

Application for an Authority to Take Threatened fauna – Prescribed burn & associated activities

Submit completed forms to:	Further information:
Department of Biodiversity, Conservation and Attractions	Species and Communities Program
• email to: <u>sacl@dbca.wa.gov.au</u>	Email: <u>sacl@dbca.wa.gov.au</u>
	Phone: (08) 9219 9523
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NOTE TO APPLICANTS:

- Applications must be submitted at least 20 working days prior to the proposed commencement of the activity.
- ALL sections must be completed.
- If the application is determined to be incomplete or to have insufficient detail to assess the impact of the proposed take or disturbance activity on the threatened fauna species, then it may be returned to the applicant for additional information or the assessor may contact the applicant directly by phone or email to request further detail. The 20 working day assessment process begins once the complete application is received.

1. Applicant details

1.1 Name and job title (person who the authority will be granted to)

Eryn Jackson - Senior Environmental Management Officer

Craig Perry – Project Officer, Bushfire Mitigation

1.2 Company, institution or organisation name and address (*if DBCA include Region, District, Branch or Program*)

City of Mandurah

3 Peel St, Mandurah WA 6210

1.3 Phone number	95503812
1.4 Email	Eryn.jackson@mandurah.wa.gov.au
1.5 Secondary contact (if applicable)	Craig Perry - Project Officer, Bushfire Mitigation
(e.g. person managing application on behalf of the applicant)	
	Yes 🛛 No 🗌
1.6 Additional persons	If yes, provide details:
Will other people be involved in the proposed activity?	Myra Giardini,
	Coordinator, Emergency Management

Applicants signature	Jackson	Date signed	17/2/20
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Activity	y details	(provide supporting materia	l where necessary a	and refer to it in the	appropriate sections,
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2.1 Activity type	e (select all applicable)				
Take 🛛 Disturb 🖾 Release 🗌 Possess (temporary or permanent) 🗌 Feed (includes consumable lure/bait) 🗌					
2.2 General acti	2.2 General activity purpose (select main purpose):				
Survey 🗌 Mo	Survey 🗌 Monitoring 🗌 Research 🗌 Relocation 🗌 Prescribed burn 🖾 Vegetation clearing 🖂				
Mining and/or co	nstruction involving excavations	Other [] (if other, state purpos	se):		
2.3 Is the propo	sed activity associated with an ap	proval or exemption under othe	er legislation?		
	learing permit, mining or subdivision ferral under the Environment Protect		comption and of	Yes ⊠ No □	
If yes, answer th	ne following:				
a) Approval or ex	cemption type:	Approved activity under the Bus	sh Fires Act 1954		
.,	ate range or period of the propose ns for surveys, proposed burn seaso	•			
Mechanical work dependent	s to be completed prior to 30 June 20	020. Prescribed burns Winter / Sp	oring 2020 weathe	er	
	proposed activity:				
(i.e. address, lan	(i.e. address, land parcel reference, lease number)				
Reserve 860 (Warrangup Spring Reserve) (ID 3527)					
	Reserves 47037 and 31019 (Tindale Reserve) (ID 3555)				
Reserve 2851 (C	Reserve 2851 (Caddadup Reserve) (ID 3722)				
Reserves 52821 and 33139 (Tims Thicket Reserve) (ID 3723 and 3725)					
Reserves 52821	, 33139 and 24198 (Tims Thicket Re	serve) (ID 3724)			
Reserves 48028	and 2851 (Caddadup Reserve) (ID 3	5727)			
Reserves 48028 and 2851 (Caddadup Reserve) (ID 3779)					
Reserve 2851 (C	addadup Reserve) (ID 3728)				
Reserve 34867 (ID 3756)				
Reserve 42544 (ID 3758)					
Mount John Road Lots (ID 3760)					
Reserve 860 (Warrangup Spring Reserve) (ID 3761)					
Reserve 44653 (ID 3763)					
Reserve 50664 (ID 3766)					
Reserve 31263 (ID 3785)				
Reserve 2990 & adjoining lots (Island Point) (ID 3787)					
Reserve 35025 (ID 3788)				
Coordinates		Attach map(s) and/or shapefile	Map 🖂 Sha	pefile	

2. Details of prescribed burn activities, threatened Fauna occurrence and potential impact

3.1 Is the activity targeting threatened fauna?	Yes 🗌	No 🛛 Prescribed burn and associated
5.1 is the activity targeting threatened faulta:	activities	

a) If no, list threatened fauna species that will be or may be **taken** during the proposed activities (*Note: section a can contain a combined list of a and b if you are unsure whether fauna will be taken and/or disturbed*).

Carnaby's Black Cockatoo, Western Ringtail Possum, Forest Red-tailed Black Cockatoo, Brush-tailed Phascogale, Quenda, Rakali, Perth Slider, Black Striped Snake, Rainbow Bee-eater

b) If no, list threatened fauna species that will be or may be disturbed by or during the proposed activities

As above

3.2 Provide details of the activities (applicants must complete the accompanying spreadsheet when the application relates to multiple burns in a program *Framework for Assessment of Prescribed Burning Activities on Threatened Fauna EXTERNAL*):

a) Burn plan or similar document (attach):	Yes No List attached files:
b) Prescribed burn reference number(s):	
c) Purpose of and need for proposed burn activities:	Reduce likelihood and intensity of a wildfire. Protect property and environmental assets.
d) Consequence of not carrying out the operation:	In the event of a wildfire, impacts would be expected to be more intense resulting in greater loss of species and habitat as well an increase in damage to property
e) Fauna habitat types within and adjacent to the proposed burn area etc.	Black Cockatoos - Foraging, roosting WRP – general, foraging and refuges Quenda, Perth Slider, Black striped snake – general Phascogale – general, refuges
f) Nature of the proposed burn activities that will or may result in taking or disturbing threatened fauna: <i>(i.e. size, methodology, frequency, intensity etc.)</i>	Once off mechanical works to remove vegetation to widen firebreaks – several sites Low intensity prescribed burns at multiple sites – cool running burns and cool weather grass tree burns. Once off treatments

3.3 How was it determined what threatened fauna species are in or are likely to be in the area of the proposed activity?

WALGA Planning tool threatened species mapping, Officer knowledge of reserves.

3.4 Identify the nature of the threatened fauna occurrence? (e.g. breeding habitat, resident/transient, known important population)

Mostly foraging habitat for all species to be impacted. Potentially breeding habitat and refuge (dreys/hollows) for WRP. Black cockatoos are transient through all areas to be impacted.

3.5 What is the expected short-term impact to the local occurrence of the threatened species as a consequence of implementing the activity as planned?

Activities may result in temporary loss of feeding habitat, burns have been designed to retain contiguous habitat to provide ongoing habitat. Mechanical works are limited to edges of reserves leaving internal habitat intact. Works along road reserves that are within WRP habitat will be limited to removing ground fuels and lower material only

leaving canopy connectivity intact. Actions in place to prevent loss of hollows or dreys however this may unavoidable in certain circumstances – checks of these habitat types by a fauna expert are to occur prior to mechanical works / prescribed burning.

3.6 What is the expected long-term impact to the local occurrence of the threatened species as a consequence of implementing the activity as planned? *(i.e. what is the capacity for the occurrence to recover after the activity)*

Long term impacts of the activities are expected to be minimal as activities are low intensity and highly targeted. Post activity management actions including weed control and access management and monitoring.

3.7 Provide a summary of the details of the management actions to minimize the impact on threatened species for before, during and after the proposed activities

Checking of sites by fauna specialist for signs of active use by species, any trees with potentially active hollows are to be checked prior to removal if unable to be retained. Marking and mapping of habitat trees to prevent disturbance. Raking around habitat trees prior to burning. Creation of exclusion zones within reserves to be burned to retain quality habitat. Burns to be conducted at times when weather allows for cool, mild intensity burn.

During mechanical works areas where canopy provides connectivity across firebreaks are to be retained.

Activities to be undertaken outside of breeding times where possible

3.8 Provide details of monitoring of threatened fauna before, during and after the proposed activities:

Fauna specialist to survey burn sites prior to identify areas where WRP are active. CoM officers to be present during works to ensure the protocols are followed. Checking of any areas identified as providing habitat after burn to determine persistence of species

3. Attachments

4.1 List all attachments provided with this application:

Assessment framework for PB on Threatened Fauna spreadsheet.

Maps of works locations

4. Pre-assessment endorsement (if required)

Supervisor or Environmental Officer (if applicable)			
Name and Role	Eryn Jackson – Senior Environmental Management Officer		
Endorsement:	I have reviewed this application and associated prescribed burn plans [add other plan titles if required] and agree that the stated management actions will be applied to mitigate or reduce impacts to threatened fauna.		
Comments:			
Signed:	Jackson	Date:	17/2/20

Assessment (office use only)

Assessor name and title:	Dr Karlene Bain, Senior Conservation Zoologist	
Application complete and adequate information provided for assessment:	Yes 🗌 No 🗍 If no, provide details:	

All attachments listed in question 6 received with application:	Yes No If no, provide details:	
Comments:	In all cases the proposed burns are small (ranging in size from 0.5-1.2 ha) and are continuous with areas of vegetation that are not planned to be burnt.	
	Western ringtail possums are most at risk from the planned activities, given the known occurrence of breeding, nesting and foraging habitat. Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo are also known from within the area of planned disturbance, but all known records are feeding records. The closest breeding record is 4 km away. Mature <i>Eucalypt</i> trees containing hollows that are potentially suitable for breeding by these species may be present on site.	
	The proponent has planned the following management actions to reduce impacts on western ringtail possums and cockatoos: pre-burn surveys for western ringtail possum, protection of habitat trees and dreys through marking of known trees, raking around these prior to burning and protection from machine damage; the timing of burning activities in early spring when the impact is likely to be lowest for the western ringtail possum, given expected lower fire intensities, availability of post-winter nutritional requirements and the expected rapid regrowth of vegetation following an early spring burn. Where a spring burn is not possible, the prescriptions will be amended to include unburnt patches and post-burn predator control. The proponent has also committed to creation of areas of habitat within two of the larger burn areas that will be excluded to provide post-burn refuge.	
	Burning is planned to be as mild as possible, minimising scorch height, in an effort to maintain canopy connectivity and minimise hollow loss. Balgas are being targeted for ignition in linear portions of two of the proposed burns that adjoin private property. This is in an effort to reduce flame height and fuel loads adjoining the private property assets. Outside of these linear protection strips, balga skirts will be retained where possible. The proponent has also committed to post-burn spotlighting and camera surveys to confirm persistence of threatened species, post-burn assessment of known nesting/ habitat trees to ensure they have been protected, and fire-scar mapping to assess the burn mosaic achieved.	
	For mechanical fuel reduction and firebreak construction activities, the proponent has committed to dieback hygiene management, identification and protection of known nesting and habitat trees for western ringtail possum and black cockatoos, protection of mature <i>Eucalypt</i> trees that may be important for cockatoos, aligning firebreaks such that they avoid mature trees and maintain canopy connectivity, retention of balgas where possible, and undertaking maintenance and construction work outside of cockatoo breeding periods.	
Endorsement:		
Purpose:	To take western ringtail possum (CR), Carnaby's Cockatoo (EN) and Forest Red-tailed Black Cockatoo (VU) for the purpose of fire mitigation within the City of Mandurah.	
Conditions:	Within 30 days of the end of the approval period the licensee must submit a report detailing:Locality and extent of prescribed burns	
	 Extent to which any management actions were achieved for the burn Any other significant findings 	
	Threatened fauna sightings to be reported to fauna@dbca.wa.gov.au	

Signed:	K pm	Date:	3/4/2020	
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Approval (office use only)

Name and title of Minister's delegate:	Dr Margaret Byrne, Executive Director, Biodiversity and Conservation Science		
Approved Duration / Dates	From date signed by Minister's delegate, below, until 30 November 2020		
Comments:			
Signed:	Margaret Byrne	Date:	14/4/20

Authorisation (office use only)

Authorisation granted:	Yes 🗸 No 🗌	If no, date applicant advised:	
Authorisation reference number:	TFA 2020-0051	Date Authorisation sent to applicant:	14.04.2020
Additional authorised persons:			
File number:		Other (if applicable):	
Comments (if applicable):			

SECTION 1: Burn details				SECT	FION 2: T osed bur	axon know	n or lik	ely to oc	cur with	hin or di	rectly ac	ljacent	^o SECTION 3: Management Actions and Mor	nitoring		
Burn II Burn Name Shire	Location	Area (ha Timing/	Purpose	Thre	eatene	d Taxon d e		g	h	i			_			
				Carnaby's/ Baudins black cockatoo EN	Western Ringtail Possum C	F redtail blk cockatoo VU migratory birds IA	Phascogale CD	Rakali P4	Quenda P4	black striped snake P3 Perth Slider P3			Pre-burn (indicate which species the action relates to)	During burn (indicate which species the action relates to)	Post-burn (indicate which species the action relates to)	Comments / Clarification
3527 burn Mandurah	Warrangup North	Spring prefet - should this i be possible th prescriptions be amended include unbu patches and predator con	Not Reduce ground fuels to <5t/ Ha over will <80% of the northern portion of the reserve, extending 30m from the northern boundary		Т2 Т3		DX	D3					CoM to assess and mark known and potential nesting/habitat trees, and arrange pre-burn rake around. (a,c). CoM to conside creating long-term exclusion area within burn as refuge area for significa ringtail possum population. CoM to engage ecologist to surve, for western (ringtail possum presence prior to burn. Preference for an as spring burn (FMIN S8) with the objective of a mild intensity burn. (b) The burn is purposely scheduled to avoid periods where the species is us the area for breeding and is thus more susceptible to the impacts of fire. Ensure that all maps and documentation show threatened species populations, as well as any exclusion zones, so that strategies can be developed in case burns escape from the planned burn areas.	r create a mosaic of fire intensities and burnt/unburnt patches to reduce the loss t of mature Eucalypt/Marri trees that may be important for cockatoo nesting/rooting (a,c). AND Minimise scorch height across the burn area i ty order to maintain canopy connectivity and maintain a representation of habitat elements e.g. logs, hollows, to minimise loss of diurnal refuges for the western fingt fingtal possum. Col	post-ourn spotignting surveys for continued presence or wester ingtall possums at known locations commencing within three months post-burn. CoM to analyse fire scar mapping to check that a mosaic of age classes of different vegetation communities was achieved. CoM to continue any management activities to protect	however there are currently no records of nesting or roosting within the reserve. Feeding is confirmed. Roosting records within takm. Given site is only confirmed as feeding is considered that impact to black cockatoos would be low and unlikely. Western Ringtails Possums are confirmed as being present within the site and are known to use hollows as well as dreys this makes confirming exact population difficult. This is not the only site within Dawsville that supports WRP - moderate risk. Rakali have been recorded in the area previously but not recently - unlikley to be present. con- within burn area. Quenda are confirmed to be present.
3555 mechanical works Mandurah	commercial buildings reserve drive mandurah	0.474 Pre summer 2	021 Slash/mulch 10m buffer inside fence line, reducing ladder and ground fue	e Is	D3								CoM to assess and mark known and potential nesting/habitat trees.(a,b,r	CoM to ensure any trees identified as nesting sites during the preparation process are protected from machine damage (a,b,c). Prevent removal of maturc Eucalypt trees that may be important for cockatoo nesting/roosting(a,c). All vehicles entering site are to observe pathogen management proceedures to prevent the spread of Dieback, marri canker and Honey fungus	Assess known nesting/nabitat trees to confirm that trees were	Some of the tuart trees within the reserve are of a size that may contain hollows large enough to provide nesting habitat, these trees are to be retained. Nearest known recent occurrence of breeding at Marlee Reserve 4km away
3722 Firebreaks Mandurah	Caddadup west	1.568 Pre summer 2	Install 4m wide firebreak along eastern boundary of the reserve to 021 allow emergency vehicle access. Not thick vegetation to be cleared over heavy sands	te: D3	TX D3	тх тх	DX	D3	DX	DX			CoM to assess and mark known and potential nesting/habitat trees or burrows. (a,b,c,d,e). Alignment of firebreak to avoid these where possible Works to occur outside breeding times. Fauna specialists to survey for western ringtail possum presence prior to works. Where canopy connection over firebreak can be retained while maintaini 4.2m high clearance (b) Ensure that all maps and documentation show threatened species populations.	preparation process are protected from machine damage (a,b,c,d,e) Avoid the loss of mature Eucalypt/Marri trees that may be important for cockatoo and phascogale patting/roosting (a,c,e) Maintain canony conpertivity	control of the second s	
3723/3725 Firebreaks Mandurah	Tims Thicket South East Residents	1.907 Pre summer ;	Reinstate 4m x 4.2m firebreak to eastern boundary, install 4m wide (150cm high) limestone base to eastern fire break to stabilise and minimise ongoing maintenance and impact from ORVs		тх тх			DX	DX	DX			Works to occur outside breeding times for BC. CoM to assess and mark known and potential nesting/habitat trees. Fauna specialists to survey fo western ringtail possum presence prior to works (a,b,c) Identify areas where canopy connects over firebreak and retain if possibl while maintaining 4.2m high clearance Ensure that all maps and documentation show threatened species populations.	Eucalypt/Marri trees that may be important for cockatoo nesting/roosting (a,c)	Assess known nesting/habitat trees to confirm that trees were protected as per plan	Roosting sites have been recorded within the reserve but no recent records of breeding. Have changed to take as a precaution.
3724 Mechanical works Mandurah	Tims Thicket South East Residents	1.740 Pre summer 2	install 30m slashed/mulched buffer inside northern boundary, reducing fuel load and increasing seperation distance	DX	DX DX			DX	DX	DX			CoM to assess and mark known and potential nesting/habitat trees. (a,b, Ensure that all maps and documentation show threatened species populations.	CoM to ensure any trees identified as nesting sites during the preparation process are protected from machine damage (a,c). Retain where possible mature Eucalypt/Marri trees that may be important for cockatoo nesting/roosting(a,c). Maintain canopy connectivity and minimise loss of diurnal refuges for the western ringtail possu (b). All vehicles entering site are to observe pathogen management proceedures to prevent the spread of Dieback, marri canker and Honey fungus	Assess known nesting/habitat trees to confirm that trees were protected as per plan. CoM to continue any management activities to protect conservation values that were being carried o ut pre-burg e, weed management, access control. Continue t monitor any TS found for persistence	
3727/3779 Burn Mandurah	Moorberg/Enchantress residents	Spring - preferrred - should this no possible the 0.519 prescriptions be amended include unbu patches and predator com	will load and future flame height. Burn2 running burn to reduce ground to 8- t/Ha		T2 DX	DX	D3						CoM to develop plan for long-term exclusion area within planned burn si as refuge area for ringtail possum opollation. Fauna specialists to surve for western ringtail possum presence prior to burn and provide advice or refuge area. Preference for an early spring burn (FMIN S8) with the objective of a mild intensity burn (b). CoM to assess and mark known and potential nesting/habitat trees to be raked around or excluded from burn (a,b,c).	minimise scorch height across the burn area in order to maintime scorch height across the burn area in order to maintain canopy connectivity and minimise loss of diurnal refuges for the western ringtail possu GoM to ensure some balga trees are kept intact due to their importance as waters citatil across the bitts and orders. All weblies patients the area the source of the statil across the bitts and orders.	s, protected as per plan. Fauna specialists to conduct post-burn spotlighting surveys for continued presence of western ringtail n. possums at known locations commencing within three months post-burn. CoM to continue any management activities to protect conservation values that	WRP have been recorded in this reserve though population numbers unknown. Trees present that may be suitable for BC breeding but no records of this.
3728 Mechanical works Mandurah	Caddadup water treatment plant	0.272 Pre summer 2	Increase separation distance betwee vegetation and the boundary fencin of the water treatment facilities by mulching 10m vegetation to a depth of 10mm. This will result in more the 30m clearance between vegetation.	g an D3	DX DX	DX DX	DX	DX	DX	DX			CoM to assess and mark known and potential nesting/habitat trees.(a,b,c,e). Fauna specialists to survey for western ringtail possum presence prior to works.(b) Ensure that all maps and documentation show threatened species populations.	CoM to ensure any trees identified as nesting sites during the preparation process are protected from machine damage (a,b,c,e). Retain where possible mature Eucalypt/Mari trees that may be important for cockatoo nesting/roosting (a,c). All vehicles entering site are to observe pathogen management proceedures to prevent the spread of Dieback, marri canker and Honey fungus	Assess known nesting/habitat trees to confirm that trees were protected as per plan. to conduct spotlighting surveys for continued presence of western ringtail possums at known locations commencing within three months post-action.	This reserve highly likely to provide quality habitat for WRP
3756 Mechanical works Mandurah	Bouvard Estuary edge lots	1.940 Pre summer 2	reduce ignition risk and fuel loads. Slashing, removed dead wood, redu ladder fuels within 2m within 10m o verge	ce f	DX								Fauna specialists to survey for western ringtail possum presence and mai locations. (b)	CoM maintain canopy connectivity and minimise loss of diurnal refuges for the rk western ringtail possum (b). Retain skirts on some Balga trees to provide WRP habitat All whickes entering site are to observe pathogen management proceedures to prevent the spread of Dieback, marri canker and Honey fungus	Assess known nesting/habitat trees to confirm that trees were protected as per plan	Much of this will be carried out manually - unlikely to result in a take.

3758 Mechanical works Mandurah	Bouvard Estuary edge lots	reduce ignition risk and fuel loads. Pre summer 2021 ladder fuels within 2m within 10m of verge	DX	Fa	auna specialists to survey for western ringtail possum presence (b)			Much of this will be carried out manually - unlikely to result in a take.
3760 mechanical works Mandurah	Mount John road lots 9.309	Slashing mulching and pruning dead, Pre summer 2021 dying vegetation on verges of Mount D John road.	DX DX	DX C		CoM to ensure any trees identified as nesting sites during the preparation process are protected from machine damage (a,b,c). All vehicles entering site are to observe pathogen management proceedures to prevent the spread of Dieback, marri canker and Honey fungus	Assess known nesting/habitat trees post-works to confirm that any work treatments were successful in preventing damage to trees.	Much of this will be carried out manually - unlikely to result in a take.
3761 Burn Mandurah	Austin rise Bryde court Residences Dawesville 1.195	Undertake grass tree burn in cell-1, Autumn/ Spring reduce skirt and ground fuel (up to 5 Sm)	ж тх	DX DX ar	oM to assess and mark known and potential nesting/habitat trees, and rrange pre-burn rake around (a,b,c). Fauna specialists to survey for vestern ringtail possum presence prior to burn. Preference for a winter or	appropriate lighting patterns to ensure fire intensity is as mild as possible to achieve fuel reduction without spreading to canopy of other vegetation. Retain intact some balga trees due to their importance as western ringtail possum habitat and refuge. (b) All vehicles entering site are to observe pathogen	post-burn spotlighting surveys for continued presence of western	Foraging site for BC. Most likely a corridor for WRP connecting larger habitat patches rather than permanent habitat. No dreys have been found in this corridor - changed to take as precaution
3763 Mechanical works Mandurah	Gumnut reserve 0.797 Dawesville	Manual reduction of ground fuel loads Pre summer 2020 in the western portion of the public popen space.	93 D2	D3 C	OM to assess and mark known and potential nesting/habitat trees.(a,b,c).	CoM to ensure any trees identified as nesting sites during the work preparation process are protected from machine damage (a,c). CoM to ensure no deliberate damage of balga trees due to their importance as western ringtail possum habitat and refuge(b). All vehicles entering site are to observe pathogen management proceedures to prevent the spread of Dieback, marri canker and Honey fungus	Assess known nesting/habitat trees post-works to confirm that any work treatments were successful in preventing damage to trees. CoM to continue any management activities to protect conservation values that were being carried out pre-burn eg. weed management, access control	Much of this will be carried out manually - unlikely to result in a take.
3764 Burn Mandurah	Gumnut north residences 0.884	Reduce ground fuel to no more than Autumn 5t/Ha by low intensity controlled burn [as per reserve management plan	93 D2	D3 pr	ioM to assess and mark known and potential nesting/habitat trees, and rrange pre-burn rake around.(a,b,c). CoM to consider creating long-term xclusion area within burn as refuge area for significant ringtail possum opulation. Fauna specialists to survey for western ringtail possum	intensities and burnt/unburnt patches to reduce the loss of mature Eucalypt/Marri trees that may be important for cockatoo nesting/roosting(a).[Fire Dept.] to minimise scorch height across the burn area in order to maintain canopy connectivity and minimise loss of diurnal refuges for the western ringtail possum. CoM to ensure no deliberate lighting of balga trees and that some are retained intact due to their importance as western ringtail	ringtail possums at known locations commencing within three	1-2 days after rain early morning with no wind would result
3766 Burn Mandurah	Gumnut north 0.347 residences	reduce fine fuel loads by grass tree Autumn/ Spring burn in conjunction with treatment #3764	93 T2	р D3 р р	CoM to assess and mark known potential nesting/habitat trees, and arrange wre-burn rake around.(a,b,c,e). CoM to consider creating long-term sculsion area within burn as refuge area for significant ringtail possum opulation. Fauna specialists to survey for western ringtail possum resence prior to burn. Preference for an early spring burn (FMIN S8) with he objective of a mild intensity burn (b).	CoM to ensure any trees identified as nesting sites during the burn preparation process are protected from machine/fire damage (a,b,c). Fire brigade to utilise appropriate lighting patterns to ensure fire intensity is as mild as possible to create a mosaic of fire intensities and burnt/unburnt patches. Scorch height to be minimized across the burn area in order to maintain canopy connectivity and minimise loss of diurnal refuges for the western ringtail possum. CoM to ensure some balga trees are kept intact due to their importance as western ringtail possum habitat and refuge.	Assess known nesting/habitat trees post-burn to confirm that any pre-burn treatments (such as raking around) were successful in preventing fire running up the tree. Fauna specialists to conduct post-burn spotighting surveys for continued presence of western ringtail possums at known locations commencing within three months post-burn. CoM to continue any management activities to protect conservation values that were being carried out pre-burn eg. weed management, access control	BC not known to nest in this reserve, roosting trees recorded ~ 1km away. Foraging by BC common.
3785 Mechanical works Mandurah	Hazelmere residences Dawesville	Pre summer 2020 Increase separation distance, install 10m slashed buffer behind residence.	93 DX	D3 DX Fa	.ow to assess and mark known and potential nesting/nabitat trees.(a,b,c). auna specialists to survey for western ringtail possum presence. insure that all maps and documentation show threatened species would time.	CoM to ensure any trees identified as nesting sites during the preparation process are protected from machine damage (a,b,c). Retain where possible mature Eucalypt/Marri trees that may be important for cockatoo nesting/roosting (a,c). Maintain canopy connectivity and minimise loss of diurnal refuges for the western ringtail possum (b). All vehicles entering site are to observe pathogen management proceedures to prevent the spread of Dieback, marri canker and Honey fungus		No threatened species have previously been recorded within this site although presence of WRP is highly likely. Much of this will be carried out manually - unlikely to result in a take.
3787 Mechanical works Mandurah	Bouvard Herron Estuary edge lots	slashing/ mulching, trim ladder fuels Pre summer 2021 along the verge area either side of southern estuary road	93 D3			CoM to ensure any trees identified as nesting sites during the preparation process are protected from machine damage (a,b,c). Retain where possible mature Eucalypt/Marri trees that may be important for cockatoo nesting/roosting (a,c). Maintain canopy connectivity and minimise loss of diurnal refuges for the western ringtail possum. (b) All vehicles entering site are to observe pathogen management proceedures to prevent the spread of Dieback, marri canker and Honey fungus	Assess known nesting/habitat trees. Fauna specialists to conduct spotlighting surveys for continued presence of western ringtail possums at known locations commencing within three months post-activity	
3788 Fire access road/trat Mandurah	Bouvard Herron Estuary edge lots	Increase separation distance to improve access between reserve and rear of residence[pioneer & colonia] Pre summer 2020 court). Trim ladder fuels and install limestone access to stabilise northern end. May require cross over to be installed onto Estuary road.)3 D3		OM to assess and mark known and potential nesting/habitat trees (a,b,c). auna specialists to survey for western ringtail possum presence.(b).	CoM to ensure any trees identified as nesting sites during the preparation process are protected from machine damage (a,b,c). Retain where possible mature Eucalypt/Marri trees that may be important for cockatoo nesting/roosting (a,c). Maintain canopy connectivity and minimise loss of diurnal refuges for the western ringtail possum. (b) All vehicles entering site are to observe pathogen management proceedures to prevent the spread of Dieback, marri canker and Honey fungus	Assess known nesting/habitat trees.Fauna specialists to conduct spotlighting surveys for continued presence of western ringtail possuma at known locations commencing within three months post-activity	Much of this will be carried out manually - unlikely to result in a take.