NATURALLY TREES

PROFESSIONAL TREE CARE

Glossary of Terminology

Arboriculture The culture of management of trees as groups and individual primarily for amenity and other non-forestry purposes.

Arborist A person possessing the technical competence through experience and related training to provide management of trees or woody plants in a landscape setting.

Bark exudate A flow of viscous liquid (bleeding from bark) exuded onto the surface of the bark from the underlying tissues consisting of largely of *gum, resin kino or latex* depending on the species of tree. Bark exudate indicates the inner bark is dead, dying or injured owing to disease, physical injury, root damage etc.

Bracket A type of fruiting body by produced various fungal species, plate like to hoof like in shape and often a one-sided attachment to the wood or bark.

Branch bark ridge A ridged area located at the union of a branch to a trunk of stem.

Branch collar Trunk tissue that forms around the base of a branch between the main stem and the branch, or between a main branch and a lateral branch. As a branch decreases in vigour or begins to die, the collar usually becomes more pronounced and completely encircles the branch.

Brown rot Form of decay where cellulose is degraded, while lignin is only modified.

Buttress root Roots that emerge from the base of the tree stem, normally large and well developed that rapidly forming the connection between the stem and the transport roots.

Cable bracing Installing cables within the crown of a tree to prevent collapse.

Cambium A thin layer of actively growing and dividing cells, located between the xylem (sapwood) and the bark of a plant, the part responsible for radial growth of a tree stem or branch.

Canopy The topmost layer of twigs and foliage in a woodland, tree, or group of trees.

Canker A localised area of dead bark and cambium on a stem or branch, caused by fungal or bacterial organisms, characterised by wound wood development on the periphery. This may be annual or perennial.

Cavity An open and exposed area of wood, where the bark is missing, and internal wood has been decayed or dissolved.

Co-dominant stem/trunk Forked branches or trunks of nearly the same size in diameter and lacking a normal branch union.

Compacted soils Soils in which the airspace (oxygen space) has been reduced or eliminated, reducing water infiltration and percolation, reducing root presence, and inhibiting the new root development.

Compartmentalisation The physiological process that creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms.

Compression failure Localised buckling of fibres and other longitudinal elements produced by compression of wood along the grain, compression failures sometimes develop in standing trees.

Compression wood Abnormal wood formed on the lower side of branches and curved stems, with physical properties different from normal wood.

Conservation area Designated areas of architectural or historical interest, in which there are special procedures for planning applications. Additionally, tree works cannot generally be undertaken without prior notification to the relevant local planning authority.

Crotch The union of two or more branches, the auxiliary zone between branches.

Crown The upper canopy of a tree, including upper trunk, scaffold branches, secondary branches, stems and leaves.

Crown lifting Crown lift the removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.

Crown reduction The reduction of a tree's height or spread while preserving the tree's natural shape.

Crown thinning The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.

Deadwood Deadwood is often present within the crown or on the stems of trees. It may be an indication of ill health; however, it may also indicate growth processes. If a target beneath the tree, deadwood may fall and cause injury or damage and should be removed, otherwise deadwood can remain intact for conservation purposes (insects, fungi, birds etc), also, the removal of dead branches from a tree's canopy, usually of a specified size (in diameter).

Decay Progressive deterioration of organic tissues, usually caused by fungal or bacterial organisms, resulting in loss of cell structure, strength, and function. In wood, the loss of structural strength.

Decay Detection The assessment of decay within a tree has been traditionally difficult, but recent advances have made it possible to achieve accurate representations of the internal section of a tree in both 2D and 3D, removing doubt over the condition of the tree and allowing accurate management decisions.

Defect In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.

Dieback Progressive death of buds, twigs, and branch tissues, on individual limbs resulting in Deadwood, or throughout the canopy, extreme cases can result in Stag Heading.

Dripline A projected line on the ground that corresponds to the spread of branches in the canopy, the farthest spread of branches.

Epicormic growth Fast growing, weakly attached shoots/branches that often grow as a response to stress factors upon a tree or branch removal.

Failure In connection with tree hazards, a partial or total fracture within the wood tissue or loss of cohesion between roots and soil. (In total failure, affected parts will snap or tear away completely, partial failure there is a crack or deformation, which results in an altered distribution of mechanical stress.

Feeder roots Fine fibrous water and nutrient absorbing roots located in the outer root system.

Flush-Cut In trees and shrub, a pruning cut close to the parent stem, which removes the branch bark ridge.

Foliage The live leaves or needles of the tree; the plant part primarily responsible for Photosynthesis.

Formative pruning The trimming of a tree to remove weaknesses and irregularities which may lead to problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown.

Gall An abnormal, disorganised growth of plant tissue, caused by parasitic or infectious organisms such as insects, fungi, bacteria, or viruses.

Girdling In woody plants, any form of damage that destroys the bark and / or the cambium all the way around the stem, branch, or root, normally resulting in death of the damaged section.

Girdling Root In woody plants, a root that grows across the buttress, or across other roots, eventually causing constriction of the radial growth.

Growth Increment The incremental growth added as new annual ring develops each season over existing wood. This is seen as (growth) rings in cross-sections of wood.

Hazard Beam An upwardly curved branch in which strong internal stresses may occur without the compensatory formation of extra wood (longitudinal splitting may occur in some cases).

Heartwood Inner non-functioning tissues that provide structural support to a trunk / main stem.

Heave In relation to shrinkable clay soils, expansion due to rewetting of a volume of soil previously subjected to the removal or water by plant / trees following felling or root severance. Also in relation to root growth, the lifting of pavements and other structures by radial expansion. Also, in relation to tree stability, the lifting of one side of a wind rocked root plate.

Included Bark Bark that becomes embedded in a crotch between branch and trunk or between co-dominant stems, found in narrow or tight cotches, and causes a weak structure.

Leader The primary terminal shoot or trunk of a tree.

Limb A large lateral branch growing from the main trunk or from another larger branch.

Lion Tailing Often the result of poor pruning practices; the main leader or branches are largely devoid of side branches; growth is restricted to the end of branches and is likely to suffer damage through end loading.

Monitoring Due to the relative life span of trees in relation to our own, long-term monitoring provides a valuable insight to the health of trees, identifying decline and or stabilisation and or improvement.

Mycelium A mass of growing filaments (hyphae) formed by fungi.

Mycorrhizae The symbolic relationship between roots and certain beneficial fungi. Mycorrhizae are the combined root / fungal growth.

Occluding tissue The general term of wood, cambium and bark that develop around the site of a wound on a woody plant.

Pathogen A micro-organism that causes diseases within another organism.

Phloem The principle conductive tissue that the products of Photosynthesis are transported around the plant.

Photosynthesis The process where light energy is used to create energy (Carbohydrate) for use within the plant.

Pollard A term for a pollarded tree.

Pollard head/s The swollen section of branch / stem that forms behind the pollarding cut.

Pollarding The complete or partial removal of the crown of a young tree so as to encourage the development of numerous branches either for amenity or historically as fodder, repeated management is required cyclically to maintain the feature.

Prune or Pruning Selective removal of woody plant parts of any size, using power / hand saws, secateurs, or other pruning tools.

Reaction Wood Wood with distinctive anatomical characteristics, formed in parts of leaning or crooked stems and in branches to provide additional strength / support. In hardwoods, tension usually forms. In conifers, compression wood is usually found.

Remedial pruning The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown.

Resistograph Invasive decay detection technique whereby the resistance offered by the timber to a spinning probe is measured and plotted as a graph.

Rib In tree body language, a long narrow, axial protuberance which often overlays a crack.

Ring Barking Artificial girdling of a stem, to result in the death of a tree.

Root barriers Both buildings and services can benefit from the installation of root barriers to protect a soil volume from the fine absorbing roots, all underground parts of the tree.

Root collar The basal area of the tree; transition zone from trunk to root. Also sometimes called trunk flare.

Sail area The area of the tree subjected to wind load.

Sapwood Xylem wood tissue, usually light in colour, representing the outer growth rings of wood. Usually living, reactive wood tissue, in a healthy tree (Also see 'Heartwood').

Scaffold limbs / scaffold branches The branches that form the main network framework of the crown of a tree.

Slime Flux Relating to a toxic condition from the spreading of bacteria or their products from a source of infection: characterised by malodorous gases, or salt deposits upon the bark. Should these enter the sap stream, localised vessel necrosis can result.

Soft rot A kind of wood decay, where a fungi degrades cellulose within the cell wall, without causing overall degradation.

Soil compaction The compression of soil, causing a reduction of pore space and an increase in the density of the soil. Air is squeezed out and nutrients become locked. Tree roots cannot grow in compacted soil.

Stag Heading In a tree, a state of dieback where dead branches protrude beyond the current living crown.

Stress In plant physiology, conditions where one or more physiological functions are not working within normal parameters.

Stump Grinding The removal of a tree stump using a specialist grinding machine.

Subsidence In relation to vegetation, the removal of water by plant growth resulting in localised shrinkage in the soil volume.

Suppressed Trees which are dominated by surrounding vegetation and whose crown development is restricted from above.

Systemic Affecting the whole plant or organism. A systemic compound is carried throughout the entire plant to all parts through the vascular system.

Target Any person or object within reach of a falling tree or part of a tree that may be injured or damaged.

Target Pruning The pruning of a branch were the wound affects only branch material, often result in a target shaped wound.

Tension Wood Reaction wood typically formed on the upper side of limbs or curved stems; characterized by lack of cell wall lignifications (higher ratios of cellulose to lignin).

Tight Union / Tight A crotch with a narrow angle between branches, often having included bark.

Crotch

Tomography The comparison of sound or stress waves through the tree allows the creation of a 2D or 3D representation of the internal structure of a stem or branch section and highlights areas of damage. Virtually non-injurious.

Topography The configuration of surface features, including the vertical and horizontal relationships of the ground and other features.

Tree A woody plant that typically has a single stem, at maturity has a height of a least 4 metres and a stem diameter at breast height of at least 75mm.

Tree Preservation Order An order made by the local planning authority, where consent must be gained before undertaking all but exempt works to a tree. 4 Mundy Close, Burghfield, Reading, RG30 3DQ Tree Survey Report.

Trunk Flare The basal area of the trunk that flares or widens and merges with the main roots. (See root collar).

Veteran Tree Veteran trees are often found in large parks or estates and commonly affected by extensive decay or have been subject to extensive works. These trees are retained for historical importance and often pose greater risk than normal, which is generally justified. They need careful management and often propping or bracing to support them, some require fencing to limit access.

Vigour Active, healthy growth of plants: ability to respond to stress factors.

Visual Tree Assessment An assessment of the mechanical condition of trees based upon their 'body language'. Trees are dynamic and respond to faults / decay / environmental factors in various ways, these responses can be indicative of structural integrity.

Wetwood An infection caused by bacteria living inside the plant tissues. The bacteria ferment the plant fluids, resulting in death of nearby cells, and often causing exudations of fluid from the bark, often referred to as a Slime Flux.

White Rot A kind if wood decay were a fungi attacks the lignin within the wood matrix.

Wind loading Forces placed upon tree canopy, branches, trunk, and roots of a tree under windy conditions.

Wind Throw The failure of a tree due to wind loading.

Witches Broom A deformed or unusual growth of twigs from adventitious buds, caused by insects, disease, or dieback of twigs and buds.

Wood Secondary Xylem; the main structural support and water conducting tissue of trees and shrubs.

Wound Response Tissue Also Occluding Tissue, Wound Wood, or Callus. Differentiated wood tissue that grows around the margins of a wound or injury.

Wound Wood Wood with atypical features, formed in the vicinity of a wound and a term to describe the occluding tissues around a wound.

Xylem Plant tissues with special function of translocation of water and dissolved nutrients.