



Black Poplar

Populus nigra subsp *betulifolia*

Species Action Plan

1. Introduction

In Britain the black poplar was once a characteristic feature of lowland river valleys, but it has now declined to the extent that it is one of our rarest native trees. In Worcestershire black poplar would have been a characteristic floodplain tree along the River Severn and its tributaries, but it has now all but disappeared from much of its former range.

2. Current Status

2.1 Ecology and habitat requirements

The black poplar once played a substantial role in local economies and culture. In some parts of the country it was (and still is) used in traditional village tree dressing events and spring fertility festivals. Black poplar timber is particularly shock and fire resistant and was widely used in wagon bottoms, for scaffolding, fence posts and in the roofs of buildings. The typical cultivation practice was to cut and plant truncheons from local, usually male, trees. Female trees were less favoured because they produce copious amounts of seed fluff in spring and historically many female trees were systematically removed.

Historically the black poplar was a tree of floodplain woodland, its decline being brought about by the conversion of that habitat to farmland, and its now limited range is a reflection of the lack of suitable habitat. The majority of Worcestershire's black poplars are found in hedgerows, along roadsides and on Commons. Lack of suitable habitat together with the limited number of female trees that exist in the county means it is virtually impossible for the trees to reproduce by seed. Thus artificial propagation is the only means of re-establishing them as a viable, reproducing population.

Today, there is a significant gap in the age demographic of black poplar within Britain. Over the last decade there has been a renewed interest in planting for nature conservation reasons and, very recently, some use of black poplar within tree planting schemes in place of species such as ash, in light of new tree diseases such as Chalara arriving in the UK.

2.2 Population and distribution

In Europe, the Atlantic (subsp. *betulifolia*) form of black poplar is confined to and considered to be native in Britain, Ireland, Northern France and parts of Western Germany (Stace, 1991). The boundaries of the distribution of this subspecies from the continental species *Populus nigra* are indistinct due to naturalisation, and have been much obscured by artificial cultivation (White, 1993).

A data collation study carried out by Worcestershire Wildlife Trust in 2001 reported a total of 597 black poplar trees. Of these, the sex had been determined for only 176 and just 7 of these trees were female. With a British population estimate of 7000 trees (Cottrell, 2004) the Worcestershire resource is nationally significant.

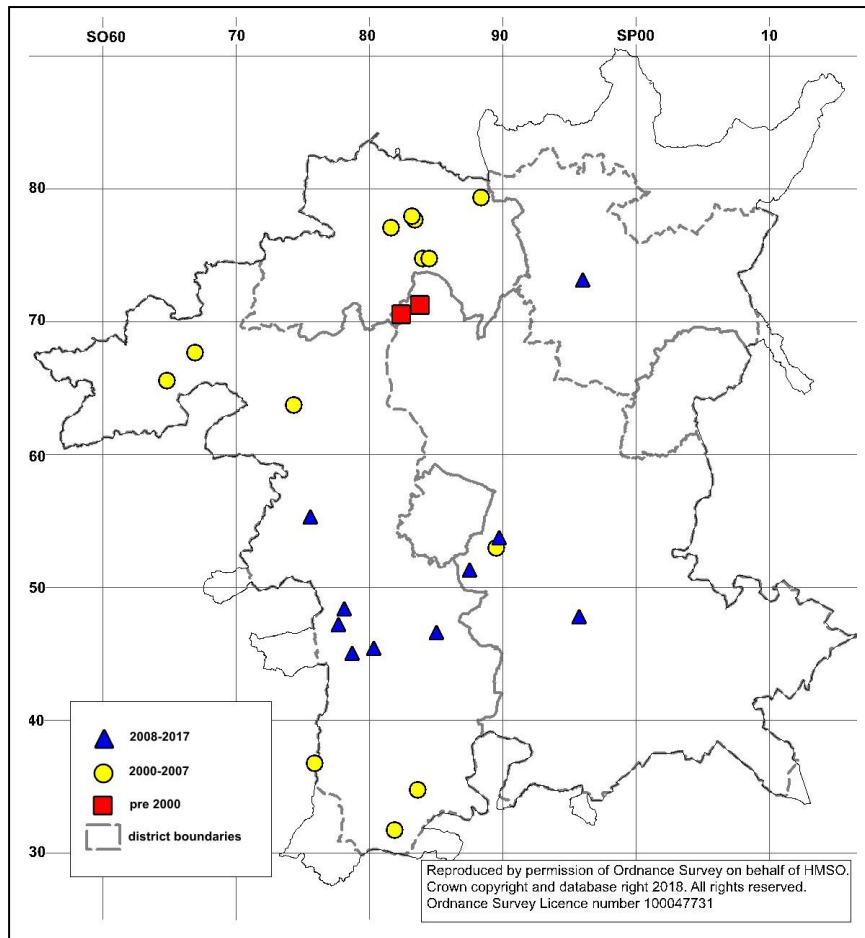


Figure 1. Records of black poplar in Worcestershire. Data supplied and map prepared by Worcestershire Biological Records Centre.

2.3 Legislation

Tree Preservation Orders can be made under the Town and Country Planning (Tree Preservation) (England) Regulations 2012 (as amended).

2.4 Summary of important sites

- Castlemorton Common is notable, with over 80 black poplars recorded.
- Sites where female black poplars have been confirmed are all highly significant. Female trees recorded on the Worcestershire Flora Project database include:
 - Ashmoor Common
 - Harvington Brook and Harvington Lock Island
 - River Teme below Berrington Court
- Female trees have also been planted in recent years within the Bow Brook catchment as part of Worcestershire Wildlife Trust's Living Landscape project.

3. Current Factors Affecting the Species

- The majority of the remaining trees in Worcestershire are ancient and, despite recent planting, the age structure of the overall population is highly unbalanced.

- Due to the lack of female trees seed production is very rare, preventing a natural increase in the distribution of the species.
- Lack of genetic diversity amongst remaining trees makes them more susceptible to extinction.
- Lack of management in the form of pollarding, re-pollarding or tree surgery means many of the trees are in a poor condition, with collapses and splitting occurring widely.
- Those trees alongside roads or close to developments are threatened with being removed if they are deemed to pose a threat to public safety. Any adjoining development that does go ahead has the potential to inflict damage on the trees, especially during the construction phase due to damage and compaction caused to root structures.
- Black poplars in agricultural areas face the threat of damage from ploughing, compaction and / or browsing by livestock.

4. Current Action

4.1 Local protection

Some of the most important sites where black poplars occur, such as Castlemoreton Common, are designated as Sites of Special Scientific Interest (SSSI).

Black poplars can be protected by the use of Tree Preservation Orders; however this has not been widely used to date in Worcestershire due to the difficulty of justifying the public amenity value of what are often isolated trees.

Some black poplars may be within Conservation Areas, which gives them a degree of protection in that permission is required for the pruning or felling of any material with a diameter greater than 75mm.

4.2 Site management and programmes of action

A number of young black poplars have been planted in recent years on a range of sites including Chapter Meadows in Worcester and within the Bow Brook catchment in east-central Worcestershire.

Black poplar has recently been included as part of the species mix within woodland planting schemes and this should be considered on appropriate sites where wet or floodplain woodland is desirable.

The Environment Agency has produced Species Management Guidelines for the black poplar, which includes its status, description, habitat requirements and guidelines for propagating and new planting.

The Forestry Commission (2004) has published an information note on the conservation of black poplar.

4.3 Survey, research and monitoring

National records for the species are held by the Biological Record Centre at the Centre for Ecology and Hydrology and by the Botanical Society for the British Isles.

Winfield *et al* (1998) carried out a study within the Upper Severn region on the genetic diversity of 146 individual trees considered to be black poplar *betulifolia* and 3 trees thought to be non-*betulifolia*. Overall, the study found a pronounced lack of genetic diversity within the individuals examined. Those plants exhibiting the maximum amount of genetic diversity were considered to have the potential to be included within future propagation and planting programmes. Other genetic studies have been undertaken to include trees from across Europe including Storme *et al* (2004).

Worcestershire Wildlife Trust undertook a data collation study in 2001 that brought together black poplar data from the Worcestershire Flora Project, the National Black Poplar Survey and the Environment Agency Black Poplar Survey for the county, as well as initiating some additional survey work on the ground. A distribution map of occupied 1 km squares was compiled. The Worcestershire Flora Project subsequently followed up this work to confirm the identification of some of the trees and to sex individual trees where this was possible.

5. Associated Plans

Hedgerows, Road Verges, Rivers and Streams, Wet Woodland, Wet Grassland, Ancient and Veteran Trees, Urban.

6. Conservation Aim

The existing resource is better understood and maintained and female trees have been propagated and introduced into suitable locations.

7. Conservation Objectives

- Explore the possibility of a black poplar genetics study in partnership with University of Worcester
- Ensure evidence base is maintained with a focus on locating and recording female trees
- Local Authorities to make more use of Tree Preservation Order legislation to protect black poplar specimens
- Encourage the propagation of cuttings from local female trees
- Seek new planting locations for black poplar saplings, in particular to introduce female trees into locations where clusters of male trees exist

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Chester Zoo Black poplar project

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