

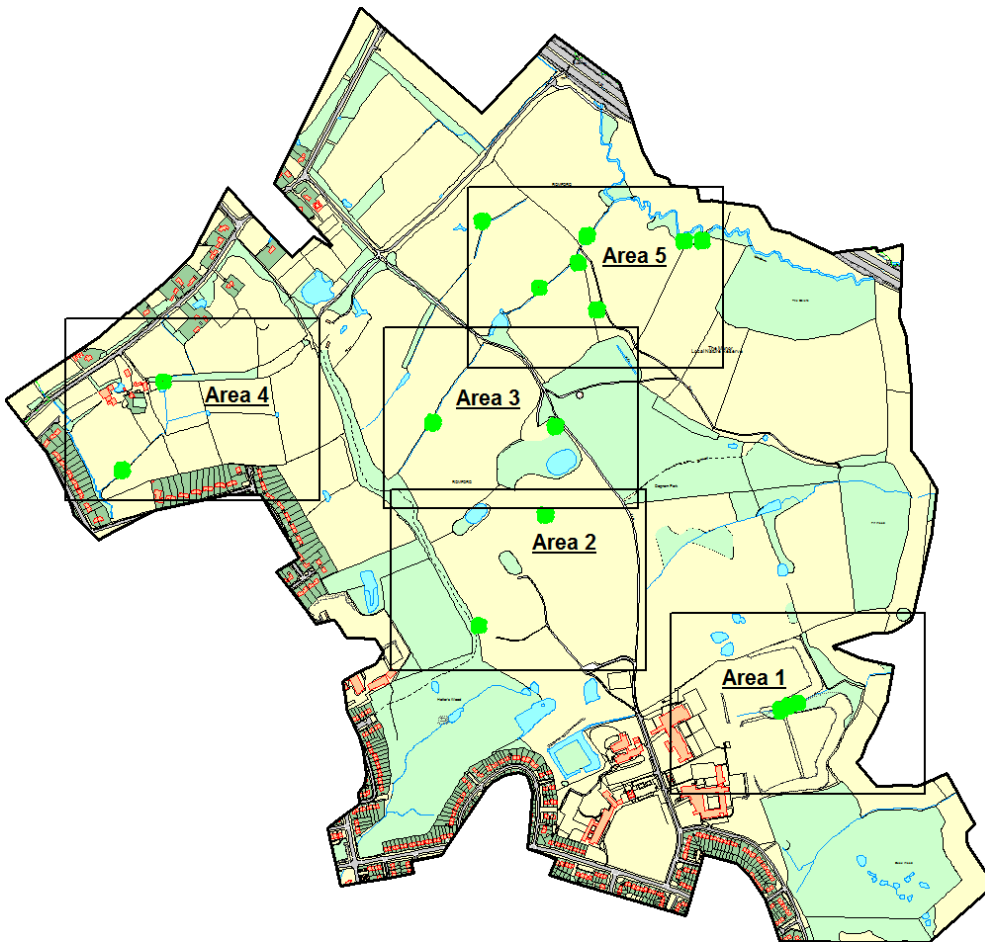


Veteran Tree Management Report

Dagnam Park

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1.1 Introduction

- 1.1 Instructions have been received by James Blake Associates to survey the tree stock of Dagnam Park, and the areas of the recently incorporated extension, for the purposes of locating veteran trees and providing recommendations for their management. The principal purpose of this survey is to locate and provide general survey information on these trees so that their continual management may be undertaken in a professional and systematic manner into the future.
- 1.2 The original area of Dagnam Park is idealised English woodland pasture consisting of deer grazed grassland with incidental tree cover and compartments of secondary woodland generally populated with Oak, Ash, Field Maple, Hornbeam, Hawthorn and Sycamore. The land recently incorporated into the park is known as Lower Noak Farm, Manor Farm, Priory pond and The Paddock. These areas are divided into field areas of rough grassland, defined by historic Hawthorn and Field Maple hedgerows that are punctuated with large specimen trees which are predominantly Oaks but also include Ash and Hornbeam. Until recently the fields at the north western end of the area known as Lower Noak Farm have been in arable production and were left ploughed at the time of the survey.
- 1.3 Also included in this survey are the areas known as Hatters wood and Duck Wood, whilst these have not been included in the extension of the park they are intrinsically linked, both through their historic inclusion in the wider estate, and through the use of these spaces by the park users. The veteran trees in these areas are an integral part of the ecosystem within the park and their influence dictates that they be included within this report.

2.0 Methodology

- 2.1 The methodology for this survey has been adapted from the Veteran Trees Initiative, Specialist Survey Method.
- 2.2 For the purpose of this report, trees have been inspected in detail by visual means from ground level only. No aerial inspection has been undertaken and no decay detection equipment has been used. The trees have been scored against the criteria listed below and those that exceeded a score value of 10 have been recorded in the tree survey schedule (Appendix 1), tagged with an individual tree number, located with GPS and plotted on the accompanying plan (Appendix 3).
- 2.3 The Veteran tree scoring system and morphological reference statements and definitions have been adapted from Veteran Trees: A Guide to Good Management by Helen Read (2000)

2.4 For the purpose of this report Veteran trees are defined as those trees that show a high level accumulation of characteristics associated with trees of advanced age for their species, or that are in an advanced state of decline. Listed below are the characteristics included in the survey and brief information on why they are important. For the purpose of defining a veteran tree some of the criteria are judged to be more significant and have therefore been given a score value of 2 points. Those characteristics judged to be indicative of veteran status but of lesser importance have been given a score value of 1.

- Girth large for given species – score value 2
Large girth of a tree is an indicator of old age but is also important because larger masses of wood provide a more stable environment for the colonisation by associated species that can be very sensitive. The internal temperatures of the timber are more constant because of the insulating effect of the wood and the moisture content of the timber is less susceptible to environmental changes.
- Major trunk cavities or progressive hollowing – score value 2
The development of major cavities indicates old age because the process of timber degradation and hollowing takes many years. These cavities are important as they can be home to organisms that require very specific conditions for their survival, and can also provide roosts for bats and other fauna.
- Decay holes – score value 2
Decay holes in the trunk or crown of the tree begin at points of damage either from limb loss or pruning or physical damage to the wood. They are important because they provide habitat for a wide variety of species and may progress to form more extensive cavities.
- Large quantities of dead wood in the canopy – score value 2
Large dead limbs still attached to the tree are significant because a wide variety of species depend upon them as an integral part of their life cycle.
- Epiphytes and Hemiparasites – score value 2
The presence of epiphytic plants such as mosses and lichens and hemiparasites such as mistletoe is significant because they require the long term environmental stability of their hosts. Many of these species are only found on veteran trees.

- Large fallen tree – score value 2
Large fallen trees are important within the environment because they combine the characteristic benefits of large girth with those of dead wood. The occurrence of dead wood at ground level is significant to a wide variety of species that depend upon this specific environmental niche.
- Evidence of historical management – score value 2
Historical management techniques such as pollarding and coppicing are significant for a number of reasons. These processes can lead to the extension of the life span of the tree and therefore increase the chances of a tree becoming a veteran. The tree may have particular cultural or historic values as a “working tree” or as a tree that denotes landscape boundaries.
- Naturally forming water pools – score value 1
Water pockets or pools that collect rainwater may form at major stem unions or in buttress depressions and may occur at various heights. They may provide specialist habitats for fungi and insects.
- Physical damage – score value 1
Physical damage to the tree may take many forms including vandalism, impact by machinery or vehicles, inappropriate tree surgery or lightning or fire damage. There are many other possibilities but the effect is usually to reduce the trees life expectancy thereby initiating the process of decline and possibly veteranisation.
- Bark loss – score value 1
Areas of bark loss on the main stems or trunk can be caused by outside agents but can also be indicative of the early stages of decline. Dead bark and loose bark in the canopy form an important, if temporary, environment for a wide variety of species.
- Sap runs (bark fluxes) – score value 1
Emissions from within the tree leaking to the bark surface may result from bacterial or fungal activity. It may also result from bleeding wounds or localised reactions to surface colonisation. Fluxes may emerge from wounds, cracks or fissures without obvious signs of decay. These substrates can provide specialised habitat for fungi and invertebrates.

- Crevices in bark sheltered from rainfall – score value 1
The presence of dry environments within the tree can be colonising sites for some very specific fungi. These sites occur infrequently making them important to biodiversity.
- Fungal fruiting bodies – score value 1
The presence of fungal fruiting bodies indicates that a tree has been colonised by fungi. As many species of fungi may be present for many years without producing a fruiting body their presence can indicate advanced stages of decay within the timber. These agents of decay are part of the natural life cycle of the tree and can contribute to its natural decline.
- Splits or cracks in major limbs – score value 1
These splits or cracks can indicate that the tree can no longer sustain the extent of its canopy and is entering a period of crown collapse. This is a natural part of the life cycle.
- Moderate volume of dead wood on canopy – score value 1
Dead limbs still attached to the tree are significant because a wide variety of species depend upon them as an integral part of their life cycle. If they are not in large numbers or of a large size they will decay more quickly and, whilst still valuable, not provide the same environmental benefits of larger dead wood.
- Dead wood on the ground – score value 1
The presence of deadwood on the ground is an important wildlife habitat but does not offer the longevity of large fallen trees. If they are not in large numbers or of a large size they will decay more quickly and, whilst still valuable, not provide the same environmental benefits of larger dead wood.

3.0 Veteran tree definition

3.1 The term “veteran tree” is not possible to define precisely but can be taken to mean those trees covered by three guiding principles:

- Trees in the ancient stage of their life cycle.
- Trees of old age compared with the expected lifespan of their species.
- Trees that, because of their age, are culturally, biologically or aesthetically interesting.

4.0 The importance of Veteran trees

4.1 Veteran trees are important for many reasons which can be broadly broken into two areas;

- Humanistic values
Veteran trees can have great aesthetic value and inspire people to take an interest in the landscape. Some veteran trees are linked to historic characters or events. Often they illustrate past land uses and cultural landscapes and may be part of a garden or designed landscape such as those popularised in the 18th and 19th centuries by Lancelot Brown and Humphry Repton.
- Biological values
Veteran trees are especially important because they provide very specialised habitats for a wide range of flora and fauna, some of which are generalists, but many are very specific and are only found on veteran trees. Because of the rarity of veteran trees individual specimens can harbour large populations of several species at any given time. Because of their age they are also considered to be a valuable genetic resource, they are more likely to be descendants of the wildwood that covered Britain after the last ice age, because they are proven to be resilient to the effects of time they may be a valuable resource for breeding new trees.

5.0 Populations of veteran trees

5.1 Where veteran trees occur in populations they become more important as a resource by multiplying their potential to share beneficial genetic material, thereby ensuring the future of their offspring. This in turn improves the continuity of support available to related organisms and improves the prospects for species that depend upon the existence of these ancient trees for their habitat.

6.0 Veteran Trees in Dagnam Park

- 6.1 The original area of Dagnam Park contains a number of significant trees predominantly located around the boundaries of the area and in proximity to site features such as ponds and ditches, none of these trees qualifies as a veteran according to the criteria set out above but should over the course of time develop to become veterans.
- 6.2 Inspection of the hedgerows and field boundaries of the newly incorporated areas has revealed a large number of over mature trees, of which 10 have been classified as veterans, 8 of which are Oak and 2 are Ash. For the location of these trees see the site plan in appendix 2.
- 6.3 A further 4 veteran Oak trees have been found outside of the park boundaries on land associated with the park. One of which is located in Hatters Wood and three more in the woodland strip linking the park to Duck Wood. For the location of these trees see the site plan in appendix 2.
- 6.4 The survey has also revealed that the park contains a large number of trees designated as future veterans, these are trees that show a significant number of defining features but have not achieved a high enough score to be called veterans.

7.0 Conclusions and Recommendations

- 7.1 The tree stock is well represented through all age classes including 14 veteran trees and a large number of future veterans, given the size of the park this can be considered to be a high density population and establishes the park as a site of great importance. Because of the abundance of trees that will become veterans there is no need to try to preserve the longevity of the veteran trees through remedial tree works. Instead it would be better to implement a policy of naturalistic management and allow them to remain in a state of managed decline as they will be quickly succeeded by a new generation of veterans.
- 7.2 For the sake of maintaining continuity of historic management techniques it may be desirable to reinstate pollarding of those individual specimens that have been managed in this way in the past, however this should not be enacted before the trees have been assessed in detail by a suitably qualified arboriculturalist, and an individual management plan produced in line with principles of best practice.

- 7.3 It is recommended that all trees are inspected annually as a matter of course by a qualified arboricultural consultant in order to assess their risk to the health and safety of users of the public open space, and to assess any changes regarding the needs of the trees. All findings should be recorded in a clear and accessible manner in order that continuity of management is ensured.
- 7.4 Should it be perceived that these trees represent an unacceptable risk to members of the public, a policy of exclusion from the proximity of the trees should be adopted. This may take the form of a physical barrier such as a fence or through softer methods such as encouraging the growth of brambles beneath the trees or by re –routing pathways and desire lines away from the trees. It is not perceived that creating exclusion zones will represent a detrimental loss to the usable space of the park as most of the veteran trees are already within hedge lines or areas of limited access.

8.0 Threats to Veteran Trees

- 8.1 Surveying of Dagnam Park’s tree stock has revealed a history of vandalism and fire lighting that represents the biggest threat to these valuable trees. Many of the trees have had fires lit within cavities and hollow trunks which have resulted in the loss of much of the partially decayed wood. This loss is a significant problem for many species of fungi and invertebrates that depend upon this wood for their habitat. There are many ways in which this issue could be addressed for example, increased policing, and increased awareness through community involvement or installation of exclusion methods such as fencing.

9.0 Community Involvement

- 9.1 Because the park already has a high level of community interest and an active and enthusiastic wild space officer, it is recommended that volunteers are recruited to continue the collection of data on the park’s veteran trees. Beginning with the data recorded in the survey schedule (appendix 1), a more detailed survey could be completed in line with current principles of best practice regarding veteran tree management. A suitable survey method and recording system is available from Natural England as part of the “Veteran Trees Initiative”. Survey schedules can be downloaded in Pdf format online from www.treeworks.co.uk/downloads/SSM_HandBook.pdf . Upon completion of a survey the recorder or responsible organisation should keep the original documentation and copies made and filed for safe keeping. Havering Borough Council should be kept informed of progress and completion of recording and should be informed where documents are held. Havering Borough Council will be responsible for the overall co-ordination of survey results and will consider their collation within a national database of veteran trees.

Appendix 1: Tree Survey Schedule

tag no	Tree number and species	survey cat A,B,C,D	height (M)	Girth	Canopy spread (M)	Estimated life span (years)	General Condition	Comments	Preliminary works
1501	T1 Oak <i>Quercus robur</i>	B 14	10	4.6	14	700+	Fair	Old lapsed pollard Oak on old ditch line, specimen displays a large cavity at base extending to primary pollard points. Canopy is mostly live although somewhat stunted.	none
1502	T2 Oak <i>Quercus robur</i>	B 12	14	4.05	17	650+	Fair	Specimen may have been pollarded in the past but not in an established cycle, tree is located on ditch line, tree has a major basal cavity extent of decay is unknown. Canopy contains large dead branches but shows good adventitious growth at multiple points. Fires have been lit in basal cavity.	Consider preventing access to basal cavity to avoid future fire damage.
1503	T3 Oak <i>Quercus robur</i>	B 11	8	4.1	5	700+	Poor	Old pollard on ditch line. Tree is in advanced state of decline with live bark and cambial layer reduced to 15 to 20% of main stem. Fire damage to main stem is extensive. Remnant crown shows reduced vigour.	none
1504	T4 Oak <i>Quercus robur</i>	B 11	25	4.4	15	600+	Fair	Specimen shows twin stem form with an open crown, decay in main stem with associated Ganoderma brackets, fire damage to main stem. Adventitious growth appears healthy.	none
1505	T5 Oak <i>Quercus robur</i>	B 12	16	3.6	10	600+	Fair	Tree marks end of old ditch line, specimen shows typical form with open crown, large basal cavity secondary crown in good condition.	none
1506	T6 Wellingtonia <i>Sequoiadendron giganteum</i>	C						Tree is not a Veteran but is included due to its significance to the site history	none

tag no	Tree number and species	survey cat A,B,C,D	height (M)	Girth	Canopy spread (M)	Estimated life span (years)	General Condition	Comments	Preliminary works
1507	T7 Atlas Cedar <i>Cedrus atlantica</i>	C						Tree is not a Veteran but is included due to its significance to the site history	none
1508	T8 Oak <i>Quercus robur</i>	B 13	20	4.35	9	500+	Poor	Open grown tree adjacent to hedge line, major limb loss due to structural weakness caused by extensive basal cavity, fire has been lit in base, adventitious growth is sparse.	none
1509	T9 Oak <i>Quercus robur</i>	B 13	15	5.44	18	700+	Fair	Open grown tree in hedge line, large basal cavity extending into major limbs, mycelium in brown rot indicates fungal pathogen present, large limbs failing indicating beginnings of crown collapse, good adventitious growth within crown.	Monitor for health and safety
1510	T10 Oak <i>Quercus robur</i>	B 11	10	4 (estimated)	14	700+	Fair	lapsed pollard on ditch line, major wet cavity in main stem with natural drain at base	none
1511	T11 Oak <i>Quercus robur</i>	B 11	8	3.4 (estimated)	6	700+	Poor	Old pollard on ditch line. Tree is in advanced state of decline with extensive deadwood in crown. Remnant crown shows reduced vigour.	none
1512	T12 Ash <i>Fraxinus excelsior</i>	B 11	18	3.5 (estimated)	14	250+	Fair	Open grown tree on hedge/ditch line. Major decay cavity in main stem extending into major limbs. Fungal brackets present in crown. All major limbs have failed forming a "natural pollard" re-growth appears vigorous.	none
1513	T13 Oak <i>Quercus robur</i>	B 11	10	3.5 (1/2 trunk)	10	700+	Poor	Old pollard adjacent to stream, half of trunk has completely decayed leaving remnant shell. Remnant crown shows good vigour.	none

tag no	Tree number and species	survey cat A,B,C,D	height (M)	Girth	Canopy spread (M)	Estimated life span (years)	General Condition	Comments	Preliminary works
1514	T14 Ash <i>Fraxinus excelsior</i>	B 11	18	4 (estimated)	15	350+	Fair	Ditch/Hedgerow tree, large open grown crown, has collapsed, regeneration shows good vigour, large fallen limb.	none
1515	T15 Oak <i>Quercus robur</i>	B 11	8	4.5	7	700+	Poor	Old pollard on field boundary. Tree is in advanced state of decline with live bark and cambial layer reduced to 40 to 45% of main stem. Remnant crown shows reduced vigour.	none
1516	T16 Oak <i>Quercus robur</i>	B 12	16	5.5	12	650+	Fair	Possible lapsed pollard, situated on ditch line. Large trunk contains extensive hollowing extending into remaining major limb. Large limbs have fallen in the past and lie in situ. Regenerative growth shows low vigour.	none

T1. Oak *Quercus robur*



T2. Oak *Quercus robur*



T3. Oak *Quercus robur*



T4. Oak *Quercus robur*



T5. Oak *Quercus robur*



T6. Wellingtonia *Sequoiadendron giganteum*



T7. Atlas Cedar *Cedrus atlantica*



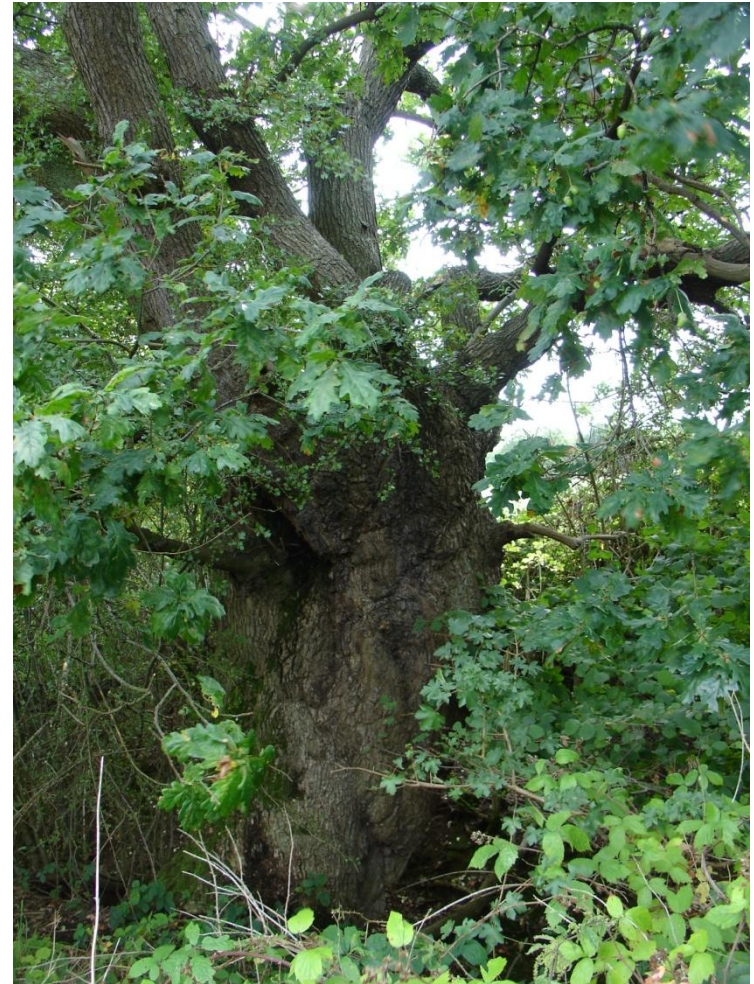
T8. Oak *Quercus robur*



T9. Oak *Quercus robur*



T10. Oak *Quercus robur*



T11. Oak *Quercus robur*



T12. Ash *Fraxinus excelsior*



T13. Oak *Quercus robur*



T14. Ash *Fraxinus excelsior*



T15. Oak *Quercus robur*



T16. Oak *Quercus robur*

