



MAP 1: FIRE HISTORY

Ignitions	The pre-European fire history of the park is not well known. Traditional fire practices of Aboriginal people in NSW have not been well researched and are therefore poorly understood. There is limited information regarding the fire history of fire in the park however anecdotal evidence has suggested that several lightning strikes during dry electrical storms have occurred over the years with little damage, except one in 1942 which caused widespread damage. The majority of storms occur between November and February.
Prescribed Burns	There have been no recorded prescribed burns for the Park, in the records held by OEH, or the previous managers, Forests NSW.
Wildfire	Limited evidence of fire in park. One record has been found on ICON, 4 ha fire at the northern end of the Park (GR969810) in February 2007, class 2.
Fire Frequency	The limited records that do exist show that the incidence of fire for the Park, and the surrounding area is low.

Jindalee - PLANNING	° @ 5 May 2011													
	THREATENED	FAUNA M	IAN	IAG	EM	EN	Т							
Common Name	Caiantifia Nama	TSC		Vulnerable Period										
Common Name	Scientific Name	Schedule	J	F	Μ	Α	М	J	J	Α	S	0	Ν	D
Black-chinned Honeyeater (eastern subspecies)*	Melithreptus gularis gularis	V							/	/	/	/	/	1
Brown Treecreeper*	Climacteris picumnus	V	/									/	/	
Diamond Firetail*	Stagonopleura guttata	V	/						/					
Eastern pigmy possum*	Cercartetus nanus	V	/	/								/	/	
Flame Robin*	Petroica phoenicea	V	/									/	/	
Grey-crowned Babbler* (eastern subspecies)	Pomatostomus temporalis temporalis	V	/						/	/	/		/	/
Little Eagle*	Hieraaetus morphnoides	V							/					
Little Lorikeet*	Glossopsitta pusilla	V	/							/		/	/	
Painted Honeyeater*	Grantiella picta	V	/	/								/	/	
Regent Honeyeater*	Anthochaera phrygia	E	/						1			/	/	
Speckled warbler*	Pyrrholaemus sagittatus	V	/	/								/	/	
Squirrel Glider*	Petaurus norfolcensis	V	/					/	1	/		/	/	
Superb Parrot*	Polytelis swainsonii	V	/											
Swift Parrot*	Lathamus discolor	E					/	/	1					
Turquoise Parrot*	Neophema pulchella	V								/	/		/	
Varied Sittella*	Daphoenositta chrysoptera	V	/							/	/	/	/	/
	Threaten	ed Fauna Gu	ideli	nes					•					

Map 2: Vegetation Communities



MAP 2: VEGETATION COMMUNITIES							
Vegetation Formation (Keith, 2002)	Vegetation Community Description	NSW VCA ID	Reserve (GIS) Ha's	% Reserve Cover			
	Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South-western Slopes Bioregion	277	1.9	0.2			
Western Slopes Grassy Woodlands	White Box - White Cypress Pine - Western Grey Box shrub/grass/forb woodland in the NSW South- western Slopes Bioregion	267	0	0			
	White Box grassy woodland in the upper slopes sub- region of the NSW South-western Slopes Bioregion	266	0	0			
Western Slopes Dry Sclerophyll Forests	Mugga Ironbark - Western Grey Box - Cypress Pine tall woodland on footslopes of low hills in the NSW South Western Slopes Bioregion	217	209.4	20			
Upper Riverina Dry Sclerophyll Forests	Mugga Ironbark - mixed box woodland on hills in the Cowra - Boorowa - Young region of the NSW South- western Slopes Bioregion	342	774.6	74			
	Cleared Land	995	60.6	5.8			

Jindalee- PLANNING	5 @ July 2013	3						
MAPS 2 and 5: SIGNIFICANT COMM								
Threatened Flora Managem								
Common Name	Scientific Name	Status	Guidelines					
Pine Donkey Orchid	Diuris tricolor	Vulnerable	 Where possible; Avoid ground disturbance ir species and minimise disturpopulation is known to exist The species should be mon interfere with plant recovery Impact from retardants and where species are recorded 					

important factor in providing a mosaic of structurally diverse vegetation. • If prescribed burns are necessary, avoid implementation during Spring. When planning prescribed burns, refer to the periods of vulnerability of species likely to be located within the burn area, and develop appropriate mitigation measures for their protection. Avoid prescribed fire during times of prolonged drought.
Minimise introduction of high intensity fires during prescribed burning and back burning operations.

• Minimise size and intensity of wildfires, and manage to produce mosaic burn patterns. Fire patchiness is likely to be an

• Avoid damaging/felling hollow-bearing and known nest/feed trees when establishing control lines, mopping up and during prescribed burning. If habitat trees are located on control lines remove fuel from base of tree, prior to prescribed burning or back burning. During mop up activities try to extinguish fire rather than falling tree where suitable. * Species recorded on Park

MAP 5: CULTURAL HERITAGE						
Key Guidelines						
 OEH Cultural Heritage Databases must be accessed during incidents and in planning for hazard reduction burning or other works to ensure new records are considered. Aboriginal site information from AHIMS is sensitive and subject to a Memorandum of Understanding. Site data must be used appropriately. Identified sites will be protected. Protection measures will be addressed in impact assessments and operational plans for prescribed burns. Where possible, trained officers will provide advice on site protection methods. 						
Aboriginal Cultural Heritage Site Management	 Recorded modified trees must be clearly identified and protected during fire suppression and fuel reduction burning programs. Follow operational guidelines to protect heritage during incident. 					
Historic Heritage Management	There are no sites currently recorded on NPWS databases. Any new sites should be identified, entered into NPWS Historic Heritage database and protected during fire suppression and prescribed burning programs.					
Note: Cultural heritage sites are based on data recorded on AHIMS and HHIMS databases and field data recorded asat 1/10/14.						



MAP 6: RISK ASSESSMENT – LIFE & P						
Asset	Vulnerability					
Private properties/ farm buildings	Vulnerable to fire coming through the Park, particularly under the influence of westerly winds	 Participate in fire manage protection, through the I Maintain access trails w Respond to unplanned to Implement annual fire m All fires reported or known reported to the RFS. Provide media briefing/mupdates of fire activity to appropriate. 				
Visitors to the Park.	Vulnerable to impact from fire within the Park.	 As above If a fire breaks out, check directions if required. Park closure may be im fire danger, when the Park actually burning in the F Solid fuel ban may be ir danger. 				
Park Assets	Signs and fences are vulnerable to impact from fire within the Park.	Clear around signs prior				







n close proximity to populations of this urbance within the vegetation group where onitored to ensure weed species do not / following fire. d foams is unknown. Avoid applicatio n







	MAP 3: STATUS OF FIRE THRESHOLDS							
Threshold	Vegetation Community	% of Reserve	Interpretation & Management Guidelines					
Below Minimum Frequency Threshold	N/A	0	 The inter fire intervals have been too short. In these areas, species and populations sensitive to short fire intervals may experience a decline in abundance to a point where they risk local extinction. Protect from fire as far as possible. 					
Within Frequency Threshold	Western Slopes Grassy Woodlands Western Slopes Dry Sclerophyll Forests Upper Riverina Dry Sclerophyll Forests	100	Fire history is within the threshold for the vegetation community.Fire is neither required or to be avoided.					
Above Maximum Frequency Threshold	N/A	0	 Where the age of a vegetation community is greater than the maximum fire interval for the community. If fires continue to be excluded, a decline in biodiversity may result through the senescence of plants and their seed banks. Long-unburnt areas are, however, ecologically significant, as there may be relatively few areas represented. Consider implementing an ecological burn or allow the area to burn under suitable conditions. 					
Note: The threshold analysis is derived from vegetation community thresholds and recorded fire history In the event of fire, the								

communities are o	considered within threshold.						
MAP 3: VEGETATION COMMUNITY THRESHOLDS							
Vegetation Formation	Vegetation Community Description	Minimum Fire Interval	Maximum Fire Interval	Fire History Evaluation	Guidelines		
Vestern Slopes Grassy Voodlands	Blakely's Red Gum - Yellow Box grassy tall woodland	5	40	100% within threshold	 Given the lack of knowledge of ecosystem function without fire, the upper limits of these thresholds are untested. Fire should only be introduced into the Park for the protection of assets, and ecological purposes. Long-unburnt areas are ecologically significant, as there may be relatively few areas represented. Too frequent fires may promote fire tolerant shrubs. 		
Vestern Slopes Dry Sclerophyll Forests	Mugga Ironbark - Western Grey Box - Cypress Pine tall woodland	5	50	100% within threshold	As above		
Ipper Riverina Dry Sclerophyll Torests	Mugga Ironbark - mixed box woodland	5	50	100% within threshold	• As above		
te: These are incomendation of the second se	dicative biodiversity thresholds ise to fire using plant vital a is (Kenny et al, 2004). Vegeta sity threshold guidelines. The y in the landscape. Therefore e done in association with loc of local monitoring programs (k	based on bro attributes, and tion communit ese thresholds e such thresh al knowledge, (enny et al 20	bad state wid including c ies as outlin , while acco holds must b detailed sur 004). It is no	de guidelines. The compatibility of kil ed in Map 2 have unting for some k be used with cau vey and planning ted that there is v	e broad thresholds are based on an analysis o nown fauna requirements, for identified broad been classified into formations to determine the ey flora and fauna variables, do not account fo ition (Kenny et al, 2004). Interpretation of the associated with prescribed burn proposals and ev little data available on the response of fauna		

analysis must be performed again to establish new thresholds. Fire history for the Park is unknown, therefore all vegetation



Map 7: Bushfire Management Zones





		MAł				
Vegetation Fuel Hazard Rating (un The ratings and modelling are specif by the NPWS Southern Ranges Reg						
Rating	Vegetatio	n Descrip				
Low	Cleared Land					
Moderate	Blakely's Red Gum					
High	Mugga Ironbark - W Mugga Ironbark - m					
Aspect Bushfire Be						
Ratin	g	As				
Low	,					
Moderate		30				
High		10				
Very H						

Bushfire behaviour at any position on the landscape reflects content). west.



,	
	Fuel Landscape Analysis
	Fuels are variable across the Park Fuel sampling was conducted in Ap determine the Overall Fuel Hazard loads (t/ha), this assessment shifts elevated fuels – bark and elevated general suppression difficulty. The • The Overall Fuel Hazard ratings
	• There were no sites that were cla If an area is within biodiversity three fuel monitoring sites will be located options would be discussed with the



Map 4: Bushfire Behaviour Potential



Mean Rainfall (mm) - Cootamundra

J F M A M J J A S O N D



Southern
Jii
Nati
Fire Mana
Scale: Works I ISBN: 9

Resource Information							
Jindalee National Park (referred to in this plan as the Park) was gazetted on the 1 st of January 2011 and is located approximately 15km north of Cootamundra on the south west slopes of NSW. It is divided into two portions divided by a strip of private property along Berthong Road. The Park is characterised by undulating country approximately 400 metres above sea level, dissected by numerous minor drainage lines. This strategy has been prepared in accordance with the policies and procedures detailed in the NPWS Fire Management Manual and relevant legislation.							
Office of Environment, Heritage	 NSW National Parks and Wildlife Service, Parks and Wildlife Group. Southern Ranges Region, Murrumbidgee Area 	Government Areas	 Hume Federal Electorate Cootamundra State Electorate Cootamundra-Gundagai Regional Council 				
Rural Fire Service	South West Slopes Zone	Other Organisations	 Young Local Aboriginal Land Council Riverina Local Land Service 				



ANALYSIS OF BUSHFIRE BEHAVIOUR POTENTIAL

• Site attributes such as vegetation type, slope, aspect and elevation (can affect fuel levels, structure and moisture • Fire weather attributes such as temperature, relative humidity, wind direction and wind speed. While these characteristics are difficult to predict, bad fire weather days are generally associated with winds from the north-west to

SUMMARY GUIDELINES FOR THE PROTECTION OF NATURAL HERITAGE • Minimise size and intensity of wildfires, and manage to produce mosaic burn patterns. • Except for asset protection, fire should only be applied in response to a demonstrated loss of biodiversity. • Fire will be introduced in accordance with the biodiversity fire regime thresholds. • Avoid implementation of prescribed burns during Spring, and during times of prolonged drought. Minimise introduction of • Avoid damaging/felling hollow-bearing and nest/feed trees when establishing control lines, mopping up and during prescribed burning. During mop up activities try to extinguish fire rather then falling tree where suitable. If habitat trees are located on control lines remove fuel from base of tree, prior to prescribed burning or back burning. • Avoid the use of fire suppression chemical within 50m of the population of Pine Donkey Orchid (*Diuris tricolor*)

• Bushfire Coordinating Committee (2007). <u>BFCC Policy 2/07 – Fire Trails</u>. NSW Rural Fire • Keith, D.A. 2002. <u>A compilation map of native vegetation for New South Wales</u>. Biodiversity Strategy, NSW

• Kenny et al. 2004. Guidelines for Ecologically Sustainable Fire Management. National Parks and Wildlife Service, • McCarthy, G.J., Tolhurst, K.G., and Chatto, K. 1999. Overall Fuel Hazard Guide. Department of Natural Resources and Environment. Melbourne, Victoria. • RFS. <u>Standards for Asset Protection Zones</u>. NSW Rural Fire Service document. • NPWS. 2013/14. <u>NPWS Fire Management Manual.</u> Office of Environment and Heritage, NSW. • NPWS. 2007. State Incident Plan. Department of Environment and Conservation, NSW.

MAP 8: FUELS AND FIRE BEHAVIOUR

reflecting complex interactions between vegetation type, aspect and topography. pril 2014 at 6 sites throughout the Park. The assessment approach applied was to (OFH) Rating (McCarthy et al., 1999). Rather then only considering surface fine fuel the emphasis to considering the whole fuel complex, and particularly the bark and fuels being the fuel elements principally responsible for both first attack failure and also for e major findings of the fuel sampling program were: were five Low and one Medium as shown on Map 8. assified as having high or very high overall fuel hazard rating shold, identified to have high fuel loads, and there is a risk to life and property, temporary within that area for determination of whether a prescribed burn is suitable. Management ne RFS.

Map 8: Fuels & Fire Behaviour



WORKS PROGRAM				
Asset	Priority	Name, Area or Detail	Management Strategy	Proposed Works
Trails	High	Public and Management Trails	 Maintain trail network for vehicle category identified in the fire trails register All trails to be clearly signposted at intersections and trailheads. Ensure earthmoving equipment operators are aware of location of known heritage sites and ensure protection. 	 Assess trails annually and maintain as required or as specified in Regional Operations Program. Maintain directional signage throughout fire trail network as required. Chemical and mechanical fuel reduction of management trails as required.
	Low	Dormant Trails	 Could be used during emergencies once upgraded to Cat 9 standard. May be re-opened as a control line option. 	 Assess trails and document condition and suitability for fire suppression activities, every 5 years.
LMZ (Map 7)	Medium	General landscape, natural and cultural conservation values	 Manage and protect natural & cultural values with appropriate fire management regimes. 	Monitor thresholds every 5 years, and after fire events.
Information & Research	High	Fuel monitoring	Continue fuel monitoring program, including photo reference points.	Conduct fuel hazard assessment every 5 years.
		Mapping fire	• Map all bushfires and prescribed burns to enable data collection on fire frequency, intensity, rate of spread and area burnt.	 Map the extent, patchiness and intensity, where possible, of all bushfires and prescribed burns. Incorporate data into fire management and incident databases.
	Low	Research	 Liaise with academic and research institutions to encourage research in the Park relevant to fire management. 	• Ongoing
Cooperative Fire Management	High	Liaise with NSW RFS, and Neighbours	 Attend meetings with the NSW South West Slopes Bushfire Management Committee and RFS volunteer brigades. Undertake joint training exercises. 	• Ongoing

Location

Ranges Region ndalee ional Park agement Strategy 2016



Program map 1:18000, Location map 1:900000, other maps 1:35000 78-1-76039-649-7, OEH2016/0807, Version: December 2016

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

Copyright National Parks & Wildlife Service. These data are not guaranteed to be free from error or omission. The National Parks & Wildlife Service and its employees disclaim liability for any act done on the information in the data and any consequences of such acts or omissions. This map is based on Land and Property Information Standard 1:25000 Topographic Map Series. Reproduced with permission of Land and Property Information.