

# **Noosa Bushland**

# Reserve

# Fire Management Plan 2015





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#### Acknowledgements

Council wishes to thank all interested stakeholders who have taken the time and energy to help guide the development of this plan.

#### Disclaimer

Information contained in this document is based on available information at the time of writing. All figures and diagrams are indicative only and should be referred to as such. This is a strategic document which deals with technical matters in a summary way only. Council or its officers accept no responsibility for any loss occasioned to any person acting or refraining from acting in reliance upon any material contained in this document.

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## **1.0 Introduction**

Within Noosa Shire there are 159 bushland reserves covering an area of 2633ha. The reserves are managed by Council's Natural Areas operational team. Map 1 shows the distribution of the reserves which vary in size from 750m2 to 325ha. Map 1 also shows the State Planning Policy Bushfire Hazard Areas. 122 reserves are mapped as having potentially medium, high to very high bushfire intensity during extreme fire events.

As a landholder, Noosa Council has certain obligations in relation to fire management. Under the *Fire and Rescue Service Act 1990* a landholder has the responsibility to:

- manage fuel loads within land it controls;
- take all reasonable steps to extinguish an unauthorised fire;
- report the existence and location of the fire as soon as practicable to a Fire and Rescue fire officer or other named officer; and
- take reasonable steps to notify every occupier of adjoining land of planned fire mitigation.

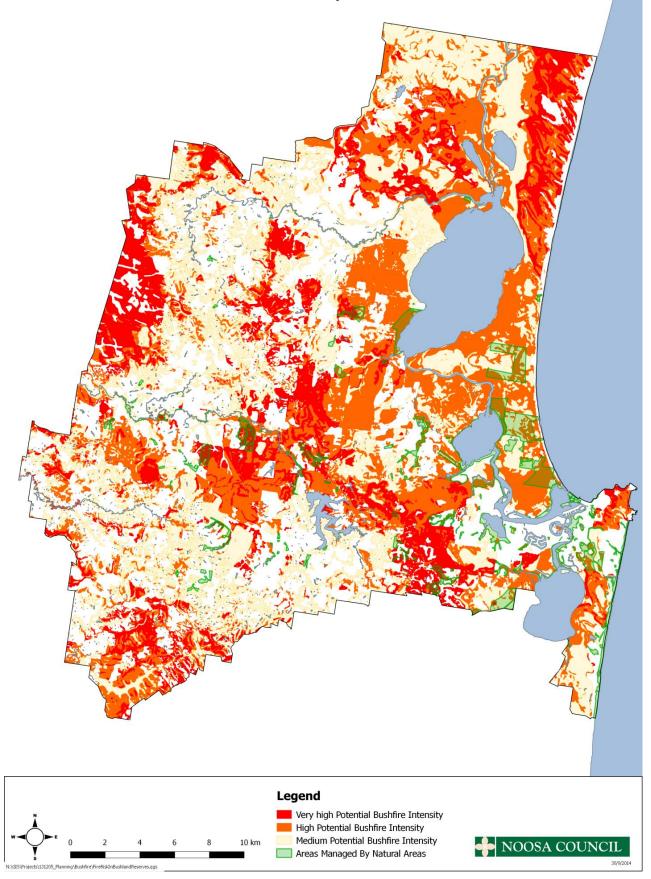
Many of the reserves are State land with Council as trustee. Under the Land Act 1994, Council has a duty of care for the trust land which extends to controlling fire and maintaining biodiversity.

Some of the reserves are Nature Refuge under the Nature Conservation Act 1992. Council has agreements in place with National Parks to 'use fire to maintain vegetation structure and diversity'.

The Noosa Fire Management Action Plan is a three year plan to initiate fire management actions including:

- a program of fire hazard risk assessments across the bushland reserve network;
- the prioritisation of reserves for fire management actions;
- the establishment and improvement of fire trail networks and fuel reduction zones;
- planning for ecological burning;
- systems and processes for managing bushfire on bushland reserves;
- the initiation of bushland reserve neighbour bushfire education campaigns in conjunction with QFES;
- capacity building with fire management agencies such as Queensland Fire and Emergency Services, National Parks, Department of Natural Resources and Mines and other large landholders to manage bushfire and assist with planned burns;
- improving Council's fire management capacity through staff training and the purchase of fire equipment;
- communication processes with key stakeholders such as Bushland Care Groups;

Potential Bushfire Intensity in Bushland Reserves



## 2.0 Fire Management Planning

#### 2.1 Fire management risk assessments

The State Planning Policy (SPP) Bushfire Hazard Area maps identify bushfire prone areas at a state wide level. The CSIRO developed the methodology for the fire hazard mapping based on vegetation type fuel load, slope and fire weather severity. The mapping identifies areas of medium, high and very fire hazard, which means fire can be difficult to control in these areas under severe fire conditions (see Map 1).

Other factors need to be considered when assessing bushland reserve fire risk and Council's management responses including:

- Surrounding population density
- Local fire fuel load assessment
- Adequacy of fire trails
- Ease of access
- Existence of water points
- Vulnerability of reserve infrastructure and neighbouring assets
- Risks to park visitors
- Proximity to other large areas of vegetation such as National Park or private land
- Known fire history
- Recommended ecological burn regime.
- Impacts of fire management measures on Matters of National State or Local Environmental Significance (e.g. threatened species)

Depending on the size of the reserve, it takes approximately one day for 2 staff to complete a thorough risk assessment (i.e. 122 reserves in total). Therefore it is proposed to complete staged assessments on a priority basis over three years by Natural Areas staff, initially assisted by fire consultants in Year 1.

It should be noted that a review of the Noosa Shire vegetated road reserve network with respect to fire management will be undertaken after the bushland reserve assessments are completed.

#### 2.2 **Priority reserves**

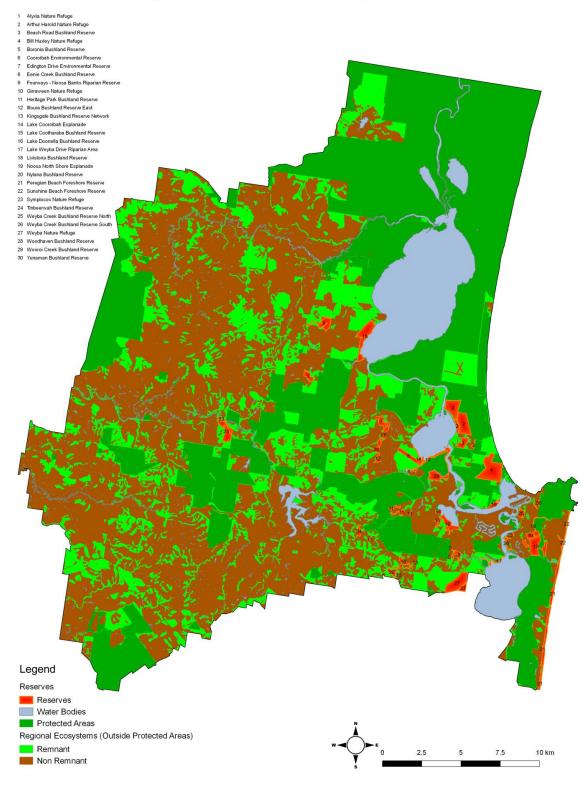
It is not possible to initiate fire management actions for all 122 reserves at once. As a starting point, reserves over 10ha in size have been identified as a priority for management actions, 30 reserves in total (see Map 2). Of these 30 reserves, 6 have further been identified as the highest priority due to proximity to housing and also having continuous vegetation connections with neighbouring land, such as National Park or private land. The 6 highest priority reserves for fire management actions are:

- Harlow Bushland Reserve, Noosa Parklands (near Heritage Park Bushland Reserve)
- Eenie Creek Bushland Reserve
- Fourways-Noosa Banks Riparian Reserve
- Lake Doonella Bushland Reserve
- Wooroi Creek Bushland Reserve
- Livistona Bushland Reserve

Some of these reserves already have fire management plans (FMPs), albeit now out-dated. The review of existing FMPs has commenced and outcomes considered in future fire planning.

#### Map 2

#### Noosa Fire Management Action Plan-Priority Bushland Reserves >10ha



#### 2.3 Fire trail network

Fire trails facilitate access onto a reserve with fire appliances for the purposes of controlling fire. In severe wildfire conditions, fire trails seldom provide a complete barrier to a fire front, as fires can 'spot' hundreds of metres ahead.

Some of the reserves already have maintained fire trails in place. Over time all of the 122 reserves will be reviewed for adequacy of existing fire trails and proposals for new fire trails will be made.

The width of the fire trail depends on topography and requirements for a safe separation between fire crews and vegetation. In addition, the effectiveness of fire trails can be enhanced by reducing elevated vegetative fuel either side of the fire trail, without removing larger trees. This can be achieved by slashing, or where appropriate, burning off within buffer zones. Reserve neighbours can be encouraged to maintain fire trails on their land, where topography is not conducive of locating a fire trail on the bushland reserve.

The establishment of an effective fire trail network is a key action in the fire management plan. Prior to the development of fire trials, the potential impacts of works will need to be undertaken by Natural Areas and/or Environment Services staff. Tree removal is to be avoided by selectively clearing undergrowth with a slasher or mulcher. Only where trees are interrupting safe access for fire crews will they be removed. The following matters will also need to be considered when establishing new fire trails:

- Potential erosion;
- Impacts on Matters of National, State and Local Significance (i.e. threatened species and habitat);
- Possible cultural heritage sites
- Fire trails need to be well formed, drained, gated and signed;
- Potential for new trails to contribute to escalation of other issues such as illegal access, camping and rubbish disposal.

#### 2.4 Ecological burning

Some vegetation types require fire to maintain biodiversity. As a general rule, burning off in a mosaic pattern is of less risk to biodiversity than broad scale burning. A risk assessment is required prior to planned burning including:

- Impact on fauna and flora, particularly threatened species
- Condition of fire trails, water points
- Impacts from smoke on neighbours and traffic
- Timing and weather conditions
- Risks to staff, neighbours and visitors including potential tree fall

An ecological assessment of the burn block may reveal that the burn cannot proceed i.e. endangered plants may be damaged, potential impacts on fauna.

There are certain requirements under the *Fire and Rescue Service Act 1990* such as requiring a fire permit and permit from the Department of Transport and Main Roads, notifying Firecom, and informing neighbours such as National Parks and large landholders. In addition, there are also Workplace Health & Safety requirements for staff attending fires, such as adequate training and personal protective equipment (PPEs). Until Noosa Natural Areas staff complete the required training, Council will be reliant on QFES.

The following documents can assist to inform future planned burning programs:

- QPWS Planned Burn Guidelines for the Southeast Queensland Bioregion of Queensland" (2013)
- QPWS Planned Burn Guidelines: How to Assess if Your Burn is Ready to Go
- SEQ Fire and Biodiversity Consortium Fire Management Operational Manual (2002) can be used to guide future burn programs.

Depending on the vegetation type, too frequent burning will encourage vegetation to become fire dependant. Too infrequent burning can result in the loss of certain species that rely on a fire affected vegetation structure or require fire for germination and dispersal. The SEQ Fire and Biodiversity Consortium provide a fact sheet on fire regimes for broad vegetation groups. This is shown below.

**Recommended fire regime guidelines for broad vegetation groups within SEQ.** Please note this is not a definitive list, but rather representative of the most common broad vegetation types within SEQ. Information has been adapted from "*Planned Burn Guidelines - Southeast Queensland Bioregion of Queensland*" produced by the QPWS and the REDD.

<b>Tall open forest</b> with a canopy typically dominated by flooded gum, tallowwood, Sydney blue gum, brush box and turpentine. The understorey is often dominated by rainforest species, but also includes grassy or shrubby remnants. Communities are found in wetter parts of SEQ, on elevated slopes, ranges and gullies, often surrounding rainforest and/or with vine understorey.	<b>Frequency:</b> Minimum 20 years for tall open forest dominated by <i>Lophostemon confertus</i> or <i>Eucalyptus grandis</i> , or for forest with vine forest or mixed rainforest understorey. For tall open <i>E. saligna</i> forest, vary intervals between 3 - 6 years for grassy understorey and 7 - 25 years for shrubby understorey. <b>Extent:</b> For <i>E. saligna</i> 40-60%. <b>Season:</b> Late Summer to Autumn. <b>Intensity:</b> Moderate to high. <b>NB:</b> Planned burning is necessary to maintain tall open <i>E. saligna</i> forest with a grassy or shrubby understorey. If you wish to maintain a rainforest understorey or sub-canopy, fire is not recommended.
<b>Open forests and woodlands</b> with the canopy generally dominated by eucalypts, angophoras and bloodwoods. The understorey may be grassy, shrubby or mixed. Communities are found on coastal lowlands, alluvial plains and inland hills and mountain ranges.	<b>Frequency:</b> Vary intervals between 3 - 6 years for grassy understorey and 7 - 25 years for shrubby understorey. <b>Extent:</b> 40 - 80%. <b>Season</b> : January to August (with good soil moisture). <b>Intensity:</b> Low to moderate.
<b>Grassland</b> (i.e. treeless and shrubless) areas dominated by tussock grasses (e.g. <i>Poa labillardieri</i> ), restricted to the Bunya Mountains and known as <i>"grassy balds"</i> .	<b>Frequency:</b> Vary intervals between 2 - 3 years where woody weeds are an issue, longer intervals for a healthy system free from forest encroachment. <b>Extent:</b> Avoid burning more than 50% in any one year. <b>Season:</b> Spring to Autumn following good rain. <b>Intensity:</b> Low to high.
Wet and dry coastal heath, including sedgelands, wallum banksia and low mallee woodlands.	<b>Frequency:</b> Vary intervals between 7 – 20 years, with an emphasis on 8 – 12 years for dry coastal heath. <b>Extent:</b> 40 - 80% (40-60% for dry coastal heath). <b>Season:</b> January to August. <b>Intensity:</b> Moderate.
<b>Montane heath</b> - heathland located on rocky mountain peaks, exposed ridges and plateaus on poor soils.	<b>Frequency:</b> Depends on the relationship with surrounding vegetation, but intervals of 15 – 50 years are recommended. <b>Extent:</b> Burn in association with surrounding vegetation. <b>Season:</b> Late wet season (i.e. February) to early dry season (i.e. August). <b>Intensity:</b> Low to moderate.
<b>Melaleuca (paperbark) communities</b> , including melaleuca swamps, melaleuca woodlands and open forest dominated by <i>Melaleuca quinquenervia</i> (Swamp Paperbark).	Frequency: Vary between 6 - 20 years for mixed grass/shrub understorey; 8 - 12 years for heath understorey and 12 - 20 years for sedge/fern understorey. Extent: 25-70% in association with surrounding vegetation. Season: January to July following rain. Intensity: Low to moderate.
<b>Coastal fringing forest</b> of Swamp She-oak ( <i>Casuarina glauca</i> ).	<b>Frequency:</b> Vary intervals between 6 – 7 years <b>Extent:</b> Avoid burning more than 50% in any one year. <b>Season:</b> January to August, ideally in association with surrounding vegetation. <b>Intensity:</b> Low.
<b>Riparian (creekside) vegetation</b> (including blue gum, river oak and weeping bottlebrush) and foredune communities (including casuarina and spinifex grasses).	Do not burn - fire sensitive. Burn out <i>from</i> the edge to surrounding vegetation where necessary to minimise fire incursion.
Mangrove and saltmarsh	Mangroves do not require fire and generally do not burn. Saltmarshes are potentially flammable, do not require fire and should not be deliberately burnt. Burn out <i>from</i> the edge to surrounding vegetation where necessary to minimise fire incursion.
Rainforest, dry vine forest and brigalow	Do not burn - fire sensitive. Burn out <i>from</i> the edge to surrounding vegetation where necessary to minimise fire incursion.

Planning for ecological burning requires comprehensive fire history records. Fire history of bushland reserves is to be recorded in Council's GIS Mapping system. The State Public Safety Business Agency (PBSA) is also developing a register to record fire history.

The development of a bushland reserve planned burning program to maintain biodiversity values is also a key action in the Fire Management Plan.

## 2.5 Bushfire control

The early detection of a fire followed by a quick suppression response can save much time and expense. Consequently operating procedures are being developed to ensure processes are in place for:

- Communications processes with QFES, Noosa Local Disaster Management Group, and reserve neighbours where required;
- Early detection and suppression of fire;
- Monitoring of reserves during periods of high fire danger weather conditions.

Council is required to control fire on land under its control but may request QFES to undertake emergency fire control if required. National Parks, as prescribed fire officers, may also control fire on Council controlled land, i.e. fire that is deemed to be a threat to National Park.

#### 2.6 Neighbour education

QFES has a 'Prepare.Act.Survive' information sheet for residents living near bushland (see Attachment 1). It is proposed that Council, in conjunction with QFES, distribute information sheets to reserve neighbours each year prior to fire season (spring).

## 2.7 Capacity building

Noosa Council is a member of the Regional Fire Management Group. Group meetings provide an opportunity to coordinate fire management activities jointly with National Parks, QFES, DNRM and landholders.

Natural Areas staff are currently trained to Level 1 (crew member) fire management competency. It is proposed that all Natural Areas staff be trained to current public safety and fire management competencies to be able to attend bushfires and supervise planned burning programs. Until the Natural Areas team completes their training, Council will be reliant on QFES to control bushfire on bushland reserve.

Currently Natural Areas only have one slip on fire unit in operation. A second slip on unit is recommended for purchase to increase Council's capacity to manage and respond to fire.

#### 2.8 Bushland reserve stakeholders

A number of key stakeholders have a vested interest in Noosa's Bushland Reserves. Environment and bushland care groups will need to be consulted prior to any fire trail expansion or burn activities.

## 3.0 Fire Management Action Plan

Table 1 below states the fire management planning that has been, or is currently, underway in 2014/2015.

Table 2 is a 3 Year Fire Management Action Plan consisting of bushland reserve assessment and delivery of fire management actions, including fire trail works and selective planned burning. Note that actions and costs for year 2 & 3 will be subject to reserve assessments and are not finalised.

#### Table 1 Noosa Shire Fire Management Planning 2014/2015 - Completed and current activities

Action	Timing	Responsibility	Cost	Notes
Review fire hazard mapping for bushland reserves	December 2014	Strategic Planning	In-house	Completed
Prioritise bushland reserves for fire management actions based on fire hazard rating and biodiversity outcomes (122 reserves identified)	January 2015	Strategic Planning	In-house	Completed
Further prioritisation based on reserves greater than 10ha in size (30 reserves)	February 2015	Strategic Planning	In-house	Completed
<ul> <li>Further prioritisation of reserves based on :</li> <li>Proximity to neighbouring residences</li> <li>Continuous connection with neighbouring vegetation on private or public land</li> <li>The priority 6 reserves selected:</li> <li>Livistona Bushland Reserve</li> <li>Eenie Creek Bushland Reserve</li> <li>Lake Doonella Bushland Reserve</li> <li>Wooroi Bushland Reserve</li> <li>Fourways Bushland Reserve</li> <li>Harlow Bushland Reserves (Parklands)</li> </ul>	February 2015	Council Environment Services and Natural Areas	In-house	Completed
Review existing bushland reserve fire management plans	February to April	Council Environment Services	In-house	Completed for 6 high priority reserves
6 reserves inspected on ground for bushfire fuel and adequacy of fire trails.	February 2015	Council Environment Services and Natural Areas	In-house	Completed
Budget estimate for fire trail and planned burning program for next financial yr.	March 2015	Council Environment Services and Natural Areas	In-house	Completed

Action	Timing	Responsibility	Cost	Notes
Meet with QNPRSR, DNRM and QFES regarding the fire management plan and coordination	March 2015 one to one or at Regional Fire Management Groups	Council Environment Services and/or Natural Areas	In-house	Started
Develop Draft Noosa Shire Fire Management Plan	April 2015	Council Environment Services and Natural Areas	In-house	Draft completed
Review all reserve specific Fire Management Plans (23)	April 2015	Council Environment Services and Natural Areas	In-house	Not yet started
Bushfire fuel hazard assessment training. Conducted by SEQ Fire and Biodiversity Consortium, QFES, NPRSR	May 2015	Council Environment Services and Natural Areas	<b>\$1200</b> from corporate training budget	Approved and booked for 4 staff
Total costs			\$1200 (allocated)	Corporate training budget

#### Table 2Noosa Shire Fire Management Action Plan 2015 - 2017

Action	Timing	Responsibility	Cost	Notes
Meet with QNPRSR, DNRM and QFES to further identify priorities and discuss joint fire management.	July-September	Council Environment Services and Natural Areas	In-house	
<ul> <li>Continue on ground inspection of remaining priority reserves for:</li> <li>Bushfire fuel hazard</li> <li>Fire trail audit</li> <li>Biodiversity protection</li> </ul>	July-August Commence bushland reserves assessments (30 reserves)	Council Natural Areas and Environment Services, assisted by fire management consultants.		
Fire management for 6 high priority reserves. Note: this work is over and above the current Natural Areas budget for fire trail maintenance	July-August	Council Natural Areas in consultation with Environment Services	Establish and/or upgrade fire trails <b>\$19760</b> • Livistona BR • Eenie Creek BR Contract planned burning with Natural Areas team 3 high priority blocks <b>\$17,600</b> • Livistona BR (Quarry site) • Eenie Creek BR • Harlow BR	Livistona BR minor works Eenie Creek, widen existing breaks by 1m where possible. Establish new fire trails on eastern side. Livistona-ecological burn Eenie Creek-fuel reduction burn Harlow-ecological burn
Conduct reserve neighbour education campaign with QFES to encourage landholders to reduce fire risk on their land	July	Council Environment Services, Natural Areas, QFES	In-house printing of brochures for letterbox drop	

Action	Timing	Responsibility	Cost	Notes	
Fire Management Training to enable staff to attend fires and supervise contractors	3 staff when training is available	Council Natural Areas	\$3000	3 staff. Natural Areas staff have undertaken 'Fire Crew' (Level 1) training, but not 'Crew Leader' (Level 2) training	
Attend Regional Fire Management Group meetings with QNPRSR, DNRM and QFES regarding the fire management plan and joint management.	Dates TBA	Council Environmental Services and/or Natural Areas	In-house		
Bushfire fuel hazard assessment training. Conducted by SEQ Fire and Biodiversity Consortium, QFES, NPRSR	When available	Council Natural Areas	<b>\$900</b> from corporate training budget	3 staff	
Budget estimate for fire trail and planned burning program based on inspections for next financial yr.	March	Council Natural Areas	In-house		
Update Fire Management Plan	April	Council Environment Services in consultation with Natural Areas	In-house		
Total cost			\$56,260		

Action	Timing	Responsibility	Cost	Notes
			Note: Final costs will be subject to reserve inspection program and budget deliberations	
Continue on ground inspection of remaining priority reserves for: • Bushfire fuel hazard • Fire trail audit • Biodiversity protection	July-August Bushland reserves assessments (30 reserves per year)	Council Natural Areas	In-house	
Purchase slip on fire unit (only one unit at moment)	July	Council Natural Areas	ТВА	Note that QFES has indicated that they can offer a support role with planned burns. Two Council fire units are preferred but one Council unit may suffice.
Fire management for high priority reserves. Note: this work is over and above the current Natural Areas budget for fire trail maintenance	July-August	Council Natural Areas	Establish or upgrade fire trails TBA Contract planned burning with Natural Areas team 5 high priority blocks TBA	QFES and National Parks may be able to assist
Conduct reserve neighbour education campaign with QFES to encourage landholders to reduce risk on their land	July	Environment Services, Natural Areas, QFES	In-house printing of brochures for letterbox drop	
Fire Management Training to enable staff to attend fires and supervise contractors	2 staff when training is available	Council Natural Areas	ТВА	2 staff Natural Areas staff have undertaken 'Fire Crew' (Level 1) training, but not 'Crew Leader' (level 2)
Attend Regional Fire Management Group meetings with QNPRSR, DNRM and QFES regarding the fire management plan and joint management	Dates TBA	Council Environmental Services and Natural Areas	In-house	

Action	Timing	Responsibility	Cost Note: Final costs will be subject to reserve inspection program and budget deliberations	Notes
Budget estimate for fire trail and planned burning program based on inspections for next financial yr.	March	Council Natural Areas	In-house	
Update Fire Management Plan	April	Council Environment Services in consultation with Natural areas	In-house	
Total cost			ТВА	

YEAR 3				
Action	Timing	Responsibility	Cost Note: Final costs will be subject to reserve inspection program and budget deliberations	Notes
Continue on ground inspection of remaining priority reserves for: • Bushfire fuel hazard • Fire trail audit • Biodiversity outcomes	July-August Commence bushland reserves assessments (30 reserves per year)	Council Natural Areas	In-house	
Fire management for high priority reserves. Note: this work is over and above the current Natural Areas budget for fire trail maintenance	July-August	Council Natural Areas	Establish or upgrade fire trails TBA Contract planned burning with Natural Areas team 2 high priority blocks TBA	QFES and National Parks may be able to assist
Conduct reserve neighbour education campaign with QFES to encourage landholders to reduce risk on their land	July	Environment Services, Natural Areas, QFES	In-house printing of brochures for letterbox drop	
Attend Regional Fire Management Group meetings with QNPRSR, DNRM and QFES regarding the fire management plan and joint management	Dates TBA	Environmental Services and/or Natural Areas	In-house	
Budget estimate for fire trail and planned burning program based on inspections for next financial yr.	March	Council Natural Areas	In-house	
Update Fire Management Plan	April	Council Environment Services in consultation with Natural Areas	In-house	
Total cost				

#### Acronyms

BR	Bushland Reserves
DNRM	Qld Department of Natural Resources & Mines
LDMG	Local Disaster Management Group
NCA	Nature Conservation Act 1992
NP	National Park
PPEs	Personal Protective Equipment
PSBA	State Public Safety Business Agency
QFES	Qld Fire & Emergency Services
QNPRSP	Qld National Parks, Recreation, Sports and Racing
RFMG	Regional Fire Management Group
SEQFBC	South-east Qld Fire and Biodiversity Consortium
SPP	State Planning Policy
TMR	Qld Department of Transport and Main Roads
USL	Unallocated State Land