



The Distribution of Important Ash in Great Britain

Anyone wishing for more information on identifying the disease, guidance on managing ash trees or the latest outbreak maps should go to the [Forestry Commission website](#).

Interim Chalara Control Plan – [Defra website](#)

Appendices describing the data used in the assessment – [JNCC website](#)

Background

The purpose of this document is to provide evidence on areas of important Ash to help inform the response to *Chalara*. “Important ash” is defined as where ash is a significant and hard to replace or re-create semi-natural feature with a strong role in ecosystem functioning.

The evidence derived and presented here was used to inform the initial DEFRA Control Strategy (<http://www.defra.gov.uk/publications/files/pb13843-chalara-control-plan-121206.pdf>).

The picture of the total resource of ash in woodlands above 0.5 hectares is available from an analysis by the Forestry Commission of the National Forest Inventory (see “2011 Preliminary Estimates of Broadleaved Species in British Woodlands” <http://www.forestry.gov.uk/forestry/INFD-935MSY>)

The picture of the total resource of ash in small habitat patches <0.5 ha and also trees outside woodland as individual trees or in hedgerows and woody linear features, is available from an analysis by the Centre for Ecology and Hydrology of the Countryside Survey (See “Distribution of Ash trees (*Fraxinus excelsior*) in Countryside Survey data” [http://www.countrysidesurvey.org.uk/sites/default/files/pdfs/Distribution of Ash trees in CS 21stDec 2012.pdf](http://www.countrysidesurvey.org.uk/sites/default/files/pdfs/Distribution%20of%20Ash%20trees%20in%20CS%2021stDec%202012.pdf)). The data underpinning this will be published shortly.

The current document supports the geographic data that has been published separately by JNCC (<http://jncc.defra.gov.uk/page-6357>). It also provides advice on how the approach can be refined to help identify areas of important ash at more local scales.

Introduction

This document sets out how the location of important ash can be determined from available data sets across GB.

Several sources of data have been used to build up a picture, since there is no one data set that clearly identifies all woodland in which ash is a significant and ecologically important component, or all ash within the agricultural landscape as a hedgerow plant and tree.

The data sets have been pulled together quickly with the assistance of the country conservation agencies and other organisations. The resulting map is the first attempt to characterise the location and distribution of important ash in the landscape.

Its overall quality is moderate. Individual data sets are known to contain low rates of false positives and false negatives or only detect part of the ash resource. See “Appendices describing the data used in the creation of Interim Chalara Control Plan” (http://jncc.defra.gov.uk/pdf/ash_appendices-20121221.pdf) for further explanation. Modelled species data sets are used to provide a cross check to the other datasets, but the species data sets have a fairly low resolution. In combination, the data sets produce a picture that is robust for GB and regional scale analysis. An accurate local picture would require substantially more work, and it is probable that additional data sets will emerge that can improve the GB scale picture.

Additional work is needed to build a picture of important ash in Northern Ireland using the data sets available for Northern Ireland.

What is important ash?

This document has made the assumption that important ash locations are where ash is a significant, and hard to replace or re-create, semi-natural feature with a strong role in ecosystem functioning.

These locations were identified as follows:

- Special Areas of Conservation where ash is a significant component of a notified Habitats Directive habitat feature.
- Sites of Special Scientific Interest where ash is a significant component of the site including sites where it is a notified feature
- Ancient woodland (continuously wooded since at least 1600) where ash is a significant component.
- Veteran ash trees (trees in middle or late stages of life providing a diversity of habitat related to their structure and rot status) which can occur within woods but also in agricultural, park and urban landscapes where they can provide connectivity.
- Ash supporting a high proportion of the species that exclusively or significantly depend on ash as a host, substrate or food source.

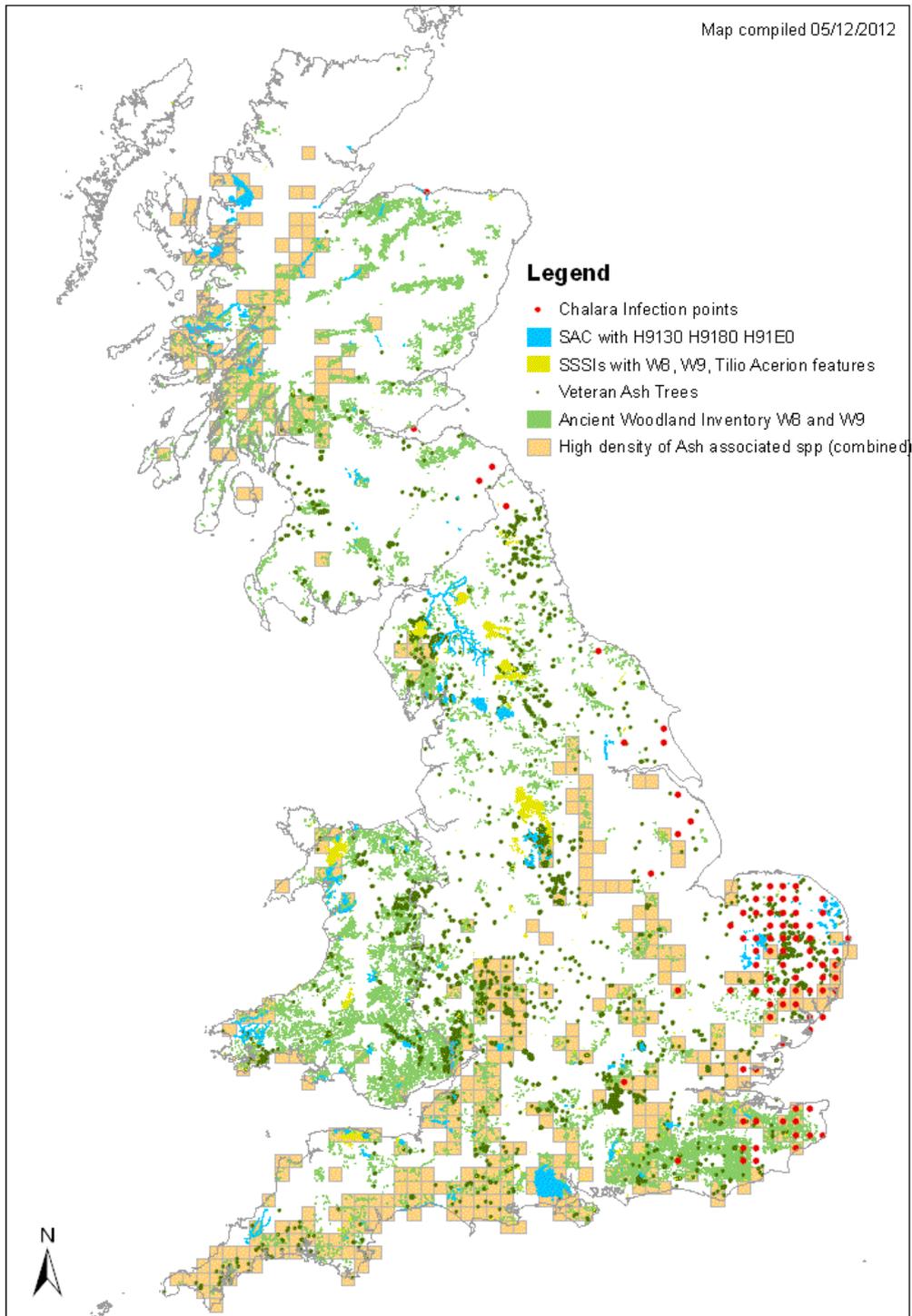
Cultural and aesthetic values have not been considered, but will have many overlaps with these locations.

In identifying the important components of ash in GB woodlands and the wider landscape it is important to consider the combination of data layers rather than

individual layers as:

- Habitats are mapped by habitat type and in most cases information is not available on the species composition of each location. The presence of ash as a significant species is inferred by understanding the habitat types in which it is usually a major component. The main habitat types are upland mixed ash woodlands, lowland mixed deciduous woodlands, hedgerows, upland oak woodlands, wet woodlands, and wood pasture and parkland
- Whilst SACs are a key conservation priority, much of GB's mixed woodland is not classified as a habitat of European community interest and so cannot be considered for SAC status.
- SSSIs do address an important sample of semi natural mixed woodland but the bulk falls outside designation. Mapping of Ancient Woodland picks up much of this undesignated resource which is the subject of restoration and ecosystem services targets in country biodiversity strategies.
- Large ash in hedgerows, fields and parkland is shown by sampling to be a major component of trees in landscape which collectively have role in connectivity, but there are no currently available data sets to map it effectively. The veteran trees database is a significant start.
- Looking at the species dependent on ash provides an alternative to the mapping of woods and trees for locating and identifying important ash.

Proposed Map of Important Ash Locations



The data used to generate this map are available as a set of GIS layers through the JNCC website (<http://jncc.defra.gov.uk/page-6357>). Care is needed if the data are to be viewed or used at scales below a national overview (see below).

Provisional implications of the Important Ash Locations map

Important ash occurs in pockets of woodland, as part of major landscape areas such as the Forest of Dean, and as trees in the landscape, across much of the GB. The density of locations is quite high.

There are no strategic gaps in the distribution of important ash locations that suggest they can be isolated at a regional scale. There appears to be greater distance between important ash locations in some of Scotland when compared to the distribution across the rest of GB.

A local picture of important ash wood would provide useful information to aid the application of any management approach to Chalara, particularly where the management is designed to optimise retaining ecological functioning and value, once a location is infected.

Applying the GB data set

The data used to provide the 'GB Important Ash Map' are available as a set of GIS data layers (<http://jncc.defra.gov.uk/page-6357>). Descriptions and provenance of these data sets are provided in "Appendices describing the data used in the creation of Interim Chalara Control Plan" (http://jncc.defra.gov.uk/pdf/ash_appendices-20121221.pdf).

The data have moderate quality for GB scale uses. The data provide an overall picture of the distribution and scale of important ash but contain significant false positives (locations that contain no important ash) and false negatives (areas where the data sets do not show important ash, but where it is growing). These errors mean that the data set is of low quality for identifying important ash at a local scale, and additional work would be needed to find and map important ash locally.

The GB important ash data set is best used for comparing Important Ash to other data at a UK scale, and for presenting the results at a UK scale. It can also be used to give an indication of the relative importance of a region (county or larger) to the overall resource of Important Ash in GB

Any use of the GB data set should credit the original sources which are referred to in the metadata accompanying each data source.

Finding and mapping important ash locally

Understanding where important ash is at a local level (region or below) will require additional data or survey to provide a reliable picture, in order to overcome the false negatives and positives in the GB scale data that may distort the picture locally.

To map each of the criteria used at the national scale at local level will require locating and using local or regional survey data sets, and using nationally available data in different ways. The following are recommendations on how important Ash locations might be refined locally

Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI)

- The GB data set provides SAC boundaries for SACs that contain one or more of the following habitats of community interest H9130, H9180, H91E0 where Ash is likely to be a major component. It also provides SSSI boundaries that contain one or more National Vegetation Classification (NVC) communities that include significant Ash. Both SAC and SSSI boundaries usually encompass other features. Land classified as a SAC will also be notified as SSSI.
- To identify the extent of the Ash related habitats within a SAC or SSSI, the relevant country conservation agency may for some sites hold a detailed habitat map. If this does not exist, the SAC/SSSI may be covered by local or county habitat mapping undertaken by Local Authorities, Wildlife Trusts or others. The Ancient Woodland Data set may also help identify which parts of the SAC are likely to contain the broadleaf woodland related habitats of community interest.

Ancient Woodland Inventories

- Ancient Woodland Inventories do not contain detailed information on the species composition of each woodland in the inventory. The GB data set attempts to improve this by looking at woodlands that fall within a 10km square containing Ash related NVC communities, based on samples used to develop the NVC. This will both miss Ancient Woodlands that were not sampled for NVC development, and it will pick out woodlands that contain little Ash as the 10km comparison is coarse.
- Many counties or local areas have completed Phase 1, Integrated Habitat System or Priority Habitat Mapping since the Ancient Woodland Inventories were compiled. These data sets in combination with the full AWI data set for an area (not the GB filtered one) may help identify woodland habitats containing important Ash.

Veteran Ash Trees

- The GB data set of veteran ash provided from the Woodland Trusts veteran tree database is a useful starting point for identifying Important Ash locally but is likely to significantly under represent the number of trees. It's possible that more systematic local surveys of veteran trees have been completed locally by land owners, local authorities, Wildlife Trusts or others. Data from such surveys will help build up a picture of veteran ash locally, and where gaps are likely to be in sampling effort. .
- Surveying for veteran trees (including ash) can be undertaken by a wide range of individuals and organisations. Consider contributing to: <http://www.ancient-tree-hunt.org.uk/> so that local data can help build a UK picture.

Species associated with Ash

- The GB data set provides modelled densities of species associated with ash at the 10km square level and its applications are at the GB scale. The underlying data used to create the GB data set can be used to help identify important ash locally. The species associated with ash (provided as appendices to the GB data set) can be used to identify which species data sets available through the National Biodiversity Network (data.nbn.org.uk) have data for these species relevant to any

particular area. It may be necessary to request access to some of the data sets to obtain and download the data at sufficiently high resolution.

- Data published via NBN for species associated with ash is unlikely to have a systematic basis, but the records that do exist, although patchy will often be at high resolution (six or four figure grid references). Such species data can be combined (eg: via GIS) with habitat data sets, such as ancient woodland inventories, to help identify at least some of the woodlands with important ash. Local surveying of associated species will help improve the picture of the relationship between ash (and other trees) and other species, and an online tool is available to help with recording see <http://www.brc.ac.uk/irecord/>)

Important Ash in copses, hedges, lines of trees and fields

- The GB data set could not identify important ash in the fabric of the agricultural landscape where it occurs in hedges, boundaries, small copses and as field trees. The Veteran Tree database will identify some important individual ash locally, but the ash in hedges, copses, boundaries and fields provides an important resource for other biodiversity locally. The Countryside Survey estimates the mean length of ash linear features (hedges, lines of trees) and can model the average length likely in 1km across Britain using land class information. A dataset of mean ash length will be available from the Countryside Survey website. It provides an indication of the importance of ash outside of woodland, and local hedge surveys will provide additional information for the areas they cover. Information on local hedge surveys can be found from <http://www.hedgeline.org.uk/>

The recommendations in the paragraphs above address how GB and local sources can be used to improve the picture of important ash at local scales. The recommendations follow the structure of the GB presentation of important ash for clarity. To identify important ash within woodland the approach varies between England Scotland and Wales in order to take advantage of the different data sources they have available.

In England the best starting point for identifying local important ash in woodland will be a recent county or equivalent habitat survey where these exist. These will usually provide an accurate picture of semi natural broadleaf woodland that can then be refined with other information such as the Ancient Woodland Inventories. The surveys may not record tree species composition within woodland and so additional knowledge, more local data or survey may be needed. Habitat surveys will provide a tool for identifying the woodland features within SSSI and SACS that fall within the extent of the surveys.

In Scotland the Native Woodlands Survey of Scotland (NWSS) provides a comprehensive starting point for identifying important woodland ash. It will map and survey all native, nearly native and planted woods on ancient woodland sites greater than 0.5 hectares by 2013. The survey provides detailed digital boundaries together with their percentage of ash and NVC community information. NWSS in combination with SAC/SSSI datasets can be used to identify the woodland ash features of SACs and SSSIs within Scotland. For further information see <http://www.forestry.gov.uk/nwss>. For advice on interpreting the NWSS for important ash in Scotland contact Scottish Natural Heritage.

In Wales Phase 1 and Phase 2 datasets provide currently available the best way of

identifying semi natural broadleaved woodland in Wales. The Habitat Inventory for Wales or Gwylio provides the best way of identifying semi natural broadleaved woodland in Wales as well as the locations of groupings of large trees. In combination with Ancient Woodland Inventory, SSSI and SAC information, and older Phase 2 surveys, it can be refined to provide a better picture of the important ash components of woodland. For further information on the application of Gwylio contact the Countryside Council for Wales. (Natural Resource Wales from April 2013).