

Appendix 1

The Orchard Management Work Plan

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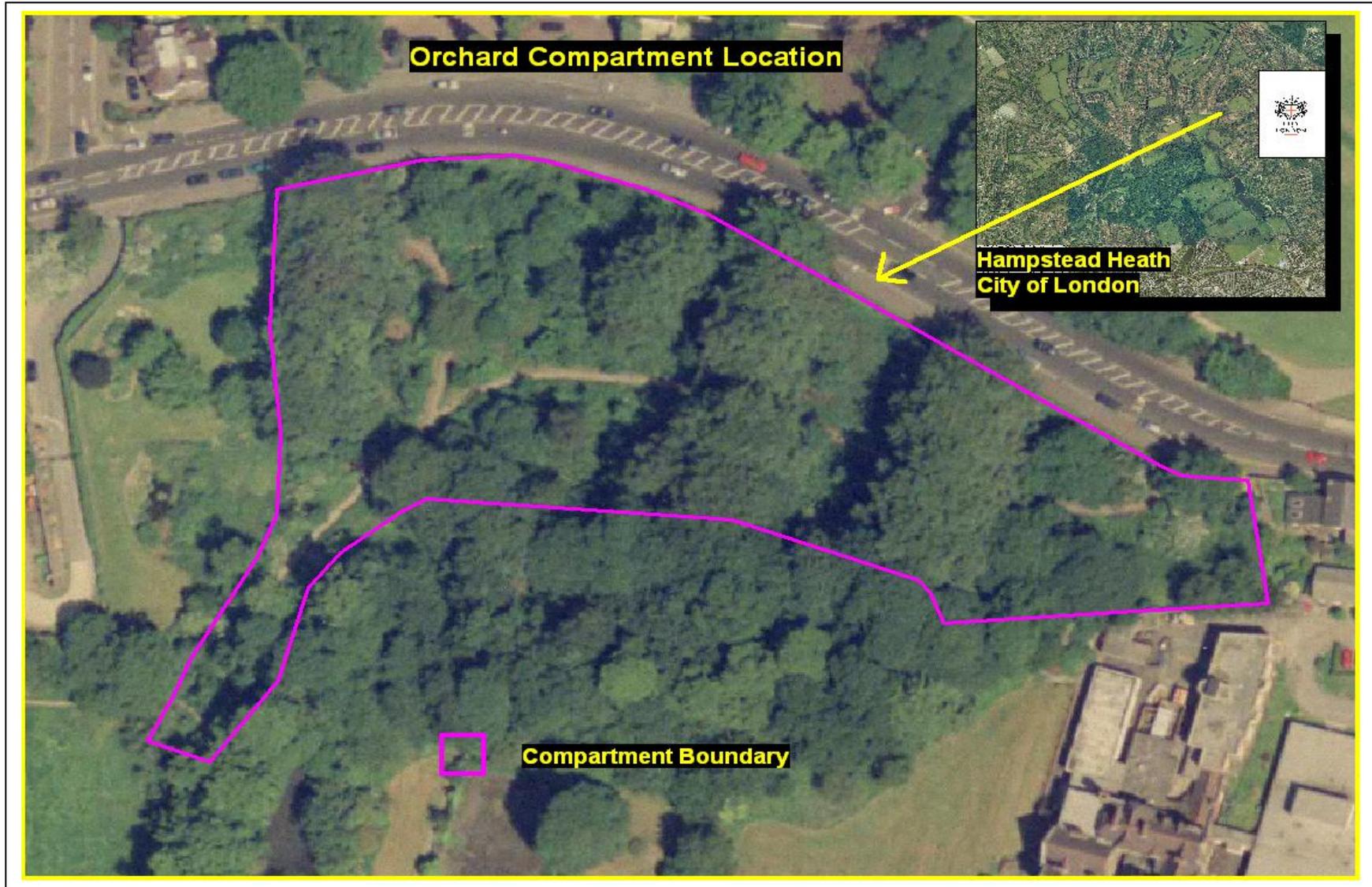


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1.0. Site description

Figure 1: The Orchard location



1.1 Location

The Orchard is located in the north-east of Hampstead Heath adjacent to Hampstead Lane. The centre of the Orchard is at grid reference 527,611 187,541 and it covers some 1.1 hectares. The 2009 Hampstead Heath vegetation survey shows the area as being within compartment numbers 1,001 through to 1,006.

The boundary can be seen in figure 1 and is bordered on the north side by Hampstead Lane and to the east and south by the grounds of Athlone House. To the west it adjoins Kenwood Yard Staff nursery.

There are two access paths entering the Orchard from Hampstead Lane, and a further path to the south-west which provides access to Cohen's field. A paved path runs east to west through it and a second paved path runs north-south. The land gradually slopes down from the north towards the middle of the Orchard.

1.2 Geology, Soils, Hydrology

The Orchard is located on Claygate Beds. A small pond within its bounds holds water for much of the year; it is largely filled by runoff water and a small culvert takes water from the central pathway and into the pond. A drain from Hampstead Lane deposits water into the centre of the Orchard during heavy rain

1.3 Ecology

Flora

The Orchard largely consists of shady rows of semi-mature or mature planted trees with a number of coppice hazel and ash areas in the open zones between these.

The area contains three rows of large mature beech trees, two towards the centre and one at the extreme west, as indicated on figure 2, page 8. The row to the west also has a coast redwood amongst its numbers. These trees are closely planted and create a great deal of shade. Due to this close planting the trees have sent out numerous large horizontal limbs which reach the ground in places. Two other large beech trees grow close together near the central beech line; at least one of is thought to suffer from bleeding canker (*Phytophthora* species), which can lead to the eventual death of the tree.

Between the trees there is a mixture of planted hazel and ash coppice along with some low-growing scrub. An extensive patch of hazel exists in the north-west. More hazel is found throughout the Orchard although it not as dense as this. Young hazel saplings have been planted yearly since 2005. Ash is also frequent and has previously been coppiced in the east and west of the Orchard.

Towards the south-east is a small area of semi-mature deciduous trees. Three lime trees and one pollarded horse chestnut occupy the furthest south-western point. A large standing dead veteran oak can be found along the fence line in the north-east of the Orchard.

A patch of the shrub *Philadelphus* was prominent in the east of the Orchard, but has largely been removed. *Buddleja* and raspberry are also to be found in this area.

The southern border largely consists of semi-mature sycamore trees, which also extend into the adjacent private grounds of Athlone House. Thirteen sycamore trees occupy the perimeter of the southern border and abut the secondary woodland belonging to Athlone House.

In the centre of the Orchard are numerous suckers and saplings of a damson (*Prunus domestica*) species, although they do not appear to fruit. A small fruit tree, probably an almond, exists in section 4 north of the path. A group of holly bushes grow in the shaded section south of the suckers underneath the sycamores.

The ground flora consists mainly of ubiquitous bramble, nettle and ivy, but a number of fern species also exist in the more shaded areas. A patch of wood anemone is well established in the Orchard, although it is believed to be planted. A few planted snakes head fritillary and primrose flowers appear in the north-west hazel coppice area. A large patch of lesser celandine occurs in the damp south-eastern area towards the pond.

The pond area is heavily silted and prone to dry out, but has a good extent of emergent vegetation including marsh marigold, flag iris, fools water cress, amphibious bistort, brooklime and celery leaved buttercup.

The hedge running along the northern border consists of mostly box, but a small length of hawthorn and an even smaller length of privet also occur to the east. Bindweed is present along much of the hedge.

The distribution of some of these habitats is shown in figure 2 in section 3.0.

Fauna

Grass snakes frequent the Orchard, and would benefit if some of the habitat was opened up to become more sunny and suitable for basking. Dragonflies and damselflies hunt in the area, and may use the pond for breeding. The Orchard provides good conditions for common woodland birds, including blackcap. Frogs use the pond for breeding; 15 clumps of spawn were seen in spring 2010.

1.4 Public and educational uses

The Orchard is visually unusual, with its coppiced hazels and exceptional lines of beech trees. It makes a fine entrance to the Heath, contrasting dramatically with the adjacent urban environment. The Orchard is often used as a cut-through to the rest of the Heath, especially by dog-walkers, as parking is allowed on Hampstead Lane. It is rarely used for educational projects, being far from the Education Centre.

1.5 History

Most of the following is taken from work done by Tony Vaughan¹ in 2000.

The history of the Orchard before the 18th century is largely unknown. Medieval documents speak of a wood called Sherewick which occupied much of the land to the east of the upper part of Millfield Lane. By the middle of the 18th century this area was owned by the Fitzroy family.

In 1840 the Fitzroy estate was broken up and some of the land, including this parcel, was bought by the Earls of Mansfield, who added it to their Kenwood Estate. The 1870 map shows it as some kind of garden or orchard with numerous straight paths criss-crossing it. In the south-

west a pond is shown. But by 1894 its use had apparently changed. Two lines of trees are shown crossing the centre of the compartment, the south-west part was marked as rough grassland, and the rest had no distinguishing features; the pond is not shown. The 1913 map shows a similar arrangement, including the two lines of trees running north-south across the compartment. The rough grassland had by then become open woodland.

In 1923 the Orchard was bought by the London County Council (LCC) as part of the first slice of the Kenwood Estate. In 1933 there was a proposal to have an entrance to the Heath from the road running alongside the Orchard. This was rejected by the LCC for five years but in 1938 the idea was accepted.

This entrance was closed again during the war, and there was talk of folding sheep there in 1942. The Orchard still had coppicing fruit-trees then and one justification for closing the entrance was to prevent the fruit from being stolen. The files give details of the fruit obtained from the orchard:

1945: Apples 336lbs and Pears 952lbs
1946: Apples 1922lbs and Pears 168lbs
1947: Apples 546lbs and Pears 460lbs

The entrance into the Orchard from Hampstead Lane was opened again in 1949. At that time, or shortly after, fruit ceased to be collected from the trees and no attempt was apparently made to maintain the area as an orchard. Rough grassland, scrub and then woodland developed. In the later 1990s an effort was made to restore the pond near the south-west corner.

Most of the area has had some degree of coppicing undertaken in the last five years. Over a hundred hazel saplings have been planted in coppiced areas over this time. Hazel re-growth is used on the Heath as binders for hedge-laying.

Snake's-head fritillary was planted and it is believed that the patch of wood anemone may have previously been introduced to the area, although it has been established for a number of years. Efforts have been made to eradicate Japanese knotweed, and only a small amount is still present, in the south-west. A large patch of *Philadelphus* and *Buddleja* was removed from the east end of the Orchard in 2007.

The pond area was restored in the late 1990's, and further work was undertaken and a retaining wall built in 2005.

1.6 Natural and human-induced trends

The pond suffers from seasonal drying out, often containing no standing water in the summer months. The water level is greatly influenced by the inflow of water.

1.7 External influences

The Orchard is located adjacent to a road and residences and may suffer from pollution from road runoff. It is bordered by the private estate of Athlone house, the grounds of which contain a number of large trees which shade the site. Japanese knotweed grows within the Athlone grounds, and this may spread onto the Heath. The Orchard has suffered numerous incidents of racist graffiti to the trees. Sexual waste has also been previously found under the hollies to the south of the compartment.

To the south-west a large two metre high wall owned and maintained by the development company at Athlone House is in a state of disrepair and is a potential hazard for heath users.

2.0. Evaluation

2.1 Natural landscape

The Orchard is attractive and provides valuable habitat for flora and fauna, and no major changes to the existing management are recommended. The area should continue to be managed largely as it has been over the past few years, with refinements to benefit the biodiversity and the historical aspect. The Orchard requires regular coppice management to maintain open sunny areas, of particular benefit to the grass snake population. Given its history, re-introducing fruit trees should be considered.

The Orchard is heavily shaded in places, largely by the rows of mature beech trees. An increase in light would be beneficial in increasing the area for hazel coppice or fruit trees. However, management on the beech rows is not recommended as they are established features of the area; due to their close spacing they will eventually out-compete each other. On the other hand the sycamore trees at the southern edge of the compartment are not so attractive and cast a great deal of shade, and a number of them compete with the beech trees for light and space. It is recommended that the sycamore trees are gradually removed over a relatively long timescale to minimise impact. This will allow more light to reach the ground and provide more space and light for the mature beeches. The hazel should be cut on about a seven-year cycle to allow basking opportunities for grass snakes and good length binders for hedge laying. The coppice areas should provide habitat and protection for birds, but will lose their value as such if they become tall and leggy.

The patch of wood anemone within the Orchard, although initially introduced, is an attractive feature and is thought to be the largest established patch on the Heath. This patch should be allowed to flourish and careful monitoring should ensure that changes in light levels do not result in a loss from scrub encroachment. Consideration should be given to expanding and establishing further patches in other suitable sections of the Orchard.

Although called the Orchard, the area can no longer be considered a traditional orchard as there are no fruit trees and very little permanent grassland: a traditional orchard only qualifies as such under the UK Biodiversity Action Plan if it contains fruit and/or nut trees together with permanent grassland. The area's distinction lies in the relatively abundant hazel stools, which have been managed on a coppice rotation. The Heath contains no other areas that can be considered as managed hazel coppice. Altering the management to a traditional orchard management is not suggested at this time, due to heavy shading and the likely loss of bird nesting and grass snake habitat. However, given the area's history, a few fruit trees could be planted with a view, if successful, of increasing their number. The grassland within the adjacent private Heath Staff Yard would also currently be suitable to establish a small orchard.

The Heath does not have boast shallow ponds, which can have a greater ecological value than larger ones, due to the range of emergent and aquatic vegetation. The problem associated with shallower ponds is that they can dry out, and require management to prevent excessive plant growth from covering the entire pond. The Orchard pond is used by a small population of breeding frogs and so should be maintained as a pond. The pond area is heavily shaded to the south by mature lime trees, but the rotational coppice or pollarding of adjacent small trees and scrub should maintain sufficient light levels for pond plant growth.

2.2 Public and educational uses

The area should continue to have access and may in the future be an educational resource linked with the adjacent Eco-field and that area's possible future development as an orchard.

2.3 History and built environment

The pond is thought to be over 100 years old. This continuity should remain and succession to marsh should be prevented. The area is known as the Orchard and used to have a good supply of fruiting trees, and it should continue to be managed with nuts or fruits in mind. It would in the short term be very difficult to establish an area providing as much fruit as previously grown due to shade, but the well-established hazel coppice should be allowed to thrive.

2.4 Vision

To manage the majority of the Orchard as blocks of worked coppice with some standard trees, separated by lines of beech trees

- To maintain and increase the extent of hazel throughout the area
- To re-introduce fruit trees
- To manage the existing wood anemone patch with a view to increasing its extent throughout the area.
- To maintain the pond to provide habitat for amphibians and emergent plants.

2.5 Relevance to achieving the 2007-2017 Hampstead Heath Management Plan

The following policies from the Natural Landscape chapter of the Part II Management Plan for the Heath are particularly relevant to the Orchard:

Policy 1: The Heath will be managed to maintain and preserve its unique wild and natural aspects and its ecology, and enable quiet enjoyment and appreciation of the natural world by visitors

Policy 16: The existing areas of woodland and scrub will be managed to protect and enhance their nature conservation importance and improve their distinctiveness

Policy 34: The spread of scrub will generally be limited and will be managed to prevent it becoming woodland

Policy 36: The existing ponds, streams, ditches and wetlands will be managed to protect and enhance their nature conservation importance

Policy 38: A range of pond plants will be reintroduced to as many ponds as possible. Work will initially trial various planting techniques and will be on a phased basis in accordance with priorities set by the overall strategy for ponds and watercourses

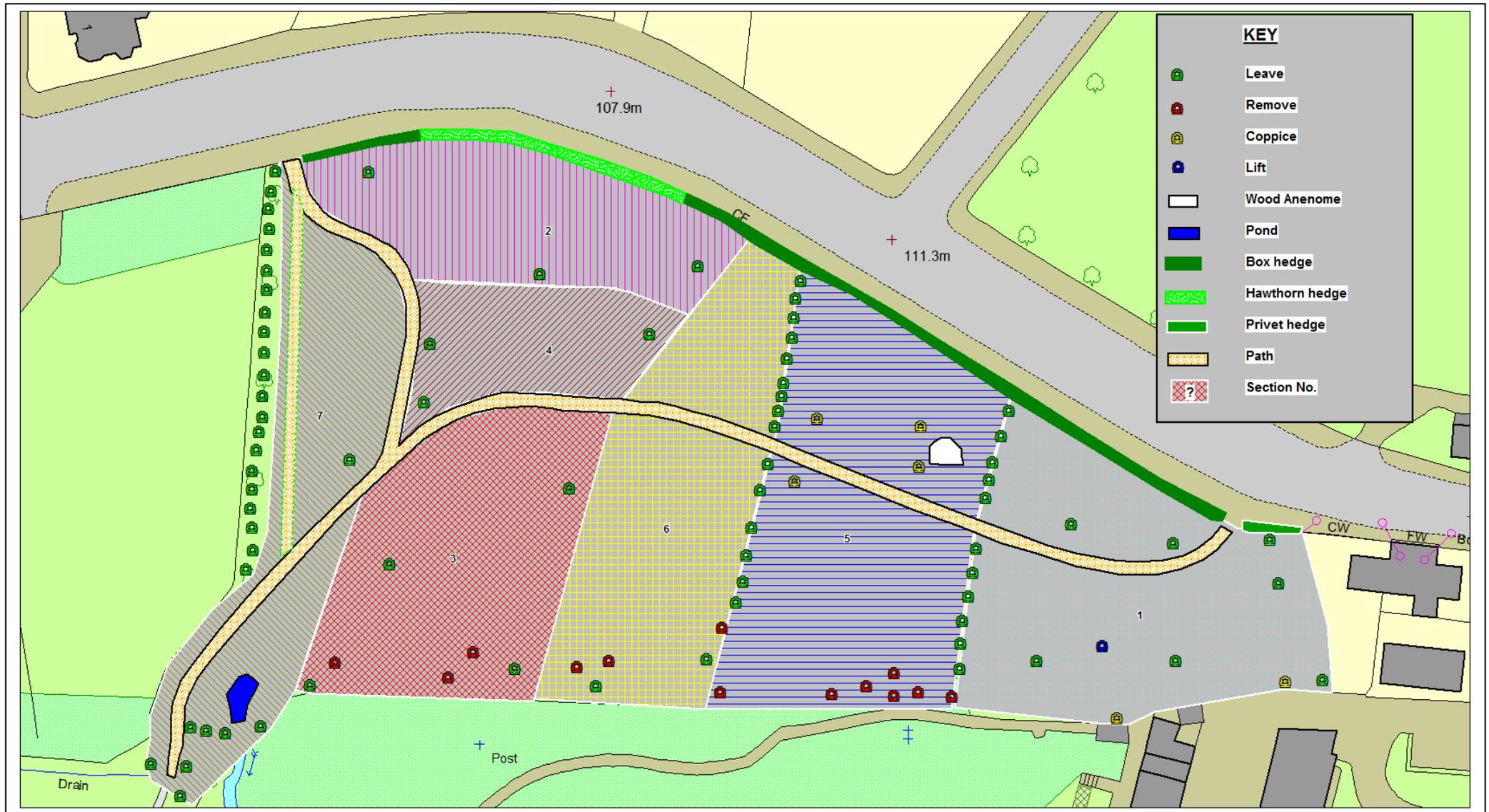
Policy 41: Ponds will be dredged as and when necessary

The following policy from the chapter of the Part I Management Plan for the Heath is particularly relevant to the Orchard:

NL4 Manage the Heath's woodlands and scrub to enhance their nature conservation value and improve their distinctiveness

3.0 Prescription and Work Programme

Figure 2: Orchard habitats and prescription



3.1 Regular management tasks

Objective	Prescription	frequency	Month(s)	Years	Who by	Priority: low, medium or high
Plant hazel	Plant hazel into gaps in coppiced sections	Once in year	Feb/early March	Yearly	Cons Team	Medium
Maintain hazel	Planted hazel should be cleared around in the initial year following planting. There may be a requirement to repeat this in the 2 nd year also depending on competition	Twice in year	June + August	Yearly	Cons Team	Medium
Rotational coppice of hazel/ash 	Coppice section 1 	Every 7 years	Winter	2005, 12, 19	Cons Team	Medium
	Coppice section 2 			2006, 13, 20		
	Coppice section 3 			2007, 14, 21		
	Coppice section 4 			2008, 15, 22		
	Coppice section 5 			2009, 16, 23		
	Coppice section 6 			2010, 17, 24		
	Coppice section 7 			2011, 18, 25		
Cut + maintain hedge 	Box- Cut the tops back to 3-4 inches below final level early June then final shaping cut in September. Regular removal of bindweed throughout the growing season.	Twice		Yearly	Ranger Team	Low

Cut and maintain hedge 	Hawthorn/Privet-June + September	Twice yearly	June + September	Yearly	Ranger team	Low
Pond 	Maintain pond as necessary to ensure some extent of open water throughout the spring/ early summer. May require use of a mini-digger.	Every 10/15 years	Autumn		Cons Team / Heath Hands	Low
Path 	Scythe path twice a year in June and September	Twice yearly	June + September	Yearly	Ranger team	Medium
Remove sycamores 	One sycamore a year for 13 years	Yearly	Winter	Yearly	Cons Team	Medium

3.2 One-off tasks

Objective	Prescription	Month(s)	Year	Who by	Priority	Est. cost
Plant fruit trees	Plant 2-4 pear and 2-4 apple trees into section 6. London and Middlesex varieties	Spring/autumn	2012	Cons Team	Low	Local Budget
Increase extent of wood anemone 	Small clumps of wood anemone should be transplanted (or rhizomes bought) from the patch in section 5 to suitable locations in other sections.	September /October	2011	Cons Team	Low	Local Budget
Lift lower limbs 	Lift lower limbs of Ash to allow more light to the ground. This can be carried out when coppicing section 1	Winter	2012	Cons Team	Low	Local Budget

4.0 Review

To be filled in as time goes by.

Author	Date	Task	Observation, event or alteration to task

5.0 References

1. Tony Vaughan. Data supplied to Meg Game provided on disk covering Hampstead Heath compartments. 2000