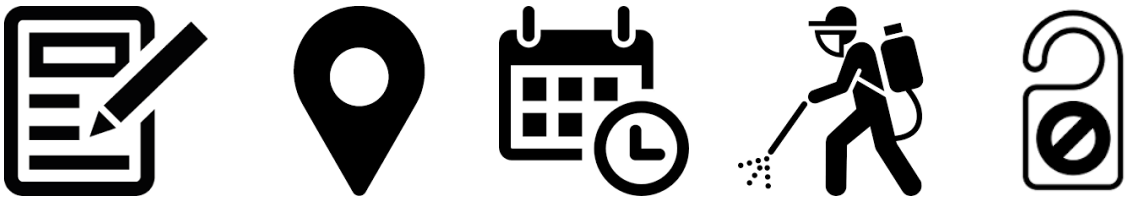
Japanese knotweed

*Management – **Environmental guidance***



Introduction

Japanese knotweed is an invasive non-native species that is found throughout the British Isles having first been introduced during the 1800s.

It does not produce seeds but spreads vegetatively, either by continuous growth underground or through spread of parts of the plant to new locations; these pieces can be as small as 1cm^2.

Its rapid growth rate, up to 2m in 30 days, and ability to force its way through many substrates including tarmac and concrete mean it can pose safety and operational issues for the railway by blocking signals, sightlines and positions of safety. Moreover, Network Rail neighbours are increasingly having issues when attempting to sell property within a certain distance of knotweed on Network Rail land.

Law

Both the ***Wildlife & Countryside Act 1981*** (for England and Wales) and the ***Wildlife & Natural Environment (Scotland) Act 2011*** make it an offence to plant knotweed or cause it to grow in the wild.

There is legislation that covers the extent of the rail network that can require knotweed to be controlled or eradicated (***Wildlife & Natural Environment (Scotland) Act 2011*** and the ***Infrastructure Act 2015***). These pieces of legislation can, if there is no action, enable others to carry out the work and recoup costs. We discharge our obligations under the legislation by complying with the requirements in our own controls. These are described in the following section.

Network Rail Standards

Action to deal with knotweed may be necessary due to the risk posed to the safe operational railway and to lineside neighbours and in order to comply with legislation. ***NR/L2/TRK/5201 Management of lineside vegetation***, as the governing standard, requires that;

- Knotweed should be managed, including
- Relevant details entered into Ellipse.

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How to deal with it

Recording & mapping

Once identified as being present at a location obtain an accurate GPS reference using apps like EcoReporter or PhotoReporter; a robust way to assist with the subsequent management is to accurately record the extent of above ground knotweed on a GIS map-based system. If the extent of the underground rhizome system is known by, for example, trial holes record this so it can be used rather than a 'blanket' 7m buffer. Validated locations can be uploaded in to the Hazard Directory.

Response

Table 1 can be used as a guide when completing work arising identification forms or when updating existing work orders; this work required is based on where the knotweed is found. If the knotweed site can be assigned to more than one 'descriptor' more than one activity may be required to manage it effectively.

Table 1: Knotweed work activity table

Descriptors	Activity *
Sighting obscured	Cut and lay stems on site; allow sufficient leaf area to regrow; treat immediately; clean boots and tools
Stems within 300mm of OLE	Cut and lay stems on site; allow sufficient leaf area to regrow; treat immediately; clean boots and tools
Sighting encroachment	Cut and lay stems on site; allow sufficient leaf area to regrow; treat immediately; clean boots and tools
Stems between 300mm & 1m of OLE	Cut and lay stems on site; allow sufficient leaf area to regrow; treat immediately; clean boots and tools
Stems between 1m & 3.5m of OLE	Cut and lay stems on site; treatment cycle to begin before end of current growing season; clean boots and tools
Stems visible within 7m of the ballast shoulder	Treatment cycle to begin at least 3 years prior to ground disturbance that could result in ballast cleaning or being removed from site; clean boots and tools
Stems visible within 7m of third party land	Treatment cycle to begin following approach from third party; where growth is visible on both sides of fence work with third party to agree management plan under a *Species Control Agreement*; clean boots and tools
Stems visible on third party land, within 7m of the boundary	Contact adjacent land owner before start of next growing season to agree management plan under a *Species Control Agreement*; clean boots and tools
Stems visible on 3rd party land, more than 7m from the boundary	Contact adjacent land owner before end of next growing season to inform presence of injurious and invasive plants; clean boots and tools

* Activity definitions overleaf

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Activity definitions

Use ***Table 1*** to identify the action required:

Cut and lay stems on site – the only acceptable way to carry this out is by using a sharp bladed hand tool (NOT any mechanical or motor-manual means) to cut stems at ground level and lay on site in a position that does not affect safe access or impede inspections of the infrastructure. It may be necessary to secure stems to prevent movement by wind or turbulence from passing trains. It is possible to remove knotweed from site but it has to be treated as hazardous/special waste and disposed of through an approved hazardous waste method by approved personnel.

Allow sufficient leaf area to regrow – pesticides require actively growing plant material to be present in order to be taken up by the plant and a large leaf area increases the area to which chemical can be applied.

Treat immediately – due to the potential growth rate of knotweed, especially freshly cut plants, apply chemicals as soon as the size / leaf area is ideal.

Treatment cycle to begin before end of current growing season – set up a treatment cycle in Ellipse for the management of the knotweed on Network Rail land and take in to account any requirements that may have been imposed under Species Control Agreements / Orders to enable third party knotweed to be treated; have treatment cycles organised in sufficient time so that one cycle can take place in the same year as identification.

Treatment cycle to begin at least 3 years prior to ground disturbance – control of knotweed can take in excess of 3 years and if track (or other) operations are planned within 7 metres of a stand of knotweed Supply Chain Operations will not accept ballast contaminated by live knotweed. Proactively beginning treatment in advance of works reduces the risk of costly delays.

Contact adjacent land owner – proactive approach to agree joint approach to treat knotweed, known as a Species Control Agreement.

Species Control Agreement – a voluntary agreement which sets out what is done by whom and by when in order to control knotweed; there is no penalty for non-compliance but failure to do so may result in a Species Control Order.

Clean boots and tools – before leaving the Japanese knotweed site, make sure that there are no pieces of knotweed on boots, clothing, tools and vehicles wheels to reduce risk of further spread.





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Treatment cycle

Treat with pesticides according to the label instructions and in the active growing season only; mid-April to mid-October. Garlon Ultra can only be applied once per year. Treatment cycle to continue **annually**, **without a break**, until there is no knotweed growth at the location for two growing seasons – at this point it is likely the plant has been killed or put into a chemical-induced dormancy. Interim visits may be required to check on treatment efficacy.

1st visit

- Away from watercourses or trees – apply Garlon Ultra to both sides of leaves and spray ground within a 2m buffer around all above ground knotweed stems
- Within 1m of watercourse or drip line of trees – apply Roundup Provantage to both sides of leaves

2nd visit (minimum 4 months after 1st visit)

- All sites – apply Roundup Provantage to both sides of leaves

In watercourses (including drains and ditches)

Notify Environment Agency, Natural Resources Wales or Scottish Environment Protection Agency at least two weeks prior to commencement of work.

Contaminated land

Once the treatment cycle is complete the record within the Hazard Directory and/or GIS mapping system can be changed from a knotweed record to a contaminated land record in order to avoid disturbance. There is evidence that shows knotweed that was previously thought to have been killed by pesticide application was able to regrow following ground disturbance.

Who to contact for more information

For strategy or policy:

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