South West Slopes Region
Woomargama & Mullengandra Reserves
Fire Operations Map 2007

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

This map is based on Land and Property Information Standard 1:25000 Topographic Map Series.
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OPERATIONAL GUIDELINES

ACTIVITY	OPERATIONAL GUIDELINES
Command, control and firefighting arrangements Fire Response (FMM 4.1 & 4.2)	- First fire personnel of any agency on site may assume control of the fire, but must ensure the relevant land management agency is promptly notified. - On arrival of other fire agencies, the initial incident controller will consult with the other agencies on the ongoing command, control and incident management team requirements as per the relevant BFMC Plan of Operations. - The use of earth-moving equipment and aerial suppression must be approved by a senior NPWS officer.
Aircraft Operations (NPWS FMM 4.4 & 4.8)	- Pilots must be briefed on the location and type of powerlines within incident operation area. - Aerial water bombing and aerial ignitions are permissible in this reserve, however can only be used and commenced on the instruction of the incident controller or senior NPWS officer. - Water bombing operations should support containment operations by aggressively attacking flanks, hotspots, spot-overs and head fires where required. - Where possible, foams should be used to increase the effectiveness of water, however limit use within 50m of watercourses and dams. - The use of water bombing aircraft without the support of ground based suppression crews should be limited to specific circumstances as determined by the senior NPWS officer. - Ground crews must be briefed and alerted to aerial ignition and water bombing operations
Back burning (NPWS FMM 4.8)	- All backburning operations must be planned and approved by a senior NPWS officer. - Backburning operations are to minimise the potential run of introduced fire. - All crews must be briefed on the sequence and safety precautions of the operation. - Generally, burning should commence when the humidity rises in late afternoon or early evening and spotting is minimal. With a low FDI, burning may be safely undertaken during the day. - Where practicable, clear 1m radius around dead and fibrous barked trees adjacent to containment lines prior to burning, or wet down these trees as part of the backburn ignition preparation.
Control lines (NPWS FMM 3.9)	- Existing constructed or natural fire control advantages should be used, wherever possible, to contain bushfires. - As a minimum, management trails identified on the operations map are maintained to a standard to provide access to Category 9, unless otherwise indicated.
Earth moving machinery (NPWS FMM 4.3)	- Strategies involving earth-moving equipment must be approved by the senior NPWS officer before implementation. - 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. Plant involved in direct or parallel attack must be accompanied by either a slip-on or a fire tanker for safety purposes. - At the commencement of shifts, all operators and guides must be briefed on safety consideration and actions to prevent damage to sensitive natural and cultural heritage. - Where possible, control lines running along valley areas should be constructed 50m from gullies to avoid severe erosion.
Fire suppression chemicals (NPWS FMM 4.9)	- Wetting and foaming agents (surfactants) are permitted for use in wildfire suppression. - Use of chemicals must be authorised by the senior NPWS officer. - As far as possible, exclude the use of surfactants within 50m of watercourses and dams. - Use surfactants where natural advantages provide the most effective applications of the chemicals.
Post fire rehabilitation (NPWS FMM 5.1)	- The rehabilitation process should be addressed during the incident, in the Incident Action Plan.
Smoke management (NPWS FMM 3.4)	- The potential impacts of smoke and possible mitigation tactics must be considered when planning for wildfire suppression and prescribed burning operations. - Where smoke has the potential to be a hazard on local roads or highways the police, RTA, local shire council and relevant media must be notified. - Monitor local roads and access for smoke hazards and install road safety/warning signs where necessary. Traffic control must comply with RTA Traffic Control at Worksites Manual requirements.
Transmission lines (Powerlines)	- 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 back burning operations under lines
Water supplies	- Access to water supplies on private property will be negotiated prior to use, except according to S44 provisions - Arrangements may be made to replace water used after the fire, as required.

SUPPRESSION STRATEGIES

FFDI	OPERATIONAL GUIDELINES
Current Low - Mod & Forecast Low - Mod	- 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 in the fire planning strategy and Bushfire Management Committee agreements.
Current Low - Mod & Forecast High or >	- 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 next predicted down wind side. - Consider fall back containment strategies
Current High or > & Forecast High or >	- Undertake indirect attack along existing or newly constructed containment lines. - Secure and deepen containment lines along the next predicted downwind side of the fire. - Allow sufficient time to secure containment lines to avoid wasted effort and potential failure. - Prepare and implement fall back containment strategies.
Fire Advantages	- Streams in the reserve are intermittent and should not be regarded as passive control lines under normal conditions - Reserve trails may function as fire advantages

Note: Always ensure there is sufficient time to secure containment lines prior to the fire impacting upon them.

LIFE & PROPERTY GUIDELINES

Visitor safety (NPWS FMM 3.6)	Where possible; - Visitors in or adjacent to the fire ground will not be permitted unless authorised by the Incident Controller. The presence of visitors should be reported to the incident controller immediately, who will arrange for an evacuation if necessary. - 'Park 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/area.
Asset Protection (FMM 4.10)	Radio Tower (Jingellic Trig) and picnic infrastructure at the Tin Mines and Samuel Bollard Camping Areas are the only major assets within the Reserve System. Where possible; - Use APZ to assist fire fighting and suppression. - Use of surfactants and wetting agents is appropriate, where it increases the chances of protecting assets from fire and radiant heat. - Follow operational guidelines.

HERITAGE MANAGEMENT ZONE GUIDELINES

ZONE	GUIDELINES (WITHIN THE ZONE)
HMZ 1 (High Priority)	Where possible; - Contain fires to small areas and lower potential intensity and manage to produce mosaic burn patterns. - Avoid the use of earth moving machines. - Avoid the use of surfactants/retardants. - Protect mature trees and avoid felling large and hollow bearing trees during 'mop up' activities. - Prescribed fire should be avoided, unless deemed necessary for ecological purposes.
HMZ 2	Where possible; - Minimise the potential for fire to spread and or contain to existing control lines. - Where wildfires occur in untreated areas programed for prescribed burning (ie. SFMZ), fire may be allowed to burn if conditions are appropriate. - Prescribed fire or other fuel manipulation program may be applied to the area to reduce potential risks. - Manage fire to produce mosaic (patchy) burn patterns (where weather conditions permit). - Earthmoving equipment may be used to contain fire within DEC policy guidelines. - Retardants and foams may be used to suppress fire, however minimise use within 50m of water courses and dams.

CULTURAL HERITAGE GUIDELINES

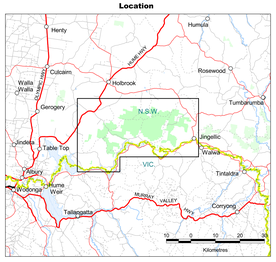
THEME	GUIDELINES
Aboriginal & Historic Heritage (FMM 4.11)	- Brief personnel involved in control line construction and vehicle based fire suppression operations on site locations and the required management strategies for site protection. Include in Incident Action Plans. - Liaise with the relevant heritage officer and or representative where considered necessary.
Scarred trees ◇1	- Clear fuels, with hand tools, from tree base and/or foam base to 3m up tree trunk. - Do not clear or fell trees. - Where possible, avoid new trail construction within 20m of trees and construct trails on the advancing fire side of the tree. - Hazard reduction or back burning operations should minimise the potential threat of radiant heat on the tree.
Rock arrangements, rock engravings, bora rings, etc ◇2	- 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 fires 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. - Prescribed burn or back burning operations should protect sites from the potential threat of radiant heat and smoke on sites.
Art sites and over-hangs ◇3	- Avoid new trail construction or ground disturbance within close proximity of site. Where practicable, ensure site is protected by constructing trails or hand tool lines on the advancing fire side. - Clear, by hand (whipper snippers, brush cutters, mowers), excess fuels from the site. - Avoid direct attack methods on sites. - Avoid aerial water bombing, use of foams and or retardants at known sites. Use of foam or aerial line drops may be used adjacent to, but not directly on sites. - Prescribed burn or back burning operations should protect sites from the potential threat of radiant heat and smoke (carbon deposition) on sites.
Open camp sites ◇4	- Avoid ground disturbance at or within close proximity of the site (30m). Earthmoving blades should be raised in these locations to avoid damage to sites on sites, unless a 'Consent to Destroy' has been attained. - Avoid direct attack methods (including aerial water bombing) at known sites. - Use of foam or aerial line drops may be used adjacent to, but not directly on sites.
Historic Heritage ◇5	- Clear fuels, with hand tools, from around features - Avoid the use of earth moving equipment at historic site locations. Where possible, control line construction should be avoided within 30m of features. - Prescribed burns or back burning operations should minimise the potential threat of radiant heat on features. Protect sites from burning operations. - Follow operational and HMZ 1 guidelines.

FMM - contains extracts from NSW National Parks and Wildlife Service Fire Management Manual (December 2004).

Woomargama Reserves - Waypoints

Name	Ref No	Description	Easting	Northing	Longitude	Latitude
Basin Creek		Waterpoint - Vehicle	5409020	6023950	147°22' 13"	35°57' 40"
Cloverdale	H1	Staging Area, Helipad	5314420	6017900	147°22' 55"	35°58' 58"
Eagleview	H2	Staging Area, Helipad	5489560	6019300	147°32' 34"	35°58' 10"
Elmvale	H3	Staging Area, Helipad, Refuge Area	5269560	6029390	147°17' 55"	35°52' 45"
Fabics Trail	H4	Waterpoint - Vehicle, Helipad	5309690	6021830	147°20' 25"	35°56' 50"
Ferndale	H5	Waterpoint - Vehicle, Waterpoint - Helicopter	5296060	6030630	147°19' 40"	35°52' 05"
Flyfaire	H6	Helipad	5277140	6024950	147°18' 27"	35°55' 09"
Green Valley	H7	Helipad, Refuge Area	5314220	6028860	147°36' 11"	35°52' 59"
Home Flat Creek		Waterpoint - Vehicle	5369110	6023690	147°24' 33"	35°55' 49"
Hyland Park	H8	Waterpoint - Vehicle, Waterpoint - Helicopter	5299440	6022640	147°19' 55"	35°56' 24"
Jingellic Creek	H9	Helipad, Waterpoint - Vehicle	5595000	6030730	147°39' 33"	35°51' 57"
Karoo	H10	Staging Area, Helipad, Waterpoint - Vehicle	5619960	6028220	147°41' 13"	35°53' 18"
Mandaring	H11	Staging Area, Helipad	5456020	6038890	147°30' 17"	35°47' 35"
Mandaring Road	H12	Staging Area, Helipad, Refuge Area	5450030	6035970	147°29' 59"	35°49' 09"
Matheesons Trail		Waterpoint - Vehicle	5517880	6029890	147°34' 25"	35°52' 25"
Murphys Trail	H13	Helipad	5416600	6034450	147°25' 49"	35°50' 59"
Murray River	H14	Waterpoint - Helicopter	5337000	6019170	147°22' 26"	35°58' 16"
Narooma	H15	Staging Area, Airbase, Helipad, Refuge Area	5582050	6024070	147°36' 43"	35°55' 35"
Narra Link		Waterpoint - Vehicle	5406070	6033070	147°27' 01"	35°50' 44"
Reddalls Vallet	H16	Airbase	5324840	6035800	147°23' 35"	35°49' 17"
Spring Creek		Waterpoint - Vehicle	5441000	6035560	147°29' 18"	35°49' 23"
Swamp Creek		Waterpoint - Vehicle	5572200	6027340	147°36' 02"	35°53' 47"
Tin Mines Camp	H17	Staging Area, Waterpoint - Vehicle, Helipad	5428900	6031260	147°28' 30"	35°51' 42"
Tom Lunts Creek		Waterpoint - Vehicle	5455110	6034750	147°30' 19"	35°50' 12"
Triple Ponds	H18	Staging Area, Helipad	5363200	6024160	147°24' 10"	35°55' 34"
Tunnel Rd South		Waterpoint - Vehicle	5333340	6024080	147°22' 10"	35°56' 37"
Tunnel Road		Staging Area	5284000	6027020	147°18' 53"	35°54' 02"
Upper Wantagong	H19	Staging Area, Airbase, Refuge Area	5491880	6035840	147°32' 40"	35°49' 13"
Wagra Mountain	H20	Helipad	5282950	6016850	147°18' 50"	35°59' 32"
Wantagong Trail	H21	Helipad	5527600	6034910	147°35' 03"	35°49' 42"
Warrawee		Waterpoint - Vehicle	5324660	6024660	147°22' 40"	35°55' 18"
Westal	H22	Staging Area, Helipad	5410400	6025290	147°27' 18"	35°54' 57"

Location



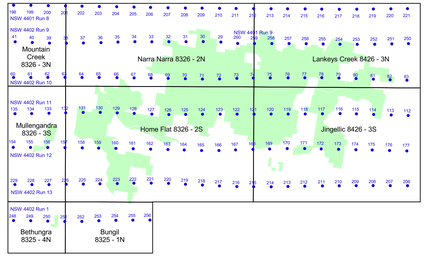
SCALE 1:50 000

Kilometres

Projection: AMG 66 - Zone 55
Grid Numbers are given in full at the South West corner of the map.

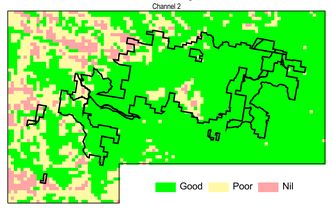
NOTE: THIS MAP IS NOT GDA COMPLIANT

Air Photo and Map Index



Radio Coverage

Channel 2



Good Poor Nil

CONTACT PHONE NUMBERS

NATIONAL PARKS AND WILDLIFE SERVICE

SWS Tumut Office (B/H)	6947 7000
SWS Tumut Office Fax	6947 4170
SWS Incident Room	6947 7007
Blowering Works Depot	6949 5262
Incident Answering Service (A/H)	1800 629 104

RURAL FIRE SERVICE

Hume Zone (24 Hour)	6023 1999
(Fax)	6023 1245
Zone Manager	0428 691 625
State Operations (24 hrs)	8741 5400

COUNCILS

Greater Hume Council (Holbrook)	6036 0100
Albury & District ALC	6025 7075

OTHER ORGANISATIONS

NSW State Forest	6947 3911
Rural Lands Protection Board	6040 4210
WIRES (24 Hr)	0427 493 716

Private Pine Plantations

"Ardsley Pine" (Richard Steiner)	0417 293 179
or Albury	6023 4441
Murray River Forests Pty Ltd	6162 6304
Wilmott	6948 3278
Green Valley - AWR	0419 142 913

EMERGENCY SERVICES

0 0 0

POLICE - Albury	6023 9299
Holbrook	6036 2424
AMBULANCE	13 1233
Holbrook	6036 2424
State Emergency Service Holbrook	0427 362 000
Fire Brigade - Holbrook	6036 2255

NEIGHBOUR INFORMATION

Consult with NPWS Neighbour Database

FIRE SEASON INFORMATION

The critical fire season occurs between December and March, when the potential for fire events is at its highest. Particular care and monitoring is required during periods of prolonged drought when strong negative Southern Oscillation Indices precede the fire season, and when low pressure systems dominate central and southern Australia during and leading up to the fire season. This may indicate the potential for longer fire seasons, higher Forest Fire Danger Indices and implications for fire suppression first attack success. During these times fires may exhibit high intensity behaviour in windy conditions and exceed current rate of spread indices. Periods of extended drought may also give rise to higher potential bushfire behaviour during winter.
During the fire season prevailing winds during the day are from the west and northwest. All ignitions under a SW influence should be managed with the potential for fire flanks to become heads when W to NW wind trends return after fronts pass through. In 1985 and 2003, dry electrical storms ahead of frontal systems were responsible for multiple ignitions across the landscape. These conditions promoted the development of large landscape fires.
The key to fire suppression is the ability to respond to all fires as quickly and as safely as possible, and identify priorities and ensuring appropriate resources are available for first attack success.
Any proposed prescribed burning should be undertaken before late autumn precipitation occurs. Least likely period to disrupt fauna during prescribed burning is at the end of March and April, depending on weather conditions (past, present and forecast). Any fire in spring should be avoided.

RADIO COMMUNICATIONS

AGENCY/RESOURCE	CHANNEL	MRX FREQ.	MTX FREQ.	NOTES
NPWS (VHF)	**2**	MRX 77.6375	MTX 80.1375	Jingelic - covers most of the reserve area.
NPWS (VHF) FIRE GROUND	**17**	82.3875	82.3875	Channel to be determined by ground crews, crew leaders, Division commanders etc. Any changes will be noted in IAP.
	18	79.8375	79.8375	
	19	79.9625	79.9625	
RFS (PMR)	**49**	MRX 413.300	MTX 403.850	Mount Jingellic (East)
	71	MRX 418.350	MTX 408.900	McKenzie (West)
	72	MRX 418.3750	MTX 408.925	One Tree Hill
	87	MRX 419.4000	MTX 409.950	Bumgoogie
RFS (UHF) CB	**5 & 38**	Woomargama & Wantagong		North side of reserve system.
	1 & 14	Talmalmo & Walwa		South and South East side of reserve system.
	11 & 15	Jingellic & Lankey's Creek		Eastern side of reserve system.
	18 & 20	Mullengandra & Bowna Wymah		Western side of reserve system.
AIRCRAFT COMMUNICATIONS (Fire Communication Traffic Advisory Frequencies F-CTAF)		119.10 Mhz 120.80 Mhz 122.80 Mhz 123.45 Mhz 126.70 Mhz 132.75 Mhz	State wide State wide State wide Pilots (chit chat) "The Numbers" channel State wide State wide	***Unauthorised and inappropriate use of Aviation Channels is a criminal offence***

Mobile Phone Coverage- generally, coverage is reasonable across the reserve. Deep gullies, slope shadows & dence canopies may restrict reception and transmission.