



barrell
TREE CONSULTANCY

Tree inspections: a simpler alternative to the present complication and confusion.

The AA ArbNews (Autumn 2013)

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In a recent paper published in the *Arboricultural Journal* (*Balancing tree benefits against tree security; the duty holder's dilemma*

www.tandfonline.com/doi/abs/10.1080/03071375.2012.691674),

Jeremy Barrell described a decision-making framework for duty holders who want to know how much tree management will be enough to assist them in robustly defending allegations of negligence in the event of a tree failure causing harm. In this short article, he previews the content of a follow-up paper that will deal with the anxieties facing arborists carrying out tree

inspections in the day-to-day routine management of risk. In a modern world of ever-increasing complexity, Jeremy thinks there may some value in stepping back and looking at tree risk assessment from a slightly different perspective. His legal experience suggests that a more careful consideration of how the courts analyse tree failure cases may offer the prospect of a simpler and more practical approach to tree inspections.

A common source of arborist anxiety

At some stage in their careers, most arborists will make decisions related to tree safety. With this comes an inevitable anxiety that, despite their best efforts to get it right, something goes wrong and harm arises to people or property. In the UK, recent research (www.nts.org.uk) has revealed that an average of six people a year are killed by tree failures, but that a further 55 may suffer serious injuries. An obvious consequence is that annually about 60 individuals and their families have to deal with the trauma of death or serious injury caused by trees. Although the precise figure is unknown, my own caseload confirms that a significant proportion of incidents progress to civil legal actions, with the

sole purpose of attributing blame and securing financial redress for the harm. If the failed tree was under any sort of management programme, then first in line for that blame is the inspecting arborist, which has the obvious potential to cause anxiety. In addition to the moral burden that their decisions may have harmed other people, there is the worry of financial consequences that can run into millions and the spectre of an unfavourable decision by the courts cutting short even the most promising of careers! It is no wonder that some arborists feel concerned, and that this intense psychological pressure encourages a '*better safe than sorry*' culture, contributing to unnecessary tree removals.



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UK evolution of tree risk management

The presence of trees offers many benefits, and yet they can cause significant harm if they fail. It is the role of inspecting arborists to identify potential failures in advance of them happening and specify measures to reduce the threat of harm. Too much caution results in trees being lost prematurely through removal, and their full potential to deliver benefits is compromised; too little and the potential for harm escalates upwards towards becoming intolerable. The challenge for duty holders and advising arborists, is to find a sensible and practical balance between maximising tree benefits whilst minimising tree threats. Quite rightly, reducing the harm that trees cause has been a primary driver of arboricultural thinking, research and practical development in recent decades.

In practical terms, technological advances in non-invasive equipment for investigating internal structural integrity have been very useful. Techniques using thermal imaging, ultrasound and microdrills, add another layer of detail to supplement visual tree assessment. However, with that benefit comes extra cost because the equipment is comparatively expensive, and training and experience are essential to reliably interpret the complex information.

In tandem with these practical developments, the theory of tree risk management has also moved on at pace, taking a lead from trends in the more industrialised sectors. This has resulted in a focus on increasingly complex ways of assessing risk, with methods emerging of a qualitative nature (using terms such as high, medium and low risk) and a

quantitative nature (using numbers to quantify the risk). However, these methods originate from the uniform conditions found in factories where repetitive and identical processes prevail. Unfortunately, these do not seem to have transferred very well to the highly individual world of trees, where little is standard and extreme variation is normal. This variability makes it effectively impossible to reliably and consistently assess the level of risk using these conventional approaches, which can result in over-cautious management specifications.

Hand in hand with the availability of modern technical equipment and advanced methodologies comes pressure to use it. For most arborists, despite that pressure being subtle, it nonetheless presents a very real anxiety; if they do not use the most current, complex and expensive methods available, are they going to be vulnerable to criticism in the event of a tree failure ending up in court? Indeed, many of these options are now so complicated that they demand highly specialised skills, which realistically puts them out of reach as tools for the majority of the arborists involved in the daily routine of tree management!

An alternative perspective

Although there can be little doubt that arboriculture is developing quickly and positively, the detail of assessing the risk from trees, set within the broader risk management context, remains an area where there may still be scope for more useful evolution. Indeed, the increasing complexity continues to pose a dilemma for many arborists and approaching the issues from a legal perspective may provide a meaningful alternative for



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those who feel uncomfortable with the current situation.

When a tree fails and causes harm, it is the courts that decide where liability lies if the parties cannot settle it between themselves. It follows that what is important to the courts and how they come to decisions is likely to be of fundamental importance in the process of minimising the chances of being found liable. In the broadest sense, the courts are very interested in what is reasonable in the circumstances of each case, and this has a significant bearing on the expectations of who should have done what. Courts are also concerned about whether the harm was foreseeable and what was done about it, especially in the context of the available resources, i.e. was the management response proportionate. In tree cases, those principles invariably direct attention to whether the tree failure was foreseeable and what was done about it. If the management response is deemed reasonable and proportionate, then the event becomes an unfortunate accident, with the converse resulting in liability being assigned primarily to the duty holder, and possibly to the advising arborist.

In contrast to the courts' focus on the foreseeability of failure, modern tree management has developed with a heavy emphasis on attempting to assess the '*level of risk*' at a very early stage in the tree management process. However, that approach is fraught with difficulty because trees are so variable and the rather abstract idea of '*level of risk*' is almost impossible to agree, even between trained assessors. In effect, reliably assessing the '*level of risk*' is not possible, and yet there seems to be a

widespread determination to continue trying to do it! What is even more confounding is that this is not a primary consideration by the courts and so, despite all the efforts to do it, it is not necessary! In short, this preoccupation seems to have distracted attention from the real issues, which are assessing the foreseeability of tree failure and what was done about the threat of harm that flows from that.

When a tree failure incident is scrutinized by lawyers at the start of legal proceedings, and finally by the courts (if the case progresses that far without settlement), whether an inspection was carried out and how it was conducted is always a focus of attention. Invariably, the inspection regime is deconstructed into its constituent parts – the frequency of inspection, the competence of the inspector and the nature of the inspection – and each is analysed in minute detail. The ultimate purpose of all this dissection is to establish whether the failure was foreseeable and whether the management response was reasonable. This approach assists the lawyers and the courts in understanding the detail of the case so that overarching legal principles can be applied to form a judgment on who was right and who was wrong.

In this broad legal context, the question of whether a failure was foreseeable, which allows a '*yes*' or '*no*' answer, may be more attractive to the courts than the question of what is the likelihood of failure, which can only loosely place an answer on a conceptual scale. Indeed, there is some obvious advantage to a definitive '*yes*' or '*no*' answer because it allows the analysis to be compartmentalized into discrete components that can be individually



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processed before moving onto the next. It is only if a failure is foreseeable that a further and separate consideration of the consequences is necessary to arrive at a management action. Such a stepwise approach is easy to visualize and understand, which is a good reason why the courts may be likely to favour such an analysis. In contrast, an obvious disadvantage with the probabilistic approach is that likelihood of failure has to be combined with an assessment of the consequences to arrive at a level of risk, which then has to be translated into a management action. This convoluted sequence of considerations is difficult to separate out into meaningful and standalone individual components, and even harder to visualise. My experience is that lawyers and the courts are attracted to stepwise analyses that are easy to understand, and there may be some merit in carefully considering this type of approach.

The sleep-tight protocol

If it is accepted that compartmentalizing the tree risk assessment process will assist the courts in applying the law, then arborists who have considered what the courts are looking for, and are able to explain what they did in those terms, will obviously be well-placed to refute allegations of negligence. If it is also accepted that establishing whether a failure is foreseeable is a helpful starting point, then that process needs to be analysed and separated out into its constituent parts. In practice, those parts turn out to be a range of factors that can influence whether a failure will occur (Figure 1, panel 2). The role of the inspecting arborist is to intellectually weigh and balance each of these factors in a subjective way to arrive at a carefully

considered conclusion (Figure 1, panel 3). It is understanding and adopting this process that offers up the prospect of anxiety-free decision-making for the inspecting arborist.

More specifically:

Stage 1 – Establish the inspection frequency: The unavoidable starting point for assessing if a failure is foreseeable is to establish the inspection period, i.e. how long it will be before the tree is inspected again. If an inspection period is not known or has not been specified, then the inspector has to allocate one and record it. This is because the assessment of foreseeability of failure is a meaningless concept if set within an open-ended timescale; all trees will fail given enough time.

Stage 2 – Identify and list relevant factors that could contribute to a failure: With a fixed timescale in mind, the inspector can then review all the factors that can influence whether a failure will occur. These are likely to include, but are not strictly limited to:

- Tree health
- Structural defects
- History of failure (subject tree and others nearby)
- Predisposition of the species to failure
- Recent nearby changes or disturbance (ground conditions and shelter)
- Prevailing ground conditions affecting stability
- Exposure to weather



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Stage 3 – Intellectually weigh and balance each factor to decide if a failure is anticipated within the inspection period: Inspectors should separately consider all the relevant factors that could affect stability and make a subjective assessment of how important each is. They should then assign appropriate weight to each as a means of working towards a final balancing exercise in their minds, which is the basis for deciding if a failure is foreseeable. This must be a simple 'yes' or 'no' answer; someone has to make a decision and it is the arborist who is best placed to make this judgment. There is no place here for a vague and meaningless probabilistic approach because, without reliable figures, it simply does not assist effective decision-making

Stage 4 – If necessary, assess the threat of harm and specify intervention works: If a failure is anticipated within the inspection period, then a further and separate consideration of the level of nearby occupancy, i.e. who or what could be harmed, will inform the specification for management intervention, which marks the end of the inspection process for the arborist. If, when and how those works are carried out are then matters for the duty holder to decide on, and are likely to include a consideration of tree benefits and available resources.

The reality of much routine risk assessment is that many trees have to be processed very quickly and so a method that is fast, minimises paperwork and is easy to explain to lay people, is an aspirational ideal for arborists. The sleep-tight protocol offers all of these benefits within a framework that is specifically designed to assist the courts in analysing the detail of the management process

where harm arises from a tree failure. Arborists who understand this process, observe it and can explain the reasoning when challenged, should sleep easier when the storms come, because the courts are unlikely to expect any more than this.

Of course, this analysis is a simplistic summary and many subtle, but relevant, variations arise in day-to-day tree management. For example, although setting the inspection period is the clear responsibility of the duty holder, in practice many duty holders do not have a fixed view and will look to the arborist for advice. This blurring of where particular responsibilities lie causes confusion, but it happens and it has to be managed.

Another matter that is not as straightforward as it seems at first glance is the issue of zoning areas and basing the inspection frequency on the size of the trees and the level of occupancy. This usually works well for small land holdings, but it can create immense logistical difficulties on a larger scale because it tends to fragment the inspection process to the extent that it becomes effectively unmanageable.

Furthermore, the requirements for a first time survey are different from an established and ongoing regime, which adds another layer of complication. This particularly applies to highways where a duty holder can have thousands of miles of roads and millions of trees to check. These issues cannot be ignored, but they require more explanation than I have space for here and so I plan to discuss them in more detail in a follow-up article later this year.



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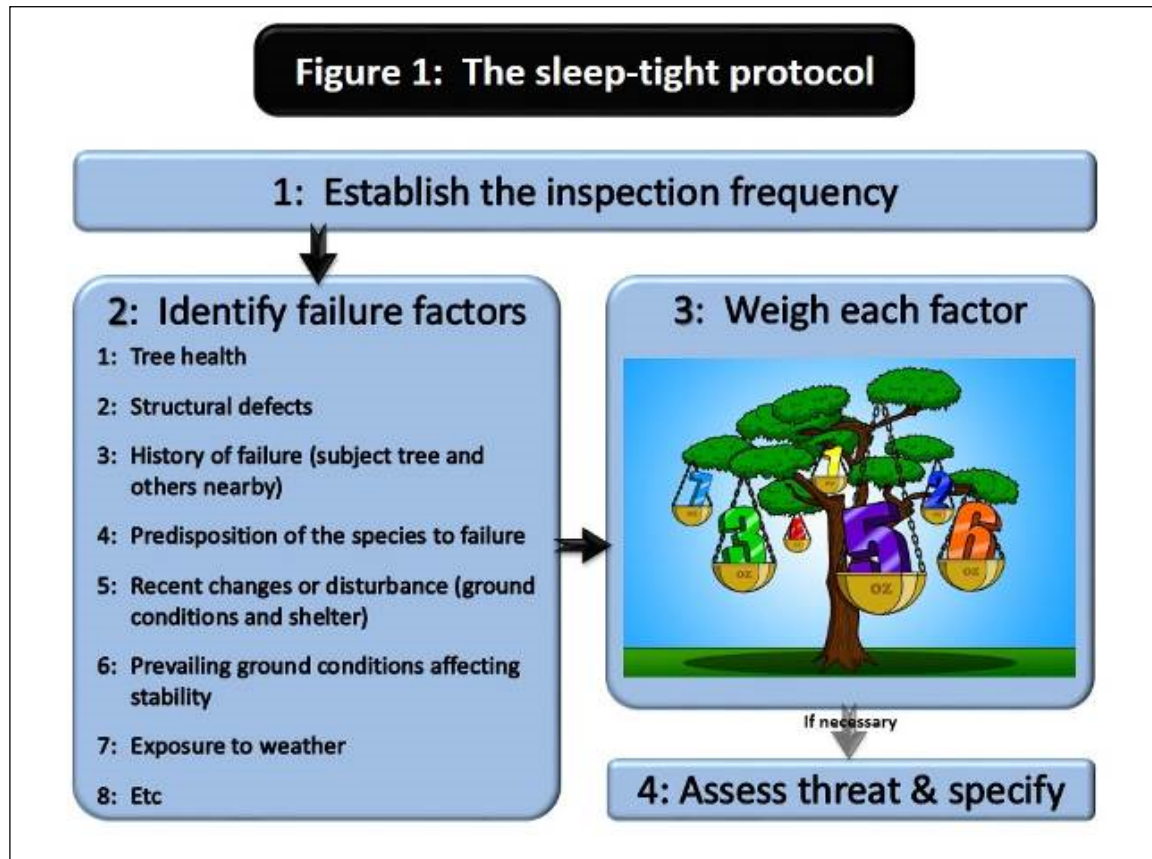


Figure 1: The sleep-tight protocol.

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