



Environmental Assets

Tree Risk Management Strategy

Introduction

North Lanarkshire Council is responsible for the management of its trees at various sites across the authority. The law places a duty of care on the Council to manage the risk from their trees to ensure, as far as possible, the safety of the public. The Council takes its responsibilities seriously and has developed a tree risk strategy for this. The strategy seeks to strike a balance between the risks presented by trees and the environmental, social and economic benefits they provide. By publishing and maintaining a tree risk management strategy, the Council will be much better placed to reduce the likelihood of an accident occurring and demonstrate that it has fulfilled its duty of care should an incident occur.

Scope

This tree risk management strategy will describe how the Council will manage risk from falling trees in land within Environmental Assets and Education portfolios. Privately owned trees fall outside the scope of this strategy.

Requests for service relating to pruning due to shading, encroaching trees and satellite/tv signal are not covered within this strategy and are covered under the Councils' Guidelines for the Delivery of Arboricultural Services'.

Legal Position

The Occupiers Liability (Scotland) Act 1960 places a duty of care on the Council to ensure, as far as is reasonably practicable, that nobody suffers injury, harm, or damage to their property from trees under Council ownership.

This Act requires businesses (such as the Council) to ensure that risks to third parties are reduced as far as is reasonably practicable. In addition, the Management of Health and Safety at Work Regulations 1999 require employers to make suitable and sufficient assessment of the risk to the health and safety of persons not in its employment arising out of or in connection with the conduct of the business.

By carrying out surveys as part of this tree risk strategy, the Council will be taking appropriate measures in respect of the aforementioned legislation.

National Guidance on Tree Risk Management

The National Tree Safety Group (NTSG), formed in 2007 developed a nationally recognised approach to tree safety management. The NTSG's guidance document 'Common Sense Risk Management of Trees' provides authoritative and nationally recognised guidance on best practice in relation to tree risk management and provides the key principles, this guidance underpins the development and production of this document by;

- Giving practical and comprehensive advice to owners and property managers responsible for trees in diverse locations whether in remote or frequent public access areas.

- Setting out what tree owners and managers should do to manage their trees for safety in a balanced and proportionate way, and details what is legally required for them to fulfil their duty of care.

The NTSG's guidance states that tree owners should take a balanced and proportionate approach to tree management, covering and three essential aspects:

- Zoning - evaluating sets in relation to people or property
- Tree Inspection – assessing obvious tree defects
- Managing risk at an acceptable level – identifying, prioritising and undertaking safety works according to level of risk.

The NTSG guidance document was produced by a broad partnership of stakeholder organisations and has been endorsed by the Health and Safety Executive (HSE).

Tree Risk

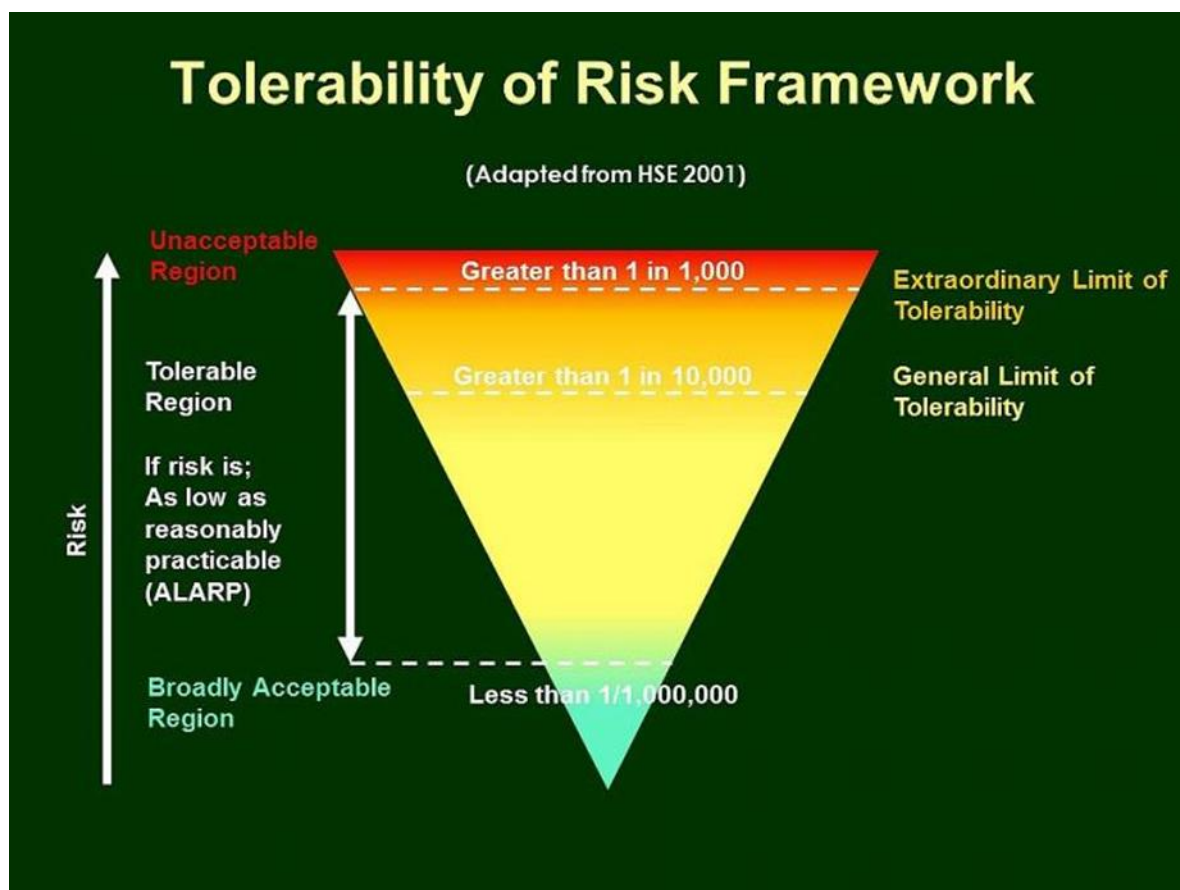
The risk of death as a result of falling trees is low. The HSE describe the general risk as “broadly acceptable” within the Tolerability of Risk Framework. Despite the low risk to society in general, it is necessary for the duty holder ensure it is as low as reasonably practicable. A balance is therefore required to be struck between the costs and benefits of risk reduction.

Despite the low level of risk, tree failures resulting in death or serious injury are likely to result in high profile news. As a result, public perception of tree risk is high. The duty holder must ensure that no unnecessary tree works are carried out that may reduce tree related benefits and put pressure on limited tree management resource. The routine, proactive surveying of trees outlined within this strategy ensures our response is reasonable and proportionate to the risks that trees pose.

The Tolerability of Risk Framework (ToR)

The Tolerability of Risk Framework (ToR) is an internationally recognised approach to making risk management decisions. It is used by duty holders where they manage a risk that is imposed on the public. ToR (table 1) defines Broadly Acceptable and Unacceptable levels of risk. Between them is a region where the risk is Tolerable if it is ‘as low as reasonably practicable’ (ALARP). Put simply, ALARP means the risk is Tolerable if the costs of the risk reduction are much greater than the value of the risk reduction. This approach is implemented within the Council's Tree Risk Asset Management Strategy by using the Quantified Tree Risk Assessment (QTRA) survey method.

Table 1 – Tolerability of Risk Framework



Quantified Tree Risk Assessment (QTRA)

The Council will use the QTRA system to deliver its strategy. QTRA is a commonly used industry standard in relation to tree safety inspections and management and has been adopted by many local authorities in the UK. The system applies established and accepted risk management principles to tree safety management in accordance with ISO 31000:2009, "Risk Management – Principles and Guidelines". It fully complies with the recommendations of the NTSG and HSE guidance. The benefits of QTRA:

- Allows duty holders to operate to a predetermined limit of reasonable or acceptable risk, which is benchmarked against the HSE's Tolerability of Risk framework (table 2)
- Reduced need for hazard remediation works (i.e. pruning or felling) particularly in low usage areas.
- Is consistent, repeatable, and transparent, and therefore less likely to be influenced by inspector subjectivity than many other systems.
- Balances safety with tree value and enables duty holders to use their resources in the most cost-effective manner whilst fully complying with their duty of care.

- Moves away from the predictive assessment (there is no need to state that a tree is either safe or unsafe or that it will not fail), provides protection for both the tree inspector and the duty holder, and is robust and defensible.

The QTRA system evaluates risk in terms of:

- Targets – firstly, the targets (people and property) underneath or within falling distance of the trees are assessed and quantified, so that the Tree Inspector can determine whether or not, and to what degree of rigor, a survey or inspection of the tree is required.
- Impact Potential (Size) – where necessary, the tree or branch is then considered in terms of both impact potential (size) and;
- Probability of Failure – This is an assessment of the likelihood that the tree branch will fail, based on the observations, technical knowledge and professional opinion and experience of the Tree Inspector.

At the heart of the system is a calculator which allows three components of tree failure risk (i.e. the 'target', the size of part, and failure likelihood) to be quantified and combined in a structured way to calculate a statistical risk of harm (RoH). This figure is then considered against the ToR framework to determine whether the risk from a tree is:

- **Unacceptable** (i.e. > 1:10,000) in which case action to mitigate the risk must be taken.
- **Generally Tolerable** (i.e. between 1:10,000 and 1:1,000,000), in which case reduction of the risk should be weighed against the cost of doing so to ensure that the risk is as low as is reasonably practicable.
- **Broadly Acceptable** (i.e. <1:1,000,000) in which case no action is necessary.

This strategy will use for the Unacceptable level, the 1: 10,000 General Limit of Tolerability advised by HSE. The Extraordinary limit of 1: 1,000 is only for situations where those exposed to the risk are aware of it and accept it - which does not apply to Council property. As a result;

- Unacceptable risks will be reduced to an acceptable level
- Tolerable risks will be reduced when the cost is in proportion to the risk level (i.e. ALARP – as low as reasonably practicable)
- Tolerable risks where the risk is already ALARP will not be reduced, nor will Broadly Acceptable risk, but a detailed record will be kept and the tree(s) will be monitored periodically and fully reassessed at the next survey interval.

By using the QTRA system, the Service can prioritise any necessary works according to risk allocate budget and resource accordingly.

Table 2 – QTRA Risk Thresholds

Thresholds	Description	Action
1/1,000	Unacceptable Risks will not ordinarily be tolerated	<ul style="list-style-type: none"> Control the risk
	Unacceptable (where imposed on others) Risks will not ordinarily be tolerated	<ul style="list-style-type: none"> Control the risk Review the risk
1/10 000	Tolerable (by agreement) Risks may be tolerated if those exposed to the risk accept it, or the tree has exceptional value	<ul style="list-style-type: none"> Control the risk unless there is broad stakeholder agreement to tolerate it, or the tree has exceptional value Review the risk
	Tolerable (where imposed on others) Risks are tolerable if ALARP	<ul style="list-style-type: none"> Assess costs and benefits of risk control Control the risk only where a significant benefit might be achieved at reasonable cost Review the risk
1/1 000 000	Broadly Acceptable Risk is already ALARP	<ul style="list-style-type: none"> No action currently required Review the risk

Scope

Site Zoning & Survey Frequency

An initial desktop GIS analysis identified areas of Council tree assets. Following this a zoning exercise was carried out, with survey areas categorised into High, Medium and Low risk zones based on site usage (table 3). This prioritises survey areas by usage and non-motorised access, and by doing so contributes to a cost-effective approach to tree survey effort.

Table 3: Risk Zones

Risk Category	Risk Criteria	Potential Target Zones	Frequency of Inspections
High	<p>High volumes of vehicle traffic</p> <p>Areas of high public non motorised use</p> <p>Occupied buildings</p>	<ul style="list-style-type: none"> · A roads, dual carriage way · Railway lines · School grounds · Town & Country Parks (roads and core paths, other paths with high footfall) · Residential/Commercial buildings 	Every 3 years
Medium	<p>Moderate volumes of traffic</p> <p>Areas of moderate public use</p>	<ul style="list-style-type: none"> · B roads · Cemeteries · Local Nature Reserves & other greenspaces (paths) · Car Parks 	Every 5 years
Low	<p>Low volumes of traffic</p> <p>Areas of low public use</p>	<ul style="list-style-type: none"> · Rural roads · Rural Footpaths 	Reactive

Site Surveys

Tree surveys will be carried out by the Council's Tree Inspector. Survey areas, which have been identified will be at first subjected to walk over by the Tree Inspector to identify whether the survey area contains any trees that have the potential to cause harm or damage. A Level 1 tree inspection will be carried out and if these trees are showing any visible defects, signs of ill health or other systems as to whether failure is reasonably foreseeable then a Level 2 tree inspection is carried out and includes the QTRA assessment. This will inform whether the risk from the tree is Unacceptable, Generally Tolerable, or Broadly Acceptable with any remedial works required to reduce the risk rating to be programmed in by the inspector.

The surveys will only collect data on defective trees within High/Medium risk zones. Remedial work, or removal may be carried out depending on the findings of the surveys, and the survey area and tree will be re-surveyed depending on frequency schedule referred to in table 3

Remedial Works Timescales

The below table (table 4) outlines timescales for carrying out essential remedial works following QTRA assessment. Where a tree poses an unacceptable level of risk, it will be necessary to carry out remedial works to reduce the risk to an acceptable level.

This is first time that the council are implementing a proactive and scheduled tree inspection regime of tree assets in risk zones, and it is evident following a pilot study that a significant level of remedial work will be generated as inspections progress. As a result, the timescales below take this into account, so that remedial works can be completed in a reasonable time frame and as current resource allows. The tree inspector will systematically survey one ward at a time, it is intended to fully inspect 3 – 4 wards each year.

Table 4 – Remedial Works Timetable

Risk Rating	QTRA Rating	Details	Time frame
Emergency	1: 1 to 1: 1,000	Trees surveyed are assessed to be of an imminent danger to person and/or property	Immediate e.g. arbor service to attend immediately
Unacceptable	1: 1,000 to 1: 10,000	Remedial pruning or whole tree removal	Within 1 year
Tolerable	1:10,000 to 1:1,000,000	Pruning works or monitor	Within 18 months
Broadly Acceptable	<1,000,000	No works required	n/a

Recording

All data will be recorded on the Council asset management system CONFIRM.

Trees on Private Land

This strategy does not include trees on private land therefore the inspection schedule will only cover North Lanarkshire Council owned trees. The local authority will record and take

appropriate action where necessary in the event a tree is identified that may cause immediate danger to person or property that is not in our ownership. Any roadside trees observed on private ground requiring immediate attention will be reported to the NLC Roads department.

Ash Die Back Disease

Ash dieback is the most significant tree disease to affect broadleaved trees in the UK since the Dutch elm disease. It is caused by a windborne fungus (*Hymenoscyphus fraxineus*). It is anticipated that Scotland will lose between 50% and 75% of its ash trees over the next 2 decades.

The tree risk strategy will record data on any Ash trees present within survey areas as they will pose a significant hazard in the future. Data collected will help to develop a health assessment profile to manage diseased trees appropriately.