

GLOSSARY OF TERMINOLOGY

Airshed – An air shed is a part of the atmosphere that behaves in a coherent way with respect to the dispersion of emissions. It typically forms an analytical or management unit (Australian Bureau of Statistics, 2013)

Analysis Block – A polygon defined spatially using boundaries such as railways, major tracks, watercourses and water bodies. Used to estimate potential burn blocks for modelling fuel treatments.

Asset Protection Zones (APZ) – A class of fire management zone. An area of highest level of strategic protection and fuel management. Regular fuel reduction should be undertaken in this zone (Ellis, et al., 2004; Fire Management Section, Parks and Wildlife Service, 2012)

Asset Zones – A class of fire management zone. The location of assets of high value or importance (Ellis, et al., 2004; Ellis, et al., 2004)

Aurora Energy (Aurora) – Tasmanian government-owned electricity distributor and retailer.

Australasian Fire Authorities Council (AFAC) – The peak representative body for fire, emergency services and land management agencies in the Australasian region. It develops and promotes national standards for the fire industry.

Australasian Inter-service Incident Management System (AIIMS) – A system of incident control used by all Australian fire agencies.

Burn Plan – The plan which is approved for the conduct of planned burning. It contains a map identifying the area to be burnt and incorporates the specifications and conditions under which the operation is to be conducted (Australasian Fire and Emergency Service Authorities Council, 2012).

Burning Window – Period in which fuel reduction burning could potentially occur, based on a simple set of weather parameters defined by planned burning guidelines (Marsden-Smedley, 2009).

Burn-P3 – Simulation model used to evaluate bushfire susceptibility over large fire-prone landscapes, using Prometheus to model fire growth. Developed by the Canadian Forest Service (CFS).

Bushfire Mitigation Planning – The design and implementation of strategies to reduce bushfire risk through hazard treatment.

Bushfire Prone Area – Land that is within the boundary of a bushfire-prone area shown on an overlay on a planning scheme map or where there is no overlay on a planning scheme map, or where the land is outside the boundary of a bushfire-prone area shown on an overlay on such a map, land that is within 100m of an area of bushfire prone vegetation equal to or greater than 1 hectare (Tasmanian Planning Commission, 2012)

Bushfire Risk Assessment Model (BRAM) – Was developed by the Fire Management Section of the Parks and Wildlife Service. The aim of the model is identify bushfire risk at a strategic level as well as to identify the elements driving actual bushfire risk.

Bushland – Land which supports remnant vegetation or land which is disturbed but still retains a predominance of the original floristics and structure (Draper & Richards, 2009).

Communication Strategy – A part of the Tasmanian government project management process to ensure that stakeholders and project managers communicate effectively (Department of Premier and Cabinet, 2011).

Convection – As applied in meteorology, atmospheric motions that are predominantly vertical, resulting in vertical transport and mixing of atmospheric properties (Australasian Fire and Emergency Service Authorities Council, 2012).

Crown – Land belonging to the state, crown land in Tasmania is managed by various Government agencies.

Curing – A measure of the amount of dryness in fine fuels expressed as a percentage (0% cured=green; 100% cured=totally dry). Used to calculate the Fire Danger Index and predict fire behaviour in grasslands using the McArthur Grassland Fire Danger Meter.

Drought Factor – Is given as a number between 0 and 10 and represents the influence of recent temperatures and rainfall events on fuel availability (Griffiths, 1998).

Ecosystem – The interacting system of a biological community, both plant and animal, and its non-living surroundings.

Ember – Glowing particles cast from the fire (Australasian Fire and Emergency Service Authorities Council, 2012).

Ember Density – Number of embers per square metre for each output cell modelled in phoenix.

Environmental Protection Authority (EPA) – Is Tasmania's principal environmental regulator, administers the Environmental Management and Pollution Control Act 1994 and is an integral part of Tasmania's Resource Management and Planning System.

Fire Access Track – A track constructed and/or maintained expressly for fire management purposes (Australasian Fire and Emergency Service Authorities Council, 2012).

Fire Boundaries – Outer boundary of bushfire or fuel reduction burn usually captured as a polygon which may contain holes to indicate 'islands' of unburnt area.

Fire Break – see Fuelbreak

Fire Danger Rating – A relative number denoting an evaluation of rate of spread, or suppression difficulty for specific combinations of fuel, fuel moisture and wind speed.

Fire Intensity – see Fireline Intensity

Fire Management – All activities associated with the management of fire-prone land, including the use of fire to meet land management goals and objectives.

Fire Management Area – An area of the state declared by notice published in the Gazette to be a Fire Management Area. There are 10 Fire Management Areas declared for Tasmania.

Fire Management Area Committee (FMAC) – A committee established under Section 18 of the Fire Service Act 1979 to coordinate fire management activities within its Fire Management Area, including community education and information and fuel management. Committees are to identify and assess community bushfire risks to prioritise strategic works, captured in an annual Fire Protection Plan.

Fire Management Zone Scenario – A tenure-blind fuel treatment scenario using a combination of fuel reduction burning in the Asset Protection and Strategic Fuel Management Zones.

Fire Regime – The history of fire use in a particular vegetation type or area including the frequency, intensity and season of burning. It may also include proposals for the use of fire in a given area.

Fire Season – The period during which bushfires are likely to occur, spread and do sufficient damage to warrant organised fire control. In Tasmania the length of the season varies from year to year.

Fire Size – Phoenix modelled fire size, defined as any output cells greater with a recorded intensity of greater than 0 kW/m.

Fire Tolerant Vegetation – see Treatable Vegetation

Fire Trail – see Fire Access Track

Fireline Intensity – The rate of energy release per unit length of fire front usually expressed in kilowatts per metre (kW/m) (Australasian Fire and Emergency Service Authorities Council, 2012).

FireScope – A model for simulation theoretical long-term fire regimes in topographically complex landscapes.

Flame Depth – The depth of the zone within which continuous flaming occurs behind the fire edge (Australasian Fire and Emergency Service Authorities Council, 2012).

Flame Height – The average maximum vertical extension of flames at the leading edge of the fire front (Australasian Fire and Emergency Service Authorities Council, 2012).

FMA Selection method – Process of selecting Analysis Blocks whereby Analysis Blocks in each Fire Management Area are selected proportionally to their total treatable area.

Forecast.IO – A global weather service website that includes a time machine for exploring the weather in the past.

Forest Fire Danger Index (FFDI) – A relative number denoting an evaluation of rate of spread, or suppression difficulty for specific combinations of fuel, fuel moisture and wind speed in dry forest vegetation.

Forest Industries Association of Tasmania – Is an employer body which was formed in 1983 to represent the interest of processors of Tasmanian forest products

Forest Practices Authority – The Forest Practices Authority is an independent statutory body that administers the Tasmanian forest practices system on both public and private land.

Forestry Corporation – see Forestry Tasmania

Forestry Tasmania (FT) – The government business enterprise with statutory responsibility for the management of State forest land.

Fuel Age – A term used to describe fuel build up in response to the amount of time since the last fire occurred.

Fuel – Any material such as grass, leaf litter and live vegetation which can be ignited and sustains a fire. Fuel is usually measured in tonnes per hectare (Australasian Fire and Emergency Service Authorities Council, 2012).

Fuel Hazard – An assessment of fuel arrangement and its effects on bushfire behaviour (Hines, et al., 2010).

Fuel Moisture – The water content of a fuel particle expressed as a percent of the oven dry weight of the fuel particle (%ODW).

Fuel Reduction Burn – The planned use of fire to reduce fuels with the aim of reducing the intensity and spread of bushfires in subsequent years. Fuel-reduction burning is but one form of ‘prescribed burning’ (Adams & Attiwill, 2011).

Fuel Treatment – For the purposes of this report, Fuel Treatment is limited to Fuel Reduction burning.

Fuelbreak – A natural or manmade change in fuel characteristics which affects fire behaviour so that fires burning into them can be more readily controlled (Australasian Fire and Emergency Service Authorities Council, 2012).

Generalized Linear Mixed Model (GLMM) – Class of models that incorporates random effects into the linear predictor of a generalized linear model (GLM) (McCulloch & Searle, 2001)

Grazing native vegetation – Land Use Code 2.1.0, as defined by the Australian Land Use and Management Classification. Based on grazing by domestic stock on native vegetation where there has been limited or no deliberate attempt at pasture modification (Department of Agriculture, 2010).

Head Fire Intensity (HFI) – Measured in kW/m and is calculated based on Rate of Spread (m/hr) and Fuel Load.

Human Settlement Area (HSA) – Defined as where people live or work. For the purposes of this report the spatial extent of Human Settlement Areas are defined in Appendix 3.

Issues Analysis – An examination of any concerns that may impede the project if it is not resolved (Department of Premier and Cabinet, 2011).

Keetch-Byram Drought Index (KBDI) – A numerical value reflecting the dryness of soils, deep forest litter, logs and living vegetation, and expressed as a scale from 0 - 200 where the number represents the amounts of rainfall (mm) to return the soil to saturation (Australasian Fire and Emergency Service Authorities Council, 2012).

Local Government Association of Tasmania – An association that represents 28 of Tasmania's 29 councils which make up Local Government in Tasmania.

Mechanical Fuel Removal – Manipulation or removal of fuels using mechanical methods such as slashing, to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control (Australasian Fire and Emergency Service Authorities Council, 2012).

Moorland Fire Danger Index (MFDI) – A relative number denoting an evaluation of rate of spread, or suppression difficulty for specific combinations of fuel, fuel moisture and wind speed in buttongrass moorland vegetation.

National Parks and Wildlife – see Parks and Wildlife Service

No Fuel Treatment Scenario – Fuel Treatment Scenario whereby no fuel treatment is applied and fuel loads are incremented with age without interruption by bushfire or planned burning.

Orthophoto – An aerial photograph geometrically corrected to remove distortion from topographic relief, lens distortion and camera tilt.

Pandora – Is a Windows application developed by the Canadian Forest Service that can batch-run basic Prometheus simulations without using the Prometheus user interface.

Parks and Wildlife Service (PWS) – The agency within the Department of Primary Industries, Parks, Water and Environment (DPIPWE) responsible for the management of lands reserved under the Nature Conservation Act 2002.

Permanent Timber Production Zone – As defined by the *Forestry Management Bill 2013*, this covers all the land that is now State Forest (except for the majority of forest reserves), plus any Crown land that Parliament determines should be permanent timber production zone land and any land purchased or acquired by the Forestry Corporation.

Permit Period – Time period declared by Tasmania Fire Service, usually during the dry summer period from November to March. It is used to coordinate and monitor controlled burning of vegetation and minimise the risk of fire spreading.

PHOENIX RapidFire (Phoenix) – Is a fire characterisation model developed by the University of Melbourne and Bushfire CRC. It is a deterministic, dynamic, continuous, empirical fire characterization model used to capture the nature of a fire as it spreads across the landscape.

Planned Burning – The controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity, and rate of spread required to attain planned resource management objectives. Also known as “Prescribed Burning” or “Planned Fire”.

Poisson error distribution – Is a discrete probability distribution that expresses the probability of a given number of events occurring in a fixed interval of time and/or space if these events occur with a known average rate and independently of the time since the last event (Haight, 1967).

PostgreSQL – Is an open source object-relational database system.

Private Freehold – For the purposes of this report all land not defend as reserve, crown or a Permanent Timber Production Zone.

Prometheus – Is a deterministic bushfire fire growth simulation model developed by the Canadian Forest Service.

Pseudoreplication – Is a special case of inadequate specification of random factors where both random and fixed factors are present (Hurlbert, 1984).

Public and Private Land Only Scenario – A fuel treatment scenario with selection of Analysis Blocks prioritised by BRAM bushfire risk.

Public Land Only Scenario – A fuel treatment scenario with selection of Analysis Blocks prioritised by BRAM bushfire risk, limited to public land only.

Reserve – Crown land set aside as reserved land under the *Nature Conservation Act 2002*.

Scrub Fire Danger Index (SFDI) – A relative number denoting an evaluation of rate of spread, or suppression difficulty for specific combinations of fuel, fuel moisture and wind speed in scrub vegetation types.

SILO Patched Point Dataset (SILO-PPD) – Is observed meteorological data with missing or suspect values ‘patched’ with interpolated data, available for some 4600 meteorological stations across Australia.

Soil Dryness Index – A numerical value reflecting the dryness of soils, deep forest litter, logs and living vegetation

Spotting Density – see Ember Density

Stakeholder Analysis – The entities that have an interest in a project are identified and the nature of their interests analysed (Department of Premier and Cabinet, 2011).

State Fire Commission (SFC) – The role of the Commission is to protect life, property and the environment from the impact of fire and other emergencies.

State Fire Management Council (SFMC) – A council appointed under Section 14 of the *Fire Service Act 1979* with the purpose of developing a State vegetation fire management policy to be used as the basis for all fire management planning. And, to provide advice to both the Minister and the State Fire Commission on matters relating to the prevention or mitigation of vegetation fires.

State Selection method – Process of selecting Analysis Blocks whereby Analysis Blocks are selected irrespective of the proportion of total treatable area in each Fire Management Area.

Strategic Fuel Management Zone (SFMZ) – A class of fire management zone. An area of management that will increase the likelihood of controlling a bushfire. Areas strategically located, taking in consideration natural and man-made attributes to provide anchor points. Aims to provide areas of reduced fuel to reduce speed and intensity of bushfires and reduce spot-fire potential (Ellis, et al., 2004; Fire Management Section, Parks and Wildlife Service, 2012)

Suppression – The activities connected with restricting the spread of a fire following its detection and before making it safe (Australasian Fire and Emergency Service Authorities Council, 2012).

Tasmania Fire Service (TFS) – The operational arm of the State Fire Commission, established by the *Fire Service Act 1979*.

Tasmanian Farmers' and Graziers' Association – Is Tasmania’s state farmer organisation, representing over 5,000 members who live and work on farm businesses situated across Tasmania.

TASVEG 3.0 – TASVEG is a Tasmania-wide vegetation map produced by the Tasmanian Vegetation Monitoring and Mapping Program (TVMMP). Version 3.0 represents the third major release of the TASVEG layer since 2004.

Tenure-blind – Refers to all land tenure types, i.e. both public and private land.

Treatable Vegetation – Vegetation that can generally tolerate fuel reduction burning, using Kitchener and Harris (2013) and Pyrke and Marsden-Smedley (2005) as a guide. See Appendix 4 for list of identified treatable vegetation.

Victorian Bushfires Royal Commission (VBRC) – Established after the “Black Saturday” fires of February 2009, where 173 people lost their lives, to inquire into the circumstances of these deaths and to recommend any necessary improvements to fire Management in Victoria (Teague, et al., 2010). 67 recommendations were made and all but 2 of the recommendations were accepted by the Victorian Government.

Works – In the context of a works program defined in the *Land Use Planning and Approvals Act 1993*, includes any change to the natural or existing condition or topography of land including the removal, destruction or lopping of trees and the removal of vegetation or topsoil, but does not include forest practices, as defined in the *Forest Practices Act 1985*, carried out in State forests.

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