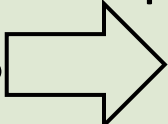
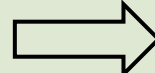
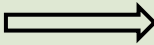


# DALE COPPICE – managing for our great grandchildren

## Dougald Purce - Chartered Forester

*BSc Hons. For; HND Arbor. M.I.C.For; M.Arbor.A*

**Role:** To provide independent assessments of SGCT tree safety zones.

**Assess**  **Consider**  **Advise**  Action

**Extent of surveys:** Since 2001 I have assessed at least 429km (266miles) of tree safety zone for the SGCT (This is the equivalent of: from Ironbridge to Bodmin, or Calais).

**Approach:** Typically the assessments are delivered through a visual tree assessment.

# The three key elements of tree risk assessment

A typical risk matrix considers the following:

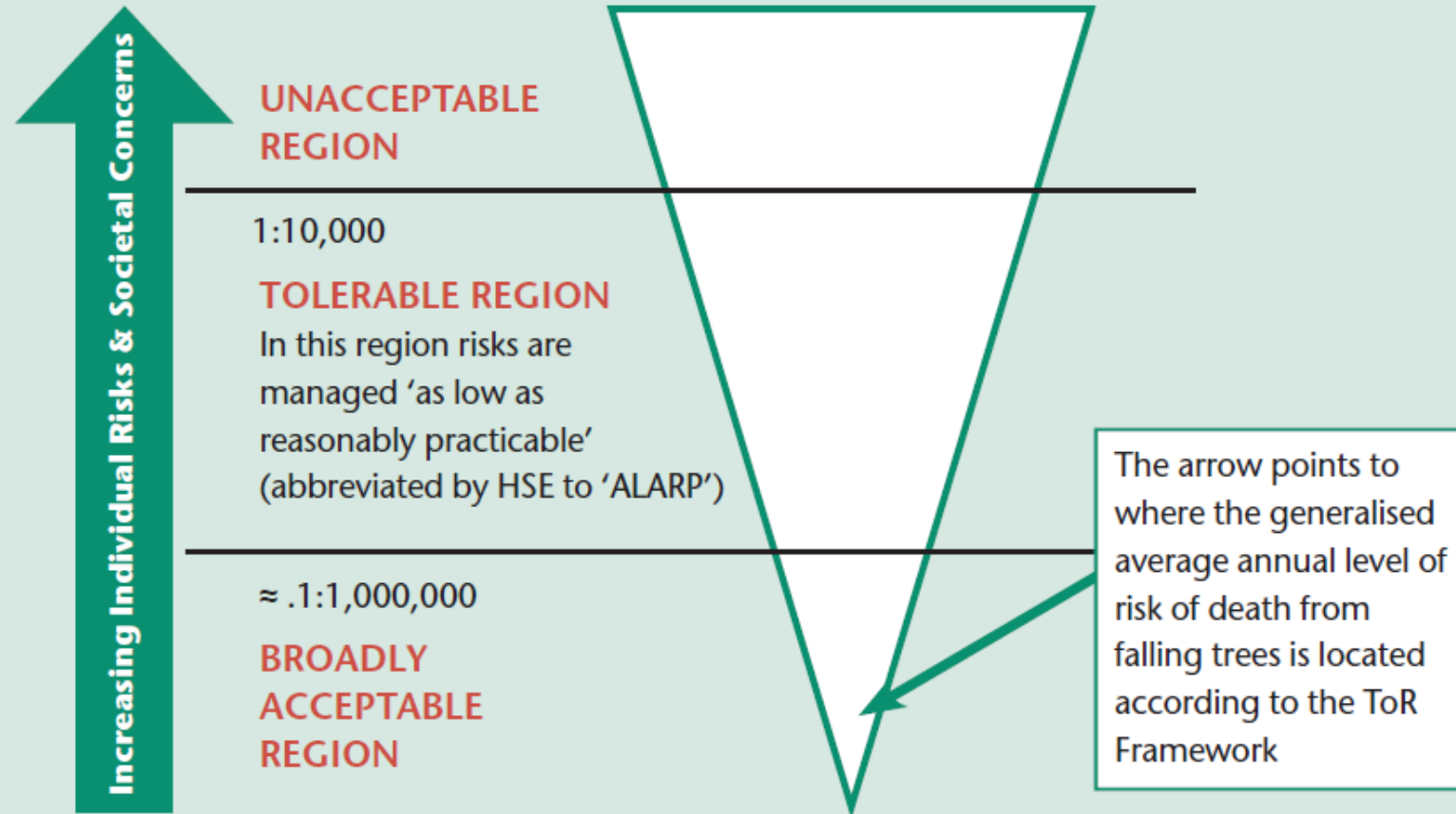
- ❖ **The value of the target**
- ❖ **Significance of failure**
- ❖ **The likelihood of failure**

An informed tree safety assessment must interpret and understand the relevance of each of these elements and how they relate to each other.

# DETERMINING THE ACCEPTABILITY OF RISK

**Figure 2. Tolerability of Risk Framework<sup>1</sup> (ToR)**

Visual presentation of the level of general annual risks of death from falling trees – note the 'tolerable region' is where risks are managed as low as reasonably practicable ('ALARP')



<sup>1</sup> The diagram is based on *Reducing risks, protecting people* (HSE 2001) Figure 1: 'HSE framework for the tolerability of risk'.

Diagram taken from the  
National Tree Safety  
Group (NTSG)  
Common sense risk  
management of trees

# Two common approaches to tree risk management:

	Strengths	Weaknesses
<b>Fire fighting</b>	<ul style="list-style-type: none"><li>▪ Responds to direct issues quickly.</li><li>▪ Costs are issue led.</li><li>▪ System can be changed at short notice.</li></ul>	<ul style="list-style-type: none"><li>▪ Offers reactive management of risk abatement rather than a planned approach.</li><li>▪ No economy of scale.</li><li>▪ Can conflict with wider management intentions.</li></ul>
<b>Sylvicultural</b>	<ul style="list-style-type: none"><li>▪ Tree safety management considered as part of holistic management.</li><li>▪ Links the benefits of safety management with other woodland management aspirations.</li><li>▪ Strategic felling can improve stand stability and the health/ resilience and quality of surrounding trees.</li><li>▪ Cost benefits through economy of scale.</li></ul>	<ul style="list-style-type: none"><li>▪ Thinning and felling operations can sometimes alter air movement and ground water regimes resulting in a period of increased incidence of failures (crown or root) in the retained tree population.</li></ul>

## **The SGCT's woodlands are challenged by a range of impacts:**

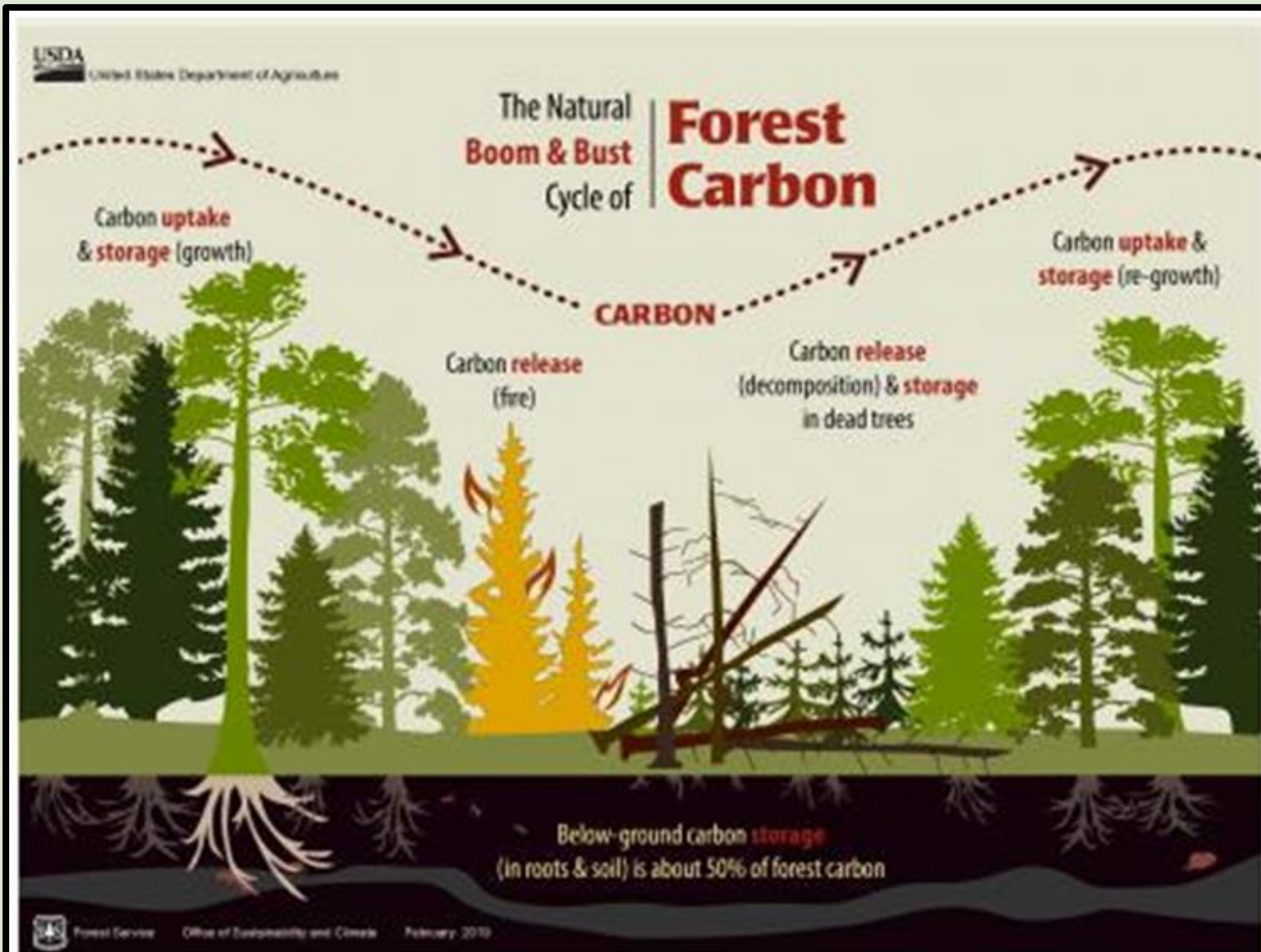
- ❖ Increased access leads to higher public expectations & conflict between use and management. But increased use is inherently linked with a corresponding increased requirement for the management team to deliver on the Trust's duty of care.
- ❖ Introduced species such as grey squirrel can have a high cost impact on safety.
- ❖ Climate change:
  - Increased incidence of disease outbreaks.
  - Drought stress.
  - Flooding.
  - Increased incidence of extreme weather.

**All of the above have potential to degrade a woodlands resilience and capacity to adapt to change.**

## ARE SQUIRRELS A TREE SAFETY ISSUE? OR A WOODLAND MANAGEMENT ISSUE?



Example of a beech tree in Dale Coppice that due to squirrel damage over a period of approximately ten years was gradually reduced to a hulk. Selectively removing mature beech from target areas and modifying the woodland structure can be beneficial to the joint aspirations of tree safety and to the diversification of habitats and species.



As shown in the diagram, without management, a forest reaches a state of **carbon equilibrium** at around **165 tC/ha**, after which point growth tends to be balanced by natural losses.

The Natural Boom and Bust Cycle of Forest Carbon

Source: US forest service <https://www.fs.fed.us/managing-land/sc/carbon>