

PCA Guidance Note

Dealing with Trees



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This Guidance Note deals with two situations in which invasive weed management involves dealing with trees. These are:

- 1) Control, the invasive weed in question is a tree (mature and/or juvenile)
- 2) Management of trees near or within land subject to invasive weed control.

Both situations are discussed below:

1. Control of invasive tree species

Invasive non-native species of trees can pose a range of problems necessitating control, from containment to complete removal.

There are a broad range of tree species that are non-native and which possess invasive characteristics. However, only two are included in legislative instruments. In Scotland, *Robinia pseudoacacia* (False acacia; Black locust) is listed under schedule 9: Section 14 of the Wildlife and Countryside Act 1981 as amended (Wildlife and Natural Environment – Scotland - Act 2011). Also, in the UK generally, *Ailanthus altissima* (Tree-of-Heaven)* is a 'species of concern' under the EU Invasive Alien Species (IAS) Regulation 2014. Both these trees are capable of causing damage to pavements etc. in urban situations, spread rapidly and are difficult to control.

*** Note:** The closely related plants Smooth sumac & Stagshorn sumac (*Rhus spp.*) are widely considered to be of similar significance as regards damage potential but rarely grow above 3 – 5 m in height. As such they would be classed as woody shrubs alongside several 'listed' invasives such as *Rhododendron spp.* and *Cotoneaster spp.*

Many other non-native trees are known to be invasive in that they can displace closely related native species in certain habitats. Examples include:

- Turkey Oak *Quercus cerris*
- Evergreen (Holm) Oak *Quercus ilex*
- Red Oak *Quercus rubra*
- Grey Alder *Alnus incana*
- Rum (or Black) Cherry *Prunus serotina*
- Sitka Spruce *Picea sitchensis*
- Lodgepole Pine *Pinus contorta*
- Maritime Pine *Pinus pinaster*
- Corsican (Black) Pine *Pinus nigra*
- Mountain Pine *Pinus mugo*
- Leyland Cypress *Cupressus x leylandii*
- Lawson's Cypress *Chamaecyperis lawsoniana*

However, many of these species are also considered to be semi-naturalised and capable of providing significant ecological benefits (see Woodland Trust individual species profiles ["here"](#)) so they are not considered in detail here. Further guidance can be found in Booy, Wade and Roy 2015 (see References below).

The planning and implementation of control measures to manage an invasive species of tree should be documented in an Invasive Species Management Plan.

Available Control Methods:

Note: Specific recommendations for *Robinia* and *Ailanthus* as well as woody shrubs *Rhododendron*, *Cotoneaster* are included in the PCA's Guide 'Practical Management of Invasive Non-Native Weeds' available ['here'](#)² – (see references).

1.1. Excavation

Seedlings and whips can be excavated by hand. This is preferred over weed pulling since in most cases it is important to remove as much root as possible. Pulling may result in remnants of root being left behind which may re-establish. For larger trees a 360° excavator or similar can be used to remove trees after they have been felled. Excavation is the preferred method of control as it completely removes the subject's roots if undertaken correctly. However, where excavation is impractical or not absolutely necessary other control measures can be considered.

1.2 Stump grinding

When trees are cut down, the stumps are often ground below the soil surface with a stump-grinding machine. This method removes the stump for aesthetic purposes but adds additional cost to the tree removal. Invasive tree species vary in their ability to sprout following stump grinding, and certain species may re-grow from the ground stump or remaining roots. If sprouts occur, they can be controlled using one of the herbicide application methods listed below. Stump grinding can cause root fragments to be projected away from the working area which can cause biosecurity issues if the root matter is of an invasive nature and has the potential to re-establish.

1.3 Foliar herbicide applications

Foliar application refers to applying herbicide to the leaves (foliage) of unwanted plants. Seedling trees and saplings can be controlled by foliar application. Herbicide suppliers will have a BASIS approved person who is qualified and able to give up to date advice on herbicides that can be used for foliar application of trees and are suitable for the target species and its environment. Care must be taken when considering the application of herbicide on or near water and within areas of special scientific interest. See PCA Guidance note on use of herbicides ['here'](#)³

1.4 Herbicide application to tree stumps

Stumps of some invasive trees will sprout after cutting. Sprouts can be continually cut off as they appear but applying herbicide to the stump can kill it and prevent sprouting. Herbicide is normally either painted or sprayed on to freshly exposed, clean stumps. Alternatively, herbicide plugs can be drilled into the stump; these release herbicide slowly and in a targeted area. Herbicide suppliers will have BASIS approved staff who can give up-to-date advice on herbicides that can be used for stump application and are suitable for the target species and its environment. It is important to ensure that manufacturer recommendations are followed and that personnel are suitably trained.

1.5 Basal bark herbicide application

In the past, certain herbicides have been used by direct application to the bark of relatively small target trees, possibly following partial or complete bark removal (girdling). However, no current herbicide formulations available in the UK are approved for this method of application.

2. The management of trees near or within land subject to invasive weed control

The two management techniques most likely to damage trees are the use of herbicides and excavation to remove underground parts (rhizomes etc.). Additionally, gaining access to a site to undertake works, e.g. excavation might involve a risk of damage to a tree(s) or the need to cut back above ground parts of a tree or trees.

2.1 Herbicidal control and avoiding risk to trees

See also PCA's Guidance Note on use of Herbicides ['here'](#)

The planning and implementation of measures taken to avoid or reduce any damage to a tree or trees should be included in the Invasive Species Management Plan and described in the Final Report.

Consideration must be given to the sensitivity of the tree to the proposed herbicide. A translocating herbicide correctly applied to avoid drift is less likely to cause damage to established trees than other types of herbicide.

Wherever possible herbicides that remain persistent in the soil must be avoided.

The risk of herbicide damage to trees can be minimised through using the stem injection method of herbicide application.

2.2 Dealing with herbicide damaged trees

Trees usually recover from light herbicide injury. Irrigating the plant during dry periods will minimize moisture stress, which otherwise may hinder recovery. Irrigation will also help leach root active herbicides from the root zone of the plant. Fertilization should be avoided for a minimum of one growing season following injury, because stimulating excess growth can compound injury from certain herbicides. Similarly, if branch dieback results, pruning should be delayed for at least a year to fully assess the extent of the injury. This will avoid additional pruning of dead branches that may result from continued decline. However, immediate pruning is necessary if dead branches pose a danger to life or property.

If a root active chemical such as triclopyr is applied near trees, activated charcoal may help to minimise injury but only if it can be applied immediately following the mis-application of the herbicide, preferably before the onset of symptoms.

Trees which are seriously declining from unintended herbicide applications generally do not recover and removal is usually required. Trees should be left standing for at least one growing season after the damage has occurred to fully assess the potential for recovery (if safe to do so). Replanting the site should be attempted only after herbicide residues have degraded.

2.3 Excavation near trees on development/construction sites.

The guidance below is based on the recommendations of BS 5837:2012 Trees in Relation to Design, Demolition and Construction. This document is subject to change so check for any updates.

In accordance with BS5837:2012 all retained trees on a construction site are deemed to be considered to exist within a construction exclusion zone and should be fenced off with tree protection fencing. In practice this does not always happen. However, excavation is a construction operation and subject to the requirements of BS5837:2012.

It is therefore necessary to seek written permission from the landowner or their agent prior to working close to any trees on a construction site.

When planning to excavate near trees a request for a BS5837 *Tree Report and Tree Protection Plan* can be made. This would show the tree protection areas or construction exclusion zones and, in most cases, will show the individual root protection areas of each tree.

Where there is a need to work in an area as prescribed above this would need to be approved by the project arboriculturalist. Failing this arboricultural advice must be sought.

Excavation close to trees can cause significant damage and make a tree unsafe (**Note: mature trees of many species may have lateral roots spreading 10 – 30 m from their base**). Tree failure as a result of root damage can result in prosecution of those who are found to be liable.

The planning and implementation of measures taken to avoid or reduce any damage to a tree or trees should be included in the Invasive Species Management Plan and in the Final Report.

Where access for machinery may result in damage to trees this will need to be assessed by the project arboriculturalist with methodology agreed. Failing this, arboricultural advice must be sought. The aim would be to minimise damage and the need to remove tree limbs to afford access.

Careful planning should be undertaken to avoid the risk of damaging any trees either by using smaller machinery or plant and/or by using different entry/exit routes.

2.4 Tree protected orders (TPO's) and Conservation areas:

Trees subject to TPO's or within conservation areas are protected by law. This prohibits the cutting down, topping, lopping, uprooting, wilful damage to or wilful destruction of protected trees.

Any tree can be protected and contravening this law may be costly and result in a custodial sentence. Therefore, the local planning office must be consulted prior to excavating or carrying out any work such as topping or lopping (cutting branches).

Where a tree is protected, or in a conservation area and thus protected, then an application will need to be made to the local planning office if roots are to be severed or branches cut.

An application is often best made by an Arboriculturalist as the grounds for granting permission are made purely on arboricultural principles. Therefore, removing a tree because of invasive weed excavation would not, on its own, be a justification for permission to be granted.

Further detailed advice on Planning legislation and Tree Preservation Orders is available at www.gov.uk 'here'⁵ and 'here'⁶.

References

Web links in the body of the text above are:

1. <https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/british-trees/a-z-of-british-trees/>
2. <https://www.property-care.org/professionals/invasive-weed-control/manual-management-invasive-weeds/>
3. <https://www.property-care.org/professionals/invasive-weed-control/invasive-weed-control-technical-document-library/>
4. <https://www.property-care.org/professionals/invasive-weed-control/invasive-weed-control-technical-document-library/>
5. <https://www.gov.uk/guidance/when-is-permission-required>
6. <https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

Booy, O., Wade, M., & Roy, H. 2015. Field Guide to Invasive Plants & Animals in Britain. ISBN: PB: 978-1408-1-2318-8 (Bloomsbury publishing).

Practical Management of Invasive Non-Native Weeds in Britain and Ireland 2018. Packard Publishing. ISBN 978 1 85341 165 6. <https://www.property-care.org/professionals/invasive-weed-control/manual-management-invasive-weeds/>



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**11 Ramsay Court,
Kingfisher Way,
Hinchingsbrooke Business Park,
Huntingdon,
Cams,
PE29 6FY**



0844 375 4301



pca@property-care.org



property-care.org

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