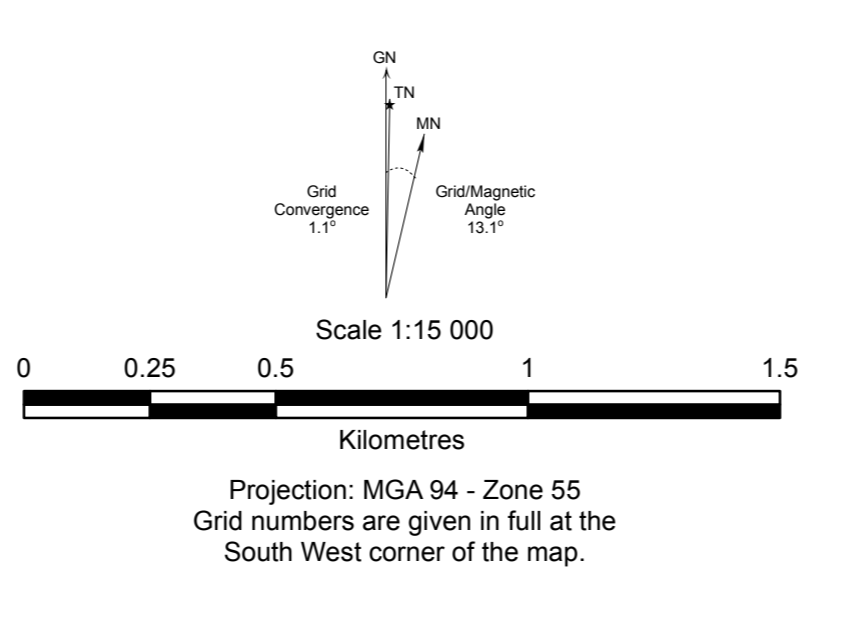


- Airbase Confirmed/Unconfirmed
- Helipad Confirmed/Unconfirmed
- Refuge Area Confirmed/Unconfirmed
- Escape Route Confirmed/Unconfirmed
- Staging Area Confirmed/Unconfirmed
- Water Point
- Water Point Helicopter
- Water Point Vehicle
- Indigenous Site
- Historic Site
- Threatened Fauna
- Threatened Flora
- Asset
- Dam
- Locked Gate
- Unlocked Gate
- Quarry
- Fire Trail Classification: Essential Fire Trail, Important Fire Trail, Dormant Trail
- Fire Trail Carrying Capacity: Cat 1, Cat 7, Cat 9
- Other Roads: Sealed Road, Unsealed Road, Trail, Dormant Track
- Spot Height
- Trig Station
- Landing Ground
- Powerline > 66 kv
- 20m Contour
- 100m Contour
- Cadastral
- State Border
- Waterbody
- Bango NR
- Other OEH Estate
- State Forest
- Pine Plantation
- Timbered Area (off park)
- Vineyard/Orchard



OPERATIONAL GUIDELINES	
ACTIVITY	OPERATIONAL GUIDELINES
Command, control and fire fighting arrangements Fire Response	<ul style="list-style-type: none"> Where NPWS is not the first responding authority to arrive at a fire on NPWS lands, a competent officer of the first fire authority will direct fire suppression activities until a competent NPWS Officer assumes control (unless agreements have been made). In the interim, the OEH Area Manager or Regional Duty Officer will establish and maintain contact with the first fire authority to confirm fire suppression objectives and strategies. The use of earthmoving equipment, retardant and aerial burning techniques will only be permitted subject to the approval of the OEH Liaison Officer at the incident, or in accordance with the objectives stated in the BFMIC plans of operations.
Aircraft Operations	<ul style="list-style-type: none"> Aerial water bombing and aerial ignitions are permissible in this Reserve. Where possible, surfactants should be used to increase the effectiveness of fire bombing operations, however avoid use within 100m of watercourses and dams. While aircraft can assist in 'knocking down' fire and reducing rate of spread, ground crews are critical to ensure containment. All air operations must be fully integrated with ground operations and incident management to ensure safety and maximise effectiveness.
Burning Operations	<ul style="list-style-type: none"> The control and command of the burn operation will be in accordance with the Incident Management Strategy, with overall supervision by the Incident Controller. Operational briefings and safety checks will be conducted before the ignition of the burn to ensure personnel safety, public safety and operational success. Control lines must be sufficient to contain the burn under the conditions anticipated. Adequate resources must be committed to ensure the safety of personnel and containment of the burn in the time specified for the operation. The light-up methods and sequences will ensure containment of the burn and safety of fire fighters. Adequate means of communication must be available to all personnel involved in burning operations. A back-burn should be conducted only when both fuel and weather conditions are suitable for the containment of the burn. This may be at night when it is cooler and more humid, after a wind shift or lull, or after a cool change.
Fire Control lines	<ul style="list-style-type: none"> Existing constructed trails should be used for containing bushfires wherever possible. Temporary fire control lines may be constructed or established to contain bushfires and prescribed burns within predetermined boundaries. Where necessary, rehabilitation or restoration of temporarily constructed control lines will be undertaken. All trails will be constructed and maintained to the standards prescribed in Guidelines for the Planning, Construction and Maintenance of Tracks (Department of Land and Water Conservation, 1994). Earth moving equipment must be supervised and guided by an experienced NPWS officer or a person recognised to be appropriately experienced. As far as possible, control lines are not to be improved or constructed in the areas identified on the operations map. Dormant trails may be used as a strategic control line during an incident, however they may need some mechanical work to clear regenerating vegetation and fallen timbers. Rake fuel away from the base of fibrous-barked trees, and from around logs close to the edge of the control lines.
Earthmoving equipment	<ul style="list-style-type: none"> Earthmoving equipment may be used for fire operations, based on predicted success of fire suppression and anticipated impacts. However, as far as possible, control lines are not to be improved or constructed in the areas identified on the operations map. When the incident controller is not an OEH officer, approval must be gained from the Regional Manager or other senior officer before earthmoving equipment is deployed for use on OEH managed land. Earth moving equipment must be supervised and guided by an experienced NPWS officer or a person recognised to be appropriately experienced. All earthmoving equipment employed in fire operations must be accompanied by a support vehicle that has equipment available to contact support personnel in an emergency. Earth moving equipment involved in direct or parallel attack must be accompanied by either a Cat 9 fire unit or a fire tanker for safety purposes. At the start of a shift, all operators and guides must be briefed on safety considerations and actions to prevent damage to sensitive natural and cultural heritage. All earthmoving equipment should be washed down before entering OEH managed lands in order to prevent the potential relocation of weeds or pathogens.
Fire suppression chemicals	<ul style="list-style-type: none"> The use of fire suppression chemicals is permitted within the Reserve. However, as far as possible, exclude the use of fire suppression chemicals within 100m of watercourses and dams, and areas identified on the operations map. Retardants should only be applied where there is a high probability that their use will be successful. Whenever retardants are to be used, preference should be given to using retardants based on ammonium sulphate. For Class 1 and 2 fires, the use of retardants must first be approved by the Regional Manager or delegated officer. For Class 3 fires, the Incident Controller or OEH liaison officer must notify the Regional Manager of the intention to use retardant. When intensive application of fire chemicals has occurred, consider mapping and recording as part of the fire history and fire management of the Reserve. This information should be stored in a GIS, and used for possible future monitoring.
Post fire rehabilitation	<ul style="list-style-type: none"> A post-fire rehabilitation plan must be prepared if the fire management strategies and tactics have produced, or have the potential to produce, long lasting impacts. The rehabilitation process should be addressed in incident action planning.
Smoke management	<ul style="list-style-type: none"> The potential impacts of smoke and possible mitigation tactics must be considered when planning for wildfire suppression and prescribed burning operations. Where there is potential for smoke or activities from wildfires and prescribed burning to impact on public road traffic or public transport, liaise in advance (where possible) with the relevant authority, eg. RMS. A traffic management plan, incorporating the use of safety signs, will be developed as part of the Incident Action Plan.
Transmission lines	<ul style="list-style-type: none"> May cause danger to ground personnel through smoke conduction of electricity through the air. Contact the relevant authority to turn the power off prior to implementing back burning operations under lines.
Water supplies	<ul style="list-style-type: none"> Access to water supplies on private property will be negotiated prior to use, except according to Section 44 provisions. Arrangements may be made to replace water used after the fire, as required.

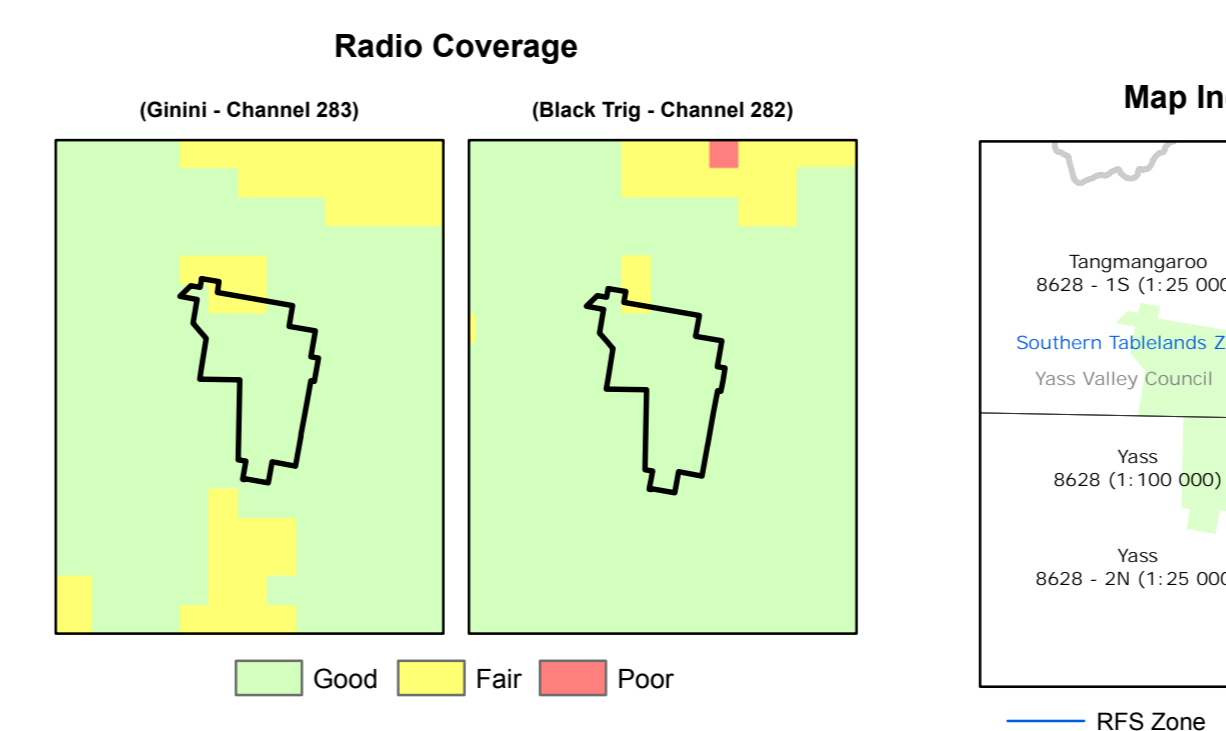
FIRE SEASON INFORMATION

The critical fire season occurs between mid November and February, when seasonal conditions have the highest potential to sustain fire. Periods of prolonged drought may extend the fire season.

Any proposed prescribed burning should be avoided during Spring, and during times of prolonged drought.

During the fire season prevailing winds during the day are from the north west.

FIRE SUPPRESSION STRATEGIES	
FFDI	OPERATIONAL GUIDELINES
General	<ul style="list-style-type: none"> Response to fire will be determined by incident appreciation and situation analysis and will consider warnings and safety messages contained in standard operating procedures. Response strategies should be based on the current and forecast rate of spread and direction of the fire. Safety and the protection of human life is the first priority in fire management operations and the primary consideration at all times, followed by protection of community and environmental assets. Cat9 vehicle access to the reserve is limited. Initial ground crews may have to walk in. Consider crew insertion by helicopter (with winch) to reduce response time. Use caution in areas with Identified Mines and Kims and where possible, keep to official trails to prevent potential injury or accidents from uncovered mining sites.
Current Low-Mod & Forecast Low - Mod	<ul style="list-style-type: none"> Undertake reconnaissance and monitoring. Undertake direct, parallel or indirect attack along existing containment lines. Where practicable, consider maximising the fire area in accordance with the requirements of any proposed prescribed burns identified in Bush Fire Management Committee agreements. Strategies for response include deployment of Remote Area Fire Teams (RAFT) with aerial support, including water bucketing, the use of existing trails as containment lines, and where necessary, the use of earthmoving equipment for the establishment of containment lines.
Current Low-Mod & Forecast High or >	<ul style="list-style-type: none"> In order to minimise the fire area and secure the flanks as soon as possible, undertake direct, parallel or indirect attack along the closest containment lines. Pay particular attention to the flank on the predicted down wind side. Consider fallback containment strategies. Strategies for response include deployment of Remote Area Fire Teams (RAFT) with aerial support, including water bucketing, the use of existing trails as containment lines, and where necessary, the use of earthmoving equipment for the establishment of containment lines.
Current High or > & Forecast high or >	<ul style="list-style-type: none"> Initial attack strategies and tactics should be implemented to contain fires to the smallest area possible. Undertake indirect attack along existing or newly constructed containment lines. Secure and deepen containment lines along the predicted downwind side of the fire. Allow sufficient time to secure containment lines prior to the fire impacting on them, to avoid wasted effort and potential failure. Prepare and implement fall back containment strategies.
Fire Advantages	<ul style="list-style-type: none"> Streams in the Reserve are intermittent and should not be regarded as passive control lines under normal conditions.



Southern Ranges Region

Bango Nature Reserve

Fire Operations Map 2016

ISBN: 978-1-76039-499-8, OEH2016/0567, Version: October 2016

This Map should be used in conjunction with air photos and ground reconnaissance during incidents and the development of incident action plans.

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LIFE & PROPERTY GUIDELINES	
Visitor Safety (FMM)	<ul style="list-style-type: none"> Where possible: <ul style="list-style-type: none"> Visitors in or adjacent to the fire ground will not be permitted unless authorised by the Incident Controller. If a fire breaks out check campgrounds for visitors (preferably by air) and give directions if required. The presence of visitors should be reported to the incident controller immediately, who will arrange for an evacuation if necessary. Reserve closed or 'smoke hazard' signs must be placed in areas used by visitors prior to undertaking prescribed burning. Notify media that wildfire or prescribed fire exists within the Reserve. Access trails will be closed to the public during fire operations, where appropriate. Reserve closure may be implemented during periods of very high fire danger, when the park is threatened by fire, or when a fire is actually burning in park.
Asset Protection (FMM)	<ul style="list-style-type: none"> Refer to Cultural Heritage Guidelines for cultural assets. Whenever possible fires should be suppressed before they enter or leave the park.

MANAGEMENT ZONE GUIDELINES	
ZONE	GUIDELINES (WITHIN THE ZONE)
Land Management Zone	<ul style="list-style-type: none"> Minimise size and intensity of wildfires, and manage to produce a mosaic burn pattern, where weather conditions permit. Attempts can be made to increase burn patchiness by use of incendiaries, retardant, water bombing etc. Fire suppression chemicals may be used to suppress fire, however, minimise use within 100 m of drainage lines, and within 50 m of known Yass Daisy locations. Avoid mechanical disturbance and construction of roads and trails within known locations of Yass Daisy. Protect mature trees and minimise felling large and hollow bearing trees during mop up activities. Prescribed fire will be used where deemed necessary for asset protection or ecological purposes.

NATURAL HERITAGE GUIDELINES	
Where possible:	<ul style="list-style-type: none"> Minimise size and intensity of wildfires, and manage to produce mosaic burn patterns. Except for asset protection, fire should only be applied in response to a demonstrated loss of biodiversity. Fire will be introduced in accordance with the biodiversity fire regime thresholds. Avoid implementation of prescribed burns during Spring, and during times of prolonged drought. Minimise introduction of high intensity fires during prescribed burning operations. Avoid the use of fire suppression chemicals within 50m of Yass Daisy locations and within 100m of streams and riparian environments. Avoid mechanical disturbance and construction of roads and trails within known locations of Yass Daisy.

CULTURAL HERITAGE GUIDELINES	
THEME	GUIDELINES
Protection of Cultural Heritage (FMM)	<ul style="list-style-type: none"> During Fire operations, Incident Management Teams should obtain information about Aboriginal and historic heritage. Aboriginal site information from AHMIS is sensitive and subject to a Memorandum of Understanding. Site data must be used appropriately. Brief personnel involved in control line construction and vehicle based fire suppression operations on site locations and the required management strategies for site protection. Include in Incident Action Plans. Cultural Heritage Division staff released for the purpose of fire suppression activities should operate in a specialist planning capacity, as part of an Incident Management team, to ensure adequate protection of cultural heritage assets during fire suppression activities.
Hawkins Trig	<ul style="list-style-type: none"> Prevent earthmoving or ground disturbance within 20m of cairn (trig) site.
Scarred or carved trees	<ul style="list-style-type: none"> All fuel should be cleared from around identified trees when carrying out prescribed burning. Fuel will be cleared around identified trees, where possible, as part of fire fighting. Identified trees should be marked clearly before any control lines are constructed. Avoid new trail construction or ground disturbance within close proximity of site. Where possible, ensure site is protected by constructing trails or hand tool lines on the advancing fire side. Clear, by hand, excess fuels from the site. Avoid direct attack methods (including aerial water bombing) at known sites. Surfactants and retardants in aerial line drops may be used adjacent to, but not directly on, sites. Hazard reduction or back burning operations should minimise the potential threat of radiant heat and smoke (carbon deposition) on sites.
Stone arrangements, ceremonial rings, rock engravings, rock art, grinding grooves	<ul style="list-style-type: none"> Sites must be clearly defined and marked wherever possible, and control lines must avoid (and attempt to protect) all Aboriginal sites wherever possible.

CONTACT PHONE NUMBERS			
PARKS AND WILDLIFE GROUP	RURAL FIRE SERVICE	EMERGENCY SERVICES	000
Quambaryan Area Office (BH)	Yass Fire Control Centre	POLICE - Yass	6226 9399
Quambaryan Area Office Fax		AMBULANCE	000
Quambaryan Area Workshop	6297 8601	SES Yass	132 500
Incident Answering Service (IAH)	1800 629 104	Fire & Rescue Yass	6226 1058
Juni Office (BH)	494 1200	NEIGHBOURHOOD INFORMATION	
Jindabyne Office (BH)	6450 5555	COUNCILS	
OTHER ORGANISATIONS	Yass Valley Shire	6226 1477	
Wildcare (24 Hr)	Oronval LALC	6226 5349	Consult SR Region databases

RADIO COMMUNICATIONS			
AGENCY/ RESOURCE	CHANNEL	NOTES	
NPWS (VHF)	282	Black Trig - may be marginal especially on eastern sections of reserve.	
NPWS (VHF) FIRE GROUND	11 to 17	NPWS fire ground channels - simplex	
RFS (PMR)	41 to 60	RFS fire ground channels 1 to 20	
RFS (PMR) CB	S015	Consult with RFS to determine primary communications during an incident.	
		No dedicated channel.	
		118.10 MHz	State wide
		120.80 MHz	State wide
		122.80 MHz	State wide
		123.45 MHz	Pilots (chit chat) "The Numbers" channel
		123.70 MHz	State wide
		132.75 MHz	State Wide

AIRCRAFT COMMUNICATIONS
(Fire Communication Traffic Advisory Frequencies F-CTAF)

Mobile Phone Coverage - generally, the coverage is good, however may be marginal in valleys and hill shadow areas.

