

Macquarie Marshes Nature Reserve

Fire Management Strategy (Type 2) 2020 - 2025

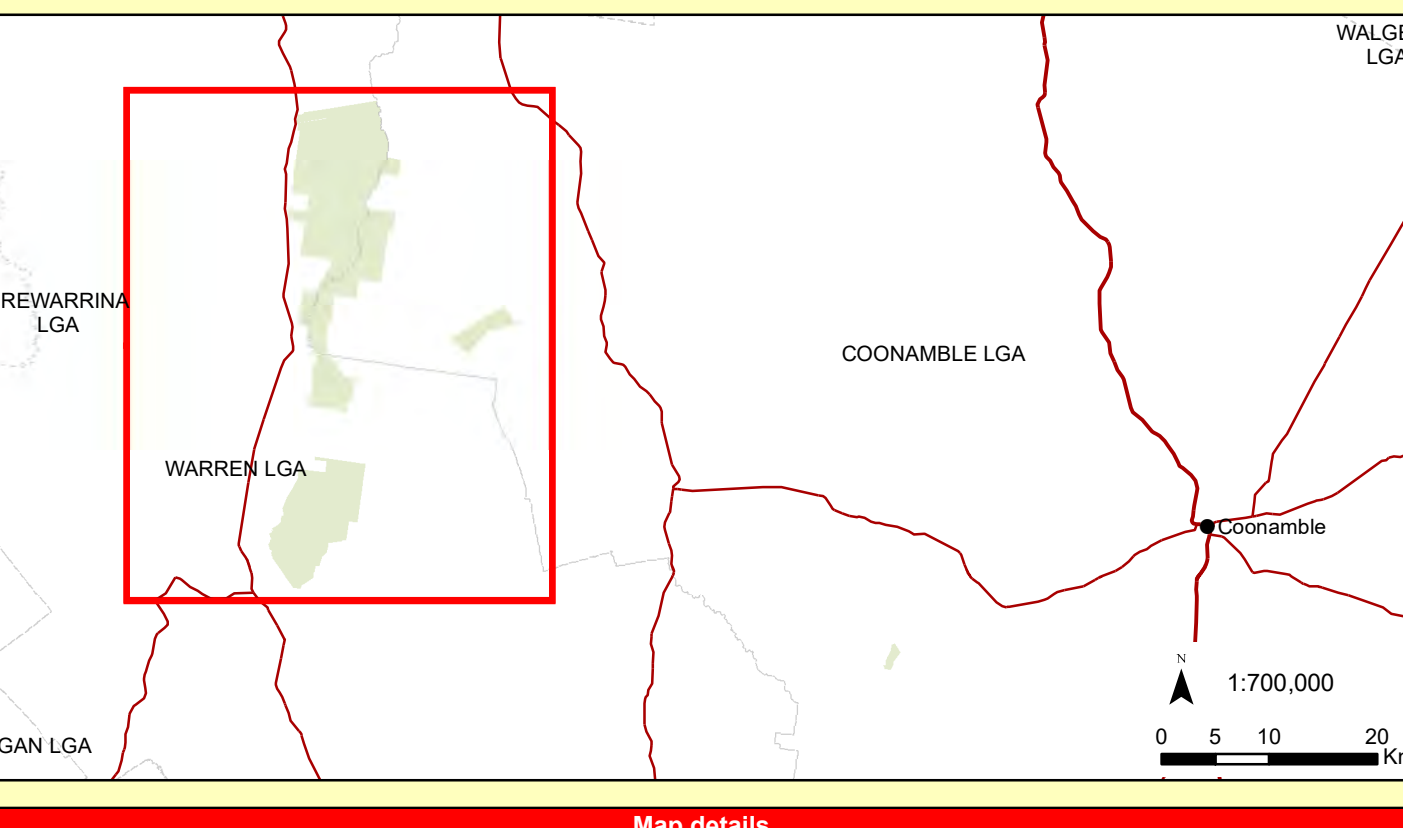


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This strategy is a relevant Plan under Section 38 (4) and Section 44 (3) of the Rural Fires Act 1997.

Locality Map



Map details
Datum: D_GDA_1994 Zone 55 Geographic Coordinate System: GCS_GDA_1994 Topographic Map: Quathothoo 8436 N, Quathobone 8436 S
Local Government Area: Warren / Coonamble

Contact Information

Agency	Position / Location	Phone
National Parks & Wildlife Service	Duty Officer (24 hour) Castlereagh Area Office (bus. hours)	8275 1742 6843 4000
NSW Rural Fire Service	FCC Office North West Zone Coonamble FCC	6822 4422 0427 178 179 6822 4422
Emergency Services	Police, Ambulance, Fire and Rescue NSW	000
SES	Collarenebri Walgett	132 500 6756 4959 6828 8899
Police	Warren Shire Council Coonamble Shire Council	6847 6600 6827 1900

Communications

Service	Channel	Location and Comments
NPWS Repeaters	313	Buckinjury - Good coverage.
RFS	WG023	Digital Votex.
UHF - CB		Small fires channel 10, large fires determined by IMT
Aviation - CTAF	134.70	NB frequency unless another frequency is allocated on an incident.
Cellphone		Some Telstra 3G coverage is available in the South Marsh with a boosted signal. SatPhone is required.

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 a senior NPWS officer or the Section 44 Appointee.
 - 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**
 - The first combantant agency on site may assume control of the fire, but then must ensure the relevant land management agency is notified promptly.
 - The initial Incident Controller will liaise with the RFS to ensure that the agency in command is determined and an Incident Controller is appointed.
 - 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 personnel 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.
- Command & Control**
 - Exclusion areas for containment line construction are:
 - Reed beds.
 - Historic precincts and sites.
 - Historic construction walls.
 - Avoid removal of trees in all open woodlands.
 - Avoid removal of mature trees in riverine forests.
 - Minimise ground disturbance in scalded areas (lift blade).
 - Avoid traversing mixed grasslands unless dry.
 - Plant may only be used with the prior consent of a senior NPWS officer.
 - 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.
 - Containment lines running along valley areas should be constructed 20-50 metres from the gully line to avoid severe erosion.
 - Plant must be washed down where practicable, prior to it entering NPWS estate and again on exiting NPWS estate.
- Containment Lines**
 - The use of foam, wetting agents and retardants will NOT be permitted within 100 metres of dams or wetlands.
 - All personnel should be briefed to prevent foam use in sensitive areas.
 - The reuse of gels and retardants should be approved by a senior NPWS officer.
 - The use of retardants requires the approval of a senior NPWS officer.
 - Where practicable, containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation.
 - Drainage lines and channels disturbed by the construction of containment lines must be rehabilitated as soon as possible as part of the suppression operations.
 - Consider deployment of a bulk water carrier to support fire operations.
 - Consider deployment of 1,000 litre pallet tanks to be refilled by helicopters, to reduce fire unit turnaround times.
- Fire Suppression Chemicals**
 - Potential smoke impacts and mitigation tactics will be assessed during the planning of fire operations.
 - Implement the emergency management plan during Severe + Fire Danger, or when fires are threatening public access/visitor areas. Ensure the closure is advertised on the NPWS visitor website.
 - 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.
 - Advise agencies of fire threats, and the restrictions in place for entry to the reserve.
- Rehabilitation**
 - Fire suppression crews should not enter reed beds for suppression purposes due to extreme fire behaviour potential except in the following circumstances:
 - Areas of reduced reed cover because of drought and wetland retreat.
 - Dry conditions for short distances with safe egress.
 - The Riverine forests and woodlands contain very high levels of dead standing timber due to dieback. This poses significant risks to firefighters and should be considered in suppression tactics.
 - The reserve contains gigajoules of energy which produces depressions and holes that are a hazard to cross country travel.
 - Vehicles should avoid areas of wet black soil due to the risk of bogging.
 - Black text - general guidelines Blue text - reserve specific guidelines Red text - important warnings
- Water Points**
 - Water points should be checked and maintained as part of the suppression operations.
- Smoke Management**
 - Potential smoke impacts and mitigation tactics will be assessed during the planning of fire operations.
- Visitor Management**
 - Implement the emergency management plan during Severe + Fire Danger, or when fires are threatening public access/visitor areas. Ensure the closure is advertised on the NPWS visitor website.
 - 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.
 - Advise agencies of fire threats, and the restrictions in place for entry to the reserve.

Warnings

- Heritage Guidelines**
 - IS 1 - As far as possible protect site from fire. Do not cut down trees. Use of foams & retardant is acceptable.
 - 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. Clusters of these sites in the north west of the Reserve has potential for machinery exclusion zones.
 - IS 3 - Avoid all ground disturbance. Avoid water bombing. Site may be burnt by fire without damage.
- Aboriginal Cultural Heritage**
 - Habitat sites
 - Exclude control line construction from sites. Consider a buffer zone of about 50 metres from the sites.
 - APZMS databases must be checked as part of planning for fire operations.
 - Hunts Well and Bora Crossing
 - Historic Precincts
 - Cresswell precinct, Salt Paddock Yards, P Block Yards, Masman Yards, Lamp's and Simpsons Yards and Ebs Yards.
 - Survey trees and markers
 - As far as possible, protect the precincts from fire.
 - Protect structures from fire.
 - Use of gels & retardant is acceptable.
 - The protective actions for threatened flora and fauna have been incorporated into the Operational Guidelines.
 - Endangered Ecological Communities (EEC) include Coolibah Blackbox Woodland, Myall Woodland, Riparian Open Woodland.
 - The soils within the reserve are generally highly dispersive, and very susceptible to erosion after disturbance. The construction of control lines aligned to the direction of water flow will be particularly vulnerable.
 - Light blading must be employed during control line construction
 - Bar drains or roll-overs must be constructed as soon as possible.
- Threatened Fauna & Flora**
 - The protective actions for threatened flora and fauna have been incorporated into the Operational Guidelines.
- Soil Erosion Management**
 - The soils within the reserve are generally highly dispersive, and very susceptible to erosion after disturbance. The construction of control lines aligned to the direction of water flow will be particularly vulnerable.
 - Light blading must be employed during control line construction
 - Bar drains or roll-overs must be constructed as soon as possible.

Suppression Strategies

Conditions	Guidelines	Suppression Strategies
All vegetation types		Fire danger rating
LOW - HIGH		Direct and parallel attack may be applied with earthmoving machinery and fire units.
VERY HIGH		Close parallel attack, moving around the head only when fire slows burning.
EXTREME		Distance between the tank and machinery and the fire units should be kept to a minimum.

Fire Season Information

Wildfires The critical wildfire season occurs during November to March when there is a higher incidence of lightning. The fire potential is increased after prolonged periods of above average rainfall that leads to prolific grass growth. Particular care is required during periods of negative Southern Oscillation Indices.

Prescribed Burning Prescribed burning is unlikely to be effective in most years. The exception will be after extended periods of above average rainfall that has produced prolific grass growth. Hazard reduction burning should be scheduled for the period immediately after this grass has cured.

Vegetation

Vegetation Class (Kalt)	Vegetation Management Guidelines	Fire Behaviour
Inland Floodplain Swamps	<ul style="list-style-type: none"> General wetlands dominated by tall species (i.e. common reed (Phragmites) and sycamore (Eucalyptus)). An interval of less than 2 years between fire events should be avoided, and ideally would include two sustained periods (or months) of inundation to allow wetland beds to complete several cycles. Prescribed burning guidelines in fire season information must be implemented. Prescribed burning not permitted under severe drought areas. Exclude the use of machinery. 	<ul style="list-style-type: none"> Potential rate of spread is usually high due to Extreme OFH. The entire reedbed may burn out during dry conditions. Spread on banks is limited when burning in standing water. Under any conditions ground fire may burn under minimal earth containment lines.
Riverine Channel Shrubland	<ul style="list-style-type: none"> Character: Grasslands Continuous grasslands may occur in following seasons with above average rainfall. No prescribed burning recommended unless part of planned ecological burning. 	<ul style="list-style-type: none"> Potential rates of spread are usually Low due to Low OFH. Continuous grass cover following above average rainfall can carry fire with a high RGS.
Inland Riverine Forests	<ul style="list-style-type: none"> River Red Gum - River Gum A fire interval of less than 10 years should be avoided. Avoid high intensity fire events. Exclude fire from designated regeneration areas. 	<ul style="list-style-type: none"> Potential rate of spread is Low due to Low-Med OFH in most years. High intensity fire will occur in elements containing reed.
North-west Floodplain Woodlands	<ul style="list-style-type: none"> Polar Box - Black Box - Coolibah A fire interval of less than 20 years should be avoided. Past clearing events have generated the variable class of vegetation that can include native grasses and shrubs, introduced weeds and regenerating native overstorey species. No fire intervals are prescribed for cleared areas and fire management should be based on the regeneration intent. 	<ul style="list-style-type: none"> Potential rates of spread are usually Low due to Low OFH. Heavy grass cover following above average rainfall can carry fire with a high RGS. 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.
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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

Fire History

Fire Type	Fire Details
Prescribed Burn	<ul style="list-style-type: none"> 2014-15: Ninia - Low Intensity (River Red Gum / Black Box Communities) 2013-14: By-pass Channel - High Intensity (Phragmites Reeds)
Wildfire	<ul style="list-style-type: none"> 2019: Macquarie River, Cresswell - High intensity through reedbed, rapid spread, controlled in red gums as weather moderated. 2019: Carinda Rd - High intensity through reedbed, rapid spread, controlled in red gums as weather moderated. 2015-16: Carinda Rd, The Marra - High Intensity (Phragmites Reeds) 2014-15: North Marsh Cresswell - Moderate Intensity (River Red Gum) 2014-15: Macquarie Marshes Cresswell - High Intensity (Phragmites Reeds) 2014-15: Masman - Low Intensity (River Red Gum) 2013-14: By-pass Channel - High Intensity (Phragmites Reeds)

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 less than HIGH.
Land Management Zones	The objective of LMZs is to conserve biodiversity and protect cultural heritage. Manage fire consistent with fire thresholds.

Operations Map

