace back to the mansion through Old Copse, along the drive, past Thunderdell Lodge and through the park.

³³ 1822 Road diversion CBS Q_H_62 B, a very short stretch of Ringshall road north in Pitstone parish from the Aldbury parish boundary. 1822, HALS Highway Diversion 70-72 for the diversion at Thunderdell Lodge.

- 3.42 Beyond the study area 75ha. of newly enclosed lyinghoe Common east of the Ringshall Road became the north tip of the park, allowing Ringshall Lodge and drive to be built.
- 3.43 The designer of these 1820s features is unclear. The most complex was Duncombe Terrace, a rare and extensive but late example of its type, with its pendent terrace below the west side of Old Copse overlooking Aldbury and Tring to Aylesbury. The bailiff Buckingham was dropped after the 7th Earl died. The design may have been whoever laid out Cromer Wood with terrace walks on the east side of the park, following the contours above the Golden Valley. Cromer and the scarp terraces form a pair of extensive and informal detached pleasure grounds of around the same period. The formal goose foot of rides was atypical of the period.

Baron Farnborough executes the wishes of the 8th Earl, 1830-34

3.44 The third phase of development was very limited in its area of influence and resulted from the direction of the 8th Earl in his will to erect a monument to the 3rd 'Canal' Duke. The Earl died in 1829 and his executor and nephew-in-law, the art connoisseur and arbiter of taste to King George IV (d.1830), Baron Farnborough, interpreted his wishes by erecting a giant column terminating the axis of the Prince's Riding above the scarp on Aldbury common. Surviving correspondence in HALS indicates that Farnborough was responsible for the selection of the form, position of the monument and architect - although Wyatville was closely connected with Ashridge and had designed all the main estate building work since 1814. Farnborough as a trustee and executor was given a largely free hand, and although he had to consult his fellow trustees, they made little or no influential comment it seems.

3.45 Farnborough sited the monument and noted of his choice of position: 'I thought of the Princes Avenue at Ashridge for one of the Monuments' (there were to be two as directed by the 8th Earl's will, including an obelisk, but this was vetoed by Farnborough and the Countess as in poor taste). He also chose the architect and sculptor for the top. '... the two best men we can employ are Sir Jeffry Wyatville & Westmacott ... 34, The contracts were signed in August/September 1831 and the column was completed by September 1832 although the inscriptions, by Farnborough, were not put up until 1833, after approval by Wyatville. Westmacott sculpted the urn, copper to resemble bronze.35

3.46 The column is exactly contemporary with the Duke of York's column in Waterloo Place, Lower Regent Street, forming the focal point of the new Carlton House Terraces. Farnborough was also on the committee for this, a subscription monument which cost some £21,000. Both were built by the same builder, Nowell, in granite. Although both are based on Wren's Monument to the Great Fire in the City of London, there are differences in the design, and a bronze statue of the Duke by Westmacott tops the London column rather than an urn. In its form the Ashridge example is typical of fluted columns erected in many landscape parks in the C18, as both a belvedere and eyecatcher overlooking the estate and land beyond for many miles around. Nearby a small building was erected by 1834, presumably the present Monument Cottage. Further discussion of the historic context of the monument is given in Appendix 6.

³⁴ HALS AH2638.

³⁵ See separate study of the Monument, Appendix 6, for further detail and sources.

1833-1921

- 3.47 Little was changed physically by the family in the study area after the column was built. After the death of the Countess in 1849, another industrious chatelaine, Lady Marian Alford, made great improvements elsewhere on the estate, 1853-1860s, principally extending the gardens and rebuilding Little Gaddesden, on behalf of her son the 2nd Earl Brownlow. The study area was not part of her major works.
- 3.48 Pitstone parish was finally enclosed in 1856. The 61 acre heath was awarded to the Earl subject to a 'private way' 15' wide running from the Ringshall Road north-west alongside Sallow Copse, giving access to one of the tenants' parcels of woodland, and an 'ancient footway.'36 The surviving commons of Aldbury parish escaped enclosure altogether.
- 3.49 The tenants' rights in Sallow Copse established in 1612 had been gradually acquired by the Bridgewaters piecemeal since the first parcel in 1687, with a flurry of acquisitions in the 1800s and two in 1849. The surviving three tenants' plots were shown on a plan of 1848, two of which were bought out in 1849; the Bridgewater plots lay between.³⁷ The last tenant hung on until 1863. Thomas Maunder of Aldbury sold his 12 acres of woodland and 2.5 acres of adjacent meadow to the Earl for £3,150.38
- 3.50 The 3rd Earl and his wife did little to the study area although the modest timber shooting lodge appeared between 1878 and 1898 OS (Figures 3.6 and 3.7) and the barn was built by Monument Cottage (although the building that exists today is a replica). His death childless in 1921 precipitated the sale of the estate and its break up into multiple ownership.

Phase 4: 1921-40s, The National Trust and Wartime Requisition

- 3.51 Following successful and widespread appeals for funds, the National Trust acquired a large area of the estate in many parcels during the 1920s including much of the study area, but not the house and garden which opened as a college in 1929. Figure 3.8 shows the 1920 landscape. Part of the park was built on in the 1930s and part given over to an adjacent park golf course founded in 1929 and opened in 1932. The sequence as it relates to the study area is given in the Chronology.
- 3.52 The acquisition of large parts of the Ashridge Estate by the National Trust is of exceptional importance both in the history of the organisation and of the 'open space' movement in general. One of the most influential private agencies which worked for the preservation of the Estate was the MacDonald Trust. By a series of purchases held for a period, and, when funds permitted, released by conveyance to the NT, the Trustees gradually reconsolidated much of the present estate.
- 3.53 The NT formed an Estate Committee to manage the extensive and diverse area of land. The minutes from 1931 reveal a programme of some clearance and replanting where necessary, control of pests including deer and rabbits, upgrading of accommodation, and sale of the timber

³⁶ CBS IR/76 Pitstone Enclosure Award and Map

³⁷ CBS Ashridge MSS E95/2, plan in Hanley Fig 3, 197.

³⁸ The list of tenants bought out is given in Hanley, 199. This was a very large sum for the size and type of

for revenue. However, although the rights of Aldbury commoners were confirmed, including to fallen wood, fern, furze and chalk, grazing had ceased. This has never been reinstated and led to unchecked growth of self-sown trees on formerly largely open heath land/wood pasture. The track along Monument Drive was maintained by the NT with parking alongside it. A tea garden was fenced below the Monument by Monument Cottage by 1934 (album, Plate 12).

3.54 In World War II parts of the Estate were used for war purposes: for example, outside the study area an extensive hospital was built in the park opposite the north front of the house. Within the study area Monument Ride camp was built between May 1943 and January 1944. A concrete road was built from Ringshall Road to the camp, along the south edge of the ride. Various units used the camp it seems.³⁹ The camp was partly dismantled by November 1946 and fully cleared in 1950, leaving the Parade Ground and surrounding footings of buildings, along with the new road. The brickworks apparently ceased operation.

National Trust since 1950

3.55 In 1952, 9 ha. of Old Dairy Fields were given to the NT by the Macdonald Trust and in 1970 Tim's Spring Wood, nearly 3 ha., was given by Joan Cole. This left only 5ha. of Old Dairy land outside the ownership of the NT within the study area. The Old Dairy Fields are subject to restrictive covenants. All three commons were registered as common land under the Commons Act 1965, even though Pitstone and Ivinghoe had been enclosed in the C19. It seems that the commoners' rights on Aldbury Common are not exercised but there is a legally valid right which if exercised should not be impeded. Areas of the formerly enclosed Pitstone and Ivinghoe commons were also registered as Commons.

3.56 In the 1980s the National Trust built a visitor centre near the Monument and in 1985 the former barns were converted to a Base Camp and is now accommodation known as Chilterns Bunkhouse, that can be rented online. To the north and east of these barns the open land has been excavated and landfilled.

3.57 In 1993 the visitor centre was extended.

Context of Landscape Terraces

3.58 The 1820s Duncombe and Aldbury Terraces at Ashridge form a pair of substantial ornamental rides or drives that were typical of the English Landscape movement that had flourished in the C18 and early C19. Their purpose was to provide an ornamental remote pleasure ground that showed off the extensive views from the edge of the estate.

3.59 Many examples of the large-scale ornamental landscape terrace were built before these were begun. This was a late flowering at an heroic scale designed to take in the estate and view great sweeps of the borrowed landscape⁴⁰ to impress the viewer. The concept had been heralded

⁴⁰ The philosophy of 'borrowed landscape' is to incorporate scenic views of the surrounding land into the design of the owner's estate or garden.

³⁹ Oxford Archaeology, 'Second World War Army Camp Ashridge Estate' (2015). Also see the Estate Minute books held by the NT.

a century earlier by the Duncombe Park terrace near Helmsley in Yorkshire c.1710s-20s.

3.60 The Terraces at Ashridge followed the precedent of other major landed estates in creating spectacular detached pleasure grounds in far flung parts of great estates without visual connection with the mansion.

Summary of Principal Phases of Layout On Commons

3.61 The following summarises the analysis in the Historical Development above into four main phases of development of the study area:

Medieval

- Commons set up; enclosure of localised areas: Old Copse Wood (date unclear); Meadleys meadow (by 1315);
- 2 Jacobean, early C17, Lord Ellesmere freeholder
 - Private enclosure of large area of common woodland: Sallow Copse aka Pitstone Common Wood (1612) with areas beyond in the park. [in C18 Round Wood adjacent to west enclosed across Pitstone/Ivinghoe boundary including Hanging Isleys Wood];
- **Regency**, 1803-23, 7th Earl
 - Roads, drives and rides added for 7th Earl/Countess including public road Aldbury-Ashridge (1813), Old Copse Drive built/rerouted (by 1820s), linking to contemporary Thunderdell Lodge & Drive (Wyatville). Minor road diversion to Ringshall Road moving it west of Thunderdell Lodge putting it in the park; and two diversions north of Princes Riding straightening the road & park boundary against Sallow Copse;
- 3h Regency/George IV, 1823-34, Charlotte, dowager Countess continuing 7th Earl's vision
 - Development of key areas: a) goose foot & other rides flanking Monument Ride & ornamental planting of rides with specimen trees and clumps; b) after Enclosure of Ivinghoe, creation of Duncombe Terrace and Clipper Down Cottage; c) Aldbury Terrace on Aldbury Common. ?Old Copse Lodge (Wyatville);
- Зс 'Regency'/ William IV, Baron Farnborough, 1831-33 carrying out wishes of late 8th Earl
 - Aggrandizement of Monument Ride with Wyatville Monument (1831-32) commissioned and positioned by Farnborough. Final piece in landscape design;

World War II Military

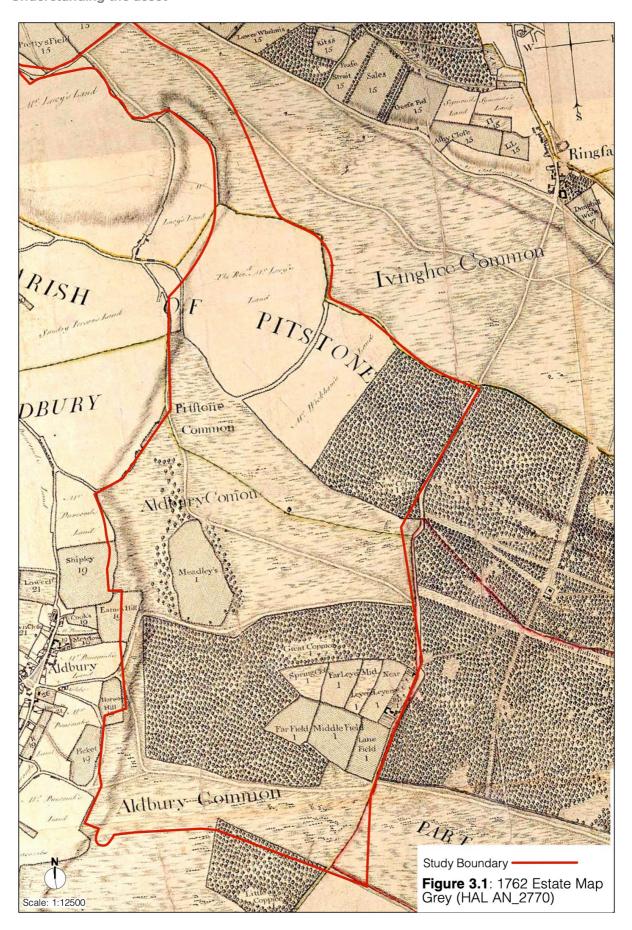
New concrete road, parade ground and encircling camp. Not ornamental.

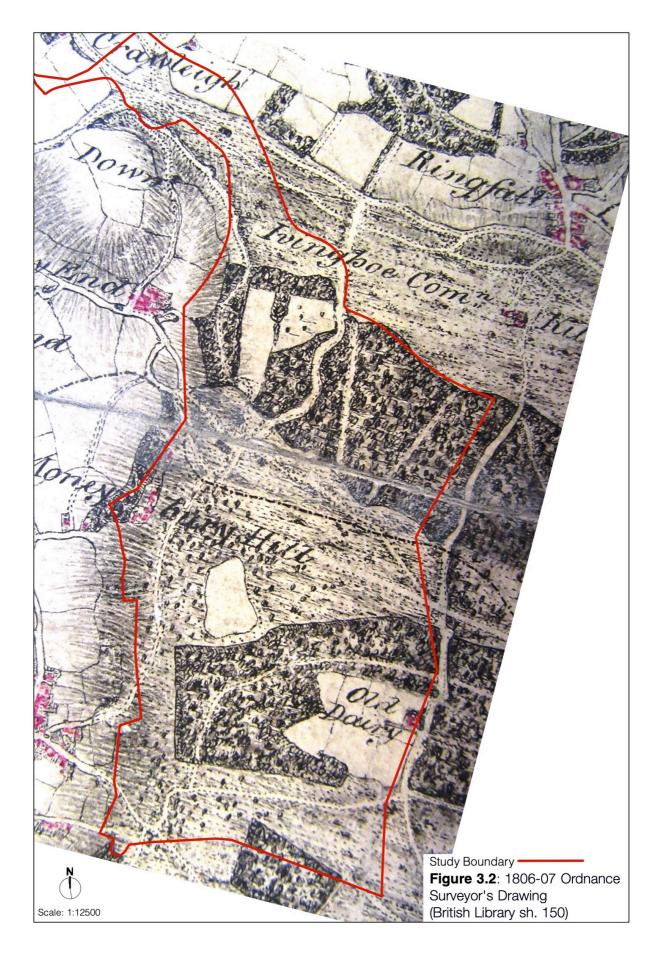
Designed Character Areas of Commons Study Area

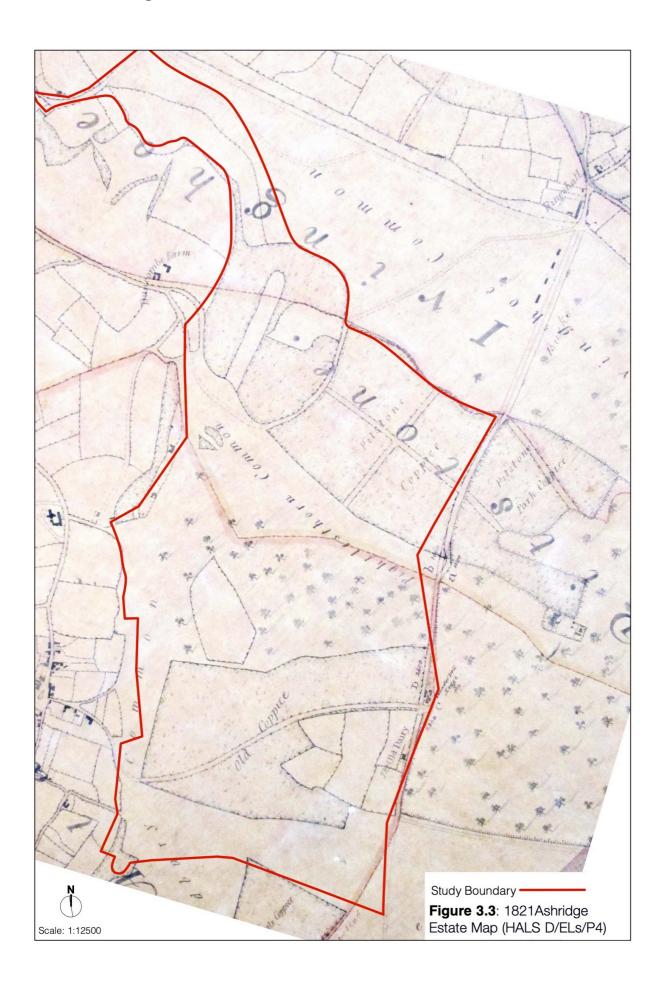
- 3.62 The designed landscape falls into three key character areas which overlie the previously developed cultural landscape of the Commons and Common and privately owned woodland. These are as follows:
- 3.63 Network of rides on the plateau: Monument Ride (by 1762, probably late C17) and Monument (1831-2, 960m west of deer leap): central axis of a network of rides (1820s) principally a goose foot aligned on the deer leap and the Princes Riding; side arms of goose foot link to inner ends of the Duncombe and Aldbury Terraces. Subsidiary rides intersecting with these and linked to Duncombe Terrace, and Rail Copse through Old Copse. Planted 1820s;
- 3.64 Two pleasure ground terraces on the scarp: Duncombe Terrace (1.5km long) with gates at

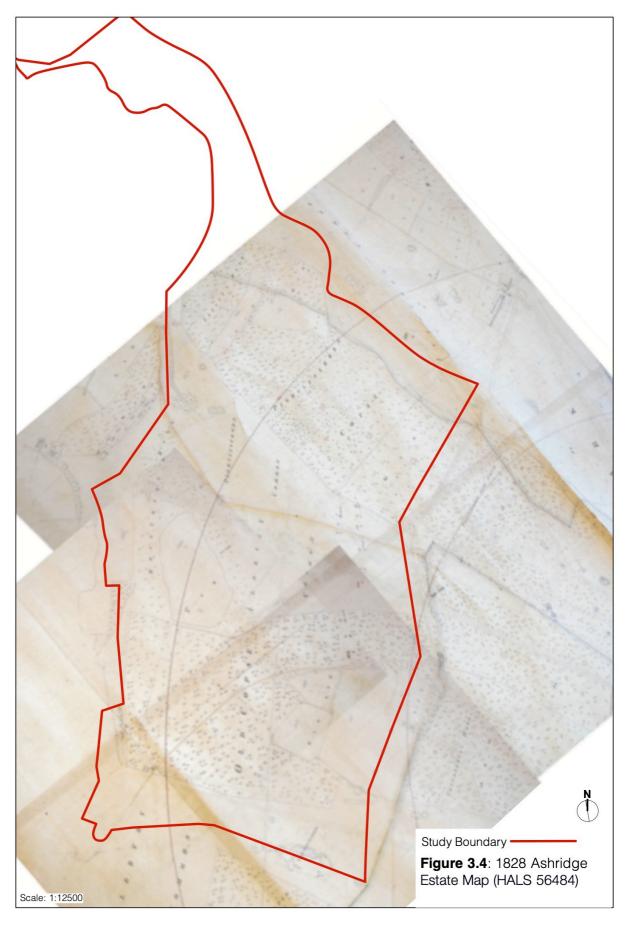
either end and lodge (Clipperdown Cottage) at north end (c.1820s); a walk down the contours of Hanging Isley gives access to gateway to Duncombe Farm. Aldbury Terrace (c.1828-34) forms the southern pendent (500m long) immediately below Old Copse;

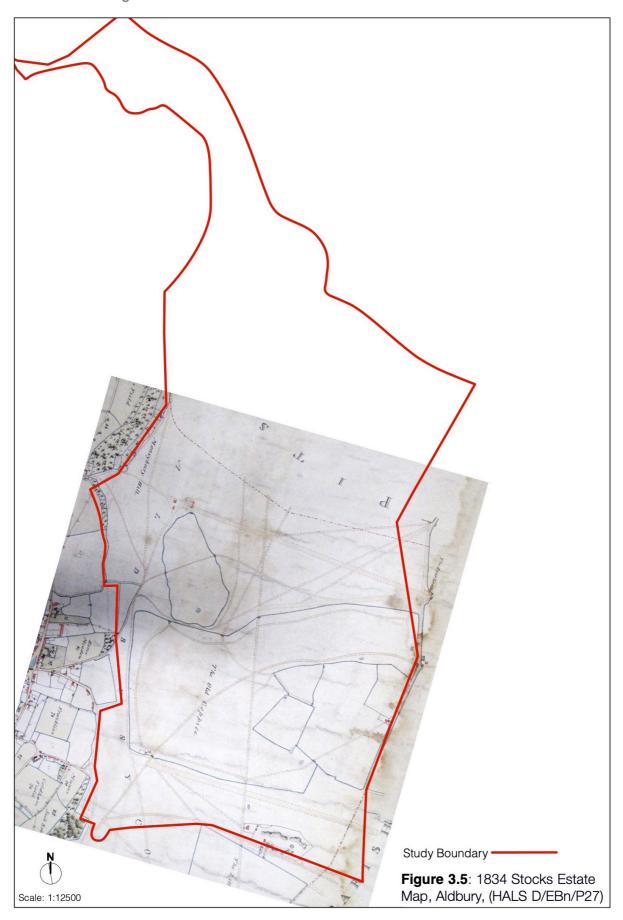
3.65 Outer end of Aldbury drive to mansion: Old Copse Drive (a.k.a. Rhododendron Drive, 1.1km) and Lodge (Drive 1813/lodge c.1813-20, 2.7km from mansion), forms the outer section of the later Thunderdell Drive giving private access from top of Aldbury scarp to mansion.

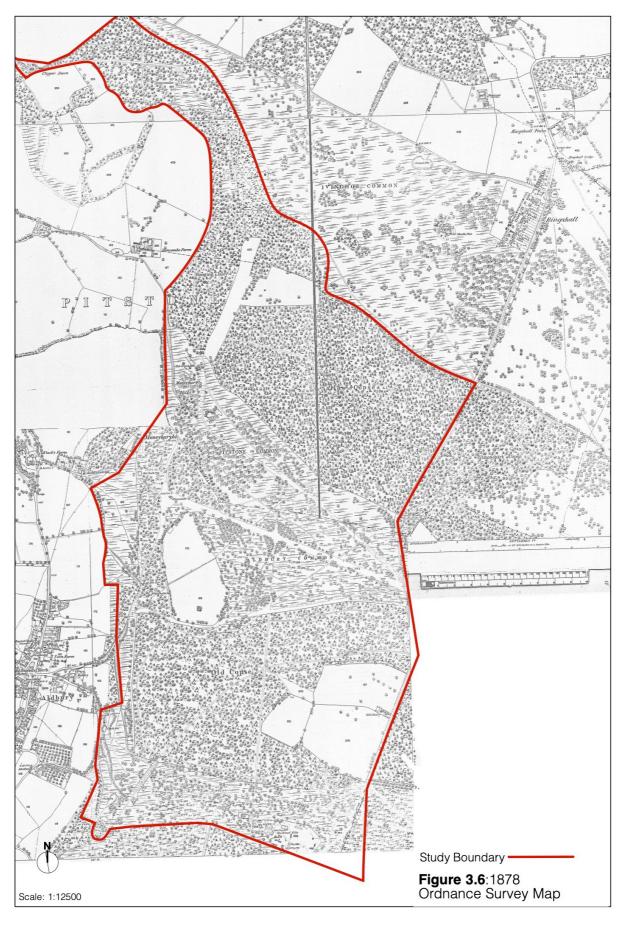


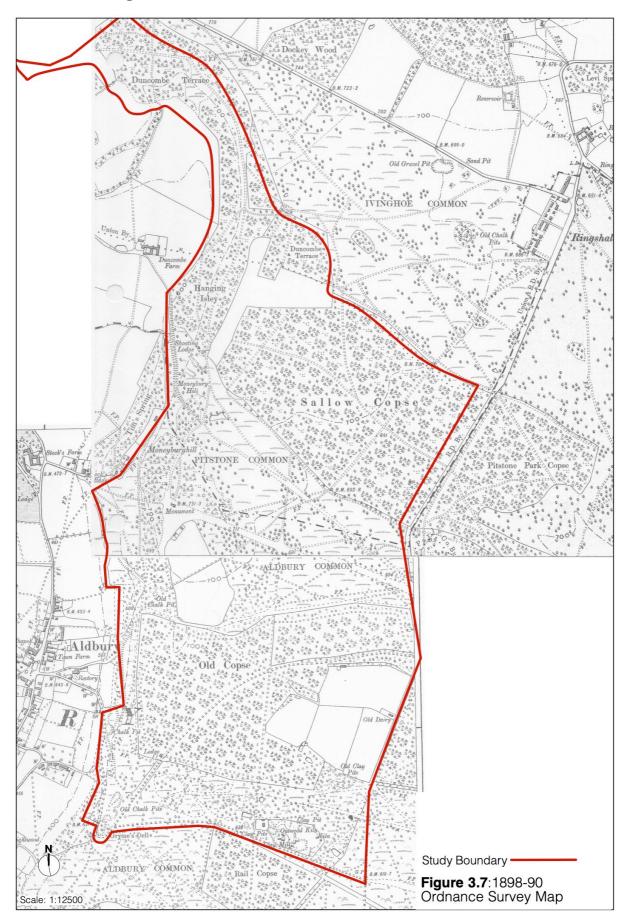


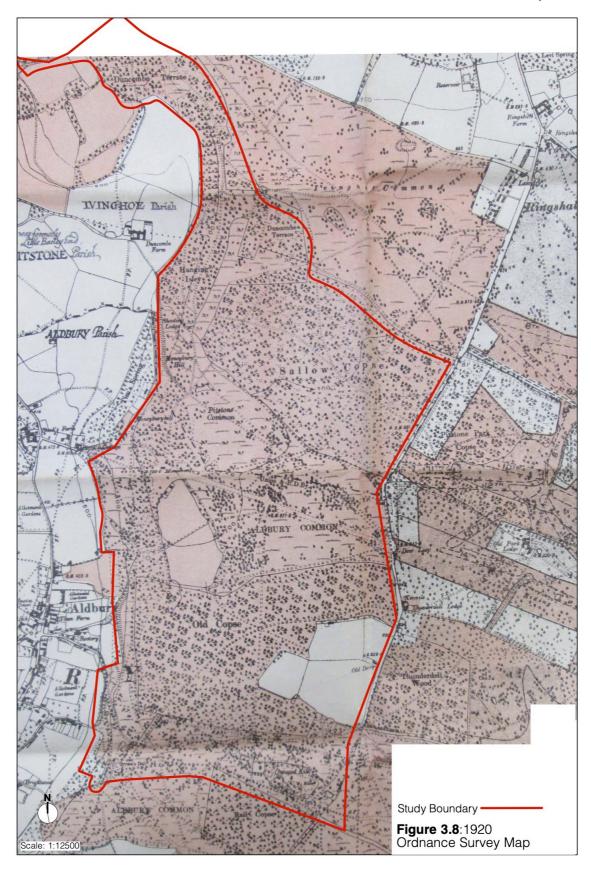














Ecology of the site

Introduction

This section is intended to provide an overview of the ecological aspects of the study area. It combines a summary of information gathered from our site visits, January 2019, and considerable biological information for the Estate collated by the Trust over 20 plus years.

Sources

- The following sources of information have been used to compile this overview of the ecology of the study area. Extracts from external reports are presented in Appendix 10, where they provide some useful additional detail to this summary report:
 - Information regarding the Chiltern Beechwoods Special Area of Conservation including the Standard Data Form (for basic metrics including information on the abundance of each of the Qualifying Features within the SAC), the Site Improvement Plan (for information about the threats and pressures currently affecting the SAC and the measures proposed to tackle them) and the original site citation, for a general description of the SAC;
 - Information about the Ashridge Commons and Woods Site of Special Scientific Interest, including the original citation (for a general description of the site and reasons for its

designation), the SSSI Unit descriptions and the Views About Management;

- a detailed biological evaluation of the Ashridge Estate, including parts of the study area, carried out on behalf of the national Trust by a team of experts in 1997, based on surveys in 1996 and incorporating data from a 1984 survey. Whilst the report notes that it is not comprehensive, it is nevertheless a compendium of valuable information, in particular regarding habitats and vegetation types. The report also compiles records of notable plants, including lower plants, with notes on their habitat preferences and distribution;
- a Nature Conservation Evaluation of Monument Drive carried out in 2015 by the National Trust Consultancy. This is primarily a report of the habitats within the study area and is notable for making distinctions between habitats that would and would not qualify as Annex I Habitats (i.e. distinguishing between those areas that qualify as habitats of the SAC and those that do not in the area around Monument Drive);
- records of mist netting and harp trapping for bats, carried out at four locations within the estate on two dates in August 2017. The harp trapping surveys included the use of a lure, and during both trapping events the rare barbastelle bat was captured;
- a Preliminary Ecological Appraisal report carried out by Bernwood ECS in October 2017. This covered the area around Monument Drive, Meadleys Meadow, woodland south of Monument Drive and the route of a Public Right of Way between Monument Drive and Toms Hill Road. This included a habitat survey and an assessment of the survey area's suitability for various protected and notable species;
- Records of invertebrates from Buckinghamshire and Milton Keynes Environmental Records Centre (BMERC) and Hertfordshire Environmental Records Centre (HERC) requested by National Trust in July 2017, for a bespoke search area including the study area and other parts of the estate:
- eDNA survey results from ten ponds within the estate to confirm the presence or absence of great crested newts carried out in April 2018;
- a breeding bird study of the Monument Drive area from five surveys between mid-April and late June 2018. These included four early morning visits and one evening visit and were specifically targeted at the times when woodland birds (including those for which the estate has been known to be important) are most vocal and easily detected;
- an invertebrate study of the Monument Drive area from surveys carried out in summer 2018. The main focus of this survey was wood-decay associated species (saproxylic species) along with foliage feeding species on trees and in the ground flora. This survey also included Meadleys Meadow:
- Data provided to the project team in October 2018 by BMERC and HERC. The search area was set at a radius of 2km for notable species and designated sites and extended to 4km for bats:
- a Phase 1 Habitat Map of the study area (and also covering adjacent parts of the estate) provided by the National Trust in February 2019. This provides broad-level classifications of the habitats within the study area to Phase 1 level i.e. the majority of the study area is classified as broadleaved woodland, as Phase 1 Habitat categories do not distinguish between vegetation types within this broad habitat type. This provides a useful and accurate

- map, available in GIS format, into which can be added further information on vegetation types;
- Field surveys of the study area carried out for the purposes of this study in January and February 2019. These surveys consisted of ground-truthing some of the pre-existing habitat maps and providing extra detail on woodland stand types and grassland vegetation types. Where practicable vegetation types were identified to NVC level on the basis of the surveyor's experience (informed by the preceding work on the estate by other authors as referred to above). This was of course limited in its application by the fact it was carried out in winter, and would not enable the compilation of comprehensive plant species-lists, or the identification of notable plants, most of which are spring-flowering woodland and grassland species. It was however possible to produce a refined and in some places more detailed vegetation map of the study area. Information regarding visitor impacts on habitats was also collected during the survey.

Overview

- 4.3 The study area is almost entirely encompassed by the Chiltern Beechwoods SAC and the Ashridge Commons and Woods SSSI boundary. Three areas of the study area are outside of these designations: Meadleys Meadow, The Old Dairy Fields in the east, and the Bunkhouse field in the south.
- 4.4 The majority of the study area is dominated by woodland of varying types, primarily forms of beech woodland but also coniferous plantation, sweet chestnut woodland and dense secondary woodland. It is noted in Hearn et al.41 that most of the timber from the woods was sold off in the 1920s and the subsequent replanting resulted in a very different woodland structure:
 - "although most of [the woodland] has a very unnatural structure due to even-aged plantation, thinning and removal of the under-storey, it could be restored with appropriate management in future"
- The study area is also notable, along with the wider estate, for the biodiversity that the woodland and associated habitats support. Of particular note are:
 - breeding birds including national and regional rarities;
 - bats, including the very rare barbastelle bat;
 - invertebrates, especially those associated with dead wood;
 - ancient and veteran trees.
- The following sections provide a historical overview of the evolution of the vegetation of the study area, detailed descriptions of its habitats and vegetation, a characterisation of its importance for key groups of wildlife, an assessment of the status of the study area in the context of the SAC and SSSI, and a description of the significance of the study area in a geographical context.

⁴¹ K A Hearn, A P Foster & J A Lister (1997) Biological Evaluation: Ashridge Estate Hertfordshire and Buckinghamshire. National Trust Estates Department

Vegetation History

- The 'natural' vegetation of the study area in the post-glacial period prior to the substantial influence of humans on the landscape is likely to have been open oak-birch or oak-beech wood pasture with a great deal of localised variation, in which large browsers and grazers (such as aurochs) were the primary influence on the amount and distribution of tree growth. The potentially large numbers of browsers, grazers and trampling animals would likely have created a dynamic vegetation landscape, in which the amount and distribution of tree growth would have varied over time. This theory is in contrast to previous ideas of an extensive 'wildwood' that covered most of Britain in a stable system with little variation.
- There would have been some open areas on the scarp slope that would have supported calcareous grassland, in mosaic with species-rich scrub and woodland, and heath and grassland in open areas on the plateau.
- The presence of bronze-age barrows, and Roman-era enclosures are evidence that much of the land was more open than it is now, as is the residual presence (until recently) of some plants such as heather (Calluna vulgaris) and adder's-tongue fern (Ophioglossum vulgatum). Moneybury Barrow on the scarp slope for example indicates that there were likely commanding views from this point (and hence the scarp slope was unlikely to have been extensively wooded at this time). The slopes would likely have had extensive areas of botanically rich downland, little of which now remains in the study area or along the wider slope. Again, traces of this more open grassland habitat on the scarp slope are indicated by the historic records of various downland plants including a range of orchids.
- 4.10 The establishment of the parishes and commons throughout medieval times helped to secure a long period of consistent management, that established areas of heath, grassland and woodland throughout the study area, each of which was managed for specific products and purposes. There is evidence that parts of the woodland were managed for coppice and pollards, and was hence a dynamic system with regular disturbance and opening up of the canopy.
- 4.11 As is typical of the Chilterns, the Ashridge commons were heavily exploited as grazing land, for wood fuel and timber, and for materials such as chalk, flints and clay, as well as the local brick making industry. These management practices, established in the medieval period, were perpetuated until the C19 when traditional wood pasture and woodland management ceased when enclosure occurred (Pitstone and Ivinghoe) or commoners gradually ceased exercising their rights (Aldbury, late C19/early C20). Probably the biggest change was the cessation of grazing, which led to the replacement of open habitats with secondary growth woodland.
- 4.12 It is not clear when grazing and other commoning activities ceased although it is assumed to be around the turn of the C20 and they were certainly in decline before then. On Aldbury Common, Edmunds (unpublished) suggests that grazing ceased in 1926 when the Ashridge sales occurred. lvinghoe was enclosed in 1821, largely remaining as wood pasture with few trees, in its undisturbed state retaining many archaeological features including Romano-British field systems and farmsteads. Pitstone was enclosed in 1854-56. The common land was awarded to Earl Brownlow, including heathland and most of the tenanted area of Sallow Copse. Grazing perhaps ceased at this time.
- 4.13 The planting and management still reflect this historic distinction to a significant degree, although with considerable blurring of the important distinctions between parishes. Berkhamsted

Common is important as it lies beyond but adjacent to the study area and Aldbury parish and the historic and current management of the two commons reflect considerable similarities although Aldbury is more wooded.

- 4.14 This parallel development of the parish commons for similar purposes, but with subtle differences in habitat management, has affected the wildlife populations and their distribution that developed historically distinct between parishes. The loss of the traditional management has led to the deterioration of some habitats and the establishment or enhancement of others.
- 4.15 Despite similar histories, each common retains its individual character with distinct differences in vegetation that remain evident today.

Aldbury Common

- 4.16 The character of Aldbury Common is particularly distinctive. Whilst there are areas of secondary silver birch woodland on areas described as open on the 1897 maps, the character is of a much more diverse woodland with a higher density of open grown trees, both ancient, mature (+/- 200 years), and scrub species. There has obviously been secondary woodland infill between these open-grown specimens, but in a less uniform manner than elsewhere. The variation in dominant canopy trees between oak, beech and birch suggests similarities with both the W10 and W12 NVC woodland types. The 'true' nature of the woodland vegetation type is somewhat obscured by the changes in management and the recent (i.e. in the last hundred years) prevalence of birch and oak. Also much of the west and south corner of the common suffered dramatically in the 1987 storm and subsequent regrowth is predominantly self-set ash and birch, particularly on the scarp slope of Toms Hill Road.
- 4.17 The higher density of trees relative to the other commons is shown on both the six inch and 25 inch map series from around 1897 as well as a more intimate intermingling of tree cover, furze and rough pasture. The common today retains some of the finest ancient oaks and oak pollards on the estate, often found in patches. Fine open grown ancient beeches are also interspersed. In 1968 there were 140 applications to register rights on Aldbury Common, in contrast to the other Ashridge commons where no commoner's rights were retained because they were extinguished with C19 enclosure. All of this lends the common a character not dissimilar (in places at least) to lvinghoe Common, and the relationship to former wood-pasture is still evident today.

Ivinghoe Common (beyond but adjacent to the study area)

- 4.18 Pehr Kalm (1748) described the furze only four inches high on lyinghoe Common being cut by boys with scythes and bound into bundles for fuel. A particular feature of lvinghoe Common is the wide scattering of ancient beeches with an open-grown form clearly seen on OS mapping from the 1870s. The surrounding habitat was largely open and symbolised as grassland rather than furze indicating wood pasture.
- 4.19 Today these upper plateau woodlands are some of the best and most representative areas of SAC habitat within the study area, notable in particular for their open grown trees.

Pitstone Common

4.20 Pitstone, being smaller than any of the other commons in its remnant state shares characteristics of the other commons with larger open areas and an area of clumped trees. Perhaps more noteworthy is Pitstone Common Wood, now incorporated into Sallow Copse, where

wood cutting rights were allotted to commoners on a system of areas demarcated by wood banks, the remains of which are still visible today, an unusual commoning system. The character of Pitstone Common was distinct from the others but it still formed a classic Chiltern 'strip' parish.

4.21 The vegetation of Pitstone Common today is very similar in character to the adjacent Aldbury Common, with large amounts of birch re-growth, which in some places is the dominant canopy tree, with mixtures of oak and beech.

Berkhamsted Common (beyond but adjacent to the study area)

4.22 Berkhamsted Common is contiguous with Aldbury Common and again shows a differing character to the other commons in the study area. It shows the typical composition of an evenaged secondary silver birch woodland mixed with oak that has grown up on former open land derived from wood pasture. Stands of older open grown oaks and a few beech are relatively rare. The aerial photographic record shows the progressive loss of open wood pasture to self-set woodland during the C20. In 1736 Karl Linnaeus visited Berkhamsted Common and fell to his knees to praise God for the beautiful sight of yellow flowering gorse that stretched across the landscape, now largely gone. The remnant heather that was present in 1980s biosurvey survey has now disappeared. Late C19 OS maps show a mixed furze/ grassland indicative of wood pasture. There are records of several notable species from Berkhamsted Common not found within the study area, including great crested newts, as well as a record of a barbastelle bat.

Present Day Vegetation and Plant Species

- 4.23 Today the study area contains a variety of habitats and vegetation types, each of with its own contribution to the biological value of the site - see Figure 4.1. The following list describes eleven different vegetation types through the study area (representative photographs of these vegetation types are provided below, and a map of the study area is also provided):
 - A. Woodland dominated by beech in the canopy, and very large amounts of silver birch in the canopy and shrub-layer, with dense bracken and bramble under-scrub. This is the most widespread vegetation type and is broadly referable to the NVC type W14 Fagus sylvatica - Rubus fruticosus woodland. Oak may be present here, sometimes in abundance as secondary growth. At this point, such as in the woodlands of Aldbury Common, the distinction between W14 woodland and W10 Quercus robur - Pteridium aquilinum - Rubus fruticosus woodland is somewhat obscured by past management, The abundant regeneration of young beech saplings suggests affinity with W12 although much is in poor condition and may not reach maturity;
 - B. Woodland dominated by sweet chestnut (Castanea sativa) replacing beech in the canopy, with silver birch abundant and occasional oak (Quercus robur), and an underscrub similar to the beech-dominated woodland. This is perhaps more closely referable to the NVC type W10 Quercus robur - Pteridium aguilinum - Rubus fruticosus woodland. This woodland covers two large areas, one to the north of the Monument Drive in Sallow Copse, and one in the south-western part of the study area in Old Copse. There is also an area in which this woodland type has been coppiced with standards left and re-growth protected by brash. The large area of this vegetation type in Old Copse also contains the most extensive areas of bluebells in the study area;

4 Ecology of the site



Representative Vegetation Types Photographs A - F



Representative Vegetation Types Photographs G - L