Wild Warwickshire

Saxon Mill Carr Tree Survey

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Saxon Mill Carr is managed for the Heber-Percy Estate by **Wild Warwickshire**

SAXON MILL CARR TREE SURVEY

SUMMARY

Saxon Mill Carr is approximately 1.75 acres of wet woodland and flood meadow 2miles north of Warwick. The land, beside the river Avon, has just come under new management under agreement with the land owner. As a preliminary part of improving the sites biodiversity a tree survey was conducted at the earliest convenience to establish a floristic baseline for the site.

Conducted over three visits each tree and shrub on the site was identified and mapped resulting in an approximate total of 213 trees or shrubs

The survey concludes that the woodland is piece of W6 *Alnus glutinosa – Urtica dioica* woodland (NVC) with co-dominant *Salix* species. It is likely the sub-community is 6b *Sambucus nigra*.

INTRODUCTION

Saxon Mill Carr is approximately 1.75 acres of river side woodland on the banks of the river Avon between Warwick and Hill Wootton. The site consists of a ribbon of trees along the main watercourse and a subsidiary tributary; and a wet meadow. The meadow whilst once being floristically rich is now succeeding through *Urtica* growth and Willow invasion.

To place the site in context, wet woodland is a diminishing habitat and supports a wide range of species. It is currently a habitat listed under Local Biodiversity Action Plans.

The term carr refers to a rheotrophic mire that is invaded by woody species such as Alder and Willow where both ground water and rainfall provide the vegetation with water. These sites normally have a rich supply of nutrients and therefore have a high biomass. The large microbial populations present in such habitats decompose most dead vegetation meaning they do not generate peat rapidly (Calow 1998).

Before any significant action was taken on the site with regard to the tree species it was deemed necessary to first establish a baseline upon which to analyse the exact composition of the habitats present and the key tree species present. To this end a thorough survey was conducted.

METHODOLOGY

The tree survey was conducted during three visits to the site between the 1st January 2009 and the 31st January 2009.

The survey was conducted by the same observer. Each tree was identified by way of their key characteristics such as bark, buds and shape and a number assigned to it.

Using a hand held GPS device the location of the tree was taken using a 10 digit OS Grid Reference. These were then uploaded to a spreadsheet for analysis and mapping.

The swamp like nature of carr naturally makes counting some stands of trees quite difficult. In some cases it was necessary to group trees in to the same GPS reference. No more than 5 trees were ever assigned to

any one reference and all trees were used in the analysis of tree composition.

RESULTS

The survey recorded an approximate minimum total of 213 trees or shrubs. The exact composition of which can be seen in Figure 1.

CLASSIFICATION

The woodland is dominated by Alder and Elder, these two species account for 53% of all the trees present on the site. Willow is the third most common species and this supports the evidence that this piece of woodland according to NVC is W6 *Alnus glutinosa – Urtica dioica* woodland. This woodland type is typified by a dominant Alder and Willow canopy with Elder abundant in a sub-community. The shrub layer supports the fact that the habitat is nutrient rich, being dominated by Nettles and Comfrey.

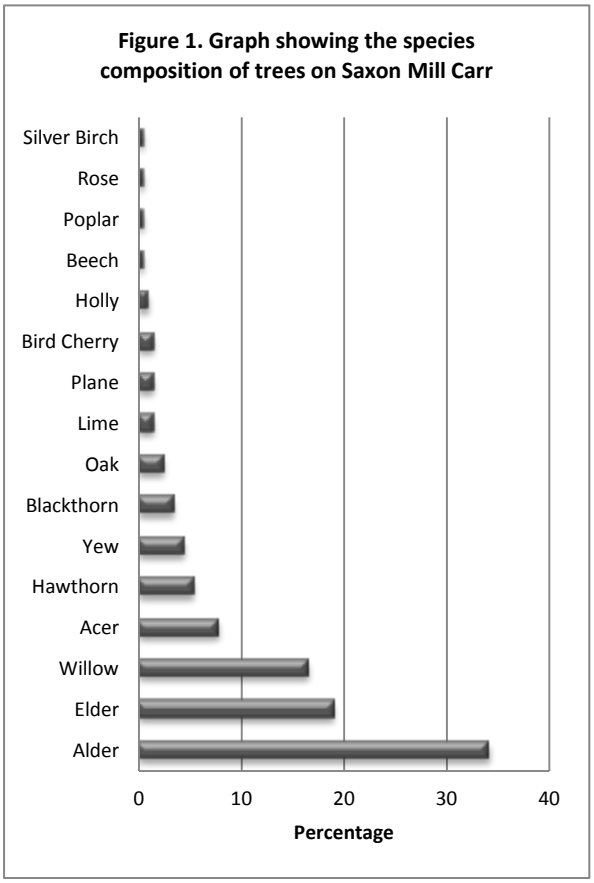


Figure 1. Graph showing the species composition of trees on Saxon Mill Carr

This habitat description matches EU designations of Natura 2000 as 91E0 as a form of residual alluvial forest. The classification indicates that the Alder is a later invader succeeding from initial Willow colonisation. The willows act to stabilise the ground and dry it out allowing the other species such as Alder and Elder to colonise.

THE RANGE OF SPECIES

Nearly all the species on the site are native plants to Britain however there are some unusual inclusions. The site contains single specimens of Poplar and Silver Birch. These trees are not noted for being present in such habitat.

There are two considerably old Limes along the river bank as well as several London Planes. The more ornamental of these species are no doubt a feature of the sites historical development. For much of the sites human history its proximity to Guy's Cliffe has meant that a certain drift of introduced species are present.

Another key feature of the site is the line of Yews that run along the southern boundary of the site alongside the old mill track. These specimens are quite vigorous and perhaps partner an older line of Yews on the other side of the bridge. It is possible given the religious significance of the Yew tree in folklore that these were planted along the route up from the mill to the Church upon on the hill at Old Milverton.

HEDGEROW COMPOSITION

The hedgerow that runs along the eastern border of the site is somewhat neglected. Its length contains significant gaps which have either remained vacant or been filled with dense Bramble thickets.

The predominant trees in the hedgerow are a pair of Oaks and a single Beech. The

hedgerow is more substantially filled by a mix of shrubby species such as Hawthorn, Blackthorn and Elder.

The hedgerow sits upon an earth bank with large stone deposits; as such it is never inundated during the typical flood periods enabling these species to thrive more than any Alder or Willow.

DISTRIBUTION

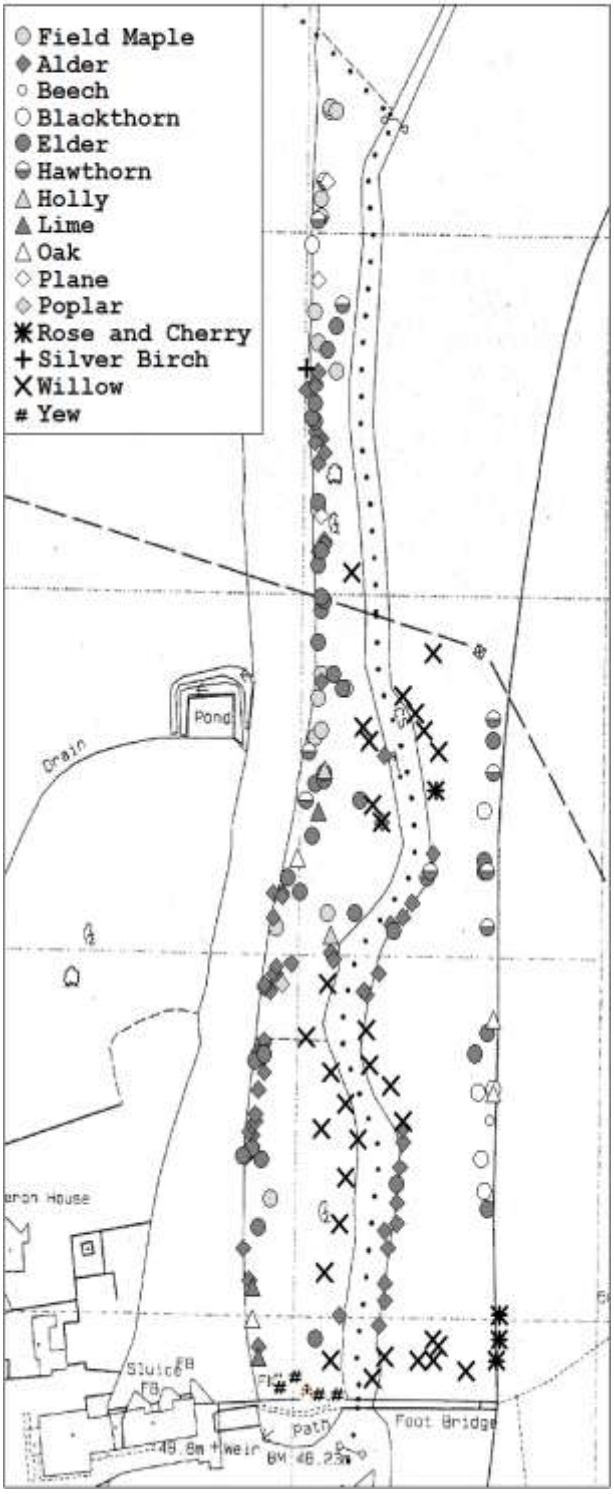
The distribution of trees on the site can be seen quite clearly in Figure 2. It illustrates that the majority of the Willows form a swamp like mosaic along and in the backwater running up the middle of the site. It is evident that the wetness of the underlying substrate is encouraging an invasion of Willows in to the meadow in the south of the site where the grassland can be under water for several months a year.

On drier ground along the canalised river bank Alder is dominant whilst stepped back from the bank side the other trees and shrub species such as Elder and Hawthorn are present.

Nearly all the Blackthorn is confined to the eastern hedgerow whilst Elder can be found throughout the site.

It is noticeable that Field Maple becomes increasingly common as you move up the river where at the very top of the site it is almost dominant. Here the bank side is higher and there is very little flooding.

Figure 2 Tree Distribution



DISCUSSION

The tree survey enables a very good snapshot of the site to be seen. It illustrates the way in which the species are interacting with the environmental conditions.

It is has enabled an accurate assessment of the dominant habitat types to be made which will help in charting both the development of the site and its biodiversity.

It is clear that the site is in the midst of successional change from wet scrub to woodland. It is evident that the wetter parts of the meadow prone to flooding and the margins of the backwater is becoming invaded by Willow which in time will be replaced by Alder.

The bank side tree distribution is unlikely to change. The composition of mature trees is fully established with new younger trees growing up to fill any spaces as older ones disappear.

A large number of trees on the site are dead. These are mainly Alders and were not recorded in the survey. These trees provide vital nesting sites for many species of bird and are an excellent invertebrate and microbial habitat. See Figure 3.

The nature of the eastern hedgerow requires some action. Over the next year the gaps will be filled with native species such as Hawthorn, Blackthorn, Oak and Bird Cherry. Additionally a new hedgerow of a similar species make up will be planted along the fence on the northern edge of the meadow.

Nearly all the trees on the site are native species and as such are incredibly important to our native species and those listed under wildlife protection criteria such as the Red Data Book Lists or Biodiversity Action Plans. Any new trees planted on the site will match the current species composition with an emphasis on encouraging native biodiversity rich species.

Figure 3. Table showing the value of different trees and shrubs to invertebrate species.

Tree or Shrub Species	No. Species Feeding on the species	No. Of Red Data Book Species supported by the species	No. Of Biodiversity Action Plan species supported by the species.
Black-thorn	384	24	3
Bramble	287	12	-
Bird Cherry	384	24	3
Elder	36	-	-
Field Maple	193	13	2
Haw-thorn	356	16	2
Ivy	5	-	-
Yew	2	1	-
Alder	283	22	7
Holly	36	1	-
Willow	752	81	20