

LEGEND

Area Subject to this Management Plan

Environmental Management Area (EMA) Boundary (#)

Precinct Boundary

Kings Forest Boundary

FLORA & FAUNA HABITAT

Available habitat for Glossy-black cockatoo (*Calyptorhynchus lathami*)

Available habitat for Eastern osprey (*Pandion cristatus*)

MANAGEMENT ZONES

Zone 1 - Construction zone

Zone 2 - Retained Koala habitat

Zone 3 - Retained WSF habitat

Zone 4 - Koala compensatory habitat

Zone 5 - WSF compensatory habitat

Zone 6 - Heath regeneration/revegetation

Zone 7 - Littoral rainforest regeneration/revegetation

Zone 8 - Wetland regeneration

Zone 9 - Residual land

Note:

To assist in identifying the staging of rehabilitation and management actions, EPZs and buffer areas have been associated with a relevant development precinct and are collectively titled as Environmental Management Areas (EMAs).

The figure is an aerial photograph overlaid with various management and habitat boundaries. A red line outlines the 'Area Subject to this Management Plan'. Green lines indicate 'Environmental Management Area (EMA) Boundary (#)'. Black lines show 'Precinct Boundary' and 'Kings Forest Boundary'. The map is divided into several management zones, each with a unique hatching pattern: Zone 1 (Construction zone), Zone 2 (Retained Koala habitat), Zone 3 (Retained WSF habitat), Zone 4 (Koala compensatory habitat), Zone 5 (WSF compensatory habitat), Zone 6 (Heath regeneration/revegetation), Zone 7 (Littoral rainforest regeneration/revegetation), Zone 8 (Wetland regeneration), and Zone 9 (Residual land). Specific areas are labeled as EMAs: P1, P2, P3, P4, and P5. A large area on the left is labeled 'E-W CORRIDOR (EMA)'. A scale bar at the bottom left shows a distance of 300m at a scale of 1:10,000. A north arrow is located in the bottom right corner.

TITLE	HABITAT FOR EASTERN OSPREY & GLOSSY-BLACK COCKATOO		CLIENT	Project 28 Pty Ltd	SOURCE: JWA Site Investigations 2018, Near Map 08/08/18 Aerial
	FIGURE 15		PROJECT	Threatened Species Management Plan	
	PREPARED: BW		Precincts 1 - 5 Kings Forest		SCALE: 1 : 10 000 @ A3
	DATE: 27 July 2020		Melaleuca Drive, Durranbah, NSW		
	FILE: N97017_MP 1-5_20200727.dwg		Shire of Tweed		JWA PTY LTD Ecological Consultants

LEGEND

Area Subject to this Management Plan

Environmental Management Area (EMA) Boundary (#)

Precinct Boundary

Kings Forest Boundary

FLORA & FAUNA HABITAT

Available habitat for Masked owl (*Tyto novaehollandiae*)

Available habitat for Pale-vented bush hen (*Amouronis moluccana*)

MANAGEMENT ZONES

Zone 1 - Construction zone

Zone 2 - Retained Koala habitat

Zone 3 - Retained WSF habitat

Zone 4 - Koala compensatory habitat

Zone 5 - WSF compensatory habitat

Zone 6 - Heath regeneration/revegetation

Zone 7 - Littoral rainforest regeneration/revegetation

Zone 8 - Wetland regeneration

Zone 9 - Residual land

Note:

To assist in identifying the staging of rehabilitation and management actions, EPZs and buffer areas have been associated with a relevant development precinct and are collectively titled as Environmental Management Areas (EMAs).

The figure is an aerial photograph overlaid with a management plan. It shows several precincts labeled P1 through P5. Each precinct is associated with an Environmental Management Area (EMA), indicated by a green outline and a label like 'P1 (EMA)'. The map is divided into various management zones, each with a unique hatching pattern: Zone 1 (Construction zone), Zone 2 (Retained Koala habitat), Zone 3 (Retained WSF habitat), Zone 4 (Koala compensatory habitat), Zone 5 (WSF compensatory habitat), Zone 6 (Heath regeneration/revegetation), Zone 7 (Littoral rainforest regeneration/revegetation), Zone 8 (Wetland regeneration), and Zone 9 (Residual land). Specific habitat areas for the Masked owl (*Tyto novaehollandiae*) are shown in solid green, and areas for the Pale-vented bush hen (*Amouronis moluccana*) are shown in solid purple. A large area on the left is labeled 'E-W CORRIDOR (EMA)'. A scale bar at the bottom left indicates 0 to 300m at a scale of 1:10,000. A north arrow is located at the bottom right.

TITLE	HABITAT FOR MASKED OWL & PALE-VENTED BUSH HEN		CLIENT Project 28 Pty Ltd	PROJECT Threatened Species Management Plan Precincts 1 - 5 Kings Forest Melaleuca Drive, Durranbah, NSW Shire of Tweed	SOURCE: JWA Site Investigations 2018, Near Map 08/08/18 Aerial	SCALE: 1 : 10 000 @ A3
	FIGURE	16				
PREPARED: BW DATE: 27 July 2020 FILE: N97017_MP 1-5_20200727.dwg			JWA PTY LTD Ecological Consultants			

LEGEND

Area Subject to this Management Plan

Environmental Management Area (EMA) Boundary (#)

Precinct Boundary

Kings Forest Boundary

FLORA & FAUNA HABITAT

Available habitat for Yellow-bellied sheathtail bat (*Saccolaimus flaviventris*)

MANAGEMENT ZONES

Zone 1 - Construction zone

Zone 2 - Retained Koala habitat

Zone 3 - Retained WSF habitat

Zone 4 - Koala compensatory habitat

Zone 5 - WSF compensatory habitat

Zone 6 - Heath regeneration/revegetation

Zone 7 - Littoral rainforest regeneration/revegetation

Zone 8 - Wetland regeneration

Zone 9 - Residual land

Note:

To assist in identifying the staging of rehabilitation and management actions, EPZs and buffer areas have been associated with a relevant development precinct and are collectively titled as Environmental Management Areas (EMAs).

The map displays an aerial view of a landscape with various management zones and Environmental Management Areas (EMAs). The zones are color-coded and patterned according to the legend: Zone 1 (Construction zone, light green), Zone 2 (Retained Koala habitat, dark green), Zone 3 (Retained WSF habitat, light blue), Zone 4 (Koala compensatory habitat, dark blue), Zone 5 (WSF compensatory habitat, light green), Zone 6 (Heath regeneration/revegetation, dark green), Zone 7 (Littoral rainforest regeneration/revegetation, light blue), Zone 8 (Wetland regeneration, dark blue), and Zone 9 (Residual land, light green). The EMAs are labeled P1, P2, P3, P4, and P5, each with a corresponding EMA boundary. The map also shows the Kings Forest Boundary and the E-W Corridor (EMA). A scale bar indicates 0 to 300m at 1:10,000. A north arrow is located in the bottom right corner.

TITLE	FIGURE 17		CLIENT Project 28 Pty Ltd	SOURCE: JWA Site Investigations 2018, Near Map 08/08/18 Aerial
	HABITAT FOR YELLOW-BELLIED SHEATHTAIL BAT			
PREPARED: BW DATE: 27 July 2020 FILE: N97017_MP 1-5_20200727.dwg	PROJECT Threatened Species Management Plan Precincts 1 - 5 Kings Forest Melaleuca Drive, Durranbah, NSW Shire of Tweed		SCALE: 1 : 10 000 @ A3	JWA PTY LTD Ecological Consultants

LEGEND

Area Subject to this Management Plan

Environmental Management Area (EMA) Boundary (#)

Precinct Boundary

Kings Forest Boundary

FLORA & FAUNA HABITAT

Available habitat for Wallum froglet (*Crinia tinnula*)

MANAGEMENT ZONES

Zone 1 - Construction zone

Zone 2 - Retained Koala habitat

Zone 3 - Retained WSF habitat

Zone 4 - Koala compensatory habitat

Zone 5 - WSF compensatory habitat

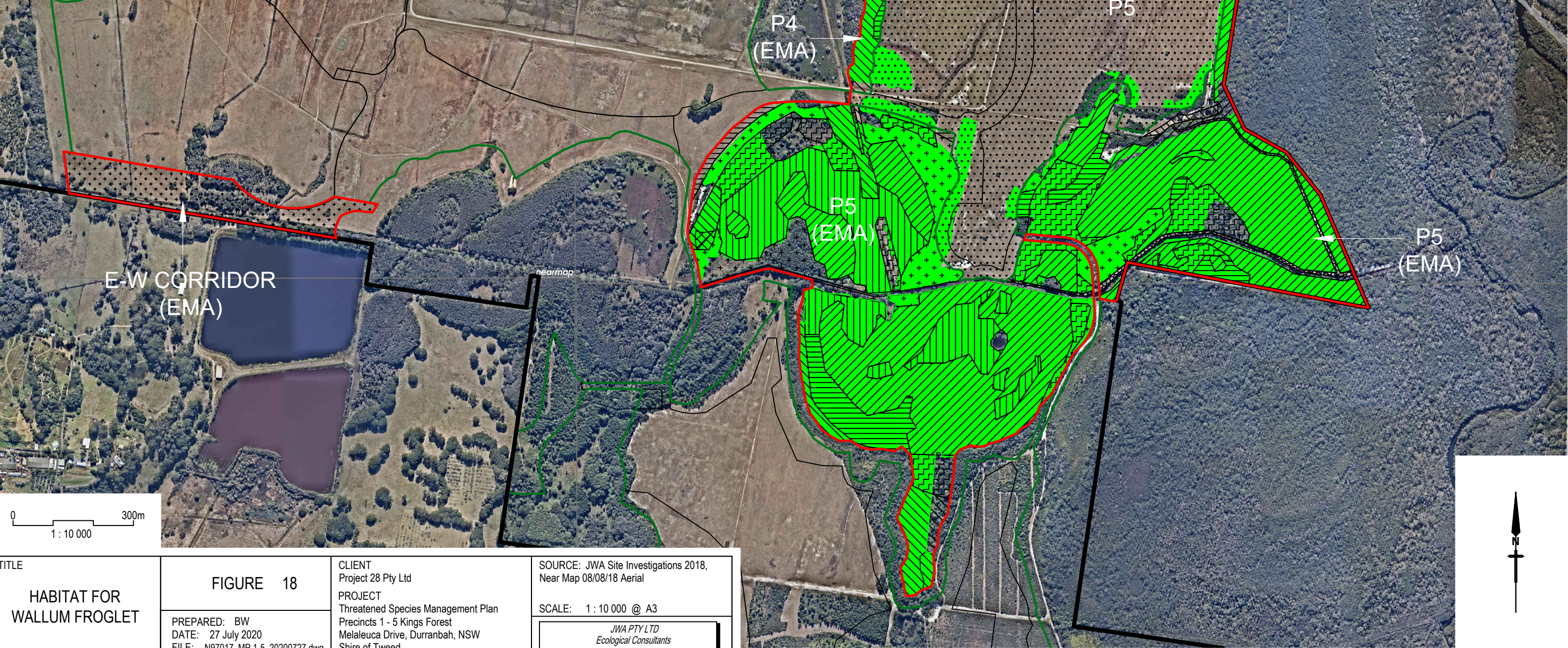
Zone 6 - Heath regeneration/revegetation

Zone 7 - Littoral rainforest regeneration/revegetation

Zone 8 - Wetland regeneration

Zone 9 - Residual land

Note:
To assist in identifying the staging of rehabilitation and management actions, EPZs and buffer areas have been associated with a relevant development precinct and are collectively titled as Environmental Management Areas (EMAs).



TITLE HABITAT FOR WALLUM FROGLET	FIGURE 18		CLIENT Project 28 Pty Ltd	SOURCE: JWA Site Investigations 2018, Near Map 08/08/18 Aerial
	PREPARED: BW DATE: 27 July 2020 FILE: N97017_MP 1-5_20200727.dwg		PROJECT Threatened Species Management Plan Precincts 1 - 5 Kings Forest Melaleuca Drive, Durranbah, NSW Shire of Tweed	SCALE: 1 : 10 000 @ A3
			JWA PTY LTD Ecological Consultants	

TABLE 1
THREATENED SPECIES RECORDED OR CONSIDERED TO HAVE SUITABLE HABITAT WITHIN
PRECINCTS 1 - 5 AND ASSOCIATED EMAS, AND THE PROPOSED EAST-WEST CORRIDOR

Common Name	Scientific Name	BC Act*	EPBC Act#	Recorded within P1-5 EMAs & E-W Corridor	Suitable Habitat	
					Vegetation Communities	Total Area
Threatened flora species						
Green-leaved rose walnut	<i>Endiandra muelleri</i> subsp. <i>bracteata</i>	E	-	Yes	4(g1), 6(a)	1.74 ha
Southern swamp orchid	<i>Phaius australis</i>	E	E	Yes	4(e), 4(g1)	29.49 ha
Stinking cryptocarya	<i>Cryptocarya foetida</i>	V	V	Yes	4(g1), 6(a)	1.74 ha
White laceflower	<i>Archidendron hendersonii</i>	V	-	Yes	4(g1), 6(a)	1.74 ha
White yiel yiel	<i>Grevillea hilliana</i>	E	-	No	4(g1), 6(a)	1.74 ha
Threatened fauna species						
Black bittern	<i>Ixobrychus flavicollis</i>	V	-	Yes	2(c1), 2(c2), 4(e)	45.61 ha
Black-necked stork	<i>Ephippiorhynchus asiaticus</i>	E	-	No	2(b), 2(c1), 2(c2), 3(b1), 3(d), 4(b), 4(c), 4(d), 4(i), 4(j1), 4(j2), 4(k)	49. 56 ha
Bush stone-curlew	<i>Burhinus grallarius</i>	E	-	No	4(b), 4(c), 4(d), 4(k), 5(d)	18.53 ha
Common blossom bat**	<i>Syconycteris australis</i>	V	-	Yes	3(a1), 3(a2), 3(b1), 3(d), 3(e), 4(b), 4(c), 4(d), 4(e), 4(g1), 4(i), 4(j1), 4(j2), 4(k), 5(d), 5(e1), 5(e2), 6(a)	79.41 ha
Common planigale	<i>Planigale maculata</i>	V	-	No	2(c2), 2(c2), 3(a1), 3(a2), 3(b1), 3(d), 3(e), 4(b), 4(c), 4(d), 4(e), 4(g1), 4(i), 4(j1), 4(j2), 4(k), 5(d), 5(e1), 5(e2), 6(a)	96.46 ha

Common Name	Scientific Name	BC Act*	EPBC Act#	Recorded within P1-5 EMAs & E-W Corridor	Suitable Habitat	
					Vegetation Communities	Total Area
Eastern false pipistrelle**	<i>Falsistrellus tasmaniensis</i>	V	-	Yes	3(a1), 3(a2), 3(b1), 3(d), 3(e), 4(b), 4(c), 4(d), 4(e), 4(g1), 4(i), 4(j1), 4(j2), 4(k), 5(d), 5(e1), 5(e2), 6(a)	79.41 ha
Eastern osprey	<i>Pandion cristatus</i>	V	-	Yes	Forest/woodland vegetation within 100m of Cudgen Lake and Cudgen Creek	4.96 ha
Glossy-black cockatoo	<i>Calyptrorhynchus lathami</i>	V	-	Yes	3(a1), 3(a2), 3(d), 3(e), 4(c), 5(d), 5(e1), 5(e2)	17.45 ha
Grass owl	<i>Tyto longimembris</i>	V	-	Yes	1(f), 1(g), 2(c1), 2(c2)	18.78 ha
Grey-headed flying fox	<i>Pteropus poliocephalus</i>	V	V	Yes	3(a1), 3(a2), 3(b1), 3(d), 3(e), 4(b), 4(c), 4(d), 4(e), 4(g1), 4(i), 4(j1), 4(j2), 4(k), 5(d), 5(e1), 5(e2), 6(a)	79.41 ha
Koala ¹	<i>Phascolarctos cinerues</i>	V	V	Yes	Refer to the Kings Forest KPom (JWA 2019)	
Little bent-wing bat**	<i>Miniopterus australis</i>	V	-	Yes	3(a1), 3(a2), 3(b1), 3(d), 3(e), 4(b), 4(c), 4(d), 4(e), 4(g1), 4(i), 4(j1), 4(j2), 4(k), 5(d), 5(e1), 5(e2), 6(a)	79.41 ha
Masked owl	<i>Tyto novaehollandiae</i>	V	-	Yes	4(c), 4(d), 5(d)	3.79 ha
Pale-vented bush hen	<i>Amauronis moluccana</i>	V	-	No	2(c1), 2(c2), 4(e), 4(g1)	46.54 ha
Rose-crowned fruit-dove**	<i>Ptilinopus regina</i>	V	-	Yes	4(g1), 6(a)	1.74 ha
Southern myotis**	<i>Myotis macropus</i>	V	-	Yes	3(a1), 3(a2), 3(b1), 3(d), 3(e), 4(b), 4(c), 4(d), 4(e), 4(g1), 4(i), 4(j1), 4(j2), 4(k), 5(d), 5(e1), 5(e2), 6(a)	79.41 ha

Common Name	Scientific Name	BC Act*	EPBC Act#	Recorded within P1-5 EMAs & E-W Corridor	Suitable Habitat	
					Vegetation Communities	Total Area
Wallum froglet	<i>Crinia tinnula</i>	V	-	Yes	1(e2), 1(f), 1(g), 1(h), 2(c1), 2(c2), 3(a1), 3(a2), 3(b1), 3(d), 3(e), 4(b), 4(c), 4(d), 4(e), 4(g1), 4(i), 4(j1), 4(j2), 4(k), 5(e1), 5(e2)	110.53 ha
Wallum sedge frog ²	<i>Litoria olongburrens</i>	V	V	Yes	Refer to the Kings Forest WSFMP (JWA 2020b)	
Yellow-bellied sheath-tail bat**	<i>Saccolaimus flaviventris</i>	V	-	Yes	2(b), 2(c1), 2(c2), 3(a1), 3(a2), 3(b1), 3(d), 3(e), 4(b), 4(c), 4(d), 4(e), 4(g1), 4(i), 4(j1), 4(j2), 4(k), 5(d), 5(e1), 5(e2), 6(a)	96.50 ha
* E - Endangered and V - Vulnerable as listed within schedules of the NSW BC Act (2016). # E - Endangered and V - Vulnerable as listed within schedules of the Commonwealth EPBC Act (1999). ** These species are highly mobile and were recorded foraging opportunistically over the site and are not included in FIGURE 10. ¹ A species specific Management Plan have been prepared for the EPBC Act listed koala (<i>Phascolarctos cinereus</i>) i.e. the Kings Forest KPOM (JWA 2019). ² A species specific Management Plan have been prepared for the EPBC Act listed wallum sedge frog (<i>Litoria olongburrens</i>) i.e. the Kings Forest WSFMP (JWA 2020b).						