Angophora Reserve Bush Fire Management Plan 2014

This Map Based Plan is to be read in conjunction with the Angophora Bush Fire Management Plan - Supporting



Map Details	
Datum: Geocentric Datu	m if Australia (GDA) 1994
Projection: Map Grid of	Australia (MGA) zone 56
Aerial Photography: Pro	vided by NearMap (March 2012)
To be printed at: A0	

Contact Information			
Agency	Position / Location	Phone	
Fire & Rescue NSW	Emergency	000	
	Avalon	9918 3938	
	Mona Vale	9999 1677	
Rural Fire Service	Emergency	000	
	24 Hours	8741 5555	
	Warringah/Pittwater Rural Fire District	9450 3000	
Sydney Water	24 hour Service & Emergency Contact	13 20 90	
SES	Emergency	000	
	Warringah/Pittwater	9486 3399	
Police	Emergency	000	
	Northern Beaches Local Area Command	9971 3399	
Ambulance	Emergency	000	
	Bookings	131 233	
Hospital	Mona Vale	9998 0333	
Council	Pittwater Council	9970 1111	

Burn Schedule

Fire Management Zone	
SFAZ 10, SFAZ 3	
SFAZ 11, SFAZ 2	
SFAZ 4	
SFAZ 6, SFAZ 1	
SFAZ 8, SFAZ 5	
SFAZ 9, SFAZ 7	

		Fire Season Information
	Wildfires	The statutory wildfire season occurs between 1st October and 31st March. This may be extended if
weather conditions lead to increased fire danger outside of this period.		weather conditions lead to increased fire danger outside of this period.
	Prescribed Burning	Prescribed burning in this area is normally undertaken in Autumn through to Spring.
Suppression Strategies		Suppression Strategies
	In the event a wildfire	breaks out in the reserve, the following actions should be carried out by Fire and Rescue NSW, Actions

In the event a wildfire breaks out in the reserve, the following actions should be carried out by Fire and Rescue NSW. Action will be dependent on Fire Danger Ratings determined by the Bureau of Meteorology (BOM website - www.bom.gov.au).

• As far as possible, undertake indirect parallel or direct attack along existing or natural control lines.

• Construct new control lines if necessary to minimise the time to contain the fire.

• Ensure there is sufficient time to secure control lines. Also have contingency control lines in place in case the initial

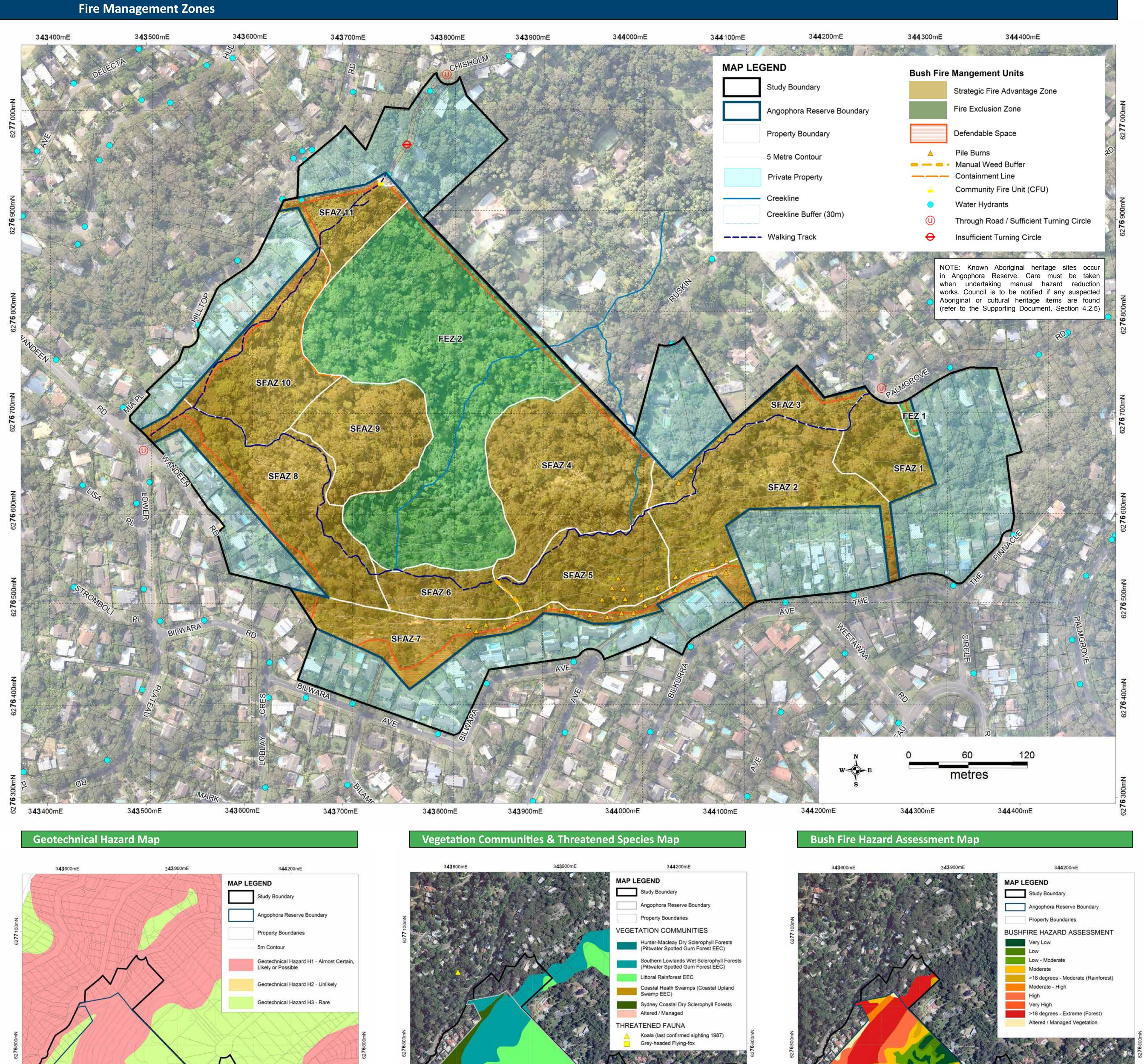
control lines are unsuccessful.
 As much as possible, implement threatened species, EECs, Aboriginal and cultural management guidelines.

Recommended Hazard Reduction Works

Zone	Strategic Fire Advantage Zones Action	Refer to	Responsibility
Name	Vegetation Type: Pittwater Spotted Gum Forest EEC (Moist) / Dry Sclerophyll Forests (upper escarpment) Slope: 15 – 20° with steep escarpment drop occurring on private property (~40-50°) Aspect: Northern	Section	Responsibility
	A hazard reduction burn was undertaken in 2004. Consider burning within the moist Pittwater Spotted Gum Forest (PSGF) between 2017 and 2019 to reduce high fuel loads. Undertaking smaller ecological burns no more than once every 10 years in PSGF should be considered to encourage recruitment of gums.		
SFAZ 1	A hazard reduction burn or pile burns in the Dry Sclerophyll Forest component on the upper escarpment could be of benefit to reduce high fuel loads. If an area burn is undertaken, this burn should extend onto adjoining private property to the east. - Undertake manual hazard reduction. Pile burns may be permitted where cut vegetation cannot be removed or mulched.	4.2.2 / 4.3	Council
	 Undertake weed management. Keep walking track open and free from fallen branches, weeds and increased fuel. Manage dead trees along track for safety purposes. Potential Aboriginal heritage sites may be present, no works / burning permitted within 20 metres of any escarpment edge. 	4.2.6 4.4 4.2.5	Council Council FRNSW / Council
	 Bushland on private property immediately adjoining is to be managed as an APZ only. There is no requirement from the RFS for Council to manage private property. Vegetation Type: Pittwater Spotted Gum Forest EEC (Dry) / Dry Sclerophyll Forests (upper escarpment) Slope: ~ 20° with steep escarpment drop occurring on private property (~40-50°) Aspect: Northern 	4.2.1	Private
	A hazard reduction burn was undertaken in 2004. Consider burning this zone between 2015 and 2017 to reduce fuel loads. Following a controlled burn in this zone, small ecological burns no more than once every 10 years may be undertaken in PSGF to encourage recruitment of gums. - Undertake manual hazard reduction. - Undertake weed management. - A prescribed burn may be undertaken between 2015 and 2017. Ignition points are to be implemented along the existing walking track. Pile burns may be permitted where cut	4.2.2 4.2.6 5.4.3	Council Council FRNSW / Council
SFAZ 2	vegetation cannot be removed or mulched, particularly in the Dry Sclerophyll Forests on the upper escarpment. - Keep walking track open and free from fallen branches, weeds and increased fuel. Manage dead trees along track for safety purposes.	4.4	Council
	 Potential Aboriginal heritage sites may be present, no works / burning permitted within 20 metres of any escarpment edge. In the Dry Pittwater Spotted Gum Forest (PSGF) vegetation selectively reduce mesophyllic species such as Cheese Tree, Sweet Pittosporum and Blueberry Ash. 	4.2.5	FRNSW / Council Council
	 Undertake small hot ecological burns in stand of She-oaks to encourage diversity of species. Bushland on private property immediately adjoining is to be managed as an APZ only. It is the property owner's responsibility to maintain the APZ on their property. There is no requirement from the RFS for Council to manage private property. Vegetation Type: Pittwater Spotted Gum Forest EEC (Moist) Slope: 5 – 20° Aspect: Northern 	4.2.4 4.2.4 / 4.5	Council Council / Rural Fire Service
	Part of this zone was burnt in 1996. A burn in this zone is proposed between 2014 and 2016. - Undertake weed management. Regular sweeps of the core of this zone should occur to target woody weeds such as Lantana and Cestrum. Treat bracken by slashing where necessary. - A prescribed burning should extend onto private property (35 – 37 Ruskin Rowe). To the north, a crushed granite track occurring on private property provides a potential containment line; ignition points for a burn should be implemented along this containment line with the burn	4.2.6	Council / FRNSW
SFAZ 3	 ignition points for a burn should be implemented along this containment line with the burn allowed to run up to the walking track. Funding for post fire maintenance is required. Pile burning maybe undertaken along the north-eastern boundary and between properties 35 and 37 Ruskin Row and the walking track. Any piles are to be made out of view of residents to 	4.3	Council / FRNSW
	 prevent adding garden waste to piles therefore increasing the hazard. Keep walking track open and free from fallen branches, weeds and increased fuel. Manage dead/diseased trees along track for safety purposes – liaise with Tree Preservation Officer. The Giant Angophora Angophora costata tree must be protected from fire and weed invasion. Prior to burning, fuels should be racked away from the base of the tree to prevent flame contact and reduce scorch to the trunk of the tree. 	4.4	Council / FRNSW
	Defendable Space		
	- Undertake manual hazard reduction. Ensure 6 metres of defendable space remains fuel Vegetation Type: Pittwater Spotted Gum Forest EEC (Dry) / Pittwater Spotted Gum Forest EEC (Moist)	4.2.2	Council
	Slope: 20 – 34° Aspect: North / North-western		
	This zone is relatively pristine condition. There is no record of fire occurring here. A burn may help to promote recruitment of eucalypt species. This gully area is predominately Pittwater Spotted Gum Forest EEC (Moist) with species characteristic of Littoral Rainforest EEC now occurring. An ecological burn may be undertaken on the lower escarpment, outside of the riparian zone, to encourage recruitment of gums.		
SFAZ 4	promote recruitment of eucalypt species. This gully area is predominately Pittwater Spotted Gum Forest EEC (Moist) with species characteristic of Littoral Rainforest EEC now occurring. An ecological burn may be undertaken on the lower escarpment, outside of the riparian zone, to encourage recruitment of gums. Access is limited due to slope. This maybe a Work Health & Safety issues for Council staff, contractors and fire agencies. - A prescribed burn is to occur between 2016 and 2018. A burn should only occur under conditions where the fire is self-extinguishing as it approaches rainforest/moist vegetation.	4.3	FRNSW
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SFAZ 5	promote recruitment of eucalypt species. This gully area is predominately Pittwater Spotted Gum Forest EEC (Moist) with species characteristic of Littoral Rainforest EEC now occurring. An ecological burn may be undertaken on the lower escarpment, outside of the riparian zone, to encourage recruitment of gums. Access is limited due to slope. This maybe a Work Health & Safety issues for Council staff, contractors and fire agencies. A prescribed burn is to occur between 2016 and 2018. A burn should only occur under conditions where the fire is self-extinguishing as it approaches rainforest/moist vegetation. Potential Aboriginal heritage sites may be present, no works / burning permitted within 20 metres of any escarpment edge. Undertake weed management. Regular sweeps of the core of this zone should occur. Undertake weed management to reduce fuel e.g. targeting Lantana and Cestrum. Target Ludwigia in creeklines. All mechanical works are to be excluded within a 5 metre buffer area of the creekline. All prescribed and pile burning is to be excluded within a 30 metre buffer area of the creekline. Manage encroachments and dumping by residents along the north-eastern boundary. Defendable Space Undertake manual hazard reduction on the north-eastern boundary. Vegetation Type: Dry Sclerophyll Forest / Pittwater Spotted Gum Forest EEC (Dry) / Pittwater Spotted Gum Forest EEC (Moist) Slope: 15 – 20° Aspect: Northern Majority of this zone is Dry Sclerophyll Forests however some Pittwater Spotted Gum Forest EEC species occur on the edges of this zone. This zone is bordered by gully areas to the east and west. The western part if this zone was last burnt in 1998. The remainder was burnt during a hazard reduction burn in 2004. A burn in the centre of this zone, avoiding the outer edges of Pittwater Spotted Gum Forest EEC should be undertaken between 2018 and 2020. Undertake meanual hazard reduction. Consider thinning Pittosporum undulatum which are very flammable. Undertake weed removal. Traverse upper slopes targ	4.2.5 4.2.6 4.2.2 4.2.3 4.2.6 4.2.1	Council / FRNSW Council Council Council FRNSW / Council Council Council Council FRNSW Council FRNSW Council / FRNSW

	This is a well maintained SFAZ with relatively low risk. No burning is required in the next 5 years. There		
SFAZ 7	are weed and dumping issues Undertake post burn weed removal. Traverse upper slopes targeting woody weeds. Ground	4.2.6	Council
	weed such as Asparagus fern should be managed to prevent spread further into the Reserve. - A prescribed burn may be undertaken between 2019 and 2021.	4.3	FRNSW
	Defendable Space - Undertake manual hazard reduction between properties and the escarpment edge Undertake pile burning along the eastern part of the Defendable Space area.	4.3	Council / FRNSW
	Vegetation Type: Dry Sclerophyll Forests Slope: ~10° Aspect: North / North-eastern		
SFAZ 8	Burnt in 2010, consider burning again between 2018 and 2020. Relatively good condition with minimal		
	post fire maintenance required. No significant weed issues. - Undertake post burn weed removal. Occasionally treat annual weeds e.g. fleabane. Control	4.2.6	Council
	 aquatic weeds such as Ludwigia in ephemeral drainage lines. Hand removal only between track and escarpment edge for safety and to protect potential Aboriginal Heritage sites occurring beneath sandstone overhangs. 		Council
	Defendable Space - Consider burning south-western corner near the Wandeen Road entrance at some stage.	4.3	Council / FRNSW
	Vegetation Type: Pittwater Spotted Gum Forest EEC (Moist) Slope: 21 – 24° Aspect: North-eastern		
	This zone is relatively pristine condition. There is no record of fire occurring here. A burn may help to		
SFAZ 9	promote recruitment of eucalypt species. Access is limited due to slope, this maybe a Work Health & Safety issue for Council staff and contractors.		
	 A prescribed burn may occur between 2019 and 2021. On edges where a containment line has not been established, a burn should only occur under conditions where the fire is self- extinguishing as it approaches rainforest vegetation. 		FRNSW
	 Potential Aboriginal heritage sites may be present, no works / burning permitted within 20 metres of any escarpment edge / overhang. 	4.2.5	Council / FRNSW
	 Undertake weed management. Regular sweeps of the core of this zone should occur. Vegetation Type: Dry Sclerophyll Forest / Pittwater Spotted Gum Forest EEC (Moist) Slope: 10 – 24° 	4.2.6	Council
	Aspect: North-eastern / Eastern		
	There is no burn history for this zone. This zone is high priority for burning, to be included on the Warringah Pittwater 2014/15 Hazard Reduction Program. There are often issues with encroachment and dumping along the North-western boundary.		
SFAZ	- A prescribed burn is to occur between 2014 and 2016. Ignition points are to be implemented along the north-eastern containment line. A running burn will require a westerly influence to get fire to run upslope where it can be extinguished along the existing walking track.	4.3	FRNSW
10	 Potential Aboriginal heritage sites may be present, no works / burning permitted within 20 metres of any escarpment edge / overhang. 	4.2.5	Council / FRNSW
	- Undertake weed management. Regular sweeps of the core of this zone should occur.	4.2.6	Council
	Defendable Space - Undertake ongoing weed management. Occasional spot spraying is likely to be required.	4.2.6	Council
	 Treat bracken by slashing regularly. Keep bracken away from boundary fences, particularly opposite 89 Hilltop Road. Advise residents not to install brush wood fences. Replace existing brush wood fences with fire 	4.2.6	Council / NSW R
	safe fencing e.g. aluminium. Vegetation Type: Pittwater Spotted Gum Forest EEC (Moist) / Dry Sclerophyll Forests Slope: 24°		
	Aspect: North-western / North-eastern		
	This zone slopes steeply to the north-west and north-east from a plateau where the walking track occurs. Dry Sclerophyll Forest occurs on the plateau, with moist Pittwater Spotted Gum Forest on the slope. To the north-east, the vegetation is dominated by <i>Angophora costata</i> covered with <i>Cissus antarctica</i> . Selective thinning of <i>Cissus antarctica</i> should be undertaken; the vine should be removed from the tree canopy but allowed to persist in the understorey as it acts as a fire retardant. This		
SFAZ	vegetation is considered a low hazard. - A prescribed burn is to be undertaken between 2015 and 2017.	4.3	FRNSW
11	 Undertake weed removal. Targeting woody weeds and ground weeds such as asparagus fern. Ensure fixed CFU equipment is well maintained and accessible. Manage encroachments and vegetation dumping by residents near the entrance of the 	4.2.6 4.7	Council FRNSW FRNSW
	reserve. Consider providing additional green collection bins or an annual pile burn of garden waste at the end of Chisholm Avenue. A 'no dumping' sign is to be installed.	4.5 4.3	Council / FRNSW
	- Cars and boats are not to be parked in the reserve at the end of Chisholm Avenue. The cleared area is to allow emergency vehicles to turn around in the event of a fire.	4.5	Council
	- Undertake manual hazard reduction - Undertake pre and post hum weed removal	4.2.1 4.2.6	Council
	 Undertake pre and post burn weed removal. Undertake weed management. Regular sweeps of the core of the reserve should occur to target woody weeds. Ground weed such as asparagus fern should be managed to prevent spread further into the reserve. Treat bracken by slashing on slopes less than 18° 	4.2.6	Council
ALL	 Spread further into the reserve. Treat bracken by stashing on stopes less than 18 Populations of Elbow orchid should be identified on Councils mapping. Hand clearing around known populations should be undertaken prior to burning. 	4.2.4	Council
SFAZ	 Where a SFAZ adjoins private property, monitor encroachments and dumping and issue relevant notices for removal. 		Council
	 Adjust the burn schedule to reflect any unplanned fire activity occurring within a zone to ensure burns are within the recommended fire intervals. Undertake manual hazard reduction 	4.3	Council / FRNSW
	 Undertake mandal nazaru reduction Undertake pre and post burn weed removal. Treat bracken by slashing on slopes less than 18° 	4.2.1 4.2.6 4.2.6	Souriell
	 Inspect Defendable Space annually. Establish fixed photo monitoring points. Monitor encroachments and dumping, issue relevant notices for removal. 	4.2.1	
All DS	 Populations of Elbow orchid should be identified on Councils mapping. Hand clearing around known populations should be undertaken prior to burning. 		Council / FRNSW
	 Undertake pile burning. Piles are to be constructed out of view of residents to prevent added garden waste which increases the hazard. Adjust the burn schedule to reflect any unplanned fire activity occurring within a zone to ensure burns are within the recommended fire intervals. 	4.3	Council

 Inspect Defendable Space annually. Establish fixed photo monitoring points. Monitor encroachments and dumping, issue relevant notices for removal. Populations of Elbow orchid should be identified on Councils mapping. Hand clearing around known populations should be undertaken prior to burning. 	4.2.4	Council / FRNSW
 Undertake pile burning. Piles are to be constructed out of view of residents to prevent added garden waste which increases the hazard. Adjust the burn schedule to reflect any unplanned fire activity occurring within a zone to 	4.3	Council
ensure burns are within the recommended fire intervals.		
Fire Exclusion Zones		
Vegetation Type: Littoral Rainforest Slope: 15 – 20°		
Aspect: Northern		
The Litteral Beinforget FFC vegetation in the furthest most north eastern source of the Becomes in		
The Littoral Rainforest EEC vegetation in the furthest most north-eastern corner of the Reserve is dominated by <i>Angophora costata</i> and Cabbage Tree Palm <i>Livistona australis</i> . Although Cabbage Tree		
Palm fronds are extremely flammable, this zone is considered a low hazard. Fire should be excluded		
from this vegetation. Palm fronds should be collected and removed off site prior to the bush fire season.	4.2.1	Council
Season.		
Defendable Space	4.2.1	Council
 Maintain an area of Defendable Space adjacent to 91 Palmgrove Road. Manual removal of palm fronds may be required. 		
Vegetation Type: Littoral Rainforest		
Slope: Upper slopes 15 – 27°, lower slopes 9 – 14°		
Aspect: Northern / North-eastern		
The vegetation here is Littoral Rainforest EEC. Other than weed maintenance, no prescribed burning or		
manual hazard reduction works are to occur. It is in relatively pristine condition, although a detailed		
survey has not been undertaken in the creekline area. - Undertake weed management targeting both terrestrial and aquatic weeds.	4.2.6	Council
- Maintain defendable space along the north-eastern boundary adjacent to houses. Undertake	4.2.1	Council
manual weed removal to reduce fuel along property boundaries.		
- Manage encroachment and dumping by residents along the north-eastern boundary.	4.2.6	Council
 Potential Aboriginal heritage sites may be present. Care must be taken when undertaking weed management. 	4.2.5	Council
Defendable Space		
- Maintain an area of Defendable Space adjacent to 40 to 48 Ruskin Rowe. Reduce fuel by		
targeting woody weeds		



References:
Pittwater Native Vegetation Management Plan (Pittwater, 2008), Pittwater Native Fauna Management Plan (Pittwater, 2011), BioNet - Atlas of NSW Wildlife Website (OEH, 2013), NSW Scientific Committee Final Determinations (Scientific Committee 2012), Bilgola Newport Escarpment BFMP (EcoLogical, 2008), NSW RFS Bush Fire Environmental Assessment Code (RFS, 2006b), Warringah Pittwater Bush Fire Risk Managament Plan (RFS, 2010).

DISCLAIMER: Amendments to current information, legislation and schedules identified in this Plan are made on an ongoing basis and readers should obtain up to date information. This Plan is based on best practise management. Although Council aims to implement this Plan in its entirety, it may not be possible due to availability of resources. Council will endeavour to work with the NSW Rural Fire Service and Fire and Rescue NSW to implement the provisions of this Plan, however because of events out of Councils control and other potential constraints and considerations, achieving the objectives and strategies of this Plan may not

