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TREE CONSULTANCY

Decision-making for arborists: How to get it right and sleep tight on windy nights

Article 6/6 for ISA Arborist News (February 2013)

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In a previous article in this series, Jeremy Barrell (www.barrelltreecare.co.uk) 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 concluding article, he turns his attention to the anxieties facing the arborists carrying out tree inspections in the day-to-day routine management of risk. Because modern times have become increasingly complex, Jeremy thinks there may be 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 analyze 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 make decisions that affect tree safety, with the inevitable anxiety that despite their best efforts to get it right something will go wrong and people or property may be harmed. In the UK, recent research (www.nts.org.uk) has revealed that an average of six people a year are killed by falling trees, and that a further 55 suffer serious injuries; annually, more than 60 families have to deal with the trauma arising from tree failures. Although the precise figure is unknown, my own caseload confirms that a significant proportion of these 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 program, then first in line for that blame is the inspecting arborist, which has obvious potential to cause anxiety. In addition to the moral burden that their decisions may have harmed other people, there is the added worry of financial consequences that can run into millions. 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.

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 caution and the potential for harm escalates beyond an acceptable level. The challenge for duty holders (those with responsibility for trees) and advising arborists is to find a sensible and practical balance between maximizing tree benefits while minimizing tree threats.

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.



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However, with the benefit of new techniques come extra costs, 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 industrialized 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 very difficult 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 the pressure to use them. 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 and end up in court? Indeed, many of these options are now so complicated that they demand highly specialized skills, which realistically puts them out of reach for the majority of arborists involved in the daily routine of tree

management. Of course, the ISA BMP *Tree Risk Assessment* goes some considerable way to advocate that advanced assessment would only be justified where additional information is needed, but the threshold at which that need is triggered remains a difficult area.

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 useful alternative for 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 their disagreement between themselves. It follows that what matters for the courts is likely to be of importance in the process of minimizing the chance 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 initially direct attention to whether the tree failure was foreseeable. If the answer is "yes," then the deliberations move on to what harm the failure could cause (i.e., the targets that



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could be hit) and what management interventions had been carried out. If the management response is deemed reasonable and proportionate, then the event becomes an unfortunate accident. Conversely, if the response is deemed unreasonable, liability may be assigned primarily to the duty holder, and possibly to the advising arborist.

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 analyzed 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 for 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 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 are likely to favor 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 visualize. 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

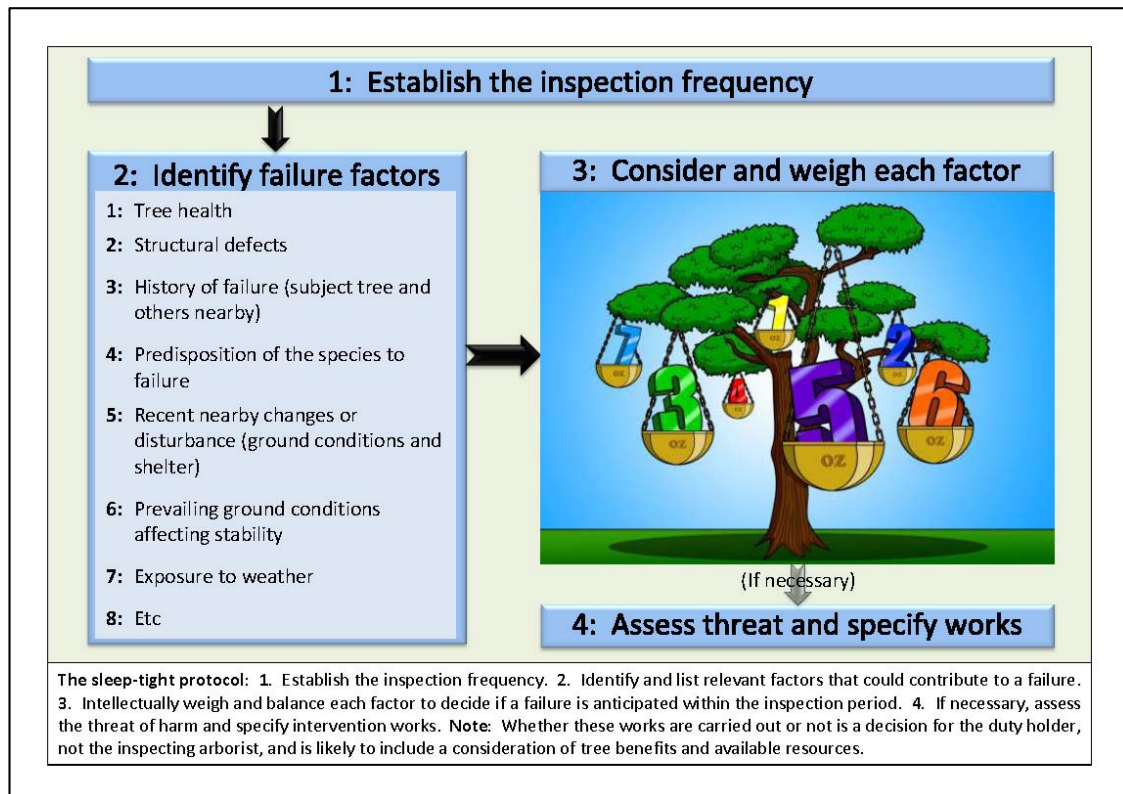
If it is accepted that compartmentalizing the tree risk assessment process will assist the courts in applying the law, then arborists who have considered what the courts are looking for, and are able to explain what they did in those terms, will obviously be well-placed to refute allegations of negligence. If it is also accepted that establishing whether a failure is foreseeable is a helpful starting point, then that process needs to be analyzed and separated into its constituent parts. In practice, those parts turn out to be a range of factors that can influence whether a failure will occur (Panel 2, Figure 1). 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 (Panel 3, Figure 1). Understanding and adopting this process offers up the prospect of anxiety-free



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decision-making for the inspecting arborist.



More specifically, 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. 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

Inspectors should separately consider all the relevant factors that could affect stability and make a subjective assessment of how important each is. Inspectors should then assign appropriate weight to each as a means of working toward a final balancing exercise



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that is the basis for deciding if a failure is foreseeable.

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, minimizes paperwork, and is easy to explain to lay people is ideal for arborists. The sleep-tight protocol offers

all of these benefits within a framework that is specifically designed to assist the courts in analyzing 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.

Jeremy Barrell has worked with trees all his life, building up a modest contracting business in the early 1980s and 1990s before concentrating on full-time consultancy in 1995. From those humble beginnings, Barrell Tree Consultancy (www.barrelltreecare.co.uk) now has six consultants advising on planning and legal issues throughout the UK.