

TREE COLLECTIONS AT ALICE HOLT ARBORETUM

The tree collections around the research station at Alice Holt Lodge contain a diverse range of species, several of which are rare or are Champions. The collections are formed of four relatively distinct areas:

- Specimen trees in the grounds of the Lodge, which are not usually open to the public.
- Trees planted along the rides that radiate out from the Lodge into the Forest.
- The National Collection of poplar species and cultivars, which is distributed across four fields in the vicinity.
- The Old Arboretum located in the forest NW of the research station, which is the subject of this plan.

THE OLD ARBORETUM

Site details

Grid reference: SU801432

Elevation: 110 – 120 m

Topography: flat plateau, sloping down at NE side

Area: 7.3 ha

Geology: plateau and river terrace drift

Soils: classified as 714d Essendon association; paleo-argillic stagnogley

History

The area was set up in the 1950s as a fenced enclosure for conducting genetic trials of trees that were being developed as plantation species. The work was focused on conifers and included the establishment of clone banks, progeny tests from breeding programmes, and trials of vegetative propagation. This work continued until the mid-1970s, when the focus of genetics research was transferred to the Northern Research Station in Scotland. Although some of the trials continued to be maintained, many were closed and the management of the area was transferred back to the local forest district.

Because of the interesting variety of trees on the site, the area was developed as an arboretum for recreation and education, with the installation of an all-ability path, picnic area, car park, and labelling. Unfortunately, the car park had to be closed because of antisocial activities, and subsequent management of the site lost impetus. However, the area is well used by the public as well as by staff from Alice Holt, and this plan for the renovation of the arboretum is being developed by the Forestry Commission, Forest Research, and the Alice Holt Community Forum. Currently, many of the original trees survive, but require management. Most labels have been removed, and the path network needs restoring.

Tree Evaluation

In 2008, an inventory of all specimen trees was carried out and a database created to hold accession information. Subsequently, the location of many of the trees has been surveyed and recorded on GIS. Figure 1 is a map showing the location of surveyed trees.

A total of 1400 specimens have been recorded and identified. The total number of species (excluding naturally regenerating native species) is 45, 39 of which are conifers belonging predominantly to silviculturally important groups (Table 1). Consequently, despite the large number of trees, the species diversity is relatively low for a tree collection, and several species are overstocked.

Despite the relatively young age of the collection, the current Tree Register database lists five Britain and Ireland champion trees, plus 3 County champions, in the arboretum.

Notable highlights in terms of size and representation include:

- Coast redwood (*Sequoia sempervirens*) grove planted in the 1954 as rooted cuttings, now about 25 m tall. Also fine individual specimens of this species and its relative, the giant sequoia (*Sequoiadendron giganteum*).
- Serbian spruce (*Picea omorika*): a rare endangered conifer with only a few thousand individuals left growing in the wild.
- Oriental spruce (*Picea orientalis*): an elegant spruce from the Caucasus that can grow on lime-rich soils and tolerates hot dry summers, so could be useful in the future.
- Sitka spruce (*Picea sitchensis*): although widely planted in the uplands, some fine specimens are developing on moister ground in the arboretum.
- A collection of thuja species, predominantly western red cedar (*Thuja plicata*), but also Korean thuja (*T. koraiensis*), white cedar (*T. occidentalis*), Japanese thuja (*T. standishii*) – each of which can be distinguished by the characteristic smell of the crushed foliage.
- Dawn redwood (*Metasequoia glyptostroboides*): only discovered in China in 1941.
- Pines: an interesting variety of species and hybrids including the unusual Asian-American hybrid *Pinus x schwerinii*; from N. America: lodegpole pine (*P. contorta*), lodgepole - Jack pine hybrid (*P. contorta x banksiana*), Jeffrey pine (a.k.a. the gasoline tree, *P. jeffreyi*), western yellow pine (*P. ponderosa*), western and eastern white pine (*P. monticola* and *P. strobus*); the rare Gregg's pine from Mexico (*P. greggii*); Armand's pine from China (*P. armandii*); as well as Scots and Corsican pine from Europe (*P. sylvestris* and *P. nigra* ssp. *laricio*).
- Larches: European larch (*Larix decidua*), Japanese larch (*L. kaempferi*), and hybrid or Dunkeld larch (*L. x eurolepis*).
- Leyland cypress: much maligned, but some of the specimens have the potential to become some of the tallest of their kind.

Broadleaved species are very under-represented in this collection. The most extensively planted is selected genetic material of beech (*Fagus sylvatica*). Apart

from that, there are some relatively poor specimens of the southern beeches (*Nothofagus nervosa* and *N. obliqua*), and hickory (*Carya* sp.), and Italian alders (*Alnus cordata*). A fine specimen of the graft hybrid *Aesculus* + *dallimorei* is currently attracting a lot of attention because of its infection by horse-chestnut bleeding canker.

Apart from a few *Pinus armandii* and a single Japanese maple, there have been no new specimens planted in the last 40 years. Consequently, new planting should aim to diversify the collection, and improve the age-structure of existing taxa.

Site Evaluation

Although the majority of the planting is with exotic species, there are fine specimens of many, and they generally blend with native species and the surrounding forest to create a harmonious treescape. A possible exception are the cultivars of Lawson cypress planted as an avenue in the SW part of the site. Some plantings, though, still retain the blockiness of the original plot layout, and weaker trees should be removed by selective thinning to retain the best specimens.

The Old Arboretum is a landscape of intimacy and enclosure that invites exploration along its meandering path network. There is also a sense of tranquillity as a result of the tree cover and low noise levels. The path system, together with the topography and rather dense stocking, restricts internal views and encourages the visitor to encounter specimens sequentially and unexpectedly.

Interpretation and labelling are non-existent and need to be reinstated sensitively to avoid unsightly visual impacts yet still be informative.

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