



Technical Information Note 1 Tree risk management for duty holders

The purpose of this Technical Information Note

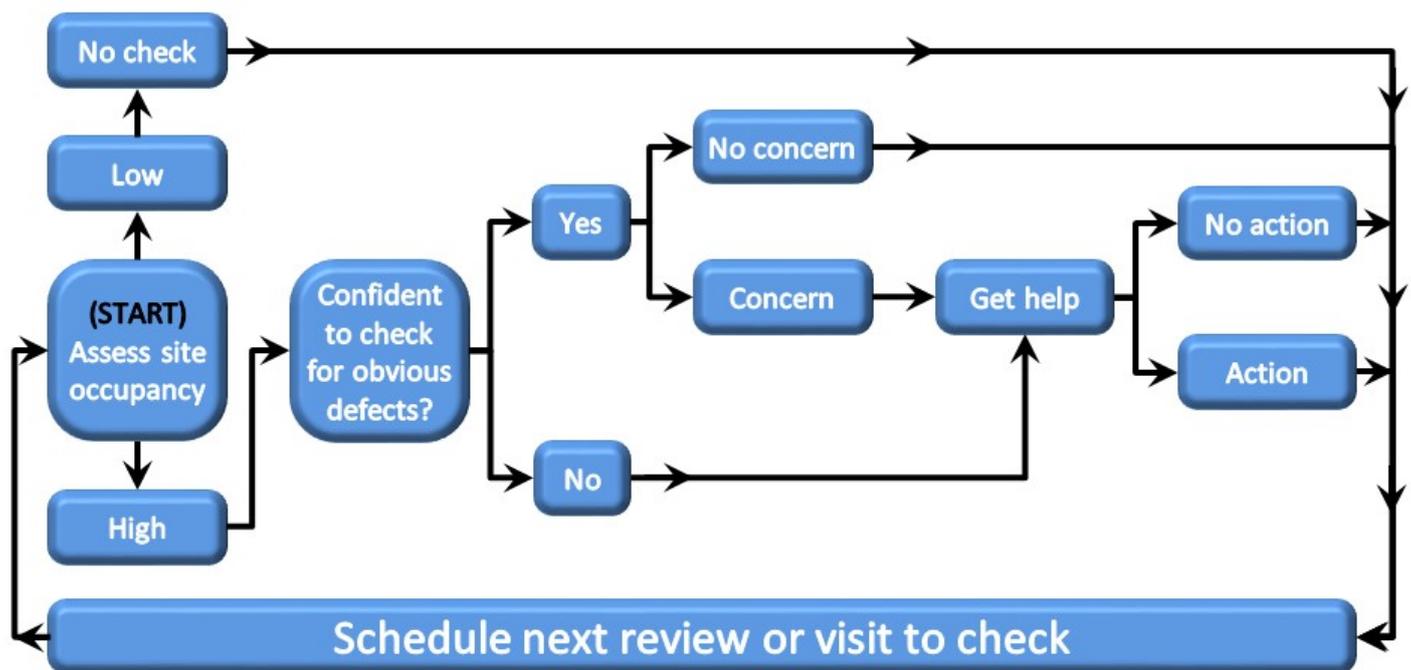
This Technical Information Note (TIN) describes observations on tree risk management that may assist duty holders (those with responsibility for tree safety) in assessing how to discharge their duty of care. It is based on the expert witness experience of Jeremy Barrell¹ acting in civil and criminal cases, and inquests, over the last 20 years. It is a tree-oriented summary; it is not presented as an analysis of the law, although it does reference other technical publications as sources of further information. Duty holders wishing to find out more can access those listed references and, if detailed guidance is needed, must seek clarification from an appropriate specialist. Additionally, a short glossary describing commonly used terms when managing tree risk is included at the end of this TIN.

The standard of the duty of care, i.e. how much duty holders must do to effectively reduce the risk of being blamed for the consequences of a tree failure incident, is a matter for the courts to decide based on the circumstances of each event. That standard is likely to subtly vary according to the occupation of the duty holder in the context of the nature of the use of the property where the trees stand². For the purposes of this TIN, its observations have been tailored towards two main groups of duty holders; property owners (usually homeowners) with no business activities, and those who have responsibilities under the Health & Safety at Work Act 1974 (HSWA).

Summary for duty holders with no HSWA responsibilities (primarily homeowners)

If you are a property owner with trees and no business interests active at your property, you have no obligations under the HSWA, but you do have a duty of care under civil law to take reasonable care to avoid acts or omissions that cause a reasonably foreseeable risk of harm. In practical terms, that means you must check for obvious defects in trees that could cause harm if they failed. If you feel confident that you can properly identify obvious defects, then you can carry out the check yourself. Alternatively, you should seek expert advice from a tree specialist. Figure 1 outlines a decision-making framework to assist in managing tree risk.

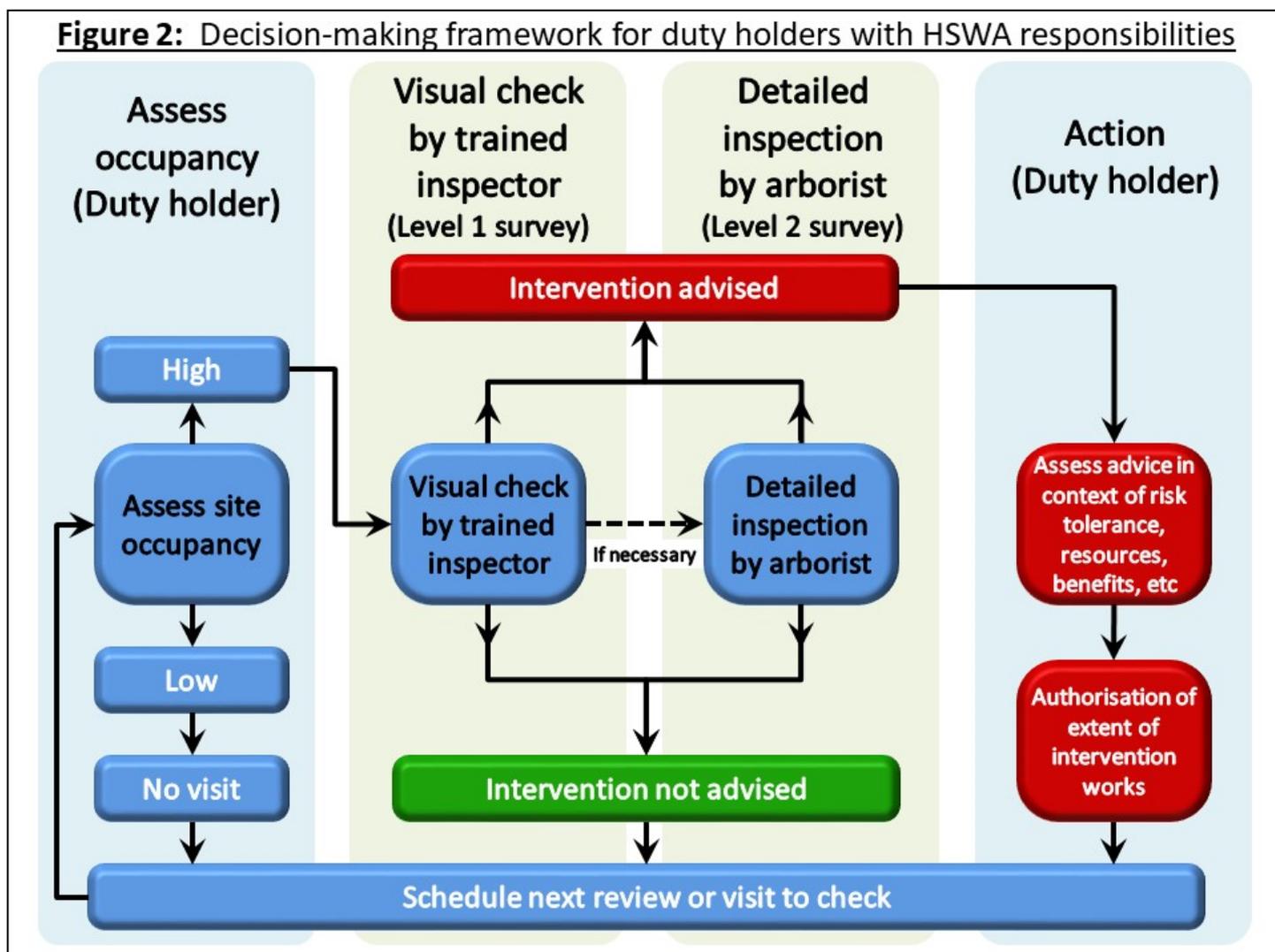
Figure 1: Decision-making framework for duty holders with no HSWA responsibilities



Duty holders must assess site occupancy, which provides a reliable indication of whether people or property could be harmed if a tree fails. If the occupancy is low, then no check is needed and a future review must be scheduled. If the occupancy is high, the tree must be checked. If the assessor is not confident that they know what obvious defects are and can identify them, they should get help from a professional, and act on it. If they are confident of their abilities, they can check their own trees. If they see nothing of concern, then no immediate action is needed. If they discover a concern, they should get help from a professional and act on it. The risk from all trees should be regularly reviewed, irrespective of whether it is the duty holder or a professional that carries out the check.

Summary for duty holders with HSWA responsibilities (primarily businesses and institutions)

If you are a duty holder with business interests active at your property and obligations under the HSWA, you have a responsibility to take reasonable care to avoid acts or omissions that cause a reasonably foreseeable risk of harm. In practical terms, the process of assessing the risk and reacting to the findings can be shared between the duty holder and the tree inspector, as conceptualised in Figure 2.



The duty holder is likely to have knowledge of the level of occupancy of the land and there is no need for tree expertise to assess whether it is necessary to visit to check trees. If the occupancy is low, it is unlikely to need any tree input and all that is necessary is to schedule in a future review. If the occupancy is high, then a check is needed, and there is an expectation that it is carried out by a person with enough experience and/or training to discover significant defects (Level 1 survey). This could be a trained arborist, or an allied professional with specific training in recognising tree defects. If the check reveals no cause for concern, then no intervention is needed, and the next check is scheduled. If the check raises concerns, the need for intervention is assessed, and the duty holder is notified. If there is an imperative to retain the tree and the inspector is not sure about the implications of any discovered problems or the extent of intervention required, a more detailed inspection by a trained arborist (Level 2 survey) can be advised. This is a much more detailed investigation than the check, and will clarify what intervention, if any, is notified to the duty holder. How duty holders react to this advice is for them to decide, based on their circumstances.

Supplementary notes

1: Occupancy

From a strategic perspective, it is useful to consider how many targets could be affected by a tree failure early in the management process because it does not require any tree expertise, just knowledge of the site and how many people/structures could be affected at various locations. If there is no occupancy, then there can be no risk of harm, irrespective of how many trees are present and the degree of potential hazard that they present. If there is no risk, there is no need to visit and check. As the level of occupancy increases, there will come a point where it will be necessary to visit and look at the trees, but there is no clear technical or legal guidance on where that threshold lies. Instead, duty holders must make a judgement, which can be informed by their interpretation of what they think the courts are likely to accept as reasonable and proportionate. For example, woodland with no public access into or near it would obviously sit at the lower end of the risk spectrum and there is unlikely to be a need for proactive safety management. At the other end of the spectrum, roadside trees on the edge of a woodland within falling distance of the road would need to be visited and checked. More difficult to assess would be a footpath scenario through a woodland and deciding what level of use is necessary to justify the resources needed to visit and check. In short, there is no simple answer on how much occupancy is required to trigger the need to check, it is a judgement call.

2: Obvious defects

From two written court judgments, *Selwyn-Smith -v- Gompels* (2009)³ and *Stagecoach South Western Trains Ltd -v- Hind & Steel* (2014)⁴, there is an emerging understanding of the courts' expectation relating to what "obvious defects" should trigger a more detailed consideration during the course of a visual check, if they are discoverable (they may be present, but not visible, e.g. split, cavity, or fungal bracket, out of sight on the top side of a branch). However, while such judgments provide an indication, they cannot be considered a definitive list because only the defect(s) relevant in each case were considered, and others may exist that could also be deemed as obvious in future cases. It is also worth bearing in mind that the NTSG⁵ definition of a defect also refers to "environmental condition", which could include matters such as instability from sudden exposure to new wind forces through the loss of adjacent shelter (trees or buildings), or excavations that damaged roots.

Taking all these considerations into account, current indications are that obvious defects could include, but are not limited to, dead trees and branches, declining health (indicated by dead wood and abnormal foliage), severe imbalance of branches and whole trees, splits and cracks in bark and wood, unstable rooting (soil cracks and lifting), visible decay, indicators of decay such as fungal fruit bodies, structural abnormalities, large occluded wounds on old trees, abnormal root distribution caused by obstructions, potential instability through recent changes in protection from the wind, and instability caused through root damage. Special consideration should be given to the potential for increased risk from combinations of defects.

NOTE: Ultimately, it will be for the courts to decide whether a defect was sufficiently obvious to have been discovered and considered, which will depend on the circumstances of each case.

3: Inspections, checks, and informal observations

Where it is assessed that there is enough occupancy to justify visiting to check trees, the matter turns to what are the options for carrying out such a check. Informal observations are the identification and notification to the duty holder of potential problems noticed by employees or members of the public when passing. They are incidental to other activities and, while helpful to supplement a formal risk management regime, they cannot be relied on in isolation as the main means of managing risks. Where formal tree assessments are required, the Health & Safety Executive (HSE) advises that a quick visual check is the starting point from a HSWA perspective, and it seems likely that a similar standard will apply to most other tree checking scenarios. Visual checks can be described as Level 1 surveys and can be carried out from a moving vehicle or on foot. They are intended to be quick, so should take minutes rather than hours. Detailed inspections, which can be described as Level 2 surveys, are generally more time consuming, often taking hours, and require a much higher level of investigation.

4: Visual check (Level 1 survey)

Where trees need to be visited, the HSE Sector Information Minute (SIM) *Management of the risk from falling trees or branches*⁶ identifies a "quick visual check" as the starting point for assessment under the HSWA for corporate duty holders, and a similar standard is likely to be expected in a civil context. However, beyond the technical literature describing the detail of how tree assessment can be done, there is little guidance on the minimum standards required to meet a duty of care. In practice, a quick visual check could range from viewing from a moving vehicle, to walking up to and around a tree to view it from all available angles. It could reasonably involve spending a few minutes tapping and light probing, but is unlikely to take hours and extend into more detailed investigations, which HSE describes as an "inspection". Further explanation of driven and walked checks is as follows:

- **Driven or drive-by check:** A check from a moving vehicle can be called a driven check or a drive-by check, and involves a vehicle being driven at low speed by a driver and a separate spotter looking at trees. Indications of what a drive-by check should entail was published by the Coroners Office in 2014 in the form of a Prevention of Future Deaths (PFD) Report arising from the Inquest of Michael Arthur Warren⁷. Although a widely accepted drive-by check definition has yet to emerge, from this PFD Report and other references, a likely expectation is that spotters must only look at trees, and not be attempting to assess highway and tree issues at the same time. Where significant trees are present on both sides of the road, each side should be driven separately, and spotters should not attempt to look at both sides of the road during one pass. The vehicle should be prepared to stop to allow a closer visual check for obvious safety conditions and other triggers of possible threats to the highway. Triggers to stop should include seeing the "obvious defects" listed above, but additionally may include, but not necessarily be limited to, large/mature poplars and willows (because they decay quickly), and large/mature beech (because they are often vulnerable to infections from *Meripilus* sp and other serious decay fungi). One of the disadvantages of a driven check is that only defects visible from the road view can be seen, and serious defects out of sight from the road could be missed. For this reason, although driven checks are useful within an overall management regime, it may be necessary to supplement them with walked checks, which can be at less frequent intervals. However, the combination of driven and walked checks would be a matter to be assessed in each situation, and it would unrealistic to describe a rigid formulaic approach that can be applied to all circumstances.

- **Walked or walk-over check:** In most situations it is possible to identify serious tree problems from visual observations from ground level, and it is unusual for detailed inspections to be needed. A walk-over check would normally involve looking at a tree from a distance to assess the way it looks in its entirety in the context of its setting, supplemented by looking at its buttress roots, trunk, and crown, from as close as possible to the trunk. The check may extend to light tapping, probing and scraping away loose debris and soil, but it would not normally extend to digging, climbing, or other more sophisticated internal investigations. Sometimes, it may not be possible to view the tree from all angles because of topography, physical barriers, obstructed views, or ownership restrictions. Such limitations would normally be noted in the survey record in case they prevent the discovery of serious defects.

5: Detailed inspection (Level 2 survey)

The normal starting point for tree risk assessment is a quick visual check (Level 1 survey) and, in most circumstances, any concerns will be addressed by specifying intervention works. For most trees, even if the extent of an identified concern is unclear, e.g. the extent of decay, it is simply not worth the expense of more detailed investigations, and intervention is often specified on a precautionary basis. However, if a tree is considered sufficiently important/special to justify a higher level of attention, e.g. a heritage tree with high cultural, scientific, or visual value, then the more comprehensive investigations of a detailed inspection (Level 2 survey) may be warranted. Detailed inspections can take the form of aerial investigations, excavations below the ground, or internal examination of the wood structure, and can include any or all these options, depending on the circumstances. Such inspections are rarely justified and are normally the exception rather than the rule.

6: Credentials of inspectors

Recent judgments (*Selwyn-Smith -v- Gompels* and *Stagecoach South Western Trains Ltd -v- Hind & Steel*) indicate that the courts are prepared to accept that homeowners with a general knowledge of garden management can check their own trees. This is also reflected, albeit at a slightly higher level, for duty holders under the HSWA, through guidance in the HSE SIM which states that a quick visual check should: "*be carried out by a person with a working knowledge of trees and their defects, but who need not be an arboricultural specialist.*" In a highway context, *Well-managed Highway Infrastructure*⁸ articulates that highway authorities: "*should include some basic arboricultural guidance in training for inspectors ...*". The thrust of all these references is that some knowledge of trees is required to carry out a visual check, but that need not extend to compulsory use of a trained arboricultural specialist. In the case of *Atkins -v- Scott*⁹, the court found that experience from on-the-job training without any formal certification was enough, but the latest guidance for highway authorities clearly advocates some basic training in a highway context. Although there is no obvious minimum threshold for experience and qualifications, or the combination of both, it seems intuitively and practically necessary that anyone charged with checking trees can identify obvious defects and know what to do about them when discovered.

7: Frequency of checks

How often trees need to be checked is an important consideration that can have a significant impact on resources; too often may be too expensive without much gain, and too infrequently may miss deteriorating conditions and lead to harm/liability. The difficulty for duty holders is that there is no widely accepted or definitive guidance on how often trees should be checked, and situations are so varied that a formulaic/recipe-based approach is not feasible. In the absence of clear guidance, duty holders must apply a well-reasoned appraisal, taking account of the objectives of the exercise in the context of the site circumstances, as the basis for their decision.

A short-term approach to establishing a checking frequency is to take a lead from other duty holders in similar circumstances, but that can be an unreliable basis for longer-term management. An alternative is to step back from copying others and think about the reason for checking in the first place. In principle, the primary purpose of visiting and checking trees is to identify potential high-risk conditions before they deteriorate to the point of imminent failure, with the objective being to reduce risks by intervening before that failure occurs. If that is accepted, then the matter turns to how long do such conditions take to progress from the earliest point of discovery to the point of imminent failure. There is an emerging body of experience indicating that hazard conditions usually take years to develop, and that a rough estimate at the timeframe between first symptoms and failure is generally three to five years. We also know that some species, most notably birch, poplar, and willow, can rapidly deteriorate in a shorter timescale of two to three years. Although such an observational approach must be used intelligently, it does provide a starting point for estimating how often trees may need to be checked.

In the Court of Appeal Judgment of *Witley Parish Council and Andrew Cavanagh*¹⁰, it was held that an inspection frequency of 18 months to two years was necessary in the circumstances of that case, namely a large tree in an area of high occupancy at the time of the incident in January 2012. Although this was deemed appropriate at the time, arboricultural practice and the technical understanding of managing tree risk has advanced in the intervening years. In the absence of updated guidance taking account of this Judgment and emerging best practice, establishing the frequency for checking trees remains a matter to be assessed on a tree by tree basis. In practical terms, checking frequencies of three to five years are likely to remain defensible if individual trees that may fall within the bounds of the Judgment are identified for more frequent checking.

Once a frequency of checking trees has been agreed, any intervention works arising from the checks need to account for the time until the next scheduled visit. For example, for a frequency of every three years, the inspector must specify enough intervention work to cover all the significant risks that are anticipated to arise within the next three years. Any significant risks that may develop beyond that will be assessed and managed in the next scheduled visit.

In addition to a routine checking cycle, the HSE SIM advises that a system to trigger checks following “*severe gales*” should be in place. It would be an extreme interpretation to expect all trees to be re-checked immediately after severe weather, but it would be prudent use existing resources to apply extra vigilance following such events. For example, alerting highway inspectors to look for unsafe trees and branches during their routine highway inspections and encouraging reporting through informal observations would be ways of focusing resources where the risks are highest.

8: Records

It is not a legal requirement to keep detailed written records of tree risk management, but it can greatly assist in demonstrating proactive and responsible management if they are available. If an incident ends up in court, in the absence of written records, it may be necessary for individuals to appear as witnesses to explain the regime that was in place. Brief records could avoid that, which is one good reason why it may be worth going to the effort of retaining documents to show what was done. For example, plans showing surveyed areas and the locations of trees identified for intervention works can add a reassuring layer of information during the investigation of failure incidents and often removes the need for more detailed enquiries. Additionally, the retention of payment receipts of work carried out can be another way of demonstrating a systematic approach to management.

NOTE: Although all relevant trees in a survey area need to be visited and checked, only those assessed for intervention works need to be listed in a specification. There is no need to tag or keep a written record of every individual tree inspected for risk management purposes; to do so is generally seen as an unreasonable and disproportionately onerous requirement.

Glossary

- **Arboricultural inspector:** Sometimes called a professional tree advisor. An arboriculturist trained to assess tree risk and capable of identifying all discoverable tree conditions that may affect safety.
- **Check:** A visual tree assessment that can range from a view from a passing vehicle to a more thorough view on foot from appropriate available vantage points, but not extending to the detailed investigations carried out in an inspection.
- **Defect:** A structural, health or environmental condition that could predispose a tree to failure (NTSG).
- **Driven check (drive-by check):** A visual check from a moving vehicle.
- **Duty holder:** The entity with responsibility for tree safety, which is not necessarily the tree owner, e.g. a lease holder or a temporary managing agent.
- **Harm:** An adverse impact on something or someone.
- **Hazard:** Any source of potential harm (In principle, all trees are hazards).
- **Highway inspector:** An engineering professional primarily trained in highway matters, but may also be trained to identify obvious tree hazard conditions.
- **Informal observations:** Occasional informal feedback from the public and/or employees that can alert duty holders of emerging tree problems, which can be useful in supplementing an existing risk management regime.
- **Inspection:** A detailed tree investigation that may involve digging, climbing, and/or internal structural assessment.
- **Non-tree specialist inspector:** A person from outside the arboricultural profession who has undertaken basic training on the identification and management of tree hazards.
- **Risk:** The combination of the likelihood that harm will arise and the severity of the consequences (The chances of something bad happening).
- **Risk assessment:** Risk assessment is the overall process of risk identification, risk analysis, and risk evaluation.
- **Risk management:** Coordinated activities to direct and control risk within an organisation.
- **Risk management process:** The systematic application of management policies, procedures, and practices to the activities of communicating, consulting, establishing the context, and identifying, analysing, evaluating, treating, monitoring, and reviewing risk.
- **Risk spectrum:** A conceptualisation to assist visualising the level of risk, with a range between the two extremes of low and high.
- **Significant risk:** An estimated level/magnitude of risk that warrants proactive management.
- **Site occupancy:** The number of targets (people or property) that could be harmed by trees.
- **Survey:** The process of checking and inspecting trees.
- **Target:** In a tree risk context, this means a person or thing that could be harmed by trees.
- **Trained tree inspector:** Person with a specific responsibility for checking trees, which could be an arborist, with specific training and practical experience of working with trees, or an allied professional, such as a highway engineer, who has received targeted training on tree hazard identification, but does not necessarily work with trees on a regular basis.
- **Walked check (walk-over check):** A visual check on foot with an expectation that the tree is viewed from a distance and close, and from as many vantage points as the circumstances will allow.

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