



Fire Management Strategy



see table of contents for details of images

Jervis Bay National Park Woollamia Nature Reserve Corramy State Conservation Area (northern section)





Fire Management Strategy

for

Jervis Bay National Park

and

Woollamia Nature Reserve

and

Corramy State Conservation Area (North)

This Fire Management Strategy has been on public exhibition for a period and members of the public, either individually, or as representatives of community interest groups, and government authorities were invited to comment on its contents.

These comments have been assessed and where they have improved the purpose and intent of the strategy, amendments have been made. A summary of these submissions and the recommendations for change is available at the Nowra Area office of the NSW NPWS.

The NPWS appreciates any ongoing feedback on the Fire Management Strategy. This will contribute to the periodic review process.

Comments should be forwarded to:

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Fire Management Strategy
for
Jervis Bay National Park
and
Woollamia Nature Reserve
and
Corramy State Conservation Area (North)

South Coast Region
NSW National Parks and Wildlife Service
September 2009

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Images

Front cover - clockwise from top left.

NPWS personnel mopping up after wildfire.	NPWS
Epicormic shoots. Regrowth after fire, Woollamia.	NPWS
Vegetation monitoring of species composition after fire.	NPWS
Asset Protection Zone. Huskisson.	NPWS
Eastern Bristle Bird. An endangered species within Jervis Bay NP whose populations and viability are critically affected by fire regimes.	R. Chapman
Goanna. one of the first to move back into an area after fire.	NPWS

How to use this Fire Management Strategy

Jervis Bay National Park, Woollamia Nature Reserve and the northern section of Corramy State Conservation Area lie within a mixed landscape of bushland, clustered urban settlement and rural residential areas. The reserves are fragmented widely across this landscape and are part of a diverse matrix of public and private land tenure including National Park, Crown Land, lands managed and owned by Shoalhaven City Council, private property, State Forest and the adjoining Commonwealth territory and leased areas.

A significant proportion of the boundary of these reserves adjoins urban areas and rural residential properties. This requires detailed planning, mapping and description of fire management activities proposed for the reserves.

The NPWS applies the same zoning and asset protection standards as used across New South Wales in cooperative bush fire risk management. The measures set out in this Fire Management Strategy are to be incorporated into the overall Bush Fire Risk Management Plan for the Shoalhaven.

Whilst the primary functions of the strategy include guidance for reserve managers and as an aid to cooperative fire management across the Shoalhaven, the strategy is also a valuable source of information for reserve neighbours and community members in describing what fire management strategies and activities are being planned for the reserves.

This strategy is divided into discrete geographical sections. This allows better description of the detailed zoning and activities proposed for the reserves. This approach also assists the integration of these measures into cooperative fire management and protection works across the various land tenures.

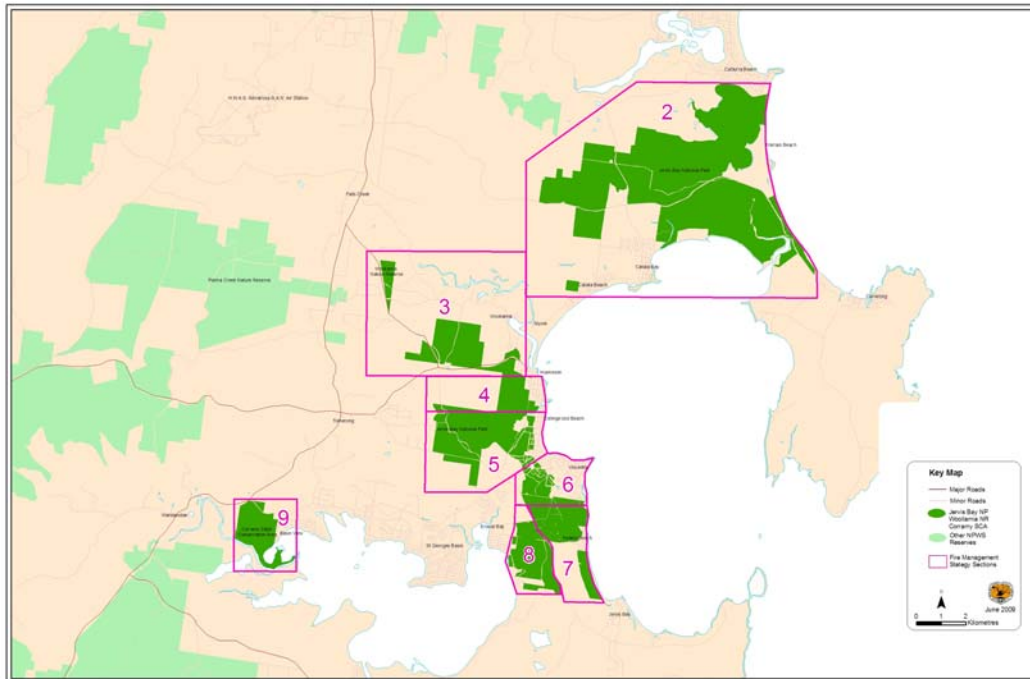
Apart from using the index, use of this Fire Management Strategy may be assisted by using the Key Map on page 8 to locate the section of the reserves of interest then:

- referring to the relevant section of the Strategy for detailed zoning, mapping and description of Asset Protection Zones and Strategic Fire Management Zones within that area; and
- looking up reference sections of the plan to find further detail on Land Management Zones, biodiversity and cultural values, access/fire trails, research, contact details etc.

Key Map and sections of the Fire management Strategy are overleaf.

Key map to sections of this Fire Management Strategy

for Jervis Bay National Park, Woollamia Nature Reserve and the northern section of Corramy State Conservation Area (north)



Sections of this Fire Management Strategy

Section 1. Introduction, Bush fire risks, Values, Issues, Strategies.

This section is a summary description of the legislative framework for fire management, description of the reserves, key fire issues and values that need to be addressed and an explanation of the fire management zoning system.

Section 2. Callala / Wollumboola Section.

This section describes the zoning and fire management activities proposed for areas of the reserves north of Currumbene Creek to Lake Wollumboola and surrounding areas.

Section 3. Woollamia Section.

This section describes the zoning and fire management activities proposed for areas of the reserve south of Currumbene Creek to Huskisson Road and Forest Road including Woollamia Nature Reserve.

Section 4. Huskisson Section.

This section describes the zoning and fire management activities proposed for sections of the reserves south of Huskisson Road to Moona Moona Creek.

Section 5. Vincentia West Section.

This section describes the zoning and fire management activities proposed for sections of the reserves south of Moona Moona Creek and north/west of the Wool Road.

Section 6. Vincentia South / Greenfields Section.

This section describes the zoning and fire management activities proposed for sections of the reserves south and east of the Wool Road to Greenfields Beach area.

Section 7. Hyams Beach Section

This section describes the zoning and fire management activities proposed for sections of the reserves south of Greenfields Beach to the border with Jervis Bay Territories and east of Jervis Bay Road.

Section 8. Erowal Bay Section.

This section describes the zoning and fire management activities proposed for sections of the reserves west of Jervis Bay Road adjoining Erowal Bay, Bream Beach and Wrigths Beach

Section 9. Corramy / Basin View Section.

This section describes the zoning and fire management activities proposed for sections of the reserves adjoining Basin View west to the Princes Highway.

Section 10. Fire regimes, Threatened species and Cultural heritage.

This section describes the fire regimes to be applied, management of threatened species and cultural values. This section also summarises biodiversity and cultural heritage conservation strategies to be applied to Land Management Zones in all sections,

Section 11. Fire Trails, Slashed Breaks.

This section describes reserve access and other fire management features to be maintained within the reserves.

Section 12. Information, Research and Works Schedules.

This section outlines strategies for fire management information, research and monitoring, works scheduling and reference for further information.

1. Introduction, Bush fire risks, Values, Issues, Strategies

1.1 INTRODUCTION

1.1.1 Scope and purpose of this fire management strategy

This plan describes the strategies that the National Parks and Wildlife Service (NPWS) will apply to meet fire management obligations under the Rural Fires Act 1997, National Parks and Wildlife Act 1974 and Threatened Species Conservation Act 1995 in Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (northern section) from July 2010 until the strategy is reviewed.

This strategy has been prepared in accordance with policies and procedures set out in the NPWS Fire Management Manual (NPWS, 2008 and as revised), the NPWS Strategy for Fire Management (NPWS, August 2003) and Draft Plans of Management for Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (northern section)

This strategy is supported by:

- Regional Fire Management Works Schedules which are revised annually and list the fire management activities and works proposed for each financial year (July one year to June the next year)
- Bush fire Operational Maps that identify fire suppression advantages, nearby assets as well as sites of natural, cultural and community significance to be protected. These maps are reviewed periodically.
- NPWS Regional Incident Procedures, which detail bush fire preparedness and response procedures. These are revised annually.

This Strategy is also supported by reference maps, Geographic Information System (GIS) and other databases maintained at the NPWS South Coast Region office at Nowra. This plan is to be integrated with the Bush Fire Risk Management Plan prepared by the Bush Fire Management Committee (BFMC) for the Shoalhaven Fire District. The NPWS is an active member of this BFMC and seeks to work cooperatively with fellow committee members and the community to achieve coordinated fire management and suppression across the Shoalhaven.

The NPWS South Coast Region would like to acknowledge the extensive and valuable input provided by the community, neighbours, Rural Fire Service (RFS) members and other agencies during the consultation, compilation and review required for the preparation of this plan.

1.1.2 Fire Management Objectives

Consistent with the statutory obligations and policies described in the NPWS Strategy for Fire Management, the fire management objectives for Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North) are:

- Reduce the occurrence of unplanned fire in the reserves as caused by people,
- Suppress unplanned fires occurring in the reserves,
- Lessen the potential for the spread of bush fires from the reserves,
- Limit the potential spread of fires into the reserves,
- Protect people and property in, or immediately adjacent to, the reserves from bush fires occurring in the reserves,
- Manage fire regimes to sustain all species and processes known to occur naturally within the reserves and thereby avoid possible extinction or unnatural change,
- Protect from damage by bush fire and bush fire suppression or activities, all Aboriginal sites, historic places and culturally significant features which are known to exist within the reserves,
- Promote awareness of the natural and cultural values of the reserves that may be under threat from inappropriate fire regimes or suppression activities.

1.1.3 Description of the Reserves

1.1.3.1 Location and Terrain

This strategy applies to the following reserves: Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North).

The reserves are some 120km from Sydney on the NSW South Coast. The Jervis Bay National Park is a fragmented reserve situated around Jervis Bay and the northern side of St Georges Basin some 20km southeast of Nowra. Sections of the Jervis Bay National Park have been reserved since 1995. Woollamia Nature Reserve (gazetted 2001) is located between Huskisson and the Princes Highway and adjoins Jervis Bay National Park west of Huskisson. The section of Corramy State Conservation Area covered in this strategy lies north of Wandandian Creek between Basin View and the Princes Highway at the western end of St Georges Basin. This reserve was also gazetted in 2001. The reserves adjoin settled areas of Huskisson, Vincentia, Hyams Beach, Erowal Bay, Basin View, Callala Beach and Callala Bay (see Map 1).

The reserves are sited amongst other bushland areas under various ownership and management. These include other conservation reserves such as the Commonwealth Booderee National Park and lands managed by Shoalhaven City Council, NSW Dept of Lands, Forests NSW (NSW Dept of Primary Industries) and extensive private property.

Jervis Bay National Park lies within the catchments of Jervis Bay, Lake Wollumboola and St Georges Basin. Woollamia Nature Reserve also lies within the Jervis Bay catchment just south of Currambene Creek. Corramy State Conservation Area (North) adjoins Wandandian Creek near Bewong.

Topography within the reserves varies from extensive estuaries and wetlands rising to sandstone or shale ridgetops of generally low elevation and relief.

In addition to the 5988.63 hectares within the reserves, this plan also considers bush fire fuels, assets and fire control advantages that are outside the reserve but are adjacent to or contiguous with, the reserve boundaries.

1.1.3.2 Fire Weather and History

The climate predominant over the area of the reserves is temperate with a strong maritime influence that interacts with the continental weather patterns. The variability of localised effects such as summer coastal 'nor-easters' and 'southerly busters' with their characteristic sudden gusty wind changes and higher humidity can present difficulties for fire suppression. The deteriorating fire weather conditions associated with hot dry continental winds - usually preceding the passage of frontal systems - are also features that have the potential to support extremes of fire behaviour.

Regional rainfall is variable both annually and seasonally with a recorded average of approximately 1170mm (Point Perpendicular - Jervis Bay). This rainfall is summer dominant, often resulting from thunderstorm activity. As such the rainfall can be quite variable across the landscape of the reserves. This variability needs to be monitored when prescribing 'burning off' conditions or considered when using regionally based fire weather indices. The summer storms can also present dangerous fire-weather conditions for firefighting crews.

The area is subject to periodic drought both regionally and as part of larger weather trends such as 'El Niño' cycles. These trends can result in progressive drying of the soils and vegetation making more fine fire fuel available than usual as well as promoting intense fire behaviour as observed in the prolonged drought and exceptional summers of 2001 / 2002 and 2003 / 2004. Under such conditions, the resultant fire behaviour makes containment and control very difficult and can easily compromise usually sufficient fire protection or control measures.

Most recorded wildfires arise from suspected deliberate ignition, escaped fire and occasional lightning. Most of the suspected deliberate events originate from access routes and adjacent to settled areas. Recorded major fire 'runs' across the reserves are west to east and are usually sustained by periods of exceptional but extreme fire-weather. In these extreme conditions fires have crossed many substantial control features e.g. Princes Highway, St Georges Basin and have not been successfully contained until more favourable weather conditions prevail.

Whilst information on the fire history of the reserves prior to gazettal is limited in both span and accuracy, it appears that areas of Jervis Bay National Park and Woollamia Nature Reserve have been burned more frequently than is indicated for the sustainable maintenance of biodiversity. This more frequent fire can result in more fire responsive and fire-prone vegetation in parts of the landscape. This may be exacerbated as a result of past land use and patterns of deliberate ignition. The fire history of the reserves presents challenges for the maintenance of the reserves' biodiversity and protection of adjacent assets. Increasing community understanding of fire management options and decisions as well as maintaining preparedness and awareness of the fire-prone landscape is an ongoing challenge, especially in communities where casual seasonal visitation is popular.

1.1.3.3 Natural and Cultural Heritage

The vegetation of the reserves is both diverse and largely fire-prone. This diversity includes extensive heathlands, taller forests on deeper soils and rainforest patches within sheltered drainage lines surrounding Jervis Bay. There are several areas of important littoral and estuarine vegetation as well as the catchments supporting these areas, e.g. Lake Wollumboola, Carama Inlet, Wowly Gully and Moona Moona and Currambene creeks.

The reserves include a number of rare and threatened plant species such as *Calladenia tessellata* - Thick Lip Spider Orchid, *Melaleuca biconvexa* and *Prostanthera densa*. Particular management strategies to protect threatened plant species are outlined in Table 11.

The landforms and vegetation of the reserves include the habitats of a diverse range of fauna. Of particular note are the populations of birds including important heathland and shorebird species. Over thirty threatened fauna species have been recorded in and around the reserves. These include the Giant Burrowing Frog - *Heleioporus australiacus*, Eastern Bristlebird - *Dasyornis brachypterus* and the Eastern False Pipistrelle - a bat - *Falsistrellus tasmaniensis*. A number of such species may be considered at threat if inappropriate fire regimes prevail or unsuitable fire management strategies or control options are applied. An example of a threatened species where there are direct implications is the Glossy Black Cockatoo - *Calyptorhynchus lathami* which has a close habitat dependence on she-oak thickets (*Allocasuarina*). Specific fire management strategies for affected threatened fauna species are outlined in Table 11.

The evidence of Aboriginal use and sites of cultural significance are found across the reserves with concentrations of recorded occupation sites along creeklines and foreshores. As with remnants of early historic use, few of these are vulnerable to further fire but may be vulnerable to unplanned fire suppression activities such as the use of earthmoving machinery. There are historic features associated with the later European settlement of the Jervis Bay area but most are located within built-up areas adjoining the reserves. Protection measures and suppression options for Aboriginal and historic assets are detailed in Table 13.

Parts of the reserves have been the site of former agricultural, forestry or urban development operations resulting in a complex network of vehicle tracks and infrastructure easements. None of these routes have been recorded of historical significance.

1.1.3.4 Infrastructure, assets and economic values

There are several community infrastructure assets within the reserves. The NPWS has also developed significant visitor access sites and facilities. Major assets include aerial power supply feeder lines to communities, communications facilities and water supply and sewerage infrastructure. There are also sites adjacent to the reserves requiring special evaluation such as the primary and secondary schools at Vincentia and retirement village northwest of Basin View. Many infrastructure routes traverse extensive bushland including the reserves and may be vulnerable to intense fire. The consequent effects of loss of service on communication, power, water and sewerage services after a bush fire can pose a significant problem.

The reserves virtually surround the landward perimeters of the villages of Hyams Beach, Erowal Bay, Vincentia and Huskisson. Occupancy of these settlements is made up of both residential and holiday accommodation, the supporting commercial areas and service industries. The seasonal fluctuation of population and absentee ownership presents particular problems for community information, preparedness and neighbour interaction with regard to bush fire risk management.

A longstanding concern to the community is the singular vehicular access routes to some of these settlements that may be compromised by bush fire outbreaks under adverse conditions e.g. Booderee Avenue to Hyams Beach. There are also visitor use sites within the reserves that are isolated and may require special public safety considerations in the event of fire outbreaks.

A number of rural subdivisions adjoin the reserves with many containing a large proportion of natural vegetation. Most of the portions within these subdivisions are of sufficient size to accommodate measures to protect existing dwellings within the portions without the need to modify adjacent reserve lands. The scattered placement and access to these assets presents particular challenges for fire suppression and protection in this area.

There are also considerable areas adjoining the reserves that have the potential for further subdivision or development. At present some of these areas are naturally vegetated and are included in planning for fire management zones and strategies especially where they adjoin built-up areas. Current legislation and guidelines include the need to address the risk from bush fire in design and approval processes. This should improve the intrinsic bush fire safety of these developments and lessen the expectation of further demands for fire protection to take place within the reserves.

Parts of the reserves have been the site of former agricultural, forestry or urban development operations resulting in a complex network of vehicle tracks and infrastructure easements. The vehicle access network within the reserves has undergone assessment of its suitability and maintenance requirements for public use, reserve management and fire suppression. Some routes are operationally inaccessible, environmentally unsustainable or of little functional use and require stabilisation and rehabilitation.

The NPWS will continue to maintain other tracks for purposes such as public access or reserve infrastructure maintenance. The NPWS will continue its contribution to the identification and maintenance of a strategically useful and sustainable network of fire access routes across the Shoalhaven.

Whilst all access routes may have some usefulness for fire management, only those tracks primarily maintained by the NPWS for fire suppression are specifically listed in this strategy as fire trails and are shown as such on operational maps.

Much of Australia's vegetation is fire prone and has for thousands of years supported fires of various intensity. Placement and development of assets within this existing natural hazard can contribute significantly to site-specific bush fire risk to dwellings and community assets. Approval for the siting and standard for such development is the responsibility of Local Government in most cases. There are recognised standards and guidelines for setbacks from the hazard, bush fire fuel management and protective construction that are now part of well established approval processes.

Whilst the NPWS will undertake its responsibilities to reasonably limit the possible spread of bush fire to adjacent lands, it cannot be expected that fire management regimes and conservation outcomes on existing reserves will be altered to accommodate future adjacent development. Consistent with planning requirements of the Rural Fires Act, development options for these lands will need to recognise the inherent risk from bush fire in such landscapes and continue to include sufficient design and construction measures for bush fire protection.

1.1.3.5 Recreational Use and Facilities

Most of the reserves' recreational use is focussed on the coastal areas and along public access routes through or adjacent to the reserves. Visitor use is seasonal with higher use over summer and holiday periods. This use of the reserves largely emanates from the adjacent settlements of Huskisson, Vincentia, Hyams Beach, Callala Beach, Callala Bay, Erowal Bay, St Georges Basin, Basin View, main access routes and surrounding areas. During holiday periods these towns and villages are often swelled with visitors or non-permanent residents unfamiliar with the locality and the associated seasonal risks from bush fire.

Recreation uses of the reserve include foreshore and waterway use for beach activities, fishing and walking as well as vehicle-based touring and bushwalking.

Visitor use facilities are located at Greenfields Beach near Vincentia, Red Point east of Callala, Hammerhead Point northwest of Currarong and near Wandandian Creek in Corramy State Conservation Area. Visitor use is spread across these sites, along access routes and along the foreshores and beaches of the reserves.

There are several implications for fire management from this dispersed and seasonal use. These include:

- The primary need to consider visitor safety in fire suppression response,
- Communication of risks and appropriate response for casual visitors,
- Preparedness information and preparation for adjacent neighbours and communities and
- Opportunities for unplanned ignition from the dispersed recreational use and access network.

1.1.3.6 Summary of Key Fire Issues

There are a number of key fire management issues in the reserves and surrounding lands.

Of note are:

- The fragmented nature of neighbouring urban settlement throughout fire-prone bushland to the south and east of the reserves. Associated with this is the particularly complex mix of land ownership and management along the urban / bushland interface.
- The mix of public and privately managed bushlands in association with the reserves.
- The 'single-road-in-and-out' vehicle / emergency access to some communities. e.g. Hyams Beach.
- The vulnerability of key infrastructure lines across bushland to these urban areas e.g. power supply, water pipelines.
- The dispersed arrangement of access and dwellings in rural subdivision areas, e.g. Woollamia and east of Tomerong.
- The planning for and development of bushland areas adjacent to the reserves and nearby settlements having regard to bush fire risk.
- Protection of existing developments that had not been required to consider bush fire risk in planning and construction standards.
- Community understanding and acceptance of private asset protection measures and preparedness that is required to live with the inherent bush fire risk within these settings.
- The considerable biodiversity found in these areas that may be at risk from inappropriate fire regimes.
- The high incidence of 'unplanned fire' arising from arson or careless use of fire.

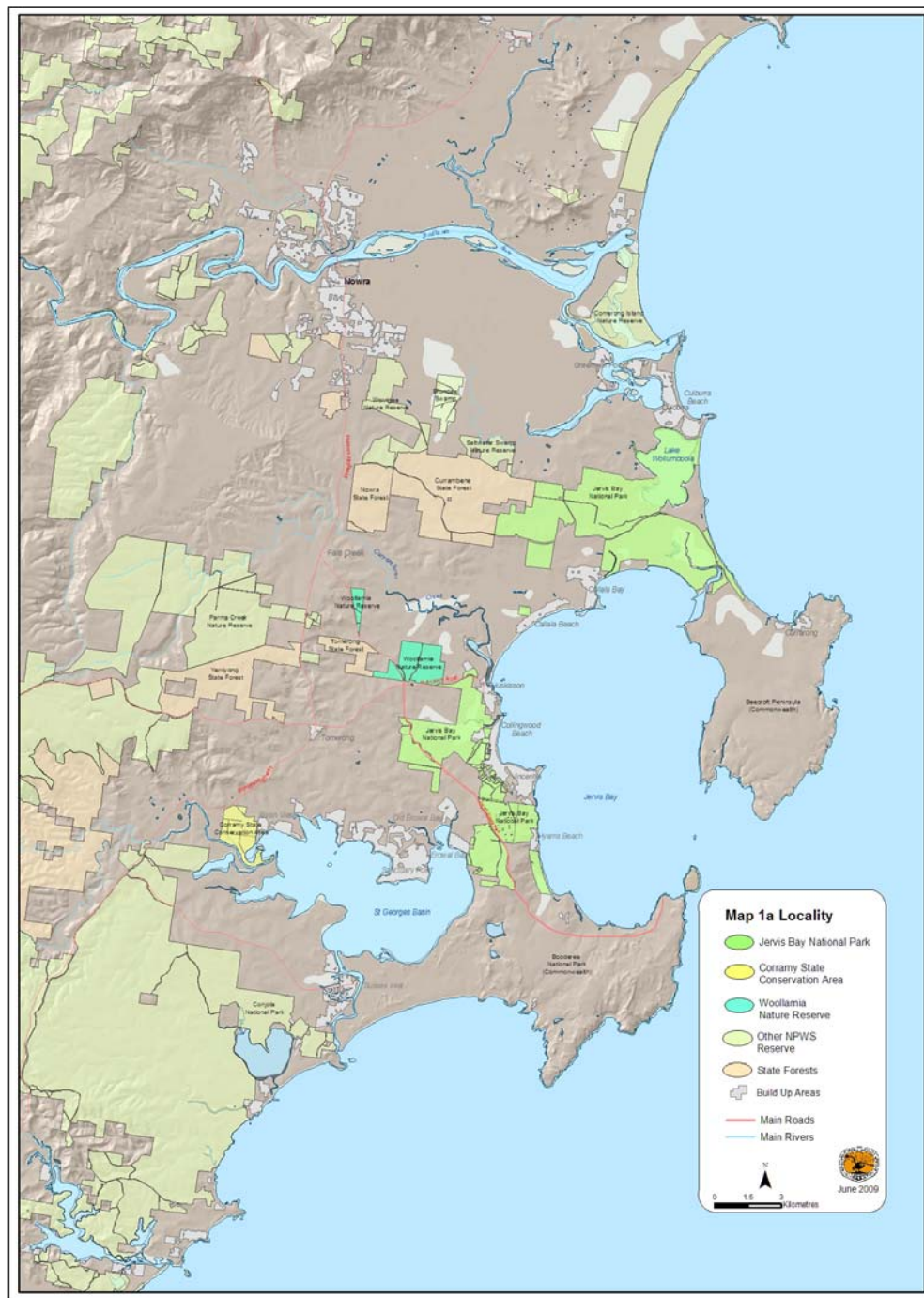
The National Parks and Wildlife Service will continue to assist the local Bush Fire Management Committee to develop coordinated bush fire risk management strategies to address such issues for areas adjoining the reserves.

The NPWS will also continue to contribute to the Shoalhaven Emergency Management Committee in relation to emergency management and community response.



Regeneration after wildfire - Jervis Bay NP
December 2001 / January 2002

Map 1a. Location of Reserves



1.2 BUSH FIRE RISKS

1.2.1 Introduction

The large number and complexity of assets of all types in and around the reserves means it is not realistically possible to implement active fire management strategies to protect all assets that could be damaged by extreme wildfire events or inappropriate fire regimes. Bush fire risk analysis has been undertaken to identify those assets most at risk from fire of higher intensity and therefore most in need of the application of active fire management strategies.

For the purpose of this strategy, bush fire risk is defined as the chance of a bush fire or inappropriate fire regime occurring and causing damage to assets within or adjacent to the reserves.

‘Assets’ include life and property, cultural heritage – such as historic or Aboriginal sites and natural heritage such as flora, fauna, catchment values and natural ecosystems.

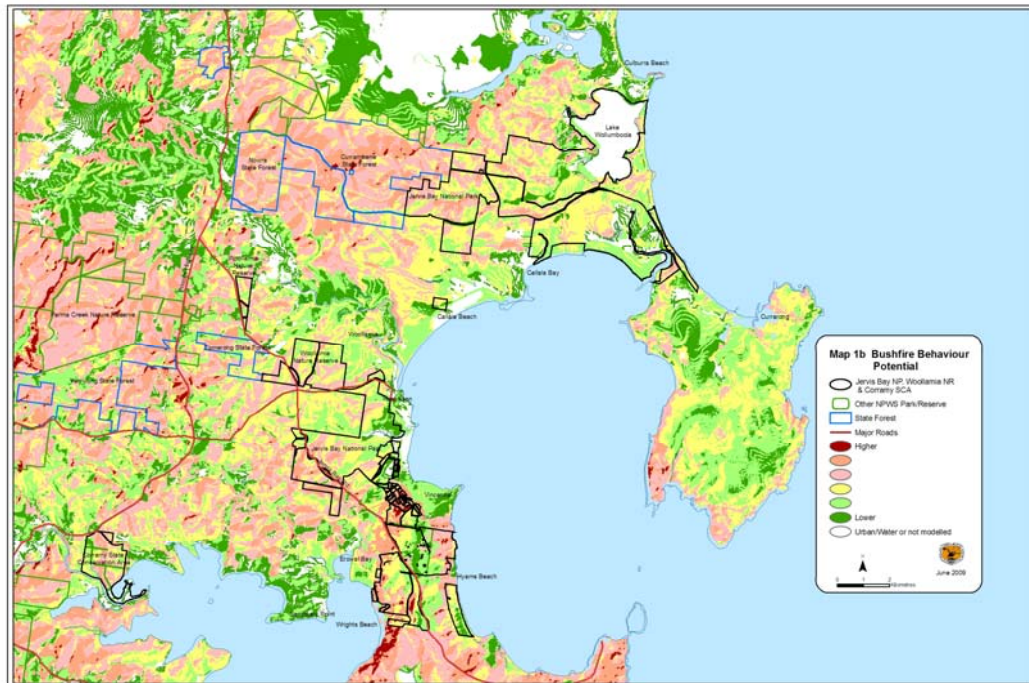
The method of grading the bush fire behaviour potential and consequent risk of damage is described in the *NPWS Strategy for Fire Management (NPWS August 2003)*. Whilst these methods are based on available climatic, vegetation and terrain data, it is stressed that periods of extreme fire weather and prolonged drought will considerably increase the potential behaviour and damage from bush fire. Under these exceptional conditions the potential risk to the community’s property and natural and cultural assets will increase significantly.

This risk assessment method has been applied to the area within and adjacent to Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North). Life and property and natural and cultural assets within these areas have been sorted into one of the following fire potential / risk classes - *higher, moderate, or lower*.

This fire management strategy will focus on all assets within or adjacent to the reserves where identified in areas of **higher** bush fire potential (see Map 1b).

Areas of comparatively **higher** potential bush fire behaviour have been illustrated in Map 1b and identified in the following sections.

Map 1b. Potential Bush fire Behaviour map



1.2.2 Life and Property

Based on the criteria set out in the *NPWS Strategy for Fire Management (NPWS 2003)*, there are few specific locations within Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North) where life and property are identified within areas of 'higher' bush fire behaviour potential.

Nevertheless, as has been demonstrated in events of extreme fire weather coupled with prolonged drought, there can be exceptional fire behaviour that can readily breach commonly accepted fire mitigation measures (e.g. Hylands Fire, December 2001 - January 2002). Under such circumstances, bush fire fuels not normally available such as in swampy areas may carry intense fire whilst the incidence of successful spot fires can increase to considerable distances.

The risk of life and property damage is exacerbated where there is a concentration of people and assets such as the interface between built-up areas and adjoining bushland. Similarly, key community infrastructure located within fire prone areas is also vulnerable and damage to such facilities may have significant effects on wide areas not directly concerned with fire events.

Such sites in and around Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North) have been identified within Tables 1a, 1b & 1c (see Map 1b & Tables 1a, 1b, 1c).

Table 1a. Sites near Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North) identified at higher risk from bush fire.

(Using criteria for fire risk factors in *NPWS Strategy for Fire Management 2003*)

Map	Feature / Location	Tenure
5, 6, 8.	Parts of nearby urban / bushland interface – Vincentia and Erowal Bay	NPWS, Dept of Lands and Shoalhaven City Council

Though many assets do not directly adjoin the reserves, in places there is a continuum of bushland from the reserves to areas near dwellings including the property on which the dwelling is located.

Whilst the bush fire risk assessment process within this strategy considers all bushland regardless of tenure, the NPWS has indicated boundaries for bush fire management zones within reserves only.

Where there is a continuum of bushland from the reserve boundary to the dwellings and other assets along the urban/bushland interface, the NPWS has only identified the tenure of this adjacent land. People wishing to know what fire management practices are to be applied to bushland outside the reserves should contact the owner or manager of that land.

In such areas the NPWS will support the cooperative approach to managing bush fire risk currently being promoted by the Shoalhaven Bush Fire Management Committee of which the NPWS is a member.

Such sites include areas listed in Table 1b.

Table 1b. Locations near Jervis Bay NP, Woollamia Nature Reserve and Corramy State Conservation Area (North) where continued detailed cooperative planning for asset protection will be required.

Map	Feature / Location	Tenure
2.	Urban / bushland interface – Callala Beach	NPWS, Shoalhaven City, Crown lands and Private property.
4.	Urban / bushland interface – Huskisson (west)	NPWS, Shoalhaven City Council, Crown lands and Private property.
5, 6.	Urban / bushland interface – Vincentia	NPWS, Shoalhaven City Council, Crown lands and Private property.
7.	Urban / bushland interface – Hyams Beach	NPWS, Shoalhaven City Council, Crown lands and Private property.
8.	Urban / bushland interface– Erowal Bay / Wrights Beach	NPWS, Shoalhaven City Council, Crown lands, Commonwealth territories and Private property.
9.	Urban / bushland interface – Basin View	NPWS, Shoalhaven City Council, Crown lands and Private property.

There are also a number of community infrastructure assets within or near the reserves that may be vulnerable to fire. Such sites are listed in Table 1c.

Table 1c. Community infrastructure within or near the reserves vulnerable to fire

Map	Feature / Location	Tenure / Agency / Manager
5, 1c.	Sewage Treatment Plant – Vincentia & Callala Pumping Stations – e.g. Currarong Road west of Kinghorne.	Shoalhaven City Council
6, 2.	Communications towers and associated power supply lines e.g. Vincentia water tower and near Callala Sewage Treatment Works.	Telstra
1c, 4, 5, 7, 8.	Electricity supply feeder lines – Hyams Beach, Erowal Bay, Wool Road, Jervis Bay (Naval College) Road, Coonemia Road, Currarong Road & environs. Electricity Substations – e.g. Coonemia Road.	Integral Energy

1.2.3 Cultural Heritage

Although there are a large number of Aboriginal cultural sites within Jervis Bay National Park and Woollamia Nature Reserve, not all sites are at risk from bush fire. Based on the criteria set out in the *NPWS Strategy for Fire Management (NPWS 2003)*, an assessment of the type and location of recorded Aboriginal and Historic cultural sites was undertaken.

A variety of sites of Aboriginal occupation have been recorded in the reserves including stone tool scatters, axe grinding grooves and middens, indicating widespread use of the landscape. No recorded sites were assessed as being directly vulnerable from the effects of bush fire in areas of higher fire potential within Jervis Bay National Park, Woollamia Nature Reserve or Corramy State Conservation Area (North). However, not all areas within the reserves have been comprehensively surveyed for the presence of cultural sites. A significant threat to known and other sites in all areas can arise from fire suppression operations. This includes disturbance resulting from vehicles being used off roads and tracks, earthmoving plant and creation of hand-tool firebreaks.

To limit the risk of this disturbance a number of areas including cultural sites that could be vulnerable to fire control operations have been identified on Operational Maps covering the reserves. Operational guidelines for firefighters and planners aimed at avoiding such disturbance are also included on these maps.

The types of sites are not indicated on these maps. All sites that are indicated on maps are considered at risk from the disturbance created by the usual methods of implementing control lines. The operational maps will be referred to relevant interests and the information will be provided with permission. **These maps are not for wider circulation to non-operational personnel.**

NB - Not all cultural sites will be indicated on the maps. Where operations are planned, especially in areas near indicated sites or along routes not previously used, then planning and operational staff should wherever possible allow time and resources for preliminary assessment by suitably knowledgeable personnel.

It is stressed that the indicated site locations may only be approximate. Where there may be limited options for control routes in areas that may compromise an indicated site, then field personnel should seek appropriate guidance from skilled and relevant personnel. These concerns should be relayed to the divisional commander and Incident Management Team and where disturbance is likely, alternatives should be considered or, where possible, works delayed until appropriate assessment is completed.

It is recognised that there will at times be circumstances where quick action is required to implement control measures. Where possible and if safer success of control is likely, then unnecessary disturbance should be avoided and control options less likely to disturb sites should be employed e.g. the use of hose lays and wetlines as opposed to earthmoving machinery as a site-specific option.

Where likely strategic control options are identified beforehand then these should be assessed and mapped as time and resources allow in non-operational periods. These options are to be recorded in databases available to incident planning teams and where suitable marked on operational map revisions.

Similarly, historic assets at risk from control operations may be identified on operational fire maps and strategy options identified.

If there is any doubt as to the appropriate measures to be taken or should further cultural assets be identified then avoid all disturbance where possible and contact a NPWS representative or office.

Table 1d. Cultural sites considered at higher risk from bush fire

Map	Feature / Location	Tenure
	No recorded sites	

Although no recorded sites have been identified at higher risk from fire itself – Table 1d is retained for possible sites identified during ongoing survey and evaluation in the reserves.

1.2.4 Natural Heritage

Based on the criteria set out in the *NPWS Strategy for Fire Management (NPWS 2003)*, there are many vegetation communities in these reserves at higher risk from inappropriate fire regimes (see Table 1e).

Given the extensive fire event across the reserves that occurred in 2001 / 2002 many of the complex and diverse vegetation communities found within the reserves are at risk from being burned too frequently (*exceeds maximum frequency*) if subject to fire too soon after that event. Therefore longer-term biodiversity values may be at risk.

Conversely, there are a few communities in these reserves where the time since fire exceeds the indicated thresholds and may require fire to be introduced in order to conserve biodiversity (*exceeds minimum frequency*).

Given the widespread nature of the more recent wildfires (2001 / 2002) most of the vegetation community types contain more recently burned areas that although within the desirable thresholds, are *vulnerable* to being 'overburned' if fire is introduced too soon after these events.

Most of these biodiversity concerns related to fire frequency are addressed in the strategies to manage fire within the Land Management Zones (LMZ) where a range of 'times-since-fire' can be managed for. To better identify appropriate and site-specific fire regimes within the reserves, ten fire monitoring plots have been established since 2002 in a variety of vegetation types including a focus on rare or threatened plant species.

Within Strategic Fire Advantage Zones (SFAZ) where a closer watch may be kept on bush fire fuel conditions, fire may be introduced towards the lower end of the required biodiversity and fuel management thresholds.

In Asset Protection Zones (APZ) fuel conditions are most closely monitored and provided there are not specific identified plant communities, habitats or species at risk, lower fire/biodiversity thresholds may be exceeded when fire is considered as the best way to manage fuel conditions within the zone.

In summary, at September 2008 approximately 22% of the reserves' vegetation had been burnt within the last 7 years. Some 10% of these areas may be considered to be burned too frequently. 8% of the reserve vegetation is vulnerable if fire is applied again within the next two years. 23% of the reserve vegetation may require assessment for the application of fire to conserve biodiversity, with 36% remaining neither unaffected nor vulnerable. Most of the area requiring assessment for the deliberate application of fire is within the reserve north of Currambene Creek. Detailed modelling and assessment of vegetation communities in this area will be a priority for managers to direct the application of prescribed fire for ecological purposes.

Importantly, as stated above, some of the reserve vegetation communities have been totally burned too frequently.

Table 1e identifies those vegetation communities where biodiversity is at risk from inappropriate fire regimes. The monitoring of biodiversity thresholds for 'time-since-fire' is reviewed annually. Specific locations for affected vegetation communities will be identified within detailed planning for various fire management zones and subsequent works programming.

Table 1e. Biodiversity at threat within the reserves.

Vegetation types and some related vegetation communities within the reserves affected by inappropriate fire regimes	Total Area (ha.)	(Area) and % of vegetation community (within reserve) affected by inappropriate fire regimes	(Area) and % of community within reserve vulnerable to inappropriate fire regimes
Woodlands e.g.	134.0		
Woodlands - coastal complex	134.0		(0.02 ha.) 0.01%
Woodlands / Dry forests e.g.	42.0		
Woodlands / dry forest species dominant	6.0		(0.06 ha.) 1.0 %
Drier forests on plateaux and coastal lowlands e.g.	1842.0		
Dry forests on plateaux	3.0		(0.02 ha.) 0.7%
Jervis Bay dry lowland forests - shrub/grass understorey - mixed tree species	1009.0	(1.66 ha.) 0.16%	(14.03 ha.) 1.39%
Coastal hinterland dry forest with heath - <i>Corymbia gummifera</i>	698.0	(137.53 ha.) 19.7%	(106.07 ha.) 15.19%
Forests on sand e.g.	1585.39		
Forests on coastal sands, shrub/fern understorey - <i>Eucalyptus botryoides</i> / <i>Banksia serrata</i>	48.0		(0.07 ha.) 0.15%
Forests on coastal sands, shrub/fern understorey - <i>Eucalyptus pilularis</i> / <i>Banksia serrata</i>	1517.0	(8.13 ha.) 0.5%	(86.58 ha.) 5.7%
Forests in wetter areas e.g.,	636.0		
Coastal swamp forests with wet heath <i>Casuarina glauca</i> / <i>Melaleuca ericifolia</i>	171.0	(4.41 ha.) 2.57%	(9.52 ha.) 5.55%
Coastal lowlands swamp forest - <i>Eucalyptus robusta</i>		(4.74 ha.) 5.31%	(24.60 ha.) 27.52%
Coastal swamp forest complex - <i>Casuarina glauca</i>		(74.11 ha.) 21.04%	(28.87 ha.) 8.20%
Moist understorey forests e.g.	29.0		
Moist forests - e.g. on foothills - <i>Corymbia maculata</i> / <i>Eucalyptus pilularis</i>	29.0	(9.09 ha.) 30.44%	(4.55 ha.) 15.25%
Fire Intolerant vegetation - Rainforest, Estuarine areas * e.g.	425.0		
Estuarine mangrove low forests	134.0	(55.61 ha.) 41.44% #	(78.60 ha.) 58.56% #
Saltmarsh / mudflat environs	291.0	(245.99 ha.) 84.41% #	(45.42 ha.) 15.59% #

From this table, vegetation communities with over 50% of their area already burned too frequently (or are vulnerable if fire occurs before the upper threshold for that community - i.e. too frequently burned) are considered at risk of species loss or irreversible change.

* Whilst not normally considered fire prone, areas of rainforest and margins of estuarine areas within Jervis Bay National Park have burned during periods of extended drought or extreme wildfire incidents. As a matter of priority managers should try to prevent or exclude the introduction of fire to these areas as most of these vegetation communities are considered at risk of loss of biodiversity with too frequent introduction of fire.

1.3 BUSH FIRE RISK MANAGEMENT STRATEGIES

1.3.1 Introduction

The fire management strategies identified and illustrated in the following sections and maps have been designed to reduce the bush fire risk to assets within and adjacent to the reserves (as outlined in sections 2 - 9 of this strategy).

A Fire Management Works Schedule for works to apply these strategies is prepared and reviewed annually (See section 12 of this strategy).

1.3.2 Fire Management Zones

For the purposes of providing a consistent approach to fire protection and biodiversity management (using fire) Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North) have been divided into fire management zones. Each type of zone implies a specific fire management purpose according to the description in the *NPWS Strategy for Fire Management (NPWS 2003)*.

These bush fire management zones are described in the geographic sections of this fire management strategy and set out in maps.

Map 1c. northern Jervis Bay National Park,

Map 1d. southern Jervis Bay National Park, Woollamia Nature Reserve
(incl. inset Corramy State Conservation Area / Basin View) and
Detailed planning maps (2 to 9).

Fire management zone types

The fire management zone types are:

Asset Protection Zone (APZ),
Strategic Fire Advantage Zone (SFAZ),
Land Management Zone (LMZ) and
Fire Exclusion Zone (FEZ).

These Zone types are consistent with bush fire risk management planning zones used across NSW by fire authorities within cooperative fire management planning frameworks.

Land Management Zones were formerly described as Heritage Management Zones (HMZ) in the *NPWS Strategy for Fire Management (NPWS 2003)*. HMZ were specific to NPWS reserve fire management strategies as this name reflects the overall reserve management objectives for conservation of natural and cultural heritage values within such zones. As the zoning in this fire management strategy will be included in the landscape-wide Bush Fire Risk Management Plan for the Shoalhaven, these (LMZ) zones refer to Land Management Zones (primary purpose, heritage conservation).

Fire Exclusion Zones (FEZ) refer to areas where fire should not be deliberately introduced e.g. SEPP (State Environmental Planning Policy) wetlands. Where reasonably possible, fire suppression responses should attempt to prevent fire from entering such areas. Whilst there are other areas and vegetation communities where it is recommended that fire may be excluded for biodiversity conservation, this strategy will identify only FEZ areas using the same parameters consistent with overall bush fire risk management planning as used in the Shoalhaven. Such areas also include identified SEPP littoral rainforests.

To guide managers, other areas such as Endangered Ecological Communities (EEC) or specific cultural sites where fire exclusion is recommended will be mapped within this strategy and referred to in relevant tables.

As far as possible the boundaries of fire management zones have been defined by fire control 'advantages' or useful operational boundaries using roads, water or areas of low bush fire behaviour potential.

Size of Asset Protection Zones (and Development Control matters on adjacent lands).

Guidelines used to determine the size of APZ are set out in the *Planning for Bush Fire Protection (2006 or as revised)* and the *Bush Fire Environmental Assessment Code (2006 or as revised)*. These guidelines are commonly used across the State and describe the extent of works required and permitted for immediate fire protection.

It should be noted that the width of Asset Protection Zones (APZ) as mapped and nominated in this strategy will vary according to specific site conditions and the consideration of setbacks from boundaries of existing dwellings (at the time of the introduction of NSW Government fire planning and development control legislation on 2nd August 2002). Newer and infill developments are subject to specific fire planning and development control constraints. For such bush fire risk and protection measures included in development and building control processes please refer to Shoalhaven City Council or the NSW Rural Fire Service.

Fire management and zoning of bushland adjacent to the reserves

To provide useful boundaries for fire management operations the boundary to some fire management zones might logically extend off the reserve onto other land tenures to provide the best operational boundary. Given the statutory limits, **the zone boundaries proposed in this plan cover only NPWS managed reserves.**

Where logical fire management zone boundaries might include adjacent bushland areas, the fire management responsibility for those lands may be identified. Enquiries as to fire management strategies and practices for those lands should be directed to the relevant manager or owner of those lands.

Where Private Property is identified, then ownership or management details may be sought via the Department of Lands or Shoalhaven City Council.

Identification of these adjacent lands does not imply any fire management practice for these areas as may be used within adjacent reserves.

Bush fire hazard complaints – within NPWS managed reserves

Where bush fire fuel or bush fire access conditions within the reserves may be considered not to meet the objectives as set out in this fire management strategy then enquiries should at first be directed to the NPWS Area office managing these reserves i.e.

Area Manager - NPWS Nowra Area
Flat Rock Road - Nowra
(PO Box 707, Nowra NSW 2541)

Fire hazard complaints about such areas can also be referred to the Rural Fire Service via the Shoalhaven office or RFS website.

Bush fire hazard complaints - lands adjoining the reserves

Bush fire hazard complaints about such areas should be directed in the first instance to the manager / owner of the lands concerned or referred to the Rural Fire Service. Such areas adjoining the reserves may also be zoned within the Shoalhaven Bush Fire Risk Management Plan. This plan outlines cooperative bush fire strategies being applied across the landscapes of the Shoalhaven.

Integration with bush fire risk planning across the Shoalhaven

During the life of this strategy, the NPWS will seek consistent strategies across land tenures so that fire management may be better understood by the community and firefighters alike. The NPWS or neighbours may seek the assistance of the Shoalhaven Bush Fire Risk Management sub-committee to facilitate the resolution of any issues.

The NPWS South Coast Region will be submitting the fire management zones and their applied strategies for inclusion as part of the Shoalhaven Bush Fire Risk Management Plan. This planning contribution and works commitment by the NPWS becomes part of the overall bush fire risk management strategy for the Shoalhaven.

Detailed zone mapping

Given the complexity of land tenures adjoining the reserves and fire management strategy options along the extensive urban/bushland interface, the mapping for this fire management strategy has been divided into detailed sections addressing particular communities or areas.

These zones are outlined on the following maps.

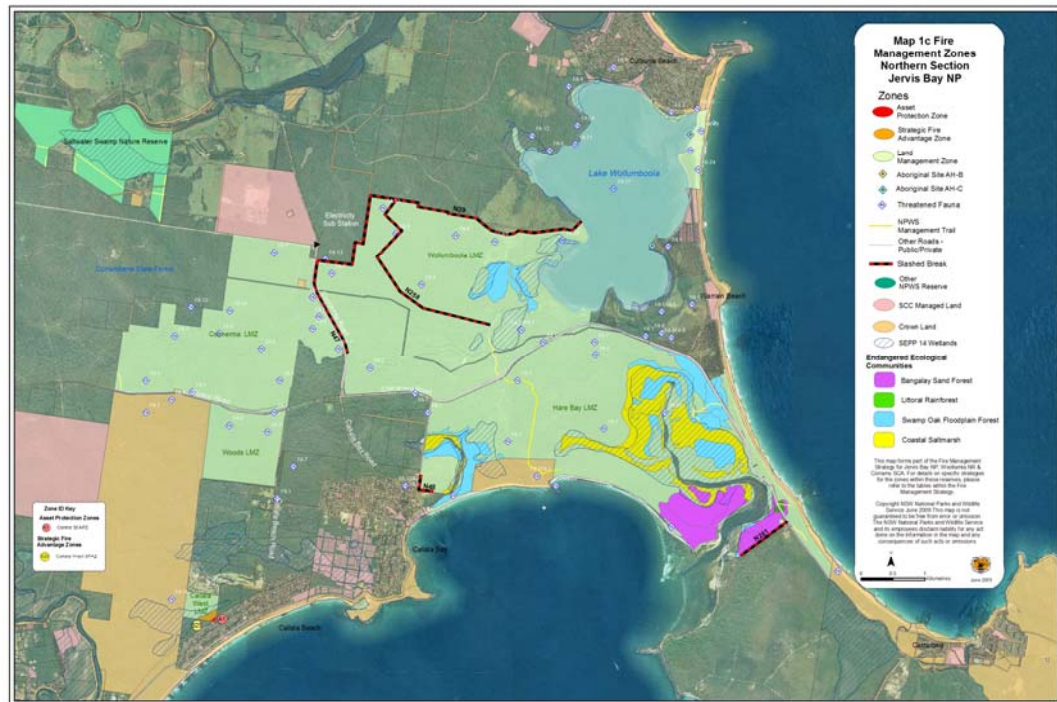
Map 1c Fire Management Zone Map - Northern section of Jervis Bay National Park

Map 1d Fire Management Zone Map - Southern section of Jervis Bay National Park including Woollamia Nature Reserve and Corramy State Conservation Area (North)

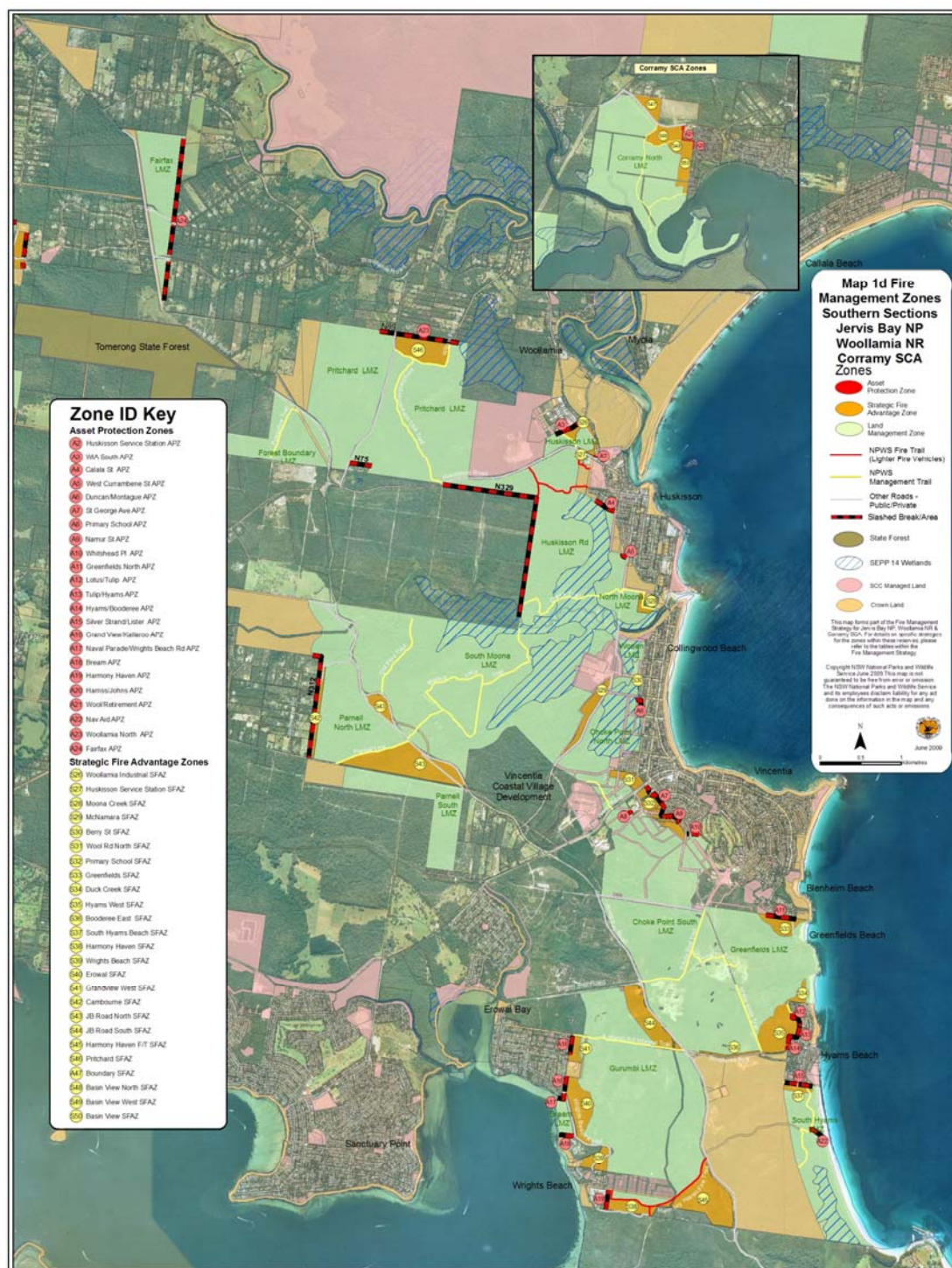
Land tenure, ownership or fire management responsibility information

Information on land ownership and management responsibility for areas off the reserves is from Department of Lands and Shoalhaven City Council records at the time of publication. Where tenure or management responsibility is not clear from these sources the NPWS may identify such areas as "management unknown". Enquiries for these areas should be directed to the Department of Lands then Shoalhaven City Council to determine fire management responsibility.

Map 1c. Fire Management Zones – northern section Jervis Bay National Park



Map 1d. Fire Management Zones - southern section of Jervis Bay NP, Woollamia Nature Reserve and northern section Corramy State Conservation Area



1.3.2.1 Asset Protection Zones (APZ)

Twenty-four Asset Protection Zones (APZ) have been identified within and around Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North) (see sections 2 to 9).

The primary fire management objective for asset protection zones is the protection of life and property. This may be achieved by applying the strategies as outlined in the following sections of this strategy. Note that the slashed breaks described in Table 17 also contribute to the protection of life and property in these areas.

Specific guidelines for planning APZs are detailed in *Planning for Bush Fire Protection* (2006, or as revised) and the Bush Fire Environmental Assessment Code (2006 or as revised) under the Rural Fires Act.

A typical APZ for a dwelling in bushland consists of both an inner and outer protection area (IPA and OPA).

The inner protection area (IPA) extends outwards from the dwelling to the inner edge of the Outer Protection Area (OPA) and is an area in which there are minimal and discontinuous fine bush fire fuels at ground level.

The outer protection area (OPA) is located outside the IPA and is usually adjacent to the bushland hazard. The Outer Protection Area (OPA) is an area in which overall fuel hazard levels are reduced. Fine overall fuel hazard levels within the OPA should be kept less than an equivalent bush fire fuel load of approximately eight tonnes per hectare.

In preparation of this strategy the NPWS assessed the needs for existing dwellings as approved before 2nd August 2002 when NSW Government guidelines for bush fire protection within development planning processes. This identified where these needs extended onto reserves defined the extent of any dwelling APZ required. Since that time, bush fire protection requirements for each dwelling are assessed as part of the development / building approval process and are mostly contained within the property boundary. In most areas along the urban / bushland interface adjoining the reserves where there is a higher density of development, the requirements for individual dwellings are combined into one APZ as mapped and described. Most of the APZs described in this strategy provide part of the Outer Protection Areas for dwellings adjacent to the reserve boundary.

Where possible the width of an area treated within an APZ has been defined in the tables. These are nominal average widths and may vary with local terrain, drainage/inundation, rocky outcrops or other limits on access for machinery. Other areas within the APZs may be treated by the application of fire in conjunction with fire management activities in adjacent zones.

Not all areas within APZs may be treated as per the guidelines. Where site-specific values are found such as Threatened Species or cultural sites at risk from damage by the customary maintenance activities, then APZ treatments may vary to accommodate these values. Other treatments may include tree thinning or pruning, surface treatment (gravel etc.) or relocation of cleared areas away from the specific sites while maintaining acceptable risk management levels.

In certain sites there may be limited opportunities to install the appropriate measures and risk management attention may need to be focussed on better intrinsic bush fire protection of the dwelling/s affected. In these situations the NPWS will liaise closely with the owner or may seek independent assessment of the risk and options for its management.

Fire management in Asset Protection Zones should ensure regard for the maintenance of biodiversity within the reserves and particularly applies to APZs where mechanical clearing or fire is more likely to be deliberately introduced to limit bush fire fuels. Due to the emphasis on fire protection in APZ, mechanical works, fire frequency and other strategies prescribed for these areas may result in an adverse impact on biodiversity at these sites.

Methods for assessing APZ design requirements are constantly being reviewed and may change over the life of the fire management strategy. The NPWS will define the APZ assessment standards to be applied for reserves that it manages.

A common NPWS approach to APZ management is to have the zones in acceptable condition prior to the bush fire season. For the Jervis Bay region this target is nominally by the end of each year. This goal may vary depending on seasonal conditions e.g. heavier winter rains, more favourable plant growing conditions, periodic inundation, recent fire in adjacent areas etc. Should neighbours be concerned at excess plant growth in these areas they should contact the NPWS Nowra Area.

Not all bushland in this region is managed by the NPWS. Care should be taken to confirm the ownership or management responsibility of any bushland where there are concerns about bush fire hazard.

Summary list - Asset Protection Zones (APZ)

Table 2a. Asset Protection Zones - Callala area
A1 – Centre Street (West) APZ

Table 3a. Asset Protection Zones – Woollamia Area
A2 – Huskisson Service Station APZ
A3 – WIA South APZ

Table 3b. Asset Protection Zones – Woollamia Nature Reserve area.
A23 - Woollamia North APZ
A24 – Fairfax APZ

Table 4a. Asset Protection Zones – Huskisson (west) area.
A4 - Calala Street APZ
A5 – West Currumbene Street APZ

Table 5a. Asset Protection Zones – Vincentia (west) area.
A6 – Duncan / Montague APZ

Table 6a. Asset Protection Zones – Vincentia (south) area.
A7 – St Georges Avenue APZ
A8 – Primary School APZ
A9 – Namur Street APZ
A10 – Whitshed Street APZ
A11 – Greenfields North APZ

Table 7a. Asset Protection Zones – Hyams Beach area.
A12 – Lotus / Tulip APZ
A13 – Tulip / Hyam APZ
A14 – Hyam / Booderee APZ
A15 – Silver Strand / Lister APZ
A22 – Navigation Aid - APZ

Table 8a. Asset Protection Zones – Erowal Bay / Wrights Beach area.
A16 – Grand View / Kallaroo APZ
A17 – Naval Parade / Wrights Beach Road APZ
A18 – Bream APZ
A19 – Harmony Haven APZ

Table 9a. Asset Protection Zones – Corramy / Basin View area.
A20 – Harriss / John APZ
A21 – Wool / Retirement APZ

1.3.2.2 Strategic Fire Advantage Zones (SFAZ)

Twenty six strategic fire advantage zones have been defined within and around the reserves (Maps 1c & 1d, 2 - 9).

Primary fire management objectives in strategic fire advantage zones are to reduce the intensity of unplanned fire and to assist in limiting the spread of such fires across the landscape.

Strategic Fire Advantage Zones also contribute to limiting the possibility of extinction of species which are known to occur naturally within the reserves i.e. conserving biodiversity. This may be achieved by affording some measure of control over the spread of unplanned fires that might otherwise result in fire regimes that can lead to the extinction of species. This will be achieved by implementing the strategies in each SFAZ as prescribed in each section.

Note that the slashed breaks described in Table 17 and the tracks and roads maintained for fire management purposes described in Table 16 also serve an important role in preventing the spread of wildfire within, from and into the reserves. The Shoalhaven Bush Fire Risk Management Plan may complement this strategy where private and other managed lands are identified.

Useful operational boundaries for SFAZ may logically extend off the reserves especially where the bushland is continuous from the reserve to the nearest break or urban interface. The SFAZ identified in this strategy are restricted to within the reserves only. Linking these strategies with fire management measures applied to adjacent lands is the function of the cooperative Bush Fire Risk Management Plan for the Shoalhaven. For information on this cooperative approach to fire management contact the Shoalhaven Rural Fire Service. In some areas the tenure of this adjacent land may be identified within the tables. Please refer to the relevant land managers for review of fire management strategies proposed for those areas.

Strategic Fire Advantage Zones (SFAZ) are similar in purpose to Strategic Fire Management Zones (SFMZ) described in the NPWS approach to Fire Management (2003). To promote a landscape-wide approach to bush fire management planning this fire management strategy adopts the same intent and naming for these strategic zones as used in the Shoalhaven Bush Fire Risk Management Plan. The SFAZ described in this Fire Management Strategy for Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North) will be proposed for inclusion as SFAZ within the Shoalhaven Bush Fire Risk Management Plan.

The word 'Advantage' in SFAZ refers to the advantage that these zones and their management will provide for firefighters in the suppression of wildfire and managing bush fire fuels for hazard reduction or applied fire regimes for biodiversity maintenance.

Fire management in SFAZ should ensure regard for the maintenance of biodiversity within the reserves and particularly applies to SFAZ where fire is more likely to be deliberately introduced. Due to the emphasis on fire protection aspects in these zones, fire frequency and other strategies prescribed for these areas may result in an adverse impact on biodiversity at these sites.

The tables in each section identify each Strategic Fire Advantage Zone in that section and outline the objectives and strategies to be applied in that zone. Maps for each section show the location and extent of these zones.

Summary list of Strategic Fire Advantage Zones (SFAZ) within the reserves:

Table 2b – Strategic Fire Advantage Zones (SFAZ) – Callala / Wollumboola.

JBYS25 Callala West SFAZ

Table 3c – Strategic Fire Advantage Zones (SFAZ) – Woollamia section.

JBYS26 Woollamia Industrial Estate SFAZ

JBYS27 Huskisson Service Station SFAZ

Table 3d – Strategic Fire Advantage Zones (SFAZ) – Woollamia Nature reserve.

WOS46 Pritchard SFAZ

Table 4b – Strategic Fire Advantage Zones (SFAZ) – Huskisson (west).

JBYS28 Moona Creek SFAZ

Table 5b – Strategic Fire Advantage Zones (SFAZ) – Vincentia (west).

JBYS29 McNamara SFAZ

JBYS30 Berry Street SFAZ

JBYS31 Wool Road North SFAZ

JBYS42 Cambourne SFAZ

JBYS43 JB Road – North – SFAZ

Table 6b – Strategic Fire Advantage Zones (SFAZ) – Vincentia (south).

JBYS32 Primary School SFAZ

JBYS33 Greenfields SFAZ

Table 7b – Strategic Fire Advantage Zones (SFAZ) – Hyams Beach area.

JBYS34 Duck Creek SFAZ

JBYS35 Hyams West SFAZ

JBYS36 Booderee East SFAZ

JBYS37 South Hyams Beach SFAZ

Table 8b – Strategic Fire Advantage Zones (SFAZ) – Errowal Bay / Wrights Beach area.

JBYS38 Harmony Haven SFAZ

JBYS39 Wrights Beach SFAZ

JBYS40 Errowal SFAZ

JBYS41 Grand View West SFAZ

JBYS44 JB Road – South – SFAZ

JBYS45 Harmony Haven Fire Trail SFAZ

Table 9b – Strategic Fire Advantage Zones (SFAZ) - Corramy / Basin View section.

CORS47 Boundary SFAZ

CORS48 Basin View – North – SFAZ

CORS49 Basin View – West – SFAZ

CORS50 Basin View SFAZ

1.3.2.3 Land Management Zones - (LMZ)

Twenty two land management (heritage) zones have been defined within and around the reserves (Maps 1c & 1d).

The primary management objectives in land management (heritage) zones are to prevent the extinction of all species which are known to occur naturally within the reserves i.e. to conserve biodiversity and to protect Aboriginal and historic heritage sites.

Except where noted otherwise, these objectives will be achieved by:

- Suppressing bush fires and where necessary, conducting prescribed burns to maintain fire regimes within biodiversity thresholds specified in Table 10.
- Implementing the threatened species and cultural heritage management guidelines specified in Tables 11, 12 and 13 in locations where threatened species and cultural heritage sites are known or are likely to occur.

When manipulating fire regimes (by suppressing fires and conducting prescribed burns) to conserve biodiversity within these land management zones, managers will take account of the status of fire regimes across all fire management zones in the reserves.

As can be seen from Table 10 the vegetation types and communities within these reserves are both diverse and complex. The information on vegetation types comes from a number of sources over a number of surveys as land has been added to the reserves.

One of the important objectives for reserve management will be the ongoing review and reassessment of these vegetation classification systems and the knowledge of required fire regimes to provide a uniform appreciation of vegetation complexity across the reserves.

Since Land Management Zones are usually larger fire management zones with boundaries more often based on catchment or natural features, they may extend across the geographic sections into which this strategy is divided.

Given that biodiversity conservation considers features across the whole reserve and wider landscape, the detailed tables and information relating to LMZ are grouped in section 10. Each of the following geographic sections will list the LMZ found in that area. Readers should then refer to section 10 for details relevant to that zone.

Summary list of Land Management Zones (LMZ)

Section 2. Callala / Wollumboola Section.

Callala West LMZ
Coonemia LMZ
Wollumboola LMZ
Hare Bay LMZ
Woods LMZ

Section 3. Woollamia Section.

Huskisson LMZ
Pritchard LMZ
Fairfax LMZ
Forest Boundary LMZ

Section 4. Huskisson Section.

Huskisson Rd LMZ
North Moona Creek LMZ

Section 5. Vincentia West Section.

Woden LMZ
Choke Point North LMZ
South Moona LMZ
Parnell North LMZ
Parnell South LMZ

Section 6. Vincentia South / Greenfields Section.

Choke Point South LMZ
Greenfields LMZ

Section 7. Hyams Beach Section.

South Hyams LMZ

Section 8. Erowal Bay / Wrights Beach Section.

Gurumbi LMZ
Bream LMZ

Section 9. Corramy SCA/ Basin View Section.

Corramy North LMZ

2. Callala / Wollumboola Section

This section covers parts of Jervis Bay National Park north of Currambene Creek from Callala north and east to Lake Wollumboola and Carama Inlet (west of Currarong). The following Fire Management Zones are shown on Map 2.

2.1 Asset Protection Zones (APZ)

See Table 2a. Asset Protection Zones - Callala area.

JBY A1 Centre Street (West) APZ

2.2 Strategic Fire Advantage Zones (SFAZ)

See Table 2b. Strategic Fire Advantage Zones (SFAZ) – Callala / Wollumboola.

JBY S25 Callala West SFAZ

2.3 Land Management Zones (LMZ)

See tables in Section 10 for information on LMZ in this section.

Callala West LMZ
Coonemia LMZ
Wollumboola LMZ
Hare Bay LMZ
Woods LMZ

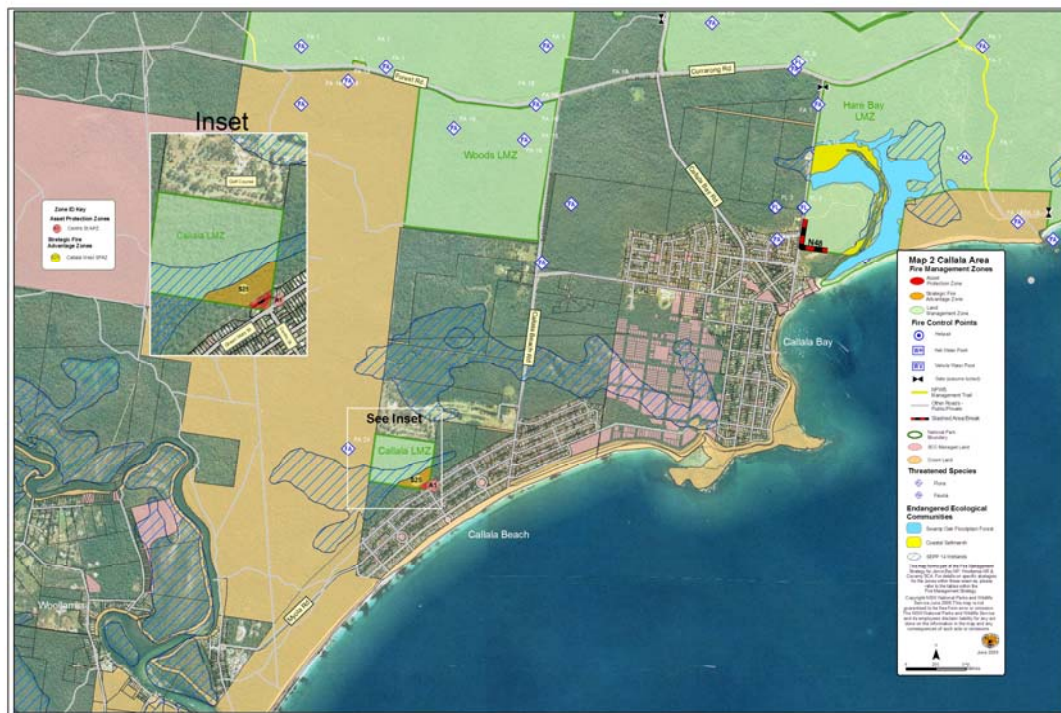
Table 2a. Asset Protection Zones - Callala area

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A1	1c, 2	Centre Street (west) APZ Small section of reserve at the rear of properties to the west of Queen Mary Street. Opposite the junction with Centre Street and west to the wetland margin.	0.5 ha.	<ul style="list-style-type: none"> • To aid in protection of dwellings and occupants adjoining the reserve to the west of Queen Mary St • To aid firefighters in protection of life and property in these adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Maintenance of a slashed area at rear of properties adjoining NPWS managed land to west of Queen Mary Street opposite the western end of Centre Street. Slashed area is approximately 20 metres wide. • Annual bush fire fuel and slashed area assessment for maintenance and fuel management works before the bush fire season. • Enable clear access for firefighters and limit available fire fuels by controlling vehicle access off Queen Mary Street and requiring the removal of private property / debris from the APZ. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access.

Table 2b. Strategic Fire Advantage Zones (SFAZ) – Callala / Wollumboola area.

Zone ID	Map	SFAZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBYS25	1c, 2	<p>Callala West SFAZ</p> <p>Strip of land within isolated section of Jervis Bay National Park on the western side of Callala Beach.</p> <p>Area is west from the APZ in the reserve at the western end of Centre Street and extends to the margins of the adjacent wetlands.</p>	2.56 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires to the west of Callala Beach. • Complement APZ at the rear of properties on the west side of Queen Mary Street. • To restrict the movement of fires between neighbouring lands and NPWS managed areas 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. To be effective this will need to be undertaken where possible in cooperation with fuel management works on adjacent bushlands. Avoid introduction of fire into adjacent wetlands. • Consider smoke nuisance to adjoining properties when planning prescribed burning in the area. • Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds and the condition of fire control advantages within the zone and adjacent APZ such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access in order to help limit arson, rubbish dumping and to avoid damage to areas that may prevent ready access by emergency vehicles. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands.

Map 2. Callala area – part of northern section of Jervis Bay NP



3. Woollamia Section

This section describes the zoning and fire management activities proposed for sections of the reserves south of Currumbene Creek to Huskisson Road and Forest Road including Woollamia Nature Reserve. The following Fire Management Zones are shown on Map 3.

3.1 Asset Protection Zones (APZ)

Jervis Bay NP APZ in this section

See Table 3a. Asset Protection Zones – Woollamia section.

JBYP A2	Huskisson Service Station APZ
JBYP A3	WIA South APZ

Woollamia Nature Reserve APZ in this section.

Woollamia Nature Reserve adjoins Jervis Bay National Park to the west of Huskisson. The reserve is sited amongst a largely rural residential area with most dwelling fire protection requirements able to be sited within the property boundaries. Tomerong State Forest is nearby to the west.

As with other fire planning areas in this strategy, Woollamia Nature Reserve is adjacent to bushland areas under various ownership and management. The Asset Protection Zones described contain setbacks as indicated in *Planning for Bush Fire Protection (2006 or as revised)* for dwellings in place at the time of the creation of the reserve (January 2001).

Only the sections managed by the NSW NPWS are detailed in this strategy. For information on the strategies to be applied in other areas please contact the landowner / agency identified. It is intended that the overall landscape wide plan for prevention, preparation, response and recovery with regard to bush fire will be assembled by the Shoalhaven Bush Fire Management Committee in cooperation with the community and various land owners / management agencies. The strategies detailed here will also form part of that plan.

See Table 3b. Asset Protection Zones – Woollamia Nature Reserve area.

JBYP A23	Woollamia North APZ
JBYP A24	Fairfax APZ

3.2 Strategic Fire Advantage Zones (SFAZ)

Jervis Bay NP SFAZ in this section

See Table 3c. Strategic Fire Advantage Zones (SFAZ) – Woollamia section.

JBYP S26	Woollamia Industrial Estate SFAZ
JBYP S27	Huskisson Service Station SFAZ

Woollamia NR SFAZ in this section

See Table 3d. Strategic Fire Advantage Zones – Woollamia Nature Reserve.

WOO S46	Pritchard SFAZ
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3.3 Land Management Zones (LMZ)

See tables in Section 10 for information on LMZ in this section.

Huskisson LMZ
Pritchard LMZ
Fairfax LMZ
Forest Boundary LMZ

Table 3a. Asset Protection Zones - Woollamia area.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBY A2	1d, 3	Huskisson Service Stn. APZ Section within the reserve adjoining Service Station and adjacent Crown Land.	0.07 ha.	<ul style="list-style-type: none"> To aid the protection of adjoining commercial assets and occupants of the Huskisson Service Station from the threat of bush fires. 	<ul style="list-style-type: none"> Maintenance of a slashed area to the west and north of Huskisson Service Station. Slashed area is 10 metres width within the reserve. Undertake annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior to the bush fire season. Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, garden debris and other property. Seek the assistance of neighbours and local RFS brigades in the monitoring of APZ fuel conditions and unauthorised use that may lead to arson and rubbish dumping or may compromise emergency vehicle access. Maintain cooperative management and communication with adjoining land tenures within the APZ so that effective protection is maintained across the urban/bushland interface e.g. Department of Lands & Private Property.

Table 3a. Asset Protection Zones - Woollamia area- continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JB A3	1d, 3	WIA South APZ Woollamia Industrial Area Section within the reserve on the southern side of the industrial subdivision west towards the Waste Transfer Station.	1.2 ha.	<ul style="list-style-type: none"> To aid protection of adjoining commercial assets and occupants in the adjacent Woollamia Industrial Area from the threat of bush fires. 	<ul style="list-style-type: none"> Maintenance of a slashed area within the reserve to the south of the Woollamia Industrial Area west from Woollamia Road - to protect fencing and infrastructure in place at the time of establishment of the reserve. Slashed area approx.500 metres long and 8 metres wide. There are arrangements in place between NPWS and Shoalhaven City Council with regard to the maintenance and rehabilitation of this site following unauthorised clearing in the area. Fire management in the area should have regard to vegetation management works being undertaken in this zone. Annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior to the bush fire season. Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, garden debris and other property. Seek the assistance of neighbouring commercial properties and local RFS brigades in the monitoring of APZ fuel conditions and watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access. Ensure the linkage of this APZ to in-built fire protection measures within developments in the expansion of the Woollamia Industrial Area to the west. Subdivision is managed by Shoalhaven City Council.

Table 3b. Asset Protection Zones - Woollamia Nature Reserve.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
WOO A23	1d, 3	Woollamia North APZ Strip of land within the reserve along the northern boundary of the reserve off Pritchard Avenue and near dwellings on adjacent private property.	3.9 ha.	<ul style="list-style-type: none"> To aid in the protection of adjacent dwellings and occupants from the threat of bush fires where the reserve boundary is within Inner or Outer Protection Area requirements for the dwelling (<i>Planning for Bush Fire Protection 2006</i> or as revised). To aid firefighters with the protection of life and property in these adjoining areas. To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> Maintenance of a slashed area adjacent to these properties within Woollamia Nature Reserve. Slashed area is approx. 6 - 25 metres wide. Annual bush fire fuel and slashed break assessment to determine maintenance and fuel management works prior to bush fire season. Where prescribed burning is indicated in the adjacent SFAZ, refresh slashed breaks in APZ as a boundary for these activities. Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. Restriction of unauthorised vehicle access onto APZ to help limit rubbish dumping and arson and to maintain access for emergency services in cooperation with agencies managing adjacent lands. Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or may compromise emergency vehicle access.

Table 3b. Asset Protection Zones - Woollamia Nature Reserve - continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
WOO A24	1d, 3	Fairfax APZ The strip of land along the eastern boundary of the portion of the reserve near Fairfax road, both north and south of Fairfax Road, near dwellings on adjacent private property.	0.7 ha.	<ul style="list-style-type: none"> To aid the protection of adjacent dwellings* and occupants from the threat of bush fires i.e. where the reserve boundary is within Inner or Outer Protection Area requirements (using setbacks as described in <i>Planning for Bush Fire Protection</i> 2006 or as revised). To aid firefighters with the protection of life and property in these adjoining areas. To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> Maintenance of a slashed area adjacent to dwellings* i.e. where required dwelling APZ setbacks encroach on Woollamia Nature Reserve. Average width 15 metres. For slashed breaks elsewhere along this boundary refer to Table 17. Annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior bush fire season. Where prescribed burning is indicated in the adjacent SFAZ, refresh slashed areas on APZ as a boundary for these activities. Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. Restriction of unauthorised vehicle access onto APZ to help limit rubbish dumping, arson and to maintain access for emergency vehicles – in cooperation with agencies managing adjacent lands. Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or may compromise emergency vehicle access. <p>*i.e. dwellings in place at the time of the introduction of NSW Government guidelines (2nd August 2002 or as revised, as set out in <i>Planning for Bush Fire Protection</i>).</p> <p>Bush fire protection measures for developments following this date are addressed within the development approval process.</p>

Table 3c. Strategic Fire Advantage Zones (SFAZ) – Woollamia area.

Zone ID	Map	SFAZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBYS26	1d, 3	<p>Woollamia Industrial SFAZ</p> <p>Section of reserve to the south of Woollamia Industrial Area between the waste transfer station and Woollamia Road.</p> <p>This is a small section of bushland providing a link with bushland adjacent to the Lady Denman Museum area and nearby Currumbene Creek wetlands.</p>	3.5 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires adjacent to the Huskisson Waste Transfer Station / Woollamia Industrial Area and Woollamia Road. To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Maintain identified slashed areas within the SFAZ for use under appropriate conditions. See Table 17. Seek improvement for the protection of essential infrastructure within the SFAZ i.e. slashing along powerline routes and around power-poles along Woollamia Road. Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire suppression access, slashed areas, gates, information signs, identified water points etc. Restrict unauthorised vehicle access along identified access routes and slashed breaks that are normally closed to public use in order to help limit opportunities for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Huskisson Waste Transfer Station and Woollamia Industrial Area subdivision. See Shoalhaven City Council. <p>NB: This area contains special provisions concerning maintenance and rehabilitation of breaks following unauthorised clearing of the reserve in 2005.</p>

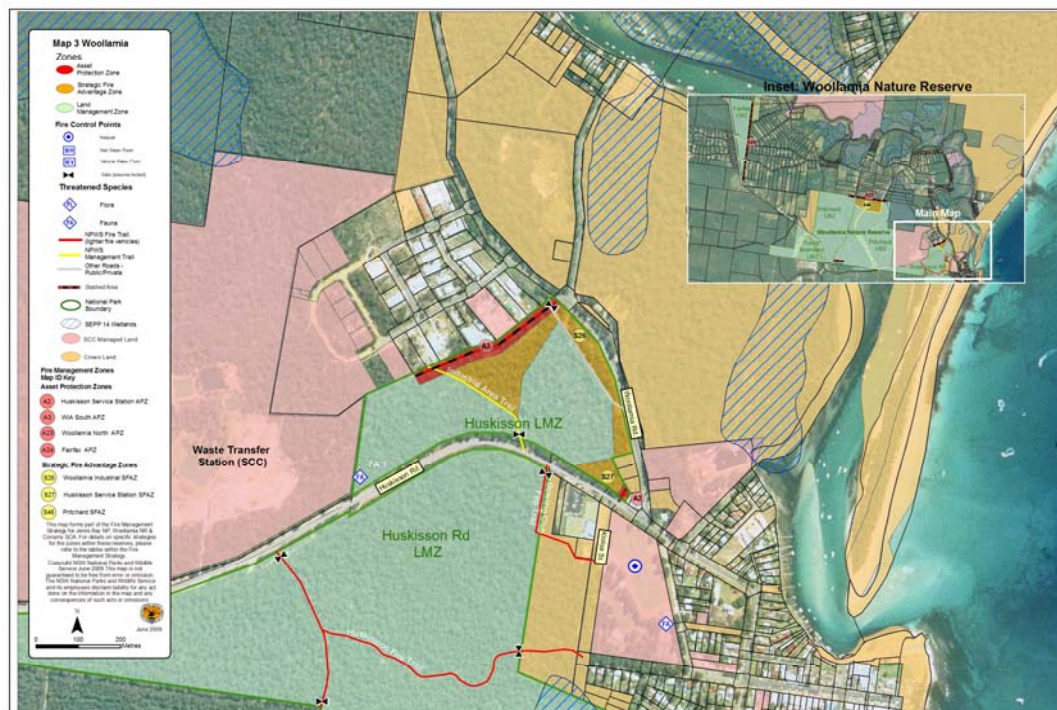
Table 3c. Strategic Fire Advantage Zones (SFAZ) – Woollamia Industrial Area - continued.

Zone ID	Map	SFAZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBYS27	1d, 3	Huskisson Service Station SFAZ Section of the reserve to the west of Huskisson Service Station between Huskisson Road and Woollamia Road.	0.5 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires adjacent to the Huskisson Service Station and Huskisson Road To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. Maintain identified fire access and slashed areas within and adjoining the SFAZ for use under appropriate conditions. See Tables 16 & 17. Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire suppression access, slashed areas, gates, information signs, identified water points etc. Restrict unauthorised vehicle access along identified access routes and slashed breaks that are normally closed to public use in order to help limit opportunities for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands i.e. Dept of Lands for Crown Land areas, Shoalhaven City Council for Huskisson Road reserve and Huskisson Service Station owners/lessees.

Table 3d. Strategic Fire Advantage Zones (SFAZ) – Woollamia Nature Reserve

Zone ID	Map	SFAZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
WOO S46	1d, 3	Pritchard SFAZ Section of the reserve adjacent to Woollamia North APZ, Pritchard Avenue road reserve (closed) and the reserve boundary.	17.1 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires in the Woollamia area. • To complement asset protection measures on adjacent lands • To complement adjacent asset protection zone - Woollamia North APZ. • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to wetland areas within or adjoining this zone. • Within the reserve, maintain identified slashed breaks in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. • Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. private property to north and Pritchard Avenue road reserve (closed). See Shoalhaven City Council.

Map 3. Woollamia - near Woollamia Industrial Area and Woollamia Nature Reserve.



4. Huskisson Section

This section describes the zoning and fire management activities proposed for sections of the reserves south of Huskisson Road to Moona Moona Creek. The following Fire Management Zones are shown on Map 4.

4.1 Asset Protection Zones (APZ)

See Table 4a. Asset Protection Zones – Huskisson section.

JBYP A4	Calala Street APZ
JBYP A5	West Currumbene Street APZ

4.2 Strategic Fire Advantage Zones (SFAZ)

See Table 4b. Strategic Fire Advantage Zones (SFAZ) – Huskisson (west).

JBYP S28	Moona Creek SFAZ
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4.3 Land Management Zones (LMZ)

See tables in Section 10 for information on LMZ in this section.

Huskisson Rd LMZ
North Moona Creek LMZ

Table 4a. Asset Protection Zones - Huskisson (west) area.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JB A4	1d, 4	Calala Street APZ Section within reserve at rear of properties along Calala Street between Termeil Street and the sewage pumping station off Sydney Street.	0.5 ha.	<ul style="list-style-type: none"> To aid the protection of adjoining dwellings and occupants along Calala Street, Huskisson from the threat of bush fires. 	<ul style="list-style-type: none"> Maintenance of a defined slashed understorey area in the reserve at the rear of properties along Calala Street – average width 15metres. NB This area and parts of adjacent properties are subject to periodic flooding. Access by machinery to slash vegetation may at times be limited by wet conditions. Works planning will require consideration of seasonal conditions / trends and the likelihood of safe equipment access to enable APZ maintenance prior to the bush fire danger period. Works may be postponed if conditions are unsuitable. Pruning or thinning for separation of tree canopies where required for Inner and Outer Protection Areas for dwellings* where the IPA and OPA encroach into the APZ within the reserve. * in place at the time of the introduction of NSW Government guidelines (2nd August 2002 or as revised and set out in <i>Planning for Bush Fire Protection</i>). Bush fire protection measures for developments following this date are addressed within the development approval process.

continued -

Table 4a.Asset Protection Zones - Huskisson (west) area - continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A4	4	Calala Street APZ continued.	as above	as above	<ul style="list-style-type: none"> • Undertake annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior to bush fire season. Maintenance work is subject to plant access conditions. • Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. • Restriction of unauthorised vehicle access onto APZ to help limit rubbish dumping, arson and to maintain access for emergency vehicles in cooperation with agencies managing adjacent lands. • Seek the assistance of neighbours and local RFS brigades in the monitoring of APZ fuel conditions and watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access. • Maintain cooperative management and communication with managers of adjoining APZ sections so that effective protection is maintained across the urban-bushland interface e.g. Shoalhaven City Council for Termeil Street and Sydney Street road reserves.

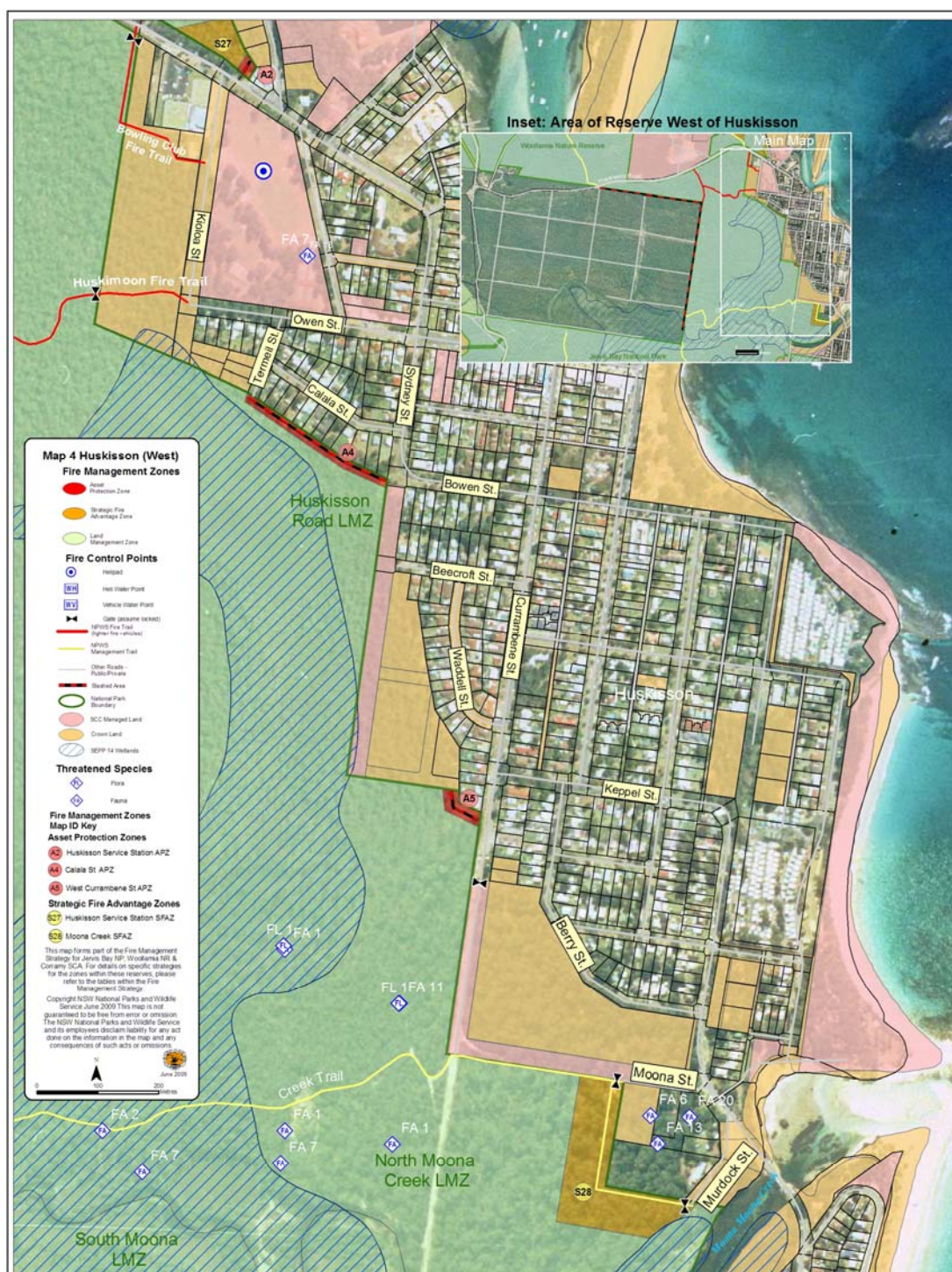
Table 4a.Asset Protection Zones - Huskisson (west) area - continued.

Zone ID	Map	APZ Name	Zone Area in reserve	Specific Objectives	Strategies
JB A5	1d, 4	West Currambene Street APZ Strip of land at the rear of two properties on the western side of Currambene Street.	0.2ha	<ul style="list-style-type: none"> To aid the protection of adjoining dwellings and occupants of Currambene Street from the threat of bush fires. 	<ul style="list-style-type: none"> Maintenance of a slashed area at the rear of two properties on the western side of Currambene Street its southern end – average width 10 metres. Annual bush fire fuel and slashed break assessment for maintenance and fuel management works prior to bush fire season – subject to practical access limited by inundation. Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. Restriction of unauthorised vehicle access onto APZ to help limit rubbish dumping, arson and maintain access conditions for emergency vehicles. Seek the assistance of neighbours and local RFS brigades in the monitoring of APZ fuel conditions and unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access. Maintain cooperative management and communication with managers of adjoining APZ sections so that effective protection is maintained across the urban-bushland interface i.e. Shoalhaven City Council , Currambene Street, Dept. of Lands, west of properties south from Beecroft Street and west of Wadell Street.

Table 4b. Strategic Fire Advantage Zones (SFAZ) – Huskisson (west) area

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS28	1d, 4	<p>Moona Creek SFAZ</p> <p>Section within the reserve west of properties just north of Moona Moona Creek. i.e. south of the unmade portion of Moona Road and west of properties off Murdoch Street (approx. 50m. long) then to edge of track near wetland / estuarine margins on northern side of Moona Moona Creek.</p>	2.63 ha.	<ul style="list-style-type: none"> To assist with the strategic control and containment of bush fires west of properties. To complement asset protection measures on adjacent lands i.e. private property west of Burrill Street & south of Moona Road to Moona Moona Creek. To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. A western perimeter to this area may be slashed to provide containment options where required (approx 50 metres from property boundary). Avoid the introduction of fire to the wetland/estuary margins of Moona Moona Creek. Within the reserve, maintain identified access routes and slashed breaks in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Undertake a review of identified fire suppression advantages within the SFAZ prior to the bush fire season with advice on conditions circulated to local and regional fire emergency agencies by end August. Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. private property, Shoalhaven City Council (sewer line easement), Integral Energy (power line easement).

Map 4. Huskisson (west) - south of Huskisson Road to Moona Moona Creek.



5. Vincentia West Section

This section describes the zoning and fire management activities proposed for sections of the reserves south of Moona Moona Creek and north/west of the Wool Road near Vincentia.

In this area Jervis Bay National Park is fragmented by unformed road reserves and pipeline easements owned and managed by Shoalhaven City Council. Extensive wetlands that are afforded special protection under State Environmental Planning Policy 14 extend to the west and almost adjoin private properties. Due to the close proximity of the dwellings to the maximum inundation level there is only a small margin to effect bush fire hazard management. These wetlands are not usually a bush fire hazard until extended drier conditions prevail and coincide with adverse fire weather. Fire should not be introduced to wetland areas however if wildfire spreads into these normally wetter areas then it is advisable to limit further unnecessary damage resulting from fire suppression activities by containing the fire along the margins of the wetland.

Given the small wetland margin areas to work with to the west of properties, the lack of vehicular access to the rear of assets and the fragmented land tenure, fire management and suppression in this area will require close cooperation. Owners and occupants of dwellings adjacent to such areas will require a heightened understanding and diligence with fire risk works undertaken to protect their dwellings.

The area southwest of Argyle Street to the Wool Road is an important section of reserve providing a critical but narrow link in natural habitat to the Bherwerre Peninsula and the Commonwealth Booderee National Park. Fire management here will need careful reconciliation of habitat / species conservation and bush fire risk management needs. Within this narrow neck is the Wool Road corridor, school precincts, Huskisson Leisure Centre and Stocklands subdivision. The NPWS will cooperate closely with other fire authorities, land managers and neighbours in the provision of bush fire risk management works and information for adjacent communities.

The following Fire Management Zones are shown on Map 5.

5.1 Asset Protection Zones (APZ)

See Table 5a. Asset Protection Zones – Vincentia (west) area.

JBYP A6 Duncan / Montague APZ

5.2 Strategic Fire Advantage Zones (SFAZ)

See Table 5b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (west).

JBYP S29	McNamara SFAZ
JBYP S30	Berry Street SFAZ
JBYP S31	Wool Road North SFAZ
JBYP S42	Cambourne SFAZ
JBYP S43	JB Road – North – SFAZ

5.3 Land Management Zones (LMZ)

See tables in Section 10 for information on LMZ in this land section.

Woden LMZ
Choke Point North LMZ
South Moona LMZ
Parnell North LMZ
Parnell South LMZ

Table 5a. Asset Protection Zones - Vincentia (west) area

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A6	1d, 5	Duncan / Montague APZ Small section of reserve at the rear of residences along the western side of Duncan Street between Montague Street and western end of Susan Street.	0.2ha	<ul style="list-style-type: none"> • To aid the protection of dwellings and occupants adjoining the bushland to the west of dwellings off Duncan Street • To aid firefighters with the protection of life and property in the adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Maintenance of a slashed area on the west side of dwellings. Average width for the slashed area is 6 metres. • Undertake annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior to bush fire season. • Undertake planning and implementation of slashing works in cooperation with adjacent land managers as required. • Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access.

Table 5b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (west) area.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS29	1d, 5	<p>McNamara SFAZ</p> <p>Strip of land within the reserve south of Berry Street to wetland margin then southwest between the power line easement and sewage pipeline easement on the western side of Moona Creek Fire Trail.</p>	8.47 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires to the west of Vincentia. • To complement asset protection measures on adjacent Council managed lands e.g. McNamara Court road reserve. • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. NB Avoid the introduction of fire to wetland areas within or adjoining this zone. • Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. • Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Shoalhaven City Council for lands adjoining the sewage treatment works and off Berry and McNamara Streets.

Table 5b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (west) area - continued.

Zone ID	Map	SFAZ Name	Zone Area (ha.)	Specific Objectives	Strategies
JBYS30	1d, 5	Berry Street SFAZ Section of land within the reserve to the south of Berry Street at the corner with the southern end of Woden Street.	0.4 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires to the west of Vincentia. To complement asset protection measures on adjacent Council managed lands within the Duncan Street (south) road reserve. To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. Avoid the introduction of fire to wetland areas within or adjoining this zone. Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. <p>Strategies continued overleaf</p>

Table 5b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (west) area - continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS30	1d, 5	Berry Street SFAZ continued	as above	as above	<ul style="list-style-type: none"> • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of identified key fire access tracks and other fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Shoalhaven City Council for unmade road reserves and pipeline easements.

Table 5b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (west) area - continued.

Zone ID	Map	SFAZ Name	Zone Area in reserve	Specific Objectives	Strategies
JBYS31	1d, 5	<p>Wool Road North SFAZ</p> <p>Section of reserve to the west of properties off Argyle Street and south of the unmade portions of Princess Street i.e. south-east to Wool Road.</p> <p>The reserve here is fragmented by many unmade road reserves currently managed by Shoalhaven City Council.</p>	4.15 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires west of Vincentia. To complement asset protection measures on adjacent lands e.g. Shoalhaven City Council managed lands off Argyle and Princess Streets. To restrict the movement of fires between neighbouring lands and NPWS managed areas. To sustain habitat corridor and species conservation requirements. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to wetland areas. Consider the safety of travellers along public access routes in any initial response to wildfire in the area e.g. Wool Road. Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds, habitat conservation and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Undertake an annual pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. In conjunction with RFS, develop operational strategies to limit the extent of any unplanned fire outbreak across this important corridor of high conservation value. Seek cooperation of and support for local RFS Brigades in applying these strategies within initial responses to such unplanned fires. Encourage cooperative monitoring and reporting of SFAZ bush fire fuel and firefighting access conditions. Maintain cooperation with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Shoalhaven City Council for their lands along the Wool Road corridor and unmade road reserves such as Princess Street.

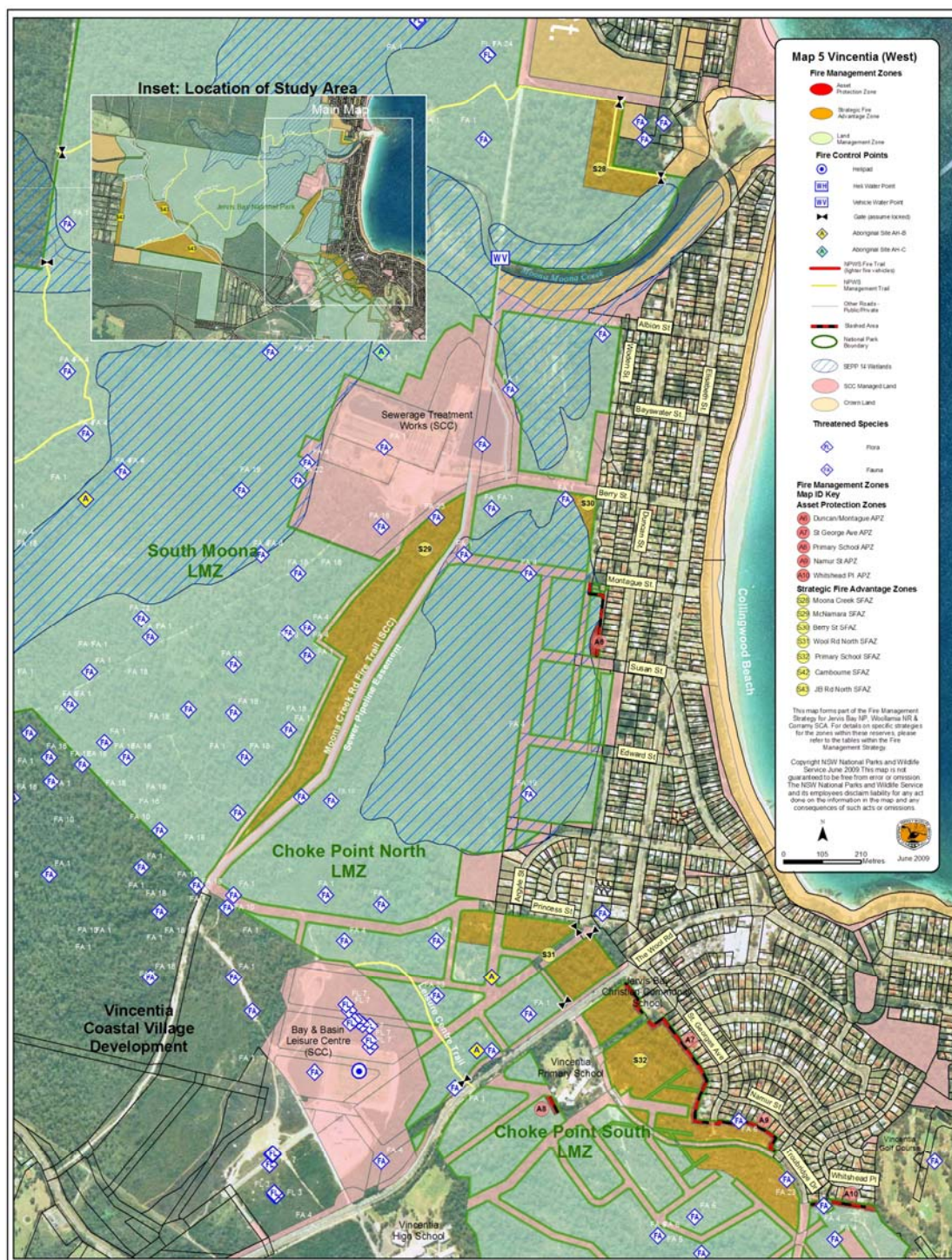
Table 5b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (west) area - continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS42	1d, 5	Cambourne SFAZ 200 meter wide section along the reserve boundary south of Jervis Bay (Naval College) Road and east of Cambourne Road Tomerong.	8.18 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires in the Cambourne Road area. • To complement asset protection measures on adjacent lands. • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to wetland areas within or adjoining this zone. • Within the reserve, maintain identified slashed breaks in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. • Consider the safety of traffic along public access routes in any initial response to wildfire in the area. • Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. • Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. private property to west and south.

Table 5b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (west) area - continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS43	1d, 5	JB Road - North SFAZ Portions within the reserve between power line easement and Jervis Bay (Naval College) Road and area south of Parnell Link track to Parnell Road easement.	43.8 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires in the Jervis Bay area To enhance the strategic usefulness of Jervis Bay (Naval College) Road in wildfire suppression. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to creekline margins or wetland areas within or adjoining this zone. Consider the safety of traffic along public access routes in any initial response to wildfire in the area. Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Shoalhaven City Council for Jervis Bay (Naval College) Road and Parnell Road reserves.

Map 5. Vincentia (west) - south of Moona Moona Creek to the Wool Road.



6. Vincentia South / Greenfields Section

This section describes the zoning and fire management activities proposed for sections of the reserves south and east of the Wool Road to Greenfields Beach area.

The following Fire Management Zones are shown on Map 6.

6.1 Asset Protection Zones (APZ)

See Table 6a. Asset Protection Zones – Vincentia (south) / Greenfields area.

JBYP A7	St Georges Avenue APZ
JBYP A8	Primary School APZ
JBYP A9	Namur Street APZ
JBYP A10	Whitshed Street APZ
JBYP A11	Greenfields North APZ

6.2 Strategic Fire Advantage Zones (SFAZ)

In this area, unmade road reserves and infrastructure easements owned and managed by Shoalhaven City Council also fragment the Jervis Bay National Park.

The area between Vincentia and the Wool Road junction with Jervis Bay (Naval College) Road is an important section of reserve providing a critical but narrow natural habitat link to the Bherwerre Peninsula and the Commonwealth Booderee National Park. Fire management here will need careful reconciliation of habitat / species conservation and bush fire risk management needs. Within this narrow neck is the Wool Road corridor and schools precincts.

The NPWS will cooperate closely with other fire authorities, land managers and neighbours in the provision of bush fire risk management works and information for adjacent communities.

See Table 6b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (south) / Greenfields area.

JBYP S32	Primary School SFAZ
JBYP S33	Greenfields SFAZ

6.3 Land Management Zones (LMZ)

See tables in Section 10 for information on LMZ in this section.

Choke Point South LMZ
Greenfields LMZ

Table 6a. Asset Protection Zones - Vincentia (south) / Greenfields area.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A7	1d, 6	St Georges Avenue APZ Strip of land southwest of properties off the southern side of St Georges Avenue.	0.7ha	<ul style="list-style-type: none"> To aid the protection of dwellings and occupants adjoining the bushland off St Georges Ave as well protecting assets and occupants at the Jervis Bay Christian Community School. To aid firefighters with the protection of life and property in the adjoining areas. To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> Maintenance of a slashed area to the rear of properties and school off St Georges Avenue to a variable width of, 5 to 25 metres due to rocky terrain. Undertake annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior to bush fire season. This is subject to suitable access conditions. Undertake planning and implementation of slashing works in cooperation with adjacent land managers as required. Thinning for separation of tree canopies where required. Restriction of unauthorised vehicle access onto APZ to help limit rubbish dumping, arson and maintain access conditions for emergency vehicles. Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access.

Table 6a. Asset Protection Zones - Vincentia (south) / Greenfields area – continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBY A8	1d, 6	Primary School APZ Strip of land within the reserve to the southwest of Vincentia primary school.	0.1 ha.	<ul style="list-style-type: none"> • To aid the protection of assets and occupants at the Vincentia Primary School. • To aid firefighters with the protection of life and property in the adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Maintenance of a slashed area along the reserve boundary on the south-western side of the Vincentia Primary School to an average width of 5 metres. • Undertake annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior to bush fire season. • Undertake planning and implementation of slashing works in cooperation with the primary school management and site operations. • Thinning for separation of tree canopies where required. • Restriction of unauthorised vehicle access onto APZ to help limit rubbish dumping, arson and maintain access conditions for emergency vehicles. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of community and school management in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access. • Assist RFS with the development and provision of site-specific Community Education requirements to address fire safety and arson prevention issues related to the school sites.

Table 6a. Asset Protection Zones - Vincentia (south) / Greenfields area – continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBY A9	1d, 6	Namur Street APZ Area in the reserve to the south of properties on the southern side of Namur Street.	0.3 ha.	<ul style="list-style-type: none"> • To aid the protection of dwellings and occupants off Namur St • To aid firefighters with the protection of life and property in the adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Maintenance of a slashed area along the reserve boundary at the rear of properties off Namur Street to an average width of 6 metres. • Undertake annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior to bush fire season. These works are subject to suitable APZ access conditions. • Undertake planning and implementation of slashing works in cooperation with managers of adjacent lands. • Thinning for separation of tree canopies where required. • Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. • Restriction of unauthorised vehicle access onto APZ to help limit rubbish dumping, arson and maintain access conditions for emergency vehicles. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access.

Table 6a. Asset Protection Zones - Vincentia (south) / Greenfields area – continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A10	1d, 6	Whitshed Street APZ Strip of land to the south of properties on the southern side of Whitshed Street and at the south-eastern end of Troubridge Drive Vincentia.	0.24 ha.	<ul style="list-style-type: none"> • To aid the protection of dwellings and occupants off Whitshed Street. • To aid firefighters with the protection of life and property in the adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Maintenance of a slashed area along the reserve boundary at the rear of properties off Whitshed Street to an average width of 6 metres. • Undertake annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior to bush fire season. These works are subject to suitable APZ access conditions. • Undertake planning and implementation of slashing works in cooperation with managers of adjacent lands. • Thinning for separation of tree canopies where required. • Restriction of unauthorised vehicle access onto APZ to help limit rubbish dumping, arson and maintain access conditions for emergency vehicles. • Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access.

Table 6a. Asset Protection Zones - Vincentia (south) / Greenfields area – continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A11	1d, 6	Greenfields North APZ Strip of land within the reserve adjoining an unmade road reserve at the rear of properties towards the eastern end of Frederick Street and Sutton Street.	0.71 ha.	<ul style="list-style-type: none"> • To aid the protection of dwellings and occupants adjoining the bushland off Frederick Street. • To aid firefighters with the protection of life and property in the adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Undertake annual bush fire fuel and slashed area assessment to determine any maintenance, property removal and fuel management works required in the reserve prior to bush fire season. • Undertake planning and implementation of slashing works in cooperation with adjacent land managers as required. • Thinning for separation of tree canopies where required. • Restriction of unauthorised vehicle access onto APZ to help limit illegal storage, rubbish dumping, arson and to maintain access conditions for emergency vehicles. • Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access.

Table 6b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (south) / Greenfields area

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS32	1d, 6	<p>Primary School SFAZ</p> <p>Strip of land within the reserve to the southwest of the APZ off St Georges Avenue. Area between Wool Road and pipeline easement The SFAZ commences at the southern end of Troubridge Drive and also adjoins Vincentia Primary School.</p>	9.7 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires west of Vincentia. • To complement asset protection measures on adjacent lands e.g. Vincentia Primary School. • To complement adjacent asset protection zone, • St Georges Avenue APZ. • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Consider threatened species values in this area e.g. Giant Burrowing Frog, Chestnut Mouse, Eastern Bristlebird etc. • Within the reserve, maintain identified slashed areas in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. • Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. • Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. <p>Strategies continued overleaf...</p>

Table 6b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (south) / Greenfields area – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBY S32	1d 6	Primary School SFAZ continued.	as above	as above	<ul style="list-style-type: none"> • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • In conjunction with RFS develop operational strategies to limit the extent of any unplanned fire outbreak across this important corridor of high conservation value. Seek cooperation of and support for local RFS Brigades in applying these strategies within initial responses to such unplanned fires. Encourage cooperative monitoring and reporting of SFAZ bush fire fuel and firefighting access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Shoalhaven City Council, the Wool Road reserve and various easements; Department of Education, Vincentia Primary School.

Table 6b. Strategic Fire Advantage Zones (SFAZ) – Vincentia (south) / Greenfields area – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBY S33	1d, 6	Greenfields SFAZ Area within the reserve south of Frederick Street to creekline and east to entrance road and walking track at Greenfields Beach.	7.7 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires south of Vincentia. • To complement asset protection measures on adjacent lands. • To complement adjacent asset protection zone (Greenfields North APZ). • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. • Within the reserve, maintain identified slashed areas adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. • Maintain fire mitigation works near public facilities in the SFAZ. The pines at Greenfields Beach are listed on Local Government heritage register. • Consider the safety of visitors at these sites and along public access routes in any initial response to wildfire in the area. e.g. walking track south to Hyams beach. • Review annual fire management works program following a post-season assessment of bush fire fuel, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed areas that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles e.g. reserve at rear of properties on the southern side of Frederick Street. • Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. S.C.C. managed easement to south of properties along Frederick Street.

Fire Management Strategy – Jervis Bay NP, Woollamia NR, Corramy SCA



7. Hyams Beach Section

This section describes the zoning and fire management activities proposed for sections of the reserves south of Greenfields Beach to the border with the Commonwealth Jervis Bay Territory and east of Jervis Bay Road.

The following Fire Management Zones are shown on Map 7.

7.1 Asset Protection Zones (APZ)

The village of Hyams Beach is adjacent to bushland areas under various ownership and management. The Asset Protection Zones for Hyams Beach are divided on the basis of useful fire management features and land ownership / tenure. Only the sections managed by the NSW NPWS are detailed in this strategy. For information on the strategies to be applied in other areas please contact the landowner / agency identified. There are also areas of bushland and foreshore reserve within the village.

It is intended that the overall plan for prevention, preparation, response and recovery with regard to bush fire will be assembled by the Shoalhaven Bush Fire Management Committee in cooperation with the community and various land owners / management agencies.

This strategy will also form part of that plan.

See Table 7a. Asset Protection Zones – Hyams Beach area.

JBY A12	Lotus / Tulip APZ
JBY A13	Tulip / Hyam APZ
JBY A14	Hyam / Booderee APZ
JBY A15	Silver Strand / Lister APZ
JBY A22	Navigation Aid – APZ

7.2 Strategic Fire Advantage Zones (SFAZ)

The Hyams Beach built-up area extends north-south on the western side of Jervis Bay. To the west of the settlement is bushland including sections of Jervis Bay National Park. There is one road for public access to the village and a large percentage of absentee property ownership. There are accessible refuge areas on the foreshores of Jervis Bay along most of the eastern side of the settlement. The area is served by reticulated water supply.

The bushland to the west of Hyams Beach is important as a natural area corridor and link to the extensive natural areas on the Bherwerre Peninsula and the Commonwealth Booderee National Park.

See Table 7b. Strategic Fire Advantage Zones (SFAZ) – Hyams Beach area.

JBY S34	Duck Creek SFAZ
JBY S35	Hyams West SFAZ
JBY S36	Booderee East SFAZ
JBY S37	South Hyams Beach SFAZ

7.3 Land Management Zones (LMZ)

See tables in Section 10 for information on LMZ in this section.

South Hyams LMZ

Table 7a. Asset Protection Zones - Hyams Beach area

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A12	1d, 7	Lotus/Tulip APZ Strip of land south of properties along Lotus Street and west of properties along Tulip Street between Lotus Street and walkway uphill to reserve.	0.33 ha.	<ul style="list-style-type: none"> To aid the protection of adjoining dwellings, infrastructure and occupants adjoining the reserve along Lotus and Tulip Streets from the threat of bush fires. To aid firefighters with the protection of life and property in adjoining areas. To provide a bush fire fuel managed area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> Annual bush fire fuel assessment to determine any maintenance or fuel management works prior to bush fire season. Undertake planning and implementation of slashing / thinning works where accessible along reserve boundary or if prescribed burning is indicated, prepare for implementation when conditions allow in the following autumn. Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency personnel access.

Table 7a.Asset Protection Zones - Hyams Beach area – continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A13	1d, 7	<p>Tulip/Hyam APZ</p> <p>Area in the reserve at rear of properties south from public walkway off Tulip Road to western end of Hyam Road.</p> <p>This south-east facing area includes walking tracks and slashed areas.</p>	0.47 ha.	<ul style="list-style-type: none"> • To aid the protection of adjoining dwellings and occupants along Tulip Street and Hyam Road from the threat of bush fires. • To aid firefighters with the protection of life and property in these adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Maintenance of slashed areas along the rear of properties behind Tulip Street. Average width of treated area behind Tulip Street properties is 10 metres. Average width behind Hyams Road area is 6 metres. • Annual bush fire fuel and slashed break assessment for maintenance and fuel management works prior to bush fire season. • Undertake planning and implementation of slashing / thinning works as required or if prescribed burning indicated, prepare for implementation when conditions allow in the following autumn. • Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or storage of materials that compromise emergency vehicle access or hinder fire suppression operations.

Table 7a.Asset Protection Zones - Hyams Beach area – continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A14	1d, 7	Hyam / Booderee APZ Area within the reserve at western side of properties between the end of Hyam Road and south across the gully to Booderee Avenue.	0.16 ha.	<ul style="list-style-type: none"> • To aid with protection of adjoining dwellings, infrastructure and occupants between Hyam Road and Booderee Avenue from the threat of bush fires. • To aid firefighters with the protection of life and property in these adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Annual bush fire fuel, hand-tool line and slashed break assessment for maintenance and fuel management works prior to bush fire season. Average width of slashed area from Booderee Avenue north to gully is 10 metres. Average width from gully north to the end of Hyams Road is 6 metres. • Undertake any indicated slashing or thinning works as required. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access. • As vehicle access to this area is difficult, the route for handtool/hoselay access track is to be identified and periodically cleared across gully to the west of properties between Hyam Road and Booderee Avenue. • Maintain liaison with power suppliers to coordinate APZ works on reserve with underscrubbing works being undertaken along powerline easement adjacent to Booderee Avenue.

Table 7a.Asset Protection Zones - Hyams Beach area – continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A15	1d, 7	<p>Silver Strand / Lister APZ</p> <p>Area within the reserve that adjoins road reserves off southern section of Silver Strand Circuit and Lister Court.</p> <p>This area also includes walking tracks and slashed breaks.</p>	1.0 ha.	<ul style="list-style-type: none"> • To aid the protection of adjoining dwellings and occupants along Silver Strand Circuit and Lister Court from the threat of bush fires. • To aid firefighters with the protection of life and property in these adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Maintenance of a slashed area adjoining the road reserve south of the table drain off Lister Court. Minimum width of slashed area is 6 metres. • Annual bush fire fuel and slashed area assessment for maintenance and fuel management works that may be undertaken prior to bush fire season. • Undertake slashing / thinning works if required or refresh slashing if prescribed burning is indicated in the adjacent SFAZ. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or illegal access that may compromise emergency vehicle access or hinder fire suppression operations.

Table 7a.Asset Protection Zones - Hyams Beach area – continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A22	1d, 7	Navigation Aid APZ Manager of navigation aid and associated equipment to coordinate fire protection works with NPWS when required.	0.1ha	<ul style="list-style-type: none"> To aid in protection of Department of Defence navigation aid from the threat of bush fires. 	<ul style="list-style-type: none"> Assess strategies for Department of Defence to implement asset protection works as a condition of authorised site access across Jervis Bay National Park. Assess any supplementary protection measures that may affect the reserve. Setbacks as assessed or use '<i>Planning for Bush fire Protection</i>' (2006 or as revised) as maximum. Seek to have these measures in place by the 2010 / 2011 bush fire season.

Table 7b. Strategic Fire Advantage Zones (SFAZ) – Hyams Beach area.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS34	1d, 7	Duck Creek SFAZ Section of reserve north of Aster Street to margins of Duck Creek.	2.9 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires to the north of Hyams Beach. To complement asset protection measures on adjacent lands i.e. Aster Street road reserve. See S.C.C. <p>Objectives continued over page</p>	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to creekline margins within or adjoining this zone. Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing around sewage pumping station. Consider the safety of visitors at these sites and along public access routes in any initial response to wildfire in the area. Seek improvement for the protection of essential infrastructure adjoining the SFAZ i.e. slashing around power-poles and sewage pumping station. Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as access tracks, slashed areas, gates, information signs, identified water points and walking routes etc. <p>Strategies continued over page.</p>

Table 7b. Strategic Fire Advantage Zones (SFAZ) – Hyams Beach area – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS34	1d, 7	Duck Creek SFAZ continued.		<ul style="list-style-type: none"> To complement adjacent asset protection zone - adjoining dwellings along Aster Street. To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Restrict unauthorised vehicle access along access routes that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles and personnel. Undertake a pre-season review of fire suppression advantages within the SFAZ by end August i.e. walking track to Greenfields Beach protecting dune area to east. In conjunction with RFS develop operational strategies to limit the extent of any unplanned fire outbreak across this important corridor of high conservation value. Seek cooperation of and support for local RFS brigades in applying these strategies within initial responses to such unplanned fires. Encourage cooperative monitoring and reporting of SFAZ bush fire fuel and firefighting access conditions especially surrounding the Hyams Beach Bush Fire Brigade facility. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. S.C.C. managed lands on the north side of Aster Street road reserve.

Table 7b. Strategic Fire Advantage Zones (SFAZ) – Hyams Beach area – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS35	1d, 7	Hyams West SFAZ Section within the reserve to the west of Rose Street, south to Booderee Avenue and south-west towards the water supply line easement.	20.66 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires in the Hyams Beach area. • To complement works done on adjacent lands e.g. Rose Street and adjacent properties. • To complement adjacent asset protection zones i.e. Lotus / Tulip APZ, Tulip / Hyams APZ and Hyams / Booderee APZ. • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to wetter drainage line areas within this zone. • Within the reserve, maintain identified slashed breaks in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. • Consult with Shoalhaven RFS to limit bush fire risk to Hyams Beach Bush Fire Brigade facility. • Consider the safety of visitors along access routes in any initial response to wildfire in the area e.g. walking track to Greenfields Beach. • Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of any identified key fire vehicle access tracks and other fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigade in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. S.C.C. - Rose Street and Booderee Avenue.

Table 7b. Strategic Fire Advantage Zones (SFAZ) – Hyams Beach area – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS36	1d, 7	Booderee East SFAZ Area within the reserve adjoining the northern side of Booderee Avenue road reserve. Parallel to the road reserve for a width of approximately 50 metres from the sealed road edge.	1.5 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires in the Hyams Beach area. To complement asset protection measures on adjacent lands. i.e. power lines parallel to Booderee Avenue. To complement adjacent asset protection zone Hyams / Booderee APZ. To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> This strip of reserve contains important habitat values. These include habitat links for the Eastern Bristle Bird and Ground Parrot. Booderee Avenue and similar road easements across the Bherwerre peninsula can significantly disrupt the maintenance of natural values and the connection of remaining natural areas. This road is the only public vehicle access and power utility route to Hyams Beach village. Bush fires in the area will present a safety hazard to users of this road and may compromise power supplies. Shoalhaven City Council manages the road reserve between Hyams Beach and Jervis Bay (Naval College) Road. The Department of Lands manages the bushland to the south of the road reserve between the village and Jervis Bay Road. To limit the undesirable effects on natural values whilst maintaining the safety and strategic advantages of the road, the NPWS has participated in discussions with Shoalhaven City Council to determine fire management strategies for the site. Along the road reserve it is proposed to limit the slashing of the predominantly heath vegetation not below a height of 45 cm. This provides cover for wildlife whilst maintaining driver line-of-sight and significantly reducing the intensity of any fires approaching the road. This slashing is limited within the reserve to a width of 10 metres from the sealed road edge. Within the reserve, areas around power poles may be slashed to minimum levels for a radius of 6 metres to enhance protection of the poles. Elsewhere along this powerline route where slashing is required, a strip 6 meters wide and limited to a height not below 45cm is proposed. Unless intruding within minimum standard powerline conductor clearance, tree canopies along this strip within the reserve should be retained wherever possible. Consult with providers of essential services along this corridor to limit bush fire risk to infrastructure whilst maintaining habitat values. See following page for areas outside slashed zones and general strategies for the SFAZ.

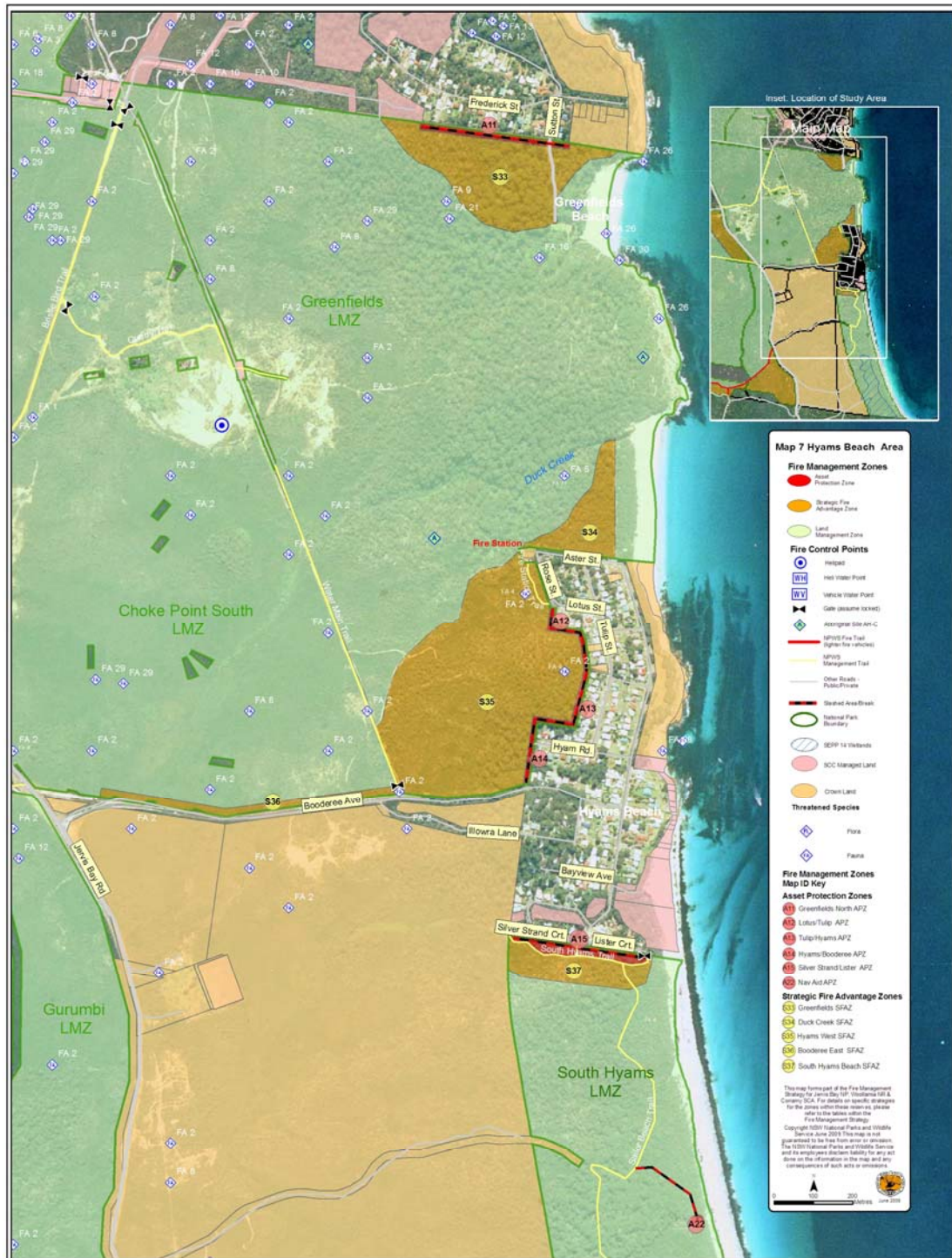
Table 7b. Strategic Fire Advantage Zones (SFAZ) – Hyams Beach area – continued.

Zone ID	Map	SFAZ Name	Zone Area in reserve (ha.)	Specific Objectives	Strategies
		Booderee East SFAZ – continued.			
JBYS36	1d7	Booderee East SFAZ continued. Strip of land within the reserve adjoining northern side of Booderee. Avenue road reserve approximately 50 metres wide.	As above.	As above.	<p>For the rest of the SFAZ outside the slashed areas:</p> <ul style="list-style-type: none"> • Burn under prescribed conditions as indicated by biodiversity maintenance requirements. This will require careful planning to provide non-adjacent patches of fuel reduced vegetation along the strip. • Consider the safety of traffic along Booderee Avenue in any initial response to wildfire in the area. • Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed areas that are normally closed to public vehicle use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to areas that may prevent ready access by emergency vehicles e.g. water pipeline route. • Undertake a pre-season review of fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August e.g. slashed area and water pipeline route. • In conjunction with RFS develop operational strategies to limit the extent of any unplanned fire outbreak across this important corridor of higher conservation value. Seek cooperation of and support for local RFS brigades in applying these strategies within initial responses to unplanned fires. Encourage cooperative monitoring and reporting of bush fire fuel and firefighting access conditions within the SFAZ. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Shoalhaven City Council managed area adjoining SFAZ along the sides of Booderee Avenue west to Jervis Bay (Naval College) Road.

Table 7b. Strategic Fire Advantage Zones (SFAZ) – Hyams Beach area – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBY S37	1d 7	South Hyams Beach SFAZ Section of the reserve south of Hyams Beach village.	2.53 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires in the Hyams Beach area. • To complement asset protection measures on adjacent lands e.g. Dept of Lands and S.C.C. managed lands. • To complement adjacent asset protection zone Silver Strand / Lister APZ. • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. Avoid the introduction of fire to margins of swampy areas, creeks and other drainage lines within the SFAZ. • Within the reserve, maintain identified slashed areas in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. • Consider the safety of visitors along access routes in any initial response to wildfire in the area. • Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles and personnel. • Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Village areas and Department of Lands, Crown Land to west of Silver Strand.

Map 7. Hyams Beach area – west to Jervis Bay Road.



8. Erowal Bay Section

This section describes the zoning and fire management activities proposed for sections of the reserves west of Jervis Bay Road adjoining Erowal Bay, Bream Beach and Wrights Beach.

The following Fire Management Zones are shown on Map 8.

8.1 Asset Protection Zones (APZ)

Erowal Bay / Wrights Beach area

The built-up areas of Erowal Bay and Wrights / Bream Beach are adjacent to bushland areas under various ownership and management.

The Asset Protection Zones for Erowal Bay are divided into sections on the basis of useful fire management features and land ownership / tenure. Only the sections managed by the NSW NPWS are detailed in this strategy.

For information on the strategies to be applied in other areas please contact the landowner / agency identified.

There are also areas of bushland and foreshore reserves within village areas.

It is intended that the overall plan for prevention, preparation, response and recovery with regard to bush fire in this area will be assembled by the Shoalhaven Bush Fire Management Committee in cooperation with the community and various land owners / management agencies. The NPWS strategies here will also form part of that plan.

See Table 8a – Asset Protection Zones – Erowal Bay / Wrights Beach area.

JBYP A16	Grand View / Kallaroo APZ
JBYP A17	Naval Parade / Wrights Beach Road APZ
JBYP A18	Bream APZ
JBYP A19	Harmony Haven APZ

8.2 Strategic Fire Advantage Zones (SFAZ)

See Table 8b. Strategic Fire Advantage Zones (SFAZ) – Erowal Bay / Wrights Beach area.

JBYP S38	Harmony Haven SFAZ
JBYP S39	Wrights Beach SFAZ
JBYP S40	Erowal SFAZ
JBYP S41	Grand View West SFAZ
JBYP S44	JB Road – South – SFAZ
JBYP S45	Harmony Haven Fire Trail SFAZ

8.3 Land Management Zones (LMZ)

See tables in Section 10 for information on LMZ in this section.

Gurumbi LMZ
Bream LMZ

Table 8a. Asset Protection Zones - Erowal Bay / Wrights Beach area.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
JB A16	1d, 8	<p>Grand View / Kallaroo APZ</p> <p>Area of reserve north from Naval Parade / Wrights Beach Road to the 'village green' / tennis court area and at rear of properties from 100m.north of tennis court / 'village green' entrance road to powerline easement at eastern end of Kallaroo Road.</p>	0.9 ha.	<ul style="list-style-type: none"> • To aid the protection of dwellings and occupants adjoining the bushland from the threat of bush fires to the east of Grand View Street • To aid firefighters in the protection of life and property in the adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Maintenance of a slashed area from Naval Parade north to S.C.C. managed land at 'village green' / tennis courts and from 100m north of tennis court entrance road to rear of property at eastern end of Kallaroo Road near the powerline easement. Average width for slashing is 10 to 15 metres. NB. A substantial creek/drainage line that continues northwest through the village dissects the section within the reserve immediately north of the tennis court entrance road. This area contains significant natural values. The terrain at this site also limits the use of mechanical means of fuel management and access for fire vehicles. • At the time of preparation of this strategy, some private property portions did not contain dwellings. Hence there are no dwelling APZ works within the reserve immediately adjacent to these sections. The NPWS will continue liaison with neighbours including Shoalhaven City Council concerning bush fire risk management options and development within this area. • Annual bush fire fuel and slashed area assessment to determine maintenance and fuel management works prior to bush fire season. Where prescribed burning is indicated in adjacent SFAZ, prepare boundaries on APZ as required. • Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency access.

Table 8a. Asset Protection Zones - Erowal Bay / Wrights Beach area – continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JBV A17	1d, 8	Naval Parade / Wrights Beach Road APZ Strip of land within the reserve adjacent to private property south and west from Wrights Beach Road to foreshore.	0.3ha.	<ul style="list-style-type: none"> • To aid the protection of adjoining dwellings and occupants from the threat of bush fires i.e. where the reserve backs onto properties between Wrights Beach Road and the foreshore. • To aid firefighters with the protection of life and property in adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • This zone is mainly cleared and will be monitored for slashing requirements. When required, continue maintenance of a slashed area within Jervis Bay National Park adjacent to these properties. Average width of slashed area is 10 metres. • Annual bush fire fuel and slashing assessment to determine maintenance and fuel management works prior to bush fire season. • Refresh slashing in APZ if prescribed burning is indicated in the adjacent SFAZ. • Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. • Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency services access.

Jervis Bay NP APZ – Bream Beach area

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JB A18	1d, 8	Bream APZ Strip of land within the reserve adjoining the northern side of Bream Beach holiday resort between Wrights Beach Road and foreshore.	0.4 ha.	<ul style="list-style-type: none"> To aid the protection of adjoining dwellings and occupants from the threat of bush fires where the reserve backs onto Bream Beach holiday resort. To aid firefighters with the protection of life and property in these adjoining areas. To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> Maintenance of a slashed break adjacent to these properties within Jervis Bay National Park. Width of slashed area is variable from 5 to 15 metres. Annual bush fire fuel and slashed area assessment to determine maintenance and fuel management works prior to bush fire season. Where prescribed burning is indicated in adjacent LMZ, prepare boundaries by refreshing APZ slashed areas as required. Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. Restrict unauthorised vehicle access onto APZ to help prevent further rubbish dumping, arson and to maintain access conditions for emergency vehicles. Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access.

Jervis Bay NP APZ - Wrights Beach

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
JB A19	1d, 8	Harmony Haven APZ Strip of land within the reserve to the east of holiday accommodation sites (Bushy Tail, Harmony Haven) and to the western end of Commonwealth Avenue.	0.4 ha.	<ul style="list-style-type: none"> • To aid the protection of adjoining dwellings and occupants from bush fires where the reserve backs onto properties on the eastern side of holiday accommodation areas. • To aid firefighters with the protection of life and property in these adjoining areas. • To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> • Maintain a slashed area within Jervis Bay National Park adjacent to properties. Average width of slashed area is 25 metres. • Check APZ bush fire fuel conditions and slashed areas annually prior to bush fire season to assess maintenance and fuel management works required. • Where prescribed burning is indicated for adjacent SFAZ, refresh and use slashed breaks on APZ as a boundary. • Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. • Restrict unauthorised vehicle access onto APZ - to help limit rubbish dumping, arson and maintain access conditions for emergency vehicles. • Seek cooperation of local RFS brigades to monitor APZ fuel conditions. Also seek the assistance of neighbours to watch for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access. • Coordinate fuel management and maintenance activities with the Commonwealth Booderee National Park within the Jervis Bay Territory to meet mutual protection obligations.

Table 8b. Strategic Fire Advantage Zones (SFAZ) – Erowal Bay / Wrights Beach area.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS38	1d, 8	Harmony Haven SFAZ Area within the reserve to the east of Harmony Haven near Wrights Beach.	9.3 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires in the Wrights beach area. To complement asset protection measures on adjacent lands. To complement adjacent asset protection zone Harmony Haven APZ. To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Within the reserve, maintain identified slashed breaks in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Undertake a pre-season review of identified access tracks and fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. adjacent Commonwealth Booderee National Park in the Jervis Bay Territory.

Table 8b. Strategic Fire Advantage Zones (SFAZ) – Erowal Bay / Wrights Beach area – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBY S39	1d, 8	Wright's Beach SFAZ. Area within the reserve between Wright's Beach and Bream Beach.	6.1 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires the Erowal Bay / Wrights Beach area. To complement asset protection measures on adjacent lands e.g. Bream Beach resort. To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Within the reserve, maintain identified slashed areas in or adjoining the SFAZ as required. Consider the safety of traffic along Wrights Beach Road in any initial response to wildfire in the area. Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. Restrict unauthorised vehicle access along any identified access routes or slashed breaks in the reserve that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles and personnel. Undertake a pre-season review of identified access routes and fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Bream Beach resort.

Table 8b. Strategic Fire Advantage Zones (SFAZ) – Erowal Bay / Wrights Beach area - continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS40	1d, 8	Erowal SFAZ Area within the reserve west of Wrights Beach Road and Grand View Avenue south of 'village green'.	15.67 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires in the Erowal Bay area. To complement asset protection measures on adjacent lands. To complement adjacent asset protection zone i.e. Grand View / Kallaroo APZ. To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Within the reserve, maintain identified slashed breaks in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17 Consider the safety of traffic along Wrights Beach Road in any initial response to wildfire in the area. Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end of August. Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. 'Village green' at Erowal Bay – Shoalhaven City Council.

Table 8b. Strategic Fire Advantage Zones (SFAZ) – Erowal Bay / Wrights Beach area - continued.

Zone ID	Map	SFAZ Name	Zone Area in reserve (ha.)	Specific Objectives	Strategies
JBYS41	1d, 8	Grand View West SFAZ Area within the reserve west of the Erowal Bay area – north of ‘village green’.	3.5 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires in the Erowal Bay area. • To complement adjacent asset protection zone Grand View / Kallaroo APZ. • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. Avoid the introduction of fire to drainage line margins within or adjoining this zone. • Within the reserve, maintain identified slashed areas in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. • Seek cooperative maintenance of fire prevention works around public use facilities near the SFAZ i.e. ‘village green’ and facilities. • Consider the safety of visitors at these sites and along public access routes in any initial response to wildfire in the area. • Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. • Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of identified fire suppression advantages within or adjoining the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. for ‘village green’ area see Shoalhaven City Council.

Table 8b. Strategic Fire Advantage Zones (SFAZ) – Erowal Bay / Wrights Beach area – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
JBYS44	1d, 8	JB Road - South SFAZ Area within the reserve i.e. west of Jervis Bay (Naval College) Road south from the junction with Erowal Bay Road to the junction with Booderee Avenue. This section is approximately 100 metres wide.	19.21 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires in the Jervis Bay area. To enhance the strategic usefulness of Jervis Bay (Naval College) Road in wildfire suppression. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to creekline margins or wetland areas. Consider the safety of traffic along public access routes in any initial response to wildfire in the area e.g. Jervis Bay (Naval College) & Erowal Bay Road. Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs etc. Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Undertake a pre-season review of any identified fire suppression advantages within or adjoining the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. In conjunction with RFS develop operational strategies to limit the extent of any unplanned fire outbreak across this important corridor of high conservation value. Seek cooperation of and support for local RFS brigades in applying these strategies within initial responses to such unplanned fires. Encourage cooperative monitoring and reporting of SFAZ bush fire fuel and firefighting access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. S.C.C. managed road reserves.

Table 8b. Strategic Fire Advantage Zones (SFAZ) – Erowal Bay / Wrights Beach area – continued.

Zone ID	Map	SFAZ Name	Zone Area in reserve (ha.)	Specific Objectives	Strategies
JBYS45	1d, 8	Harmony Haven Fire Trail SFAZ Area within the reserve south of Harmony Haven Fire Trail to reserve boundary / border with the Commonwealth Booderee National Park.	30.0 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires in the Jervis Bay area. To provide a strategic fuel - managed link between Jervis Bay (Naval College) Road and the SFAZ to the south of Harmony Haven. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to creekline margins or wetland areas. Consider the safety of traffic along public access routes in any initial response to wildfire in the area e.g. Jervis Bay (Naval College) Road and Erowal Bay Road. Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs etc. Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Undertake a pre-season review of any identified access routes and fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by the end of August. In conjunction with RFS develop operational strategies to limit the extent of any unplanned fire outbreak across this important corridor of high conservation value. Seek cooperation of and support for local RFS brigades in applying these strategies within initial responses to such unplanned fires. Encourage cooperative monitoring and reporting of SFAZ bush fire fuel and firefighting access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Jervis Bay (Naval College) Road reserve and S.C.C. owned land to the east of Wrights Beach.

Fire Management Strategy – Jervis Bay NP, Woollamia NR, Corramy SCA



9. Corramy / Basin View Section

This section describes the zoning and fire management activities proposed for sections of the reserves adjoining Basin View west to the Princes Highway

The following Fire Management Zones are shown on Map 9.

9.1 Asset Protection Zones (APZ)

Basin View / Corramy SCA area.

This section is the part of the current Corramy State Conservation Area north of Wandandian Creek at the western end of St Georges Basin. This section is included within fire planning for Jervis Bay National Park whilst the section to the south of Wandandian Creek is included in the Fire Management Strategy covering Conjola National Park.

As with other fire planning areas in this strategy, the village of Basin View is adjacent to bushland areas under various ownership and management. The Asset Protection Zones for the western side of Basin View are divided into sections on the basis of useful fire management features and land ownership / tenure. Only the sections managed by the NSW NPWS are detailed in this strategy.

For information on the strategies to be applied in other areas please contact the landowner / agency identified. There are also areas of bushland and foreshore reserve within the village. It is intended that the overall plan for prevention, preparation, response and recovery with regard to bush fire risk to Basin View will be assembled by the Shoalhaven Bush Fire Management Committee in cooperation with the community and various land owners / management agencies. This strategy will also form part of that plan.

See Table 9a. Asset Protection Zones – Corramy SCA / Basin View area.

COR A20	Harriss / John APZ
COR A21	Wool / Retirement APZ

9.2 Strategic Fire Advantage Zones (SFAZ)

See Table 9b. Strategic Fire Advantage Zones (SFAZ) - Corramy / Basin View section.

COR S47	Boundary SFAZ
COR S48	Basin View – North – SFAZ
COR S49	Basin View – West – SFAZ
COR S50	Basin View SFAZ

9.3 Land Management Zones (LMZ)

See tables in Section 10 for information on LMZ in this section.

Corramy North LMZ

Table 9a. Asset Protection Zones - Corramy SCA / Basin View area.

Zone ID	Map	APZ Name	Zone Area in reserve (ha.)	Specific Objectives	Strategies
COR A20	1d, 9	Harriss / John APZ Strip of land within the reserve at the rear of properties on the western side of John Street between the retirement village to 30 metres north of the access way off John Street opposite the western end of Audrey Avenue.	0.35 ha.	<ul style="list-style-type: none"> To aid the protection of adjoining dwellings and occupants from the threat of bush fires - where the reserve backs on to properties on the western side of John Street from 30 metres north of the access way opposite the western end of Audrey Avenue. To aid firefighters with the protection of life and property in these adjoining areas. To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> Maintenance of a slashed area adjacent to properties within Corramy SCA (Nth.). Width of this slashed area is 10 to 15 metres. See Table 17. Annual bush fire fuel and slashed area assessment for maintenance and fuel management works prior to bush fire season. Where prescribed burning is indicated within adjacent areas, prepare assessments and operational plans for implementation in the following autumn. Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. Restrict unauthorised vehicle access onto APZ to help limit rubbish dumping, arson and to maintain access conditions for emergency services in cooperation with agencies managing adjacent lands. Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access.

Table 9a. Asset Protection Zones - Corramy SCA / Basin View area - continued.

Zone ID	Map	APZ Name	Zone Area (ha.)	Specific Objectives	Strategies
			in reserve		
COR A21	1d, 9	Wool / Retirement APZ Area within reserve on south and west side of retirement village off Wool Road northwest Basin View.	1.0 ha.	<ul style="list-style-type: none"> To aid the protection of adjoining retirement village and occupants from bush fires where the reserve backs onto the retirement village on the southern side of Wool Road. To aid firefighters with the protection of life and property in these adjoining areas. To provide a fuel reduced area from which firefighters can undertake fuel management in adjoining bushland. 	<ul style="list-style-type: none"> Maintenance of a slashed area adjacent to the retirement Village within Corramy SCA. This slashed area has a variable width of 15 – 25 metres. See Table 17. Annual bush fire fuel and slashed break assessment to determine maintenance and fuel management works prior to bush fire season. Where prescribed burning is indicated in the adjacent SFAZ, refresh slashed boundaries on the APZ. Consider smoke nuisance to neighbouring aged care establishment. Enable clear access for firefighters and limit available fire fuels by ensuring the APZ is kept clear of rubbish, gardening debris and other property. Restriction of unauthorised vehicle access onto APZ to help limit rubbish dumping, arson and maintain access conditions for emergency vehicles. Seek cooperation of local RFS brigades in the monitoring of APZ fuel conditions and the assistance of neighbours in watching for unauthorised use that may lead to arson, rubbish dumping or compromise emergency vehicle access.

Table 9b. Strategic Fire Advantage Zones (SFAZ) - Corramy SCA / Basin View section.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
COR S47	1d, 9	Boundary SFAZ Area within the reserve to the north of Wool Road just east of the junction with the Princes Highway.	10.2 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires in the Basin View area. To complement asset protection measures on adjacent lands. To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to wetland areas within or adjoining this zone. Within the reserve, maintain identified slashed breaks in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. Consider the safety of traffic operations along the Wool Road and Princes Highway in any initial response to wildfire in the area. Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands.

Table 9b. Strategic Fire Advantage Zones (SFAZ) - Corramy SCA / Basin View section – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
COR S48	1d, 9	Basin View North SFAZ Area within the reserve between the western boundary of the Retirement Village and Wool Rd fire access track and Corramy NRC2 Trail.	13.4 ha.	<ul style="list-style-type: none"> To assist in the strategic control and containment of bush fires in the Basin View area. To complement asset protection measures on adjacent lands (Wool Road reserve). To complement adjacent asset protection zone (Wool-Retirement APZ). To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to creek margins within or adjoining this zone. Within the reserve, maintain identified slashed breaks in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. Consider the safety of traffic operations along the Wool Road and Princes Hwy. in any initial response to wildfire in the area. Consider smoke management implications when undertaking fuel management burning near retirement village. Consult with providers of essential services to limit bush fire risk to infrastructure e.g. slashing along powerline routes and poles. Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. <p>Continued below.</p>

Table 9b. Strategic Fire Advantage Zones (SFAZ) - Corramy SCA / Basin View section – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
COR S48	1d, 9	Basin View North SFAZ continued.	13.4 ha.	As above.	<ul style="list-style-type: none"> • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands i.e. retirement village.

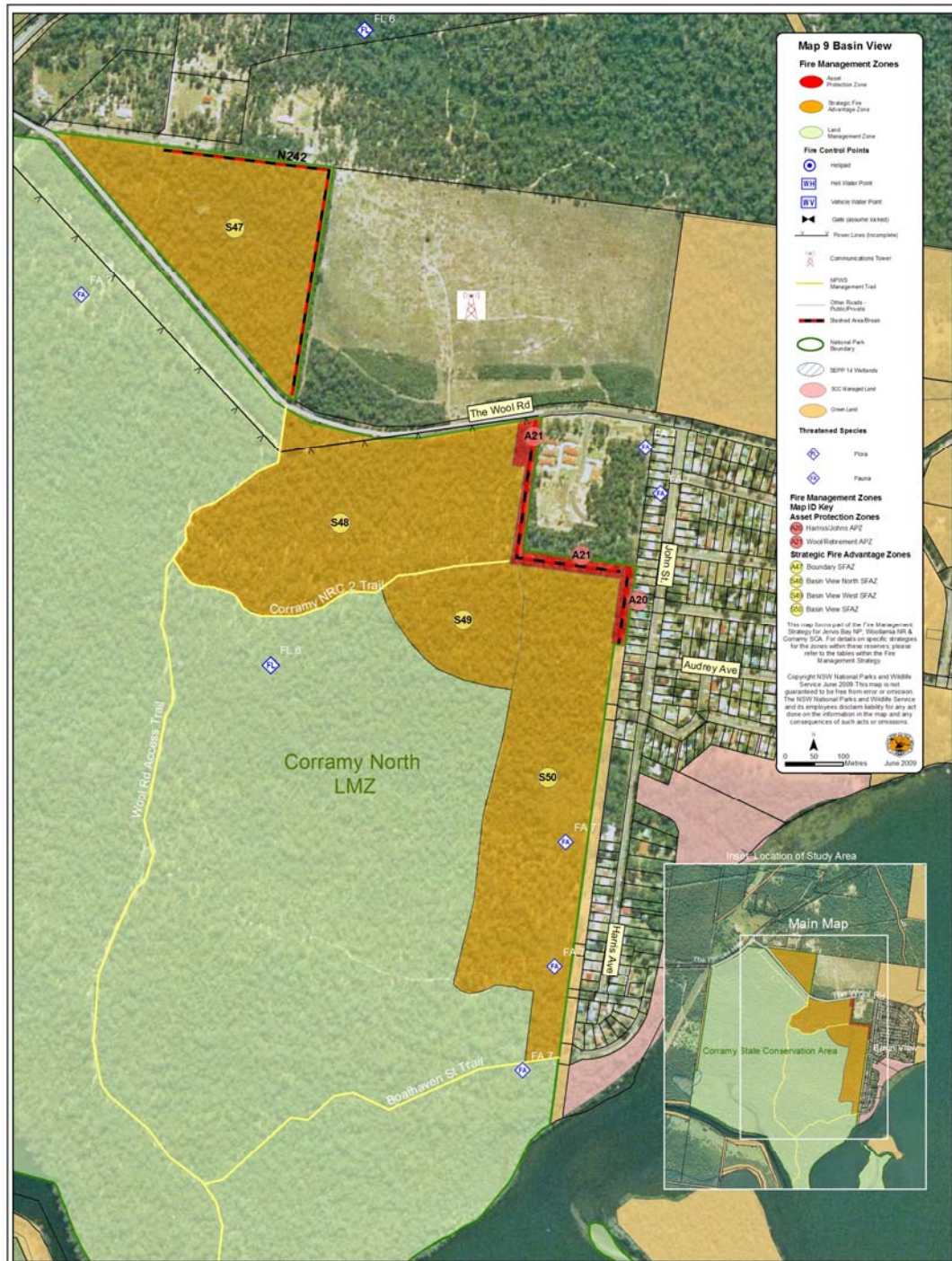
Table 9b. Strategic Fire Advantage Zones (SFAZ) - Corramy SCA / Basin View section – continued.

Zone ID	Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
COR S49	1d, 9	Basin View West SFAZ Area within the reserve to the south-west of retirement village.	4.6 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires in the Basin View area. • To complement asset protection measures on adjacent lands e.g. retirement village. • To complement adjacent asset protection zone, Wool / Retirement APZ. • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to creek margins within this zone. • Within the reserve, maintain identified slashed areas in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. The route that forms the southern and western boundary to SFAZ (not named) will only be prepared when fuel management activities are planned for the adjacent SFAZ sections. Slashed area to east will be maintained regularly. • Consider smoke management implications when undertaking fuel management burning near retirement village. • Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of identified fire suppression advantages within the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. retirement village.

Table 9b. Strategic Fire Advantage Zones (SFAZ) - Corramy SCA / Basin View section – continued.

Map ID	on Map	SFAZ Name	Zone Area within reserve (ha.)	Specific Objectives	Strategies
COR 50	1d, 9	<p>Basin View SFAZ</p> <p>Area within the reserve to the west of residences along the west side of Harriss Avenue and John Street, Basin View.</p> <p>NB The reserve adjoins only the first nine properties south from the southeast corner of the retirement village. South of this, properties are adjoined by Crown reserve with the National Park boundary being approx. 20 metres further west of properties.</p>	12.45 ha.	<ul style="list-style-type: none"> • To assist in the strategic control and containment of bush fires in the Basin View area. • To complement asset protection measures on adjacent lands e.g. Crown reserve. • To complement adjacent asset protection zone , Harriss/John APZ. • To restrict the movement of fires between neighbouring lands and NPWS managed areas. 	<ul style="list-style-type: none"> • Undertake burning under prescribed conditions where required within the reserve as indicated by fire hazard assessments and biodiversity maintenance requirements. This will require careful planning to provide a mosaic of fuel reduced bushland. Avoid the introduction of fire to rainforest patches and creek margins within or adjoining this zone. • Within the reserve, maintain identified slashed breaks in or adjoining the SFAZ for prescribed burning or fire protection use under appropriate conditions. See Table 17. Temporary route that forms western boundary to SFAZ will only be prepared when fuel management activities are planned for the adjacent SFAZ sections. • Maintain fire prevention works around public use facilities in the SFAZ. • Review annual fire management works program following a post-season assessment of bush fire fuel hazard, fire history, biodiversity thresholds and the condition of fire control advantages within the zone such as fire access tracks, slashed areas, gates, information signs, identified water points etc. • Restrict unauthorised vehicle access along identified access routes or slashed breaks that are normally closed to public use in order to help limit the opportunity for arson, rubbish dumping and to avoid damage to tracks that may prevent ready access by emergency vehicles. • Undertake a pre-season review of identified fire suppression advantages within or adjoining the SFAZ with advice on conditions circulated to local and regional fire emergency agencies by end August. • Seek cooperation of local RFS brigades in the monitoring and reporting of SFAZ fuel and access conditions. • Maintain cooperative management and communication with adjoining landholders so that effective bush fire risk management is maintained across the SFAZ and adjoining lands e.g. Crown reserve at rear of residences Harriss Avenue.

Map 9. Corramy State Conservation Area (northern section) - west of Basin View.



10. Fire regimes, Threatened Species and Cultural heritage

Two of the most important management objectives within the reserves are to prevent the extinction of species which are known to occur naturally within the reserves i.e. conserve biodiversity, and to protect Aboriginal and historic heritage sites. These are the main objectives for fire management in Land Management Zones.

Except where noted otherwise, these objectives will be achieved by:

- Suppressing bush fires and where necessary, conducting prescribed burns to maintain fire regimes within biodiversity thresholds specified in Table 10.
- Implementing the threatened species and cultural heritage management guidelines specified in Tables 11, 12 & 13 in locations where threatened species and cultural heritage sites are known or likely to occur.

When manipulating fire regimes (by suppressing fires and conducting prescribed burns) to conserve biodiversity within these fire management zones, managers will take account of the status of fire regimes across all fire management zones in the reserves.

This should ensure regard for the maintenance of biodiversity within the reserves and particularly applies to Asset Protection and Strategic Fire Advantage Zones where fire is more likely to be deliberately introduced. Due to the emphasis on fire protection aspects in these zones, fire frequency and other strategies prescribed for these areas may see the possibility of an adverse impact on biodiversity within these areas.

As can be seen from Table 10 the vegetation types and communities within these reserves are both diverse and complex. The information on vegetation types comes from a number of sources over a number of surveys as land has been added to the reserves. One of the important objectives for reserve management will be the ongoing review and reassessment of these vegetation classification systems and the knowledge of required fire regimes to provide a uniform appreciation of vegetation complexity across the reserves.

Table 10. Fire regimes to be applied to vegetation in order to sustain biodiversity.

These regimes are time and frequency thresholds in which fire events may not compromise biodiversity within the listed vegetation types. (Adapted from Bradstock et al, 1995 and Keith, 1996.)

Fire regimes outside these thresholds e.g. too frequent fire, are predicted to cause significant declines in species populations especially if they prevail over more than 50% of the vegetation type in the area.

Fire regime ID	Vegetation communities	Approx. area in reserves	Biodiversity Thresholds – Fire Frequency		
			Minimum Fire interval (yrs)	Maximum Fire interval (yrs)	Notes
A	Woodlands	134.61	7	30	
	Woodlands - coastal complex	133.70			
	Woodlands - some dry forest elements	0.91			
E1	Woodlands / Dry forests	42.04	5	40	
	Woodlands / dry forest species dominant	5.65			
	Dry forests	36.39			
E2	Drier forests on plateaux and coastal lowlands	1842.48	5	50	
	Dry forests on plateaux	2.88			
	Jervis Bay dry lowland forests - shrub/grass understorey - mixed tree species	1009.28			
	Coastal dry lowland forests - shrubs / cycad understorey	131.91			
	Coastal hinterland dry forest with heath - <i>Corymbia gummifera</i>	698.41			
E3	Forests on sand	1585.39	7	30	
	Forests on coastal sands, shrub/fern understorey - <i>Eucalyptus botryoides</i> / <i>Banksia serrata</i>	47.93			
	Forests on coastal sands, shrub/fern understorey - <i>Eucalyptus pilularis</i> / <i>Banksia serrata</i>	1517.01			
	Scrubs on coastal hind dunes and headlands	20.45			

Table 10. - Fire regimes to be applied to vegetation to sustain biodiversity - continued

Fire regime ID	Vegetation communities	Approx. area in reserves	Biodiversity Thresholds – Fire Frequency		
			Minimum Fire interval (yrs)	Maximum Fire interval (yrs)	Notes
F	Forests in wetter areas	635.79	7	35	
	Coastal swamp forests with wet heath <i>Casuarina glauca</i> / <i>Melaleuca ericifolia</i>	171.66			
	Coastal swamp forests - ecotonal - <i>Casuarina glauca</i> / <i>Eucalyptus botryoides</i>	22.59			
	Coastal lowlands swamp forest - <i>Eucalyptus robusta</i>	89.39			
	Coastal swamp forest complex - <i>Casuarina glauca</i>	352.15			
G	Heathlands	294.05	7	30	
	Coastal tall wet heath	293.97			
	Coastal headland heaths	0.08			
	Coastal dune scrubs	184.61	7	30	
	Coastal dune scrub, herb/grassland	184.61			
H	Moist understorey forests	29.86	25	60	
	Moist forests - e.g. on foothills - <i>Corymbia maculata</i> / <i>Eucalyptus pilularis</i>	29.86			
B	Freshwater Wetlands - on sand dunes	3.19	6	35	
I	Rainforest, Estuarine areas	425.62	Exclude fire where possible		
	Estuarine mangrove low forests	134.21			
	Saltmarsh / mudflat environs	291.41			
nil	Cleared, modified areas	545.36	No regime applied		
	Developed areas e.g. Urban areas, Greenfields visitor facility	0.69			
	Cleared – powerline easements, or severely disturbed areas e.g. old gravel pits	42.20			
		502.47			

see note next page ...

NB: The vegetation types within Jervis Bay NP, Woollamia Nature Reserve and Corramy State Conservation Area (North) are both diverse and complex in their distribution and composition. The above table is a summary grouping of the many vegetation community types recognised to date with indicative species and nominal fire interval regimes.

The use of fire to sustain biodiversity is also a complex matter. Managers will monitor fire regimes and fire history. Where indicated managers will wherever possible apply fire at a community level and a range of fire intervals (time-since-fire) in each vegetation community. This complex assessment and planning task is enabled by use of computer based Geographic Information System tools. These tools assimilate and process complex vegetation data and provide models for various fire regime options. These assessments and decisions include habitat values and habitat maintenance requirements as well as individual species prescriptions where identified.

Similarly, in the event of unplanned fire, these tools will assist managers to recognise areas and values that may be compromised by yet another fire outside the recommended intervals. This data along with information maintained on community assets and fire-fighting advantages will assist with preparation of fire suppression strategies and tactics to be applied.

The vegetation classification for these reserves is continually being revised to provide consistency with region-wide groupings and thereby enable fire frequency modelling across bushland areas surrounding the reserves. This may enable biodiversity conservation and bush fire protection requirements across the wider landscape as is being assembled within the Bush Fire Risk Management plan for the Shoalhaven (Contact RFS for details). When completed or updated, revised classifications will be incorporated within this strategy and made available to reserve managers and fire agencies.

Whilst this process represents the current approach to fire and biodiversity management within Land Management Zones (LMZ), these tools are also used to manage risk from bush fire within strategic fire advantage and asset protection zones (SFAZ and APZ).

NPWS will continue to monitor flora and fauna responses to fire frequency and intensity in the reserves and support research in these areas.

Table 11. Threatened Species - fire management strategies to be applied in the reserve.

These strategies are derived from the *Bush Fire Environmental Assessment Code for New South Wales (2006)* and the *Threatened Species Hazard Reduction List (2004)*. Not all threatened species are listed as some have no implications for fire management.

Map ID	Species		Species status (1)	Strategies
Flora				
FL 1	Thick Lip Spider Orchid	<i>Caladenia tessellata</i>	E1	<ul style="list-style-type: none">• No fire• No slashing, trittering or tree removal
FL 2	Chamaesyce psammogeton	<i>Chamaesyce psammogeton</i>	E1	<ul style="list-style-type: none">• No fire more than once every five years• No slashing, trittering or tree removal
FL 3	Leafless Tongue Orchid	<i>Cryptostylis hunteriana</i>	V	<ul style="list-style-type: none">• No fire more than once every ten years• No slashing, trittering or tree removal
FL 4	Australian Saltgrass	<i>Distichlis distichophylla</i>	E1	<ul style="list-style-type: none">• No fire• No slashing, trittering or tree removal
FL 5	Eucalyptus Sturgissiana	<i>Eucalyptus sturgissiana</i>	V	<ul style="list-style-type: none">• No fire more than once every ten years• No slashing, trittering or tree removal
FL 6	Melaleuca biconvexa	<i>Melaleuca biconvexa</i>	V	<ul style="list-style-type: none">• No fire more than once every ten years• No slashing, trittering or tree removal
FL 7	Prasophyllum affine	<i>Prasophyllum affine</i>	E1	<ul style="list-style-type: none">• No fire more than once every seven years• No slashing more frequently than every ten years, no trittering or tree removal
FL 8	Prostanthera densa	<i>Prostanthera densa</i>	V	<ul style="list-style-type: none">• No fire more than once every seven years• No slashing more frequently than every ten years, no trittering or tree removal
FL 9	Syzygium paniculatum	<i>Syzygium paniculatum</i>	V	<ul style="list-style-type: none">• No fire• No slashing, trittering or tree removal
FL 10	Wilsonia backhousei	<i>Wilsonia backhousei</i>	V	<ul style="list-style-type: none">• No fire• No slashing, trittering or tree removal

Table 11. Threatened Species management strategies to be applied in the reserves. - continued

Map ID	Species		Species status (1)	Strategies
Fauna				
FA 1	Glossy Black-Cockatoo	<i>Calyptorhynchus lathamii</i>	V	<ul style="list-style-type: none">When introducing fire for biodiversity maintenance or bush fire fuel management, use a lower intensity mosaic pattern for ignition and final planned extent. Avoid ignition of <i>Allocasuarina</i> thicketsAvoid slashing <i>Allocasuarina</i> thickets
FA 2	Eastern Bristlebird	<i>Dasyornis brachypterus</i>	E1	<ul style="list-style-type: none">No fireWhere slashing is required in known habitat - slash at 45cm height to provide cover.
FA 3	Giant Burrowing Frog	<i>Heleioporus australicus</i>	V	<ul style="list-style-type: none">No fireNo slashing, trittering or tree removal
FA 4	Green and Golden Bell Frog	<i>Litoria aurea</i>	E1	<ul style="list-style-type: none">Avoid the use of firefighting foams near watercourses and wetlandsNo burning within 50metres of wetlands and other large water bodiesNo slashing, trittering or tree removal
FA 5	Large-footed Myotis	<i>Myotis adversus</i>	V	<ul style="list-style-type: none">No fire around known roost sitesNo removal of trees
FA 6	Powerful Owl	<i>Ninox strenua</i>	V	<ul style="list-style-type: none">No burning around known nesting sites at any timeNo slashing, trittering or tree removal
FA 7	Yellow-bellied Glider	<i>Petaurus australis</i>	V	<ul style="list-style-type: none">see Note 1
FA 8	Ground Parrot (eastern subsp.)	<i>Pezoporus wallicus</i>	V	<ul style="list-style-type: none">No fireNo slashing, trittering or tree removal
FA 9	Greater Broad-nosed Bat	<i>Scoteanax rueppellii</i>	V	<ul style="list-style-type: none">see Note 1
FA 10	White-footed Dunnart	<i>Sminthopsis leucopus</i>	V	<ul style="list-style-type: none">see Note 1
FA 11	Regent Honeyeater	<i>Xanthomyza phrygia</i>	E1	<ul style="list-style-type: none">see Note 1

Table 11. Threatened Species management strategies to be applied in the reserves. - continued

Map ID	Species	Species status (1)	Strategies	
Fauna - continued				
FA 12	Square-tailed Kite	<i>Lophoictinia isura</i>	V	<ul style="list-style-type: none">• see Note 1
FA 13	Common Bentwing-bat	<i>Miniopterus schreibersii</i>	V	<ul style="list-style-type: none">• No fire around known roost sites.• No slashing around maternity sites.
FA 18	Masked Owl	<i>Tyto novaehollandiae</i>	V	<ul style="list-style-type: none">• No burning around known nesting sites at any time.• No slashing, trittering or tree removal.
FA 21	Eastern False Pipistrelle	<i>Falsistrellus tasmaniensis</i>	V	<ul style="list-style-type: none">• No removal of trees, protect hollows.
FA 23	Black-tailed Godwit	<i>Limosa limosa</i>	V	<ul style="list-style-type: none">• see Note 1
FA 24	Little Tern	<i>Sterna albifrons</i>	E1	<ul style="list-style-type: none">• see Note 1
FA 25	Pied Oystercatcher	<i>Haematopus longirostris</i>	V	<ul style="list-style-type: none">• see Note 1
FA 26	Sooty Oystercatcher	<i>Haematopus fuliginosus</i>	V	<ul style="list-style-type: none">• see Note 1
FA 27	Broad-billed Sandpiper	<i>Limicola falcinellus</i>	V	<ul style="list-style-type: none">• see Note 1
FA 29	Eastern Chestnut Mouse	<i>Pseudomys gracilicaudatus</i>	<ul style="list-style-type: none">• Data on this species is being assessed to determine status and implications for fire regimes in the reserves.	

Note 1 Reserve managers have requested identification of most Threatened Species within the reserves. Conservation requirements for these species may not have direct fire management implications and therefore may have no specific or listed fire management strategies for either species or sites or habitat. Notwithstanding this, the activities associated with fire suppression such as use of earthmoving equipment, tree-felling etc. will have implications for all species. A complete listing serves managers in the preparation of environmental assessments required for fire management and other related activities in areas where these species are recorded.

Note 2 Where a 'no fire' species is found within an SFAZ, that is proposed for prescribed burning to protect life and property, NPWS will conduct a comprehensive environmental assessment (REF) to ensure that any adverse impacts upon this species are eliminated or greatly reduced eg no burning around known nesting sites.

Mapping is continually being revised to confirm Endangered Ecological Communities (EEC) within the NPWS Region and reserves. Where these EEC are confirmed within Jervis Bay NP, Woollamia Nature Reserve or Corramy State Conservation Area (North) AND have implications for fire management then these strategies will be added to the following tables.

Whilst specific fire management implications for many EEC are continuing to be determined, the indicated biodiversity thresholds for the component vegetation communities will apply as a minimum. See Table 10.

Reference for any fire regime implications / strategies is taken from the EEC list maintained by the NPWS on the RFS website. These are maintained to assist environmental assessment for bush fire hazard reduction burning.

All confirmed EEC regardless of fire management implications will be mapped on the supporting operational maps as a guide to managers.

Table 12. Endangered Ecological Communities listed within the reserves – fire management implications.

EEC ID	Endangered Ecological Community	Specific Strategies
Endangered Ecological Communities		
See note above	Bangalay Sand Forest of Sydney Basin Bioregion	<ul style="list-style-type: none"> Maintain biodiversity thresholds of 7 – 30 years. No slashing, trittering or tree removal.
" "	Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner Bioregions	<ul style="list-style-type: none"> Avoid fire and disturbance where possible.
" "	Littoral rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions	<ul style="list-style-type: none"> Avoid introduction of fire, protect margins of littoral rainforest areas from fire incursion where possible.
" "	Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner Bioregions	<ul style="list-style-type: none"> Maintain biodiversity thresholds of 7 – 35 years. No slashing, trittering or tree removal.

Table 13. Cultural and Historic heritage - strategies for fire management to be applied in the reserves.

As detailed in section 1.2.3 there were no known cultural sites in the reserves identified as at risk within areas of higher fire behaviour potential. Nevertheless most known sites are vulnerable to fire suppression and management operations e.g. the use of earthmoving machinery. Below are the strategies relevant to sites identified within the reserves. In all cases a precautionary approach should be adopted where activities are undertaken away from formed tracks or roads. Skilled assistance should be sought in guiding these operations.

Site ID	Fire Management Strategies	Site Types
Aboriginal Heritage Sites		
AH-A	<ul style="list-style-type: none"> 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 e.g. possible artefacts of flammable materials such as scarred or carved trees.
AH-B	<ul style="list-style-type: none"> As far as possible protect site from fire Avoid all ground disturbances 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 e.g. stone arrangements, ceremonial rings, rock engravings, rock art, grinding grooves.
AH-C	<ul style="list-style-type: none"> Avoid all ground disturbances 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 bush fire, backburn or prescribed burn without damage. 	Sites least affected by fire itself but still prone to disturbance by fire suppression operations. e.g. burial sites, artefact scatters, middens.

Historic Heritage Sites

NB - No sites of historic significance were identified as within areas of higher fire behaviour potential. Such sites may nevertheless be vulnerable to fire suppression operations.

Site type	<ul style="list-style-type: none"> 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. Use of foams, wetting agents and retardants is acceptable. 	Flammable but structurally unsound sites including buildings with low structural integrity
HH-A	<ul style="list-style-type: none"> As far as possible protect site from fire Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. Water bombing, use of foams, wetting agents and retardants is acceptable. 	Flammable and structurally sound sites including buildings, wooden fences, signs, stock rails, etc
HH-B	<ul style="list-style-type: none"> Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites. Avoid water bombing. 	Sites which are not flammable but are structurally unsound including dry stone walls
HH-C		

The localities of known sites considered possibly vulnerable to fire suppression operations are only depicted on operational maps and do not indicate the site type or precise location. Personnel undertaking and directing operations should seek recognised guidance if conducting operations in areas where sites are likely to be located.

Table 14. Land Management Zones (Heritage) – area and fire regimes

As outlined in section 12, survey work to uniformly assess the vegetation classes across these reserves continues as this strategy continues. Once completed, the fire regimes appropriate to the revised classifications will be further assessed and applied to the zones below. Extensive tables and mapping tools are available to managers indicating the vegetation types to be found in each zone, the status and area of each type with regard to fire history, biodiversity thresholds and current vulnerability. These are used to determine which areas should be protected from wildfire or subject to prescribed fire in order to maintain biodiversity.

Map ID	Map	Zone Name	Zone Area	Area in each Biodiversity Threshold class (see Table 10 for fire intervals recommended to conserve biodiversity)									
			(ha.)	A	E1	E2	E3	F	G	H	B	I	nil
As named on maps	1d, 8	Bream LMZ	7			7							
	1c, 2	Callala West LMZ	18		0.5	12		5	0.5				
	1d,4	Choke Point North LMZ	74	0.5	0.75	5	9	29	4			25.75	
	1d, 5	Choke Point South LMZ	310		1	193	34		82				
	1c, 2	Coonemia LMZ	551		1	245	305						
	1d, 9	Corramy North LMZ	249	2	6.5	106	58.5	29		13.2		32	1.8
	1d, 3	Fairfax LMZ	65		1.5	28	27.5			6.5			1.5
	1d, 3	Forest Boundary LMZ	61				59.5						1.5
	1d,6,7	Greenfields LMZ	117		25	53	15		18.5				5.5
	1d, 8	Gurumbi LMZ	265		0.5	87	15		162				0.5

Table 14 Land Management Zone details - continued

Map ID	Map	Zone Name	Zone Area	Area in each Biodiversity Threshold class (see Table 10 for fire intervals recommended to conserve biodiversity)									
			(ha)	A	E1	E2	E3	F	G	H	B	I	nil
As named on map	1c, 2	Hare Bay LMZ	1087	34	3	383	50	158	185			267	7
	1d, 3	Huskisson LMZ	11				9		2				
	1d, 4	Huskisson Rd LMZ	190			60	52	73				4	1
	1d, 4	North Moona Creek LMZ	33	2			1	25				5	
	1d, 5	Parnell North LMZ	110			76	22		11.5	0.5			
	1d, 5	Parnell South LMZ	64		2	51	9.5		1.5				
	1d, 3	Pritchard LMZ	303		3	7	261	20		9			3
	1d, 7	South Hyams LMZ	81	3	4	7.5	34	20	9		3.5		
	1d, 5	South Moona LMZ	432		0.5	232	78	101		0.5		20	
	1d, 5	Woden LMZ	11	1	2			3				5	
	1c, 2	Woods LMZ	131		0.2	15	115	0.8					
	1c, 2	Wollumboola LMZ	1535	150	55	259	534	182	12			65	278

NB All of the reserves are contained within fire management zones. However, on some maps, larger estuarine areas such as Lake Wollumboola, may not be shaded as part of zone for clarity. Biodiversity thresholds are however assigned for statistical purposes.

Table 15. Land Management Zones – fire management strategies.

Map ID	Map	Zone Name	Zone Area (ha.)	Threatened Species and EEC Guidelines (Table 11, 12)	Cultural Asset Guidelines (Table 13)	Overall Strategies
			inside reserve			
As named on map	1d, 8	Bream LMZ	7		Numerous sites, Refer to maps.	<ul style="list-style-type: none"> • Suppress bush fires and implement prescribed burning as appropriate to maintain fire regimes within the biodiversity thresholds as specified in Table 10. • Implement threatened species fire management strategies as specified in Table 11 & 12. • Implement cultural asset protection strategies as specified in Table 13
	1c, 2	Callala West LMZ	18			
	1d, 5	Choke Point North LMZ	74	FA1, FA2,		
	1d, 6	Choke Point South LMZ	310	FA2, FA3, FA4, ,FA5, FA6, FA8, FA*		
	1c, 2	Coonemia LMZ	551	FA1, FA6, FA7,		
	1d, 9	Corramy North LMZ	249	FA2, FA 9,		
	1d, 3	Fairfax LMZ	65			
	1d, 3	Forest Boundary LMZ	61			
	1d, 6	Greenfields LMZ	117			
	1d, 8	Gurumbi LMZ	265			
	1c, 2	Hare Bay LMZ	1087	FA1, FA7,		
	1d, 3	Huskisson LMZ	11	FA1		
	1d, 4	Huskisson Rd LMZ	190	FA1, FA7, FA9, FA11,		
	1d, 4	North Moona Creek LMZ	33	FA1		
	1d, 5	Parnell North LMZ	110	FA7,		
	1d, 5	Parnell South LMZ	64	FA7,		
	1d, 3	Pritchard LMZ	303	FA4, FA7,		
	1d, 7	South Hyams LMZ	81	FA2,		
	1d, 5	South Moona LMZ	432	FA1, FA2, FA3, FA7, FA10,		
	1d, 5	Woden LMZ	11	FA1,		
	1c, 2	Woods LMZ	131			
	1c, 2	Wollumboola LMZ	1535	FA1, FA4, FA5, FA6, FA7,		

11. Fire Trails / Slashed Breaks

11.1 Fire management access – Tracks and Roads

Tracks and roads provide access for firefighting vehicles and may be used to contain lower intensity fires or enable lower intensity backburning to contain larger wildfires or prescribed burns.

Not all tracks or roads are maintained as fire trails, though most vehicle access routes may provide some fire suppression advantage depending on the terrain, track status, crew competency, equipment, fire behaviour, weather conditions and the task for which the route is to be used. These and other factors need to be considered by fire crews and planning teams prior to the use of a route for fire operations. Following this assessment, some routes will require works to prepare them to a sufficient standard for the proposed operation. The time and resources required to undertake this preparation also need to be considered within operational planning.

Not all routes or tracks can or will be maintained to all weather 2wd standard for fire suppression operations at all times. The economic, resource and environmental consequences are presently unacceptable. As a member of the Shoalhaven Bush Fire Management Committee the NPWS has identified those routes of higher strategic significance for fire operations for which the NPWS is responsible. Along with the maintenance of slashed breaks in asset protection zones, the NPWS will give priority to those tracks and roads of higher strategic significance in the preparation of works programs and commitment of available resources.

Table 16 lists the tracks and routes that will be maintained primarily for fire management purposes during the life of the strategy.

Roads and tracks classified as Heavy will be maintained to a standard sufficient to allow the passage of heavier (Category 1equiv.) fire tankers (4WD Tanker up to a 3500 litre capacity). Roads and trails classified as Light (Category 7/9 equiv.) will be maintained to a standard sufficient to allow the passage of a lighter fire tanker (4WD Ute/Cab-chassis up to 400 litre capacity).

Other tracks and roads shown on maps within the reserves are not primarily maintained for fire purposes but may have usefulness in fire management or suppression operations. Access to these tracks however may be limited at times during the life of the strategy as priority will be given to maintenance of the tracks identified in Table 16. The fire vehicle categories for these tracks are as assessed when the strategy was compiled.

Tracks made or upgraded beyond routine standard as a result of fire suppression operations will be stabilised and rehabilitated as soon as practicable after the fire and may not be listed or marked on future maps. Where strategically useful these routes may be indicated on operational maps or recorded as possible control options for future operations.

Some of the roads and tracks listed in Table 16 and illustrated on maps are used for management purposes only and are not open for public use by vehicle. The NPWS makes keys for access to such tracks available via the RFS to be kept in Shoalhaven RFS fire tankers and other emergency service vehicles.

Routes that may be used for vehicle access by visitors are described in the Plans of Management for the reserves.

NB. Not all tracks within or around the reserve depicted on published topographic or guide maps may exist, not all are located where marked, or may be accessible in the indicated condition. The NPWS will seek more accurate depiction of these features in subsequent map editions.

Table 16. Tracks and Roads within the reserves that will be retained primarily for fire management purposes.

Table 10: Tracks and Roads within the Reserve that will be retained primarily for fire management purposes.

on Map	Ref. No.	Road / Track Name	Firefighting Vehicle Category	NSW Bush Fire Coord. C'tee equivalent	Tenure	Comments
Existing Roads / Tracks / Routes –						
1d	N320	Huskimoon Fire trail	Light	Secondary	NPWS	Apart from routine maintenance assessments, all tracks will be inspected prior to summer (by end August) and operational condition reported to fire agencies via the Shoalhaven Bush Fire Management Committee. Local RFS Brigades are urged to promptly report operational problems with these tracks to the NPWS via Fire Control to enable repairs as soon as practicable.
1d	N321	Huskimoon Link Fire Trail	Light	Secondary	NPWS	
8	N41	Harmony Haven Fire Trail	Light	Secondary	NPWS	
8	N161	Harmony Haven Access Trail	Light	Secondary	NPWS	
8	N349	Harmony Haven Link Fire Trail	Light	Secondary	NPWS	
4	N319	Bowling Club Fire trail	Light	Secondary	NPWS	
The above trails will be shown on the Operations ('Ops') Maps supporting this Fire Management Strategy						
Operational Maps supporting this plan are made available to local RFS brigades, Emergency Control Centres and land management agencies.						

11.2 Strategic fuel management areas – Slashed Areas and Breaks

Table 17 lists the specifications for slashed breaks to be maintained by the NPWS during the life of this plan.

* The widths shown indicate the variability recorded on site along the break. This variability reflects terrain and protection obligations. e.g. Calala Street APZ where zone is limited by flood prone location and adjacent wetlands.

Zones indicated are within the reserve only. Outside the reserve these may be part of similar zones under the local Bush Fire Risk Management Plan

Table 17. Strategic fuel management areas – Slashed Areas & Breaks – specifications and objectives

on Map	Map ID (Ref. No.)	Fuel Management Area / Slashed Break Name / Location	Specific-ations *		Zone #	Maintenance / Tenure	Fire management Objectives
			Min (m.)	Max (m.)			
1c	N258	Irrayadda Creek Slashed Break	10	10	LMZ	NPWS	Provide a strategic advantage for fire management and suppression.
1c	N261	Range North Boundary Slashed Break	5	5	LMZ	NPWS	Limit spread of fire to/from reserve, located along reserve boundary, for fence protection.
1c	N39	Coppercup Point Fenceline Slashed Break	5	10	LMZ	NPWS	Limit spread of fire to/from reserve, located along reserve boundary, for fence protection.
1c	N47	Coonemia Rd (East Side) Slashed Break	5	10	LMZ	NPWS	Provide a strategic advantage for fire management and suppression - along part of Coonemia access road.
1c, 2	N48	Wowly Gully Fenceline Slashed Break	4	4	LMZ	NPWS	Limit spread of fire to/from reserve, located along reserve boundary, for fence protection.
1c, 2	A1 (N149)	Queen Mary Slashed Area	20	20	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 3	A2 (N318)	Service Str. Slashed Area	15	15	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 3	A3 (N577)	Woollamia Industrial Slashed Area	6	20	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 3	A23 (N69)	Northern Boundary Slashed Area	6	25	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 3	N75	Pritchard Avenue (South) Neighbour Slashed Break	3	5	SFAZ	NPWS	Protect adjacent dwellings - part of APZ - reserve boundary

Table 17 - continued

on Map	Map ID (Ref. No.)	Fuel Management Area / Slashed Break Name / Location	Specific -ations *		Zone #	Tenure / Maintenance	Fire management Objectives
			Min (m.)	Max (m.)			
1d, 3	A24	Triangle Block Eastern Boundary Slashed Area	4	4	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 4	A4	Callala Street Slashed Area	15	20	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 4	N329	Pine Forest Slashed Break (Private)	10	10	-	Private	To limit spread of fire to/from reserve.
The above break is not located within the reserve. If adjacent land is developed, appropriate fire mitigation measures will be implemented within the property. In the meantime and to avoid unnecessary clearing within the reserve, it is maintained by NPWS when equipment is in area. See property owner for details of fire mitigation works to be undertaken elsewhere on the property.							
1d, 4	A5 (N178)	Currambene Street Slashed Area	10	10	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 5	A6 (N143)	Duncan Street (North) Slashed Area	6	6	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 5	N312	Cambourne Rd Slashed Break	3	15	SFAZ	NPWS	Provide a strategic advantage for fire management and suppression.
1d, 5	A9 (N360)	Namur Street Slashed Area	6	6	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 6	A7 (N337)	St Georges Avenue Nth Slashed Area	5	25	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 6	A11 (N338)	Frederick Street Slashed Area	5	10	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 6	A8 (N607)	Primary School Slashed Area	5	10	APZ	NPWS	Protect adjacent facility – part of APZ
1d, 6	A10 (N359)	Whitshed Place Slashed Area	6	6	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 7	A22 (N344)	Nav. Aid Slashed Break	3	3	APZ / SFAZ	NPWS	To protect essential infrastructure and provide an advantage for fire suppression under appropriate conditions.
1d, 7	A15 (N348)	Silver Strand Slashed Area	6	6	APZ	NPWS	Protect adjacent dwellings - part of APZ.

on Map	Map ID (Ref. No.)	Fuel Management Area / Slashed Break Name / Location	Specific -ations *		Zone #	Tenure / Maintenance	Fire management Objectives
			Min (m.)	Max (m.)			
1d, 7	A14 (N339)	Booderee Avenue Slashed Area	10	10	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 7	A14 (N340)	Hyam Rd Slashed Area	6	6	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 7	A12 (N341)	Tulip Street Slashed Area	10	10	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 7	A15 (N342)	Lister Court Slashed Area	6	6	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 8	A16 (N347)	Grand View Pde. Street Slashed Area	10	15	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 8	A17 (N610)	Naval Parade / Wrights Slashed Area	5	10	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 8	A19 (N609)	Harmony Haven Slashed Area	5	10	APZ	NPWS	Protect adjacent dwellings - part of APZ
1d, 8	A18 (N350)	Bream Beach Van Park Slashed Area	5	15	APZ	NPWS	Protect adjacent dwellings - part of APZ.
1d, 9	(N242)	Boundary Slashed Break	3	6	SFAZ	NPWS	Limit spread of fire to/from reserve, located along reserve boundary, for fence protection.
1d, 9	A20 (N230)	Harriss / John Slashed Area	10	15	APZ	NPWS	Protect adjacent dwellings – part of APZ
1d, 9	A21 (N570)	Retirement Slashed Area	15	25	APZ	NPWS	Protect adjacent dwellings / retirement village – part of APZ

12. Information, Research, Works Schedules.

12.1 Information, Cooperation and Enforcement

The NPWS will undertake the following during the life of this strategy:

- Participate within the Shoalhaven Bush Fire Management Committee (BFMC) and its sub-groups and functions to better provide an integrated and cooperative approach to fire management and suppression in the reserves and surrounding communities.
- Support the Shoalhaven BFMC, the RFS, Shoalhaven City Council and other agencies in programs to increase the awareness of fire, to improve property and personal preparedness in the surrounding communities and encourage residents and visitors to report fire outbreaks or arson.
- Participate and maintain communications with RFS Brigades and other agencies adjacent to the reserves in order to improve shared operations, training, community liaison and the monitoring and reporting of fire management access, bush fire fuel conditions and other fire management issues of concern to the community.

These RFS brigades and communities include:

Huskisson	Sanctuary Point
Erowal Bay	Basin View
Hyams Beach	Currarong
Callala Bay	Callala Beach
St Georges Basin	Culburra Beach
Jervis Bay Territory	Wreck Bay
Falls Creek/Woollamia	Tomerong
Vincentia	

- Assist landholders /occupiers and other agencies to undertake prescribed burns on private property and public lands adjacent to the reserves where this burning will help protect assets on neighbouring property from bush fires that may exit the reserves or may assist in limiting fires entering the reserves from adjacent lands. These cooperative works should be undertaken where resources allow and do not conflict with essential fire management activities being undertaken at the same time within the reserves.
- Develop a cooperative approach to the maintenance and monitoring of slashed breaks and fire management tracks especially where they link with breaks and access managed by other agencies or land managers. Where appropriate, describe this approach within a Memorandum of Understanding (MOU) for all jointly managed and maintained breaks and access routes.
- Investigate all fires within the reserves that appear to have been deliberately lit and actively pursue this investigation and legal action in cooperation with other agencies against those responsible where evidence permits.
- Assess appropriate visitor or access sites to erect signs to advise reserve visitors of fire use conditions or where required, actions that may need to be taken in the event of fire.
- Advise visitor centres and appropriate media outlets of the status of current fires or visitor restrictions within the reserves.

12.2 Research and Monitoring

It is planned to continually revise vegetation data and fire history to better define the appropriate fire regimes and indicate where fire may need to be applied or where fire should be avoided in order to conserve biodiversity.

This survey work will also define which communities in the reserves may be the site of vegetation monitoring plots that will contribute to the knowledge of vegetation response to fire and the accumulation of bush fire fuels. There are a number of these sites currently in place across the South Coast Region.

As Threatened Species 'Priority Action Statements' are prepared for threatened species identified within the reserve, implications for fire management will be incorporated in site and species management strategies in Table 11.

12.3 Fire Management Works Schedule

From all the above strategies a priority list of fire management works has been assembled and is reviewed annually. These works programs are advised to the Shoalhaven District Bush Fire Management Committee annually as part of the NPWS contribution to cooperative bush fire risk management across the community.

The fire management works proposed for the current financial year may be viewed during business hours at:

Shoalhaven RFS office, Albatross Road - Nowra,
NPWS South Coast Region Office – Nowra,
NPWS Area office, Flat Rock Road - West Nowra.

To discuss works proposals for areas of concern it is best to contact your local NPWS Area office that will be managing the program.

The fire management works schedule indicates the works proposed in the present financial year and the indicated tasks over the following four years. The works for the present financial year indicate those activities that the NPWS has budgeted for and committed to its overall works programs along with other management tasks. Each year this program is reviewed with consideration of the following factors:

- seasonal conditions
- available resources
- the achievements of the past works year
- fire history of the previous season and
- biodiversity and risk management indications and
- the indicated program over the next four years

Some of the tasks require appropriate conditions in order to be completed e.g. prescribed burning. Opportunities for suitable conditions are limited and highly variable according to seasonal weather patterns and drought cycles.

Similarly, the limited opportunities for prescribed burning may be replaced by higher priority works of the same type e.g. burning in asset protection zones may displace biodiversity burning in remoter areas where timing is less critical. In all cases the NPWS provides explanation to the Shoalhaven Bush Fire Management Committee where works cannot be achieved or where works may need to be deleted e.g. where a summer wildfire overtakes a prescribed burning proposal. In most cases, works not completed are automatically carried forward into next year's program.

If there are concerns at the frequency or level of fire management works undertaken these should first be raised with the NPWS Area maintaining the reserves – see contact details below. Apart from this there is a formal fire hazard complaint system that is managed by the Shoalhaven Rural Fire Service headquarters in Nowra.

12.6 Key Reporting details.

As outlined in fire management zone descriptions in sections 2 to 9, the condition of identified fire suppression advantages needs to be assessed prior to the summer fire period. Whilst seasonal conditions vary considerably, the latest deadline for this assessment identified in most zone prescriptions is by the end of August.

If all identified features i.e. slashed breaks and APZ slashed areas (Table 17), or identified Fire Trails (Table 16) are in serviceable condition then this may be advised to the Shoalhaven District Bush Fire Management Committee for information and operational dissemination of the advice by its members. This should occur at the meeting nearest to the end of August.

At times, some of these features may not be in readiness for the coming season due to contingencies such as weather conditions, equipment availability and works schedules, bridge maintenance or revised loading limits, planned capital works etc.

Where these advantages are not in serviceable condition for the coming fire season, then the local RFS brigade, NSWFB station (if applicable), NPWS Nowra Area Manager, NPWS South Coast Region Operations Coordinator and Shoalhaven RFS Operations Officer need to be advised of the condition and likely date that the feature will be restored. This is an essential operational safety matter.

Routine maintenance of slashed breaks, APZ slashed areas, prescribed burning and wildfires are reported routinely via cooperative 'on-line' systems such as 'BRIMS' and 'ICON'. See Shoalhaven Rural Fire Service or RFS website for details from these systems.

12.5 Contact details – NPWS (DECCW) South Coast Region

To inquire of any details in this Fire Management Strategy or other matters concerning Jervis Bay National Park, Woollamia Nature Reserve and Corramy State Conservation Area (North) please contact the following office.

Nowra Area

Flat Rock Rd
West Nowra
Ph 02 4428 6300 Fax 02 4428 6399

For other NPWS sites in the South Coast Region:

Ulladulla Area

Coller Rd
Ulladulla
Ph. 02 4454 9500 Fax 02 4454 4921

Highlands Area

Nowra Road
Fitzroy Falls
Ph 02 4887 8244 Fax 02 4887 7372

South Coast Region Office

55 Graham St PO Box 707
Nowra Nowra NSW 2541
Ph. 02 4423 2170 Fax 02 4423 3122

12.5 References

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NOTES:



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