Narran Lake Nature Reserve
Fire Management Strategy
2017 - 2022

NSW Office of Environment & Heritage

This strategy should be used in conjunction with aerial photography and field reconnaissance during incidents and the development of incident action plans.

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

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ISBN	Date Approved:

Map Details

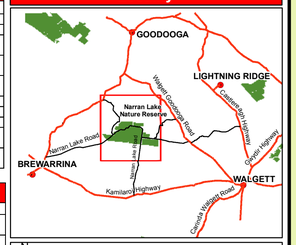
Datum: Geocentric Datum of Australia 1994 ,GDA 94
Projection: Map Grid Australia Zone 55
Scale: Noted scales are true when printed on A1 size paper

Data: SPOT 2011. 1:50k
Topographic Map: NARRAN 8338 & CUMBORAH 8438

Contact Information

Agency	Position / Location	Phone
National Parks & Wildlife Service	Duty Officer (24 hour)	6792 4680
	Narrabri Area Office (bus. hours)	6792 7300
NSW RFS North West	Jillian Butler (Acting Zone Manager) Duty Officer	6822 4422
NSW RFS Barwon Darling	Chris Fravelle (Zone Manager) Duty Officer	0419 691 815 6872 4023
RFS Rural Fire Brigades	Narran Lake Boorooma Brigade	
NSW Fire Brigade	Katoomba	4782 6077
Emergency Services	Police, Fire, Ambulance	000
SES		13 2500
Police	Walgett Lightning Ridge	6828 1399 6829 9799
Council	Walgett Brewarrina	6828 1399 6830 5100

Locality



Communications Information

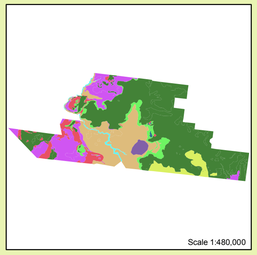
Service	Channel	Location and Comments
NPWS VHF	17 18	• Fireground simplex
RFS	W113 W117	• Cumborah • Lightning Ridge
UHF - CB		• Small fires - Channel 10, • Large fires - determined by IMT
Aviation - CTAF	126.7	
Mobile phone		• Telstra 3G coverage varies across the reserve

Fire Season Information

Wildfires	The critical wildfire season is likely to occur: • after a prolonged period of above average rainfall, leading to prolific grass growth; and • during the period November to January when there is a higher incidence of lightning.
Prescribed Burning	Prescribed burning in Spinifex Woodlands is likely to be effective when Near-surface fuel hazards are HIGH. It should only be conducted outside of both the critical fire season and extreme drought periods. Prescribed burning is unlikely to be effective in most years. The exception will be after a prolonged period of above average rainfall, leading to prolific grass growth

Vegetation

Broad Vegetation Communities
- Seasonal open water
- Sand dune / lake edge shrublands
- Lignum shrubland wetlands
- Riparian forests and woodlands
- Floodplain Woodlands
- Dry floodplain and low hill woodlands
- Sand dune wetlands
- Chenopod shrub / ephemeral grasslands
- Spinifex Woodlands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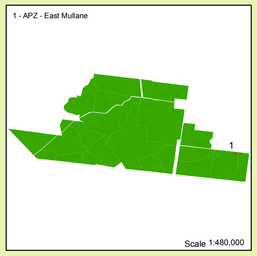
Bushfire Risk Managment Stratigies

Asset Protection Zone	The objective of this zone is to protect historic structures by maintaining the Overall Fuel Hazard at LOW.
Land Management Zones	The objective of this zone is to conserve biodiversity and protect cultural heritage by applying biodiversity thresholds.



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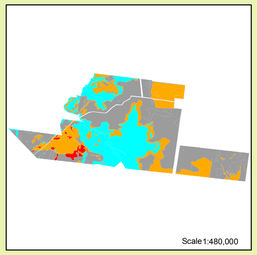
Status of Biodiversity Thresholds

Too frequently burnt	Consecutive fire intervals are shorter than the recommended minimum interval.
Vulnerable to frequent fire	The current fire interval is shorter than the recommended minimum interval.
Within threshold	The time-since-fire is greater than the recommended minimum, and less than the recommended maximum.
Long unburnt	The current fire interval is longer than the suggested interval.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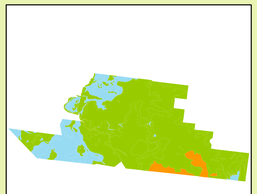
Vegetation Suitability for Prescribed Burning

Available	Available for prescribed burning
Available - only ephemeral conditions	This area is generally has NIL or LOW OFH, except during seasons producing continuous ground cover
Unavailable for prescribed burning	This area is unavailable for prescribed burning, due to NIL or LOW OFH, or ecological requirements.
Availability for burning must be referenced with the **Status of Biodiversity Thresholds.**	


Analysis of fuel load, fire history and plant community ecology required before identifying sites for burns.
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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 without the support of ground-based suppression crews should be limited to very specific circumstances. All aerial ignition operations require the consent of the Incident Controller.
Backburning	• 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. Backburning should be timed for late afternoon and early evening. • Where practicable to assist mop-up efforts, clear a 1m radius around dead and fibrous barked trees adjacent to containment lines prior to backburning, or wet down these trees during the ignition.
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. • A senior NPWS officer is to liaise with the RFS to ensure that the agency in command and control is determined and an Incident Controller is appointed
Containment Lines	• Existing or previous roads, tracks and control lines should be used wherever possible • New containment lines require the prior consent of a senior NPWS officer. • Construction of new containment lines should be avoided, where practicable, except where they can be constructed with minimal environmental impact. • 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. • Where possible, fireline construction will avoid the removal of trees.
Earthmoving Equipment	• Plant may only be used with the prior consent of a senior NPWS officer. • Plant must always be supervised by an experienced officer, and accompanied by a fire-fighting vehicle when engaged in direct or parallel attack. • Plant must be washed down, where practicable, prior to entering and exiting NPWS estate. • Earthmoving equipment must not work in machinery exclusion areas due to the presence of Aboriginal sites. • Bobs Trail exclusion zone is to prevent the spread of Hudson Pear. • Light blading should be used to minimise soil disturbance and soil erosion potential.
Fire Suppression Chemicals	• The use of foam, wetting agents and retardants will be permitted on the reserve • Fire suppression chemicals are not to be applied within 100m of water courses and dams. • 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. • Fire line construction in lake bed areas must be back-bladed as soon as possible.
Watering points	• Consider deployment of bulk water carriers to support fire operations.
Smoke Management	• Potential smoke impacts and mitigation tactics will be assessed during the planning of fire operations.
Visitor Management	• The reserve may be closed to the public during periods of extreme fire danger, and will be closed during fire operations.
WARNINGS	Bogging potential and gilgai / melonholes in black soils. Open mine shafts in areas.
	Black text – general guidelines Blue text – reserve specific guidelines Red text – Major warnings

Operational Guidelines - Heritage

Resource	Guidelines
Aboriginal Cultural Heritage Site Management	*Modified trees (IS1)* • Protect the site from fire, clear base of litter and shrubs, exclude site tree from fire where possible • Foam may be used to protect the tree, or to extinguish fire • Do not cut trees *Ground based sites (IS2), including:* middens, artefact scatters, quarry sites, grinding grooves and hearths • Protect sites from any ground disturbance, including the use of earth-moving equipment and vehicles • Apply a machinery exclusion zone on the shorelines of the Narran Lakes. *Resource sites (IS3), including fig-tree groves* • Protect site from physical disturbance *Mythological site (548111 6709171)* • Apply a machinery exclusion zone for a radius of 100 metres • An Aboriginal Heritage Officer should be consulted during the planning of operations.
Historic Heritage Site Management	*Grave Site* • Apply a machinery exclusion zone for a radius of 25 metres *Terewah sheds (541146 6717702) and yards (536010 6714101)* • Protect the site from fire, exclude area from fire where possible • Foam may be used to protect the structures, or to extinguish fire
Threatened Flora and Fauna Management	*Endangered plant species – Winged Peppercress (Lepidium monoplocoides)* • Apply a machinery exclusion zone in habitat areas *Threatened ecological communities – including Brigalow assemblages in Dry Woodlands; Riparian Open Woodlands; and, Poplar Box - Coolibah Woodlands* • Construct control lines around stands of Brigalow and Myall • Avoid the removal of mature trees *Threatened fauna and species subject to CAMBA, JAMBA & ROKAMBA Treaties* • The protective actions for threatened fauna have been incorporated into the Operational Guidelines

Suppression Strategies

Conditions & forecast	Guidelines
Stable conditions forecast Winds < 15 kph	• A broad containment strategy using existing roads, tracks, claypans, low OFH fuel types and riparian areas. • Where practicable, and with an analysis of short and medium forecasts, consider maximising the fire area, for ecological purposes.
Unstable conditions forecast Winds > 15 kph	• Direct or parallel attack with plant and fire units. • Fallback to perimeter fire trails or open country when fire runs extend capacity to construct containment lines • Secure flank as soon as possible on the next predicted downwind side.
Control lines in Lignum Shrubby Thickets	• In most conditions, fire will not run in lignum • Under exceptional conditions, control lines may be constructed • Light blading should be used, with overburden back-bladed at end of patrolling • There is the potential for underground smouldering to emerge outside a control line. This risk is high during dry soil sub-surface conditions. • A shallow trench may be ripped along the control line, and patrolled for underground smouldering. FLIR may be used to assist patrolling.

Vegetation Communities and Biodiversity Thresholds

Vegetation Community	Vegetation management guidelines	Fire Behaviour
Seasonal open wetlands	• No fire thresholds to be applied	• Nil
Sand dune / lake edge shrublands and wetlands	• No fire thresholds to be applied	• Unlikely to carry fire
Open wetlands Lignum Shrubby thickets	• Avoid fire events • No fire thresholds to be applied – ecological thresholds are flood based	• Potential rates of spread is usually **LOW** due to **Low OFH** • Fire may carry through this community only after wet seasons producing a grassy cover
Riparian Open Forest River Red Gum – Black Box Open Forest	• Avoid prescribed burning • Avoid high intensity fire events • No fire thresholds to be applied – ecological thresholds are flood based	• Potential rates of spread is usually **LOW** due to **Low OFH** • Fire may carry through this community after successive wet seasons producing a grassy understorey
Floodplain Woodlands Popular Box - Coolibah Woodlands	• An interval between fire events less than 10 years should be avoided • Avoid high intensity fire events • Burning may only be conducted during late winter – early spring	• Potential rates of spread is usually **LOW** due to **Low OFH** • Fire may carry through this community after successive wet seasons producing a grassy understorey
Dry Woodlands Mixed Low woodlands & Mulga – White Cypress Woodlands	• An interval between fire events less than 20 years and greater than 50 years should be avoided • Some areas should be selected to be managed with an interval greater than 100 years	• Potential rates of spread is usually **LOW** due to **Low OFH** • Fire may carry through this community after successive wet seasons producing a grassy understorey
Chenopod shrublands / Ephemeral grasslands Saltbush,Maireana, Cannonball, Copperburr Shrublands	• No fire thresholds to be applied • Vegetation changing due to removal of grazing	• Potential rates of spread is **LOW** during dry periods due to **Low OFH** • Potential rates of spread is **HIGH** when continuous grass cover has developed
Spinifex Woodlands Triodia Hummock Grasslands & Low Open Woodlands	• An interval between fire events less than 5 years, and greater than 10 years should be avoided • Avoid prescribed burning during periods of extreme drought	• Potential rates of spread is **HIGH** when a **High – Very High** near-surface fuel hazard has developed

OFH – Overall fuel hazard - A rating system that includes leaf litter, grasses, shrubs, bark type and bark condition. Consists of ratings for surface fuel, near-surface fuel, elevated fuel and bark.

Incident Map