

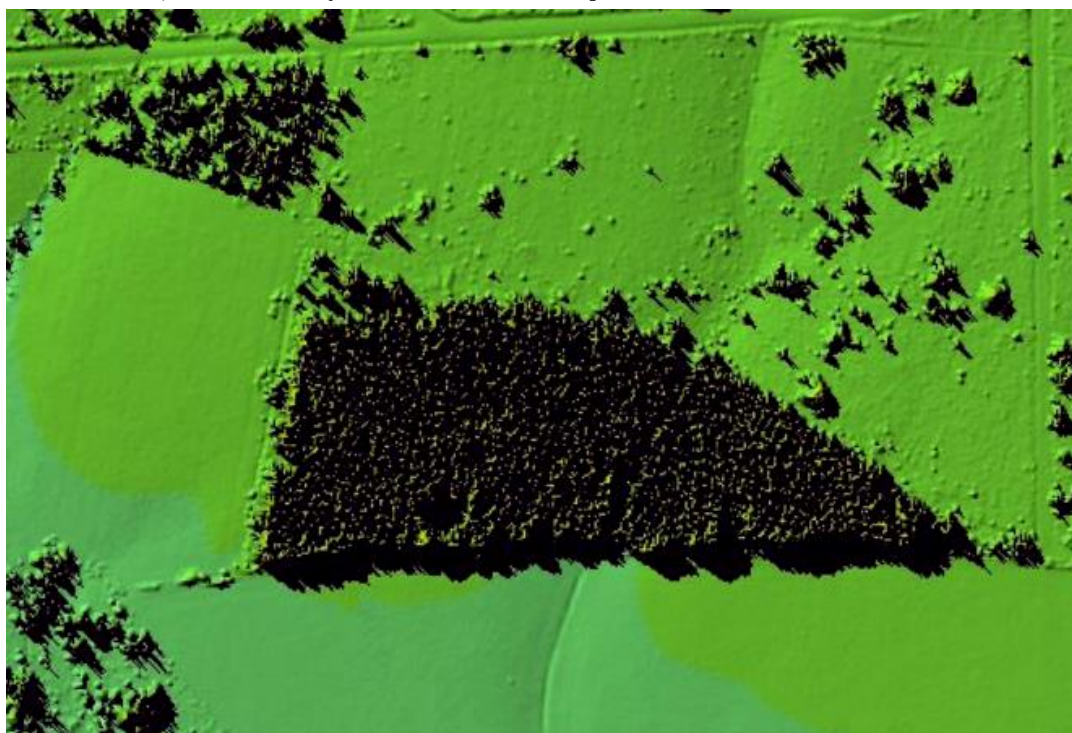
condition as a woodland because at present it seems to be little more than a stand of single-age oaks (almost all planted at the same time) over a species-poor grassland. There is no diversity in the canopy and the shrub layer is both very sparse and species-poor. The ground flora - a fertile, species-poor grassland - is not an ancient woodland community.

- 5.23 The ongoing, intensive use of Round Wood by cattle means that unfavourable condition of Round Wood will continue into the foreseeable future.

Corsican Pine Plantation (The Triangle)

- 5.24 This former pasture woodland is now a dense Pine plantation dominated by non-native trees.

Fig 5.4: The Corsican Pine Plantation (Triangle) over LIDAR 1m/2m DSM (source: EA/OGL 3.0. Date unknown). Predominantly a dense Corsican Pine plantation.



- 5.25 Norton (2019) describes the vegetation of the plot as:

“The Corsican Pine Plantation is a maturing pine plantation which was thinned in approximately five years before the 2018 survey, resulting in a stand of tall, moderately dense pine trees with a field layer dominated by bracken and bramble. It is listed as a Plantation on Ancient Wood Site on the AWI. There is a narrow fringe of semi-natural trees and shrubs along the southern and northern edges (with oak, hawthorn, holly and hazel) and a line of willow bushes and some mature Oaks along a ditch and bank marking the western boundary. This bank also extends at least part way along the northern boundary. A small stream cuts through the eastern part of the area, which originates to the north and continues to the south through the open grassland (S3), The Avenue, joining with the other main watercourses.

*The pine wood supports a thin understorey of holly, with some oak, birch, beech, hazel, rowan and yew. The field layer also supports hairy wood-rush, pale sedge *Carex pallescens* (a single plant recorded in 2009), honeysuckle, ivy and a variety of ferns, including scaly male-fern and narrow buckler-fern. The stream supports locally frequent lady-fern on the banks and some common water-starwort *Callitriche stagnalis*. Other species in damp areas include marsh thistle, soft rush, floating sweet-grass and bog moss *Sphagnum* species.*

The area is moderately rich in Ancient Woodland Vascular Plant species, although many of these are scattered or rare, or occur only in a small triangle of semi-natural woodland at the south-east corner (see below). A total of 16 AWVPs were recorded ...Pale sedge could not be re-found in 2018, but the dense field layer prevented a detailed search, so it may still be present.

*Bare and grassy areas in the centre of the wood support occasional wall lettuce *Mycelis muralis*, a species normally associated with woodland on base rich soils.*

The south-east corner of the area consists of a small extension of semi-natural woodland with a moderately rich flora

Table 5.5: Features of The Corsican Pine Plantation (The Triangle)

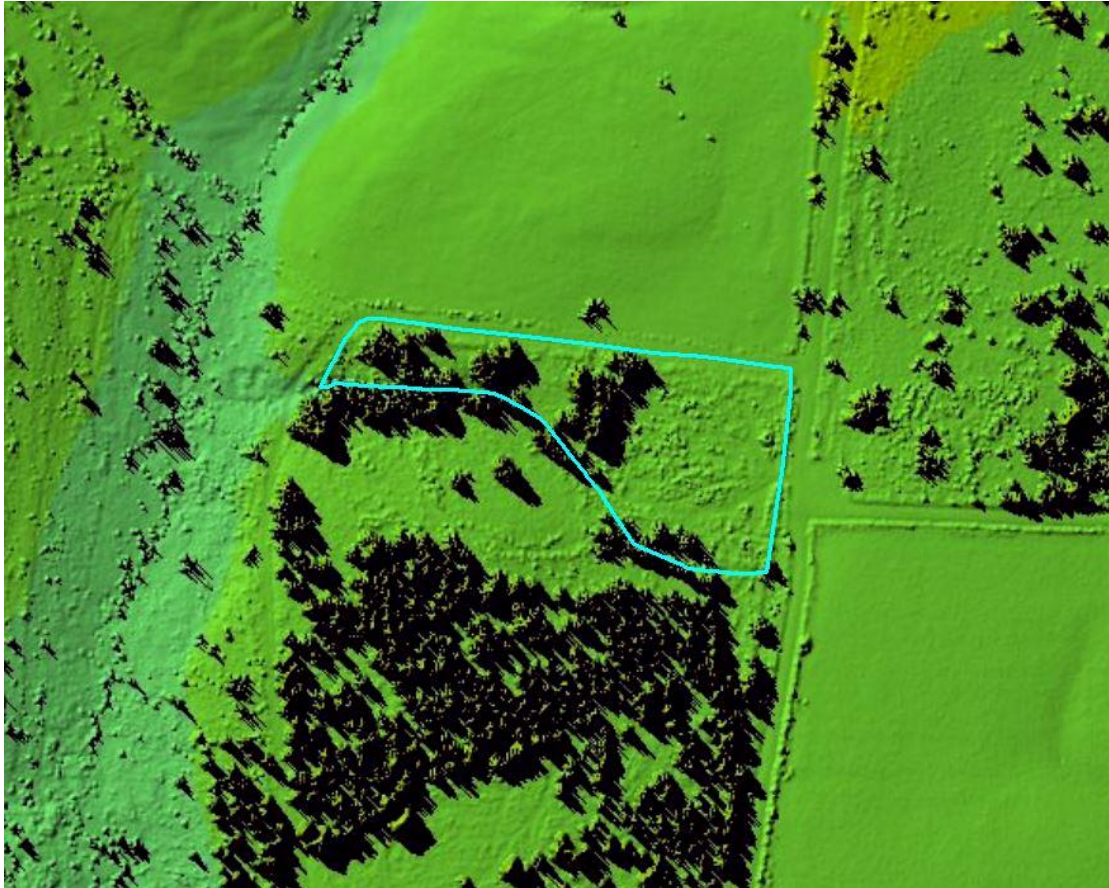
Feature	Comment
Landscape History	Originally part of an unenclosed pasture woodland ecosystem though converted to an Oak plantation after enclosure. This Oak plantation was later harvested (by 1960 –see Appendix 2) leaving unwooded (but not cultivated) ground. Later prepared (by unknown means) and planted with Corsican Pine by c. 1980. Not grazed.
Presence of semi-natural woodland communities	There is a Corsican Pine Plantation over almost all of the plot and there is no Peterken Stand Type present. Norton recorded the NVC type W10 here but this is based on the ground flora and there is no intact old W10 woodland here. A small area of semi-natural woodland occurs in the south eastern corner of the plot (Norton, 2019).
Ground vegetation and ancient woodland vascular plants	The ground vegetation is largely Bracken-Bramble scrub and has 16 AWVP species present.
Extent of Disturbance to soil	Soil will have been disturbed when the pasture woodland was cleared and the oak plantation established. It will have been disturbed again for establishing the Pine plantation. .
Lichens and Veteran Trees	There are no veteran trees in this plot and there is no lichen interest.

- 5.26 This former pasture woodland is now a dense Pine plantation dominated by non-native trees. Being under a pine plantation, the natural woodland of this site barely exists and there is little to no tree/shrub layers to assess its condition.
- 5.27 The ungrazed, unmanaged understory of dense, species-poor Bracken-Bramble community is the modern descendant – though much modified - of the former ancient pasture woodland. It is a dense, species-poor community that dominates the ground layer to the exclusion of other ground vegetation types as well as floristic diversity. This ground vegetation is in unfavourable condition and will not change for the foreseeable future.
- 5.28 Without management, and a plan to restore this plot to broad-leaved woodland (based on species characteristic of this piece of landscape and of native provenance), there will be no semi-natural woodland here and the unfavourable condition of the ground vegetation and flora will be maintained for the foreseeable future.

Bell's Copse Fragment

- 5.29 Bell's Copse fragment is mostly scrub and grassland with a few scattered pines. Its composition is 1.5 ha of a mosaic of Bracken (NVC: U20a), Gorse-Bramble Scrub (NVC: W25b) and Molinia Grassland (NVC: M25b).

Fig 5.5: Bell Copse fragment over LIDAR 1m/2m DSM.



- 5.30 Norton (2019) describes the vegetation of the area (H1) as:

“H1 largely consists of bracken and sprawling honeysuckle with some patches of rushy grassland and frequent scrub composed of gorse, downy birch, alder-buckthorn, aspen, grey willow, hazel and guelder-rose. The bracken area is herb poor, but has frequent wood spurge. The grassland areas are species rich, with bugle, wood-rush species, creeping soft-grass, purple moor-grass, tormentil and devil’s-bit scabious (e.g. patch at SU 7080 1040).”

- 5.31 There is no lichen interest in this area and there are no veteran trees. There appears to be no survivors from the former Bell's Copse coppice stools/standards.

Table 5.6: Features of the Bell's Copse fragment

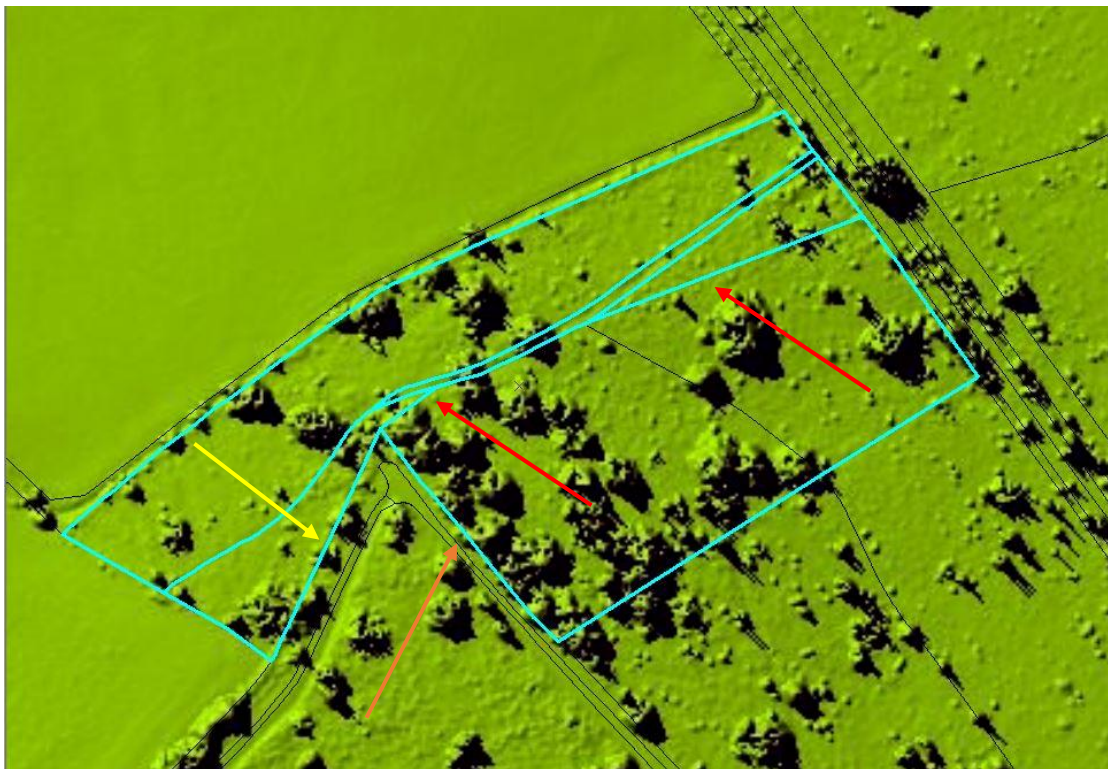
Feature	Comment
Landscape History	The 'fragment' is part of a formerly much larger, anciently enclosed coppice woodland (Bell's Copse). The area of the fragment was grubbed out in the 1970s followed by partial re-stocking with conifers. Now unmanaged and in a scrub/grassland phase but succeeding towards woodland.
Presence of semi-natural woodland communities	There are no recognisable semi-natural NVC woodland or Peterken Stand Types. The scrub and associated woody species indicate that this area is succeeding to a semi-natural woodland and that given that it is natural regeneration, the woodland is of local provenance. Woodland development is currently being checked by localised (and unauthorised) burning in the fragment.
Ground vegetation and ancient woodland vascular plants	The ground vegetation (Bracken, <i>Molinia</i> grassland and heathy scrub) are semi-natural communities. Though Bell's Copse is rich in AWVP species (Sanderson, 1994), there is no list specific to the fragment.
Extent of Disturbance to soil	The soils would have been damaged to an unknown extent during the clearance of Bell's Copse in the 1970s and subsequent planting (e.g. machinery across the area compacting soils, bulldozing out of tree/coppice stumps, potential herbicide use etc.). The flora and vegetation now present indicates that seeds and mycorrhizal elements of the soil survived.
Lichens and veteran trees	There is no lichen interest in this area and there are no veteran trees. There appears to be no ancient coppice stools surviving.

- 5.32 The original ancient woodland (whatever composition it had) in the Bell's Copse fragment was cleared in the 1970s. What is present today are relicts of a subsequent pine plantation surrounded by a mosaic of young trees, bracken, heathy scrub and rank Purple Moor-grass *Molinia* grasslands. Given that there is no ancient tree and shrub community present to assess, the condition assessment here focuses on the regenerating vegetation and ground flora.
- 5.33 The site is going through natural succession and will develop into woodland, this process being checked by burning. At present, however, there is no (or little) management of the ground vegetation and there is occasional unauthorised burning in the plot. This leads to a cycle of rank vegetation followed by scorched or bare ground. The burning is checking the development of the tree and shrub layer as well as altering the ground flora and vegetation though it does prevent, to some extent, the development of dense stands of trees that would shade out ground layer.
- 5.34 The plot is in unfavourable condition for its ground/scrub vegetation and that without management in conjunction with controlling burning will remain in this condition.

The Blendworth Fragment

- 5.35 The Blendworth fragment is a small area of land on the southern side of the historic parish of Blendworth. The area lies at the junction of three historic parishes: Blendworth, Idsworth and Havant. Fig 5.6 below shows the extent of the fragment and the parish boundaries. The large rectangle forming the southeastern polygon is in the historic parish of Idsworth and the rectangular plot to its north is in Blendworth. The red arrows points to the line of the Blendworth-Idsworth parish boundary; the yellow arrow points to the Blendworth-Havant Parish boundary and the orange arrow points to the Idsworth-Havant parish boundary. The Blendworth-Havant and the Idsworth Havant boundaries are marked by a substantial bank and ditch structure that must have been built in c. 1815 when Blendworth and Idsworth were enclosed. This bank has yews and oaks on it.

Fig 5.6: Blendworth fragment over LIDAR 1m/2m DSM. . Most of the larger trees in Idsworth and Blendwoerth are Yews.



- 5.36 Norton describes the woodland in the Blendworth fragment as:

“Woodland area at the northern tip of Havant Thicket woodland. There is a boundary bank and ditch on the west and north-west side and an old track inside the boundary here, which has largely grown over.

The woodland is dominated by oak or birch with occasional ash and an understorey of holly, birch species, yew, ash saplings and occasional hazel. Mature pedunculate Oaks and Turkey Oaks occur along the boundary bank, with grey willow, birch, yew and sweet chestnut. It is predominantly secondary in nature, with a species poor field layer, but there are patches of bluebell which have probably spread in from the older boundary bank. Small patches of bluebell are present at the northern section of the woodland and southwards from here, with a larger area (c.50 x 20 metres). Wood Spurge occurs on the boundary bank and a patch of wood speedwell was recorded.

The track is damp in places, with pendulous sedge, germander speedwell and herb-Robert recorded near the entrance.”

Table 5.7: Features of the Blendworth fragment

Feature	Comment
Landscape History	Formerly a small undefined area that used to be part of the Blendworth Common, possibly the edge of an ancient pasture woodland complex but more likely an open, rough grazing area. This area was enclosed in c. 1814. A substantial parish bank and ditch was dug on its southern edge against Havant parish and this bank now has a couple of mature Oak stubs (the largest being 233cm girth). A large bank has been built that now forms the northern edge of the plot, this also has mature Oak on it. The tithe map records the vegetation of this area as 'Rough' indicating that no woodland was then present, though scattered trees may have been. The area was planted up as a mixed plantation between 1840 and 1870 and has remained wooded since then. Some of the original plantation survives but substantial areas are now recent, young growth (for example <i>Betula</i> Birch stands).
Presence of semi-natural woodland communities	The woodland has semi-natural woodland vegetation referable to NVC woodland types W10a and W10c (Norton, 2019) though these are not ancient. The ground flora is species-poor and not indicative of an ancient woodland vegetation.
Ground vegetation and ancient woodland vascular plants	The total number of AWVP species are not known though four species are listed in the Norton description.
Extent of Disturbance to soil	The last time this area was disturbed to any significant extent would have been when the roughs were converted to woodland in the mid-19th century. It appears that there has been little disturbance since then.

- 5.37 There are no veteran trees in this area and there is no lichen interest. Note however that there is a yew population partially in Blendworth but mostly in Idsworth parish that lies southeast of Blendworth. Some of these yews are on the Idsworth –Havant parish boundary bank and these trees cannot be older than c. 1814. There are old oak stubs on the Blendworth –Havant boundary bank though given that they have been coppiced, these are not veteran trees.
- 5.38 The Blendworth fragment woodland is unmanaged and the structure of the woodland is a high forest. The ground layer is locally dominated by Bracken-Bramble scrub. As woodland, this is, in the absence of any appropriate management, in favourable to unfavourable condition and in the absence of specific management, will remain so for the foreseeable future.

6 Summary

Ancient Woodland Status

Woodland plots in the historic parish of Havant

The Avenue

- 6.1 Part of an ancient pasture woodland complex until c. 1870. Some elements of pasture woodland ecosystem still present including pre-enclosure oaks, old –growth lichen species and a diverse flora with 37 ancient woodland vascular plants still present. **The Avenue is a species-rich, ancient pasture woodland relic with some features of interest inherited from previous pasture woodland ecosystem still present.**

Middle Clearing

- 6.2 The area of Middle Clearing was, until c. 1870, part of an ancient pasture woodland complex on common land. The original woodland was cleared and the Middle Clearing area is shown as unwooded on the 1895 25 inches to the mile OS map. The 1907 OS 25 inch map shows it as a mixed woodland that must have been planted soon after 1895. This mixed woodland was thinned/cleared (or possibly failed) by 1946 (see Appendix 2 for aerial photo) and then planted up as an oak plantation by 1954 – it is this plantation that forms the woodland present today.
- 6.3 Middle Clearing is now a very simplified ecosystem of even aged oaks (planted and almost certainly not of local provenance) over a fertile, species-poor grassland. Nothing remains of the ancient pasture woodland in the tree/shrub layers or the ground vegetation. 16 ancient woodland vascular plant species have been recorded here – many rare and/or with a restricted distribution (on a bank or alongside watercourses) within the Clearing. Their presence here could be as survivors from the pre-enclosure days or have colonised in since 1870 from the various land management activities and plantings. **The woodland present today is certainly not ancient pasture woodland, and little survives to justify an ancient woodland status.**

Round Wood

- 6.4 Round Wood (a modern name) was, historically, part of an ancient pasture woodland complex until c. 1870, when it was enclosed and subsequently cleared and re-planted. This planting cleared probably in the 1930's. What was to become Round Wood was in 1946 (see Appendix 2) part of a large area of young growth Oak (presumably planted) with some scattered older trees present. This larger area was cut back and cleared by 1954 leaving the area that is now Round Wood.
- 6.5 Round Wood is now a very simplified ecosystem of mostly even-aged oaks (planted and almost certainly not of local provenance) though a few larger, older oaks are present. The trees are over a fertile, species-poor grassland. Nothing remains of the ancient pasture woodland in the tree/shrub layers or the ground vegetation. 7 ancient woodland vascular plant species have been recorded here – many rare and/or with a restricted distribution within the plot. The presence of these species here could be as survivors from the pre-enclosure days or have colonised in since 1870 from the various land management activities and plantings. **The woodland present today is certainly not ancient pasture woodland. So little survives of the biological heritage of this plot, it is difficult to describe it as ancient woodland.**

Corsican Pine Plantation

- 6.6 Part of an ancient pasture woodland complex until c. 1870. Cleared soon after 1870 and replanted with oak. This planting was cleared between 1946 (shown as woodland) and 1960 (plot shown as scrub). The 1981 shows that this plot had been planted up with Corsican Pine by then. This plot has probably not been grazed since the area was enclosed (from c.1870).
- 6.7 This plot is a Plantation on an Ancient Pasture Woodland Site (PAWS). 16 ancient woodland vascular plants recorded from here. There is very little surviving from the ancient pasture woodland but the natural regeneration under the Pine is scrub vegetation and flora characteristic of the soils of this area. **The stand can be considered a Plantation on an Ancient Woodland Site (PAWS).**

Woodland plots in the historic parish of Blendworth

The Blendworth fragment

- 6.8 The history of this plot is unclear but based on the resources used for this report, the balance of probability is that the Blendworth fragment is not ancient woodland: the historic maps and tithe maps information indicate it was probably open habitat on Blendworth Common that was planted up after tithe mapping of c.1840 (when recorded as 'rough') and before the 1870 1st edition of the 6 inches to the mile OS map (when it is shown as mixed woodland). Surveys by Norton (2019) record vegetation not really characteristic of ancient woodland.
- 6.9 **The Blendworth fragment is probably not ancient woodland.**

Woodland plots in the historic parish of Bedhampton

Bell's Copse fragment

- 6.10 Whilst there is no woodland present the vegetation here is a mosaic of Bracken, heathy scrub, Purple Moor-grass grassland with natural regeneration taking place. **The Bell's Copse fragment is part of the ancient Bell's Copse and is still ancient woodland albeit in very poor condition and with no old features recorded.**

Woodland lichen flora and its conservation significance

- 6.11 The only significant lichen value present in the six plots is in The Avenue. The following lichen summary of interest is from the 2019 lichen report:

“The Avenue scores nine using the Southern Oceanic Woodland Index (SOWI) for all data from 1994 and 2019, with a score of eight using the 2019 data only. These scores are well below the threshold for SSSI quality in the area, which is an SOWI score of 20. No threatened or Section 41 species were recorded. The Avenue includes at least nine veteran trees with lichen interest, which are most likely to originate as pre-enclosure trees”

- 6.12 The Avenue and its lichen flora is one of only four known sites that have survived from the ancient Forest of Bere and its attached commons and park.

Veteran trees

- 6.13 Veteran trees were recorded only from the Avenue – no veteran trees were seen/recorded in the other five plots. The veteran trees were recorded from the Avenue, mostly in the northern part. Some had lichens of conservation interest, whilst others were too shaded to support significant lichens.

Condition of the woodland plots

- 6.14 The condition of the woodlands in each of the six plots is assessed in comparison is with their historic ancient woodland type

The Avenue

- 6.15 The relict pasture woodland and post-enclosure plantations and regeneration that forms The Avenue woodland is in poor condition through, for example, shading, poor structure and limited management. In the absence of any management, it is certain that the condition will remain unfavourable.

Middle Clearing

- 6.16 There is no ancient woodland (e.g. the tree/shrub layers and ground vegetation) to assess in Middle Clearing. The woodland – a plantation - is in unfavourable condition and with ongoing grazing will remain so for the foreseeable future.

Round Wood

- 6.17 There is no ancient woodland (e.g. the tree/shrub layers and ground vegetation) to assess in Round Wood. The woodland – a plantation - is in unfavourable condition and with ongoing grazing will remain so for the foreseeable future.

Corsican Pine Plantation

- 6.18 The Corsican Pine Plantation is in very poor condition for its native woodland. There is almost no native woodland present under the Pine though there is substantial natural scrub and regeneration happening. Until the Pine plantation is removed and planning/management developed for the restoration of a natural broad-leaved woodland (of local provenance) the condition will remain unfavourable.

The Blendworth fragment

- 6.19 This woodland is not managed and is a mixture of high forest, relict sweet chestnut, young woodland and scrub. The woodland is not managed though is not densely shaded. The condition is favourable to unfavourable and this will be maintained for the foreseeable future unless appropriate management is introduced.

Bell's Cope fragment

- 6.20 The Bell's Cope fragment is in poor condition. It is composed of scrub and grassland communities with natural regeneration occurring though checked periodically by (unauthorised) fires. In the absence of any management plan to protect and manage the natural regeneration here, it is likely that the condition will remain unfavourable for the foreseeable future.

7 References

- Barnes, G and Williamson, T. 2015. *Rethinking Ancient Woodland: The Archaeology and History of Woods in Norfolk*. University of Hertford
- Colebourn, PH. 1983. Hampshire's Countryside Heritage. Vol 2 *Ancient Woodland*. Hampshire County Council.
- Colebourn, PH. 1989. Discovering ancient woodlands. *British Wildlife*. **1** No. 2. Pages 61-75.
- ECOSA, 2012. Havant Thicket Winter Storage Reservoir. Ecology Report. Chapter B - Vegetation (Final Document, August 2012). Report to Portsmouth Water Ltd.
- Hampshire County Council Ecology Team (HCC)/Shorter, C and Wilson, C. 1995. Hampshire Inventory of Ancient Woodlands (Provisional). English Nature.
- Harding, P. T. & Rose, F. (1986) *Pasture-woodlands in Lowland Britain*. Institute of Terrestrial Ecology, Natural Environment Research Council.
- Harding, P. T. & Alexander, K. N. A. (1993) The saproxylic invertebrates of historic parklands: progress and problems. In: *Dead Wood Matters: the Ecology and Conservation of Saproxylic invertebrates in Britain* (ed. K. J. Kirby & C. M. Drake) 58 - 73. Peterborough: English Nature.
- JNCC. 2004. *Common Standards Monitoring Guidance for Woodland Habitats*. Version February 2004. JNCC, Peterborough.
- Kain, RJP, Chapman, J and Oliver, R. 2004. *The enclosure maps of England and Wales 1595 -1918. A Cartographical Analysis and Electronic Catalogue*. Cambridge University Press.
- Lonsdale, D. (ed.) (2013). *Ancient and other veteran trees: further guidance on management*. The Tree Council, London 212pp.
- MacNair, AD and Williamson, T. 2010. *William Faden and Norfolk's Eighteenth Century Landscape: A Digital Re-assessment of His Historic Map*. Windgather Press.
- Mynors, C. 2011. *Law of Trees, Forests and Hedges*. Sweet & Maxwell; 2nd Revised edition (14 Dec. 2011)
- National Planning Policy Framework (NPPF). 19 June 2019 Update. UK Gov.
- Natural England. 2018. Guidance from UK Government: Ancient woodland, ancient trees and veteran trees: protecting them from development at gov.uk.
- Norton, J./ECOSA. 2019. Havant Thicket Winter Storage Reservoir, Rowlands Castle, Hampshire. Ecological Impact Assessment Report. Chapter C Vegetation Assessment. Revision 3. [Part of ECOSA Studies of Havant Thicket Winter Storage Reservoir Site for Portsmouth Water Ltd]
- Norton, P. and Milner, H. 2012. *Idsworth Common. A survey of the yews*. Private publication?
- Norgate J and M. 2006. Old Hampshire Mapped. Hosted at <http://www.geog.port.ac.uk/webmap/hantsmap/hantsmap/hantsmap.htm>. Accessed November 2019.
- Peterken, G. 1993. *Woodland Conservation and Management*. 2nd Edition. Chapman and Hall.
- Peterken, G. 2000. Identifying ancient woodland using vascular plant indicators. *British Wildlife* **11** No. 3 pages 153-158.
- Pile, J. 2012. *Belmont Park, Bedhampton. The Estate, the House and its people*. Havant Borough History Booklet No. 8. The Spring Arts and Heritage Centre.

- Rackham, O. 1990. *Trees & Woodland in the British Landscape*. Revised Edition. JM Dent & Sons Ltd., London.
- Rackham, O. 2003. *Ancient Woodland: Its History, Vegetation and Uses in England*. 2nd edition. Castlepoint Press.
- Rackham, O. 2006. *Woodlands*. Collins, London.
- Rodwell, J. ed. 1991. British Plant Communities. Woodlands and scrub. Volume 1. Cambridge University Press, Cambridge.
- Rose, F. 1999. Indicators of ancient woodland. The use of vascular plants in evaluating ancient woods for nature conservation. *British Wildlife* **Vol 10**. No. 4. p241-
- Sanderson, N.A. 1994. Havant Thicket. Proposed Reservoir Site – Nature Conservation Value. For Hampshire Wildlife Trust.
- Sanderson, N.A., Wilkins, T.C., Bosanquet, S.D.S. & Genney, D.R. 2018. Guidelines for the Selection of Biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 13 Lichens and associated microfungi. JNCC, Peterborough.
- Sansum, P. & Bannister, N.R. 2018. *A Handbook for updating the Ancient Woodland Inventory for England*. Natural England. Commissioned Reports **NECR248**
- Viney, T. 2012. Havant Thicket Winter Storage Reservoir Site: Site History Information. [Portsmouth Water Ltd Report]

Appendix 1

Lichen Survey of Proposed Havant Thicket Reservoir Site, 2019

(Report authored by NA Sanderson, 2019)

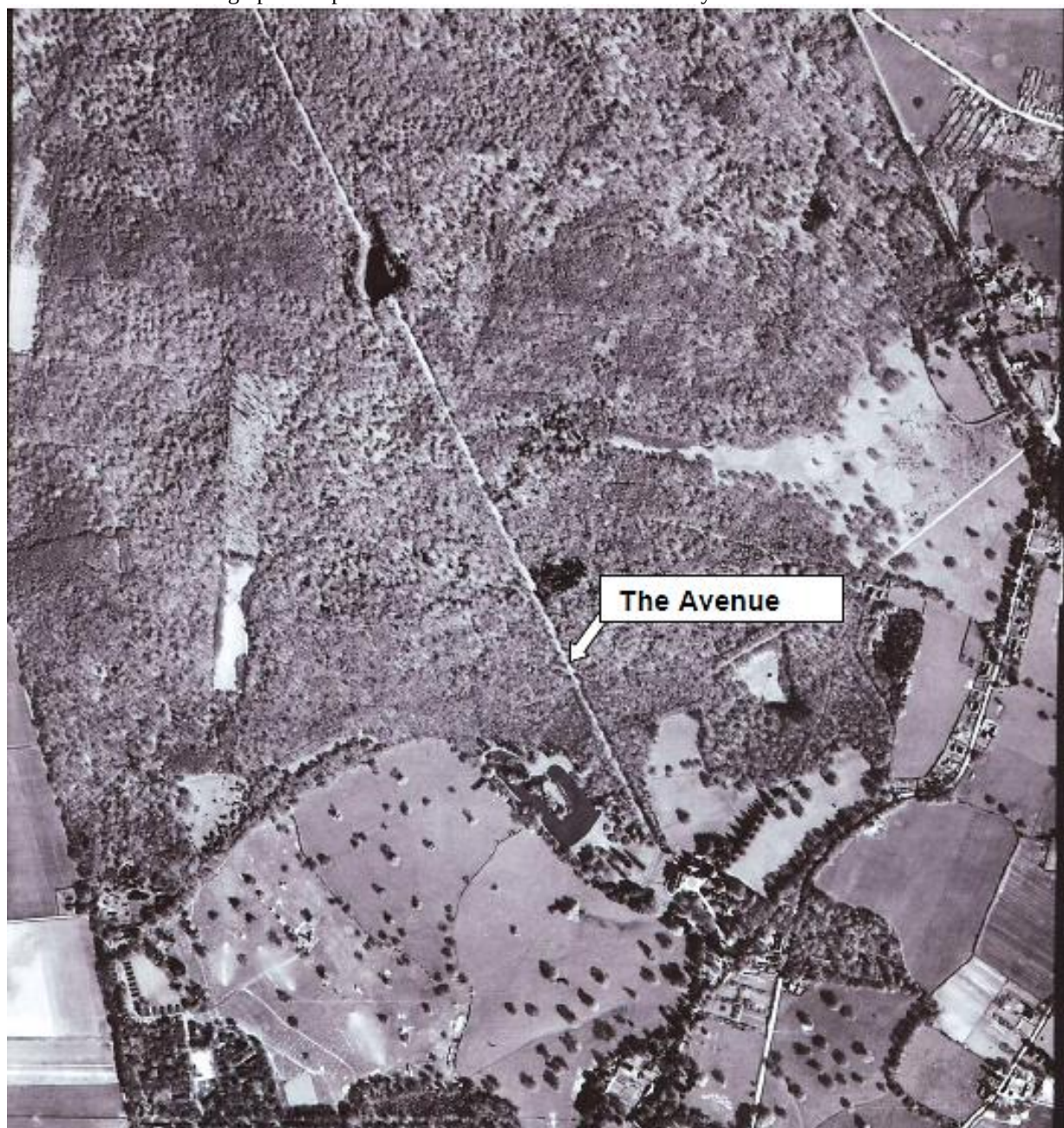
ADD SANDERSON 2019 REPORT IN HERE

Appendix 2

Aerial Photography

(All aerial photographs in this Appendix sourced from Viney, 2012)

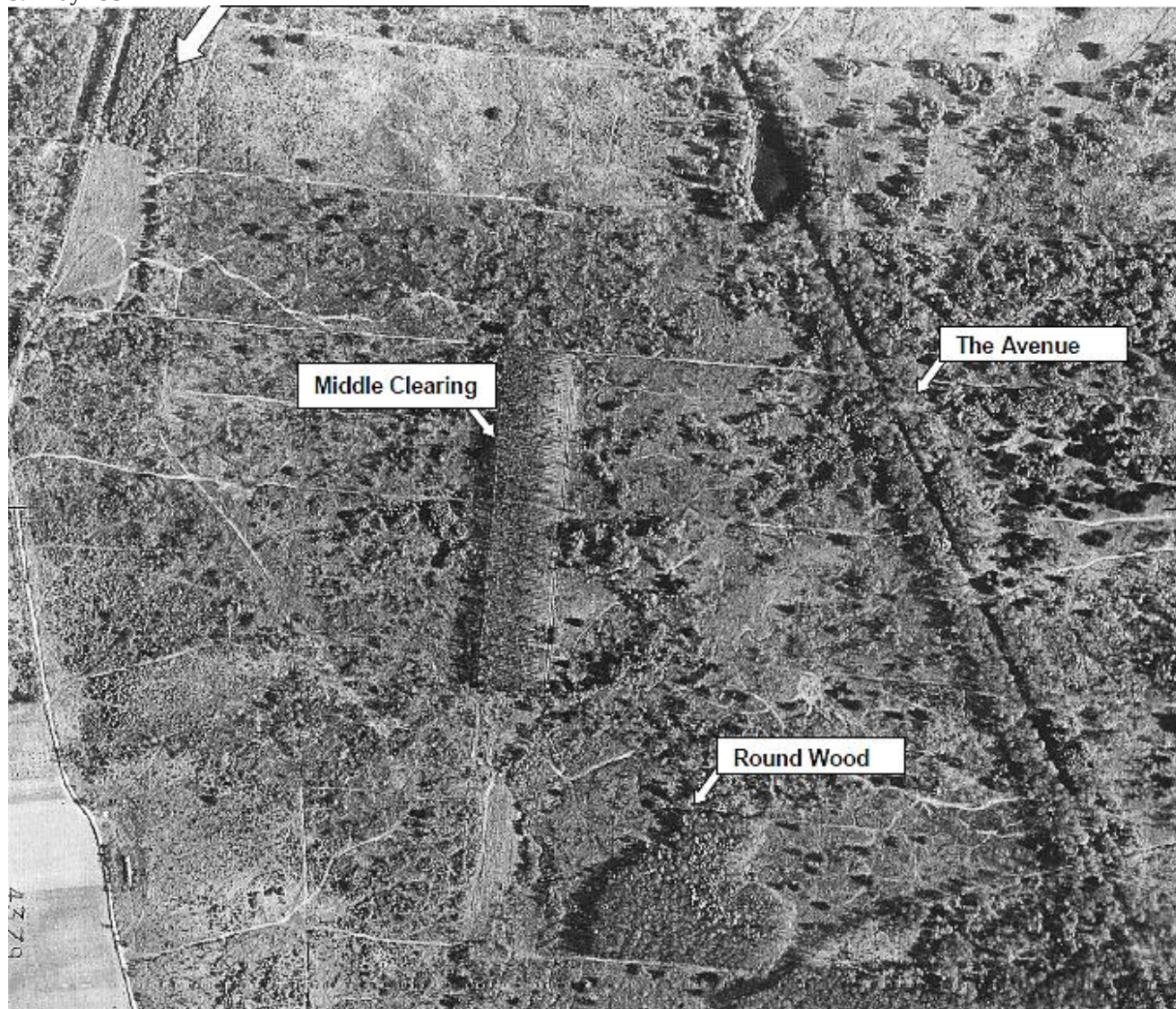
1. Historic Aerial Photograph 19 April 1946 RAF- source NMR from Viney 2012.



2. March 1954



3. May 1954



4. 1960



5. May 1981



Appendix 3

Report: 'Havant Thicket. Proposed Reservoir Site – Nature Conservation Value. For Hampshire Wildlife Trust' (Sanderson, 1994)

**HAVANT THICKET
PROPOSED RESERVOIR SITE
- NATURE CONSERVATION VALUE -**

**A Report by
N A Sanderson
for
Hampshire Wildlife Trust**

December 1994

**Hampshire & Isle of Wight Wildlife Trust
8 Romsey Road
Eastleigh
Hampshire
SO50 9AL
Regd Co No 676313
Regd Charity No 201081**

C I R C U L A T I O N

Portsmouth Water Company

East Hampshire District Council

Havant Borough Council

Hampshire County Council (Countryside and Community Department)

Hampshire County Council (Planning Department)

Sir George Staunton Country Park

Hampshire Wildlife Trust

N A Sanderson

HAVANT THICKET PROPOSED RESERVOIR SITE

1.0 INTRODUCTION

1.1 Background

For many years there have been local plan policies for a reservoir on land owned by the Portsmouth Water Company north of Havant (map 1). This land is also part of the Sir George Staunton Country Park which is managed by Hampshire County Council's Countryside and Community Department. The proposed reservoir site was once part of the pasture woodland and heathland common of Havant Thicket which was enclosed in 1870 (maps 2 and 3). This land was wooded until the 1960's or 70's when much was cleared and put down to improved grassland. Areas of woodland remain.

The following report which reviews the current nature conservation value of the reservoir reservation was commissioned by Hampshire Wildlife Trust and was written by N A Sanderson.

1.2 Brief.

The survey consists of two parts: a review of existing data held by HCC and a field survey to determine if there are any relic lower plant communities surviving from its pasture woodland phase.

2.0 REVIEW OF EXISTING DATA

2.1 Land Use History.

In the early 19th century Havant Thicket was an unenclosed common dominated by pasture woodland but with areas of open heath. It was part of 15km of contiguous similar unenclosed land some of which was owned by the crown as the Forest of Bere (Map 1). Havant Thicket, however, was not part of the Forest and escaped enclosure until the 1810's when the bulk of this land was enclosed. Remarkably Havant Thicket survived largely unenclosed until 1870 and the pre-enclosure vegetation is shown clearly on the OS 1st series 6" map surveyed in the 1860's (map 3). This remarkable map shows a fully functional pasture woodland with heathy plains and extensive woodlands seamed with winding tracks connecting the glades.

Unfortunately at the precise time the New Forest was saved from enclosure Havant Thicket was enclosed and the pasture woodland and heathland grubbed out. This destruction was very thorough, apparently the only trees left were the old Yews which are scattered through the remaining woodlands. These are the only direct living links with the pasture woodland. As the site was entirely replanted with Oak the woodland soils and the ground flora were preserved.

In the twentieth century the northern part of the Havant Thicket was cleared of Oak and replanted with Conifers and Beeches while much of the woodland to the south was grubbed out.

The woodland left over from this clearance and grubbing, the southern relic of Thicket Bottom and a strip along The Avenue, is therefore an ancient woodland site. In fact Havant Thicket is likely to have been primary woodland never cleared since the return of trees after the ice age, so the small area of surviving woodland has a long history.

2.2 Biological Data.

2.2.1 Sources

Major surveys of the country park include:-

- * A (1985) survey by HCC Planning Department's Habitat Assessment Team covering all the parks and woodland and unimproved grassland. A HCC woodland card was completed for Thicket Bottom.
- * An undated invertebrate survey by Matthew Oates of Bells Copse and the FC owned part of Havant Thicket. Thicket Bottom was not covered.
- * A 1992 vegetation survey by Chris Hall of the FC owned part of Havant Thicket. Again Thicket Bottom was not covered.

As well these HCC files contained useful reports by the park warden, Neale R. Hider, including data on butterflies, dragonflies and birds.

2.3 Data

2.3.1 Vegetation Survey

A copy of the original HAT Woodland Survey card is given in Annex 1 but the species lists have been transferred to Table 1. One additional species was found on HCC files, Bitter Vetch (*Lathyrus linifolius*). This was recorded from the south of the Avenue and has been added to Table 1. The HAT card covered the contiguous woodland south of the reservoir reservation as well as the isolated blocks to the west of the Avenue (Annex 1).

The main areas of wood, which would be affected by the reservoir are mapped as Peterken stand type (Peterken, 1981) lowland Hazel-Pedunculate Oak woodland (6Dc) with Lowland Birch-Pedunculate Oak woodland (6Db) near the Upper Lake. The wood in general is described as an Oak plantation with a Hazel understorey. To the south, beyond the reservoir allocation, there is some Ash and recently arrived Hornbeam. The isolated blocks of Oak plantation to the west are open to heavy stock grazing from the neighbouring improved grasslands and lack a significant shrub layer or ground flora.

The total flora recorded is 106 species. Of these 32 are Ancient Woodland Vascular Plants. These include *Carex pendula*, *Anemone nemorosa*, *Euphorbia amygdaloides*, *Lathyrus linifolius*, *Ruscus aculeatus* and *Sanicula europea*. This is a rich ancient woodland flora and is about equal to that of the adjoining anciently enclosed coppice Hammonds Lane Copse but lower than the 39 recorded by HAT from the superbly rich Bells Copse (Annex 2).

As well as the woodland flora two relics from the heathland element of Havant Thicket were recorded. These are a small and not very significant area of heath with Heather *Calluna vulgaris* and Dwarf Gorse *Ulex minor* and

an important marginal flora around the Upper Lake. Here a swampy area round the pond includes two species very rare in south east Hampshire Bog St. John's-wort *Hypericum elodes* and Floating Clubrush *Eleogiton fluitans* together with Bog Pondweed *Potamogeton polygonifolius* which is rare in this area. In the New Forest these species frequently occur together in flushed areas of valley mires and the edges of fluctuating ponds but are rare or absent elsewhere in the county.

2.3.2 Dragonflies

A detailed dragonfly survey was carried out by N Hider in 1992. This recorded two rich dragonfly sites on the park. The Main Lake and the Upper Lake. In total 14 dragonfly species were definitely recorded, all of which were seen by the Main Lake. The following nine species were recorded by the Upper Lake:

<u>Species</u>		<u>Population</u>
<i>Lestes sponsa</i>	Emerald Damselfly	C
<i>Pyrrosoma nymphula</i>	Large Red Damselfly	C
<i>Ischnura elegans</i>	Bluetailed Damselfly	B
<i>Enallagma cyathigerum</i>	Common Blue Damselfly	C
<i>Coenagrion puella</i>	Azure Damselfly	B
<i>Aeshna cyanea</i>	Southern Hawker	Occasionally seen
<i>Anax imperator</i>	Emperor Dragonfly	B
<i>Libellula depressa</i>	Broad-bodied Chaser	B
<i>Sympetrum striolatum</i>	Common Darter	D

Population: B = 2-5 individuals C = 6-20 individuals D = 21-100 individuals.

This is a reasonably rich dragonfly fauna but not outstanding. Additional species found at the Main Lake include Blacktailed Skimmer *Orthetrum cancellatum*, Red-eyed Damselfly *Erythromma najas* a scarce species in South Hampshire and Downy Emerald *Cordulia aenea* a nationally scarce species. The Main Lake therefore is of much greater significance and is probably not short of being of SSSI status.

2.2.3 Butterflies

The warden, N Hider, records a butterfly transect which includes the southernmost section of The Avenue out with the reservoir reservation but includes general comments on species distribution within the park. The most restricted species recorded from The Avenue for 1992 and 1993 was Silverwashed Fritillary *Argynnis paphia*.

2.2.4 Birds

A 1992 report on the birds of the park by N Hider records a typical woodland fauna from Thicket Bottom. The most interesting record was Lesser Spotted Woodpecker. In 1992 one male was seen frequently in summer around the junction of The Avenue, Thicket Bottom and Hammond's Land Copse.

The improved grasslands of Deerslaughter Plain and Gypsy Plain support Sky Lark and Lapwing. Snipe and Lapwing are recorded in winter.

TABLE 1
Thicket Bottom 1985/86
HAT Survey

Species	Freq	AW	NS	Comment
TREES & TALL SHRUBS				
<i>Acer campestre</i>	O	+		
<i>Aesculus hippocastanum</i>	O			
<i>Betula pendula</i>	F			
<i>Betula pubescens</i>	F			
<i>Carpinus betulus</i>	O	+		
<i>Corylus avellana</i>	A			
<i>Crataegus monogyna</i>	O			
<i>Euonymus europaeus</i>	R			
<i>Fagus sylvatica</i>	O			
<i>Frangula alnus</i>	R	+		
<i>Fraxinus excelsior</i>	R			
<i>Ilex aquifolium</i>	A	+		
<i>Ligustrum vulgare</i>	O			
<i>Pinus sylvestris</i>	O			
<i>Populus tremula</i>	O	+		
<i>Prunus avium</i>	R	+		
<i>Prunus laurocerasus</i>	O			
<i>Prunus spinosa</i>	O			
<i>Quercus cerris</i>	O			
<i>Quercus petraea</i>	R	+		
<i>Quercus robur</i>	D			
<i>Rhododendron ponticum</i>	R			
<i>Rosa arvensis</i>	F	+		
<i>Rosa canina</i>	F			
<i>Salix caprea</i>	O			
<i>Salix cinerea oleifolia</i>	O			
<i>Sambucus nigra</i>	O			
<i>Taxus baccata</i>	F			
<i>Viburnum opulus</i>	O	+		
CLIMBERS				
<i>Hedera helix</i>	A			
<i>Lonicera periclymenum</i>	A			
DWARF SHRUBS				
<i>Calluna vulgaris</i>	O			In heath remnant at top end of Avenue
<i>Ulex minor</i>	R			In heath remnant at top end of Avenue
GRASSES				
<i>Agrostis canina</i>	O			In upper lake
<i>Agrostis capillaris</i>	O			
<i>Brachypodium sylvaticum</i>	O			
<i>Dactylis glomerata</i>	O			
<i>Deschampsia cespitosa</i>	F			
<i>Festuca rubra</i>	R			
<i>Holcus lanatus</i>	O			
<i>Holcus mollis</i>	O	+		
<i>Molinia caerulea</i>	O			

Freq = Frequency, AWVP = Ancient Woodland Vascular Plant, NS = Nationally scarce species,
D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

TABLE 1
Thicket Bottom 1985/86
HAT Survey

Species	Freq	AW	NS	Comment
<i>Poa trivialis</i>	O			
OTHER VASC. PLANTS				
<i>Ajuga reptans</i>	O			
<i>Anemonemorosa</i>	O	+		
<i>Angelica sylvestris</i>	R			
<i>Arummaculatum</i>	O			
<i>Callitriche stagnalis</i>	O			
<i>Cardamine flexuosa</i>	F			
<i>Cardamine pratensis</i>	R			
<i>Carex pendula</i>	R	+		
<i>Carex remota</i>	R	+		
<i>Carex sylvicata</i>	O	+		
<i>Conopodium majus</i>	O	+		
<i>Digitalis purpurea</i>	O			
<i>Dryopteris affinis</i>	O	+		
<i>Dryopteris dilatata</i>	O			
<i>Dryopteris filix-mas</i>	O			
<i>Eleogiton fluitans</i>	O			Abundant in upper lake, very rare in SE Hampshire
<i>Euphorbia amygdaloides</i>	O	+		
<i>Filipendula ulmaria</i>	O			
<i>Fragaria vesca</i>	O			
<i>Galium aparine</i>	F			
<i>Galium palustre</i>	O			
<i>Geranium robertianum</i>	R			
<i>Glechoma hederacea</i>	O			
<i>Hedera helix</i>	A			
<i>Hieracium</i> sp.	O			
<i>Hyacinthoides non-scripta</i>	O	+		
<i>Hypericum elodes</i>	O			Abundant in upper lake, very rare in SE Hampshire
<i>Juncus effusus</i>	O			
<i>Lamiastrum galeobdolon</i>	O	+		
<i>Lathyrus linifolius</i>	R?	+		Recorded at the south end of the Avenue, GSCP files
<i>Lonicera periclymenum</i>	A			
<i>Luzula forsteri</i>	O	+		
<i>Luzula pilosa</i>	O	+		
<i>Lysimachianemorum</i>	O	+		
<i>Mentha aquatica</i>	R			
<i>Moehringia trinervia</i>	R	+		
<i>Oxalis acetosella</i>	F	+		
<i>Plantago lanceolata</i>	O			
<i>Plantago major</i>	O			
<i>Polystichum setiferum</i>	R	+		
<i>Potamogeton polygonifolius</i>	O			Abundant in upper lake, rare in SE Hampshire
<i>Potentilla erecta</i>	O			In heath remnant at top end of Avenue
<i>Potentilla sterilis</i>	O	+		
<i>Primula vulgaris</i>	O	+		
<i>Pteridium aquilinum</i>	F			
<i>Ranunculus ficaria</i>	F			

Freq = Frequency, AWVP = Ancient Woodland Vascular Plant, NS = Nationally scarce species,
D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

TABLE 1
Thicket Bottom 1985/86
HAT Survey

Species	Freq	AW	NS	Comment
<i>Ranunculus repens</i>	F			
<i>Rubus fruticosus</i>	O			
<i>Rumex obtusifolius</i>	R			
<i>Rumex sanguineus</i>	R			
<i>Ruscus aculeatus</i>	F	+		
<i>Sanicula europaea</i>	O	+		
<i>Scrophularia nodosa</i>	R			
<i>Solidago virgaurea</i>	R	+		
<i>Sparganium erectum</i>	O			In upper lake
<i>Stellaria holostea</i>	F			
<i>Stellaria media</i>	R			
<i>Succisa pratensis</i>	R			
<i>Taraxacum</i> sp.	F			
<i>Teucrium scorodonia</i>	F			
<i>Typha latifolia</i>	O			In upper lake
<i>Urtica dioica</i>	F			
<i>Veronica chamaedrys</i>	O			
<i>Veronica montana</i>	O	+		
<i>Viola riviniana</i>	O			

Species total 106

Total AWVP 32

Total nationally scarce spp 0

Freq = Frequency, AWVP = Ancient Woodland Vascular Plant, NS = Nationally scarce species ,
D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

3.0 LOWER PLANT SURVEY

3.1 Methods

The woodland to be affected by the reservoir proposal was walked in December 1994 and the epiphytic lower plant flora recorded (table 2). The rest of Thicket Bottom was also looked at. The bryophyte ground flora was looked at but not recorded as it appeared very ordinary. Also notes were taken on the general flora of the Upper Lake and the two areas of the replanted part of Havant Thicket affected.

3.2 Epiphytes

A total of 25 lichen species, two mosses and two Liverworts were recorded from The Avenue and Thicket Bottom. The lichen flora in Thicket Bottom is somewhat depressed by the shade of the full canopy while that of The Avenue is more affected by air pollution due to its lack of shelter. The current flora is clearly recovering from past pollution as some pollution-sensitive species were seen. One small, stunted *Parmelia reticulata* thallus had the appearance of a recolonizing plant rather than a relic species.

In terms of ancient woodland species four species on Dr Rose's ancient woodland indicator list (New Index of Ecological Continuity - NIEC) [Rose 1992] were recorded. Two species *Schismatoma niveum* and *Arthopyrenia ranunculospora* were recorded only from the area to be flooded while the other two, *Athonia vinosa* and *Phaeographis inusta* was found on one old Hazel bush, the others on mature Oaks. Their distribution is shown on map 4.

This is not a high total and the species involved are ones which can slowly be recolonized woodlands after severe disturbance unlike more sensitive lichens which cannot be recolonized at all as far as is known. A total of 4 NIEC species is fairly typical of derelict coppices on ancient sites in South Hampshire.

3.3 Notes on the General Flora

3.3.1 The Upper Lake

The Upper Lake still has strong populations of the locally rare *Potamogeton polygonifolius* and the locally very rare *Hypericum elodes* and *Eleogiton fluitans* (map 4). They form a fringe around the margin and the latter two are also abundant in a swamp at the head of the lake in a low sward with *Agrostis canina*, *Sphagnum auriculatum* and *Hydrocotyle vulgaris*. Within this sward are tussocks of *Juncus effusus*, *Sparganium erectus* and patches of colonizing Birch. The *Hydrocotyle* is a new site record.

At the time of survey this community was flooded. The marginal community is probably dependent on strongly fluctuating water levels. In summer the small catchment probably leads to low water levels in the pond while the local clay soils result in rapid run-off and flooding in winter.

The community belongs to NVC community *Hypericum elodes* - *potamogeton polygonifolius* soakway (M29) a south-western community near its eastern limit here. It is exceptionally rare outside of the New Forest in South Hampshire.

TABLE 2
Thicket Bottom 1994
Epiphytic Lichens & Mosses

Species	NI	BS	NR	Comment
Lichens				
Arthonia spadicea				Rare on oak
Arthonia vinosa	+			Occasional on oak Thicket Bottom only
Arthopyrenia ranunculospora	+			Rare on oak, not seen to the south
Chrysothrix candelaris				Occasional on oak
Chrysothrix chrysophthalma				Occasional on oak
Cladonia coniocraea				Occasional on oak
Enterographa crassa				Rare on oak
Evernia prunastri				Rare on oak
Graphis scripta				Occasional on old hazel, Thicket Bottom only
Lecanactis abietina				Frequent oak, Thicket Bottom only
Lecanora expallens				Frequent on oak
Lepraria incana				Frequent on oak
Parmelia caperata				Frequent on oak but small thalli
Parmelia perlata				Rare on oak, Thicket Bottom only
Parmelia reticulata				Rare on oak, small stunted thallus
Parmelia revoluta				Rare on oak
Parmelia saxatilis				Rare on oak
Pertusaria amara				Occasional on oak
Pertusaria hemisphaerica				Occasional on oak
Pertusaria hymenea				Frequent on oak
Pertusaria pertusa				Occasional on oak
Phaeographis inusta	+			Rare on old hazel, Thicket Bottom only
Phlyctis argena				Frequent on oak
Schismatomma niveum	+			Occasional on oak, not seen to the south
Usnea cornuta				Occasional on oak
MOSSES				
Hypnum mammaillatum				Abundant on oak
Isothecium myosuroides				Occasional on oak, Thicket Bottom only
LIVERWORTS				
Lejeunea ulicina				Rare on old hazel, Thicket Bottom only
Metzgeria temperata				Rare on old hazel, Thicket Bottom only

Species 29

NIEC spp 4

Bonusspp 0

Nationally rare spp 0

NI=NIEC species, BS=Bonus species, NR=National rare species

3.3.2 Havant Thicket Eastern Valley

This is mostly Corsican Pine plantation but there is some *Ulex minor* at the edge of the plantation and *Sphagnum auriculatum* by the stream with a little *Dryopteris carthusiana*.

3.3.3 Havant Thicket Western Valley

South of the forestry track the potentially flooded area is a spruce plantation with a little *Dryopteris carthusiana*. North of the road is an extensive clear fell with much bracken and locally some heathland species including *Calluna vulgaris*, *Danthonia decumbens*, *Molinia caerulea* and *Sphagnum auriculatum*.

4.0 **SUMMARY OF INTEREST**

The Avenue is part of a species rich ancient woodland which is a relic of the extensive pasture woodlands of Havant Thicket. Oak was planted after enclosure in 1870 but the wood is basically still semi-natural. A rich ground flora occurs as this was much less disturbed by enclosure but only a relatively poor epiphytic flora survives. This, however, does include a few ancient woodland species with some recolonizing ability.

The Upper Lake has a reasonable dragonfly fauna and an important marginal flora which is easily the single most important floristic feature in the country park.

The valleys which will be flooded within the plantations to the north could be restored to heathland but represent a limited proportion of the area of potential heathland here.

The patches of Oak plantation to the east of The Avenue are of no interest and the improved grasslands also seem of little interest.

5.0 **RESPONSE TO THE RESERVOIR PROPOSAL**

The loss of the Upper Lake would represent a serious loss to the biodiversity of this part of Hampshire. Replacement habitat produced by damming one or more of the feeder streams to the north within the FC land is probably feasible. This would produce similar ponds to the existing one and material could be transplanted. This would be of higher quality if they could be in the context of a restored grazed heathland and pasture woodland habitat.

Further work on the invertebrates of Upper Lake is required. It is possible that there are some rare or scarce Diptera or other invertebrates associated with the marginal vegetation. Without this work the degree to which compensation measures can be fully carried out cannot be assessed.

The loss of the ancient woodland cannot be compensated for but further work is required to ascertain the impact of the reservoir. For the epiphytic lichens half the four lichen species of interest would be lost but the same calculation cannot be made for the vascular plants on the current data.

6.0 REFERENCES

Peterken, G F (1981) Woodland Conservation and Management, Chapman and Hall.

Rodwell, J S (1991) British Plant Communities Volume 2 Mire and Heaths Cambridge University Press.

Rose, F (1992) Temperate Forest Management: its effects on bryophytes and lichen floras and habitats. In: Bryophytes and lichens in a Changing Environment (eds: J W Bates and A M Farmer) 210-233.

ANNEX 1

HAT WOODLAND SURVEY CARD

ANCIENT WOODLANDS SURVEY - SOUTH REGION

TREES/SHRUBS		Tx	Tp	Ts	Tc	Tn	Cx	Ct	Px	Pa	Sx	Sc	St	Js	Jp	Jv
Acer cam	✓	ACECA				O										
Acer pse		ACEPS														
Alnus glu		ALNGL														
Betul pend	✓	BETPE	F				F						F			
Betul pub	✓	BETPU	F										F			
Bux semp		BUXSE														
Carp bet	✓	CRPBE				O	O									
Casta sat		CSTSA														
Clem vit		CLEVI														
Conifer																
Coryl ave	✓	CRYAV					A								O	
Crata mon	✓	CTGMO				O								O		
Crata oxy		CTGOX														
Euony eur	✓	EUOEU									R					
Fagus syl	✓	FAGSY				O							O			
Frang aln	✓	FRNAL									R					
Fraxi exc	✓	FRXEX	F												F	
Heder hel	✓	HEDHE										A				
Ilex aqu	✓	ILXAQ									A			A		
Junip com		JNPCO														
Ligust vul	✓	LGSVU									O			O		
Lonic per	✓	LONPE										A				
Malus syl		MALSY														
Pinus syl		PINSY														
Popul tre	✓	POPTR	O													
Pru avium	✓	PRUAV					R									
Prunus spi	✓	PRUSP														O
Prunu lau	✓	PRULA										O				
Pyrus com		PYSCO														
Querc cer	✓	QUECE	O													
Querc pet	✓	QUEPE	R													
Querc rob	✓	QUERO	D				O									
Rhamn cat		RHMCA														
Rhodo pon		RHOPO														
Ribes nig		RIBNI														
Ribes syl		RIBSY														
Ribes uva		RIBUV														
Rosa arv	✓	ROSAR									F					
Rosa can	✓	ROSCA									F					
Salix alb		SLXAL														
Salix cap	✓	SLXCA									O					
Salix cin	✓	SLXCI									O					
Salix fra		SLXFR														
Salix pur		SLXPU														
Salix vim		SLXVI														
Sambu nig	✓	SAMNI									O					
Soro scop		SARSC														
Sorb aria		SORAR														
Sorb aucu		SORAU														
Sorb torm		SORTO														
Taxus bac	✓	TAXBA					F								A	
Thely san		TLYSA														
Tilia cor		TILCO														
Tilia vul		TILVU														
Ulex euro		ULXEU														
Ulmus car		ULMCA														
Ulmus gla		ULMGL														
Ulmus pro		ULMPR														
Vibur lan		VIBLA														
Vibur opu	✓	VIBOP												O		

SITE THICKET BOTTOM.		NO. W 719 09																																																
DISTRICT/PARISH Rowland Castle. / Havant		Ha 37 Ha																																																
Grid Ref. 1 712098	OS Sheet 197	County HANTS																																																
Grid Ref. 2 715101	Date 10/12/85.	Recorder HAT.																																																
Grid Ref. 3 721093																																																		
Grid Ref. 4 713093																																																		
OWNER/Tenant/Agent																																																		
Permission to enter from																																																		
Access																																																		
Nature Cons. Status	Open Rides	Pond																																																
Planted Aliens/ Exotics ☒	Public Paths ☒	Overgrown Rides ☒																																																
Old trees	Game	River/Stream ☒																																																
Semi-natural Ancient	Recent	Plantation (C, H, Mx) Ancient Recent																																																
Other records/old maps etc. ON 1910.																																																		
Stand types 3Aa, 6db, 6dc.																																																		
SITUATION	SOIL/GEOLOGY London Clay. Soil Survey - Witham 3 Wickham 4 Typical stagnogley s.s. to.																																																	
Valley side ☒ Valley bottom ☒ Plain ☐ Plateau ☐	Hill slope ☐ Hill top ☐ Coastal ☐ Inland ☒	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Sand</td><td>☐</td><td>Stones</td><td>☐</td></tr> <tr><td>Silt</td><td>☐</td><td>Rock</td><td>☐</td></tr> <tr><td>Clay</td><td>☒</td><td>Peat</td><td>☐</td></tr> <tr><td>Acid</td><td>☐</td><td>Mull</td><td>☐</td></tr> <tr><td>Neut.</td><td>☐</td><td>Moder</td><td>☐</td></tr> <tr><td>Basic</td><td>☐</td><td>Mor</td><td>☐</td></tr> <tr><td>Podsol</td><td>☐</td><td>Water-logged</td><td>☐</td></tr> <tr><td>Brown soil</td><td>☐</td><td>Poorly drain.</td><td>☐</td></tr> <tr><td>Rend.</td><td>☐</td><td>Free drain</td><td>☐</td></tr> <tr><td>Ranker</td><td>☐</td><td></td><td>☐</td></tr> <tr><td>Alluv.</td><td>☐</td><td></td><td>☐</td></tr> <tr><td>Gley</td><td>☐</td><td></td><td>☐</td></tr> </table>	Sand	☐	Stones	☐	Silt	☐	Rock	☐	Clay	☒	Peat	☐	Acid	☐	Mull	☐	Neut.	☐	Moder	☐	Basic	☐	Mor	☐	Podsol	☐	Water-logged	☐	Brown soil	☐	Poorly drain.	☐	Rend.	☐	Free drain	☐	Ranker	☐		☐	Alluv.	☐		☐	Gley	☐		☐
Sand	☐	Stones	☐																																															
Silt	☐	Rock	☐																																															
Clay	☒	Peat	☐																																															
Acid	☐	Mull	☐																																															
Neut.	☐	Moder	☐																																															
Basic	☐	Mor	☐																																															
Podsol	☐	Water-logged	☐																																															
Brown soil	☐	Poorly drain.	☐																																															
Rend.	☐	Free drain	☐																																															
Ranker	☐		☐																																															
Alluv.	☐		☐																																															
Gley	☐		☐																																															
Aspect —																																																		
Slope level - gentle																																																		
Altitude 20 - 30m.																																																		

Early January

Tp = Planted tree
 Tn = Self grown tree
 Ts = standard in c-w-s
 Tc = grown from coppice
 Tx = any other tree
 Cx = coppice
 Ct = regrowth from stump
 Px = pollard (2.5m -)
 Pc = pollard (1-2.5m)
 Sx = shrub
 Sc = climber
 St = young tree
 Js = seedling
 Jp = sapling
 Jv = sucker

ANCIENT WOODLANDS SURVEY – SOUTH REGION

SITE THICKET BOTTOM.	No.	Grid Ref. 719093	O.S. Sheet 197.	County HANTS
District/Parish	Ha. 37Ha.	Recorder/s HAT.		Date/s 10/12/85.

SOUTH REGION

SOUTH REGION
ANCIENT WOODLAND VASCULAR PLANTS – The 100 species which in NCC's South Region are most strongly associated with ancient woodland and are typical components of botanically rich ancient woodland communities. The 36 thought to be most indicative of long continuity are marked ●

	A	B		A	B		A	B		A	B
<u>Acer campestre*</u>	ACECA	Va	● <u>Euphorbia amygdaloides</u>	EUPAM	e	P -moralis-	POANE				
●Adoxa moschatellina	ADXMO		Festuca gigantea	FESGI	R	●Polygmatum multifi.	PGNNU				
Agropyron caninum	AGRCA		<u>Frangula alnus</u>	FRNAL		Polypodium vulg.	PLPVU				
●Allium ursinum	ALUAR		Galium odoratum	GLMOD		Polystichum acul.	PLSAC				
●Anemone nemorosa	ANENE	O	Geum rivale	GEURI		●Polystichum setif.	PLSSE				R
Aquilegia vulgaris*	AQUVU		●Helleborus viridis	HELVI		●Populus tremula	POPTR				6
Blechnum spicant	BLESP		Holcus mollis	HOLMO	O	Potentilla sterilis	PTLST				O
Bromus ramosus	BRORM		●Hordelymus europaeus	HOREU	D	<u>Primula vulgaris*</u>	PRIVU				O
Calamagrostis epigejos	CALEP		<u>Hyacinthodes non-scr.</u>	HYANO	D	<u>Prunus avium</u>	PRUAV				Va
Campanula trachelium	CMPTR		●Hypericum androsaem	HYPAN		Pulmonaria longifolia	PLMLO				
Cardamine amara	CARAM		Hypericum pulchrum	HYPPU	Va	●Quercus petraea*	QUEPE				R
●Carex laevigata	CRXLV		<u>Ilex aquifolium</u>	ILXAQ		●Ranunculus aurico.	RANAU				
Carex pallescens	CRXPA		Iris foetidissima	IRSFO		Ribes nigrum*	RIBNI				
<u>Carex pendula*</u>	CRXPD	R/R	Lamiastrum galeob.	LAMGA	O	Ribes sylvestre*	RIBSY				F
<u>Carex remota</u>	CRXRm		●Lathraea squamaria	LATSQ		- Rosa arvensis	ROSAR				F
●Carex strigosa	CRXSG		Lathyrus montanus	LTHMO		<u>Ruscus aculeatus</u>	RUSAC				O
<u>Carex sylvatica</u>	CRXSy	O	Lathyrus sylvestris	LTHSY		●Sanicula europaea	SNCEU				
<u>Carpinus betulus*</u>	CRPB E	* (O)	●Luzula forsteri	LUZFO	Va	Scirpus sylvaticus	SCPSY				
Cephalanthera longif.	CEPLO		<u>Luzula pilosa</u>	LUZPI	O	Sedum telephium	SEDTE				
Chrysosplenium opposit.	CPLOP		●Luzula sylvatica	LUZSY	O	Serratula tinctoria	SERTI				
Colchicum autumnale	COLAU		<u>Lysimachia nemorum</u>	LSINE		<u>Solidago virgaurea</u>	SLDVI				R
<u>Conopodium majus</u>	CNPMA	D	Malus sylvestris*	MALSY		●Sorbus torminalis	SORTO				
●Convallaria majalis*	CNVMA		●Melampyrum pratense	MELPR		Stachys officinalis	STAOF				
Corydalis claviculata	CYDCL		Melica uniflora	MLCUN		Tamus communis	TMSCO				
Crataegus laevigata	CRALA		●Milium effusum	MILEF	R	●Thelypteris oreopteris	THEOR				
●Daphne laureola	DAPLA		<u>Moehringia trinervia</u>	MOETR		Tilia cordata*	TILCO				
Dipsacus pilosus	DPSP I		Narcissus pseudo.	NARPS		●Ulmus glabra	ULMGL				
●Dryopteris carthusiana	DRYCA		Neottia nidus-avis	NTTNI		●Vaccinium myrtillus	VCMNY				
●Dryopteris pseudomas	DRYPS	O	Orchis mascula	ORCMA		●Veronica montana	VRNMO				v
Epipactis helleborine	EP PHE		●Oxalis acetosella	OXAAC	F	<u>Viburnum opulus*</u>	VIBOP				O
Epipactis leptochila	EP PLE		●Paris quadrifolia	PRSQU		Vicia sepium	VICSE				
●Epipactis purpurata	EP PP U		Phyllitis scolopend.	PHYSC		Vicia sylvatica	VICSY				
Equisetum sylvaticum	EQU SY		●Platanthera chlor.	PLTCH		Viola palustris	VIOPA				
						●Viola reichenb.	VIORE				

Column A: current records

Column B: old records

*Only tick these species if they occur well within the wood and do not appear to have been planted.

No. of A.W.V.P.

32. 2

Additional species of interest

* Hornbeam clearly a recent arrival.

Stand-type Details

- 3Aa Acid Ash-Hazel-Pedunculate Oak, heavy soil.
 6Db Lowland Birch-Pedunculate oak.
 6Dc Lowland Hazel-Pedunculate Oak.

General Description of Woodland

Map

Originally ^{until after 1870} possible old wood pasture. Appears to be oak plantation with hazel understorey, with odd Holly and row. 4-f dominated by Bramble and Fraxinus.

Most interesting section floristically in the Avenue. Fragment of a heath remnant at top end with Heather, Dwarf Gorse, Tormentil etc. Pond in North with *Hypericum elodes*, *Agrostis canina*, *Potamogeton pectinatus*, *Sparganium erectum* and *Typha latifolia*.

Woods to east of main body are ^{grazed oak} plantations with little plant life below main canopy. Almost total absence of ground flora.

* Possibly only remaining locality in east of ~~Bere~~ Hampshire for *Hypericum elodes* & *Eleogiton fluitans*

Management

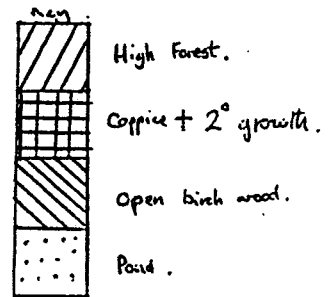
Oak high forest planted on site of old pasture woodland (part of Forest of Bere) ^{which was} ~~and~~ not enclosed until after 1870. Parts of the high forest have been felled and not replanted ^{2 or 3} now occupied by birch/Hazel coppice and oak regrowth.

Ci

Cc

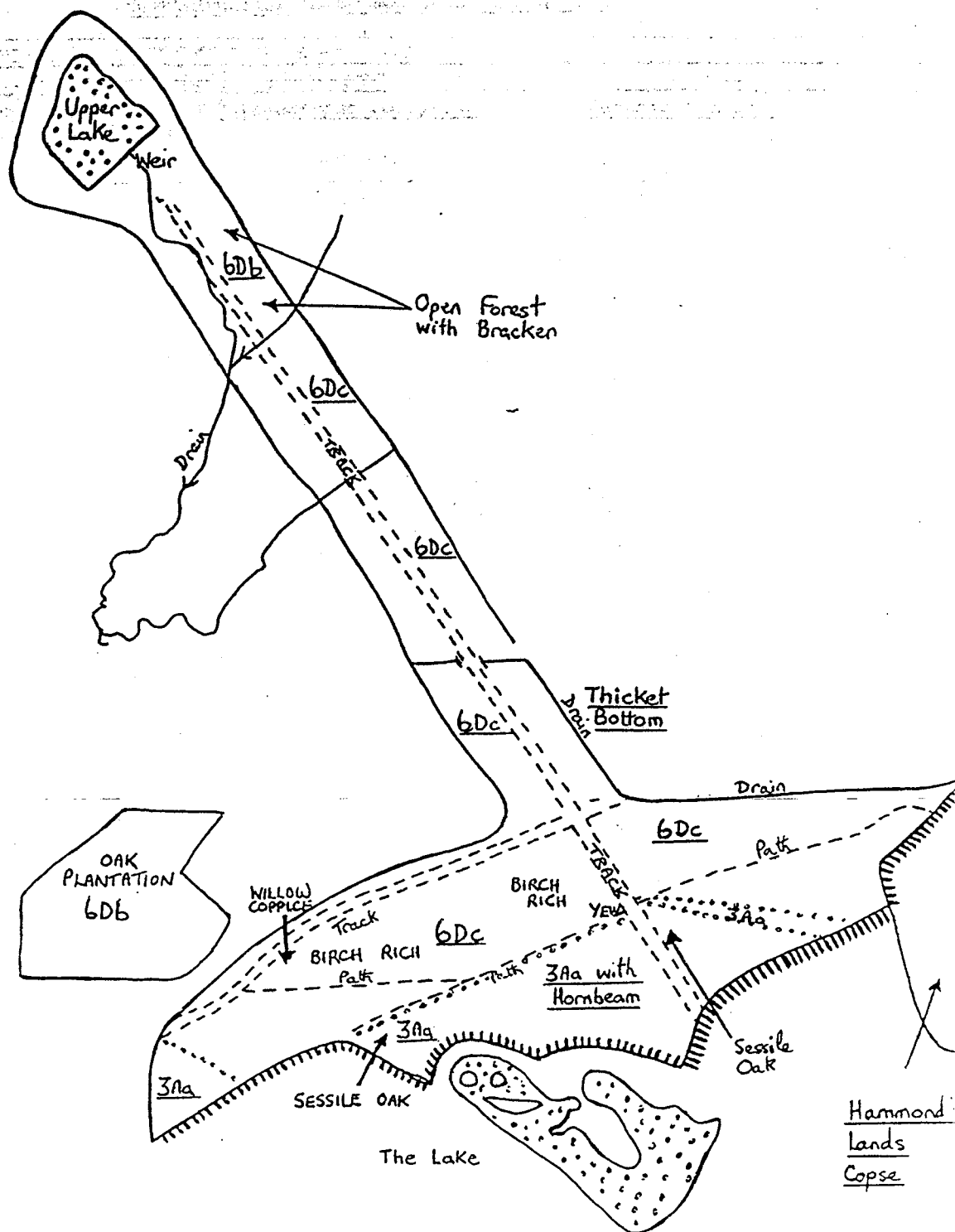
Ac

Structure map



100 m.

6Db
Path
OAK
PLANTATION



HAMPSHIRE: EXPECTED WOODLAND BIRD SPECIES

WEATHER : OVERCAST / SUNNY WITH SHOWERS

LOCATION : HAMMONDS LAND COPSE

DATE : 23 APRIL 8

R	<u>Accipiter niscus</u> 1 HUNTING ♂ SEEN	S	<u>Phylloscopus collybita</u> (R) 1 SINGING ♂	R	<u>Certhia familiaris</u>
R	<u>Buteo buteo</u>	R	<u>Regulus regulus</u> PRESENT	R	<u>Troglodytes troglodytes</u> THROUGHOUT
R	<u>Falco tinnunculus</u>	S	<u>Muscicapa striata</u>	R	<u>Fringilla coelebs</u> THROUGHOUT
R	<u>Phasianus colchicus</u>	R	<u>Erithacus rubecula</u> PRESENT	R	<u>Pyrrhula pyrrhula</u>
R	<u>Scolopax rusticola</u>	S	<u>Luscinia megarhynchos</u>	R	<u>Carduelis chloris</u>
R	<u>Columba palumbus</u> THROUGHOUT	R	<u>Turdus philomelos</u> PRESENT	R	<u>Acanthis flammea</u>
R	<u>Columba oenas</u> PRESENT	R	<u>Turdus merula</u> FREQUENT THROUGHOUT	R	<u>Sturnus vulgaris</u> PRESENT
S	<u>Streptopelia turtur</u>	R	<u>Turdus viscivorus</u> PRESENT	R	<u>Garrulus glandarius</u> PRESENT
S	<u>Cuculus canorus</u>	W	<u>Turdus iliacus</u>	R	<u>Pica pica</u>
R	<u>Strix aluco</u> 1 HUNTING ♂ HEARD	W	<u>Turdus pilaris</u>	R	<u>Corvus corone corone</u> PRESENT
R	<u>Picus viridis</u> 1 PAIR	R	<u>Aegithelos caudatus</u> 2 PAIRS	R	<u>Corvus monedula</u>
R	<u>Dendrocopos major</u> PRESENT	R	<u>Parus ater</u> PRESENT		ADDITIONAL SPECIES
R	<u>Dendrocopos minor</u> 1 ♂ SEEN	R	<u>Parus major</u> ABUNDANT		
R	<u>Prunella modularis</u> PRESENT	R	<u>Parus caeruleus</u> ABUNDANT		
S	<u>Sylvia borin</u>	R	<u>Parus palustris</u> 1 PAIR BUILDING A NEST		
S	<u>Sylvia atricapilla</u> (R) PRESENT	R	<u>Parus montanus</u>		
S	<u>Phylloscopus trochilus</u>	R	<u>Sitta europaea</u> 1 PAIR		

ANNEX 2

EXTRACT FROM HAT SURVEY REPORT

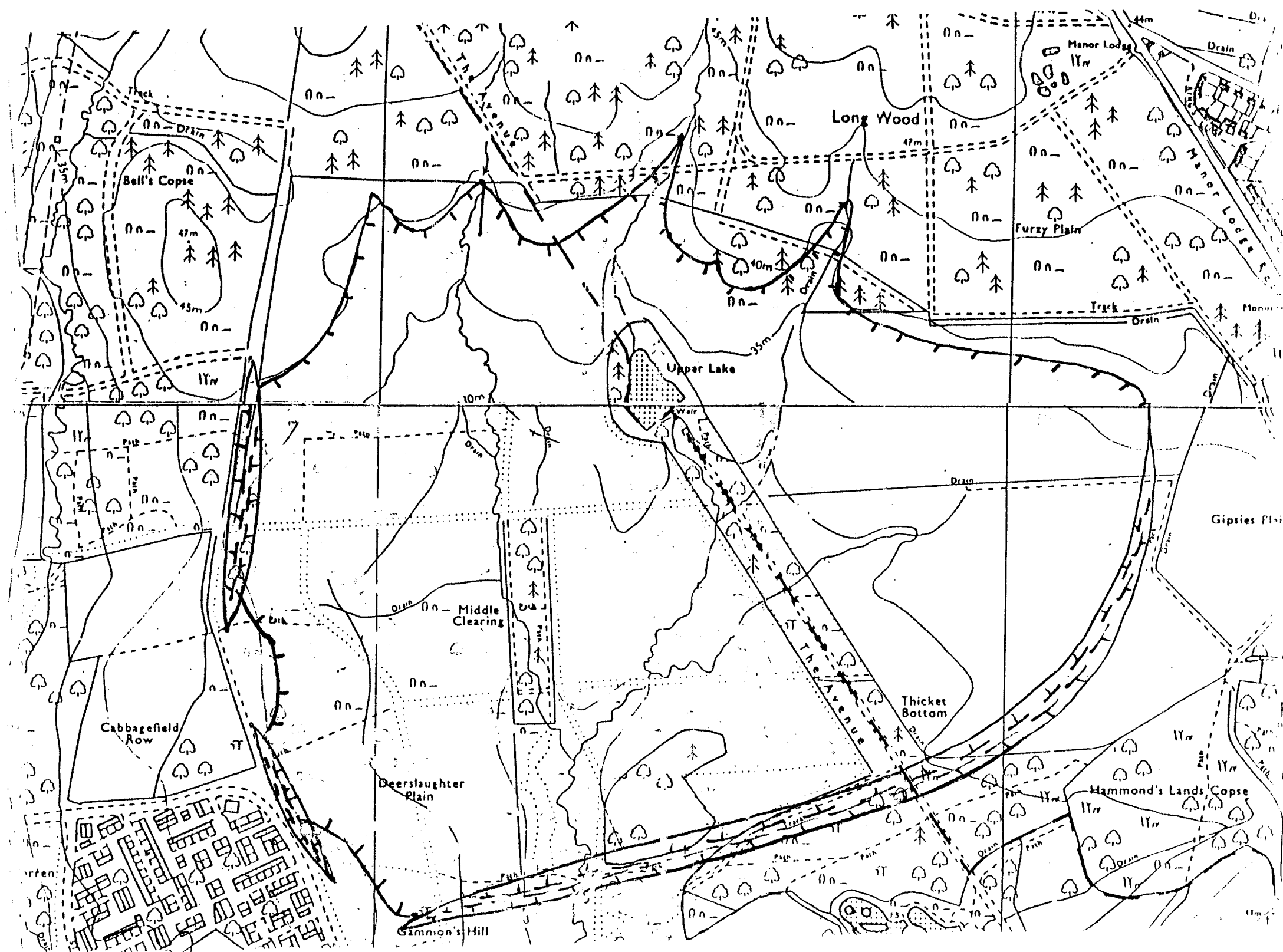
THE SIR GEORGE STAUNTON COUNTRY PARK :
ECOLOGICAL SURVEY

SEPTEMBER 1985 - JUNE 1986

TABLE 1

The Sir George Staunton Country Park : A Summary of Woodlands

Site (Grid Ref.)	Stand Types	Geology	Area (ha)	No Woodland Species	No MHP	Maps Older 1870	Woodland Management	Features of Interest
Bells Copse (SU 705 101)	3Aa, 6Dc, 7Ab, 7C	London Clay Reading Beds Typical Stag-nogley	25.25	116	39	1810 EV	✓ 1/3 is burnt out pine plantation. Remainder is regrowth from clear felling	Rich flora including one sessile oak, variety of stand types, woodland still coppiced
Cabbagefield Row (SU 707 095)	3Aa, Oak with grubbed coppice	London Clay Typical Stag-nogley	1.83	58	15	1810	Coppice with standards coppice grubbed out in central area. Area to N and S is neglected.	Ancient woodland adjoining once the pasture woodland of Havant Thicket. There is still a large bank marking this boundary.
Dunbury Hill (SU 705 096)	(s)6D, (s)3A (s)7	London Clay Typical Stag-nogley	7.45	73	20	X	X	Clearing flora is characteristically a meadow flora. Good example of secondary woodland.
Great Copse (SU 718 084)	9Ab, (s)3Aa	London Clay Typical Stag-nogley	5.0	87	29	1810 EW	✓ Over mature coppice but still retains coppice with standard structure.	Good example of hornbeam coppice with occasional hornbeam standards, rich flora.
Hammonds Land Copse (SU 723 094)	3Aa, 2Aa 6Dc	London Clay Typical Stag-nogley	14.0	80	32	1810	✓ Nature to over mature coppice with few standards, stands felled and not replanted.	Copse contains an old field with clearly defined boundaries, rich flora including one service tree.
Havant Thicket - Furry Plain (SU 723 103)	(s)3Aa, (s)12A	Reading Beds Typical Stag-nogley	6.4	50	11	X	X Birch area - secondary birch on heath. S area neglected coppice, some conifers in NE.	
Idsworth Common (SU 719 108)	6Db, 12A	Reading Beds Typical Stag-nogley	13.0	52	12	1810 PW Enclosed 1816	✓ Apert from past oak coppice, very little except motorcycle scrambling (illegal?)	A surviving part of ancient Common originally as pasture woodland. Little subsequent management since enclosure.
Old Brickyard (SU 718 084)	(s)3Aa, (s)2Aa	London Clay Typical Stag-nogley	1.4	43	15	X	X Neglected secondary woodland on old clay pit.	
Thicket Bottom (SU 719 093)	3Aa, 6Db, 6Dc	London Clay Typical Stag-nogley	37.0	93	31	1810 PW Enclosed 1870	✓ Oak high forest planted on site of old pasture woodland (part of Forest of Bere)	<u>Hypericum elodes</u> present in pond at northern end. Rich flora.
Wakeford Copse (SU 723 090)	6Dc, 3Aa, 11A	London Clay Typical Stag-nogley	2.6	69	23	✓ EW	✓ Neglected coppice with standards with the coppice grubbed out in the W.	
The Warren (SU 705 093)	(s)7A (s)3Ab	London Clay Typical Stag-nogley	5.5	78	19	X	X Recent unmanaged secondary woodland.	



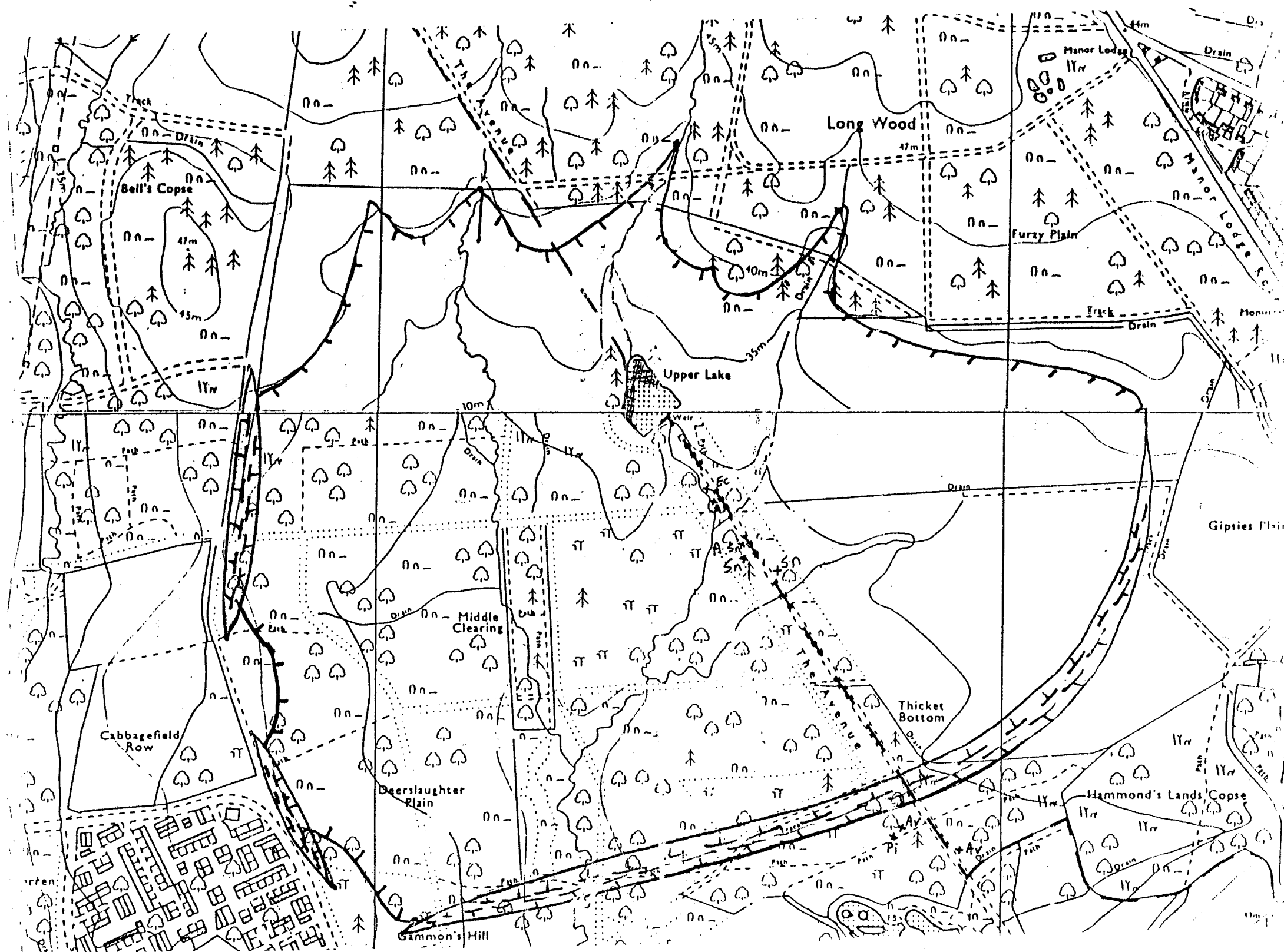


MAP 3 HAVANT THICKET

First Series 6" O. S. Map, Surveyed 1860's



Survey Results



Lichens:

A_v = *Arthonia vinosa*

A = *Arthopyrenia ranunculospora*

Ec = *Enterographa crassa*

P_i = *Phaeographis inusta*

Sn = *Schismatomma niveum*

$\otimes$ = *Hypericum elodes* & *Eleogiton fluitans*

Vascular Plants:

Surveyed

= Boundary of area examined

= Site surveyed

= Area of formal gardens, not examined

