

Orchard Survey: **Stone's Orchard, Croxley Green**

Date of survey: May 6th 2014

Site Description and Access

The orchard is situated on an enclosed and fairly level site. There are numerous fruit trees of mixed age, in scattered groups, amongst other non-fruiting trees, with a large area of open meadow in the centre and some runs of mature hedgerow around the periphery.

There is public access and the site links other public open spaces. Numerous users were observed at time of survey, including dog walkers and families with young children.

The Fruit Trees

A notable feature of this orchard is the diverse age structure of the trees, including:

- Old apple, plum and cherry trees, which exhibit veteran features such as hollow trunks, old pruning wounds, standing deadwood, woodpecker holes, etc.
- Mature apple and cherry trees, which are well developed and have little or no deadwood
- Young trees, still in a generally juvenile state. These are mostly cherry trees.
- Recently planted trees of apple, pear, cherry.

The veteran apple and plum trees are in standard form and are likely to have been propagated onto vigorous rootstocks. The varieties are unknown.

The mature apple trees are mostly in half-standard form. Their stature and habit suggests that they could be on a less vigorous rootstock than the veteran trees. If this is the case, they may not live as long or grow as large as the existing veterans. Again, the varieties are unknown.

A number of the newly planted apple, pear, plum and cherry trees are heritage Hertfordshire cultivars.

The cherry trees vary considerably in age, size and habit. There are two notable standard veteran trees, both still alive but with large amounts of standing deadwood. They have obviously been headed back quite severely in the past, presumably to remove broken or dangerous branches.

The multistem habit of some of the mature cherry trees suggests that they may be formed from rootstock suckers. The diverse age structure and rather random spacing of some of the younger cherry trees suggests that they may also be derived from rootstock suckers, or possibly from seedlings.

Ground cover

Grass sward, with some short mown paths, other areas obviously mown periodically. Small areas close to the tree trunks have not been cut within the past year or two, and a few rootstock suckers have arisen in some of these areas.

Observations and Management Options

For the purposes of this report, the orchard has been divided into several zones, each with a slightly different structure and character.

Fig. 1

Stone's Orchard Management Zones



Zone A (South of path from sports field)

Fig 2.

Zone A

A group of veteran apple trees, interspersed with young and mature cherries (possibly rootstocks or seedlings) and some native tree species (eg oak and hawthorn).



The veteran apple trees have hollow trunks, which makes them susceptible to splitting in the future. It would be advisable to reduce or lightly thin the canopies of the veteran apple trees, in order to keep them compact and prevent potential branch breakage or trunk splitting.
(See Appendix II: Treatment of veteran trees)

Fig. 3

Example of veteran apple tree showing a hollow trunk



Zone B (North of path from sports field)

Fig. 4

Zone B

A group of mature and veteran cherry trees.



One notable veteran tree, which is covered with ivy, may be a survivor from the original orchard planting. The multi-stem form and irregular spacing suggest that the others may be rootstock suckers or seedlings.

The large trees need to be monitored in the future for structural soundness, but the only pruning necessary would be if any branches become potentially hazardous in the future.

Fig. 5

Veteran cherry tree – possibly a survivor from the original orchard.



Fig. 6

Multi-stem cherry tree – possibly arisen from rootstock



Zone C (Main area of orchard, South of meadow)

Fig. 7

Zone C

Mixed age apple, plum, pear, cherry, medlar, plus a few non fruit native trees (eg holly, oak.)



This section consists of a small number of veteran apple and plum trees, several mature apple trees and a large number of newly planted fruit trees.

The veteran apple and plum trees are likely to be hollow. These trees should be monitored. As in Zone A, it is advisable to reduce or thin the canopies of the trees a little, in order to reduce weight and help to prevent future splitting. Where possible, safe standing deadwood can be retained to enhance habitat. (*See Appendix II: Treatment of veteran trees*)

Fig. 8

Woodpecker hole in veteran tree, indicating hollow trunk



Fig. 9

Veteran plum tree with standing deadwood



The canopies of the mature apple trees could be raised to allow grass-cutting machinery to get closer to the trees. This would reduce the area under each tree that needs to be cut by other means (eg strimmer or brushcutter)

Remove rootstock suckers and mow grass beneath each tree at least once a year to prevent regrowth



Fig. 10

Tree with low canopy. Rootstock suckers have arisen in the uncut area of grass underneath the tree.

Some of the mature apple trees have very congested canopies and would be likely to produce better quality fruit if some pruning was carried out.

Managed (pruned) fruit trees have a subtly different structure from unmanaged trees and “managed traditional orchard” is a rarer habitat than “unmanaged traditional orchard”. The existing veteran trees were clearly pruned in a traditional manner in the past. However, these old trees will not live forever, and pruning the mature apple trees to create a balanced and more open tree shape may help to extend the “managed traditional orchard” habitat into the future.

Avoid removing more than 20 percent of the canopy of a tree in one year. If necessary, phase the pruning work over 2 or 3 years.

Fig. 11 Mature unpruned apple tree.



Fig. 12 Congested canopy



Most of the young trees would benefit from some formative pruning. It would make sward management easier in future years if the trees were trained so that the main branch framework was fairly high. This can be done by removing low branches completely and retaining any well-placed higher branches.

Cherry trees and plum trees are best pruned whilst they are actively growing (May – July). Apple, pear and medlar trees would be better pruned in the dormant season (Late November to March)



.Fig. 13

An example of a young cherry tree which would benefit from some formative pruning

- **Remove the branches that arise low down, from the side of the trunk.**
- **Retain those that arise from the top of the trunk**

It is understood that some of the new trees in this zone failed after re-planting in 2012. It would be worth considering adding a few more new trees in this zone, to replace some of the losses. This could be an opportunity to plant some trees that could be capable of becoming large and long-lived veteran trees in the future. (*See Appendix I: Suggestions for future planting*)

Zone D (Path to enclosure on the East side of the site)

Fig. 14

Zone D

**Veteran apple trees, with
young cherry and medlar
trees.**



The veteran trees would benefit from some canopy reduction. (*See Appendix II: Treatment of veteran trees*)

The young trees would benefit from some corrective pruning, to raise the canopy and make grass cutting easier.

Zone E (Enclosure on the East Side of the site)

Fig. 15

Zone E

**New and mature cherry trees
(plus holly).**



There is room to add a few new trees in this zone. (*See Appendix I: Suggestions for future planting*)

Little pruning is required, other than that needed to make grass management easier.

There is a small collection of cherry rootstock suckers. There are various ways in which these could be managed:

- Retain some or all of them, so that they form a thicket.
- Retain one well-placed sucker and allow it to form a tree.
- Remove them all and suppress future re-growth by mowing.



Fig 16

Cherry Rootstock Suckers

Zone F (North of the meadow)

Fig. 17

Zone F

Veteran, mature and new cherry trees.



It may be advisable to carry out a little formative pruning on the new cherry trees, in order to encourage a tree shape that will make grass management easier in the future)

Monitor the veteran and mature cherry trees, the only pruning necessary would be if any health and safety or other management issues arise. One veteran cherry has clearly been hard pruned in the past, presumably to remove broken or dangerous branches. This treatment should help to preserve the tree. One mature cherry has a wide spreading canopy. The structure of the tree makes it an extremely attractive landscape feature, and it has obviously been used for “den building” or similar activities in the past. It would be good to retain the low canopy on this tree, even if it makes grass management a little more difficult.



Fig. 18

Mature cherry tree with wide, spreading canopy

Summary

It is assumed that the main purpose of the orchard restoration and management is to enhance biodiversity, ensure continuity of habitat and maintain a pleasant amenity for the future. Enhanced fruit production seems less important in this situation, although active management of the apple trees might well see improved crop quality.

With this in mind, the key management suggestions are as follows:

- Help to extend the life of existing veteran trees by carrying out appropriate canopy thinning or reduction. This will help to avoid future damage from trunk-splitting, broken branches or wind-throw.
- Prune at least some of the mature apple trees, to emulate the “open centre” tree form that was typical of traditional orchards in this area.
- Prune the young trees, to encourage a tree form that will make grass cutting easier in the future. Consider pruning at least some of the young apple trees into the traditional “open-centre” form.
- Lift the canopies of some of the mature apple and cherry trees, to facilitate grass cutting.
- Cut the sward immediately underneath each tree at least once a year, to prevent scrub or rootstock suckers from competing with the trees.
- Add new trees to Zones C and E. Choose some cultivar/rootstock combinations that may be capable of developing into large and long-lived veteran trees. (see Appendix I)
- Apples, pears and medlars may be pruned whilst dormant (Late Nov – Early March). Plums and cherries are best pruned whilst actively growing (May – July).

Appendix I: Suggestions for future planting:

To maintain the habitat created by the original orchard trees, it would be advisable to make sure that at least some newly planted trees are on vigorous rootstocks, so that the new trees have the capability of making large and long-lived trees for the future.

Orchard surveys in the Eastern Counties have shown that some apple cultivars appear to be longer-lived than others. Some cultivars also tend to make larger and more vigorous trees, when compared to other cultivars grafted onto similar rootstocks. For example, Bramley's Seedling is capable of making a particularly large and long-lived veteran tree when grafted onto a vigorous rootstock.

It is suggested that future planting plans include some apple trees grafted onto a vigorous rootstock such as M25. It is also beneficial to replicate those cultivars that are already found in the orchard as veteran trees. Even if it is not possible to identify these trees, it may still be possible to take material from them for repropagation if they are healthy.

Likewise, it would be worth replicating any other existing veteran fruit trees on the site, using the largest rootstocks available for the species.

Appendix II: treatment of veteran trees

The veteran trees on the site are worthy of preservation.

As fruit trees develop veteran and senescent characteristics, they become more susceptible to wind-throw, trunk splitting and branch breakage.

Keeping hollow veteran trees compact and reducing the weight of the branches can help to prevent breakage.

The image below (Fig 18) shows how it is possible to reduce the crown of a veteran tree, increasing the tree's chances of survival, whilst also retaining standing deadwood.

Fig. 18

Veteran cherry tree, Zone F



Most of the veteran trees do not require such drastic treatment. Some reduction in the weight and height of branches would probably be sufficient. Ideally, avoid taking more than 20 percent of the canopy off in one season. Restoration work can be phased over several years.

SUGGESTED MANAGEMENT PLAN

2014

Cut grass at least once during the growing season, including areas under the trees
Remove any rootstock suckers at the same time.

June/July:	Formative pruning on young cherry trees.
July/August	Identify cultivars of veteran plum trees, if possible
September/October	Identify cultivars of veteran apple trees, if possible
November/December:	Begin restorative pruning on veteran apple trees Begin canopy lifting/thinning on mature apple trees

Investigate suitable cultivars/rootstocks for new planting
It may take up to 2 years to have them propagated to order.

NB. Although there was no sign of deer or rabbit damage on any of the trees at time of survey, it would be advisable to check the trees periodically, in case this situation changes. If rabbits or muntjac become established on the site, it will become necessary to provide tree guards, particularly for the younger trees.

2015

Cut grass at least once during the growing season, including areas under the trees
Remove any rootstock suckers at the same time.

January/February:	Continue pruning veteran and mature apple trees.
February/March	Formative pruning on young apple and pear trees
May/July	Monitor condition of veteran plum and cherry trees and carry out any necessary pruning. Lift canopy of mature cherry trees. Continue formative pruning on young cherry trees if required.
November/December:	Continue restorative pruning on veteran apple trees Continue canopy lifting/thinning on mature apple trees

2016

Cut grass at least once during the growing season, including areas under the trees
Remove any rootstock suckers at the same time.

January/February: Continue pruning veteran and mature apple trees.
Plant new trees as they become available, train them into “standard”
tree form, to replicate the veteran trees

February/March Continue formative pruning on young apple and pear trees

May/July Carry out any pruning that may be necessary on plum and cherry
trees

November/December: Continue pruning veteran and mature apple trees

2017 onwards

Cut grass at least once during the growing season, including areas under the trees
Remove any rootstock suckers at the same time.

November - February: Carry out maintenance pruning work on apple and pear trees

May/July Carry out any pruning that may be necessary on plum and cherry
trees

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