Terms to Know

- **Risk** – exposure to the possibility of loss, injury, or other adverse circumstance
  
  \[ \text{Risk} = \text{Likelihood of occurrence} \times \text{Consequence of occurrence} \]

- **Failure** – breakage of tree parts, or loss of mechanical support in the root system

- **Target** – people or property that could be harmed by the failure of a tree or its parts

- **Hazard** – situation that poses an unreasonable threat to life, property, or environment

  - **Tree Hazards**
  - **Hazardous Trees**

- **Mitigation** – actions taken to address hazards and thereby reduce risk

- **Residual Risk** – risk remaining after mitigation actions have been taken

Tree Defects

*Definition:* A feature, condition, or deformity in a tree or its parts that indicates weak structure and predisposes a tree to failure.

- **Dead parts**
- **Root problems**
- **Poor architecture**
- **Weak branch unions**
- **Cracks**
- **Cankers & Decay**

*Severity Terminology*

- **Minor defect**
- **Moderate defect**
- **Major defect**
- **Critical defect**

Tree Risk Rating

**Likelihood of Failure**

- Species tendencies
- Defect location and severity
- Site conditions

**Consequence of Failure**

- Target value
- Target exposure (proximity/frequency)
- Size of defective tree parts
ANSI A300 (Part 9) – 2011

Structure Assessment Practices

- **Objectives** – defined based on context, intended site use, and scope of assignment
- **Qualifications** – those assessing risk shall have appropriate training and experience
- **Scope of Work** – subject trees, assessment method, report content, report mode
- **Level of Assessment** – the manner and detail employed based on scope of work
  - **Level 1** Limited visual assessment from specified perspective for obvious defects
    Individual trees or populations of trees; ground-based or aerial
  - **Level 2** Ground-based, 360° visual inspection of tree and site
    Shall include identification of conditions that suggest latent defects
    Use of basic investigative tools is not precluded
  - **Level 3** Shall include all Level 2 requirements
    Used when advanced methods are needed to evaluate conditions detected in a level 2 assessment
    Aerial assessment and/or sub-surface assessment may be necessary
- **Target Identification** – consult to identify target type, value, and exposure.
- **Risk Analysis/Reporting** – data, documentation, recommendations, disclosures

Risk Assessment Flowchart