# Gibraltar Range National Park

## Fire Management Strategy (Type 2)

Sheet 1 of 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, Industry and Environment.

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

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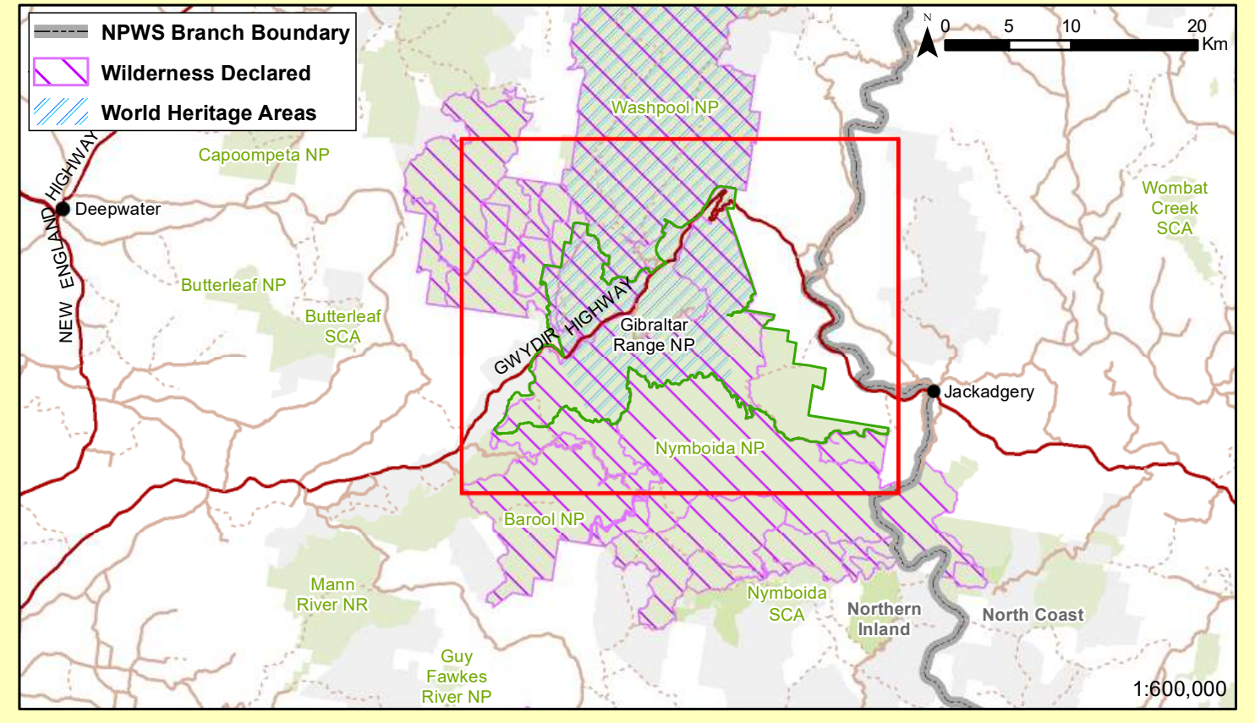
**This strategy is a relevant Plan under Section 38 (4) and Section 44 (3) of the Rural Fires Act 1997.**

## 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:** Glen Innes Severn / Clarence Valley **Topographic Map** 1:25000 – Rockadooie 9339 3S, Coombadjha 9339 2S, Glen Elgin 9338 4N, Cangai 9338 1N, Jackadgery 9438 4N

### Contact Information

| Agency | Position / Location | Phone |
|---|---|---|
| **National Parks & Wildlife Service** | Area Manager - Darren Pitt | 0427 212 255 |
| | Duty Officer (24 hour) | 8275 1742 |
| | Northern Tablelands Area Office (bus. hours) | 6739 0700 |
| **NSW Rural Fire Service**<br>**Northern Tablelands** | NT Zone Manager | 6739 6900 |
| | NT Duty Officer | 6739 6911 |
| | NT Zone Office | 6739 6900 |
| **Clarence Valley Zone** | CV Zone Manager - Stuart Watts | 0408 660 825 |
| | CV Duty Officer | 6644 5139 |
| | CV Zone Office | 6644 5135 |
| **Forest Corporation of NSW** | Coffs Harbour<br>Grafton<br>State Duty Officer | 6652 0111<br>6640 2222<br>9965 4375 |
| **Fire & Rescue NSW** | Newcastle Comms. Centre | 4929 7177 |
| **Emergency Services** | Police, Fire, Ambulance | 000 |
| **SES** | | 132 500 |
| **Police** | Glen Innes<br>Grafton | 6732 9799<br>6642 0222 |
| **Council** | Glen Innes Severn<br>Clarence Valley | 6730 2300<br>6643 0200 |
| **Local Aboriginal Land Council** | Glen Innes LALC<br>Baryulgil LALC | 6732 1150<br>6647 2131 |

### Communications

| Service | Channel | Location and Comments |
|---|---|---|
| NPWS Repeaters | 334<br>330<br>634 | • Summit Mountain<br>• North Vote Group<br>• Fire ground |
| FC NSW | 194 (NP77)<br>199 (NP85)<br>80mhz radios) | • Frog Hollow (Gibraltar and Plateau)<br>• Cangai for Eastern Fall<br>• NPWS holds 80MHz hand helds at Tenterfield and vehicle mounted at Armidale |
| RFS | N002<br>N011 | • Clarence Valley Digital Voting<br>• Northern Tablelands Digital Voting |
| UHF - CB | | • Small fires channel 15, large fires determined by IMT |
| Aviation - CTAF | 134.70 | NIB frequency unless another frequency is allocated on an incident |
| Mobile | | • Telstra coverage is generally unavailable for most of the reserve |
| Satellite Phone | 0147 165 975<br>0147 154 198 | • Stored at Glen Innes |

### Fire Season Information

| | |
|---|---|
| **Wildfires** | The critical wildfire season occurs during September to November. This period may extend into January if the normally reliable summer rainfall does not eventuate. Particular care is required during periods of negative Southern Oscillation Indices. The end of the critical fire season is often marked by wet storm activity. |
| **Prescribed Burning** | Fuel accumulation rates are generally high, and fire can carry through forest burnt only several years previously. Prescribed burning is most effective in late winter and early spring where the combination of low rainfall and cured fuels from frosts maximise available fuel loads. Autumn burns are possible, but rainfall events in this period can mean fuel moisture contents remain too high for effective hazard reduction burning. |

### Operational Guidelines

| | |
|---|---|
| **Aerial Operations** | • Aerial operations will be managed by trained and competent personnel. This includes directing aerial bombing and aerial ignition operations<br>• The use of bombing aircraft without the support of ground-based suppression crews should be limited to very specific circumstances.<br>• All aerial ignition operations require the consent of a senior NPWS officer or the Section 44 Appointee. |
| **Backburning** | • All personnel must be fully briefed before back burning operations begin.<br>• Backburning in areas of Low – Moderate OFH will require the use of wind, or low humidity to maximise effectiveness.<br>• Where possible clear around dead and fibrous barked trees adjacent to control lines prior to backburning. |
| **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 promptly.<br>• The initial Incident Controller will liaise with the RFS to ensure that the agency in command is determined and an Incident Controller is appointed. |
| **Containment Lines** | • New containment lines require the prior consent of a senior NPWS officer.<br>• Construction of new containment lines should be avoided, where practicable, except where they can be constructed with minimal environmental impact.<br>• All personal involved in containment line construction should be briefed on, and must consider both natural and cultural heritage sites in the location.<br>• All containment lines not required for other purposes should be closed immediately at the cessation of the incident. |
| **Earthmoving Equipment** | • Plant may only be used with the prior consent of a senior NPWS Officer.<br>• Plant must always be guided and supervised by an experienced officer and accompanied by a support vehicle (NPWS). When engaged in direct or parallel attack, this vehicle must be a fire fighting vehicle.<br>• Plant must be washed down, where practicable, prior to it entering NPWS estate and again on exiting NPWS estate. |
| **Fire Suppression Chemicals** | • The use of foam, wetting agents and retardants will NOT be permitted within 50 metres of dams and watercourses holding water.<br>• The aerial use of gels and retardants should be approved by a senior NPWS officer.<br>• The use of retardants requires the approval of a senior NPWS officer. |
| **Rehabilitation** | • Where practicable, containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation. |
| **Water Points** | • Water points are limited and not always reliable. Consider deployment of a bulk water carrier to support fire operations. |
| **Smoke Management** | • Potential smoke impacts and mitigation tactics will be assessed during the planning of fire operations.<br>• Smoke impacts on the Gwydir Highway should be considered in fire operations. |
| **Visitor Management** | • Visitors numbers in the reserve can be high with a combination of day use, overnight and walking track facilities available to the public. Some visitors in the reserve may be on remote walking tracks and reserve closures need to be carefully considered to ensure all visitors in the park are aware of fire driven restrictions.<br>• In Extreme + Fire Danger at the Branch Directors discretion, reserves or sections of the reserve may be closed or evacuated.<br>• Ensure the closure is advertised on the NPWS visitor website.<br>• Advise apiarists of fire threats, and the restrictions in place for entry to the reserve<br>• A risk assessment of any guided activities will be undertaken if the FDI is Very High+, or if there is a fire in the reserve. |
| **WARNINGS** | • The forests within Gibraltar Range National Park are capable of sustaining rapidly moving high intensity fires in rugged terrain with few access opportunities. There is a high risk of entrapment in these areas under severe or above fire danger ratings.<br>• Gibraltar Range National Park, Nymboida NP & SCA, Barool NP, and Washpool NP & SCA are geographically intertwined if landscape scale fires eventuate. In this circumstance fire planning needs to carefully consider adjacent threats and fire advantages in these reserves.<br>• Fire runs should be anticipated with winds from any direction. |

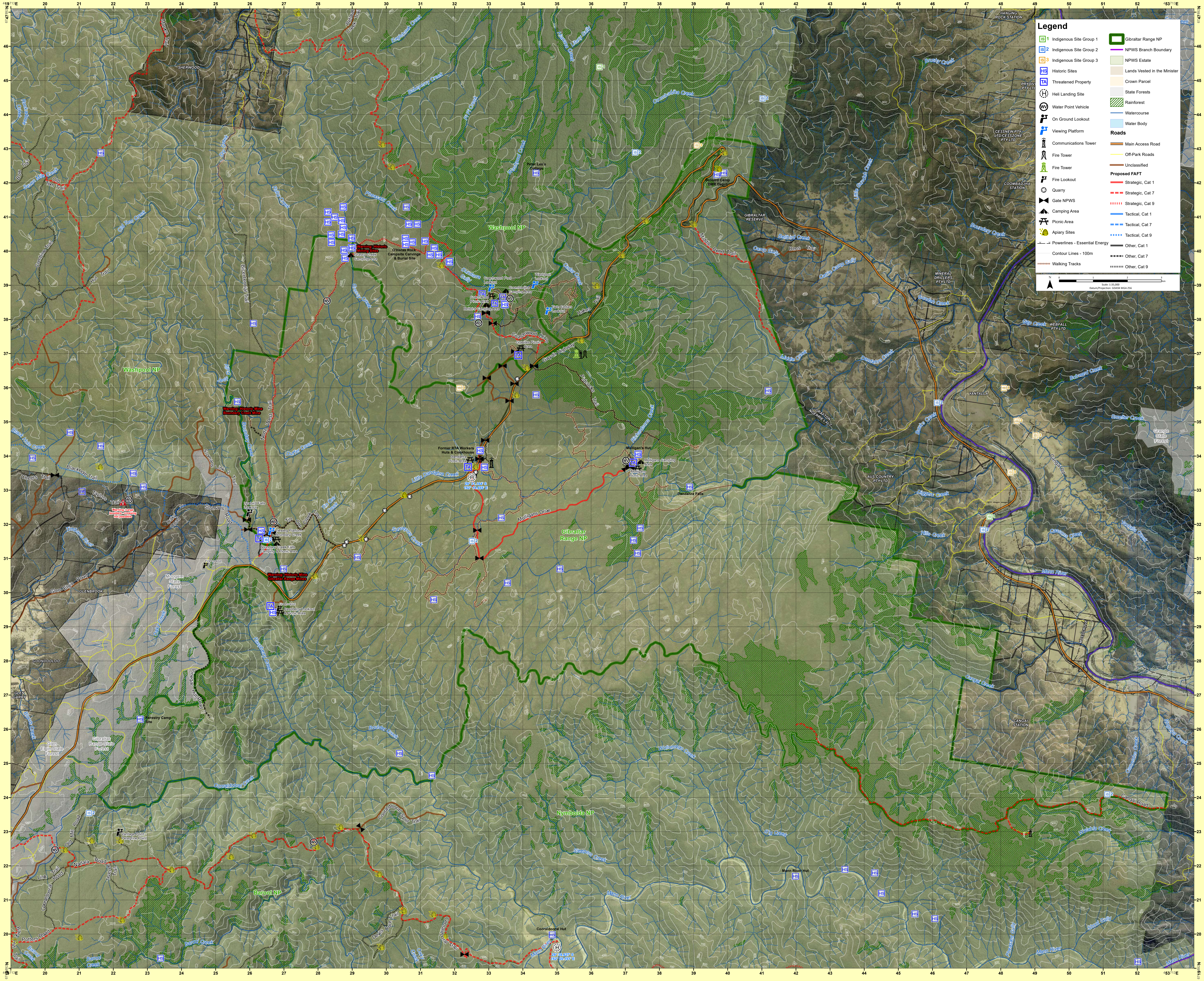
### Suppression Strategies

| Conditions | Guidelines |
|---|---|
| **Intent: This fire prone Reserve was largely burnt by landscape scale high intensity fires in 2019/2020. The intent of fire management is to reintroduce a mosaic of fire regimes across the reserve though hazard reduction burns that initially focus on SFAZ. Maintaining diversity of time since fire across vegetation types is the primary objective. Wildfires will be managed to limit their spread to the minimum practical level.**<br>**Aerial reconnaissance and rapid raft response to contain new ignition site to small areas is the intent of early fire suppression.** | |
| **All vegetation types** | |
| Fire danger rating LOW - HIGH | • Consider a broad containment strategy using existing roads, allowing long-term management requirements for biodiversity.<br>• Direct and parallel attack may be applied with earthmoving machinery and fire units. |
| Fire danger rating VERY HIGH | • Close parallel or direct attack may be an option at night depending on weather conditions.<br>• Distance between the flank and machinery and fire units should be kept to a minimum<br>• Secure and deepen containment lines on the next predicted downwind side of the fire.<br>• May require aerial support to manage spot overs and monitor fire spread. |
| Fire danger rating SEVERE - EXTREME + | • Firefighter safety is the paramount consideration in deployment.<br>• Undertake broad containment strategies using main fire trails and cleared country.<br>• Tactics will include property protection where safe and necessary.<br>• Close parallel or direct attack and / or mop up of fire edge may be an option at night depending on weather conditions.<br>Warning: Fire runs should be anticipated with winds from any direction. Entrapment risk is very high. |

### Heritage Guidelines

| | |
|---|---|
| **Aboriginal Cultural Heritage** | IS 1 **–** As far as possible protect site from fire. Do not cut down trees.<br>IS 2 **–** As far as practicable protect the site from fire. Avoid all ground disturbance and driving over sites. Avoid water bombing which may cause ground disturbance.<br>IS 3 **–** Avoid all ground disturbance. Avoid water bombing. Site may be burnt by fire without damage.<br>**Modified trees**<br>• As far as possible, protect the site from fire, and do not cut trees<br>• Use of foams & retardant is acceptable.<br>**Habitation sites**<br>• Exclude control line construction from sites. Consider a buffer zone of about 50 metres from the sites.<br>• AIIMS databases must be checked as part of planning for fire operations.<br>**Gibraltar Range NP significant aboriginal sites include:**<br>• Green posts Artefact site on Cangai Rd @ 4**518**35 67**249**85<br>• Remaining known sites are away from trails and unlikely to be affected by fire management activity.<br>• Known Aboriginal places are away from trails and are unlikely to be affected by fire management activities. |
| **Historic Sites** | **Gibraltar Range NP has no significant historic sites affected by fire.** |
| **Threatened Fauna & Flora** | • The protective actions for threatened flora and fauna have been incorporated into the Operational Guidelines<br>• Green post on North West Fire Trail @ 4**290**90 67**396**41 - no mechanical work outside the existing road reserve.<br>• **Montane swamps and fens are a feature of the reserve. When fires occur in periods of very low KBDI, consideration should be given to actions that preserve the peat layer associated with these sites.** |
| **Soil Erosion Management** | The soils within the reserve are generally stable. Steep terrain is susceptible to erosion after disturbance. Fire trails used in fire operations should be drained as soon as possible after use. |

## Operations Map



**Legend**

| | | | |
|---|---|---|---|
| IS 1 | Indigenous Site Group 1 | | Gibraltar Range NP |
| IS 2 | Indigenous Site Group 2 | | NPWS Branch Boundary |
| IS 3 | Indigenous Site Group 3 | | NPWS Estate |
| HS | Historic Sites | | Lands Vested in the Minister |
| TA | Threatened Property | | Crown Parcel |
| H | Heli Landing Site | | State Forests |
| WV | Water Point Vehicle | ▨ | Rainforest |
| | On Ground Lookout | | Watercourse |
| | Viewing Platform | | Water Body |
| | Communications Tower | **Roads** | |
| | Fire Tower | | Main Access Road |
| | Fire Tower | | Off-Park Roads |
| | Fire Lookout | | Unclassified |
| | Quarry | **Proposed FAFT** | |
| ⧓ | Gate NPWS | | Strategic, Cat 1 |
| | Camping Area | | Strategic, Cat 7 |
| | Picnic Area | | Strategic, Cat 9 |
| | Apiary Sites | | Tactical, Cat 1 |
| | Powerlines - Essential Energy | | Tactical, Cat 7 |
| | Contour Lines - 100m | | Tactical, Cat 9 |
| | Walking Tracks | | Other, Cat 1 |
| | | | Other, Cat 7 |
| | | | Other, Cat 9 |

N 0 1 2 3 km

Scale: 1:35,000

Datum/Projection: GDA94 MGA Z56

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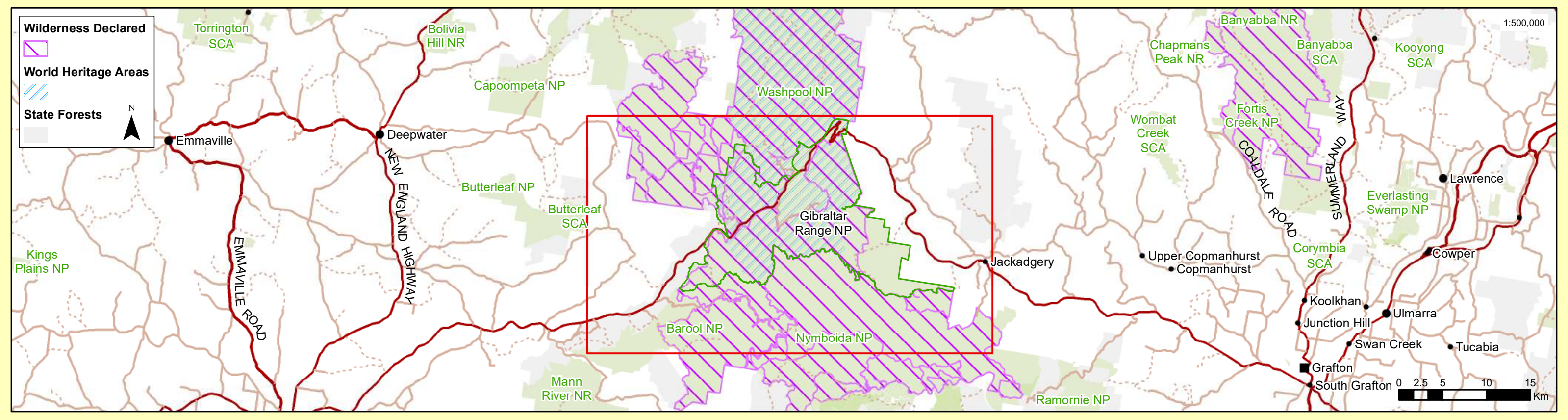
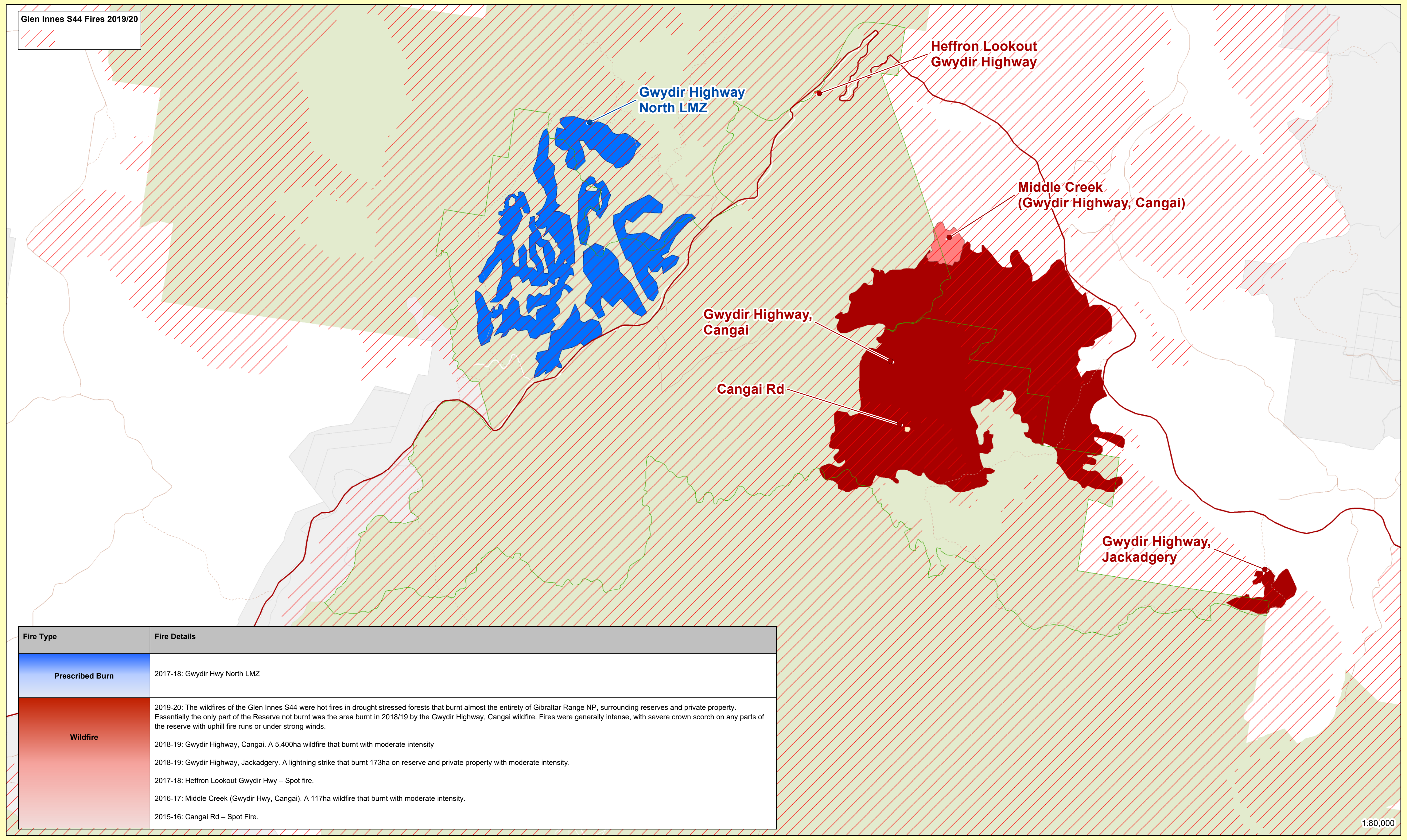
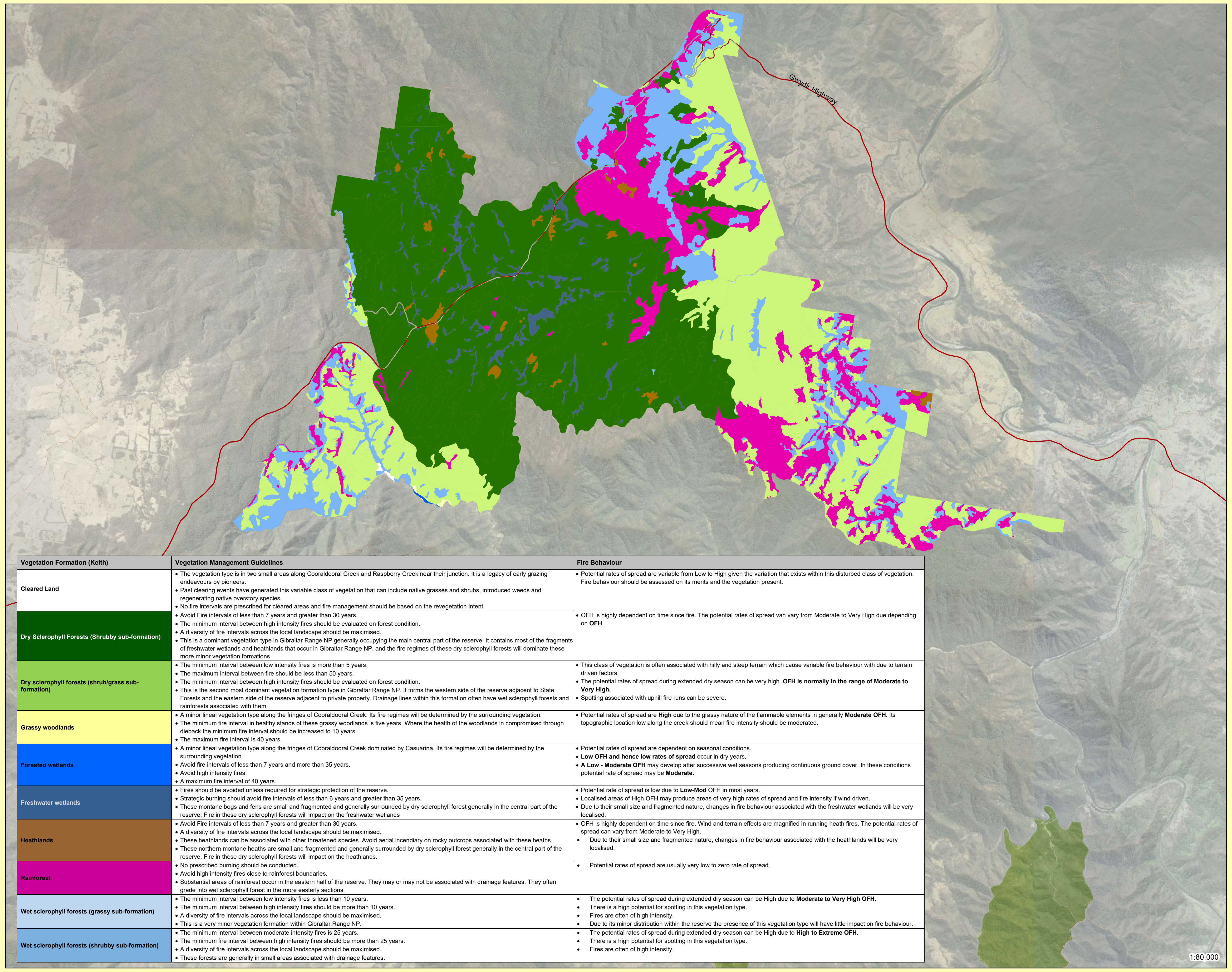


## Fire History



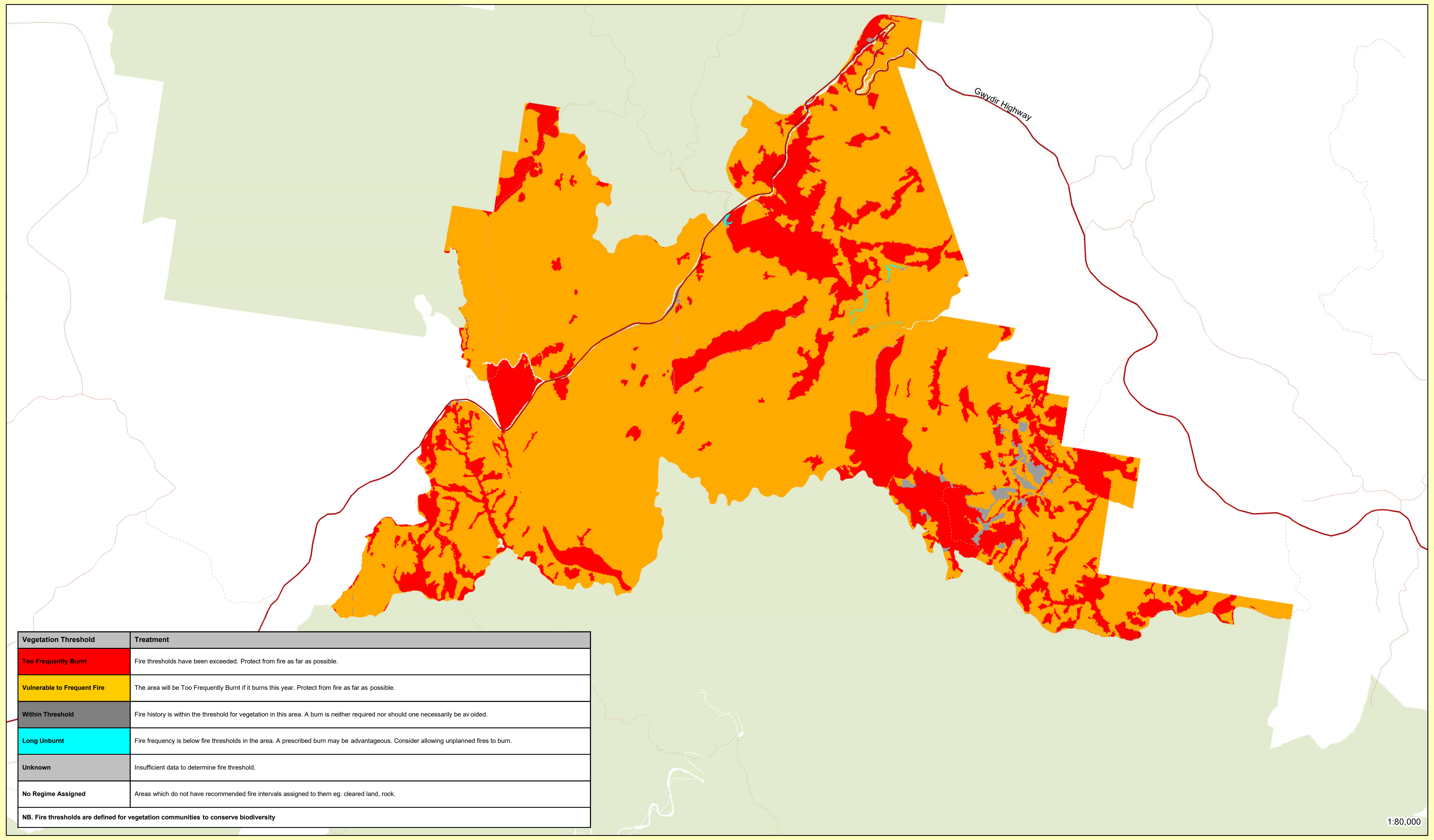
| Fire Type | Fire Details |
|---|---|
| Prescribed Burn | 2017-18: Gwydir Hwy North LMZ |
| Wildfire | 2019-20: The wildfires of the Glen Innes S44 were hot fires in drought stressed forests that burnt almost the entirety of Gibraltar Range NP, surrounding reserves and private property. Essentially the only part of the Reserve not burnt was the area burnt in 2018/19 by the Gwydir Highway, Cangai wildfire. Fires were generally intense, with severe crown scorch on any parts of the reserve with uphill fire runs or under strong winds.<br>2018-19: Gwydir Highway, Cangai. A 5,400ha wildfire that burnt with moderate intensity<br>2018-19: Gwydir Highway, Jackadgery. A lightning strike that burnt 173ha on reserve and private property with moderate intensity.<br>2017-18: Heffron Lookout Gwydir Hwy – Spot fire.<br>2016-17: Middle Creek (Gwydir Hwy, Cangai). A 117ha wildfire that burnt with moderate intensity.<br>2015-16: Cangai Rd – Spot Fire. |

## Vegetation



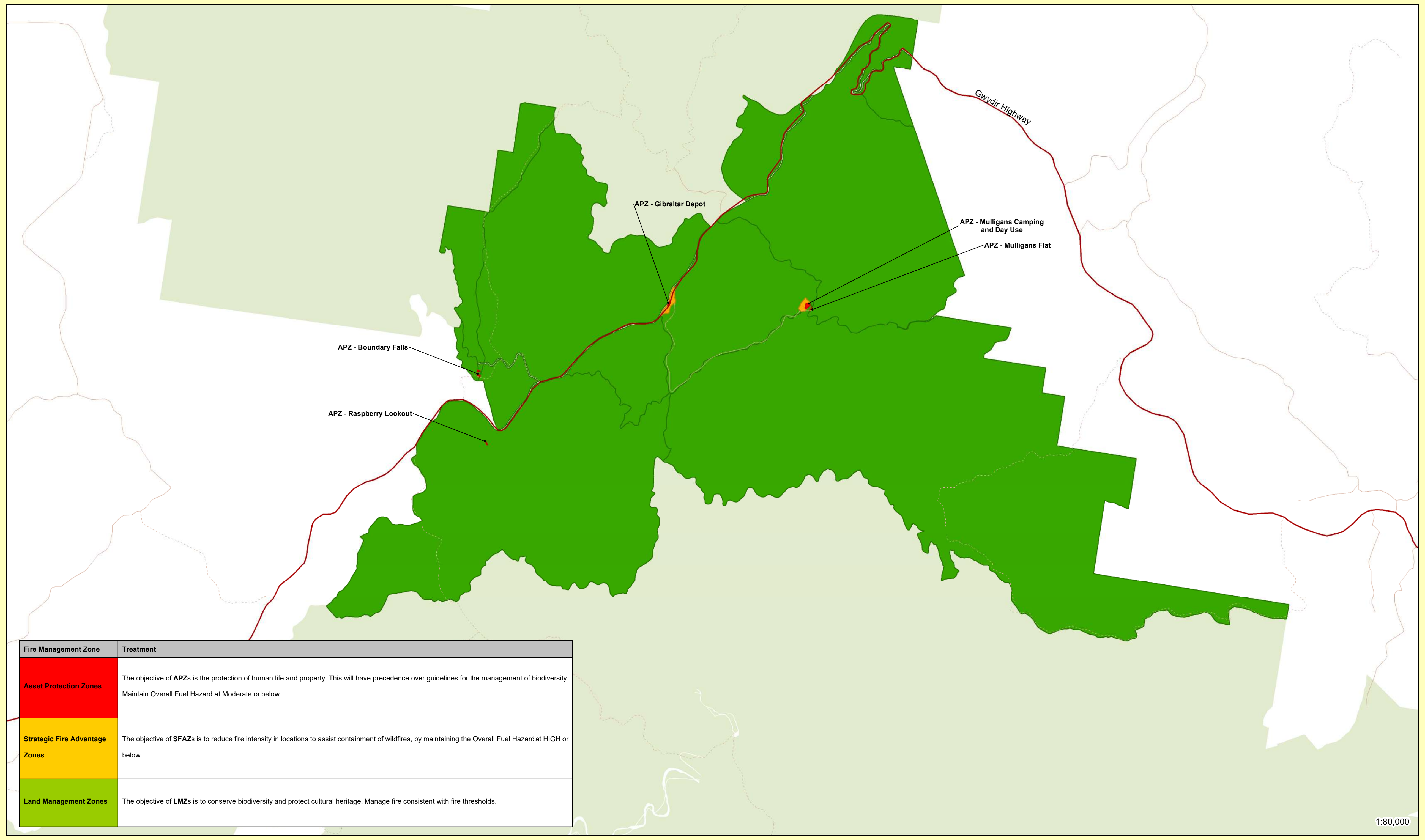
| Vegetation Formation (Keith) | Vegetation Management Guidelines | Fire Behaviour |
|---|---|---|
| Cleared Land | • The vegetation type is in two small areas along Cooraldooral Creek and Raspberry Creek near their junction. It is a legacy of early grazing endeavours by pioneers.<br>• Past clearing events have generated this variable class of vegetation that can include native grasses and shrubs, introduced weeds and regenerating native overstory species.<br>• No fire intervals are prescribed for cleared areas and fire management should be based on the revegetation intent. | • Potential rates of spread are variable from Low to High given the variation that exists within this disturbed class of vegetation. Fire behaviour should be assessed on its merits and the vegetation present. |
| Dry Sclerophyll Forests (Shrubby sub-formation) | • Avoid Fire intervals of less than 7 years and greater than 30 years.<br>• The minimum interval between high intensity fires should be evaluated on forest condition.<br>• A diversity of fire intervals across the local landscape should be maximised.<br>• This is a dominant vegetation type in Gibraltar Range NP generally occupying the main central part of the reserve. It contains most of the fragments of freshwater wetlands and heathlands that occur in Gibraltar Range NP, and the fire regimes of these dry sclerophyll forests will dominate these more minor vegetation formations | • OFH is highly dependent on time since fire. The potential rates of spread van vary from Moderate to Very High due depending on **OFH**. |
| Dry sclerophyll forests (shrub/grass sub-formation) | • The minimum interval between low intensity fires is more than 5 years.<br>• The maximum interval between fire should be less than 50 years.<br>• The minimum interval between high intensity fires should be evaluated on forest condition.<br>• This is the second most dominant vegetation formation type in Gibraltar Range NP. It forms the western side of the reserve adjacent to State Forests and the eastern side of the reserve adjacent to private property. Drainage lines within this formation often have wet sclerophyll forests and rainforests associated with them. | • This class of vegetation is often associated with hilly and steep terrain which cause variable fire behaviour with due to terrain driven factors.<br>• The potential rates of spread during extended dry season can be very high. **OFH is normally in the range of Moderate to Very High.**<br>• Spotting associated with uphill fire runs can be severe. |
| Grassy woodlands | • A minor lineal vegetation type along the fringes of Cooraldooral Creek. Its fire regimes will be determined by the surrounding vegetation.<br>• The minimum fire interval in healthy stands of these grassy woodlands is five years. Where the health of the woodlands in compromised through dieback the minimum fire interval should be increased to 10 years.<br>• 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 OFH.** Its topographic location low along the creek should mean fire intensity should be moderated. |
| Forested wetlands | • A minor lineal vegetation type along the fringes of Cooraldooral Creek dominated by Casuarina. Its fire regimes will be determined by the surrounding vegetation.<br>• Avoid fire intervals of less than 7 years and more than 35 years.<br>• Avoid high intensity fires.<br>• A maximum fire interval of 40 years. | • Potential rates of spread are dependent on seasonal conditions.<br>• **Low OFH and hence low rates of spread** occur in dry years.<br>• **A Low - Moderate OFH** may develop after successive wet seasons producing continuous ground cover. In these conditions potential rate of spread may be **Moderate.** |
| Freshwater wetlands | • Fires should be avoided unless required for strategic protection of the reserve.<br>• Strategic burning should avoid fire intervals of less than 6 years and greater than 35 years.<br>• These montane bogs and fens are small and fragmented and generally surrounded by dry sclerophyll forest generally in the central part of the reserve. Fire in these dry sclerophyll forests will impact on the freshwater wetlands | • Potential rate of spread is low due to **Low-Mod** OFH in most years.<br>• Localised areas of High OFH may produce areas of very high rates of spread and fire intensity if wind driven.<br>• Due to their small size and fragmented nature, changes in fire behaviour associated with the freshwater wetlands will be very localised. |
| Heathlands | • Avoid Fire intervals of less than 7 years and greater than 30 years.<br>• A diversity of fire intervals across the local landscape should be maximised.<br>• These heathlands can be associated with other threatened species. Avoid aerial incendiary on rocky outcrops associated with these heaths.<br>• These northern montane heaths are small and fragmented and generally surrounded by dry sclerophyll forest generally in the central part of the reserve. Fire in these dry sclerophyll forests will impact on the heathlands. | • 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.<br>• Due to their small size and fragmented nature, changes in fire behaviour associated with the heathlands will be very localised. |
| Rainforest | • No prescribed burning should be conducted.<br>• Avoid high intensity fires close to rainforest boundaries.<br>• Substantial areas of rainforest occur in the eastern half of the reserve. They may or may not be associated with drainage features. They often grade into wet sclerophyll forest in the more easterly sections. | • Potential rates of spread are usually very low to zero rate of spread. |
| Wet sclerophyll forests (grassy sub-formation) | • The minimum interval between low intensity fires is less than 10 years.<br>• The minimum interval between high intensity fires should be more than 10 years.<br>• A diversity of fire intervals across the local landscape should be maximised.<br>• This is a very minor vegetation formation within Gibraltar Range NP. | • The potential rates of spread during extended dry season can be High due to **Moderate to Very High OFH**.<br>• There is a high potential for spotting in this vegetation type.<br>• Fires are often of high intensity.<br>• Due to its minor distribution within the reserve the presence of this vegetation type will have little impact on fire behaviour. |
| Wet sclerophyll forests (shrubby sub-formation) | • The minimum interval between moderate intensity fires is 25 years.<br>• The minimum fire interval between high intensity fires should be more than 25 years.<br>• A diversity of fire intervals across the local landscape should be maximised.<br>• These forests are generally in small areas associated with drainage features. | • The potential rates of spread during extended dry season can be High due to **High to Extreme OFH**.<br>• There is a high potential for spotting in this vegetation type.<br>• Fires are often of high intensity. |

## 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 area will be Too Frequently Burnt if it burns this year. Protect from fire as far as possible. |
| 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** | |

## Risk Management Information



| Fire Management Zone | Treatment |
|---|---|
| Asset Protection Zones | The objective of **APZ**s 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 **SFAZ**s 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 **LMZ**s is to conserve biodiversity and protect cultural heritage. Manage fire consistent with fire thresholds. |