Vegetation management explained

Network Rail

Working for you

Summary

With 20,000 miles of track and millions of trees growing along the railway, managing vegetation is hugely important to us. If not managed well, trees and fallen leaves can pose a risk to the safe running of the railway and cause delays to trains.

The UK's climate, the variety of trees and the sheer number of trains running on our network mean that the UK faces more serious challenges than most other countries. Incidents caused by vegetation can cost the railway upward of £100 million a year.

We are mindful that clearing vegetation can have an impact on local communities. We always try to strike the right balance, but accept it's a challenge we may not always get right. We will continue to work alongside communities and experts in the field to minimise the impact of our vegetation management while ensuring the continued safe and reliable operation of the railway.

How does vegetation cause problems?

Just last year, storms, rain and wind caused trees to disrupt the network over 1,200 times and caused over 400 instances (34%) of trains coming into contact with trees or large branches. Such incidents can be serious and have the potential to cause accidents. Blocked lines can also cause severe delays to trains and passengers using the railway.

Trees and plants growing on the railway can hamper our ability to maintain a safe railway in other ways too. Lineside trees and bushes can obscure signals, get blown onto the tracks, or grow to an extent where our track workers do not have a safe place to wait while trains pass. In autumn, train acceleration and braking can be affected by the fallen leaves of broadleaf trees.

How do you consider the ecology and biodiversity of the railway?

We take our environmental obligations extremely seriously and we manage our lineside to provide healthy biodiversity, advised by experts in the field. We make our policies in this area public and work with environmental organisations to help us get it right.

Where possible, we protect and maintain the local environment the railway runs through. However, there are some safety critical instances when we must prune or remove trees during nesting season. When we have to do this, we carry out thorough ecological surveys and inspections before starting any work.

Where there is enough room and it is safe to do so, after pruning or removing trees, we leave smaller branches as habitat for wildlife, such as hedgehogs and amphibians. Depending on species and availability of space we may allow tree stumps to regrow, or treat them with herbicide to stop unwanted regrowth, thereby enabling more diversity in ground flora to grow.

Where is vegetation management required?

We routinely clear vegetation from the area immediately next to the track. Where trains run at higher speeds, in cuttings or embankments, or where there are level crossings or overhead line equipment, we may need to clear vegetation further back.
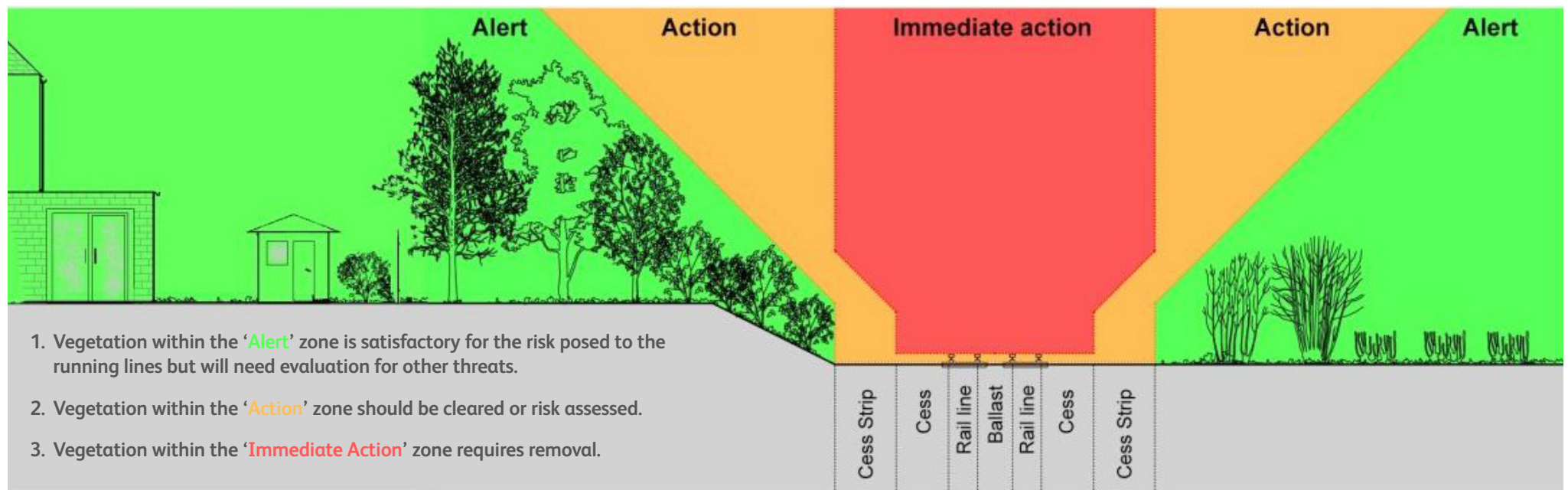
We remove trees that are, or could be, dangerous or negatively affect the reliability of services that over 4.5 million passengers rely on every day.

As well as maintenance of our railway, there are times when we need to clear areas of vegetation to help our trackside teams examine or repair earthworks and structures or as part of larger programmes of work, such as to prepare for overhead line electrification.

To reduce the problems caused by leaves falling on the railway in the autumn, we target the maintenance or removal of certain broadleaf tree species such as poplar and sycamore.

By proactively managing the trees along the railway, we are able to keep people safe and prevent unnecessary delays.

This image shows how we evaluate the threat of trees and other vegetation to the railway:

Alert   Action   Immediate action   Action   Alert

Cess Strip | Cess | Rail line | Ballast | Rail line | Cess | Cess Strip

1. Vegetation within the 'Alert' zone is satisfactory for the risk posed to the running lines but will need evaluation for other threats.

2. Vegetation within the 'Action' zone should be cleared or risk assessed.

3. Vegetation within the 'Immediate Action' zone requires removal.

Does Network Rail have a policy to replant trees?

We are adopting the principle of biodiversity accounting, which incorporates metrics and calculations endorsed by DEFRA, so that we can measure the impact that our infrastructure development and maintenance works have on biodiversity. However, we don't have a fixed target for compensating for tree loss, habitat loss, or changes in biodiversity valuation as a consequence of our maintenance or upgrade work.

In November 2017 we launched a new biodiversity accounting tool, the Network Rail Biodiversity Calculator. Projects may adopt local targets to achieve 'no net loss' or 'net gain' biodiversity outcomes, and can use the Biodiversity Calculator to measure any losses and biodiversity score reductions and invest in compensation measures and off-setting arrangements so that there is no loss, or an increase, in natural habitat as a result of that project. We are piloting targets of net positive biodiversity on specific infrastructure projects, including Gospel Oak to Barking and Thameslink. The Thameslink programme was also named by DEFRA as a demonstration project for its part in the national pilot test on biodiversity offsetting.

Does Network Rail need permission to fell trees?

As the management of trees is generally on Network Rail land, permission is not usually needed. Where there is a Tree Preservation Order or the location is within a Conservation Area, we work with the Local Planning Authority.

Where Network Rail land has been designated as a Site of Special Scientific Interest, or has other statutory protection, we work with the regulators to make sure that our work is in accordance with the legislation.

How often do you check the trees on the railway?

The Network Rail estate covers 50,000 hectares and routine maintenance is constantly carried out across the rail network to prevent trees encroaching on the tracks. Ongoing management promotes safety and is more cost-effective than reacting to damage and delays caused by a fallen tree.

In addition to this, every three years we formally inspect lineside vegetation to check that it meets the standards required to safely and reliably operate the railway. This requires the assessment of over 6,000 miles of lineside on average each year.

How does Network Rail keep track of the millions of trees along the railway?

We use aerial surveys along the railway and 60 metres either side to create an on-line map which shows us the location and condition of Network Rail's assets. Using this tool, we can measure the height of vegetation which helps us to target only those trees that pose a risk to the railway.

This targeted, planned approach reduces risks, improves safety and reduces costs by reducing the number of teams manually checking all of the trees and identifying problems before they cause incidents.

What does it look like when Network Rail has cleared trees?

On the South East Route, vegetation management has been a key part of our £300m investment to improve performance and punctuality. On the Brighton Main Line, we have completed over 70 miles of vegetation management since September 2017.

Before any work started, the team carried out a desk based ecology survey, site ecology visits and had an arboriculturalist assess the sites. We sent over 3,300 notification letters to residents along the whole of the Brighton Main Line in advance of this work taking place, and responded to any queries they had. Over the whole period, we received only two complaints from lineside neighbours.

Statement from the Tree Council

The Tree Council works with Network Rail and their neighbours to help improve trackside management of trees, hedgerows and other vegetation. As a 'critical friend', we advise Network Rail on ways they can manage their trees to create wildlife corridors whilst they carry out the important vegetation management needed to keep the railways safe.

Network Rail is the fourth largest landowner in Britain. Therefore, working with them to get things right can have a massive positive impact for wildlife across the UK. Some trees will always have to be removed for safety reasons but others can be pollarded, coppiced or even laid as hedges. That's better for the environment, better for wildlife, better for local communities and, in our experience, could cost less than current techniques. With large numbers of ash trees growing on the railway, as Ash Dieback spreads, these issues will become even more important over the next 10 years.

We are running trials with Network Rail over the coming autumn which will lead to a better understanding of the various management options. As a result, we hope that Network Rail employees at every level will receive even more training in tree management and that their contractors will receive clear instructions. Network Rail is a huge organisation, with thousands of employees, working on eight different lines across England, Scotland and Wales, so it's important to continue constructive discussions until new practices are fully embedded.

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