



Serpentine Ridge National Park Type-1 Reserve Fire Management Strategy

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1. Fire Management Principles

The National Parks and Wildlife Service (NPWS) manages about nine per cent of the land area of NSW. These areas have been reserved to conserve their natural and cultural values. These values include biodiversity, landscapes, Aboriginal sites, historic structures and recreational settings.

Under the *Rural Fires Act 1997*, the NPWS is a fire authority and is responsible for the management of fire on all lands under its control. This includes the detection and suppression of fires and the implementation of risk prevention programs to protect life and property from fires. The NPWS also assists with the suppression of fires on adjacent lands, as may be required under plans prepared under the *Rural Fires Act 1997*.

Cooperative arrangements are derived from the Bush Fire Coordinating Committee and implemented through local Bush Fire Management Committees. The other three agencies that participate in cooperative fire management across NSW are the Department of Primary Industries, the NSW Rural Fire Service and NSW Fire Brigades.

NPWS is an active member of the Tamworth District Bush Fire Management Committee.

The management of fire is a critical component of land management across the NSW landscape. As both a fire authority and conservation agency, NPWS plays an important role in protecting life and property and conserving natural and cultural heritage.

2. Fire Management Objectives

The primary objectives of fire management by the NPWS are to:

Protect life, property and community assets from the adverse impacts of fire;
Develop and implement cooperative and coordinated fire management arrangements with other fire authorities, reserve neighbours and the community;

Manage fire regimes within reserves to maintain and enhance biodiversity; protect Aboriginal sites known to exist within NSW and historic places and culturally significant features known to exist within reserves from damage by fire;

Assist other fire agencies, land management authorities and landholders in developing fire management practices to conserve biodiversity and cultural heritage across the landscape; and,



The maintenance of biodiversity to avoid the extinction of natural species, populations and communities within the landscape underpins fire management activities within the NPWS.

The NSW National Parks and Wildlife Service OEH *Fire Management Manual, Living with Fire in NSW Parks and OEH Strategy for Managing Bushfires in National Parks and Reserves 2011-2012* details the policies and procedures for all fire management planning and fire operations on lands reserved under the *National Parks and Wildlife Act 1974* and any land managed by DEC on behalf of the Minister for the Environment.

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

3. The Fire Environment

3.1 Fire history

Fire history in this reserve is mostly unknown with know fires occurring within the Reserve in the last 10-15 years.

3.2 Topography

Both Sections of the Reserve are located on the top of a ridgeline with the northern section predominantly so. The northern section encompasses part of the steep escarpment while the southern section is slightly east of the escarpment and slightly less undulating.

Both sections only cover a small elevation change of approximately 100 metres with the southern section ranging from 700-800 masl (approx) and the northern section ranging from 500-600 masl (approx).

A roughly north-south bitumen road bisects the southern section, while a dirt road is immediately east of the northern section.

3.3 Vegetation

The Reserve comprises two (2) main vegetation communities including:

Stringybark – Spinifex open woodland / grassland on serpentinite (affin. Benson draft ID 573) (Sclerophyll grassy woodland)

This community occurs exclusively on the serpentinite ridge, and is dominated by the spinifex (*Triodia scariosa* ssp. *scariosa*), with a sparse canopy of Silvertop Stringybark (*Eucalyptus laevopinea*). Midstorey species include *Dillwynia sieberi* and Johnson's Grass Tree (*Xanthorrhoea johnsonii*), with understorey species including the *Triodia*, Slender Rice-flower (*Pimelia linifolia*) and *Asperula subulifolia* (which is known to be a rather uncommon species).

This community is in excellent condition and is likely to be highly susceptible to fire (hence the sparse canopy based on the theory that smaller eucalypts

are not able to survive). Given the highly restricted niche habitat of this community, it is likely to contain rare flora and fauna.

White Cypress Pine – Silver-leaf Ironbark grassy woodland (Shrubby dry sclerophyll forest)

This community occurs on the lower slopes, and is dominated by White Cypress Pine (*Callitris glaucophylla*) and Silver-leaved Ironbark (*Eucalyptus melanophloia*). Midstorey species include Sticky Daisy-bush (*Olearia elliptica* ssp. *elliptica*), Sticky Wallaby-bush (*Beyeria viscosa*) and Broom-heath (*Monotoca scoparia*), with understorey species including Purple Wiregrass (*Aristida personata*), Rough Speargrass (*Austrostipa scabra*) and Red Grass (*Bothriochloa decipiens*). On the ecotone of this community with the Spinifex community above, *Triodia scariosa* ssp. *scariosa* becomes dominant in the understorey.

Three further communities are found within the area of interest at a smaller scale, being White Box Grassy Woodland (listed as an Endangered Ecological Community under the NSW *Threatened Species Conservation Act 1995* and Critically Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*), White Box – Pine – Silver-leaf Ironbark shrubby open forest, and Derived Grassland.

Table 1: Suggested Fire Regimes for defined vegetation communities

Community	Suggested Fire Regimes
Sclerophyll grassy woodland	Min. Interval 5 years Max. 40 years.
Shrubby dry sclerophyll forest	Min.Interval 7 years/ Max.Interval 35 years

3.5 Built assets vulnerable to fire

There are no built assets vulnerable to fire within or within a kilometre or more of the Northern Section of the Reserve.

The southern section of the Reserve has some private mine infrastructure within the boundary at the northern end and the area is north but adjacent to the small village of Upper Bingara.

3.6 Natural assets vulnerable to fire

No natural assets are currently known that are vulnerable to fire.

While the fire history is not known, visual evidence on the ground would indicate that extensive fire has not been through the Reserve for in excess of 10-15 years.

Given that fire is not a regular occurrence within the Reserve, most plants and animals would not appear to be at risk from excessive fire at this stage

3.7 Cultural Heritage values vulnerable to fire

No Aboriginal or Historic sites are known to exist in this Reserve.

3.8 Bushfire risk

The Gwydir River Bush Fire Risk Management Plan, classifies the reserve as providing a low bushfire risk.

3.8 Bushfire zoning

The 'NPWS Fire Management manual' (2012) uses a system of bushfire management zones for bushfire management in NPWS reserves. These zones are compatible with the system adopted by the Bushfire Coordinating Committee for use in District Bushfire Management Committee (DBFMC) bushfire risk management plans.

The approach divides reserves into fire management zones. These zones are management areas where specified fire management operational objectives, strategies and performance indicators have been developed to militate against the threat of a wildfire.

NPWS has assessed the reserve for fire management planning purposes and has zoned the reserve as a Land Management Zone (LMZ). The primary fire management objectives for this zone are to prevent the extinction of all species that are known to occur naturally within the reserve, and to protect culturally significant sites. The reserve has been designated as a LMZ because it is not adjacent to built assets which would be exposed to a high level of bushfire risk, and does not have a history of bushfire ignitions or known areas of high bushfire potential.

The LMZ does not require intensive management and focuses on those actions appropriate to conserve biodiversity and cultural heritage including exclusion of fire from the reserve.

Current Situation	Desired Outcomes	Strategies	Priority
Variable response to unplanned fires.	Rapid, safe and appropriate first attack of all unplanned fires	<ul style="list-style-type: none"> • Backburning from existing trails or boundary breaks is the preferred suppression method. • Given the low levels of fire through the Reserve, the entire reserve can be allowed to burn if necessary. • Given the slope of the escarpment, it is important not to be within or immediately east of either section if a fire is approaching from a south-west to north-west direction (ie travelling up the escarpment). 	

Legend for priorities

High priority activities are those imperatives to achievement of the objectives and desired outcomes. They must be undertaken in the near future to avoid significant deterioration in natural, cultural or management resources.

Medium priority activities are those that are necessary to achieve the objectives and desired outcomes but are not urgent.

Low priority activities are desirable to achieve management objectives and desired outcomes but can wait until resources become available.

Threatened fauna known or predicted to occur locally and within vegetation types of the Reserve

Scientific Name	Common Name	Known/Predicted
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	Predicted
<i>Chalinolobus picatus</i>	Little Pied Bat	Known
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	Known
<i>Grantiella picta</i>	Painted Honeyeater	Known
<i>Lathamus discolor</i>	Swift Parrot	Predicted
<i>Lophoictinia isura</i>	Square-tailed Kite	Known
<i>Macropus dorsalis</i>	Black-striped Wallaby	Predicted
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (south-eastern form)	Known
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater (eastern subspecies)	Known
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	Predicted
<i>Neophema pulchella</i>	Turquoise Parrot	Known
<i>Ninox connivens</i>	Barking Owl	Known
<i>Nyctophilus timoriensis</i>	Greater Long-eared Bat (south eastern form)	Known
<i>Petaurus norfolcensis</i>	Squirrel Glider	Known
<i>Phascolarctos cinereus</i>	Koala	Known
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	Known
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Known
<i>Pyrrholaemus saggitatus</i>	Speckled Warbler	Known
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	Known
<i>Stagonopleura guttata</i>	Diamond Firetail	Known
<i>Tyto novaehollandiae</i>	Masked Owl	Known
<i>Underwoodisaurus sphyrurus</i>	Border Thick-tailed Gecko	Known

Threatened flora known or predicted to occur locally and within vegetation types of the Reserve

Scientific Name	Common Name	Known/Predicted
<i>Acacia atrox</i>	Myall Creek Wattle	Known
<i>Boronia ruppilii</i>	Rupp's Boronia	Known
<i>Dichanthium setosum</i>	Bluegrass	Known
<i>Polygala linariifolia</i>	Native Milkwort	Known
<i>Rulingia procumbens</i>	<i>Rulingia procumbens</i>	Predicted
<i>Tylophora linearis</i>	<i>Tylophora linearis</i>	Predicted