Budawang National Park

Fire Management Strategy

July 2006

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

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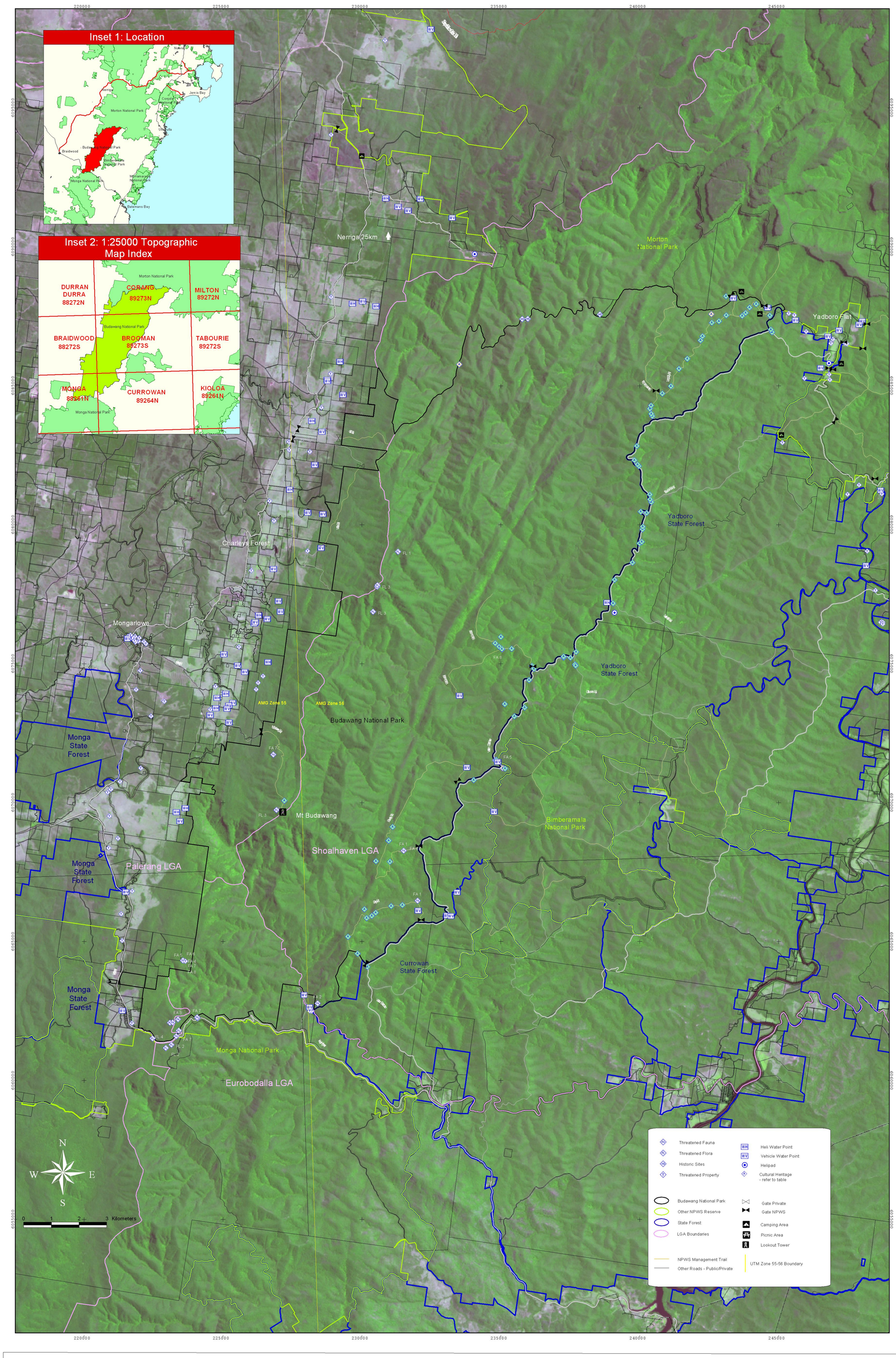
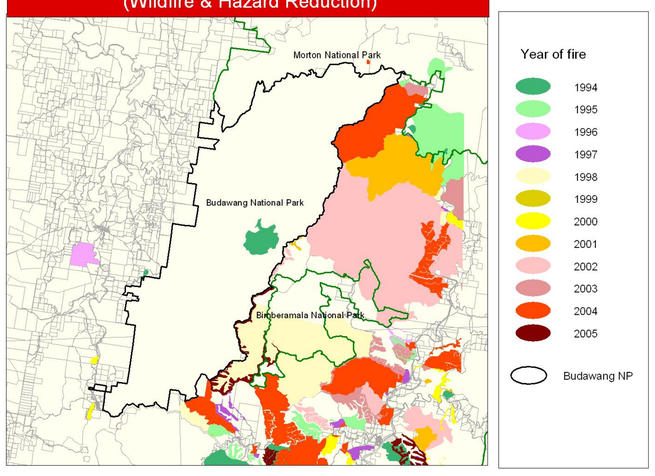
Grid Interval 1000m
Australian Map Grid Zone 56

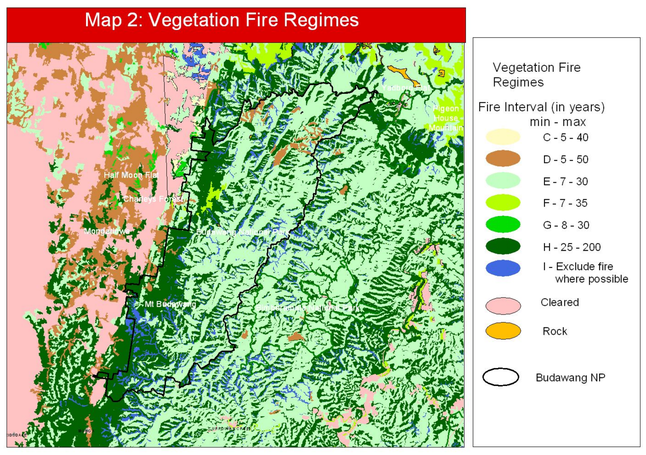
Please forward comments on this strategy to:
sc.fireplans@environment.nsw.gov.au
or NPWS Ulladulla Area Office, PO Box 72, Ulladulla NSW 2539



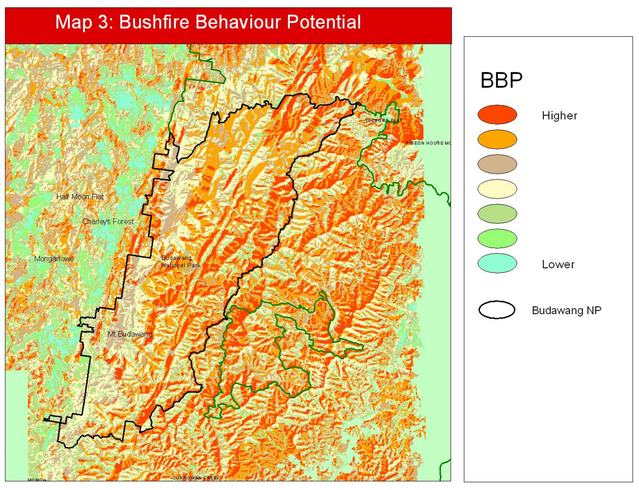
Map 1: Most Recent Burn Last 10 Years (Wildfire & Hazard Reduction)



Map 2: Vegetation Fire Regimes



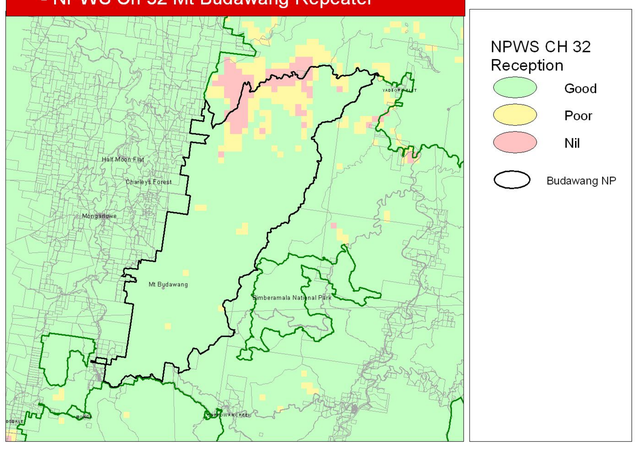
Map 3: Bushfire Behaviour Potential



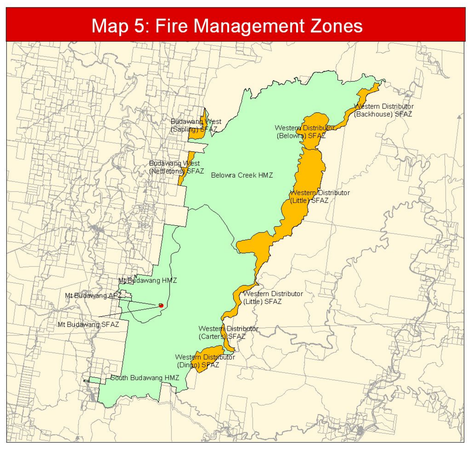
Bushfire Fuel Types and comparative fire behaviour

This map shows modelling of comparative fire behaviour that may be expected in the various vegetation types across the reserve and surrounding areas. It is intended as an operational guide to assist fire suppression and prescribed burning operations but does not replace constant surveillance of on-site fire behaviour, weather trends and local terrain effects.

Map 4: Computer Modelled Radio Coverage - NPWS Ch 32 Mt Budawang Repeater



Map 5: Fire Management Zones



Contact Information

Emergency Calls - Fire, Ambulance, Police
Call "000" stating service required

National Parks & Wildlife Service NSW (Dept.of Environment & Conservation)	
Emergency Contact	
Business Hours - 0830-1630 Mon.-Fri.	(02) 4423 2170
After Hours / All areas	**1800 629 104**
Local NPWS Area Office – Ulladulla	4454 9500
Collier Rd Ulladulla	
South Coast Regional Office	(02) 4423 2170
55 Graham St Nowra NSW 2541	
Rural Fire Service	
Emergency Calls	**000**
Shoalhaven Fire Control	4424 4424
Palerang Fire Control	4842 2516
Queanbeyan Fire Control	6297 1840
Eurobodalla Fire Control	4474 2855
NSW Fire Brigades	
Batemans Bay	4472 4600
Braidwood	4842 2524
Ulladulla Fire Station	4455 1020
Forests NSW	
Hardwood Forests Batemans Bay office	4472 6211
Police	
Batemans Bay Police Station	4472 0099
Braidwood Police Station	4842 2101
Ulladulla Police Station	44551236
State Emergency Service (SES)	
Emergency Assistance No.	132 500
Ulladulla Headquarters	4454 2121
Nowra Headquarters	4423 0081
Local Government	
Shoalhaven Council	4429 3111
Shoalhaven Council After Hours	4421 3100
Eurobodalla Council	4474 1000
Eurobodalla Counci After Hours	4474 1222
Palerang Council	1300 735 025
COMMUNITY CONTACTS	
Nearest Hospitals	
Batemans Bay Hospital	4472 4504
Shoalhaven Hospital, Nowra	4421 3111
Braidwood Hospital	4842 2566
Milton Hospital	4455 1333
WIRES	4822 3888
NANA	0418 427 214

Aboriginal Heritage Sites

Map ID	Strategy	Site Type
AH-A	• As far as possible – protect site from fire • Do not cut down trees • Use of foams, wetting agents and retardants is acceptable.	Sites affected by fire itself eg possible artefacts of flammable materials such as scarred or carved trees.
AH-B	• As far as possible – protect site from fire • Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. • Avoid water bombing, which may cause ground disturbance.	Sites less affected by fire but prone to disturbance by suppression operations eg - stone arrangements, ceremonial rings, rock engravings, rock art, grinding grooves.
AH-C	• Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. • Avoid water bombing, which may cause ground disturbance. • Site may be burned by bushfire, backburn or prescribed burn without damage	Sites least affected by fire itself but still prone to disturbance by fire suppression operations. eg - burial sites, artefact scatters, middens.

Operational Guidelines – Budawang National Park

These guidelines are provided to assist fire management activities within the reserve. They are framed by current cooperative arrangements with other fire authorities, NPWS strategies for fire management, reserve management plans, neighbours and other site-specific issues that need to be considered. Feedback on these matters is always appreciated and should be directed to **NPWS Ulladulla Area, PO Box 72, Ulladulla NSW 2539.**

Command and Control: The NPWS is responsible for fire management within the reserve. Any fire authority may initiate size-up and attack with advice to the NPWS upon initial fire sighting or report. See *Contacts* section to advise fire reports in or *within 8km* of the reserve. Class 1 fire suppression operations may remain under command of the initial attack agency following assessment and advice by NPWS.

Visitor Safety: Consider public safety within initial response operations. ie clearing likely visitor use areas and sites, warnings and information, on-site protection, closures or evacuation where instructed by Police. No visitor facilities are provided within Budawang NP but it is routinely used for distance bushwalking. Trackheads should be checked for parked vehicles and aerial surveillance undertaken if required.

Fire Suppression: Firefighter safety is paramount. Containment options should consider using existing roads, trails, walking tracks and recently burnt areas. Where possible to limit unnecessary damage, earthmoving equipment should be limited to brushing up existing tracks.

Earthmoving Equipment: Except for immediate initial attack, the use of earthmoving equipment for fire suppression within the reserve requires NPWS consent. There are significant natural and cultural values at unnecessary risk from unplanned use of earthmoving equipment. Contact the NPWS if earthworks are required. ALL use of earthmoving equipment will be consistent with NPWS safety, operational and environmental guidelines.

Foam and Retardant Use: Avoid foam and retardant use within the reserve unless there is a significant necessary operational advantage. DO NOT use on or near watercourses, wetlands, rainforests or swampy areas. DO NOT use foams or retardants near water storages or supply infrastructure. Unless under emergency conditions always obtain permission before using rural water supplies / sources. Take care when tanker filling not to contaminate water sources.

Aerial operations: Aerial operators should be briefed on location of transmission lines in the area. Consider safety implications where aircraft will operate over dwellings or operate from publicly accessible fireground sites. Aerial operations should be postponed or abandoned if there is a high risk of a storm moving through the area, or there is a significant wind change anticipated.

Smoke Management: Consider prompt advice to communities downwind and consider traffic management during fire suppression operations. Consider safety and health implications during Prescribed Burning operations. Cold air drainage patterns in this area may also carry smoke some distance from the fireground and may adversely affect transport operations. Notify nearby highway and airspace management agencies if a smoke hazard to traffic is likely.

Rehabilitation: Earthmoving equipment and other resources should be allocated to soil erosion control works and remedial restoration before standing down from fire operations.

Arson: Report ALL fires of unknown cause or suspected arson to Police via Fire Control. Protect likely ignition points or evidence. Report any suspicious activity on or near the fireground.

Locked Gates: Any NPWS locked gates within reserve are fitted with standard key kept in fire tankers and available from Fire Control. Report any missing or damaged locks via Fire Control or to NPWS. For public safety during fire operations – some gates may need to left in closed position - but not locked. Close/lock NPWS gates after operations. Where safe, leave farm gates as you find them.

Map Grid: Datum for map grid shown is AGD 66. This will remain in use until the majority of map sheets covering the area are revised to the newer GDA datum. To approximately locate a map reference given in GDA to this map (AGD 66) move approximately 200 metres to the *southwest* from the given grid reference. Conversely, to relay a grid reference from this map (AGD 66) to someone with a GDA map, give the reference of a point approximately 200m to the *northeast* of the position shown on this map. NB as base map for this area crosses two mapping projection zones, the grid references for the area left of the vertical yellow line will be inaccurate. For accurate map reference location of features use relevant topographic maps for area (see index map).

Special site considerations

Wildlife: Where possible, protect hollow trees adjacent to control lines during fire suppression operations. Prepare control lines to avoid introducing fire to these "habitat" trees during prescribed burning activities (also saves considerable "mop-up" effort). Report all injured wildlife to NPWS or wildlife carer organisations.

Rare or threatened plant species - known sites: Fireground control personnel should seek relevant information and brief all personnel involved in control line construction and suppression activities on the location of threatened species sites or habitats and appropriate actions to protect these sites. Refer to relevant strategies table.

Cultural sites – known Aboriginal and Historic sites: Fireground control personnel should seek relevant information and brief all personnel involved in control line construction and suppression activities on the location of sites within the operational area and appropriate actions to protect these sites – refer to relevant strategies tables.

Overall Fire Response and Management Strategies

Fire Detection: The NPWS maintains and contributes to cooperative fire detection and response arrangements across the Eurobodalla, Shoalhaven and the Southern Ranges Fire Districts. This includes lookouts, surveillance flights, lightning detection and communications systems. During periods of higher fire danger this reserve may be patrolled and restrictions placed on visitor access and use of fire.

Fire Response: Apart from any specific conditions indicated in the Operational Guidelines, the NPWS as a NSW fire authority prepares and maintains personnel and equipment to undertake fire management and response within the reserve. These resources are also provided under cooperative contact, callout, and incident management arrangements within the Far South Coast, Shoalhaven and the Lake George Fire Districts and across NSW.

Fire Suppression: Due to rugged terrain and limited access unplanned fire will require a prompt response aimed at limiting the size of the area affected. Fire suppression tactics in all areas will primarily consider immediate visitor and firefighter safety minimising unnecessary disturbance and will have regard to constraints defined within the reserve Plan of Management.

Prescribed Fire: May be introduced to maintain biodiversity or meet protection obligations as identified within the fire management zones as mapped. The NPWS maintains a record of known fire history and will annually review the need to undertake prescribed burning. Each proposal is subject to environmental assessment and operational safety planning. All burning proposals for the coming season (July-June) are listed with the **relevant** Bush Fire Management Committee. For details or enquiries contact the NPWS Area (see Contacts) or **relevant** Fire Control.

Fire Management Access: The NPWS will maintain the fire tracks identified on the map (in red) to a trafficable standard for Category 1 and/or Category 9 fire tankers as indicated. At a minimum these will be reviewed prior to the fire season and when the annual fire management works program is prepared. Other management tracks will be maintained as required for reserve management operations or to limit environmental effects and should always be assessed before being used for fire operations. Any firefighting access problems should be immediately notified to the NPWS Area office (see Contacts). Also refer to operational guidelines.

Community Information: The NPWS will participate in cooperative community information programs in the the Far South Coast, Shoalhaven and the Lake George Fire Districts. For this reserve these will focus on the fire management works and biodiversity maintenance in. NPWS role in cooperative fire management and response in the reserve

Fire Works Program

The works program arising from the above strategies is prepared and reviewed annually. This program is prepared from the post fire season assessment of each of the zones as above. Also considered are seasonal weather trends, available resources and cooperative arrangements with neighbours, other fire authorities and land management agencies. Fire related works for the reserve are summarised and presented to the local District Bush Fire Management Committee annually, usually before the bushfire danger period. Some works indicated may not be completed due to prevailing weather patterns, or the necessary redirection of effort and resources to other priority fire tasks such as wildfire control and rehabilitation. In most cases, such deferred works are carried forward into subsequent programs. Information on the works to be undertaken are available from local NPWS offices and the Relevant District Bush Fire Management Committee at the district RFS headquarters.

Other Fire Management Information and Strategies for specific Natural and Cultural values in Budawang National Park.

Fire Season information and weather patterns

Wildfires: Fire history indicates fires of greater intensity and control difficulty during late spring, summer and early autumn, though periods of drought may extend this period from late August to June. Strong, drier westerly winds are normal from late August to mid October. During summer, moister north-east sea-breezes may push inland against predicted patterns though this effect diminishes further from the coast and may cause highly changeable conditions on the fireground. Likewise, the effects of southerly maritime changes is later and lesser than along coastal areas. Thunderstorm activity in the summer months may produce sudden changes in wind speed and direction with possible lightning ignitions and highly variable rainfall.

Prescribed Burning: Late summer / autumn / and winter are the preferred seasons for prescribed burning where desirable stable conditions and trends are more likely. Areas at higher altitudes may commence earlier in the season. Burning may take place outside these periods for specific operational and biodiversity management objectives.

Fire Management Strategy Information

For fire management planning the reserve is divided into three main types of fire management zones each with strategies to address fire management in the particular area. Other strategies apply to the whole reserve (eg fire access network) or address fire management for particular values found in the reserve (eg, threatened species, cultural sites) These strategies guide the fire management and related works within this reserve. Guidelines are also provided to assist with operational matters – see table.

Fire Management Zones – Budawang National Park

APZ — **Asset Protection Zones:** Within these areas the focus is on protection of life and adjoining higher risk assets. Bush fire fuels are managed towards lower levels and fire may be more frequent than desirable to conserve biodiversity.

SFAZ — **Strategic Fire Advantage Zones:** These zones are strategically placed and managed to provide an advantage for fire fighters in containing and suppressing wildfires. Here, fire frequency may occur towards the lower thresholds necessary to conserve biodiversity, ie more often.

HMZ — **Heritage Management Zones:** Within these zones fire is managed towards a range of intensities and frequencies required in order to conserve natural processes (biodiversity) and cultural assets. Fire authorities continue to aim at containing wildfires in these areas.

- For more information on the strategies and purposes of these zones refer to the NSW NPWS Strategy for Fire Management, www.nationalparks.nsw.gov.au
- NB: Some zones may extend beyond the boundaries of the Reserve to a logical fire break or boundary for the zone. Where these are outside the Reserve the owners / managers need to be contacted for details of fire management options for these areas.
- These zones will form part of the overall Bush Fire Risk Management Plan for Eurobodalla, **Shoalhaven** and the Southern Ranges Fire Districts.

Fire Management Zones and strategies for Budawang National Park

Strategies to be used for Fire Management and Bushfire Suppression

Asset Protection Zones & Strategies APZs

Map ID	Zone Name
APZ	Mt Budawang APZ
	Strategies
	Assess APZ for bush fire fuel management and maintenance works – annually, post fire season.

Strategic Fire Advantage Zone Strategies SFAZs

Map ID	Zone Name
SFAZ	Mt Budawang, Western Distributor (Dingo), (Carters), (Little), (Belowra), (Backhouse), Budawang West (Sapling), (Nettletons) SFAZs
	Strategies
	Review fire management works program for the zone - annually – post fire season. This assessment includes bushfire fuel, fire history, biodiversity maintenance and the condition of fire control facilities within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. Fire related works for reserve declared and reported to District Bush Fire Management Committee, Annually – pre-season.
	Undertake burning under prescribed conditions - where indicated by above fire fuel assessments and biodiversity maintenance requirements – as required.
	Maintain cooperative management and communication with adjoining landholders so that effective fire risk management is maintained across the zone and adjoining bushlands.
	Seek cooperation of local RFS brigades in the monitoring of SFAZ fuel and access conditions.

Heritage Management Zones – HMZs

Map ID	Zone Name
HMZ	Mt Budawang, South Budawang, Belowra Creek HMZs
	Strategies
	Review fire management works program for the zone - annually – post fire season. This assessment includes, fire history, biodiversity maintenance and the condition of fire control facilities within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc.
	Undertake burning under prescribed conditions - where indicated by above assessment for biodiversity maintenance requirements – as required.

Communications Information - Budawang National Park

Service	Channel	Location and Comments
RADIO		
NPWS - VHF	32	Mt Budawang repeater
NPWS - VHF (Fireground Comms)	43-44	17-18 - 5 Watt Channels
NPWS - VHF (Portable Repeater)	14	Stored at Ulladulla Area depot / transportable.
RFS – PMR - UHF	CH 70, CH 35	
RFS – PMR - UHF	CH 81	Budawang
CB - UHF	28	Forestry use
Aircraft - VHF		As advised by State Ops
PHONE		
Mobile Phone - CDMA		Minimal coverage available, none in valleys.
Mobile Phone - GSM		Poor coverage
Satellite Phone		Available for deployment ex Ulladulla and Nowra Area offices

Fire Regimes - Vegetation

In order to maintain biodiversity within the reserve the following fire regimes are indicated for vegetation types that may be present. The aim is for a range of areas with differing times since fire within these intervals. Within APZs these thresholds may be exceeded where necessary for asset protection. Fire frequency in SFAZs may trend toward lower thresholds in order to provide a strategic advantage in containing wildfire. The below intervals are broad guidelines only and fire requirements for specific species may need to be considered.

The vegetation types listed below are not all necessarily present within the area covered by this Fire Management Strategy.

Map ID Regime	Vegetation type	Minimum fire interval	Maximum fire interval
A	Coastal complex, Woodland, Grassy dry forest	5	30
B	Wetlands	6	35
C	Open forest, Woodland	5	40
D	Grass forest, Riparian forest, Coast/Plateau complex, Dry forest	5	50
E	Coastal Dune Scrub, Coastal Sands Forest, Open Forest, Dry Forest, Heathland	7	30
F	Riparian Forest, Dry Forest, Swamp Forest, Moist Forest	7	35
G	Acacia Scrub, Shrubland, Grassland	8	30
H	Moist Forest, Gorge/Gully Forest	25	200
I	Rainforest, Exotic Forest, Mangrove, Marsh	Exclude fire where possible	Exclude fire where possible
No Regime	Rural, Urban, Waterbodies	N/A	N/A

MapID	Threatened Species – Fire Management Strategies	Species	Common Name	Species status
Flora				
FL 1	• No fire more than once every 10 years. • No slashing more than once every 10 years. • No trifiering or tree removal.	*Pultenaea baueriteria*	Pultenaea baueriteria	Vulnerable
FL 2	• No fire more than once every 20 years.	*Leptospermum thompsonii*	Leptospermum thompsonii	Vulnerable
FL 3	• No fire more than once every 10 years. • No slashing more than once every 10 years. • No trifiering or tree removal.	*Plinthanthesis rodwayi*	Plinthanthesis rodwayi	Endangered!
FL 4	• No fire. • No slashing, trifiering or tree removal at these sites.	*Baloskion longipes*	Baloskion longipes	Vulnerable
Fauna				
FA 1	• Mechanical hazard reduction ok, avoid allocasuarina thickets. • No burning of Allocasuarina thickets	*Calyptorhynchus lathami*	Glossy Black-Cockatoo	Vulnerable
FA 2	• Specific Requirements undetermined*	*Phascolarctos cinereus*	Koala	Vulnerable
FA 3	• No slashing, trifiering or tree removal at these sites.	*Litoria littlejohni*	Littlejohn's Tree Frog	Vulnerable
FA 4	• No slashing, trifiering or tree removal at these sites.	*Pachycephala olivacea*	Olive Whistler	Endangered!
FA 5	• No burning around known nesting sites at any time.	*Ninox strenua*	Powerful Owl	Vulnerable
FA 6	• No burning around known nesting sites at any time. • No slashing, trifiering or tree removal at these sites.	*Tyto tenebricosa*	Sooty Owl	Vulnerable
FA 7	• Specific Requirements undetermined*	*Dasyurus maculatus*	Spotted-tailed Quoll	Vulnerable
FA 8	• No slashing, trifiering or tree removal at these sites.	*Petaurus australis*	Yellow-bellied Glider	Vulnerable

* Specific Requirements undetermined – No species specific fire requirements known at present, however the potential impact of firefighting chemicals and heavy machinery use should be considered and minimised where possible.

Source – Rural Fire Service, Threatened Species Guidelines for Hazard Reduction, as amended.