

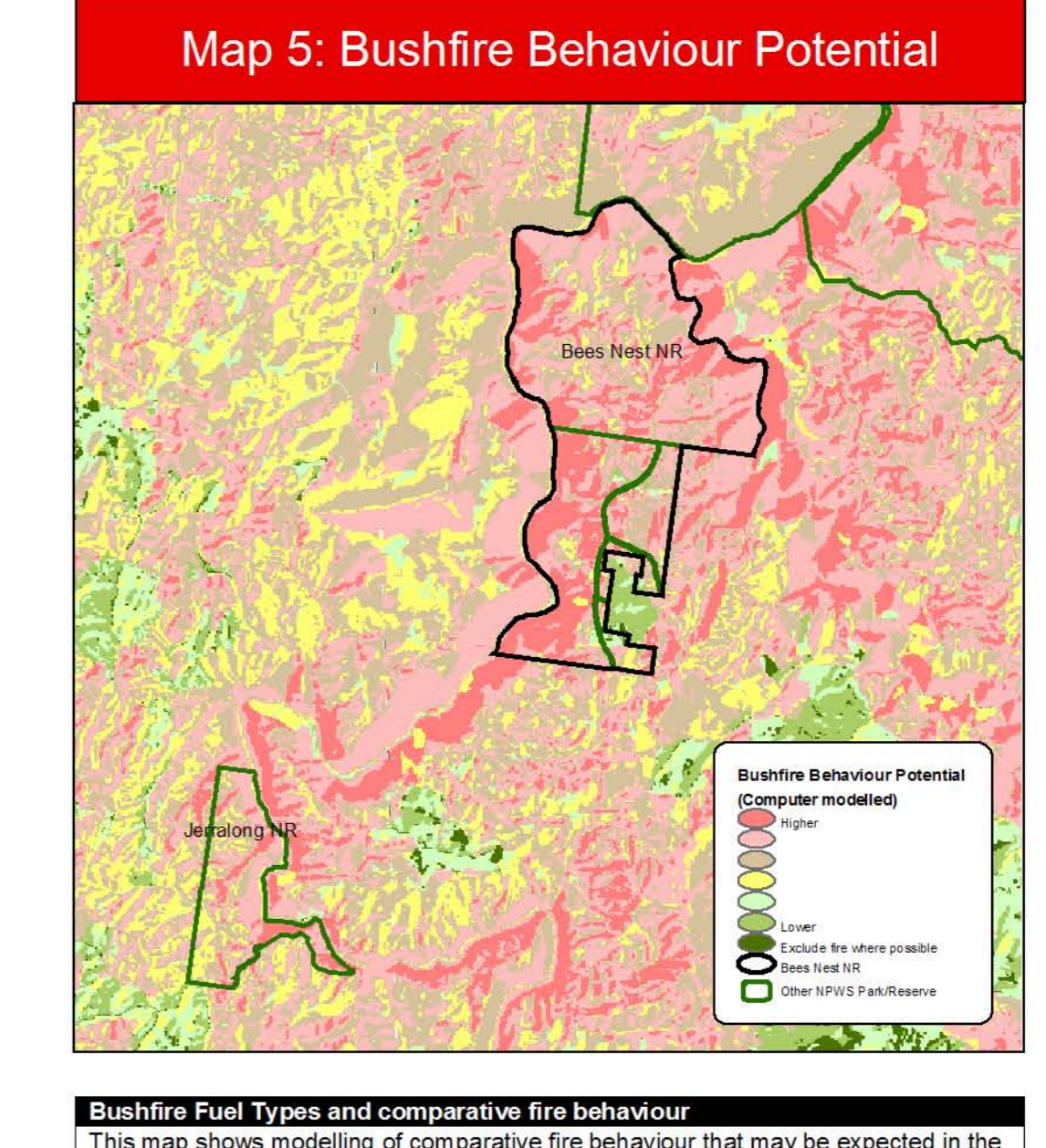
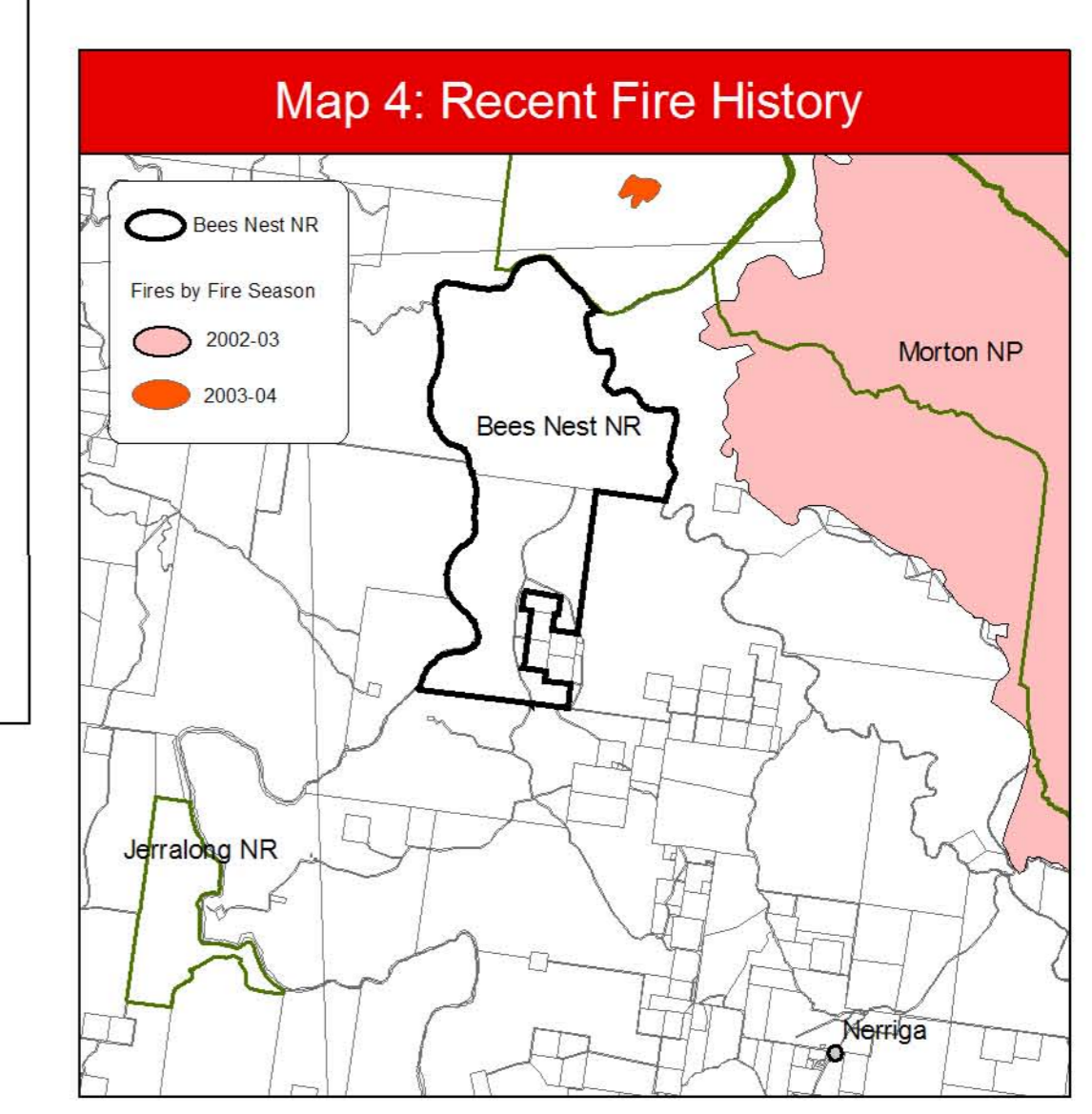
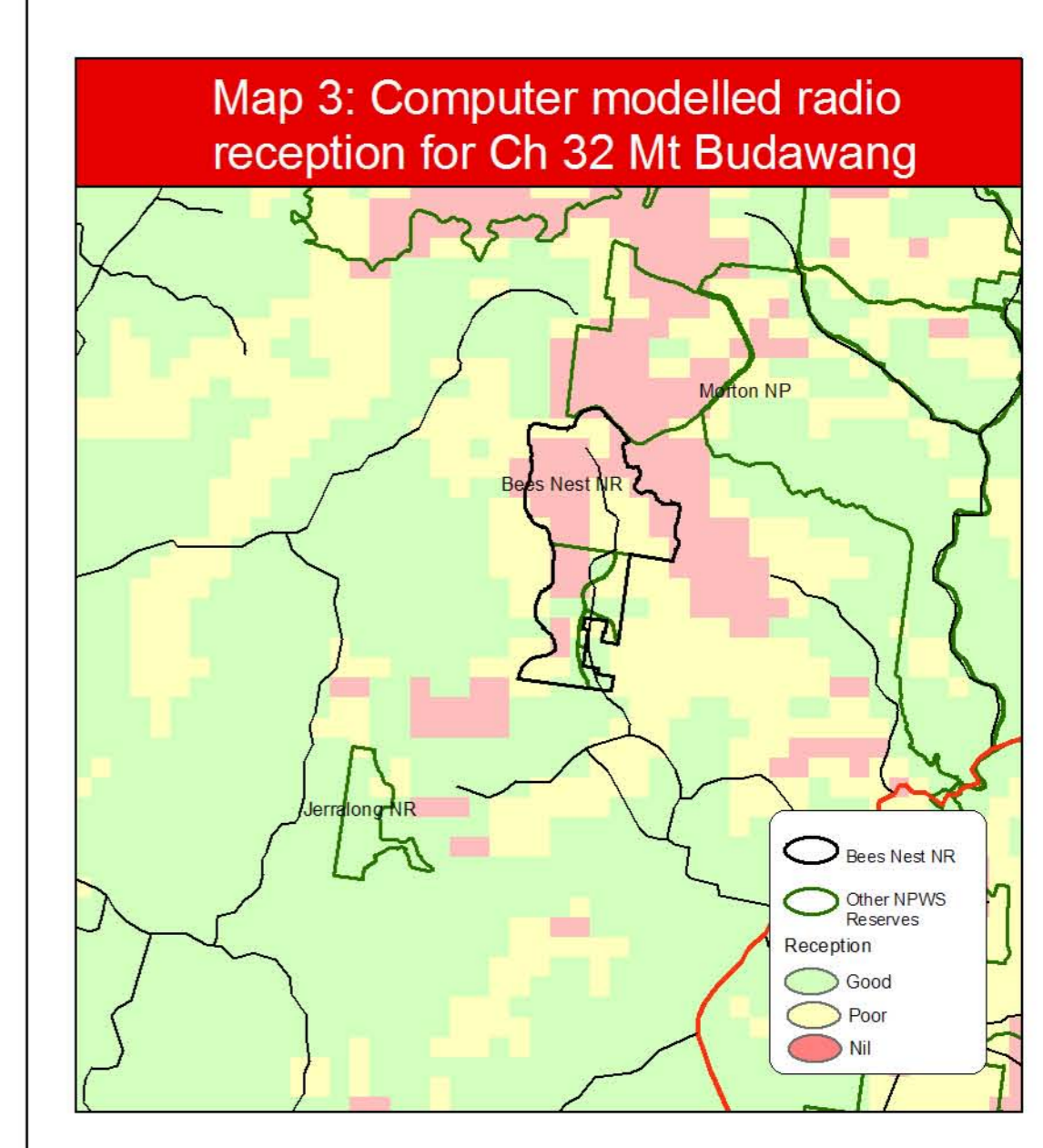
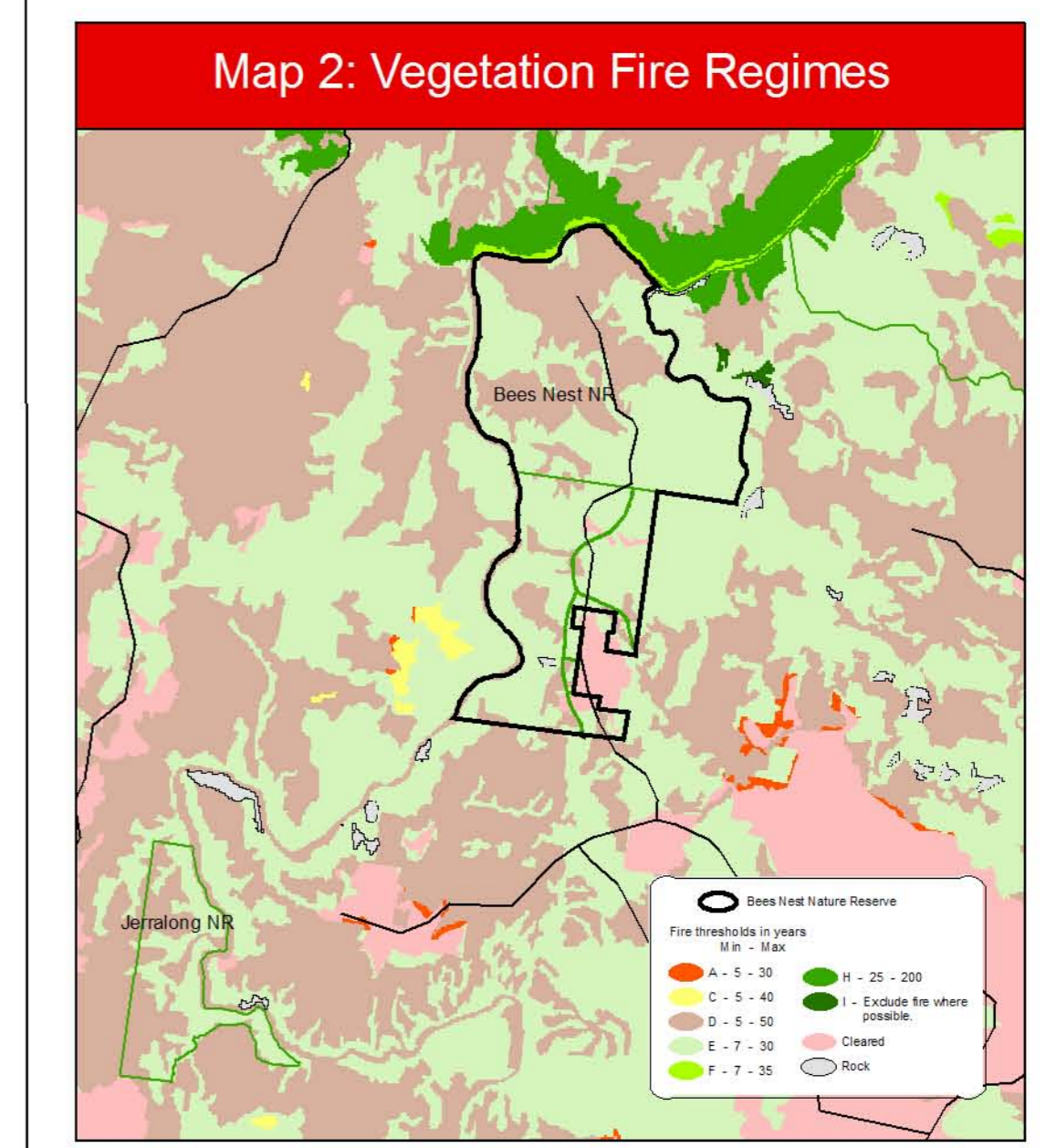
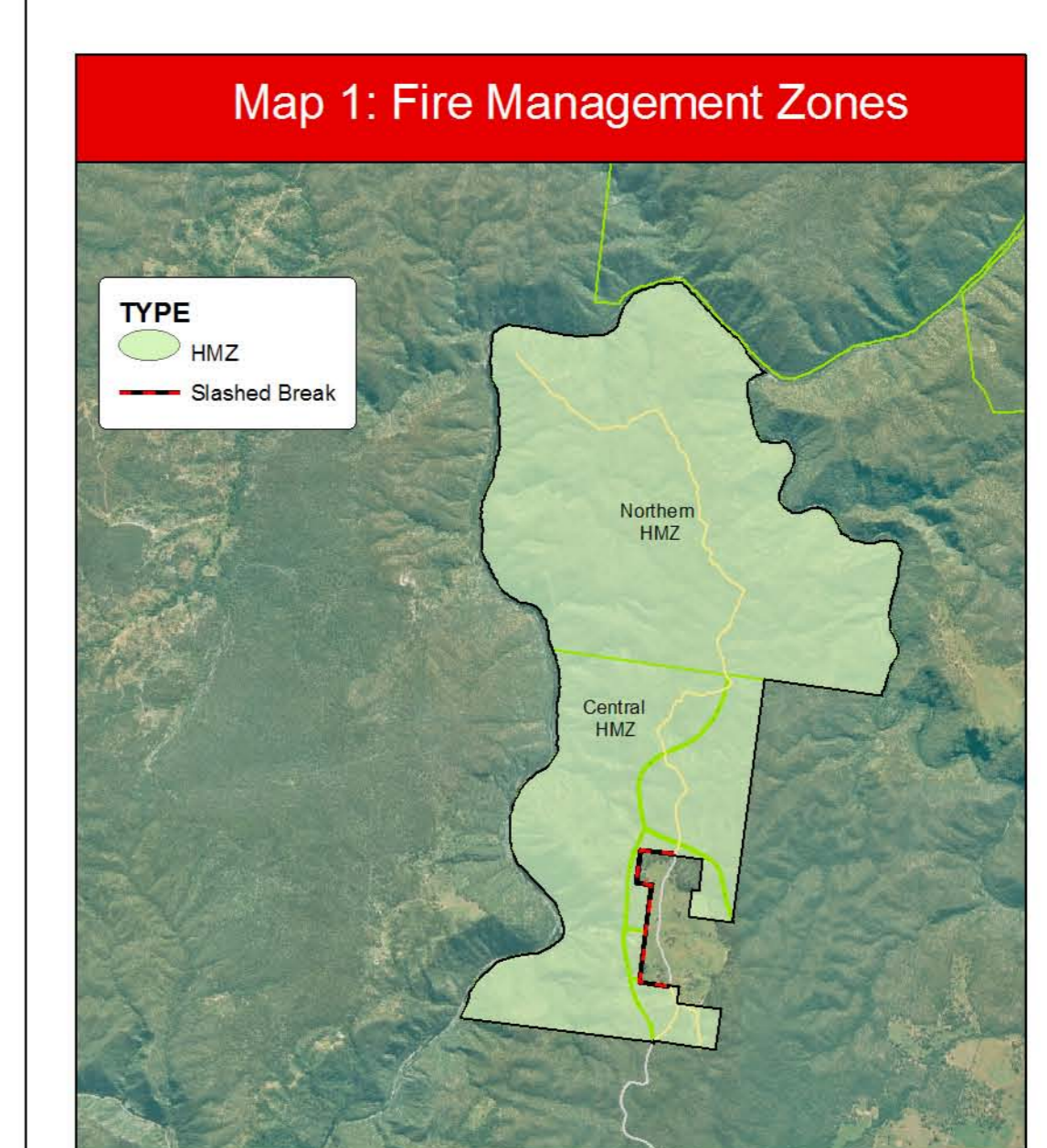
Bees Nest Nature Reserve
Fire Management Strategy
 April 2007

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:
 ec.fire@epbc.gov.au
 or NPWS Uludaulla Area Office, PO Box 72, Uludaulla NSW 2539



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. 4423 2170
 After Hours / All areas 1600 629 104
 Local NPWS Area Office - Uludaulla 4454 9500
 Collier Rd Uludaulla NSW 2539
 South Coast Regional Office 4423 2170
 55 Graham St. Nowra NSW 2541

Rural Fire Service
 Lake George Fire Control 6297 1640
 Goulburn office 4642 2516
 Shoalhaven Fire Control 4424 4424
 Goulburn-Mulwaree Fire Control 4822 2900

State Forests
 Handwood Forests
 Batemans Bay office 4472 6211

Police
 Bradwood Police Station 4842 2101
 Nowra Police Station 4421 9699
 Uludaulla Police Station 4454 2542

State Emergency Service (SES)
 Emergency Assistance No. 132 500
 Uludaulla Headquarters 4454 2121
 Nowra Headquarters 4423 0081
 Bradwood Headquarters 4842 2533
 Goulburn Headquarters 4822 1800

Local Government
 Palerang Council 1300 735 025
 Shoalhaven Council 4423 3111
 Shoalhaven Council (after hours) 4421 1300
 Goulburn-Mulwaree Council 4823 4448
 Goulburn-Mulwaree Council (after hours) 4822 2148

COMMUNITY CONTACTS
 Nearest Hospitals
 Bradwood Hospital 4842 2566
 Shoalhaven Hospital, Nowra 4421 3111
 Milton Hospital 4455 1333
 NANA 0418 427 214

Operational Guidelines

These guidelines are provided to assist the management activities within the reserve. They are framed by current cooperative arrangements with other fire authorities, NPWS strategies for the 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 Uludaulla Area, PO Box 72, Uludaulla 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 50m of the reserve. Once fire suppression operations remain under command of the initial attack agency following assessment and advice by NPWS.

Visitor Safety: Consider public safety within initial response operations (i.e. clearing likely visitor use areas and sites, warnings and information on-site protection, closures or evacuation where instructed by Police).

Fire Suppression: Firefighting is a paramount. Containment options should consider using existing roads, tracks, walking tracks and recently burnt areas. Where possible to limit unnecessary damage, earthmoving equipment should be limited to clearing 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 cultural and natural values at risk from unapproved 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.

Aerial Operations: Aerial operations should be limited on locations of transmission lines in the area. Consider safety implications where aircraft will operate over or adjacent 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: Cool air drainage patterns in this area may also carry smoke some distance from the fireground and may adversely affect transport operations. Hoofy nearby highways and airbase 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 removal of vegetation before standing down from the fireground.

Access: Report ALL fire 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 the reserve are fitted with standard key left in the 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 be left in closed position but not locked. Close lock NPWS gates after operations. Where safe, leave farm gates as you find them.

Map Grid: (zone 55 & 56) Datum for map grid shown is AGD 84. This will remain in use until the majority of maps covering the area are replaced to the newer GDA datum. To approximately locate a map reference given in GDA to this map (AGD 84) move approximately 200 metres to the southeast from the given grid reference. Conversely, to relay a grid reference from this map (AGD 84) to someone with a GDA map, give the reference of a point approximately 200m to the northwest of the position for the area left of the vertical yellow line may be inaccurate. For accurate map reference location of features use relevant topographic maps for area (see index map).

Overall Fire Response and Management Strategies

Fire Prevention: The NPWS maintains a comprehensive fire prevention and fire detection and response arrangements across the Shoalhaven or Southern Tablelands Fire District. This includes public, surveillance rights, lightning detection and communications systems. During periods of higher fire danger this reserve may be patrolled and restrictions placed on visitor access to the area 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 control, callout and incident management arrangements with the relevant Fire District and agencies.

Fire Suppression: As this reserve is relatively small and isolated from other natural areas, most unapproved fire will require a prompt response aimed at assessing the size, access, and options for containment or spread of fire. Fire suppression tactics in all areas will primarily consider immediate visitor and firefighter safety, minimizing environmental damage and will have regard to constraints defined within the reserve Plan of Management.

Prescribed Burns: 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 fires 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-Aug) are listed with the relevant Bush Fire Management Committee. For details or enquiries contact the NPWS Area Office/Contact or contact Fire Control.

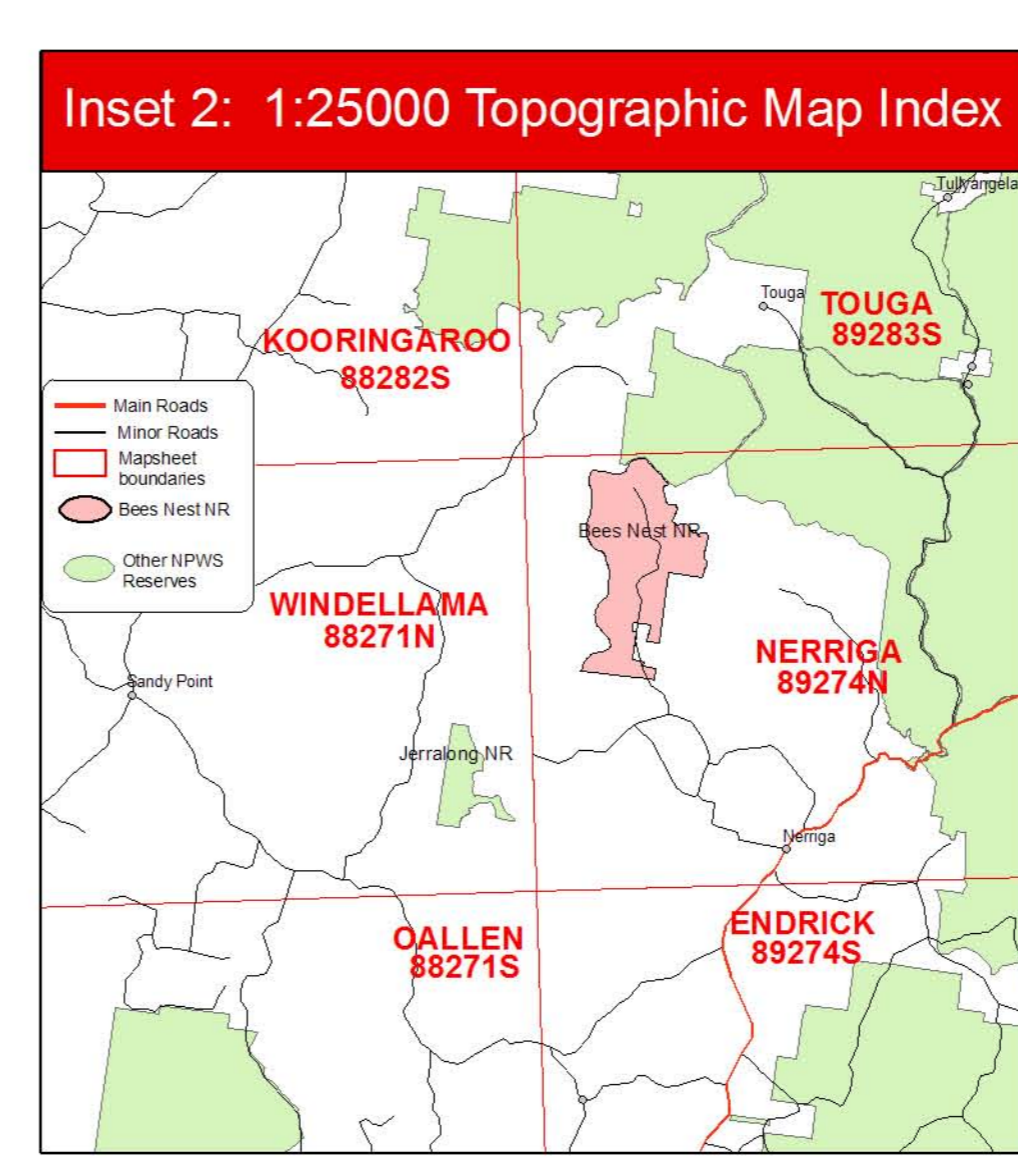
Fire Management Access: At a minimum these will be reviewed prior to the fire season and when the annual fire management works program is prepared. Other management tracks will be maintained as required for reserve management operations or to limit environmental effects and should always be assessed before being used for fire operations. Any firefighting access problems should be immediately notified to the NPWS Area Office/Contact.

Community Information: The NPWS will participate in cooperative community information programs in the reserve Fire District. For this reserve these will focus on fire management, bush and biodiversity maintenance, personal safety and the safe use of the NPWS site, cooperative fire management and response.

Fire Work Program: The work 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 management works for the reserve are prioritised and presented to the local District Bush Management Committee annually, usually before the bushfire danger period. Some works indicated may not be completed due to prevailing weather patterns, the seasonal reduction of effort and resources to undertake other tasks such as wildlife control and rehabilitation. In most cases, such deferred works are carried forward into subsequent programs. Information on the work to be undertaken are available from local NPWS offices and the relevant District Bush Fire Management Committee at the end of AGD headings.

Fire Season Information and weather patterns: Weather in the region varies from the subtropical to temperate and includes hot, dry, sunny and summer and autumn, though periods of drought may extend from late October to May. Strong westerly winds are more likely from late August to mid October. Fire severity and spread are largely dependent on seasonal changes in grassland areas. During winter, cooler north east sea breezes may occasionally extend inland. Southerly changes near the coast may occasionally extend inland. In the summer months often produces unstable frequent rain with possible lightning strikes and gusty winds.

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 (e.g. fire access network) or address fire management for particular values found in the reserve (e.g. 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

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 - see www.nationalparks.nsw.gov.au.

NB Some zones may extend beyond the boundaries of the Bees Nest Nature Reserve in the particular area. 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 Bushfire Risk Management Plan for the relevant fire district.

Fire Management Zones and Strategies

Map ID	Zone Name	Strategies to be used for Fire Management and Bushfire Suppression
HMZ	Central HMZ, Northern HMZ	Heritage Management Zones - 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, slashbreak areas, gates, information signs, identified water points etc.

Undertake burning under prescribed conditions where indicated by above assessment for biodiversity maintenance requirements - as required.

Fire Regimes - Vegetation

In each Fire Management Zone within the reserve the following fire regimes are indicated for vegetation types that need to be protected. The aim is to provide a range of vegetation types within these reserves. The table indicates the bushfire regimes and the requirements to specific species that need to be considered. The vegetation types listed below are not all necessarily present in the area covered by the Fire Management Strategy.

Map ID	Vegetation type	Minimum fire interval	Maximum fire interval
A	Coastal complex, Woodland, Grass dry	5	30
B	Woodland	6	35
C	Open Wood, Woodland	5	30
D	Grass forest, Riparian forest, Coastal heath	5	50
E	Coastal Dune Scrub, Coastal heath forest, Open forest, Dry forest, Wetlands	7	30
F	Heath forest, Dry forest, Swamp forest, Mangrove	7	35
G	Acacia Scrub, Shrubland, Grassland	6	30
H	Hardwood Forest, Coastal forest	55	200
I	Riparian forest, Lodic forest, Mangrove, Marsh	Exclude fire where possible	Exclude fire where possible
No Bushfire	Rural Urban, Woodlands	NA	NA

Communications Information - Bees Nest Nature Reserve

Service	Channel	Location and Comments
NPWS - VHF	32-31	Mt Budawang & Red Rocks repeaters
NPWS - VHF (Fireground Comms)	4344	17.18 - 5 Watt Channels
NPWS - VHF (Portable Repeater)	CH 81	Coastal at Uludaulla Area depot / transportable
RFS - FM/R - UHF	CH 81	Mt Budawang
RFS - FM/R - UHF	CH 77	Sassalotts
CB - UHF	20	Fireonly use
Aircraft - VHF	As advised by State Ops	
PHONE		As advised by State Ops
Mobile Phone - CDMA		Minimal if any coverage available, note in valleys
Mobile Phone - GSM		Minimal if any coverage available, note in valleys
Subsidiary Phone		Available for deployment at Uludaulla and Nowra Area offices

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 ID	Strategies	Species	Criteria Score	Species status
FA 1	Specific Requirements underwritten	Phaenocarpa oenoneus	None	Vulnerable

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