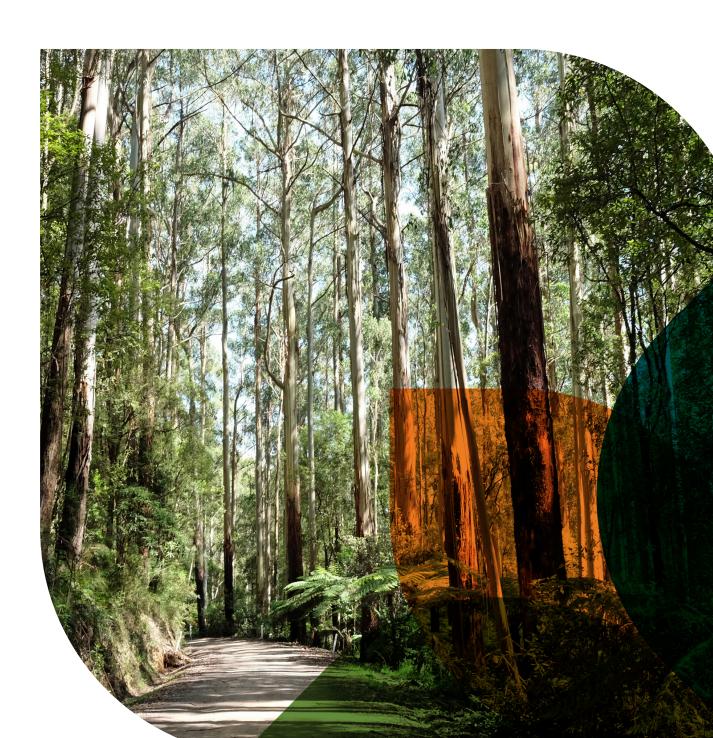




# Australia's forests and forestry glossary

Australian Bureau of Agricultural and Resource Economics and Sciences Updated version – July 2023



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#### Internet

Australia's forests and forestry glossary is available at <u>agriculture.gov.au/abares/forestsaustralia/glossary</u>.

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Front cover image: Mountain Ash (*Eucalyptus regnans*) forest, Lavers Hill, Victoria. Photo: Steve Read.

Page 3 image: Littoral rainforest canopy, Sea Acres National Park, New South Wales. Photo: Steve Read.

Back cover image: Brittle Gum (*Eucalyptus mannifera*) forest, Cuumbeun Nature Reserve, New South Wales. Photo: Steve Read.

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## Australia's forests and forestry glossary

## Introduction

Australia's forests and forestry glossary is a stand-alone publication, developed from the glossary published in <u>Australia's State of the Forests Report 2018</u>. It is intended to serve as a comprehensive and authoritative reference for the interpretation and use of forest and forestry terms at the national level in Australia, by bringing together a common set of terms with consistent definitions. The glossary is suitable for use by the public, educators, students, and those working in forests, forest management and forestry. Operational forestry terms are generally not included. Numbers separate alternative definitions or uses.

## **Background**

A glossary has been published in each report of the <u>Australia's State of the Forests Report</u> series, commencing in 1998, with each glossary being more comprehensive than the previous. For separate publication as a stand-alone glossary, some terms specific to the <u>Australia's State of the Forests Report</u> series have been excluded, while terms of general relevance to forests and forestry across Australia have been added.

The definitions of some terms evolve with changes in usage, practice and technology, while other terms and their definitions remain relatively unchanged over time: the <u>searchable web version</u> of this glossary will be periodically updated as new terms are judged worthy of inclusion or definitions are updated.

## Acknowledgements

This glossary was developed from the glossary in <u>Australia's State of the Forests Report 2018</u>, co-authored by the Montreal Process Implementation Group for Australia and the National Forest Inventory Steering Committee, two committees with representatives from national, state and territory forest management agencies. It is designed to be compatible with the existing <u>Forest Learning</u> and <u>Wood Solutions</u> glossaries, and takes inspiration from the <u>Dictionary of Forestry</u> published by the Society of American Foresters. Contributions and advice from current and former staff in the Department of Agriculture, Water and the Environment are gratefully acknowledged.

Australia's forests and forestry glossary is available at <u>agriculture.gov.au/abares/forestsaustralia/glossary</u>.



Term	Definition and use
Α	
Abiotic	The non-biological components of the environment (e.g. climate).
Above-ground living biomass	All living biomass above the soil, including stump, stem, bark, branches and foliage, and attached material such as dead branches.
	See <u>Below-ground living biomass</u> , <u>Biomass</u> .
Acacia	Australia's largest genus of flowering plants, commonly referred to as wattles.
Acacia forest	As a national native forest type used by the National Forest Inventory, forest dominated by trees of the genus <i>Acacia</i> .
	See <u>Acacia</u> , <u>Native forest type</u> .
Acidification	Increasing levels of acidity that can damage soil and vegetation.
Advanced Very High Resolution Radiometer (AVHRR)	A remote-sensing technology carried on two polar-orbiting satellites each with a multi-spectral scanning radiometer providing imaging information of the Earth's entire surface at a resolution of 1.1 kilometre. AVHRR data provide information on vegetation cover and vegetation change (e.g. after fire).
Afforestation	Establishment of forest on land not previously forested. The Kyoto Protocol and various carbon emission reduction initiatives use specific definitions of afforestation.
	See <u>Deforestation</u> , <u>Reforestation</u> .
Age class	A group of trees of a similar age, such as a cohort of native forest trees regenerating after a disturbance event, or stands of plantation forest established in a given time-period.
Aggregated retention	A native forest silvicultural system in which clumps or clusters of trees (aggregates) are retained when forest stands are harvested for wood. A form of variable retention.
	See <u>Harvesting</u> , <u>Silvicultural system</u> , <u>Variable retention</u> .
Agroforestry	<ol> <li>Establishment or management of trees or forest stands on private agricultural land, generally for commercial benefit including wood production but also for farm management, environmental or aesthetic reasons.</li> </ol>
	<ol><li>A land-use system that integrates trees with agricultural crops or animals in the same land management unit.</li></ol>
	Sometimes refers specifically to planted trees, and sometimes includes areas of native forest.
	Also known as farm forestry.
	See <u>Environmental planting</u> , <u>Other forest</u> , <u>Plantation</u> .
Allocasuarina	A genus of trees closely related to the genus <i>Casuarina</i> , both of which are commonly referred to as she-oaks.
	See <u>Casuarina</u> , <u>Casuarina forest</u> .
Allowable cut	The average quantity of wood, usually prescribed in a legislative instrument or an approved management plan, permitted to be harvested from a forest management planning unit or region, an_nually or periodically, under management for sustained yield.
	See <u>Sustainable yield</u> , <u>Sustained yield</u> .

Term	Definition and use
Angiosperm	A flowering plant, in which the seeds are enclosed within an ovary. Angiosperms are traditionally divided into two classes, monocotyledons and dicotyledons.
	See <u>Dicotyledons (dicots)</u> , <u>Monocotyledons (monocots)</u> .
Apical dominance	Growth habit of a shoot whereby growth and development of lateral buds are suppressed.
	See <u>Multi-leaders (of trees)</u> .
Arboretum	A collection of trees planted and grown at a single site, at least partly for long-term observation and scientific study. Plural: arboreta.
Arisings	Logs produced (arising) as a result of the harvest of logs of other species or of other grades, but that do not meet the size or quality specifications for those other species or grades.
AVHRR	See <u>Advanced Very High Resolution Radiometer (AVHRR)</u> .
В	
Backburning	Burning strategic locations in the expected path of an approaching bushfire under controlled conditions, to reduce the fuel load available to that bushfire.
	See <u>Fuel-reduction burn</u> , <u>Planned fire</u> .
Basal area	A measure of stand density that sums the cross-sectional area of tree stems at breast height (1.3 metres above ground) in a given area of forest.
Below-ground living	All biomass of live roots in the soil.
biomass	See <u>Above-ground living biomass</u> , <u>Biomass</u> .
Biodiversity	The variety of all life forms, plants, animals and microorganisms, their genes, and the ecosystems they inhabit.
	See <u>Ecosystem diversity</u> , <u>Genetic diversity</u> , <u>Species diversity</u> .
Bioenergy	A form of energy derived from biomass, when biomass is used to generate electricity or heat or to produce fuels.
	See <u>Biofuel</u> , <u>Biomass</u> .
Biofuel	An energy source made from organisms and their products (biomass) such as wood and plant matter, algae, or animal fats.
	See <u>Bioenergy</u> .
Biogeographic	Relating to the study of the geographic distribution of living things.
Biological diversity	See <u>Biodiversity</u> .
Biomass	Material of biological origin (plant or animal).
	<ol> <li>Living and dead organic material located above-ground and below-ground, for example trees, grasses, litter, roots and soil organic matter, often determined for the purposes of carbon accounting.</li> </ol>
	See <u>Above-ground living biomass</u> , <u>Below-ground living biomass</u> .

Term	Definition and use
Biome	A large, regional ecological unit, usually defined by some dominant vegetation pattern.
Bioregion	A large, geographically distinct area that has a common climate, geology, landform, and vegetation and animal communities.
	See <u>IBRA</u> .
Biota	The biological components of the environment (e.g. plants, animals and other organisms)
Biotic	Referring to biota.
	See <u>Biota</u> .
Bole	The main stem of a tree.
Bole log	Log taken from a tree trunk between the ground and the crown break (the height of the first major branch). In mature trees comprises the yield for sustainable yield calculations.
	See <u>Crown (tree)</u> .
Bole volume	Volume of a bole log.
Boreal forest	Forests found in the colder regions of the northern hemisphere, north of regions in which temperate forests grow, and dominated by coniferous trees such as pine, spruce and larch.
	See <u>Subtropical forest</u> , <u>Temperate forest</u> , <u>Tropical forest</u> .
Broadscale clearing	Clearing of large tracts of native vegetation.
	See <u>Deforestation</u> , <u>Forest clearing</u> , <u>Land clearing</u> .
Buffer	A strip or area of land where disturbance is not permitted or is minimised, and which serves to mitigate impacts on adjacent land or water. Buffer areas can be found around protected areas, along roads or along watercourses.
	See <u>Disturbance</u> , <u>Filter strip</u> , <u>Protected area</u> .
Bushfire	Fire started naturally (such as by lightning), accidentally, or deliberately (such as by arson), but not in accordance with planned fire management prescriptions. Also called unplanned fire or wildfire.
	See <u>Unplanned fire</u> .
Bushland	A general term in Australia for natural vegetation, covering any kind of habitat from open shrubby country with scattered trees, to tall, closed forests.
С	
Callitris	A genus of gymnosperm trees. Most species of <i>Callitris</i> occur in Australia, and are commonly referred to as cypress pines.
	See <u>Gymnosperm</u> .
Callitris forest	As a national native forest type used by the National Forest Inventory, forest dominated by trees of the genus <i>Callitris</i> .
	See <u>Callitris</u> , <u>Native forest type</u> .

Term	Definition and use
Cambium	A layer of tissue in woody vascular plants that produces xylem and phloem, and is responsible for secondary growth of stems and roots.
	See <u>Phloem</u> , <u>Vascular plant</u> , <u>Xylem</u> .
Canopy	Uppermost layer of a forest comprising tree crowns, branches and leaves, together with vines, ferns and other plants living in the tree crowns.
	See <u>Crown (tree)</u> , <u>Overstorey</u> .
Canopy cover	See <u>Crown cover</u> .
CAR reserve system	Comprehensive, adequate and representative reserve system: a forest reserve system that includes the full range of vegetation communities ('comprehensive'), with a level of reservation sufficiently large to maintain species diversity as well as community interaction and evolution ('adequate'), and conserving the diversity (including genetic diversity) within each vegetation community ('representative'). The CAR reserve system comprises dedicated formal reserves, informal reserves, and areas where forest values are protected by management prescriptions, as well as areas protected on private land.
	See <u>Formal reserve</u> , <u>Informal reserve</u> , <u>Management by prescription</u> , <u>National Reserve</u> <u>System</u> , <u>Protected area</u> , <u>Vegetation community</u> .
Carbon accounting	Determination of the amount of carbon stored in an ecosystem and changes in this amount.
Carbon credit	A tradable certificate, permit or legal instrument, deriving from a verified reduction of one unit (one tonne) of carbon dioxide emissions (or equivalent), and tradable to offset one unit (one tonne) of carbon dioxide emissions (or equivalent).
Carbon dioxide equivalent	Unit for amount of greenhouse gas, as the amount of carbon dioxide $(CO_2)$ that has the same radiative effect in the atmosphere. Abbreviated as $CO_2$ -equivalent or $CO_2$ -e. See <u>Greenhouse gas</u> .
Carbon sequestration	Removal of carbon from the atmosphere and its storage in vegetation, soils or elsewhere.
Carbon sink	A carbon reservoir or pool that has the capacity to accumulate carbon.
Carbon source	A carbon reservoir or pool that has the capacity to release carbon.
Carbon stock	Quantity of carbon in a carbon reservoir or pool. For example, the quantity of carbon stored in forests and wood products.
Carbon store	A carbon reservoir or pool. Forests and wood products are examples of carbon stores.
Casuarina	A genus of trees closely related to the genus <i>Allocasuarina</i> , both of which are commonly referred to as she-oaks.
	See <u>Casuarina forest</u> .
Casuarina forest	As a national native forest type used by the National Forest Inventory, forest dominated by trees of the genera <i>Allocasuarina</i> or <i>Casuarina</i> in the family Casuarinaceae.  See <i>Allocasuarina</i> , <i>Casuarina</i> , <i>Native forest type</i> .

Term	Definition and use
Catchment	A drainage basin: an area of land bounded by natural topographic features such as ridges (watersheds), through which water flows in watercourses such as creeks, streams and rivers.
	See <u>Watercourse</u> , <u>Watershed</u> .
Certification	A process whereby the quality and sustainability of forest management, or of a product supply chain from forest to market, is assessed and certified by an accredited, independent third party, against the criteria and requirements of a credible and recognised forest management standard.
Certified forest	A forest area managed under, and complying with, the requirements of a credible and recognised forest management standard that has been certified by an accredited, independent third party.
	See <u>Certification</u> .
Chain of custody certification	A process of verifying the origin and supply of wood or timber products through the supply chain to a point of market. Generally, this applies to products from forests with forest certification or where products are legally harvested.
	See <u>Certification</u> .
Chlorosis	Yellowing or whitening of leaf tissue due to a lack of the green photosynthetic pigment chlorophyll, typically caused by disease, changed drainage, plant nutrient deficiencies, damage to roots, or compaction of soil.
	See <u>Photosynthesis</u> .
Clearfelling	<ol> <li>A native forest silvicultural system in which all (or nearly all) the trees in an area are harvested in one operation, such that more than half of the harvested area is greater than one tree height from a retained forest edge. Clearfelling is generally used in native forest types dominated by shade-intolerant tree species.</li> </ol>
	2. In the harvest of plantations, harvesting all the trees on a site.
	See <u>Harvesting</u> , <u>Silvicultural system</u> .
	Clearfelling
	Source: Adapted from original artwork by Fred Duncan in Wilkinson (1994).
Clone	Genetically identical copies of a plant produced by tissue culture or vegetative reproduction.

Term	Definition and use
Closed forest	As a National Forest Inventory cover class, forest in which the tree crowns cover more than 80% of the land area.
	See <u>Crown cover</u> , <u>National Forest Inventory</u> , <u>Open forest</u> , <u>Woodland forest</u> .
	CLOSED FOREST (>80-100% crown cover)  WEDION  WEDION  MEDION  MEDION
	Canberra.
CLT	See <u>Cross-laminated timber (CLT)</u> .
CO <sub>2</sub> -equivalent (CO <sub>2</sub> -e)	See <u>Carbon dioxide equivalent</u> .
Code of forest practice	A set of principles, procedures, guidelines and standards that defines and prescribes minimum acceptable practices in forest management, wood harvesting and associated forestry operations.
	See <u>Forest management</u> , <u>Forestry operations</u> , <u>Harvesting</u> .
Commercial plantation	A National Forest Inventory forest category that comprises hardwood or softwood plantations managed commercially to supply logs to wood-processing industries for the manufacture of wood products. Previously known as Industrial plantation.
	'Commercial plantation' does not include forest reported in the other two national forest categories, 'Native forest' and 'Other forest'.
	Commercial plantations are reported through the National Plantation Inventory.
	See <u>Native forest</u> , <u>National Forest Inventory</u> , <u>National Plantation Inventory</u> , <u>Other forest</u> , <u>Plantation</u> .
Commerciality	Forest commerciality is a rating of the expected yield of commercial sawlog (or veneer log or high-value equivalent) from a forest that is available over the long term based on good silvicultural practices; derived from the combination of merchantability and productivity.
	See <u>Merchantability</u> , <u>Productivity</u> .

Term	Definition and use
Community (ecological)	A group of species inhabiting a particular area and interacting with each other in a habitat, especially through ecological relationships, relatively independently of other communities.
	See <u>Vegetation community</u> .
Compartment	A management area of a production forest, made up of one or more coupes.
	See <u>Coupe</u> , <u>Production forest</u> .
Competition	Of plants, the competitive interaction to obtain sunlight, nutrients, water, and growing space.
Compliance audit	An audit of conformance to an environmental or forest management standard, silvicultural practice, or set of code-of-practice prescriptions.
	See <u>Certification</u> , <u>Code of forest practice</u> .
Comprehensive, adequate and representative reserve system	See <u>CAR reserve system</u> .
Comprehensive Regional Assessment (CRA)	A joint assessment of all forest values (environmental, heritage, economic and social) in a region by the Commonwealth and a state, leading to the establishment of a comprehensive, adequate and representative (CAR) reserve system, agreements on forest management, and (for four states) the signing of a regional forest agreement (RFA).
	See <u>CAR reserve system</u> , <u>Regional Forest Agreement (RFA)</u> .
Conifer	Any taxon of the order Pinales (formerly Coniferales), a group of gymnosperms with characteristic reproductive structures called cones. Includes Araucariaceae (araucaria family), Cupressaceae (cypress family), Pinaceae (pine family) and Podocarpaceae (podocarp family).
	See <u>Gymnosperm</u> , <u>Pine</u> , <u>Softwood</u> .
Connectivity	The degree of vegetation structural links between forest patches in a landscape.  Connectivity facilitates species movement across a landscape, and is the converse of fragmentation.
	See <u>Edge effect</u> , <u>Fragmentation</u> .
Conservation covenant	A voluntary, permanent, legally binding agreement made between a landholder and a covenant scheme provider to protect and enhance the natural, cultural and/or scientific values of a specified area of land. Conservation covenants are typically entered into for privately managed forest on private freehold or leasehold tenures. The scheme provider can include not-for-profit organisations, government agencies or local councils.
	See <u>Conservation reserve</u> .

Term	Definition and use
Conservation reserve	Area of land set aside to protect environmental values. Development in, and use of, conservation reserves is usually restricted to activities that are compatible with conservation of the environmental values for which the reserve was declared. Conservation reserves include national parks, conservation parks and nature reserves, and informal reserves on public land, and are complemented by areas protected by conservation covenants on private land.
	See <u>CAR reserve system, Conservation covenant, Formal reserve, Informal reserve, Nature conservation reserve, Protected area, Reserve.</u>
Coppice	Growth of a new stem or stems from a lignotuber or base or stump of a tree, typically following damage or disturbance.
	See <u>Disturbance</u> , <u>Epicormic growth</u> , <u>Lignotuber</u> .
Cording	The practice of placing large (5–30 centimetres in diameter) woody material on extraction tracks before wood harvesting, to protect soil against heavy vehicle traffic and to minimise soil erosion.
	See <u>Matting</u> .
Coupe	A defined area of forest within which harvesting and forest regeneration occur.
	See <u>Compartment</u> .
Criterion	A category of conditions or processes by which sustainable forest management may be assessed. A criterion is characterised by a set of related indicators that are monitored periodically to assess change in conditions or monitor trends over time. The criteria represent broad forest values that society seeks to maintain, while the indicators describe measurable aspects of those criteria.
	See <u>Indicator</u> , <u>Montreal Process</u> .
Critically endangered species/ecological community	A native species/ecological community facing an extremely high risk of extinction in the wild in the immediate future. One of the categories of threatened species/ecological communities defined in the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
	See <u>Ecological community</u> , <u>Endangered species/ecological community</u> , <u>Extinct</u> , <u>Extinct in the wild</u> , <u>Threatened ecological community</u> , <u>Threatened species</u> , <u>Vulnerable species/ecological community</u> .
Cross-laminated timber (CLT)	A solid timber panel produced by bonding together layers of timber with the grain for each layer at a right angle to the grain in adjacent layers.
	See <u>Laminated veneer lumber (LVL)</u> .
Crown (tree)	The upper part of a tree, including branches, foliage, flowers and fruit.
	See <u>Canopy</u> , <u>Crown cover</u> .
Crown cover	The area of ground covered by tree canopies, ignoring overlaps and gaps within individual canopies. Often expressed as a proportion of total area. Three crown cover classes are used in Australia's National Forest Inventory: Woodland forest, Open forest and Closed forest.
	See <u>Canopy</u> , <u>Closed forest</u> , <u>Open forest</u> , <u>Woodland forest</u> .

Term	Definition and use
Crown density	A property of tree crowns, measured as the proportion of light from the sky that is blocked from reaching the ground by living or dead plant material.
Crown land	Land belonging to the Crown, being a national, state or territory government, including Crown land under private leasehold title.
	See <u>Leasehold title</u> , <u>Other Crown land</u> , <u>Public land</u> .
Cultural heritage	A monument, group of buildings or site of historical, aesthetic, archaeological, scientific, ethnological or anthropological value.
	See <u>Natural heritage</u> .
Cypress pine	See <u>Callitris</u> .
D	
Deciduous	A tree and/or shrub that sheds its leaves seasonally or annually.
	See <u>Evergreen</u> .
Defined forest area	Area of forest under management control of an agency, private organisation or individual.
	<ol><li>In relation to certification, the area of forest managed under, and complying with, the requirements of a credible and recognised forest management standard that has been certified by an accredited, independent third party.</li></ol>
	3. In relation to the Australian Standard for Sustainable Forest Management (AS 4708), the area of forest (including land and water) to which the requirements of the standard are applied and over which a forest manager can demonstrate management control, which allows them to achieve the requirements of that standard.
	See <u>Certification</u> , <u>Forest estate</u> .
Deforestation	A type of land clearing involving the permanent removal of forest cover. The Kyoto Protocol and various carbon emission reduction initiatives use specific definitions of deforestation.
	See <u>Afforestation</u> , <u>Forest</u> , <u>Reforestation</u> .
Degradation	<ol> <li>Loss of specific aspects of a forest ecosystem, such as tree cover, structural features or species, or of habitat characteristics that support the requirements of species or communities, short of being defined as deforestation.</li> </ol>
	<ol><li>Reduction in the capacity of a forest to provide a range of goods and services, including ecosystem services.</li></ol>
	3. Any process that lowers the value of the wood in timber and other wood products.
Diameter at breast height (DBH)	A measure of the diameter of the trunk or bole of a standing tree at a standard height (usually 1.3 metres).
Dicotyledons (dicots)	A group or groups of angiosperms that produce seeds with two embryonic leaves (cotyledons).
	See <u>Angiosperm</u> , <u>Monocotyledons (monocots)</u> .

Term	Definition and use
Dieback	A symptom of disease agents or environmental factors in which foliage dies progressively from the extremities and trees exhibit loss of vigour. Used in reference to native forests affected by one or more of salinity, drought, pest load (including as a result of abundant Bell Miner birds), disease (such as Phytophthora), or changed nutrient, water or fire regimes; or in reference to trees on land subjected to overgrazing.  See <i>Phytophthora</i> .
Direct employment	The number of jobs in public and private agencies and firms relating directly to the process of producing goods or providing a service. Any secondary economic activity resulting from the primary activity is referred to as indirect employment.
	See <u>Indirect employment</u> .
Disturbance	A natural or human-caused event that damages, destroys or removes some or all of the trees or other vegetation from an area of land. Disturbance can include planned and unplanned fire, wind, hail, snow, flood, pests and diseases, and forestry operations such as wood harvesting and thinning. Disturbance can also impact on the structure or physical properties of soil, or expose soil to erosion.
	See <u>Dieback</u> , <u>Harvesting</u> , <u>Planned fire</u> , <u>Thinning</u> , <u>Unplanned fire</u> , <u>Windthrow</u> .
Dry forest/dry sclerophyll forest	Typically, eucalypt-dominated sclerophyll forest associated with water-limited or nutrient-limited conditions, and with an understorey (if present) of sclerophyll trees or shrubs. Ground cover can be bare, litter, grassy or heathy.
	See <u>Eucalypt</u> , <u>Sclerophyll</u> , <u>Wet forest/wet sclerophyll forest</u> .
E	
Ecological community	See <u>Community (ecological)</u> .
Ecologically mature	Displaying a range of structural, functional and compositional attributes and ecological processes characteristic of forests in their mature or senescent growth stages.
	See <u>Mature</u> , <u>Old-growth forest</u> , <u>Senescent</u> .
Ecologically sustainable development	As defined in Australia's <i>National Strategy for Ecologically Sustainable Development</i> (1992), using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.
Ecologically sustainable forest management (ESFM)	The integration of commercial and non-commercial values of forests so that the welfare of society (both material and non-material) is improved, while ensuring that the values of forests (whether as a resource for commercial use, for conservation, or for ecosystem services) are not lost or degraded for current and future generations.
	Some jurisdictions have legislated principles of ecologically sustainable forest management that have to be considered in managing public forests.
	See <u>Sustainable forest management (SFM)</u> .
Ecologically sustainable use	Use of natural resources within their capacity to sustain natural processes, while maintaining the life-support systems of nature and ensuring that the benefit of use by the present generation does not diminish the potential to meet the needs and aspirations of future generations.

Term	Definition and use
Ecosystem	A dynamic complex of plant, animal and microorganism communities and their non-living environment, interacting as a functional unit.
Ecosystem diversity	The diversity of different ecological communities formed by living organisms and the relations among them.
	See <u>Biodiversity</u> , <u>Ecological community</u> , <u>Genetic diversity</u> , <u>Species diversity</u> .
Ecosystem services	1. The benefits (goods and services) provided by ecosystems, and the contributions that ecosystems make to human well-being, arising from both biotic and abiotic processes as well as their interaction.
	<ol><li>The benefits people obtain from ecosystems, including supporting services, provisioning services, regulating services and cultural services.</li></ol>
	Also known as environmental services.
	See <u>Ecosystem</u> .
Ecotourism	Tourism that features places of ecological interest, such as forests, and experience of the environment.
Edge effect	The effect or influence of an area of vegetation on an adjacent area of vegetation. This can include the effect of adjacent non-forest land on a forest stand, the effect of a forest stand on adjacent non-forest land, the effect of a mature forest stand on adjacent regenerating forest, or the effect of regenerating forest on an adjacent mature forest stand.
	See <u>Connectivity</u> , <u>Fragmentation</u> .
Endangered species/ ecological community	A native species/ecological community facing a very high risk of extinction in the wild in the near future. One of the categories of threatened species/ecological communities defined in the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
	See <u>Critically endangered species/ecological community</u> , <u>Ecological community</u> , <u>Extinct</u> , <u>Extinct in the wild</u> , <u>Threatened ecological community</u> , <u>Threatened species</u> , <u>Vulnerable species/ecological community</u> .
Endemic	A species of plant or animal that occurs naturally only in a specified region or country.
	See <i>Exotic, Indigenous (of species), Introduced species</i> .
Engineered wood products	Manufactured composite wood products produced from wood fibres, particles or veneers, and used in a variety of construction and engineering applications. Includes fibreboard (such as medium-density fibreboard, MDF), plywood, cross-laminated timber (CLT) and laminated veneer lumber (LVL).
	See <u>Cross-laminated timber (CLT)</u> , <u>Fibreboard</u> , <u>Laminated veneer lumber (LVL)</u> , <u>Plywood</u> , <u>Veneer</u> .
Environmental compliance	Conforming to specified requirements in environmental laws, regulations, environmental management systems, management plans, planning specifications, codes of practice, standards or prescription guidelines.
	See <u>Code of forest practice</u> , <u>Environmental management system</u> .
Environmental management system	A framework for the systematic management of an organisation's environmental obligations and objectives.

Term	Definition and use
Environmental planting	Trees or forest stands established for environmental benefit (rather than for commercial use), usually by direct seeding or planting.
	See <u>Agroforestry</u> , <u>Commercial plantation</u> , <u>Other forest</u> , <u>Plantation</u> .
<b>Environmental services</b>	See <u>Ecosystem services</u> .
Epicormic growth	Shoots growing from dormant buds that lie under the bark of some trees, such as eucalypts, and which are activated by damage (such as fire), changes to available light, or other factors.
ESFM	See <u>Ecologically sustainable forest management (ESFM)</u> .
Eucalypt	Any member of the genera <i>Angophora, Corymbia</i> and <i>Eucalyptus</i> , being trees or large shrubs in the family Myrtaceae, mostly native to Australia.
Eucalypt forest	As a national native forest type used by the National Forest Inventory, forest dominated by trees of the three genera <i>Angophora</i> , <i>Corymbia</i> and <i>Eucalyptus</i> .
	See <u>Eucalypt</u> , <u>Native forest type</u> .
Eucalyptus	A large genus of trees, shrubs and mallees, that dominate forests across wide areas of Australia.
	See <u>Eucalypt forest</u> .
Even-aged forest	Native forest in which all trees are about the same age or of the same age class, often as a result of a disturbance event, even though the trees may vary in size because of their different rates of growth or location within the stand.
	See <u>Age class</u> , <u>Disturbance</u> , <u>Uneven-aged forest</u> .
Evergreen	A tree and/or shrub that retains green leaves throughout the year.
	See <u>Deciduous</u> .
Ex situ conservation	The conservation of species and genetic components of biological diversity outside their natural habitats.
	See <u>In situ conservation</u> .
Exclusion zone	Forest excluded from wood harvest or management operations as a result of the application of a prescription in a code of practice (such as for reserve management).
	See <u>Code of forest practice</u> , <u>Harvesting</u> , <u>Management by prescription</u> .
Exotic	A species of plant or animal that does not occur naturally in a region or country.
	See Endemic, Indigenous (of species), Introduced species.
Extinct	A species for which there is no reasonable doubt that the last individual has died, or for which exhaustive surveys in known or expected habitats throughout its historical range have failed to record an individual over a time frame appropriate to its life cycle and form. One of the categories of threatened species defined in the Commonwealth <i>Environment Protection and Biodiversity Conservation Act</i> 1999.
	See <u>Critically endangered species/ecological community</u> , <u>Endangered species/ecological community</u> , <u>Extinct in the wild</u> , <u>Threatened species</u> , <u>Vulnerable species/ecological community</u> .

	A species known to survive only in cultivation, in captivity or as a naturalised population well outside its past range, and that has not been recorded in its known and/or expected habitat at appropriate seasons anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form. One of the categories of threatened species defined in the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
	See <u>Critically endangered species/ecological community</u> , <u>Endangered species/ecological community</u> , <u>Extinct</u> , <u>Threatened species</u> , <u>Vulnerable species/ecological community</u> .
F	
Farm forestry	See <u>Agroforestry</u> .
	The collective description for members of the animal kingdom. Fauna include mammals, birds, reptiles, fish and insects.
	See <u>Flora</u> .
	The capacity of an individual, population or species to reproduce or multiply. Can be measured as the rate of production of viable, fertile offspring that survive to reproductive age.
	See <u>Fertility</u> .
Fertility	The capacity of an individual, population or species to reproduce sexually.
	See <u>Fecundity</u> .
	A category of reconstituted wood panel products made from pulpwood and/or wood-processing residues such as woodchips, sawmill shavings and sawdust plus a resin or binder, pressed into panels. Types of fibreboard (in order of increasing density) include particleboard, medium-density fibreboard (MDF), high-density fibreboard and hardboard.
	See <u>Reconstituted wood products</u> .
	A strip of vegetation retained along a drainage line, stream or river to retard the flow of runoff.
	See <u>Buffer</u> , <u>Riparian zone</u> , <u>Runoff</u> .
_	The frequency, intensity, seasonality and scale or patchiness of burning of an area or vegetation type over a period of time; the history or forecast of fire events in a particular area or vegetation type.
Firewood	Wood used as fuel for residential heating.
	See <u>Fuelwood</u> .
	The collective description for members of the plant kingdom. Flora include trees, shrubs, herbs, grasses, ferns and mosses.
	See <u>Fauna</u> .
	Study of the presence, abundance, distribution and relationships of plants over a geographic area.

Term	Definition and use
Forest	An area, incorporating all living and non-living components, that is dominated by trees having usually a single stem and a mature or potentially mature stand height exceeding 2 metres and with existing or potential crown cover of overstorey strata about equal to or greater than 20%. This includes Australia's diverse native forests and plantations, regardless of age. It is also sufficiently broad to encompass areas of trees that are sometimes described as woodlands.
	This definition used in Australia is different from the definitions of forest that apply in some other countries, or the definition used by the Food and Agriculture Organization of the United Nations (FAO).
	See <u>Commercial plantation</u> , <u>Crown cover</u> , <u>Native forest</u> , <u>Other forest</u> , <u>Overstorey</u> , <u>Plantation</u> .
Forest clearing	Conversion of forested land to agricultural, urban or other non-forest land uses.
	See <u>Broadscale clearing</u> , <u>Deforestation</u> , <u>Land clearing</u> .
Forest-dependent community (human)	A human community having an identified dependence on a forest area, typically through employment in the forestry and wood products industries.
Forest-dependent species	A species that requires a forest habitat for at least part of its life cycle, and that could not survive or reproduce in the absence of this habitat.
Forest-dwelling species	A species that may use a forest habitat for at least part of its life cycle.
Forest estate	1. A specified and defined area of forest.
	2. An area of forest managed by an agency, private organisation or individual, including the trees, flora, fauna, soil, streams, water-bodies, roads and other infrastructure.
	See <u>Defined forest area</u> , <u>Indigenous estate (land or forest)</u> .
Forest health	The effects of the sum of the ecosystem processes (energy, nutrient, hydrological and biological processes) that together maintain the vitality of a forest ecosystem.
Forest inventory	The systematic collection of data to determine a broad range of biophysical, commercial and non-commercial values in a forest. Forest inventories can cover the area of forest, the volume and/or value of wood, and the extent and diversity of non-wood values.
Forest land	Land on which forest is growing. Land on which forest is regrowing after disturbance, or has the potential to regrow after disturbance, is also classified as forest land.
	See <u>Disturbance</u> , <u>Forest</u> , <u>Non-forest land</u> .
Forest lock-up	Dense regrowth stands where severe competition for resources prevents individual tree growth, and stand growth effectively ceases. Also known as 'locked-up forest'.
Forest management	A system of practices and activity for conservation, stewardship and productive use of forest land, aimed at fulfilling desired environmental, economic and social functions and objectives for the forest.

Term	Definition and use
Forest management plan	A documented, long-term plan for a forest area that defines management goals, objectives and outcomes that are monitored and periodically reviewed, and that expressly includes the management of forest. Forest management plans can also include natural resource, environment, vegetation and catchment management plans that cover and include a focus on forests, and strategic management planning systems required for forest certification.
Forest practices	A codified set of procedures and guidelines for forest management.
	See <u>Code of forest practice</u> , <u>Forest management</u> .
Forester	A professional who uses scientific principles to manage forests for a variety of human and environmental needs and benefits.
Forestry	The science and craft of creating, managing, conserving, using and caring for forests to meet desired goals, needs, and values, for human and environmental benefits.
Forestry operations	<ol> <li>Work undertaken in the course of forest establishment and/or management for purposes including forest protection, public recreation, research, catchment protection, wood production, and the control of planned fires.</li> </ol>
	2. Operational forest management activities related to wood production.
	<ol> <li>The planting of trees, the managing of trees before they are harvested, or the harvesting of forest products for commercial purposes, including any related land clearing, land preparation and regeneration (including burning), and transport operations.</li> </ol>
Formal reserve	An area, such as a national park, legally dedicated for protection in a reserve.
	See <u>CAR reserve system</u> , <u>Informal reserve</u> , <u>Management by prescription</u> , <u>National Reserve System</u> .
Fragmentation	1. The degree to which forest exists in separate areas that are not spatially connected.
	2. The process of loss of spatial connectivity between forest areas.
	See <u>Connectivity</u> .
Fuel load	The total amount of combustible material in a defined area, including standing and downed wood, leaves and bark.
Fuel-reduction burn	Fire started in accordance with a fire management plan or planned burning program for the purpose of reducing fuel loads in a defined area.
	See <u>Backburning</u> , <u>Planned fire</u> .
Fuelwood	Wood or wood products used as industrial fuel or for bioenergy production.
	See <u>Bioenergy</u> , <u>Firewood</u> .
G	
Genetic diversity	The diversity of genetic information within and between individual species.
	See <u>Biodiversity</u> , <u>Ecosystem diversity</u> , <u>Species diversity</u> .
Genetic resources	Genetic material of plant, animal, microbial or other origin that has actual or potential value.

Term	Definition and use
Genotype	The genetic constitution or make-up of an organism.
	See <u>Phenotype</u> .
Genus	A taxonomic rank above species, and below family. A genus can include more than one species.
	See <u>Species</u> , <u>Taxon</u> .
Geographic information system (GIS)	A system for capturing, storing, analysing and managing data and associated attributes that are spatially referenced to the surface of the Earth.
Geospatial	Relating to the relative position of features on the surface of the Earth.
Girder	A specialised, large-dimensioned, durable timber product, usually in squared-end form, that is used in building bridges, wharves and the framework of large buildings.
GIS	See <u>Geographic information system (GIS)</u> .
Global carbon cycle	The movement of carbon between different parts of the Earth's crust, ocean, biosphere and atmosphere, including the storage of carbon in those parts.
Grafting	A method of plant propagation, whereby a bud, shoot or tissue of one plant is joined with another plant.
Greenhouse effect	Warming of the Earth due to the absorption of infrared radiation by atmospheric greenhouse gases, including carbon dioxide.
	See <u>Greenhouse gas</u> .
Greenhouse gas	Gas that affects the temperature of the Earth's surface and climate by absorbing infrared radiation. Greenhouse gases include water vapour, ozone, chlorofluorocarbons, carbon dioxide, methane and nitrous oxide. National greenhouse gas inventories report anthropogenic emissions and removals of greenhouse gases not controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer.
	See <u>Carbon dioxide equivalent</u> , <u>Greenhouse effect</u> , <u>National Greenhouse Gas Inventory</u> .
Green Triangle	<ol> <li>A region straddling the state border between south-west Victoria and south-east South Australia where there are significant areas of commercial plantations, as well as wood-processing facilities.</li> </ol>
	2. The National Plantation Inventory region of this name.
	See <u>Commercial plantation</u> , <u>National Plantation Inventory</u> .
Green wood	1. Wood freshly harvested or milled that has not been dried.
	<ol><li>In regards to sandalwood, wood from live sandalwood trees that meets a specified quality standard and size.</li></ol>
	See <u>Harvesting</u> , <u>Sandalwood</u> .
Gross calorific value	The amount of heat released by a fuel during combustion under standard conditions.

## Term Definition and use Gross domestic product The total market va after deducting the

The total market value of goods and services produced in a country in a given period, after deducting the cost of intermediate goods and services used in production (but not deducting allowances for the consumption of fixed capital, or depreciation). The sum of the value added by each industry across the economy.

See Industry value added.

## **Gross value of production**

Value placed on production at the wholesale prices realised in the marketplace (where the marketplace refers to local consumption, export, or a point before value-adding by a secondary industry). Gross value of production provides a value for products that do not have a final market price.

See *Value-adding*.

### **Group selection**

A native forest silvicultural system in which groups (small patches or stands) of trees are harvested, allowing for subsequent regeneration and leading to a forest comprising patches of differently aged trees.

See <u>Harvesting</u>, <u>Regeneration</u>, <u>Selection harvesting</u>, <u>Silvicultural system</u>, <u>Uneven-aged forest</u>.

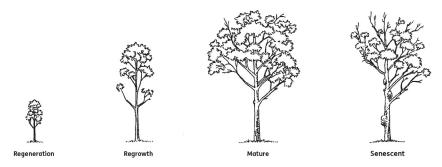


Source: Adapted from original artwork by Fred Duncan in Wilkinson (1994).

## **Growth stage**

A stage in the development of trees or forests, associated with tree or stand age. Four growth stages for trees or forests are recognised in Australia: Regeneration, Regrowth, Mature and Senescent.

See Mature, Regeneration, Regrowth, Senescent.



Regeneration: includes juvenile and sapling stages, when trees are very small and crowns exhibit apical dominance. (Apical dominance is where the main central stem of the tree is growing more strongly than the side branches.)

Regrowth: trees have well-developed stems with crowns of small branches but are below mature stand height. Apical dominance is apparent in vigorous trees. Includes 'pole' and 'early mature' stages.

 $Mature: trees\ are\ at\ maximum\ height\ and\ crowns\ at\ full\ lateral\ development.\ Branch\ thickening\ can\ occurrence and\ constraints and\ constraints$ 

 $Senescent: crowns \ are \ contracting, \ and \ crown \ diameter \ and \ crown \ leaf \ area \ are \ decreasing.$ 

Uneven-aged forests can contain a mixture of two of more of these growth stages

Source: adapted from Clode and Burgman (1997).

## Gymnosperm

A plant, such as a cycad or conifer, the seeds of which are not enclosed within an ovary.

See Conifer.

Habitat tree  1. A tree (alive or dead) containing naturally occurring hollows or crevices, where animals can live, breed or shelter, and retained in a harvested area to provide habitat.  2. A tree with artificially created hollows to provide suitable nesting or shelter sites for endangered fauna.  Hardwood  Wood or wood products from flowering trees (broad-leaved tree species), such as eucalypts, irrespective of the physical hardness of the wood.  Also refers to trees that have such wood, and plantations of such trees.  See Softwood.  Harvested wood products  Wood products originating from harvested trees and removed from harvest areas for use as-is or after further processing.  See Harvesting.  1. As part of forest management, cutting (felling) of trees to produce wood products.  2. Collection (gathering) of non-wood forest product (NWFP).  Heathland  A non-forest vegetation type found mainly on low-quality acidic soils and characterised by	Term	Definition and use
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See <u>Growth stage</u> , <u>Overstorey</u> .	Height	layer of a forest. Three height classes are used for forest in Australia's National Forest
		See <u>Growth stage</u> , <u>Overstorey</u> .
<b>Hybridisation</b> For plants, the process of crossing different breeds or cultivars of a single plant species, o crossing plants of different taxa (subspecies, species or genera). Hybridisation can occur naturally between closely related taxa.	Hybridisation	
See <i>Taxon</i> .		See <u>Taxon</u> .
1	1	
IBRA See <u>Interim Biogeographic Regionalisation for Australia (IBRA)</u> .	IBRA	See Interim Biogeographic Regionalisation for Australia (IBRA).
Illegal logging  The harvesting of timber in contravention of the laws and regulations of the jurisdiction of harvest.	Illegal logging	
Indicator  A quantitative or qualitative variable that can be measured or described and that, when observed periodically, can demonstrate trends in forest condition or use.	Indicator	
See <u>Criterion</u> , <u>Montreal Process</u> .		See <u>Criterion</u> , <u>Montreal Process</u> .

Term	Definition and use
Indigenous (of people)	Of Aboriginal or Torres Strait Islander descent.
Indigenous (of species)	A species of plant or animal that occurs naturally in a specified region or country.  See <i>Endemic</i> , <i>Exotic</i> .
Indigenous co-managed (of land or forest)	A National Forest Inventory category of land or forest that has a formal, legally binding agreement in place to include input from Indigenous people in the process of developing and implementing a management plan.
	See <u>Indigenous (of people)</u> , <u>Indigenous managed (of land or forest)</u> , <u>Indigenous owned</u> (of land or forest), <u>National Forest Inventory</u> , <u>Other special rights</u> .
Indigenous estate (land or forest)	Land or forest over which Indigenous peoples and communities have ownership, management, or rights of use for customary purposes.
	See <u>Forest estate</u> , <u>Indigenous (of people)</u> , <u>Indigenous co-managed (of land or forest)</u> , <u>Indigenous managed (of land or forest)</u> , <u>Indigenous owned (of land or forest)</u> , <u>Other special rights</u> .
Indigenous Land Use Agreement	A voluntary agreement between a Native Title group and other people about the use of land and water.
	See <u>Indigenous (of people)</u> , <u>Native Title</u> .
Indigenous managed (of land or forest)	A National Forest Inventory category of land or forest that is managed by Indigenous communities.
	See <u>Indigenous (of people)</u> , <u>Indigenous co-managed (of land or forest)</u> , <u>Indigenous owned (of land or forest)</u> , <u>National Forest Inventory</u> , <u>Other special rights</u> .
Indigenous owned (of land and forest)	A National Forest Inventory category of freehold land or forest that is owned by Indigenous communities, or land or forest for which ownership is vested through other mechanisms.
	See <u>Indigenous (of people)</u> , <u>Indigenous co-managed (of land or forest)</u> , <u>Indigenous managed (of land or forest)</u> , <u>National Forest Inventory</u> , <u>Other special rights</u> .
Indigenous Protected Area	An area of land and sea managed by an Indigenous group as an area protected for biodiversity and cultural resource conservation through a voluntary agreement with the Australian Government.
	See <u>Indigenous (of people)</u> , <u>Protected area</u> , <u>Traditional Owner</u> .
Indirect employment	The number of jobs in secondary economic activity resulting from a primary economic activity, such as in provision of materials, supplies, goods and services to support the primary activity, or generated or supported in retail and service sectors by the spending of salaries and wages of individuals and families involved in the primary economic activity.
	See <u>Direct employment</u> .

Term	Definition and use
Industry value added	The value added by an industry to the inputs used by that industry, and therefore the contribution of that industry to Gross domestic product.
	For national reporting on the forestry, wood and paper products industries, 'Industry value added' includes forest management, wood harvesting and wood processing, but excludes wholesaling, retailing and further value-adding (such as the manufacturing of some commodities).
	See <u>Forest management</u> , <u>Gross domestic product</u> , <u>Harvesting</u> , <u>Value-adding</u> .
Informal reserve	Reserve on public land protected through an administrative instrument by a public land management agency, such as special protection zones in state forests.
	See <u>CAR reserve system</u> , <u>Formal reserve</u> , <u>Management by prescription</u> , <u>Reserve</u> .
In situ conservation	The conservation of species and genetic components of biological diversity in their natural habitats.
	See <u>Ex situ conservation</u> .
Integrated harvesting	Harvesting sawlogs, pulpwood and other forest products in a single forest operation.
	See <u>Harvesting</u> , <u>Pulpwood</u> , <u>Sawlog</u> .
Integrated pest management (IPM)	A pest control strategy that uses an array of complementary methods, such as natural predators and parasites, pest-resistant varieties, cultural practices, biological controls, various physical techniques and chemical pesticides.
Interim Biogeographic Regionalisation for	A set of large geographical bioregions within the Australian landmass, used as the basis for the National Reserve System's planning framework and some state-based reporting.
Australia (IBRA)	See <u>National Reserve System</u> .
Introduced species	A species of plant or animal occurring outside its natural range (past or present) and dispersal potential—that is, outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans.
	See <u>Exotic</u> , <u>Indigenous (of species)</u> .
Inventory	A survey that assesses a resource, such as the amount of merchantable wood in a forest.
J	
Jurisdiction	One of the states and territories of Australia, or the Commonwealth, in each of which its own system of laws has authority.
К	
Key threatening process	As defined in the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> , a process that threatens, or may threaten, the survival, abundance or evolutionary development of a native species or ecological community.
	A key threatening process could cause a native species or ecological community to become eligible for inclusion in a threatened list, cause an already listed threatened species or threatened ecological community to become more endangered, or adversely affect listed threatened species or threatened ecological communities.
	See <u>Threatening process</u> .

Term	Definition and use
L	
Laminated Veneer Lumber (LVL)	High-strength engineered wood product made from veneers (thin rotary-peeled sheets of wood) bonded together with adhesives under heat and pressure, and used for structural applications.
	See <u>Cross-laminated timber (CLT)</u> , <u>Rotary peeling</u> , <u>Veneer</u> .
Land clearing	Removal of vegetation to convert land to another land use.
	See <u>Broadscale clearing</u> , <u>Deforestation</u> , <u>Forest clearing</u> .
Land tenure	Formal title, ownership or occupancy of land.
	The National Forest Inventory classifies land into six tenure classes (Leasehold forest, Multiple-use public forest, Nature conservation reserve, Other Crown land, Private forest, and Unresolved tenure).
	See <u>Leasehold forest</u> , <u>Multiple-use public forest</u> , <u>Nature conservation reserve</u> , <u>Other Crown land</u> , <u>Private forest</u> , <u>Unresolved tenure</u> .
Landing	An area to which harvested logs are hauled for sorting, processing, loading or stockpiling.
	See <u>Harvesting</u> .
Landsat	A polar-orbiting satellite with an eight-band, multi-spectral scanning radiometer providing medium-resolution imaging information of the Earth's entire surface. Landsat data provide information on vegetation cover and vegetation change (e.g. after fire).
Leasehold forest	Crown land held under leasehold title and generally privately managed.
	One of six land tenure classes used to classify land in the National Forest Inventory.
	See <u>Crown land</u> , <u>Land tenure</u> , <u>Leasehold title</u> , <u>National Forest Inventory</u> .
Leasehold title	Land title held under a contract by which one party conveys the land to another party for a specified time and purpose, usually in return for a periodic payment.
Legally binding instrument	An instrument, law, regulation, act or process that has associated legal rights, duties and/or requirements.
	See <i>Non-legally binding instrument</i> .
LiDAR	See <u>Light Detection and Ranging (LiDAR)</u> .
Light Detection and Ranging (LiDAR)	A technology that uses laser (light) pulses from (most commonly) aircraft to collect information on terrain and vegetation features (such as tree height), based on the return time of pulses back to the sensor.
Lignotuber	A woody structure at or below ground level on some shrubs and trees (e.g. mallee eucalypts), from which regrowth can occur after fire or drought.
	See <u>Coppice</u> , <u>Epicormic growth</u> , <u>Mallee</u> .
Litter	The uppermost layer of the forest floor consisting chiefly of fallen leaves, bark, wooden debris and other decaying organic matter.
	See <u>Biomass</u> .

Term	Definition and use
Locked-up forest	See <u>Forest lock-up</u> .
Log landing	See <i>Landing</i> .
Logging	See <u>Harvesting</u> .
LVL	See <u>Laminated veneer lumber (LVL)</u> .
М	
Macroinvertebrate	Organism without a backbone, and of sufficient size to be seen without the aid of a microscope; examples are insects, shellfish and crustaceans.
MAI	See <u>Mean annual increment (MAI)</u> .
Mallee	<ol> <li>A woody plant, usually a eucalypt, that is multi-stemmed from ground level.</li> <li>A forest structural type dominated by mallee species.</li> <li>See <u>Eucalypt</u>.</li> </ol>
Managed investment scheme (MIS)	A pooled investment scheme that satisfies the definition of 'managed investment scheme' in Section 9 of the Commonwealth <i>Corporations Act 2001</i> and fulfils associated regulatory requirements; describes a wide range of investments in financial products, real estate, agriculture and plantation forestry.
Managed losses	Losses of carbon directly from forests to the atmosphere that are associated with the management of forests, for example prescribed burns or post-harvest burns.
Management by prescription	Component of the CAR reserve system on public production forests, in which protection of values is prescribed through management prescriptions in codes of practice or management plans. Examples include values that are not mappable in advance of their detection, and/or where inclusion in dedicated or informal reserves is impractical, such as riparian vegetation or rare, dispersed or fragmented values.
	See <u>CAR reserve system</u> , <u>Code of forest practice</u> , <u>Forest management plan</u> , <u>Formal reserve</u> , <u>Informal reserve</u> .
Management effectiveness	A measure of how well an area, such as a protected area or system of protected areas, is being managed in terms of protecting values and achieving goals and objectives, based on an audit process or evaluation.
Mangrove	A tree or shrub that normally grows above mean sea level in the intertidal zone of coastal environments and estuarine margins.
	2. The intertidal habitat comprising a forested wetland of mangrove trees and shrubs.
Mangrove forest	As a national native forest type used by the National Forest Inventory, forest dominated by mangrove trees.
	See <u>Mangrove</u> , <u>Native forest type</u> .
Matting	The practice of placing small (less than 5 centimetres in diameter) woody material on extraction tracks before wood harvesting, to protect soil against heavy vehicle traffic and to minimise soil erosion.
	See <u>Cording</u> .

Term	Definition and use
Mature	1. A native forest growth stage in which trees are at maximum height with crowns at full lateral development.
	2. A native forest growth stage, generally taken as 80 or more years since disturbance. One of four growth stages used at the national level to describe the age of trees and stands of trees.
	See <u>Disturbance</u> , <u>Growth stage</u> , <u>Regeneration</u> , <u>Regrowth</u> , <u>Senescent</u> .
Mean annual increment (MAI)	The average growth per year of a tree (or stand of trees) to a specified age. Commonly expressed as cubic metres per hectare per year, and can be restricted to sawlog volume only.
Medium-density fibreboard (MDF)	See <u>Fibreboard</u> .
Melaleuca	A genus of shrubs and trees, most of which are endemic to Australia, and commonly referred to as tea-trees or paperbarks.
Melaleuca forest	As a national native forest type used by the National Forest Inventory, forest dominated by trees of the genus <i>Melaleuca</i> .
	See <u>Melaleuca</u> , <u>Native forest type</u> .
Merchantability	With respect to a tree or tree species, suitability for production of commercial wood products. An emphasis is placed on commercial production of sawlogs or high-value equivalents.
	See <u>Commerciality</u> .
Merchantable tree species	A tree species with known commercial uses for wood products, based on standards, technology or market conditions.
	See <i>Non-merchantable tree species</i> .
Moderate-resolution Imaging Spectroradiometer (MODIS)	A remote-sensing technology carried on two polar-orbiting satellites, capturing data covering the visual and infrared spectrum and imaging the entire surface of the Earth. MODIS data provide information on vegetation cover and vegetation change (e.g. after fire).
MODIS	See <u>Moderate-resolution Imaging Spectroradiometer (MODIS)</u> .
Monitoring	The periodic and systematic measurement and assessment of a value, attribute or indicator.
Monocotyledons	A group of angiosperms that produce seeds with one embryonic leaf (cotyledon).
(monocots)	See <u>Angiosperm</u> , <u>Dicotyledons (dicots)</u> .
Monoculture	The cultivation or growing of a single crop plant species on an area of agricultural or forest land. Most plantations are monocultures.
Montane	Ecosystems associated with mountain landscapes, alpine environments or higher elevations.

Term	Definition and use
Montreal Process	An initiative of the 12 countries, including Australia, that are members of the Montreal Process Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests. Comprises development and implementation of a comprehensive set of criteria and indicators for the conservation and sustainable management of temperate and boreal forests.
	See <u>Criterion</u> , <u>Indicator</u> , <u>Sustainable Forest Management (SFM)</u> .
Mosaic (of vegetation)	Vegetation composed of patches of different types, arising from differences in soil or landform or disturbance history (such as through fire or wood harvesting).
Multi-leaders (of trees)	A condition in trees where the apical dominance of the shoot at the top of the plant is lost, allowing lateral buds to grow into two or more stems or leaders.
	See <u>Apical dominance</u> .
Multiple Lines of Evidence approach	With respect to mapping forests, compilation of data from a range of different sources, followed by assessment and validation to arrive at a best-possible dataset for the attribute being mapped.
Multiple-use public forest	Publicly owned state forest, timber reserves and other land on which a range of forest values are managed by state and territory government agencies in accordance with relevant Acts and regulations. The forest values can include provision of wood for harvest, supply of water, conservation of biodiversity, recreation, and environmental protection.
	One of six land tenure classes used to classify land in the National Forest Inventory.
	See <u>Land tenure</u> , <u>National Forest Inventory</u> .
Myrtle rust	A disease caused by a strain of guava or eucalypt rust ( <i>Austropuccinia psidii</i> ) that damages or kills species in the Myrtaceae family of plants.
N	
National Forest Inventory	Australia's system of integrated national forest data, compiled from state, territory and Australian government agencies, industry information, and independent, remotely sensed data, using national standards and protocols for collation and reporting. Used to meet national and international forest-related reporting requirements. Includes the forest categories 'Native forest', 'Commercial plantation' and 'Other forest'.
	See <u>Commercial plantation</u> , <u>National Plantation Inventory</u> , <u>Native forest</u> , <u>Other forest</u> .
National Greenhouse Gas Inventory	Australia's system for measuring and monitoring changes in greenhouse gas emission and sequestration; includes modelling of carbon stocks and stock changes. Previously referred to as the National Carbon Accounting System.
	See <u>Greenhouse gas</u> .
National Plantation Inventory	Australia's national inventory of commercial forest plantations, a program of the National Forest Inventory.
	See <u>Commercial plantation</u> , <u>National Forest Inventory</u> .
National Reserve System	Australia's network of protected areas, conserving examples of natural landscapes and native plants and animals. The National Reserve System comprises Commonwealth, state and territory reserves, and protected areas on private land, Indigenous land, and land managed by conservation organisations.

Term	Definition and use
National Vegetation Information System (NVIS)	A system developed by the Commonwealth, state and territory governments that provides information on the extent and distribution of vegetation types.
Native (of species)	A species located within its natural range.
	See <u>Non-native (of species)</u> .
Native forest	A National Forest Inventory forest category that comprises national forest types dominated by the suite of native tree species naturally associated with forest in that location and located within their natural range.
	'Native forest' does not include forest reported in the other two national forest categories used in the National Forest Inventory, 'Commercial plantation' and 'Other forest'.
	See <u>Commercial plantation</u> , <u>National Forest Inventory</u> , <u>Native forest type</u> , <u>Other forest</u> .
Native forest type	Any one of eight broad national forest types (Acacia, Callitris, Casuarina, Eucalypt, Mangrove, Melaleuca, Rainforest, and Other native forest) into which Australia's native forests are classified in the National Forest Inventory.
	See <u>National Forest Inventory</u> .
Native Title	The recognition in Australian law that Indigenous people have rights and interests to land and waters according to their traditional law and customs. Native Title is governed by the Commonwealth <i>Native Title Act 1993</i> .
	See <u>Indigenous (of people)</u> .
Natural heritage	Components of the natural environment that have aesthetic, historic, scientific or social significance, or other significance, for current and future generations.
	See <u>Cultural heritage</u> .
Nature conservation reserve	Crown land that is formally reserved for environmental, conservation and recreational purposes, including national parks, nature reserves, state and territory recreation and conservation areas, and some formal reserves in state forests as defined by jurisdictions. It does not include informal reserves and those pending gazettal. The commercial harvesting of wood and non-wood forest products is generally not permitted in nature conservation reserves.
	One of six land tenure classes used to classify land in the National Forest Inventory.
	See <u>Conservation reserve</u> , <u>Crown land</u> , <u>Land tenure</u> , <u>National Forest Inventory</u> .
Net harvestable area	The net area of forest available and suitable for commercial wood production on multiple-use public native forest land after allowing for local and/or operational constraints on wood harvesting, including constraints mapped during forest operations. These constraints can include areas reserved to protect rare, fragmented or dispersed values; areas managed for purposes excluding wood harvesting; areas excluded through codes of forest practice or other regulatory instruments; areas excluded due to operational constraints; and areas found to be unsuitable for wood production.
Non-bole log	Log taken from the main trunk or branches of a tree above the crown break (the height of the first major branch). The non-bole material in mature trees is additional to the sustained yield.

Term	Definition and use
Non-forest	Vegetation communities and habitats that are not forest, including marine environments, alpine meadows, other woody vegetation (including sparse woody vegetation, heathland and shrubland), grassland, non-forest waterways and wetlands, rock outcrops, mudflats and farmland.
	See <u>Forest</u> , <u>Habitat</u> , <u>Sparse woody vegetation</u> , <u>Vegetation community</u> , <u>Wetland</u> .
Non-forest land	Land that does not carry forest. Land on which forest is regrowing or will regrow under current management is classified as forest land.
	See <u>Forest land</u> .
Non-legally binding instrument	A policy, recommendation or guideline, or a system of policies, recommendations and/or guidelines, with a defined intention that they be abided by to achieve a desired outcome, but without legal penalties for non-compliance.
	See <u>Legally binding instrument</u> .
Non-merchantable tree species	A tree species with no currently known commercial uses for wood products, based on standards, technology or market conditions.
	See <u>Merchantable tree species</u> .
Non-native (of species)	A species located outside its natural range.
	See <u>Native (of species)</u> .
Non-production native	Native forest that is not managed for commercial wood production.
forest	See <u>Production forest</u> .
Non-vascular plant	A plant without a water-conducting system, such as algae, liverworts and mosses.
	See <u>Vascular plant</u> .
Non-wood forest product (NWFP)	A product of biological origin, other than wood, derived from forests, including game animals, seeds, berries, chemical products, mushrooms, oils, foliage, medicinal plants, flowers, fodder, and wood and non-wood Indigenous artefacts.
	See <i>Wild harvest</i> .
NVIS	See <u>National Vegetation Information System (NVIS)</u> .
NWFP	See <u>Non-wood forest product (NWFP)</u> .
o	
Old-growth forest	Ecologically mature forest where the effects of past disturbances are now negligible.
	See <u>Ecologically mature</u> , <u>Mature</u> , <u>Senescent</u> .

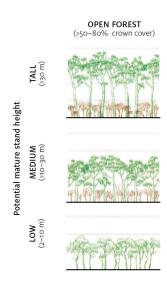
#### Term

#### **Definition and use**

## **Open forest**

As a National Forest Inventory cover class, forest in which the tree crowns cover from over 50% to 80% of the land area.

See *Closed forest*, *Crown cover*, *National Forest Inventory*, *Woodland forest*.



Source: Adapted from Australian Land Information Group and JA Carnahan (1990). *Atlas of Australian Resources, Vegetation*. Australian Government Publishing Service, Canberra.

### **Other Crown land**

Crown land reserved for a variety of purposes, including utilities, scientific research, education, stock routes, mining, water-supply catchments, and use by Indigenous communities. Excludes leasehold forest, nature conservation reserve, and multiple-use public forest.

One of six land tenure classes used to classify land in the National Forest Inventory.

See <u>Crown land</u>, <u>Land tenure</u>, <u>National Forest Inventory</u>.

## Other forest

A National Forest Inventory forest category that principally comprises non-commercial plantations and planted forests that are not reported through the National Plantation Inventory but that satisfy the definition of forest.

'Other forest' includes agroforestry plantations, sandalwood plantations, environmental plantings, plantations within the reserve system, and plantations regarded as not commercially viable. Non-planted forests dominated by introduced species are also included in this category.

'Other forest' does not include forest reported in the other two national forest categories, 'Commercial plantation' and 'Native forest'.

See <u>Agroforestry</u>, <u>Commercial plantation</u>, <u>Environmental planting</u>, <u>Forest</u>, <u>Introduced</u> <u>species</u>, <u>National Forest Inventory</u>, <u>Native forest</u>, <u>Plantation</u>, <u>Sandalwood</u>.

## Other log products

Low-quality sawlogs, girders, poles, piles, wood used in mines, split and round posts, bush sawn/hewn timber and sleepers, fuelwood logs and firewood, and other logs that are not sawlogs (including sliced veneer sawlogs) or pulplogs. This category can also include other log types if not included elsewhere, such as peeled veneer logs.

Differs from the category 'Other wood products' in including fuelwood logs and firewood.

See Other wood products.

Term	Definition and use
Other native forest	As a national native forest type used by the National Forest Inventory, one of several types of forest of minor extent such as those dominated by trees of the genera <i>Agonis</i> , <i>Atalaya</i> , <i>Banksia</i> , <i>Hakea</i> , <i>Grevillea</i> , <i>Heterodendron</i> , <i>Leptospermum</i> , <i>Lophostemon</i> or <i>Syncarpia</i> , as well as native forests where the type is unknown.
	See <u>Commercial plantation</u> , <u>National Forest Inventory</u> , <u>Native forest</u> , <u>Native forest type</u> .
Other special rights	A National Forest Inventory category of land or forest subject to native title determinations, registered Indigenous Land Use Agreements and legislated special cultural use provisions. Independent of tenure, these can provide Indigenous peoples and communities with the right to access areas of cultural significance, use areas for cultural purposes, or be consulted before major development activities.
	See <u>Indigenous co-managed (of land or forest)</u> , <u>Indigenous managed (of land or forest)</u> , <u>Indigenous owned (of land or forest)</u> , <u>National Forest Inventory</u> .
Other wood products	Low-quality sawlogs, girders, poles, piles, wood used in mines, split and round posts, bush sawn/hewn timber and sleepers, and other logs that are not sawlogs (including sliced veneer sawlogs) or pulplogs, but not fuelwood logs or firewood. This category can also include other log types if not included elsewhere, such as peeled veneer logs.
	Differs from the category 'Other log products' in excluding fuelwood logs and firewood.
	See <u>Other log products</u> .
Other woody vegetation	See <u>Sparse woody vegetation</u> .
Outrow	A row of trees felled in a plantation, including to allow travel of machinery.
Over-mature	See <u>Senescent</u> .
Overstorey	1. The uppermost layer of foliage in a forest.
	2. Trees occupying the uppermost layer in a forest of more than one layer (storey).
P	
Parasitoid	An organism that spends a significant proportion of its life attached to or within a single host organism, and that ultimately kills (and often consumes) the host. Used to limit numbers of insect pests in commercial plantations.
Particleboard	A panel product made by compressing wood particles (usually from softwood) and resin under heat and pressure, commonly used in flooring and joinery.
	See <i>Fibreboard</i> , <i>Reconstituted wood products</i> .
Patch (of vegetation)	Basic unit of a landscape vegetation mosaic.
Pattern (of vegetation)	The spatial arrangement or configuration of types of vegetation, including forest, across the landscape.
Peeler log	A log suitable for rotary peeling to produce veneer. Excludes veneer logs used to produce sliced veneer.
	See <u>Rotary peeling</u> , <u>Veneer log</u> .

Term	Definition and use
Phenotype	The set of observable characteristics or traits of an organism, resulting from the interaction of its genotype with the environment.
	See <u>Genotype</u> .
Phloem	A tissue in vascular plants that transports soluble organic compounds (e.g. sugars) from the leaves to other parts of the plant.
	See <u>Cambium</u> , <u>Vascular plant</u> , <u>Xylem</u> .
Photosynthesis	A process in plants in which energy from sunlight and carbon dioxide from the air are used to produce plant matter, releasing oxygen.
Phytophthora	1. A soil-based disease (root-rot) that infects plant roots causing damage and dieback.
	<ol> <li>An oomycete (water mould) that causes root-rot of plants, and consequent dieback.</li> <li>See <u>Dieback</u>.</li> </ol>
Pile (wood product)	A roundwood product that meets specified marine durability requirements and is used principally for wharves and to support the framework of buildings in a marine environment.
Pine	1. A true pine is any tree of the genus <i>Pinus</i> in the family Pinaceae.
	<ol> <li>Can also refer to a tree of other conifer families, such as Araucariaceae (hoop pine, Wollemi pine), Cupressaceae (cypress pine, King Billy pine) and Podocarpaceae (Huon pine, plum pine, celery-top pine).</li> </ol>
	See <u>Conifer</u> , <u>Softwood</u> .
Planned fire	Fire started in accordance with a fire management plan or planned burning program, such as fuel-reduction burning or prescribed burning.
	See <u>Backburning</u> , <u>Fuel-reduction burn</u> , <u>Prescribed burning</u> , <u>Prescribed fire</u> , <u>Unplanned fire</u> .
Plant community	See <u>Vegetation community</u> .
Plantation	Intensively managed stand of trees of either native or exotic species, created by the regular placement of seedlings or seeds. Commercial plantations are managed for the purpose of commercial wood production.
	See <u>Agroforestry</u> , <u>Commercial plantation</u> , <u>Environmental planting</u> , <u>Other forest</u> .
Planted forest	Forest comprising planted trees. For international reporting purposes, the National Fores Inventory categories 'Commercial plantation' and 'Other forest' (but excluding forests of naturalised exotic species) comprise Australia's 'planted forest'.
	See <u>Agroforestry</u> , <u>Commercial plantation</u> , <u>National Forest Inventory</u> , <u>Other forest</u> .
Plywood	A panel product made by gluing together veneers of wood under heat and pressure, commonly used in construction and joinery.
	See <u>Rotary peeling</u> , <u>Veneer</u> .

Term	Definition and use
Pole	A roundwood product generally treated with preservatives that is used to support transmission lines or as a structural member in pole-frame building construction.
Post	A wood product from durable hardwood or treated softwood species that is used in an upright support role and meeting specifications for a range of functions.
Prescribed burning	The controlled application of fire under specified environmental conditions to a predetermined area and at a time, intensity and rate of spread required to attain planned resource management objectives.
	See <u>Planned fire</u> , <u>Prescribed fire</u> .
Prescribed fire	Fire started in accordance with a fire management plan or planned burning program, such as fuel-reduction burning.
	See <u>Planned fire</u> , <u>Prescribed burning</u> .
Primary forest	Naturally regenerated forest of native tree species, where there are no clearly visible indications of human activities and where ecological processes are not significantly disturbed.
	Can describe native forest at any of the four growth stages recognised in Australia: Regeneration, Regrowth, Mature and Senescent.
	See <u>Growth stage</u> .
Private forest	Land held under freehold title and typically under private ownership. It excludes leased Crown land, but includes land held under freehold title with special conditions attached for designated Indigenous communities.
	One of six land tenure classes used to classify land in the National Forest Inventory.
	See <u>Land tenure</u> , <u>National Forest Inventory</u> .
Privately managed forest	Forest that is managed under private ownership or under private leasehold arrangements.
Production forest	Public or private forest managed for the production of wood products, whether plantation or native forest.
	See <u>Commercial plantation</u> , <u>Multiple-use public forest</u> , <u>Native forest</u> .
Productivity	Capacity of an ecosystem to grow, produce or yield products.
	2. Amount of growth or product yield per unit area per unit time.
	3. Potential annual volume growth of trees per unit area at peak mean annual increment in fully stocked forest stands managed under good silvicultural practices.
	See <u>Mean annual increment (MAI)</u> , <u>Silvicultural system</u> , <u>Stocking</u> .

Term	Definition and use
Protected area	<ol> <li>General definition in Article 2, Convention on Biological Diversity (CBD, <u>www.cbd.int</u>):     a geographically defined area that is designated or regulated and managed to achieve     specific conservation objectives.</li> </ol>
	2. Definition of the International Union for Conservation of Nature (IUCN, <u>www.iucn.org</u> ): a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.
	Some protected areas are listed under the Convention on Wetlands of International Importance (Ramsar Convention), or inscribed under the World Heritage Convention.
	See <u>CAR reserve system</u> , <u>Formal reserve</u> , <u>Indigenous Protected Area</u> , <u>Informal reserve</u> , <u>Nature conservation reserve</u> , <u>Reserve</u> .
Protection by prescription	See <u>Management by prescription</u> .
Provenance	1. The place of origin of a plant or animal.
	2. A set of individuals of a plant or animal species that originate from a particular location.
Public forest	Forest on public land.
	See <u>Public land</u> , <u>Publicly managed forest</u> .
Public land	Land belonging to the Crown, i.e. a government, but excluding land leased to private individuals or entities.
	See <u>Crown land</u> , <u>Leasehold title</u> .
Publicly managed forest	Forest on public land for which management responsibility has been delegated to government agencies. Includes multiple-use public forest, and forest on nature conservation reserves and other Crown land, but excludes forest on Crown land that has been leased to private individuals or entities.
	See <u>Crown land</u> , <u>Leasehold forest</u> , <u>Public land</u> .
Pulp	A product made from wood by chemical or mechanical separation of the fibres, and that is used to make paper.
Pulplog	A log harvested from a plantation or native forest stand that does not meet sawlog quality specifications and is designated to produce pulpwood.
	See <u>Pulpwood</u> .
Pulpwood	Wood used to manufacture pulp or paper products.
	See <u>Pulp</u> .
R	
Rainforest	As a national native forest type used by the National Forest Inventory, forest dominated by broad-leaved tree species, typically in wet or sheltered environments and with a closed canopy. Can include areas with non-rainforest species as emergents (trees emerging above the canopy), but where rainforest species dominate the character of the site.
	See <u>Canopy</u> , <u>Native forest type</u> .

Term	Definition and use
Reconstituted wood products	Products manufactured from reconstituted wood fibres or flakes, originating from sources such as woodchips, sawdust, wood shavings or sawmill off-cuts. Includes fibreboard (particleboard, medium-density fibreboard, high-density fibreboard and hardboard) and laminated products (but not laminated veneer).
	See <u>Fibreboard</u> , <u>Particleboard</u> .
Recycling	The collection, separation and processing of previously used and recovered wood fibre and wood and paper products for manufacture into raw materials or new products.
Reforestation	Establishment of forest on land that historically contained forest but was converted to some other use, such as agriculture. The Kyoto Protocol and various carbon emission reduction initiatives use specific definitions of reforestation.
	See <u>Afforestation</u> , <u>Deforestation</u> , <u>Forest</u> .
Regeneration	1. A native forest growth stage that includes juvenile and sapling stages, where trees are very small and crowns exhibit apical dominance.
	2. A native forest growth stage generally taken as less than 20 years since disturbance. One of four growth stages used at the national level to describe the age of trees and stands of trees.
	3. New trees arising naturally or with human assistance after harvesting, fire or other causes have removed all or some of the overstorey.
	<ol> <li>The process of managing a forest after disturbance to produce a regenerating forest stand.</li> </ol>
	See <u>Apical dominance</u> , <u>Disturbance</u> , <u>Growth stage</u> , <u>Mature</u> , <u>Regrowth</u> , <u>Sapling</u> , <u>Senescent</u> .
Regional Forest Agreement (RFA)	An agreement between the Australian Government and one of four state governments about the long-term management and use of forests in a region, and that meets the requirements listed in the Commonwealth <i>Regional Forest Agreements Act 2002</i> .
Regrowth	1. A native forest growth stage in which trees generally have well-developed stems with crowns of small branches, and are actively growing in height and diameter but are below mature stand height. Apical dominance is apparent in vigorous trees.
	2. A native forest growth stage generally taken as 20–80 years since disturbance. One of four growth stages used at the national level to describe the age of trees and stands of trees.
	See <u>Apical dominance</u> , <u>Disturbance</u> , <u>Growth stage</u> , <u>Mature</u> , <u>Regeneration</u> , <u>Senescent</u> .
Remote sensing	Practice of acquiring and using data from satellites or aircraft to infer or measure land cover, land use and vegetation attributes. Ground surveys may be used to check the accuracy of interpretation.
Re-sawing	Cutting timber along the grain to reduce larger boards into smaller sections.
Reserve	Areas of land managed to protect a range of values.
	See <u>CAR reserve system</u> , <u>Conservation reserve</u> , <u>Formal reserve</u> , <u>Informal reserve</u> , <u>Nature conservation reserve</u> , <u>Protected area</u> , <u>Protected by prescription</u> .
Resilience	Of an ecological system, the capacity to absorb and respond to shocks while retaining essentially the same function, structure and feedbacks, and therefore identity.

Term	Definition and use
Resolution (image)	Measurement of the output quality or detail of an image, usually given as pixel size (the size of the square areas recorded) or ground sample distance (the distance between adjacent pixel centres measured on the ground). Higher resolution means more image detail and smaller pixels; for example, an image with 1 m x 1 m pixels is of higher resolution than an image with 1,000 m x 1,000 m pixels.
Restoration	Managing a forest so that its ecological function and structure recover towards the condition that existed prior to degradation.
	See <u>Degradation</u> .
RFA	See <u>Regional Forest Agreement (RFA)</u> .
Riparian zone	The interface between land and a flowing water body such as a stream or river. Vegetation along watercourses is called riparian vegetation.
	See <i>Filter strip</i> .
River regulation	The control or modification of the natural flow of a river or stream, most commonly by the use of dams.
Rotary peeling	A method of cutting a thin sheet of wood (veneer) from a log, by spinning the log against a sharp blade of the same length. Rotary-peeled sheets (veneers) are used in the production of plywood and elsewhere.
	See <u>Laminated Veneer Lumber (LVL)</u> , <u>Peeler log</u> , <u>Plywood</u> , <u>Veneer</u> .
Rotation	The planned number of years between regeneration or establishment of a stand of trees, and final harvesting. Rotation length is used in forest management planning to determine sustainable yield.
	See <i>Harvesting</i> , <i>Regeneration</i> , <i>Sustainable yield</i> .
Roundwood	Wood in round form, namely logs from the bole and larger branches. Includes sawlogs, pulplogs, poles, piles and posts.
Royalties	The fees paid to a forest owner for the right to fell and remove wood, originally payable to the Crown but now to any forest owner.
	See <u>Stumpage</u> .
Runoff	Rain that flows across the surface of the ground rather than infiltrating the soil. A major cause of soil erosion by water.
	See <i>Filter strip</i> .
Rut	A depression or groove worn into a snig track, path or road by machinery or erosion by water. Typically, rutting is reported in terms of rut depth.
	See <u>Snig track</u> .
S	
Salinisation	The process by which salinity levels increase, such as in soils and streams when saline groundwater rises towards the surface following the clearing of forested land for use as farm land.

Term	Definition and use
Salinity	The amount of salt in water or soil.
Salvage harvesting	The harvest of trees that are dead or dying as a result of insect attack, disease, drought, fire or other factors.
	See <u>Harvesting</u> .
Sandalwood	A native tree (e.g. <i>Santalum spicatum, S. lanceolatum</i> ) or exotic tree (e.g. <i>S. album</i> ) in the family Santalaceae, which yields fragrant timber and oil.
Sapling	A young tree beginning to develop branches and increase in height.
Savanna	A tropical or subtropical, woodland/grassland ecosystem in which trees are sufficiently widely spaced that adjacent tree crowns are not in contact. Typically, rainfall is seasonal, and dry-season fires are frequent.
	In the National Forest Inventory, areas of savanna where crown cover reaches or exceeds 20% are classified as woodland forest, whereas areas of savanna where crown cover does not reach 20% are classified as non-forest (and, more specifically, as 'Sparse woody vegetation').
	See <u>Crown cover</u> , <u>Forest</u> , <u>National Forest Inventory</u> , <u>Sparse woody vegetation</u> , <u>Woodland forest</u> .
Sawlog	Log used to manufacture sawn timber. High-quality sawlogs are sawlogs meeting specified size and grade specifications (including the amount of permissible defect). Low-quality sawlogs are sawlogs not meeting high-quality sawlog specifications.
	See <u>Sawn timber</u> .
Sawmill	A wood-processing facility in which logs are sawn by specialised machinery into timber such as boards.
	See <u>Sawlog</u> .
Sawn timber	Timber produced by sawing logs into particular sizes. Also known as sawnwood.
Sclerophyll	A description of plants or vegetation that have leaves that are tough, hard or short, such as eucalypts and acacias, and are adapted to dry or nutrient-poor conditions.
	See <u>Dry forest/dry sclerophyll forest</u> , <u>Wet forest/wet sclerophyll forest</u> .
Seed orchard	A stand of trees planted and managed specifically for the production of genetically superior seeds.
Seed tree	A tree left standing in a harvested area for the purpose of providing seed for natural regeneration.
	See <u>Regeneration</u> , <u>Seed-tree silviculture</u> .
Seedling	A young tree growing from a seed, before it begins to grow branches, increase in height, and become a sapling.
	See <u>Sapling</u> .

#### Term

### **Definition and use**

### Seed-tree silviculture

A native forest silvicultural system in which trees are retained in a harvested area to provide seed for natural regeneration.

See *Harvesting*, *Regeneration*, *Seed tree*, *Silvicultural system*.

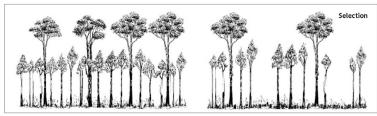


Source: Adapted from original artwork by Fred Duncan in Wilkinson (1994).

#### **Selection harvesting**

A native forest silvicultural system in which trees (typically those of a specified size or growth stage) are removed singly or in groups, while other trees (such as regrowth, saplings, pole stems or habitat trees) are retained. Generally used in uneven-aged stands.

See <u>Group selection</u>, <u>Harvesting</u>, <u>Sapling</u>, <u>Silvicultural system</u>, <u>Single tree/small group selection</u>, <u>Uneven-aged forest</u>.



Source: Adapted from original artwork by Fred Duncan in Wilkinson (1994).

## Senescent

- 1. A native forest growth stage older than mature, when irregular crowns form (sometimes referred to as 'over-mature').
- A native forest growth stage at various ages after 80 years since disturbance. One of four growth stages used at the national level to describe the age of trees and stands of trees.

See <u>Disturbance</u>, <u>Growth stage</u>, <u>Mature</u>, <u>Regeneration</u>, <u>Regrowth</u>.

## SFM

### See <u>Sustainable forest management (SFM)</u>.

### **Shelterwood**

A native forest silvicultural system of securing natural tree regeneration under a partially harvested overstorey, which is subsequently removed by subsequent harvest(s) to allow seedlings and young regeneration to occupy the site.

See Harvesting, Overstorey, Regeneration, Seedling, Silvicultural system.



Source: Adapted from original artwork by Fred Duncan in Wilkinson (1994).

Shrubland A non-forest vegetation type dominated by woody plants that are single-stemmed or multi stemmed. Shrubland above 2 metres tall and containing a tree component can also be classified as "Sparse woody vegetation".  See Heathind, Sparse woody vegetation.  Silvicultural system  A method used in managing forest establishment, composition, growth, harvesting and regeneration.  Also known as a silvicultural practice.  See Agareagated retention, Clearfelling, Group selection, Horvesting, Regeneration, Seed-tree silviculture, Selection harvesting, Shelterwood, Silviculture, Single tree/small group selection, Variable retention.  Silviculture  The art, science and technology of managing forests to achieve specified forest management objectives.  Single tree/small group ages are harvested. This method is suitable for promoting regeneration of shade-tolerant species, or growth of preferred species or individual trees.  See Harvesting, Regeneration, Selection harvesting, Silvicultural system.  Skeletal soils  Shallow soils, usually on ridges or steep slopes.  Silviculture also shallow soils, usually on ridges or steep slopes.  Sing track  A track along which logs are pulled (snigged) or conveyed from the place where the tree is felled to a nearby log landing or point of loading; also known as an extraction track. See Harvesting.  Softwood  Wood or wood products from conifers, irrespective of the physical softness of the wood. Also refers to trees that have such wood, and plantations of such trees.  See Conifer, Hardwood.  Soil compaction  A reduction in soil volume without loss of soil, leading to poor soil aeration, reduced drainage, and impeded root development.  Soil degradation  Lowering of the current and/or future capacity of the soil to support existing forest vegetation and ecosystems.  Soil erosion hazard  The susceptibility of soil to erosion, combining soil properties.  Soil moisture regime  The spatial distribution and annual variation in water availability in a soil profile.	Term	Definition and use
Siltation   Deposition of silt (fine soil and mineral matter), usually related to the degradation of watercourses due to soil erosion.    Silvicultural system	Shrubland	multi-stemmed. Shrubland above 2 metres tall and containing a tree component can also
Silvicultural system  A method used in managing forest establishment, composition, growth, harvesting and regeneration.  Also known as a silvicultural practice.  See Agareaded retention, Clearfellina, Group selection, Harvestina, Regeneration, Seed-tree silviculture, Selection harvestina, Shelterwood, Silviculture, Single tree/small groups selection, Variable retention.  Silviculture  The art, science and technology of managing forests to achieve specified forest management objectives.  Single tree/small group ages are harvested. This method is suitable for promoting regeneration of shade-tolerant species, or growth of preferred species or individual trees.  See Harvestina, Regeneration, Selection harvestina, Silvicultural system.  Skeletal soils  Shallow soils, usually on ridges or steep slopes.  Siash  Tree debris (e.g. branches, bark) left on site following harvesting events.  See Harvesting.  See Harvesting.  Soil track  A track along which logs are pulled (snigged) or conveyed from the place where the tree is felled to a nearby log landing or point of loading; also known as an extraction track. See Log landing.  Softwood  Wood or wood products from conifers, irrespective of the physical softness of the wood. Also refers to trees that have such wood, and plantations of such trees. See Conifer, Hardwood.  Soil compaction  A reduction in soil volume without loss of soil, leading to poor soil aeration, reduced drainage, and impeded root development.  Soil degradation  Lowering of the current and/or future capacity of the soil to support existing forest vegetation and ecosystems.  Soil erosion hazard  The susceptibility of soil to erosion as a result of soil properties, site and climate factors, and management practices. Site factors can include slope, aspect, vegetation and drainage.		See <u>Heathland</u> , <u>Sparse woody vegetation</u> .
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	Soil moisture regime	The spatial distribution and annual variation in water availability in a soil profile.

Term	Definition and use
Sparse woody vegetation	A non-forest vegetation type of open woodland, heathland or shrubland, generally containing a tree component with actual or potential tree height greater than 2 metres, but either tree crown cover of 5–20%, or cover of trees less than 5% but combined cover of shrubs and trees greater than 10%.
	Previously known as 'Other woody vegetation'.
	See <u>Crown cover</u> , <u>Heathland</u> , <u>Shrubland</u> .
Species	1. A taxonomic rank underneath genus.
	<ol> <li>A biological classification comprising related organisms that share similar characteristics derived from a common gene pool, and that breed to produce fertile offspring.</li> </ol>
	See <u>Genus</u> , <u>Subspecies</u> , <u>Taxon</u> .
Species diversity	The variety of species in an ecosystem.
	See <u>Biodiversity</u> , <u>Ecosystem diversity</u> , <u>Genetic diversity</u> .
SPOT (Satellite Pour l'Observation de la Terre)	A commercial satellite with a high-resolution geometric multi-spectral scanning radiometer providing optical imaging information of the Earth's entire surface. SPOT data provide information on vegetation cover and vegetation change (e.g. after fire).
Stand	A contiguous area within a forest that contains a cohort of trees that have a common set of characteristics. Normally a stand will be described or managed as a single unit.
Standing volume	The volume (excluding branches) above stump height of living or dead standing trees above a certain size in an area of forest at a given time. Differs from growing stock in including standing dead trees.
State forest	General term for public forest managed by state governments for multiple purposes, including the production and harvesting of wood. Most State forest is included in the National Forest Inventory tenure class 'Multiple-use public forest'.
	See <u>Multiple-use public forest</u> , <u>National Forest Inventory</u> , <u>Publicly managed forest</u> .
Stocking	The density of an area of a forest stand measured as the number of trees, tree basal area or wood volume per unit area, or as the proportion of crown closure. Can apply to stocking of retained trees after harvesting, or to the adequacy of seedling regeneration or planted stock.
	See <u>Basal area</u> , <u>Harvesting</u> , <u>Regeneration</u> , <u>Stand</u> .
Stumpage	The price that a private firm pays a landowner for the right to harvest wood from that land.
	See <u>Royalties</u> .
Subspecies	A taxonomically recognised subdivision of a species.
	See <u>Species</u> , <u>Taxon</u> .
Subtropical forest	Forests found in regions located between tropical and temperate zones.
	See <u>Boreal forest</u> , <u>Temperate forest</u> , <u>Tropical forest</u> .

Term	Definition and use
Sustainable development	Development that meets current needs without compromising the ability of future generations to meet their own needs.
Sustainable forest management (SFM)	<ol> <li>A set of objectives, activities and outcomes consistent with maintaining or improving a forest's ecological integrity and contributing to people's wellbeing now and in the future.</li> </ol>
	2. The practice of stewardship and use of forests and forest lands in such a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity and vitality, and their potential to fulfil, now and in the future, relevant ecological, economic and social functions at local, national and global levels, and that does not cause damage to other ecosystems.
	See <u>Ecologically sustainable forest management (ESFM)</u> , <u>Ecosystem</u> , <u>Productivity</u> , <u>Regeneration</u> .
Sustainable yield	The yield of products (e.g. wood, water) from an area of forest that ensures that the functioning of the forest ecosystem as a whole is maintained and the flow of products can continue indefinitely under a given management strategy and suite of sustainable-use objectives.
	See <u>Ecosystem</u> .
Sustained yield	In regards to wood, the yield that a forest area can produce continuously at a given intensity of management without impairment of the productivity of the land for a given period of time.
	See <u>Productivity</u> .
Т	
Taxon	Any taxonomic unit in the classification of plants and animals (e.g. a subspecies, species or genus). Plural: taxa.
	See <u>Genus</u> , <u>Species</u> , <u>Subspecies</u> .
Temperate forest	Forests found in the warmer regions of the northern and southern hemisphere but outside the subtropical and tropical zones, characterised by high levels of precipitation and humidity. Comprises warm-temperate and cool-temperate forests.
	See <u>Boreal forest</u> , <u>Subtropical forest</u> , <u>Tropical forest</u> .
Tenure	Title to land as controlled by legislation.
	See <u>Land tenure</u> .
Thinning	The removal of some trees from a forest stand. Trees remaining after a thinning operation generally grow more rapidly.
	See <u>Silvicultural system</u> .
Threat	A natural, human-induced or human-exacerbated factor or process that increases the risk to a species of population reduction or extinction, or that creates a significant risk to the persistence or integrity of an ecological community, or that impairs the ecosystem services or functioning of a particular area or site.
	See <u>Ecological community</u> , <u>Threatening process</u> .

Term	Definition and use
Threatened ecological community	An ecological community listed in any one of the following categories defined in the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> : Critically endangered, Endangered or Vulnerable.
	See <u>Critically endangered species/ecological community</u> , <u>Ecological community</u> , <u>Endangered species/ecological community</u> , <u>Vulnerable species/ecological community</u> .
Threatened species	A species of native flora or fauna listed in any one of the following categories defined in the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> : Extinct, Extinct in the wild, Critically endangered, Endangered or Vulnerable.
	See <u>Critically endangered species/ecological community</u> , <u>Endangered species/ecological community</u> , <u>Extinct in the wild</u> , <u>Vulnerable species/ecological community</u> .
Threatening process	A natural, human-induced or human-exacerbated process that increases the risk to a species of population reduction or extinction, or is a significant risk to the persistence or integrity of an ecological community. Can be identified as a historical, current or future threat in listing or conservation advice of a threatened ecological community or species.
	See <u>Ecological community</u> , <u>Key threatening process</u> , <u>Threat</u> .
Timber	Wood products, usually square or rectangular in cross-section, milled from logs and that conform to industry grades, standards or specifications.
Traditional Owner	An Aboriginal and Torres Strait Islander group, people or community with traditional ownership of an area of country that has clear boundaries from the country of other groups. Traditional Owners have common social, cultural and spiritual affiliation and responsibility for their land, and usually have rights to access and guide the management of that land.
	See <u>Indigenous (of people)</u> , <u>Indigenous estate (land or forest)</u> .
Transpiration	A process whereby water is lost from plants through evaporation, generally at the leaf surface.
	See <u>Phloem</u> , <u>Xylem</u> .
Tree	A perennial plant with a self-supporting woody stem or trunk which usually develops woody branches. Also applied to multi-stemmed eucalypt mallees.
	See <u>Mallee</u> .
Tree crown	See <u>Crown (tree)</u> .
Tropical forest	Forests found in regions close to the equator characterised by high regular rainfall, and with a closed canopy of trees.
	See <u>Boreal forest</u> , <u>Subtropical forest</u> , <u>Temperate forest</u> .
Turbidity	The degree to which the clarity of water is reduced by suspended solids, silt, sediments or organic matter.
U	
Understorey	Layer or layers of vegetation beneath the main canopy or overstorey of a forest.
•	See <u>Canopy</u> , <u>Overstorey</u> .

Term	Definition and use
Uneven-aged forest	Forest with trees of more than one age or age class present on the same site.  See <i>Even-aged forest</i> .
Unplanned fire	Fire started naturally (such as by lightning), accidentally, or deliberately (such as by arson), but not in accordance with planned fire management prescriptions. Also called bushfire or wildfire.
	See <u>Planned fire</u> .
Unresolved tenure	Land where data are insufficient to determine land ownership status.
	One of six land tenure classes used to classify land in the National Forest Inventory.
	See <u>Land tenure</u> , <u>National Forest Inventory</u> , <u>Tenure</u> .
Urban forest	Broadly, a forest or an area of trees growing in an urban area, such as a city, town or suburb.
Urban forestry	The management of forests, areas of trees and individual trees in urban communities for the benefits provided to society.
v	
Value-adding	The process of converting timber or other forest products into one or more higher-value products.
Variable retention	A native forest silvicultural system alternative to clearfelling, that is designed to meet both harvest objectives and ecological objectives through the retention of trees within an area planned for harvest, with the amount and configuration of retention dependent upon the silvicultural objectives for the stand.
	See <u>Aggregated retention</u> , <u>Clearfelling</u> , <u>Harvesting</u> , <u>Silvicultural system</u> .
Vascular plant	A plant with conducting tissue (comprising xylem and phloem) that transports water, mineral salts and sugars. Includes clubmosses, horsetails, ferns, gymnosperms (including conifers) and angiosperms (flowering plants).
	See <u>Angiosperm</u> , <u>Gymnosperm</u> , <u>Non-vascular plant</u> , <u>Phloem</u> , <u>Xylem</u> .
Vegetation community	A group of plant species inhabiting a particular area and interacting with each other, especially through biotic relationships, relatively independently of other plant communities.
	See <u>Community (ecological)</u> .
Veneer	Thin sheets of wood, usually thinner than 3 millimetres, which can be glued and pressed to make plywood, or glued and pressed onto core panels (typically wood, particleboard or medium-density fibreboard) to produce panels. Can be produced by slicing or peeling logs.
	See <u>Fibreboard</u> , <u>Particleboard</u> , <u>Peeler log</u> , <u>Plywood</u> , <u>Rotary peeling</u> , <u>Veneer log</u> .
Veneer log	A log suitable for producing sliced veneer sheets. Excludes peeler logs used to produce rotary-peeled veneer.
	See <u>Peeler log</u> , <u>Veneer</u> .

Term	Definition and use
Vulnerable species/ ecological community	A native species/ecological community facing a high risk of extinction in the wild in the medium-term future. One of the categories of threatened species/ecological communities defined in the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
	See <u>Critically endangered species/ecological community</u> , <u>Ecological community</u> , <u>Endangered species/ecological community</u> , <u>Extinct</u> , <u>Extinct in the wild</u> , <u>Threatened ecological community</u> , <u>Threatened species</u> .
w	
Water quality	A property of water derived from the level of nutrients, particles and chemicals contained in water. Low levels of these components are associated with high water quality.
Water yield	The amount of water that flows out of a catchment (drainage basin).
	See <u>Catchment</u> .
Watercourse	A natural or artificial water drainage channel. A watercourse may carry surface water flows intermittently or permanently.
Watershed	The dividing line between two catchments (drainage basins).
	See <u>Catchment</u> .
Watertable	The underground level at which the ground is saturated with water, where the water pressure is equal to atmospheric pressure.
Wet forest/wet sclerophyll forest	Typically, eucalypt-dominated sclerophyll forest (not dry forest or rainforest) associated with moist (mesic) conditions, and with an understorey (if present) dominated or co-dominated by rainforest species or non-sclerophyll shrubs.
	See <u>Dry forest/dry sclerophyll forest</u> , <u>Eucalypt</u> , <u>Rainforest</u> , <u>Sclerophyll</u> , <u>Understorey</u> .
Wetland	Areas of swamp, marsh, fen, peatland or mangrove, whether natural or artificial, and permanent or temporary, with water that is static or flowing, and fresh, brackish or salt.
	Forest wetlands are wetland ecosystems where forests are present.
	See <u>Mangrove</u> .
Wild harvest	Commodity or product harvested from the wild, including farming of wildlife and feral animals.
	See <u>Non-wood forest product (NWFP)</u> .
Wilderness	Land that, together with its plant and animal communities, has not been substantially modified by, and is remote from, the influences of European settlement, or is capable of being restored to such a state; is of sufficient size to make its maintenance in such a state feasible; and can provide opportunities for solitude and self-reliant recreation.
Wildfire	See <u>Bushfire</u> .
Wildlife corridor	An area or strip of suitable habitat connecting wildlife populations otherwise separated by human activities.
	See <u>Connectivity</u> , <u>Fragmentation</u> .

Term	Definition and use
Wildling	A plant of a plantation tree species that has grown independently in forest or land adjoining the plantation.
Windthrow	Trees uprooted or broken as a result of severe wind associated with storms; the process of uprooting or breaking trees in this way.
	See <u>Disturbance</u> .
Wood	The hard, fibrous, underbark component of the stem and/or branches of a tree, often suitable for conversion into products.
Woodchips	Small chips of wood produced from logs for use in fibre products or for conversion to pulp for paper manufacture.
Woodland forest	As a National Forest Inventory cover class, native forest in which the tree crowns cover between 20% and 50% of the land area.
	See <u>Closed forest</u> , <u>Crown cover</u> , <u>National Forest Inventory</u> , <u>Open forest</u> , <u>Sparse</u>
	<u>woody vegetation</u> .  WOODLAND FOREST
	(20–50% crown cover)
World Heritage	Source: Adapted from Australian Land Information Group and JA Carnahan (1990).  Atlas of Australian Resources, Vegetation. Australian Government Publishing Service, Canberra.
World Heritage	Areas deemed to have outstanding universal value for humankind under an international convention (the World Heritage Convention) to which Australia is a signatory.
x	
Xylem	A tissue in vascular plants that transports water and dissolved mineral nutrients upwards from the roots. Secondary xylem forms the woody component of trees.
	See <u>Cambium</u> , <u>Phloem</u> , <u>Vascular plant</u> , <u>Wood</u> .
Y	
Yield association	A grouping of forest types that display similar commercial attributes of merchantability and productivity.
	See <u>Merchantability</u> , <u>Productivity</u> .

