Forestry Commission

A summary guide to managing tree pests and diseases:

How to implement good biosecurity to protect trees and woodland

Why woodlands need protecting from tree pests and diseases

Trees, woodlands and forests are precious natural assets and provide a range of social, economic and environmental benefits. Trees help to clean our air, prevent flooding, provide timber, and act as a haven for both people and wildlife. It is important that we protect our woodlands against the threat of harmful tree pests and diseases, so they can continue to provide valuable benefits.

Larger eight-toothed European spruce bark beetle *(Ips typographus)*

How tree pests and diseases are introduced and spread

Trees are under increasing pressure from invasive and damaging pests and diseases. International trade and the movement of goods has provided an easier passage for pests and diseases to cross our borders.

Changes to our climate are also leading to pests and diseases establishing in places where they were unable to do so previously. Our native trees have not co-evolved with today's invasive pests and diseases, so our work to protect trees, woodlands and forests is now more important than ever.

Reducing the risk of introducing or spreading tree pests and diseases through robust biosecurity measures should be a high priority for any woodland owner.

What is an invasive and/or harmful tree pest or disease?

A non-native pest or disease that causes injury to trees or plants.

What is biosecurity?

A set of measures or precautions to prevent the introduction or spread of harmful pests, diseases or invasive species.

KEEP IT CLEAN

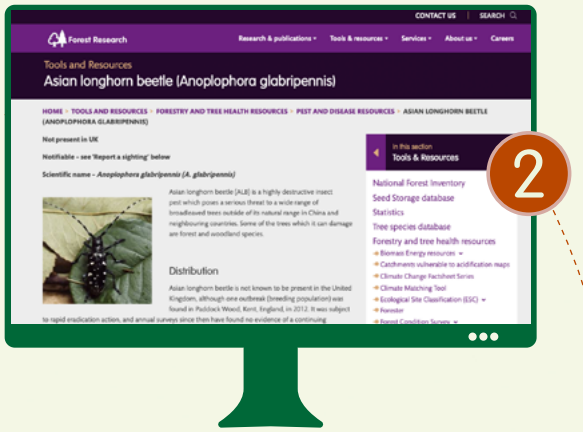
Discover more about the Forestry Commission's 'Keep it Clean' campaign.

Ash tree leaf infected with ash dieback *(Hymenoscyphus fraxineus)*

How to maintain a healthy and resilient woodland

To ensure your trees stay in good health, it's important to understand your woodland and the threats they face.

Three steps to maintain your woodland:



1. Identify your tree species: This will help you to focus on the potential threats that could impact your trees.

2. Know your woodland's priority pests and diseases: Research which pests and diseases may affect the tree species in your wood.

3. Adopt robust biosecurity measures: Look at how pests and diseases could enter your woodland, via people's boots, equipment and vehicles, or through flight, soils, water and newly planted trees. Limit these risks by adopting good biosecurity management, which can include washing boots and equipment, and sourcing biosecure trees with a Plant Healthy certification or 'Ready to Plant' assessment, to limit the introduction and spread of any unwanted tree pests and diseases.

Withered shoot tips and blackened needles on larch caused by Ramorum disease *(Phytophthora ramorum)*

How to monitor your woodland for tree pests and diseases

It's important to carry out regular tree health surveys to confirm the presence, absence or spread of any tree pests or diseases in your woodland.

Tree health survey considerations

Before carrying out a tree health survey you should:

- Familiarise yourself with the signs and symptoms of tree pests and diseases known to affect your tree species.
- Consider the time of year of your survey, as lifecycles of some pests and diseases can present signs and symptoms at different times of the year.

Familiarise yourself with the signs and symptoms using resources from:

- Forest Research
- Observatree's field identification guides and pest signs and symptoms calendar
- UK Plant Health Risk Register

Orange fruiting bodies visible on the bark of a sweet chestnut associated with sweet chestnut blight *(Cryphonectria parasitica)*

How to plan a tree health survey

You can undertake a tree health survey separately or alongside an existing survey, such as tree safety surveys (where you may need to seek expert advice), woodland management plan surveys or operational site assessments. It's recommended that you consider the following:

- Include a suitable representative sample of your woodland and try to document all the different species and environments where possible.
- Highlight areas that are at a higher risk of introducing tree pests and diseases. These include high-traffic areas, new planting sites, woodland edges or known fly-tipping locations.
- Ensure any surveys are carried out in a biosecure way.
- Report any suspicious findings to the Forestry Commission's Tree Alert online portal.

Tree Health Survey

Record the following information:

- ☐ surveyor contact details
- ☐ survey date
- ☐ location (grid reference or postcode and description)
- ☐ suspected tree pest or disease (if known)
- ☐ affected tree species
- ☐ number of trees affected
- ☐ age and size of trees affected
- ☐ symptoms observed (canopy, crown, branches, stem, base or roots)
- ☐ three good quality photos of your tree (in context to its surroundings) and its symptoms (including a close-up)
- ☐ environmental observations (recent weather conditions, waterlogging, compaction damage)

A nose-to-tail procession of oak processionary moth caterpillars *(Thaumetopoea processionea)*

Top tip: By carrying out regular tree health surveys in your woodland, you will stand a better chance of catching and acting on outbreaks before they become unmanageable.

How to manage tree pests and diseases in your woodland

If you are aware of a tree pest or disease in your area, or if you spot any signs in your woodland, there are four management options to consider.

Four ways to manage tree pests and diseases:

1. Prevention:

Try to stop pests and diseases from entering your wood by implementing good, everyday biosecurity measures, including routinely cleaning clothing, boots, equipment and vehicles. As well as adopting good biosecurity measures, you could also consider planting more resilient tree species to improve your woodland's overall resilience. **Find further guidance on how to prevent tree pests and diseases.**

2. Response:

Facilitating a speedy response when threats do occur means it can sometimes be possible to eliminate a tree pest or disease. Once a tree pest or disease is confirmed, an expert may instruct you to eradicate if it's discovered at an early stage, if it's in an isolated area or if there is a very limited level of spread. Continually monitor your site, report it to TreeAlert and seek expert help and advice from your local Woodland Officer. **Find more information on which tree pests or diseases are notifiable.**

Top tip: Be aware of any statutory obligations you will need to follow for certain tree pests and diseases.

Gingering and dieback of foliage indicates infection of these larch trees caused by Ramorum disease *(Phytophthora ramorum)*

3. Containment:

If a pest or disease can't be eliminated from your site, you can still try to contain it through good biosecurity measures, such as cordoning off affected areas and restricting movement in the area with clear signage to make people aware.

Top tip: Your chosen management approach may require a felling licence, and there are grants available to help fund woodland restoration and management activity.

4. Adaptation:

If elimination or containment is not possible, you can consider reducing the impact of tree pests and diseases on your woodland through adaptation. By introducing a more diverse and tolerant range of tree species, you will improve the age structure of your wood and its overall future resilience.

Resinous bleed on larch tree stem caused by Ramorum disease *(Phytophthora ramorum)*

If you'd like to get in touch with one of our biosecurity experts, please email the Forestry Commission at: biosecurity@forestrycommission.gov.uk

Useful resources

Forest Research tree species database

UK Plant Health Risk Register

Forestry Commission biosecurity guidance

Ecological Site Classification Decision Support System (ESC-DSS)

Forestry Commission felling licence guidance

Countryside Stewardship tree health grant guidance

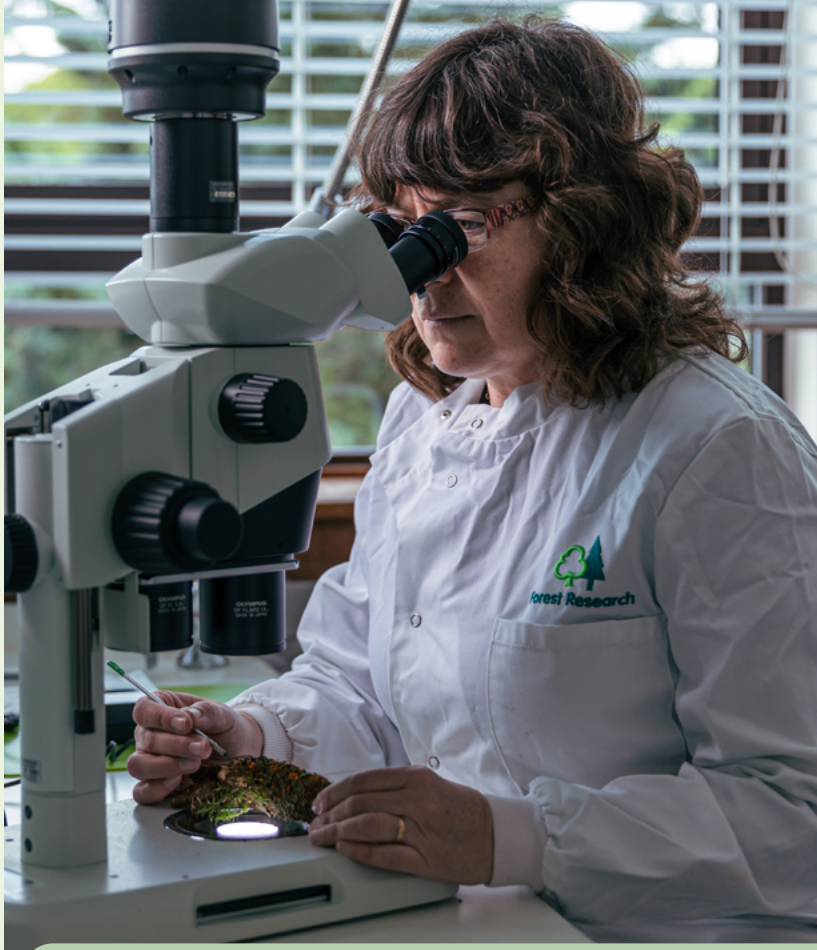
Forest Research pest and disease resources

Observatree

Centre for Agriculture and Bioscience International (CABI) invasive species resources

TreeAlert

Tree health pilot



Forest Research scientist researching tree pests and diseases.

Subscribe for updates from the Forestry Commission to receive the latest forestry news, grants, regulations and more.

Forestry Commission

@ForestryComm

/ForestryCommission

forestrycommission.blog.gov.uk

#WoodlandManagementMatters