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AELTC application to develop Wimbledon Park Golf Course

Merton 21/P2900, Wandsworth 2021/3609

The northern hedgerow, Wimbledon Park. Expert assessment proves bio-diversity net loss.

These observations were prepared by Dr D.G. Dawson for the Residents' Association. He is a professional applied environmental scientist, specialising in environmental methodologies. He worked on environment, biodiversity, ecology, and nature conservation for London government from 1983 until 2006 and he was joint Head of the Mayor of London's Environment Group. He developed Sites of Importance for Nature Conservation and Areas of Deficiency in Access to Nature and led work on the Mayor's Biodiversity Strategy for London.

Dr Dawson has lived in the area and taken a keen interest in Wimbledon Park flora and fauna for more than 35 years. We are most grateful to him for his knowledge and expertise.

Please treat this paper as a further planning objection.

For the Wimbledon Park Residents' Association, 56 Home Park Road, SW19 7HN.

Iain C. Simpson Chairman, Dr D. Dawson, and C.B. Coombe, Planning and Environment Committee

1. Summary

A detailed examination of the trees and shrubs of the 80-year-old northern hedgerow confirmed earlier conclusions that the AELTC planning application for intensive development of the Wimbledon Park Heritage Landscape would result in a biodiversity net loss. This is for two reasons. First, a failure to document, and hence to protect, many existing trees. Second, adopting a target woodland type that is incompatible with the local soils.



2. Introduction

In his submissions on AELTC's planning application for intensive grass courts development of Wimbledon Park Golf Course and Lake^a, Dr D. Dawson found that AELTC^b had missed much of the woody vegetation of the golf course, especially the smaller specimens of trees and shrubs. They also specified the soil type incorrectly, so failing to document the existing value. AELTC consequently planned works in places occupied by the ignored trees and to develop a type of woodland alien to the soils of the site. Dr Dawson concluded that these two deficiencies prevented the promised biodiversity net gain.

For proof of this, Dr Dawson has documented part of the application site, the northern hedgerow, in some detail, allowing him to test his earlier findings there. This test is the subject of this submission, in Dr Dawson's own words.

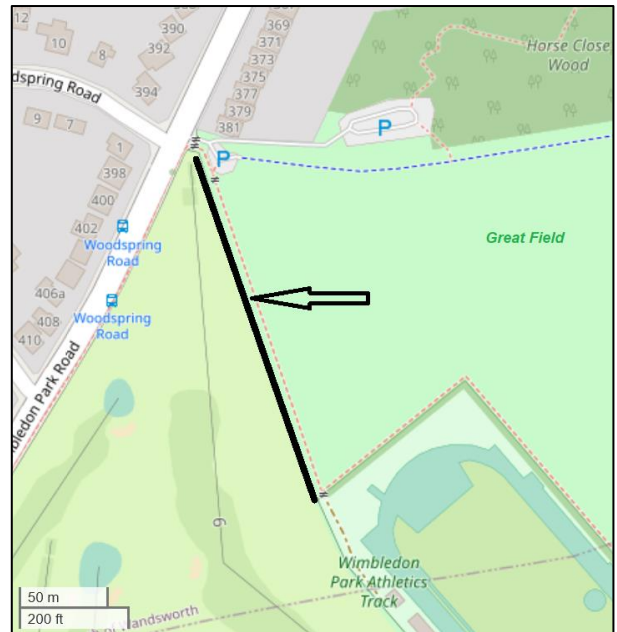


Figure 1. The northern hedgerow (arrow).

3. History of the northern hedgerow

Old maps confirm that the area around the present-day hedgerow was part of Lancelot Brown's Wimbledon Park, in use by the Earls Spencer between 1750 and 1827, after which it became leasehold farmland and then came into sports^c use. It was acquired by Wimbledon Corporation (a predecessor of London Borough of Merton) in 1915. A hedgerow, positioned some 50 m west of the present one, was planted at some time between 1913 and 1933 to separate an existing golf course from the new public park. This hedgerow was still there in 1938 but was subsequently lost, and a new hedgerow in the present position was first mapped 1949, making today's hedgerow around 80-years old^d. Its position is given in Figure 1.

Whilst there is no known record of the species that were planted, the present-day hedgerow is predominantly tall^e old Hawthorn (*Crataegus monogyna*), so the original planting was with this species. The hedgerow has grown to over 5 m in width over the 80 years and acquired many extra species. Whilst a few of these are likely to have been planted (*Rosa spinissima* and a pink climbing rose, *Rosa* cultivar), most of these species are likely to have been dispersed naturally to the hedgerow by birds.



4. Species composition

I viewed the northern hedgerow from the public park to identify and assess the abundance of plants on 28 visits, starting in September and October 2019 and then monthly, April to October, each year. These visits found some 45 species typical of hedgerow or woodland (see the Appendix for a listing)^f. Clearly, the hedgerow is biodiverse.

The most prominent trees were fifteen English Oaks (*Quercus robur*). Also prominent were three Scots Pines. More numerous, but younger, were ten Ash (*Fraxinus excelsior*) trees. An estimated 50 Evergreen Oaks (*Quercus cerris*) were all young. Next in number were young Holly (*Ilex aquifolium*) shrubs, one of which grew some 7 metres tall, overtopping the surrounding Hawthorns. There were four Silver Birch (*Betula pendula*) trees, two Sycamores (*Acer pseudoplatinus*), a single mature Horse Chestnut (*Aesculus hippocastanum*) and two seedling chestnuts. Trees found as singletons included Turkey Oak (*Quercus cerris*), Grey Willow (*Salix cinerea*), Myrobalan Plum (*Prunus cerasifera* var *pissardii*), Wild Cherry (*Prunus avium*), Yew (*Taxus baccata*), Norway Maple (*Acer platanoides*), Field Maple (*Acer campestre*), Chinese Cherry (*Prunus serrulata*), Hybrid poplar (*Populus x canadensis*) and Swedish Whitebeam (*Sorbus intermedia*). Apart from the old Hawthorns, the shrubs included five mature Elders (*Sambucus nigra*), a small clump of Snowberry (*Symphoricarpos albus*), a Laurustinus (*Viburnum tinus*), Cherry Laurel (*Prunus laurocerasus*), Butterfly-bush (*Buddleja davidii*) and a 5-metre-tall Grey Willow (*Salix cinerea*). Growing over and through the trees and shrubs was much Ivy (*Hedera helix*), Brambles (*Rubus fruticosus* agg.), two species of Honeysuckle (*Lonicera*), a few Dog Roses (*Rosa canina*), a Burnet Rose (*Rosa spinosissima*) and a pink-flowered climbing rose (*Rosa* cultivar).

The species composition of the hedgerow reflects both its situation near to suburban development, with a rich seed-source in its diversity of garden horticulture, and its isolation from the next-nearest area of old woody habitat. Missing from the list are the ancient woodland species of Horse Close Wood which lies 200 m away (Dog's Mercury *Mercurialis perennis*, Bluebell *Hyacinthoides non-scripta*, and Pendulous Sedge *Carex pendula*).

Despite this idiosyncrasy, it is possible to compare the species composition with that typical of two contrasting National Vegetation Classification types to see what the species tell us of the soil. AELTC's Outline Landscape Management Plan considered that the woodlands of the site should be those of acid soils (National Vegetation Classification type W10)^g. I considered, rather, that the aim should be for woodland of calcareous soils (NVC type W8), as it is this type that occurs in Wimbledon Park^a. The list for the hedgerow (see appendix) has three species preferential for W8 and only one preferential for W10. Crucially, it also lacks Bracken (*Pteridium aquilinum*), which is typical of W10, but rare in W8. So, the species of the hedgerow confirm my earlier conclusion that woodland of calcareous soils is natural here and should be the aim for woodland in future. There is no doubt that the AELTC proposals



are in error in specifying a woodland of acid soils as the target. Acid woodland species would not thrive on the local soils.

5. The ages of the trees and shrubs

The estimated age of each individual of the woody species is given in the Appendix. Figure 2 summarises the age-distribution^h. The oldest trees, two English Oaks with estimated ages of 130 years would be 50 years older than the Hawthorns and so predate the planting of the hedgerow. The ages of all the other trees and shrubs fall well short of 80 years, showing that they have arrived after the hedgerow was planted. These have a concentration at the youngest age range and a diminution in numbers with age. This age composition is typical of a “type III survivorship curve”, as is expected for trees and shrubsⁱ.

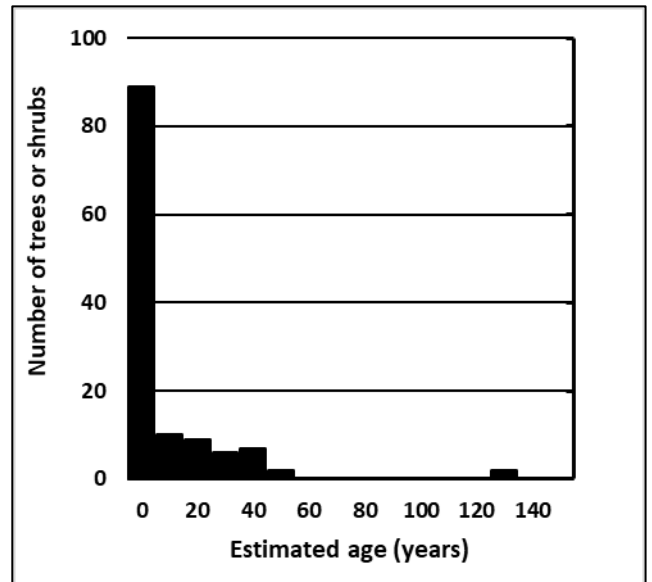


Figure 2. The estimated ages of the 125 trees and shrubs in the hedgerow.

6. The adequacy of the AELTC data on woody vegetation

The AELTC planning application had no detailed documentation of the woody vegetation of the site beyond a “*Tree Survey BS5837-2012*”. This British Standard is for: *Trees in relation to design, demolition and construction – Recommendations*. Its prime focus is thus not on biodiversity, nor nature conservation value. The standard requires documenting trees and shrubs above 150 mm diameter (and desirably above 75 mm). In the hedgerow area, the tree survey documented just 16 trees, all over 150 mm diameter^j. This missed an English Oak of 300 mm diameter (around 45-years-old) and all but two of the many 80-year-old Hawthorns (which were all over 150 mm diameter). The omitted trees and shrubs that were between 75 mm and 150 mm in diameter included 2 Ash and one each of English Oak and Holly. Thus, even in its own terms, the tree survey missed 83 of the 99 trees (83%) in this northern hedgerow.

The AELTC tree survey listed 1125 trees on the application site. If the northern hedgerow were typical of the whole site, we estimate that there were actually 6600 trees, 5500 (83%) of which were missed by the survey. This extrapolation from a small section of the application site would be subject to error to the extent that the northern hedgerow is not



typical of the whole. Another approach to estimating the numbers of trees missed by AELTC comes from the typical age distribution of trees.

Trees have very numerous seeds but these have to fend for themselves, mortality is greatest among the youngest individuals. The resulting “Type III survivorship curve” is initially very steep, reflecting very high mortality among the seeds, seedlings and saplings, but flattens out as the few trees that reach maturity survive for a longer time¹. Figure 3 shows that we need twice the number of trees listed by AELTC, to achieve this shape of survivorship curve. If we exclude the seedlings and trees under 7.5 cm in diameter, the extras needed approximate the number listed by AELTC in their survey. So, a conservative estimate of the number of trees missed by AELTC is 1000.

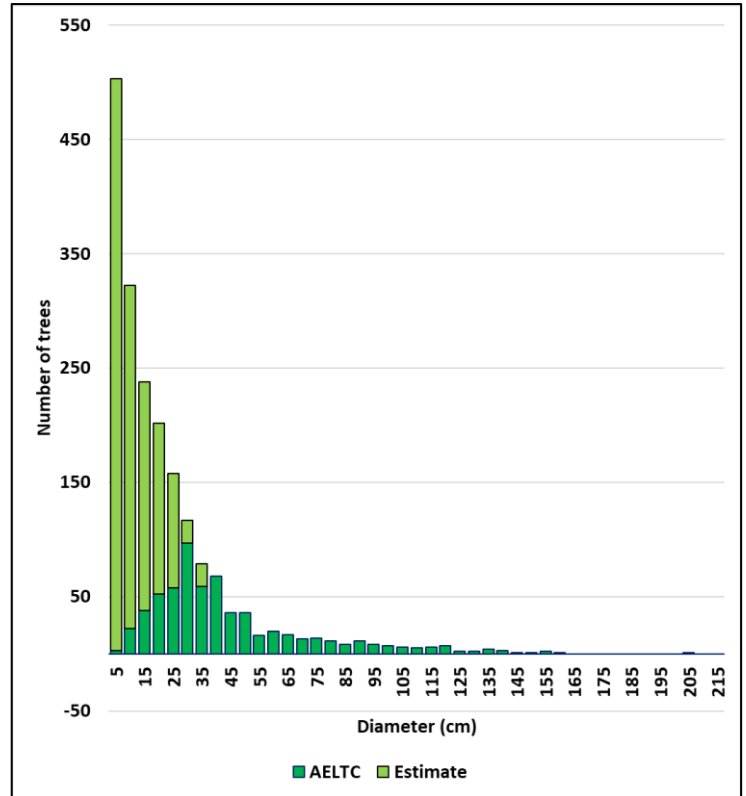


Figure 3. The number of trees found by the AELTC tree survey (dark green) and the estimate of those missed (light green).

For an evaluation of the biodiversity value and potential of the old hedgerow the omissions were fatal, as no hedgerow was mapped in the “tree survey” and only 17% of the woody plants known to be present were documented. AELTC failed to document the great value, diversity, and potential of these trees for woodland enhancement. My earlier conclusion that a very large number of trees and shrubs was omitted from the evaluation of the site is thus supported by a detailed study of the hedgerow. Clearly AELTC’s evaluation of biodiversity net gain is a fiction when the present biodiversity of the area is ignored and essentially unknown. It is clear that the proposals intend the loss of a great number of ignored trees and shrubs that would be wholly hidden from the net gain calculation, making the calculation worthless.



7. The future for trees and shrubs in the hedgerow is indicative of other woodland areas

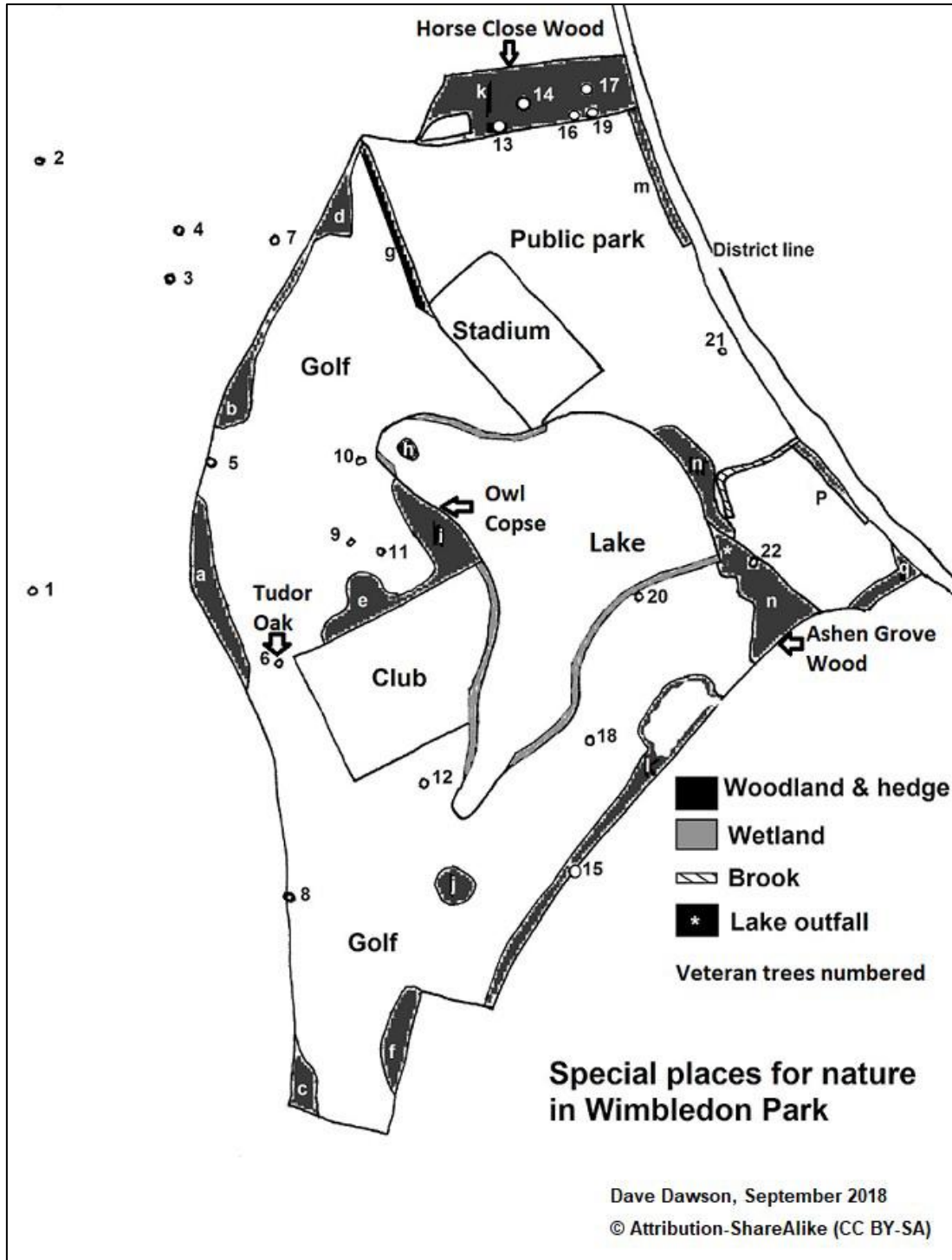


Figure 4. The existing woodland and hedgerows of the Wimbledon Park Heritage Landscape as described in 2018^k.



The AELTC proposals have a “Tree Protection Plan”^l, which indicates trees to be felled and those to be retained and protected. Unsurprisingly, the part of this plan for the hedgerow area shows only the 16 “trees” identified in the *Tree Survey* as retained and protected. The hedgerow is proposed to be replaced by a few newly-planted, young “woodland trees”, but also with utility corridors, “Hub 2” and a series of paths to the hub and to the hard-surfaced “Northern Gateway”, and accompanying water features (“swales”). Much of this detail is more explicit on a “Hard Landscape General Arrangement Plan”. The net result is that many of the unprotected trees and shrubs of the hedgerow would be lost.

In 2018, I updated my map of the main areas of woodland and hedgerow in the whole Heritage Landscape (Figure 4). On this plan, the northern hedgerow is identified as “g” and a further 11 areas of woody cover within the planning application boundary are also identified^m.

The deficiencies of the AELTC survey information doubtless apply to these other 11 areas. For example, independent survey is available for area “l” in Figure 4, the wooded strip on the boundary with Home Park Roadⁿ. Here, too, most trees are ignored in the AELTC survey. The proposed development in and around these 11 areas is indicated on the tree protection and hard landscape plans that accompanied the planning application. A comparison of these with my 2018 map shows that only a few existing trees and shrubs are to be protected. Many are to be replaced by a few newly-planted trees, and also by “gateways”, “hubs”, four new access ways (two to Church Road and two to Home Park Road), “Show Court” access, the “southern gateway”, the maintenance depot, a sunken hedge and ditch, swales, an attenuation pond and an “artificial bat cave”^o. Many of the ignored trees are in areas proposed for development, so their loss is certain, but not acknowledged in the AELTC proposals.

The data for the northern hedgerow, in the appendix, indicate the future, in that the young specimens there will grow to become part of a future native woodland of calcareous soils. This woodland will have English Oak, Holly, Hawthorn, Ash, Elder, Goat Willow, Yew, and Field Maple. Non-native species that occur in good numbers of young specimens will also be part of this future woodland: Evergreen Oak, Sycamore, Norway Maple, Turkey Oak and Swedish Whitebeam. Whilst some of these might be considered undesirable aliens, they are native to nearby parts of continental Europe and so are near-native and well adapted to future climates. They are also species that were employed by Lancelot Brown in his landscaping^p and so echo the landscape tradition of the area.



So, if it is spared ignorant destruction, the hedgerow would mature into a woodland type suited to the ecology and landscape history of the area. This would also be the future of other areas of woody vegetation within the proposal area should these too be spared. Working in this way with natural processes would ensure biodiversity net gain, in that it builds on the present value with natural growth. It requires the documentation of present value, and that any future development should work with this natural woodland future.

Appendix. Plant species found in the northern hedgerow in 28 visits, April to October 2019 to 2023. Species in bold are woody. The species are given in order of number, judged on a logarithmic scale on each visit and averaged over all visits. These figures are therefore, a coarse index of actual abundance. The estimated ages^q of each of the woody specimens is given after the species' names. The sole species indicative of acid soils is highlighted in yellow and the three indicative of alkaline soils in green. No bracken was found.

Number	Species		Species
600	Hedera helix	2	Plantago major
400	Poa trivialis	1	Taxus baccata: 20.
200	Rubus fruticosus agg.	1	Dactylis glomerata
70	Crataegus monogyna: 80, 80-years-old	0.9	Prunus avium: 50.
50	Quercus ilex: 50, all young.	0.8	Rosa spinosissima
20	Ilex aquifolium: 10 and 20 younger.	0.7	Sorbus intermedia: 10.
15	Quercus robur: 135, 130, 43, 43, 40, 39, 35, 14 and 7 younger.	0.6	Acer pseudoplatanus: 10,10.
6	Lonicera periclymenum	0.4	Ranunculus repens
5	Galium aparine	0.4	Urtica dioica
5	Lonicera japonica	0.3	Acer platanoides: 10.
5	Polygonum aviculare	0.3	Quercus cerris: young.
5	Fraxinus excelsior: 40, 15, 13 and 10 younger	0.3	Viburnum tinus: 10.
5	Prunus cerasifera var. pissardii: 20, 20.	0.3	Symphoricarpos albus: 10.
4	Sambucus nigra: 20, 20, 10, 10, 10.	0.2	Prunus laurocerasus: 30.
4	Salix caprea subsp. caprea: 15 & 3 young.	0.2	Rosa cultivar
3	Pinus sylvestris: 30, 30, 30.	0.1	Anthriscus sylvestris
3	Aesculus hippocastanum: 50 and 2 seedlings.	0.07	Heracleum sphondylium
2	Rosa canina	0.04	Acer campestre: young.
2	Betula pendula: 40, 40, 20, 20.	0.04	Buddleja davidii: young.
		0.04	Carex pendula
		0.04	Laurus nobilis: 30.
		0.04	Populus x canadensis: 10.
		0.04	Prunus serrulata: 10.
		0.04	Salix cinerea: 20.
		0.04	Solanum nigrum
		0.04	Vicia sativa



^a *The soils of Wimbledon Park Heritage Landscape*. Dawson, March 2022.

Trees and woodland in the planning proposals for Wimbledon Park Golf Course. Dawson, September 2022.

^b The applicant formally was the All England Lawn Tennis Ground Plc, so a Public Limited Company, but is usually known under the acronym AELTC. The planning application was submitted to the London Boroughs of Merton (21/P2900) and Wandsworth (2021/3609) in 2021.

^c Latterly polo to the east and golf to the west.

^d Between 75 and 85-years old.

^e Mainly between 4 and 7 metres tall.

^f I confine my attention, here, to woody species and those included within the National Vegetation Classification Woodland types of the English lowlands. There were some 60 further species, mainly plants of disturbed situations and close-mown grassland which were found on the heavily-managed strip at the base of the hedgerow inside the public park.

^g Paragraph 4.8 *“Woodland, scrub and tree planting: Broadleaved woodlands to provide better structural diversity which more appropriately reflect the typical W10 NVC communities which are characteristic of acid soils in south west London.”*

^h Here I omit the Hawthorns, estimated to number around 80 individuals, as they were planted and would distort the age distribution of the remaining species, most of which were self-established.

ⁱ *Life tables and the rate of population growth*. www.britannica.com/science/population-ecology/Life-tables-and-the-rate-of-population-growth

^j 7 Oaks, 3 Scots Pines, 2 Silver Birches, 1 Elm, 1 Horse Chestnut and 2 Hawthorns. In fact, the “Horse Chestnut” was a Wild Cherry mislabelled and the “Elm” was a Silver Birch mislabelled.

^k *Special places and special species in Wimbledon Park*. D. Dawson 2018. Report for Friends of Wimbledon Park.

^l Appendix B of AELTC’s *Outline Arboricultural Method Statement*.

^m The wet woodland areas were included in my “wetland”.

ⁿ My data here are less complete than those for the northern hedgerow, but they confirm that many smaller trees and shrubs were omitted. These are also mainly the result of natural colonisation and have the same predominant species as does the northern hedgerow. The core here is older planted trees, mainly of Norway Maple, but also one veteran English Oak and a few Horse Chestnuts. Planted *Pyracantha* shrubs line parts of the boundary. Amongst the younger trees are many Norway Maple, English Oak, Ash, Evergreen Oak, White Poplar, Elm, Birch, Hawthorn, Wild Cherry and Elder, and a few Yew, Myrobalan Plum, Sycamore, Horse Chestnut, Apple, Holly, Laurel and Privet. Most of these species do not feature in AELTC’s surveys.

^o This is proposed for the island and would displace an existing heronry.

^p For example, the Montreal map of Wimbledon Park, dating from around 1784, shows that Brown’s completed landscape had an “Evergreen Oak clump”. Many of the other species found here today were listed as planted by Brown in published works describing Brown’s landscapes.

^q The age of trees can be estimated from the known relationship between their trunk diameter (“DBH”) and age, depending upon species and growing situation. The best information on this method is found in White, J. 1998. *Estimating the age of large and veteran trees in Britain*. Forestry Commission.

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