Crooked Creek CCAZ1 National Park

Fire Management Strategy (Type 2)

2022 - 2027

This strategy should be used in conjunction with aerial photography and field reconnaissance.

The NSW National Parks and Wildlife Service is part of the Department of Planning and Environment.

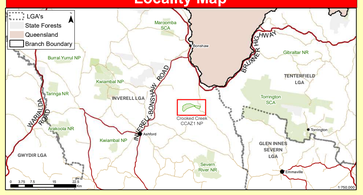
Published by the Department of Planning and Environment (NSW).

Contact: NSW National Parks and Wildlife Service, Northern Inland Branch.

ISBN [PRINT:] 978-1-76058-697-3 **ISBN [WEB]:** 978-1-76058-698-0 **Last Updated: 02/02/2023**

This strategy is a relevant Plan under Section 38 (4) and Section 44 (3) of the Rural Fires Act 1997.

Locality Map



Map details

Datum: GDA_1994_MGA_Zone_56 **Geographic Coordinate System:** GCS_GDA_1994 **Noted scales:** True when printed on A0 size paper

Local Government Area: Inverell **Topographic Map** 1:50,000 Bonshaw 9138N, Ashford 9138S

Contact Information

Agency	Position / Location	Phone
National Parks & Wildlife Service	Area Manager - Darren Pitt	0427 212 255
	Duty Officer (24 hour)	(02) 8275 1742
	Northern Tablelands Area Office (bus. hours)	(02) 6739 0700
NSW Rural Fire Service Northern Tablelands	NTT District Manager Scott Mack	0427 241 911
	NTT Duty Officer	(02) 6739 6911
	NTT Fire Control Centre	(02) 6739 6900
Forest Corporation of NSW	Casino Fire Room	(02) 6662 6718
	Grafton Fire Room	(02) 6640 1666
	Duty Officer	0438 395 038
Emergency Services	Police, Fire, Ambulance	000
Fire & Rescue NSW	Comms Centre	9319 7000
SES	Flood & Storm 132500 Inverell Office	(02) 6721 0833
Police	Inverell	(02) 6722 0599
Council	Inverell Shire Council	(02) 6728 8288
Local Aboriginal Land Council	Moombahlene LALC	(02) 6736 3219
Local Land Services	Northern Tablelands Inverell	(02) 6720 8300
Air Services Australia (Communications Facility)	Jesse Van Miltenburg	(02) 9556 6845

Communications

Service	Channel	Location and Comments
NPWS Repeaters to Northern Inland Branch	335 330 Ch + 300 Ch + 600 PR Ch 24	• Hallams Hill (Inverell) • NIB Northern Vote Group • Fireground (FGND) 1 to 7 (Ch 11 to 17) are available statewide • Tower Isolation • NIB Glen Innes Portable Repeater 4, Ch24 (+10 Chat Channel, Ch34)
FC NSW	194 (NPTT) 80mhz radios)	• Frog Hollow • NPWS holds 80MHz handheld radios at Tenterfield and vehicle mounted at Armidale.
RFS	N011	• PMR Digital Voting.
UHF - CB	10	• Small fires channel 10, large fires determined by IMT.
Aviation - CTAF	134.70	• NIB frequency unless another frequency is allocated on an incident.
Mobile		• Patchy if any service
Satellite Phone	0147 165 975 0147 154 198 0147 162 100 0147 166 331	• Glen Innes • Glen Innes • Glen Innes • Tenterfield

Fire Season Information

Wildfires	The critical wildfire season occurs during October to December, but wildfires can occur as early as August. The fire season may extend into the first half of January in dryer than normal years. During this period in dry seasons fires may exhibit high intensity behaviour under windy conditions
Prescribed Burning	Effective prescribed burning normally occurs Autumn to late Winter. Burning is possible in early spring only when surface and near surface fuels have high levels of curing, but daytime temperatures are still cool and night time temperatures are cold. By late spring hazard reduction burns are not desirable as fire may burn too hot.

Operational Guidelines

Aerial Operations
- Aerial operations will be managed by trained and competent personnel. This includes directing aerial bombing and aerial ignition operations
- The use of bombing aircraft should support containment operations by aggressively attacking hotspots and spot-overs.
- The use of bombing aircraft without the support of ground-based suppression crews should be limited to very specific circumstances.
- Where practicable foam should be used to increase the effectiveness of the water.
- Ground crews must be alerted to water bombing operations.
- All aerial ignition operations require the consent of a senior NPWS officer or the Section 44 Appointee.

Backburning
- Backburning from existing trails or boundary breaks is the preferred suppression method but due to the slope, aspect and access of the Park – fire suppression is to be managed from Park boundaries in cleared country.
- All personnel must be fully briefed before back burning operations begin.
- Backburning in areas of Low – Moderate OFH will require the use of wind, or low humidity to maximise effectiveness.
- Aerial ignition maybe used during backburning or fuel reduction operations where practicable, but only with the prior consent of a senior NPWS officer.
- Utilise incendiaries to rapidly progress backburns down slope where required.

Command & Control
- The first combatant agency on site may assume control of the fire, but then must ensure the relevant land management agency is notified and liaised with promptly.
- The initial Incident Controller must notify the RFS to ensure that the agency in command is determined and an Incident Controller is appointed to ensure coordinated firefighting.

Containment Lines
- During Extreme + FDR containment should be undertaken on the boundary of the Park adjacent to clear country so that refuge is available.
- Existing natural fire control advantages should be used as or linked into fire control lines, this includes any area or natural feature that cannot support fire or will inhibit the passage of a fire.
- Construction of new containment lines should be avoided, where practicable, except where they can be constructed with minimal environmental impact and with prior consent of a senior NPWS officer.
- All personal involved in containment line construction should be briefed on and must consider both natural and cultural heritage sites in the location.
- All containment lines not required for other purposes should be closed immediately at the cessation of the incident and where necessary, rehabilitation or restoration will be undertaken.

Earthmoving Equipment
- Conditions apply to use heavy plant equipment within NPWS managed lands to maintain conservation values and meet environmental legislative requirements. Plant may only be used with the prior consent of a senior NPWS Officer.
- Heavy plant equipment must always be guided and supervised on site by an experienced NPWS officer in a support vehicle. When engaged in direct or parallel attack, this vehicle must be a fire fighting vehicle.
- Heavy plant must be washed down, where practicable, prior to it entering NPWS estate and again on exiting NPWS estate.

Hazard Reduction Burning
- Land Management Zones are managed to achieve fire protection objectives through prescribed burning to create a variety of fuel load structures and a mosaic of age classes within the landscape and to provide optimum fire frequencies required for the maintenance of biodiversity.
- Since the acquisition of this park in 2011 there have been no fires. The fire history prior to this period is limited except for in 2009/10 a wildfire was recorded in the western half of the reserve, burning approximately 251ha.

Fire Suppression Chemicals
- All fire chemicals used on NPWS estate by NPWS staff, and/or other agencies or personnel, must be, have been qualified under the United States Department of Agriculture (USDA) Wildland Fire Chemical System (WFCS).
- When undertaking aerial application of firefighting chemicals, their application is not to be within 100m of a waterway.

Rehabilitation
- Where necessary, a post-fire rehabilitation plan should be initiated as early as possible during the incident and be approved in the IAP by the IC.
- Post fire rehabilitation involves the identification of disturbances, assessment of rehabilitation options, determination, and implementation of the most effective rehabilitation options. Monitoring the results of implementation is required.

Water Points
- There are NO water points within the park. Deployment of a bulk water carrier and buoy walls will be required to support fire operations.

Smoke Management
- Potential smoke impacts can occur on neighbours and, as such, mitigation tactics will be assessed during the planning of fire operations.

Visitor Management
- There is currently no public access to the park and no visitor facilities.
- In Extreme + Fire Danger Rating at the Branch Directors discretion, the reserve may be closed.
- Ensure the closure is advertised on the NPWS visitor website.

WARNINGS
- During Extreme + FDR containment should be undertaken on the boundary of the Park adjacent to clear country so that refuge is available.
- There are some tracks but no fire trails within the park.
- Remote country.

Heritage Guidelines

Aboriginal Cultural Heritage
- There are no Aboriginal sites recorded in Crooked Creek National Park.
- AIIMS databases must be checked as part of planning for fire operations.

Historic Sites
- There are no historic sites recorded in Crooked Creek National Park.
- HHIMS databases must be check for fire planning operations.

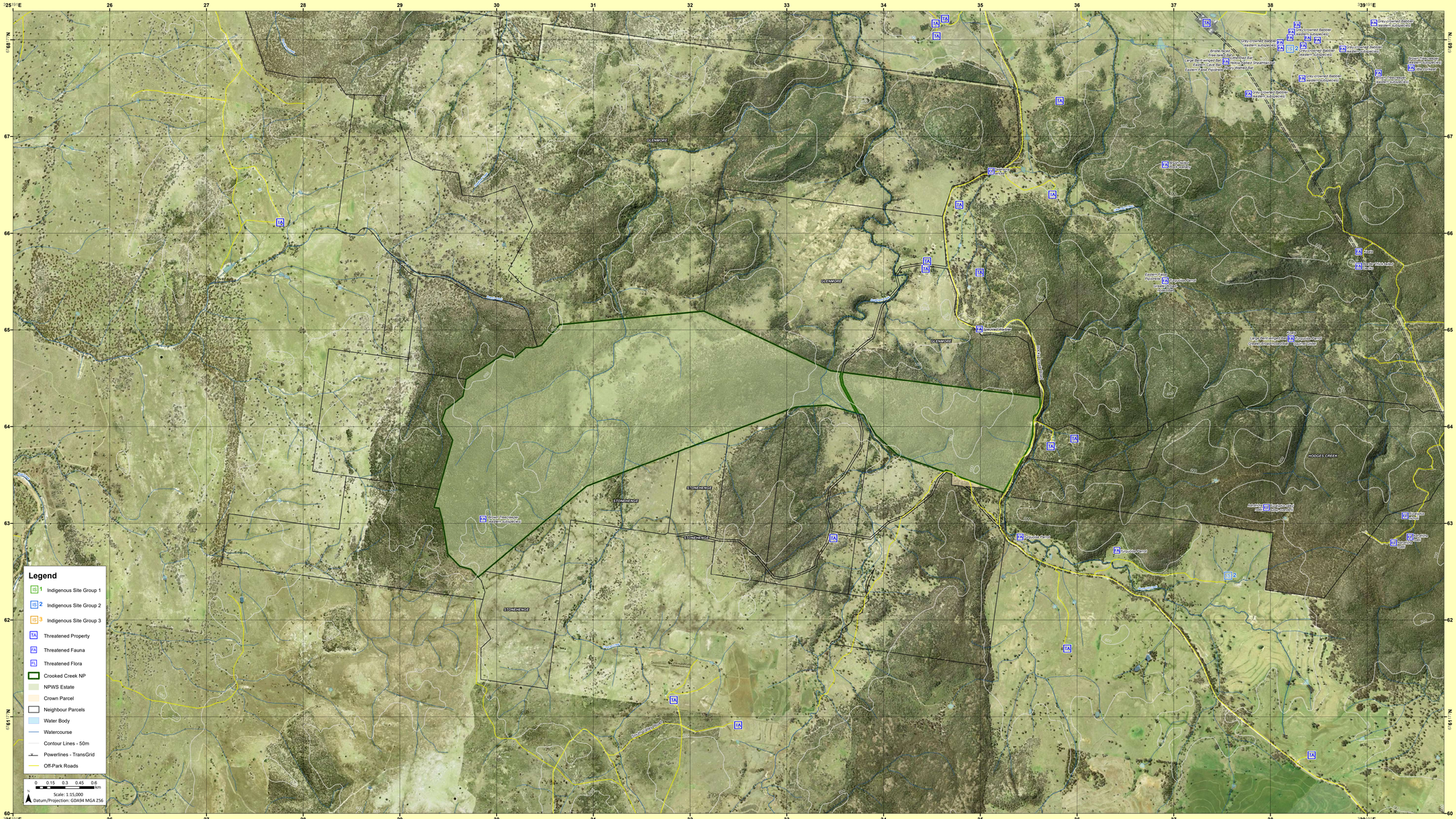
Threatened Fauna & Flora
- Brown Tree Creeper (*Climacteris picumnus victoriae*) is the only vulnerable species recorded within Crooked Creek National Park. This species is listed in NSW as vulnerable in the Biodiversity Conservation Act 2016 and protected under the National parks and Wildlife Act 1974. Due to this species mobility fire should not impact long term on this species.
- Other threatened fauna species recorded within five kilometres and that may occur within the park include border thick-tailed gecko (*Underwoodisaurus sphyrurus*), brush-tailed rock-wallaby (*Petrogale penicillata*), diamond firetail (*Stagonopleura guttata*), eastern bentwing-bat (*Miniopterus schreibersii oceanensis*), eastern false pipistrelle (*Falsistrellus tasmaniensis*), greater broad-nosed bat (*Scotorepex nwapelli*), koala (*Phascolarctos cinereus*), little lorikeet (*Glossopsitta pusilla*), scarlet robin (*Petroica boodang*), speckled warbler (*Chthonicola sagittata*), squirrel glider (*Petaurus norfolcensis*), turquoise parrot (*Neophema pulchella*) and varied sittella (*Daphoenositta chrysoptera*).
- TEC White Box Yellow Box Blakelys Red Gum Woodland is located along Crooked and Boughyard Creeks

Soil Erosion Management
- The soils within the reserve are generally stable. Steep terrain is susceptible to erosion after disturbance.
- The Park falls under the Bush Fire Environmental Assessment Code (BFEAC) Soil Erosion Risk Categories 1, 2, and 3 of five categories. Categories 1, 2, and 3 are at lower risk. All works are to be consistent with the requirements of the categories specified. Soil erosion risk categories are in accord with the document Rules and Notes for Application of Soil Erosion Risk for the BFEAC.

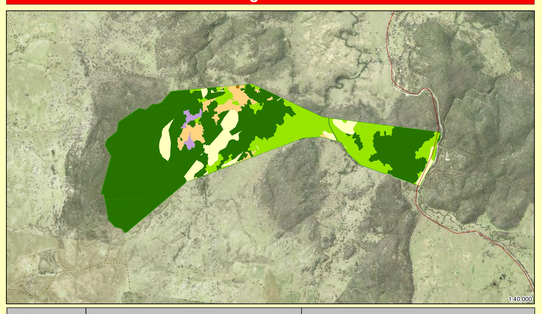
Suppression Strategies

Conditions	Guidelines
Intent: Due to the remoteness and no internal fire trails, access is difficult, Early RAFT response has proven effective in suppressing small fires. Aerial reconnaissance and RAFT deployment may be considered as effective options to new ignitions and lightning strikes, dependant on location within the park and the Fire Danger Rating.	
All vegetation types	
Fire Danger Rating Moderate	• Community – Plan and prepare. • Direct attack to minimise fire size. • Consider a broad containment strategy using natural containment advantages of Crooked Creek and Boughyard Creek, and Rocky Creek Road. Allowing long-term management requirements for biodiversity
Fire Danger Rating High	• Community – Be ready to act. • Close parallel or direct attack may be an option at night depending on weather conditions. • Distance between the flank and machinery and fire units should be kept to a minimum • Secure and deepen containment lines on the next predicted downwind side of the fire. • May require aerial support to manage spot overs and monitor fire spread.
Fire Danger Rating Extreme	• Community – Take action now to protect life and property. • Firefighter safety is the paramount consideration in deployment. • Undertake broad containment strategies using the park boundary and neighbouring cleared country. • Close parallel or direct attack and/or mop up of fire edge may be an option at night depending on weather conditions.
Fire Danger Rating Catastrophic	• Community – For your survival leave bushfire risk areas • Warning: Fire runs should be anticipated with winds from any direction. Entrapment risk is very high.

Operations Map

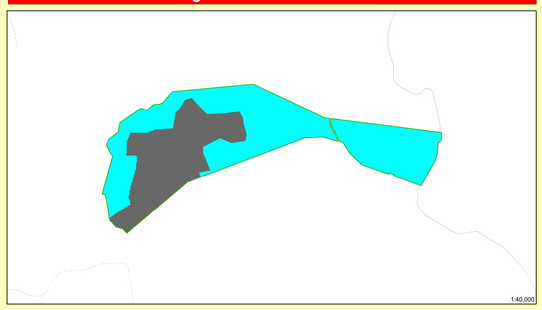


Vegetation



Vegetation Formation (Keith)	Vegetation Management Guidelines	Fire Behaviour
Dry Sclerophyll Forests (Shrub/grass sub-formation)	• The minimum interval between low intensity fires is more than 5 years. • The maximum interval between fire should be less than 50 years. • The minimum interval between high intensity fires should be evaluated on forest condition. • A diversity of fire intervals across the local landscape should be maximised.	• The potential rates of spread during extended dry season can be very high due to terrain factors. **Overall Fuel Hazard** is normally in the range of **Moderate to Very High.** • Spotting associated with uphill fire runs can be severe.
Dry Sclerophyll Forests (Shrubby sub-formation)	• Avoid fire intervals of less than 7 years and greater than 30 years. • The minimum interval between high intensity fires should be evaluated on forest condition. • A diversity of fire intervals across the local landscape should be maximised. • This vegetation type is the predominant vegetation class in the reserve.	• OFH is highly dependent on time since fire. The potential rates of spread van vary from **Moderate to Very High** depending on **OFH**.
Forested wetlands	• Avoid fire intervals of less than 7 years and more than 35 years. • Avoid high intensity fires minimum fire interval of 7 years (12 years if Callitris is present). • The maximum fire interval is 40 years. • Many of these sites are small areas surrounded by other more expansive Keith communities. The fire regimes in these surrounding vegetation types will to a large extent dictate the fire regimes of the Forested Wetlands.	• Potential rates of spread are dependent on seasonal conditions. • **Low OFH** and hence **low rates of spread** occur in dry years. • **A Low - Moderate OFH** may develop after successive wet seasons producing continuous ground cover. In these conditions potential rate of spread may be **Moderate.**
Grasslands	• The minimum interval between fire events should be 2 years. • The maximum interval between fire events should be 10 years.	• Potential rates of spread are dependent on seasonal conditions. • **Low OFH** and hence **low rates of spread** occur in dry years. • **A Moderate to High OFH** may develop after successive wet seasons producing continuous ground cover. In these conditions potential rate of spread may be **Moderate to Very High.**
Grassy woodlands	• The minimum fire interval in healthy stands of these grassy woodlands is five years. Where the health of the woodlands is compromised through dieback, the minimum fire interval should be increased to 10 years. • The maximum fire interval is 40 years.	• Potential rates of spread are **High** due to the grassy nature of the flammable elements in generally **Moderate to Very High OFH.**
Heathlands	• Avoid fire intervals of less than 7 years and greater than 30 years. • A diversity of fire intervals across the local landscape should be maximised.	• OFH is highly dependent on time since fire. Wind and terrain effects are magnified in running heath fires. The potential rates of spread can vary from **Moderate to Very High**.

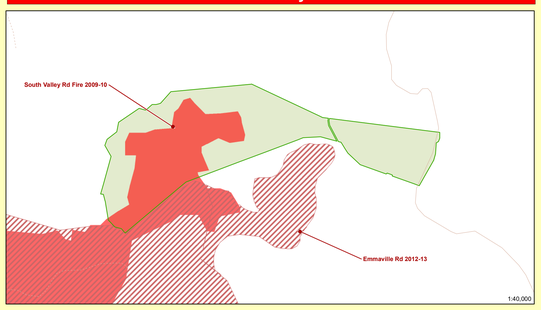
Vegetation Fire Thresholds



Vegetation Threshold	Treatment
Too Frequently Burnt	Fire thresholds have been exceeded. Protect from fire as far as possible.
Vulnerable to Frequent Fire	The current interval since last fire is shorter than the recommended minimum interval.
Within Threshold	Fire history is within the threshold for vegetation in this area. A burn is neither required nor should one necessarily be avoided.
Long Unburnt	Fire frequency is below fire thresholds in the area. A prescribed burn may be advantageous. Consider allowing unplanned fires to burn.
Unknown	Insufficient data to determine fire threshold.
No Regime Assigned	Areas which do not have recommended fire intervals assigned to them eg. cleared land, rock.

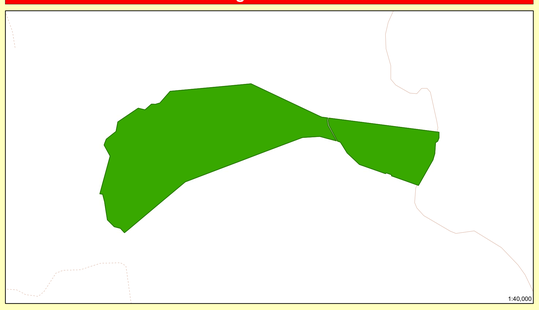
NB. Fire thresholds are defined for vegetation communities to conserve biodiversity

Fire History



Fire Type	Fire Details
Prescribed Burn	No prescribed burns undertaken.
Wildfire	2012 / 13 - Emmaville Rd Fire – This wildfire did not enter the Park. It was contained off-Park on the southern boundary. 2009 / 10 – South Valley Rd Fire - Fire came from the south and entered the Park burning the middle of the western half of the reserve approximately 251 ha.

Risk Management Information



Fire Management Zone	Treatment
Asset Protection Zones	The objective of **APZs** is the protection of human life and property. This will have precedence over guidelines for the management of biodiversity. Maintain Overall Fuel Hazard at Moderate or below.
Strategic Fire Advantage Zones	The objective of **SFAZs** is to reduce fire intensity in locations to assist containment of wildfires, by maintaining the Overall Fuel Hazard at HIGH or below.
Land Management Zones	The objective of **LMZs** is to conserve biodiversity and protect cultural heritage. Manage fire consistent with fire thresholds.