HABITAT ASS	SESSMENT FOR 1 ha SEARCH AREA
PROJECT ARP - GLADSTONE	DATE 14/8/07
SITE NO. FAOT LOCATION GPS 001	NAME D. FLEMING
AMG 5 6 EASTING 0 3 0 6 6	0 / NORTHING 7 3 5 3 8 6 4
DISTANCE and DIRECTION from TOWN: SITE IS km (s)	(N. S. E. W.) OF IN (state)
WAS GPS USED? YES NO IF YES, WHICH DATUM WAS USE	D? Aust (84/66) WGS 84 or GDA ALTITUDE
GENERAL	VEGETATION STRUCTURE : OVERSTORY
Remnant trees Regrowth Plantation	Tree canopy cover (trees taller that 3 m):
☐ Native grasses (trees / shrubs may be present)	☐ Absent ☑ Sparse ☐ Open ☐ Dense
Non-native grasses (trees / shrubs may be present)	If trees present:
☐ Improved pasture ☐ Other	* Are trees mostly?
Habitat type Ironbank Woodland	
RE III. 15 VEG OD LANDFORM HS	more than three species exotic Species: E. cretora C. cibriodora
soil Sardy day	
LANDSCAPE	Average height of overstory? 3-5 m 5-10 m 10-15 m > 15 m
Shape of patch?	☐ 3-5 m ☐ 5-10 m ☐ 10-15 m ☐ > 15 m Are the trees?
☐ Circular / square ☐ Irregular ☐ Strip <50 m	Even-aged (Trees mostly the same age or size)
Strip >50 m	Multi-aged (Trees of varing size or age)
Strip details:	Are there obvious signs of dieback in the tree canopy?
☐ Windbreak ☐ Other	None ☐ Some dieback ☐ Extensive dieback
Width	VEGETATION STRUCTURE : UNDERSTORY
Area of full patch that contains 1 ha area:	Tall understory shrub cover (>2 m):
□ 31-100 ha □ 101-400 ha □ > 400 ha	☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present:
	single shrub species Are shrubs mostly?
Is the 1 ha patch connected to other similar sized or larger patches of vegetation?	■ two or three species ■ native
☑YES □ NO	more than three species exotic
Position of this 1 ha search area relative to the surrounding tree / shrub cover?	Species: juvenile eucs, Aphibnia excela.
A-Isolated B-Semi isolated	
☐ C-Not isolated ☐ D-Continuous tree / shrub	Low shrub cover (0.5 m − 2 m): Absent Scattered Common Abundant
Continuous tree/shrub cover Scattered trees Grassland	If shrubs present:
. 6. 9.	single shrub species Are shrubs mostly?
	☑ two or three species ☑ native
	more than three species exotic
0	Species: As above, sparse Lantana Comara
	Dominant ground cover within this 1 ha area:
200 m. O	☐ Tussocks ☐ Hummocks ☐ Continuous grass / herbs
Is this 1 ha area on a:	☐ Low Heath ☐ Weeds ☐ Bare dirt / rocks / litter
☐ Flat ☐ Ridge ☐ Gully ☑ Slope	
If slope, give aspect over 20 m	LAND USE Used for?
Degrees of slope over 20 m:	☐ Mixed grazing ☐ Sheep ☐ Cattle
W → E	☐ Crops Crop type
SW V SE	Other Other Load reserve



KEY HABITAT FEATURES HOLLOWS and LOGS No. of hollows within 1 ha patch? Abundant (>10) □ Absent (0) Scattered (1-5) □ Common (6-10) ☐ dead ☐ living If present, are they mostly? Fallen trees or branches present 10-50 cm diameter? Scattered (1-10) Common (10-20) Abundant (> 20) Fallen trees or branches present >50 cm diameter? Scattered □ Abundant (>10) ☑ Absent □ Common (6-10) Leaf litter? Absent Sparse Patchy Dense Mistletoe within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant ROCKS Outcrops within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of 10-30 cm diameter? ☑ Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of > 30 cm diameter? Absent ☐ Scattered ☐ Common Abundant Cliffs and overhangs within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant If present, are they mostly? ☐ Sandstone ☐ Granite ☐ Basalt ☐ Karst ☐ Other **CRACKING CLAY SOILS** YES NO HABITAT QUALITY FOR: Hollow dependent fauna ☐ Absent ☐ Poor Average Good Excellent Rock dependent fauna ☑ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent Log dependent fauna ☐ Absent ☐ Poor ☑ Average ☐ Good ☐ Excellent Small birds ☐ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent OTHER HABITAT QUALITY ASPECTS: Vegetated road nevere adjacent to woodland Adjacent gully has dense vegetation; good to c small birds.

powder.				
Wetlands present?	NDS			
TYPE OF WETLAND:				
MARINE: Coral reef Rocky sh Estuarine Tidal muc Tidal forest (e.g. mangrove) Saline / brackish lake / swamp	Iflat Tidal marsh			
INLAND WETLAND: ☐ Creek ☐ Dryic ☐ File ☐ River ☐ Small billabong , pools (<8 ha) ☐ Shrubby swamp ☐ Gilgai ☐ Ephemeral Marsh / swamp with	☐ Floodplain, river flat ☐ Freshwater lake (>8 ha) ☐ Wooded swamp ☐ Claypan			
ARTIFICIAL WETLANDS: Large dam, reservoir (>8 ha) Irrigation channel, rice field Canal, drainage channel, ditch	☐ Wastewater treatment			
AREA OF WETLAND:	8-100 ha			
FEATURES PRESENT Broad, shallow, swampy areas for birds to feed				
☐ Islands for birds to roost and nest ☐ Dead or living trees in the water (partly submerged) for				
roosting and nesting habitat Fencing to exclude grazing stock from direct access to				
the waters edge Dense tree and / or shrub cover close to the edge of the water				
A	N			
Noisy Francisco	5 16-517			
Rainbow brillect				
Rainbow bee-easer				
bour honeyeares	*			
Noisy Miner				
Smarlet Honeyeaver				
Whiptour wallaby				
Pale-headed Rosella.				
- Laure Folena	FAOI			

HLA HABITAT AS	SESSMENT FOR 1 ha SEARCH AREA
PROJECT ARP-GPN	DATE 14/8/2007
SITE NO. FAO2 LOCATION 4PS 003	NAME D. Fleming
AMG 56 EASTING 37037	79 7354231
	NORTHING DESCRIPTION
DISTANCE and DIRECTION from TOWN: SITE IS km (s) WAS GPS USED? ✓ YES ☐ NO IF YES, WHICH DATUM WAS USED.	(N. S. E. W.) OF IN (state)
WAS GPS USED? FINE IF YES, WHICH DATUM WAS US	ED? Aust (84/66) WGS 84 or GDA ALTITUDE
GENERAL	VEGETATION STRUCTURE : OVERSTORY
Remnant trees Regrowth Plantation	Tree canopy cover (trees taller that 3 m):
☑ Native grasses (trees / shrubs may be present)	☐ Absent ☐ Sparse ☐ Open ☐ Dense If trees present:
Non-native grasses (trees / shrubs may be present)	Single tree species
☐ Improved pasture ☐ Other	Are trees mostly? I two or three species
Habitat type Wasdland	✓ more than three species ☐ exotic
RE 11.3 26 VEG MY LANDFORM GUL	Species: Etereticornis, C. Litriodora, E. crebra
SOIL	
•	Average height of overstory?
LANDSCAPE Shape of patch?	□ 3-5 m □ 5-10 m □ 10-15 m □ > 15 m
☐ Circular / square ☐ Irregular ☐ Strip <50 m	Are the trees? Even-aged (Trees mostly the same age or size)
☐ Strip >50 m	Multi-aged (Trees of varing size or age)
Strip details:	Are there obvious signs of dieback in the tree canopy?
☐ Windbreak ☐ Other Gully	☐ None ☐ Some dieback ☐ Extensive dieback
Width 50m	VEGETATION STRUCTURE: UNDERSTORY
Area of full patch that contains 1 ha area:	Tall understory shrub cover (>2 m):
□ < 3 ha □ 3-10 ha □ 11-30 ha	☐ Absent ☐ Scattered ☐ Common ☐ Abundant
☐ 31-100 ha ☐ 101-400 ha ☐ > 400 ha	If shrubs present: single shrub species
Is the 1 ha patch connected to other similar sized or larger patches of vegetation?	Are shrubs mostly? If two or three species
☑ YES ☐ NO	more than three species
Position of this 1 ha search area relative to the surrounding tree /	Species: Geijera Sp. Curront bush.
shrub cover?	hophosemon suascolena Lantana comara
☐ A- Isolated ☑ B-Semi isolated	Low shrub cover (0.5 m - 2 m):
C-Not isolated D-Continuous tree / shrub	☐ Absent ☐ Scattered ☐ Common ☐ Abundant
Continuous tree/shrub cover : Scattered trees Grassland	If shrubs present: single shrub species
. 6	Are shrubs mostly?
	two or three species native
	✓ more than three species ✓ exotic Species: A5 above
	Species. 119 2000
200 m	Dominant ground cover within this 1 ha area:
200 m . • • • • • • • • • • • • • • • • • •	☐ Tussocks ☐ Hummocks ☐ Continuous grass / herbs
Is this 1 ha area on a:	Low Heath Weeds Bare dirt / rocks / litter
☐ Flat ☐ Ridge ☑ Gully ☐ Slope If slope, give aspect over 20 m	LAND USE
Degrees of slope over 20 m:	Used for?
NW A NE	☐ Mixed grazing ☐ Sheep ☐ Cattle
₩ <	Crop type
SW S S	Other Other hoad research



KEY HABITAT FEATURES HOLLOWS and LOGS No. of hollows within 1 ha patch? Scattered (1-5) □ Common (6-10) Abundant (>10) □ Absent (0) ☐ dead ☐ living If present, are they mostly? Fallen trees or branches present 10-50 cm diameter? ☐ Scattered (1-10) Common (10-20) □ Absent (0) Abundant Fallen trees or branches present >50 cm diameter? ☐ Scattered (1-5) □ Abundant (>10) ☑ Absent ☐ Common (6-10) Leaf litter? Absent V Sparse Patchy Dense Mistletoe within this 1 ha area? Scattered Common Absent ■ Abundant ROCKS Outcrops within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of 10-30 cm diameter? Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of > 30 cm diameter? ☐ Scattered ☐ Common Absent Abundant Cliffs and overhangs within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant If present, are they mostly? ☐ Sandstone ☐ Granite ■ Basalt ☐ Karst ☐ Other **CRACKING CLAY SOILS** YES NO **HABITAT QUALITY FOR:** Hollow dependent fauna Absent Poor Average Good Excellent Rock dependent fauna Absent Poor ☐ Average ☐ Good ☐ Excellent Log dependent fauna ☐ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent Small birds ☐ Average ☐ Good ☐ Excellent ☐ Absent ☐ Poor OTHER HABITAT QUALITY ASPECTS: bully running through road move, some deve vegulation parches

HABITAT ASSESSMENT (cont.)

WETLA Wetlands present? YES NO	ANDS			
TYPE OF WETLAND:				
MARINE: Coral reef Rocky sh	ore Beach (all)			
☐ Estuarine ☐ Tidal mud				
☐ Tidal forest (e.g. mangrove)				
Saline / brackish lake / swamp				
INLAND WETLAND: ☐ Creek ☐ Dryis ☐ F	lowing			
River	☐ Floodplain, river flat			
Small billabong , pools (<8 ha)	Freshwater lake (>8 ha)			
☐ Shrubby swamp	☐ Wooded swamp			
Gilgai	Claypan			
Ephemeral Marsh / swamp wi	th emergent veg			
ARTIFICIAL WETLANDS: Large dam, reservoir (>8 ha)	Small dam, pond, tank			
☐ Irrigation channel, rice field	☐ Wastewater treatment			
Canal, drainage channel, ditch	Salt pond / field			
AREA OF WETLAND: <pre></pre>				
FEATURES PRESENT Broad, shallow, swampy areas for birds to feed Islands for birds to roost and nest				
Dead or living trees in the water (partly submerged) for roosting and nesting habitat				
Fencing to exclude grazing sto	ock from direct access to			
Dense tree and / or shrub cover close to the edge of the water				
ADDITIONAL NOTES:				
Grey Shake-Unsh	518-519			
Rufais Whistler	500 - 100 m yp road			
Rainbow lonkeet	1 gp co			
Rainbow becreated				
boun honeyeated				
hephaboro.				
little tradited				
Shiated Pardalde. Wille Lonheet				

Lewin's honeyeater.

HABITAT ASSE	SSMENT FOR 1 ha SEARCH AREA
PROJECT ARP-GPN	DATE 1418/07
FA03 1000 6P5 007	D. Flening
SITE NO. SIGNO SITE NO. SITE N	73542
AMG EASTING	NORTHING
DISTANCE and DIRECTION from TOWN: SITE IS km (s)	(N. S. E. W.) OF IN (state)
WAS GPS USED? YES NO IF YES, WHICH DATUM WAS USED?	Aust (84/66) WGS 84 or GDA ALTITUDE
GENERAL	VEGETATION STRUCTURE : OVERSTORY
Remnant trees Regrowth Plantation	Tree canopy cover (trees taller that 3 m):
Native grasses (trees / shrubs may be present)	☐ Absent ☑ Sparse ☐ Open ☐ Dense
☐ Non-native grasses (trees / shrubs may be present)	If trees present:
☐ Improved pasture ☐ Other	Are trees mostly?
Habitat type Francian Woodland	more than three species exotic
RE ((.5.26/().().18 VEG MK LANDFORM GUL	Species: Exterciscornis, Cormoia sp. Excelora
SOIL Sandy chang	Jaggra pseudorhus
	Average height of overstory?
LANDSCAPE Shape of patch?	□ 3-5 m □ 5-10 m □ 10-15 m □ > 15 m
☐ Circular / square ☐ Irregular ☐ Strip <50 m	Are the trees? Even-aged (Trees mostly the same age or size)
Strip >50 m	Multi-aged (Trees of varing size or age)
Strip details:	Are there obvious signs of dieback in the tree canopy?
☐ Windbreak ☐ Other	☐ None ☐ Some dieback ☐ Extensive dieback
Width	V
The state of the s	VEGETATION STRUCTURE: UNDERSTORY
Area of full patch that contains 1 ha area:	Tall understory shrub cover (>2 m):
Area of full patch that contains 1 ha area:	Tall understory shrub cover (>2 m): ☐ Absent ☐ Scattered ☐ Common ☐ Abundant
Area of full patch that contains 1 ha area:	Tall understory shrub cover (>2 m): ☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present: ☐ single shrub species
Area of full patch that contains 1 ha area:	Tall understory shrub cover (>2 m): ☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present:
Area of full patch that contains 1 ha area: <pre></pre>	Tall understory shrub cover (>2 m): ☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present: ☐ single shrub species Are shrubs mostly?
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): ☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present: ☐ single shrub species ☐ two or three species ☐ native
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): ☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present: ☐ single shrub species ☐ two or three species ☐ more than three species ☐ exotic
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species Species: Low shrub cover (0.5 m - 2 m):
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species species: Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species native more than three species Species: Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? wo or three species more than three species Species: Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly?
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species Species: Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species Species: Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species Are shrubs mostly?
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species Are shrubs mostly? two or three species more than three species single shrub species Are shrubs mostly? two or three species more than three species species: Species: Are shrubs mostly? exotic
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? wo or three species more than three species Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? wo or three species Are shrubs mostly? wo or three species are shrubs mostly? wo or three species more than three species
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species Species: Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species Are shrubs mostly? two or three species more than three species single shrub species Are shrubs mostly? exotic Species: Species: Dominant ground cover within this 1 ha area:
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species Are shrubs mostly? two or three species pare shrubs mostly? two or three species protections Species: Dominant ground cover within this 1 ha area: Tussocks Hummocks Continuous grass / herbs Low Heath Weeds Bare dirt / rocks / litter
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species two or three species more than three species Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species provides: Species: Low Are shrubs mostly? two or three species Are shrubs mostly? two or three species Dominant ground cover within this 1 ha area: Tussocks Hummocks Continuous grass / herbs Low Heath Weeds Bare dirt / rocks / litter
Area of full patch that contains 1 ha area: < 3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species Are shrubs mostly? two or three species pare shrubs mostly? two or three species protections Species: Dominant ground cover within this 1 ha area: Tussocks Hummocks Continuous grass / herbs Low Heath Weeds Bare dirt / rocks / litter
Area of full patch that contains 1 ha area: <3 ha	Tall understory shrub cover (>2 m): Absent Scattered Common Abundant If shrubs present: single shrub species two or three species more than three species Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species two or three species Are shrubs mostly? two or three species Are shrubs mostly? two or three species Are shrubs mostly? two or three species more than three species species: Dominant ground cover within this 1 ha area: Tussocks Hummocks Continuous grass / herbs Low Heath Weeds Bare dirt / rocks / litter LAND USE Used for?



KEY HABITAT FEATURES HOLLOWS and LOGS No. of hollows within 1 ha patch? □ Absent (0) Scattered (1-5) □ Common (6-10) Abundant (>10) ☐ dead ☐ living If present, are they mostly? Fallen trees or branches present 10-50 cm diameter? □ Absent (0) Scattered □ Common (10-20) Abundant (> 20) (1-10) Fallen trees or branches present >50 cm diameter? ☐ Scattered (1-5) Absent (0) ☐ Common (6-10) Abundant □ (>10) Leaf litter? ☐ Absent **▽** Sparse Patchy Dense Mistletoe within this 1 ha area? ☑ Absent ☐ Scattered ☐ Common Abundant ROCKS Outcrops within this 1 ha area? ∆ Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of 10-30 cm diameter? Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of > 30 cm diameter? ☑ Absent Scattered Common Abundant Cliffs and overhangs within this 1 ha area? ☑ Scattered ☐ Common Absent ☐ Abundant Creekbank. If present, are they mostly? Sandstone ☐ Granite ■ Basalt ☐ Karst Other CRACKING CLAY SOILS YES YO **HABITAT QUALITY FOR:** Hollow dependent fauna ☐ Absent ☑ Poor ☐ Average ☐ Good ☐ Excellent Rock dependent fauna ☑ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent Log dependent fauna ☑ Average ☐ Good ☐ Excellent ☐ Absent ☐ Poor Small birds ☐ Average ☐ Good ☐ Excellent ☐ Absent ☐ Poor OTHER HABITAT QUALITY ASPECTS: very distribed gully regulation. Nests in crickbank Meany intestation with Lantana.

	· · · · · · · · · · · · · · · · · · ·		
WETLA Wetlands present? YES NO	NDS		
TYPE OF WETLAND:			
MARINE: Coral reef Rocky sho Estuarine Tidal mud Tidal forest (e.g. mangrove) Saline / brackish lake / swamp	flat Tidal marsh Lagoon		
INLAND WETLAND: Creek Dryi Greek River Small billabong , pools (<8 ha) Shrubby swamp Gilgai Ephemeral Marsh / swamp with	☐ Floodplain, river flat ☐ Freshwater lake (>8 ha) ☐ Wooded swamp ☐ Claypan		
ARTIFICIAL WETLANDS: Large dam, reservoir (>8 ha) Irrigation channel, rice field Canal, drainage channel, ditch AREA OF WETLAND: <2 ha 2-8 ha	☐ Wastewater treatment		
■ Water mostly ■ Fresh ■ Brackish / sal	ine Salty		
FEATURES PRESENT Broad, shallow, swampy areas for birds to feed Islands for birds to roost and nest Dead or living trees in the water (partly submerged) for			
roosting and nesting habitat Fencing to exclude grazing stock from direct access to			
the waters edge Dense tree and / or shrub cover close to the edge of the water			
ADDITIONAL	Notes:		
brown honeyeater bewin's honeyeater Shiated pardalote nesting	521-525		
	SITE NO. FA 03		
	SITE NO PAGE		

HLA HABITAT ASSE	SSMENT FOR 1 ha SEARCH AREA
PROJECT ARP-GPN	DATE 14/8/07
SITE NO. FA04 LOCATION GPS 614 -	NAME D. Fleming.
AMG 5 6 EASTING 3 0 8 6 3	5 NORTHING 7 3 5 5 4 6 3
DISTANCE and DIRECTION from TOWN: SITE ISkm (s)	(N. S. E. W.) OF IN (state)
6-0 8-3 Maria	☐ Aust (84/66) ☑ WGS 84 or GDA ALTITUDE
GENERAL	VEGETATION STRUCTURE : OVERSTORY
Remnant trees Regrowth Plantation	Tree canopy cover (trees taller that 3 m):
☑ Native grasses (trees / shrubs may be present)	☐ Absent ☐ Sparse ☐ Open ☐ Dense
☐ Non-native grasses (trees / shrubs may be present)	If trees present:
☐ Improved pasture ☐ Other	single tree species Are trees mostly?
Habitat type Moluciana woodland with SEVT understoney	two or three species native
11.2.21 Octosity (more than three species exotic
Confidence	Species: E moluccana
SOIL Surdy May	Average height of overstory?
LANDSCAPE	□ 3-5 m □ 5-10 m □ 10-15 m □ > 15 m
Shape of patch? ☐ Circular / square ☐ Irregular ☐ Strip <50 m	Are the trees?
Strip >50 m	Even-aged (Trees mostly the same age or size)
Constitution	Multi-aged (Trees of varing size or age) Are there obvious signs of dieback in the tree canopy?
Strip details: Greek / Fiver Groadside Roadside	None Some dieback ☐ Extensive dieback
Windbreak Cother	
Width Area of full patch that contains 1 ha area:	VEGETATION STRUCTURE : UNDERSTORY Tall understory shrub cover (>2 m):
☐ < 3 ha ☐ 3-10 ha ☐ 11-30 ha	□ Absent □ Scattered □ Common □ Abundant
☐ 31-100 ha ☐ 101-400 ha ☐ > 400 ha	If shrubs present:
Is the 1 ha patch connected to other similar sized or larger patches	single shrub species Are shrubs mostly?
of vegetation?	two or three species native
YES NO	☑ more than three species □ exotic
Position of this 1 ha search area relative to the surrounding tree / shrub cover?	Species: Melaleuca of SEVT Species.
A- Isolated B-Semi isolated	Low shrub cover (0.5 m – 2 m):
☐ C-Not isolated ☐ D-Continuous tree / shrub	☐ Absent ☐ Scattered ☐ Common ☐ Abundant
Continuous tree/shrub cover 🖸 Scattered trees 🔲 Grassland	If shrubs present:
	single shrub species Are shrubs mostly?
	☐ two or three species ☐ native
	more than three species exotic
	Species: Seri Species, Contana camara.
	Dominant ground cover within this 1 ha area:
200 m. •	☐ Tussocks ☐ Hummocks ☐ Continuous grass / herbs
Is this 1 ha area on a:	☐ Low Heath ☐ Weeds ☐ Bare dirt / rocks / litter
☐ Flat ☐ Ridge ☑ Gully ☐ Slope	
If slope, give aspect over 20 m	LAND USE Used for?
Degrees of slope over 20 m:	☐ Mixed grazing ☐ Sheep ☐ Cattle
W -> E	☐ Crops Crop type
SW V SE	Other Other Ood reserve adjacent & 58



KEY HABITAT FEATURES HOLLOWS and LOGS No. of hollows within 1 ha patch? ☐ Scattered (1-5) □ Common (6-10) Abundant (>10) Absent (0) ☐ dead ☐ living If present, are they mostly? Fallen trees or branches present 10-50 cm diameter? □ Absent (0) ☐ Scattered (1-10) Common (10-20) (> 20) Abundant Fallen trees or branches present >50 cm diameter? Scattered (1-5) □ Absent (0) □ Common (6-10) Abundant □ (>10) Leaf litter? Patchy Absent Sparse Dense Mistletoe within this /1 ha area? Absent Scattered Common ☐ Abundant ROCKS Outcrops within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of 10-30 cm diameter? Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of > 30 cm diameter? Absent Scattered Common Abundant Cliffs and overhangs within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant If present, are they mostly? ☐ Sandstone ☐ Granite ■ Basalt ☐ Karst ☐ Other CRACKING CLAY SOILS YES NO HABITAT QUALITY FOR: Hollow dependent fauna ☐ Absent ☑ Poor Average Good Excellent Rock dependent fauna ☑ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent Log dependent fauna ☐ Average ☐ Good ☐ Excellent ☐ Absent ☐ Poor Small birds ☐ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent OTHER HABITAT QUALITY ASPECTS:

1	ex seets forces ex		
Wetlands present? ☐ YES ☐ NO	WETLA	NDS	
TYPE OF WETLA	ND:		
MARINE: Coral reef Estuarine Tidal forest (e.g. Saline / brackish	15 6	flat	☐ Beach (all) ☐ Tidal marsh ☐ Lagoon
River		☐ Flood ☐ Fres ☐ Woo ☐ Clay	
ARTIFICIAL WETLAND Large dam, reser Irrigation channe Canal, drainage c AREA OF WETLAND:	rvoir (>8 ha) I, rice field hannel, ditch	☐ Wast	_
■ Water mostly	Brackish / sal		Salty
FEATURES PRESENT Broad, shallow, swampy areas for birds to feed Islands for birds to roost and nest			
Dead or living trees in the water (partly submerged) for roosting and nesting habitat			
Fencing to exclude grazing stock from direct access to			
the waters edge Dense tree and / or shrub cover close to the edge of the water			
		N. B. Service State	
Barling Out Ethichna diggio Red-boured for Kaohaloura Whiteuinged thou Glaphyromorphus	iry wen	53	33 - 534 SP
		SITE	NO. FAOL

HLA HABITAT ASSE	SSMENT FOR 1 ha SEARCH AREA
PROJECT ARP - GPN	DATE (4(8)07
25	of cleaning to senert NAME D. Flerring
AMG 5 6 EASTING 3 0 5 8 5	NORTHING 7352505
DISTANCE and DIRECTION from TOWN: SITE IS km (s)	(N. S. E. W.) OF IN (state)
WAS GPS USED? YES NO IF YES, WHICH DATUM WAS USED?	Aust (84/66) WGS 84 or GDA ALTITUDE
GENERAL	VEGETATION STRUCTURE : OVERSTORY
Remnant trees Regrowth Plantation	Tree canopy cover (trees taller that 3 m):
Native grasses (trees / shrubs may be present)	☐ Absent ☑ Sparse ☐ Open ☐ Dense
☐ Non-native grasses (trees / shrubs may be present)	If trees present: single tree species 3.
☐ Improved pasture ☐ Other	Are trees mostly?
Habitat type Ironbank woodland	two or three species anative
RE 11:11:4111:11:15 VEG DX LANDFORM HSL	more than three species exotic Species: E. webra, C. cimadora
SOIL Clavey sand	Species: C. Woord, C. Combacta
SOIL TO THE STATE OF THE STATE	Average height of overstory?
LANDSCAPE Shape of patch?	☐ 3-5 m ☐ 5-10 m ☐ 10-15 m ☐ > 15 m
☐ Circular / square ☐ Irregular ☐ Strip <50 m	Are the trees?
☐ Strip >50 m	Even-aged (Trees mostly the same age or size)
Creek / river Roadside	■ Multi-aged (Trees of varing size or age) Are there obvious signs of dieback in the tree canopy?
Strip details:	□ None □ Some dieback □ Extensive dieback
	1 to
Width Area of full patch that contains 1 ha area:	VEGETATION STRUCTURE : UNDERSTORY Tall understory shrub cover (>2 m):
☐ < 3 ha ☐ 3-10 ha ☐ 11-30 ha	Absent Scattered Common Abundant
☐ 31-100 ha ☐ 101-400 ha ☐ > 400 ha	If shrubs present:
Is the 1 ha patch connected to other similar sized or larger patches	single shrub species Are shrubs mostly?
of vegetation?	☐ two or three species ☐ native
☐ YES ☐ NO	more than three species exotic
Position of this 1 ha search area relative to the surrounding tree / shrub cover?	Species: 20 phosternon suavredons, Acacia spp.
A- Isolated B-Semi isolated	Low shrub cover (0.5 m - 2 m):
☐ C-Not isolated ☐ D-Continuous tree / shrub	✓ Absent ☐ Scattered ☐ Common ☐ Abundant
Continuous tree/shrub cover	If shrubs present:
	single shrub species Are shrubs mostly?
	☐ two or three species ☐ native
	☐ more than three species ☐ exotic
0	Species:
	Dominant ground cover within this 1 ha area:
200 m. D	☐ Tussocks ☐ Hummocks ☐ Continuous grass / herbs
To Apply at the control of the contr	☐ Low Heath ☐ Weeds ☐ Bare dirt / rocks / litter
Is this 1 ha area on a:	□ Low Heath □ Weeds □ Bare dirt / rocks / litter
Is this 1 ha area on a: Flat Ridge Gully Slope If slope, give aspect over 20 m	LAND USE
☐ Flat ☐ Ridge ☐ Gully ☐ Slope If slope, give aspect over 20 m Degrees of slope over 20 m:	LAND USE Used for?
☐ Flat ☐ Ridge ☐ Gully ☐ Slope If slope, give aspect over 20 m Degrees of slope over 20 m:	LAND USE Used for? ☐ Mixed grazing ☐ Sheep ☑ Cattle
☐ Flat ☐ Ridge ☐ Gully ☐ Slope If slope, give aspect over 20 m Degrees of slope over 20 m:	LAND USE Used for?



KEY HABITAT FEATURES HOLLOWS and LOGS No. of hollows within 1 ha patch? Abundant (>10) Absent ☐ Scattered (1-5) □ Common (6-10) ☐ dead ☐ living If present, are they mostly? Fallen trees or branches present 10-50 cm diameter? ☐ Scattered (1-10) □ Common (10-20) □ Absent (0) Abundant Fallen trees or branches present >50 cm diameter? Abundant (>10) ☐ Scattered (1-5) □ Common (6-10) ☐ Absent Leaf litter? Absent Sparse Patchy Dense Mistletoe within this 1 ha area? ☑ Absent ☐ Scattered ☐ Common Abundant ROCKS Outcrops within this 1 ha area? ☑ Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of 10-30 cm diameter? Absent ☐ Scattered ☐ Common Abundant Surface rocks of > 30 cm diameter? **☑** Absent Scattered Common ☐ Abundant Cliffs and overhangs within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant If present, are they mostly? ☐ Sandstone ☐ Granite ■ Basalt ☐ Karst ☐ Other CRACKING CLAY SOILS YES NO HABITAT QUALITY FOR: Hollow dependent fauna Absent Poor ☐ Average ☐ Good ☐ Excellent Rock dependent fauna Absent Poor ☐ Average ☐ Good ☐ Excellent Log dependent fauna Average Good Excellent ☐ Absent ☐ Poor Small birds Absent Poor ☐ Average ☐ Good ☐ Excellent OTHER HABITAT QUALITY ASPECTS: Relatively your woodland, absence of large old trees

HABITAT ASSESSMENT (cont.)

West AND			
WETLANDS Wetlands present? YES NO			
TYPE OF WETLAND:			
MARINE: Coral reef Rocky shore Beach (all) Estuarine Tidal mudflat Tidal marsh Tidal forest (e.g. mangrove) Lagoon Saline / brackish lake / swamp			
INLAND WETLAND: ☐ Creek ☐ Dry ☐ Flowing ☐ River ☐ Floodplain, river flat ☐ Small billabong, pools (<8 ha) ☐ Freshwater lake (>8 ha) ☐ Shrubby swamp ☐ Wooded swamp ☐ Gilgai ☐ Claypan			
☐ Ephemeral Marsh / swamp with emergent veg ARTIFICIAL WETLANDS: ☐ Large dam, reservoir (>8 ha) ☐ Small dam, pond, tank			
☐ Irrigation channel, rice field ☐ Wastewater treatment ☐ Canal, drainage channel, ditch ☐ Salt pond / field			
AREA OF WETLAND: <pre></pre>			
FEATURES PRESENT Broad, shallow, swampy areas for birds to feed Islands for birds to roost and nest			
Dead or living trees in the water (partly submerged) for roosting and nesting habitat			
Fencing to exclude grazing stock from direct access to the waters edge			
Dense tree and / or shrub cover close to the edge of the water			
ADDITIONAL NOTES:			
Pied butchesbird 0529 Noisy Frankird Rainbon bee easer			
FAOS			

Created by Memento Hermes & Dr Simon Hudson 2006

HABITAT ASSI	ESSMENT FOR 1 ha SEARCH AREA
PROJECT AFF- GPN	DATE
SITE NO. FAO6 LOCATION GPS 019 - guly	at easement NAME D. Flening .
AMG 5 6 EASTING 5 0 6 3 8	8 NORTHING 7 3 5 2 5 3 2
DISTANCE and DIRECTION from TOWN: SITE ISkm (s)	(N. S. E. W.) OF IN (state)
WAS GPS USED? YES NO IF YES, WHICH DATUM WAS USED?	Aust (84/66) WGS 84 or GDA ALTITUDE
GENERAL	VEGETATION STRUCTURE : OVERSTORY
Remnant trees Regrowth Plantation	Tree canopy cover (trees taller that 3 m):
Native grasses (trees / shrubs may be present)	☐ Absent ☐ Sparse ☐ Open ☐ Dense
Non-native grasses (trees / shrubs may be present)	If trees present:
☐ Improved pasture ☐ Other	Are trees mostly? Two or three species
Habitat type Finging liparon Forest	
RE 11-3-26 VEG OD LANDFORM GUL	Species: E. Moluccana, E. tereficornis
SOIL Sarah day	hophosteman suavolens
SOIL	Average height of overstory?
LANDSCAPE	□ 3-5 m □ 5-10 m □ 10-15 m □ > 15 m
Shape of patch? ☐ Circular / square ☐ Irregular ☐ Strip <50 m	Are the trees?
Strip >50 m	Even-aged (Trees mostly the same age or size)
Create (stress Decedade	Multi-aged (Trees of varing size or age) Are there obvious signs of dieback in the tree canopy?
Strip details:	None
☐ Windbreak ☐ Other	
Width Area of full patch that contains 1 ha area:	VEGETATION STRUCTURE : UNDERSTORY Tall understory shrub cover (>2 m):
☐ < 3 ha ☐ 3-10 ha ☐ 11-30 ha	Absent ☐ Scattered ☐ Common ☐ Abundant
☑ 31-100 ha ☐ 101-400 ha ☐ > 400 ha	If shrubs present:
Is the 1 ha patch connected to other similar sized or larger patches	single shrub species Are shrubs mostly?
of vegetation?	two or three species native
☐ YES ☐ NO	more than three species exotic
Position of this 1 ha search area relative to the autromatica track	
Position of this 1 ha search area relative to the surrounding tree / shrub cover?	Species: Bursaria sp., Melaleuca
	Species: Bursaria sp., Melaleuca
shrub cover?	
shrub cover? A- Isolated B-Semi isolated	Species: Busario sp, Melaleura Low shrub cover (0.5 m − 2 m): Absent Scattered Common Abundant If shrubs present:
shrub cover? A- Isolated B-Semi isolated C-Not isolated D-Continuous tree / shrub	Species: Busaria sp., Metaleura Low shrub cover (0.5 m − 2 m): Absent Scattered Common Abundant
shrub cover? A- Isolated B-Semi isolated C-Not isolated D-Continuous tree / shrub	Species: Busaria sp., Metaleura Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present:
shrub cover? A- Isolated B-Semi isolated C-Not isolated D-Continuous tree / shrub	Species: Busaria sp, Melaleura Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly?
shrub cover? A- Isolated B-Semi isolated C-Not isolated D-Continuous tree / shrub	Species: Bysaria sp, Melaleura Low shrub cover (0.5 m − 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species native
shrub cover? A- Isolated B-Semi isolated C-Not isolated D-Continuous tree / shrub	Species: Busaria sp, Mclabaria Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species Species: Lantara Camara, Bursaria
shrub cover? A- Isolated B-Semi isolated C-Not isolated D-Continuous tree / shrub	Species: Busario sp, Melaleura Low shrub cover (0.5 m - 2 m): ☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present: ☐ single shrub species ☐ two or three species ☐ more than three species ☐ wore than three species ☐ exotic
shrub cover? A- Isolated B-Semi isolated C-Not isolated D-Continuous tree / shrub Continuous tree/shrub cover Scattered trees Grassland B 200 m.	Species: Bysaria sp, Mclabara Low shrub cover (0.5 m - 2 m): ☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present: ☐ single shrub species ☐ two or three species ☐ native ☐ more than three species ☐ exotic Species: Lantara Camera, Bursaria Dominant ground cover within this 1 ha area:
shrub cover? A- Isolated B-Semi isolated C-Not isolated Continuous tree/shrub cover Scattered trees Grassland B Stattered trees Grassland B Stattered trees Stattered trees B Stattered trees B Stattered trees B Stattered trees B Stattered trees Stattered trees B Stattered trees Stattered trees Stattered trees B Stattered trees Stattered trees Stattered trees B Stattered trees Stattered trees B Stattered trees Stat	Species: Bysaria sp, Mclabara
shrub cover? A- Isolated B-Semi isolated C-Not isolated D-Continuous tree / shrub Continuous tree/shrub cover Scattered trees Grassland B 200 m.	Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species species: Lantara Camera, Bursana Dominant ground cover within this 1 ha area: Tussocks Hummocks Continuous grass / herbs Low Heath Weeds Bare dirt / rocks / litter
shrub cover? A- Is olated B-Semi is olated C-Not is olated D-Continuous tree / shrub Continuous tree / shrub cover Scattered trees Grassland B 200 m B Gully Slope If slope, give aspect over 20 m Degrees of slope over 20 m:	Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species species: Dominant ground cover within this 1 ha area: Tussocks Hummocks Continuous grass / herbs Low Heath Weeds Bare dirt / rocks / litter LAND USE Used for?
Shrub cover? A- Is olated D-Continuous tree / shrub Continuous tree/shrub cover Scattered trees Grassland B Scattered trees Grassland B Is this 1 ha area on a: Flat Ridge Gully Slope If slope, give aspect over 20 m Degrees of slope over 20 m:	Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? Itwo or three species native more than three species exotic Species: Lantana (amera, Bursana) Dominant ground cover within this 1 ha area: Tussocks Hummocks Continuous grass / herbs Low Heath Weeds Bare dirt / rocks / litter LAND USE Used for? Mixed grazing Sheep Cattle
Shrub cover? A- Isolated B-Semi isolated C-Not isolated D-Continuous tree / shrub Continuous tree / shrub cover Scattered trees Grassland B 200 m B Gully Slope If slope, give aspect over 20 m Degrees of slope over 20 m:	Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species more than three species species: Dominant ground cover within this 1 ha area: Tussocks Hummocks Continuous grass / herbs Low Heath Weeds Bare dirt / rocks / litter LAND USE Used for?



KEY HABITAT FEATURES HOLLOWS and LOGS No. of hollows within 1 ha patch? □ Absent (0) ☐ Scattered (1-5) Common (6-10) Abundant (>10) ☐ dead ☐ living If present, are they mostly? Fallen trees or branches present 10-50 cm diameter? □ Absent ☐ Scattered (1-10) Common (10-20) Abundant □ (> 20) Fallen trees or branches present >50 cm diameter? ☐ Scattered (1-5) □ Abundant (>10) ☑ Absent □ Common (6-10) Leaf litter? Patchy Absent Sparse Dense Mistletoe within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant ROCKS Outcrops within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of 10-30 cm diameter? Absent Scattered Common Abundant Surface rocks of > 30 cm diameter? Absent Scattered Common Abundant Cliffs and overhangs within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant If present, are they mostly? ■ Sandstone ☐ Granite ☐ Basalt ☐ Karst ☐ Other **CRACKING CLAY SOILS** YES YNO HABITAT QUALITY FOR: Hollow dependent fauna ☐ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent Rock dependent fauna ☐ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent Log dependent fauna Average Good Excellent ☐ Absent ☐ Poor Small birds ☐ Average ☐ Good ☐ Excellent Absent Poor OTHER HABITAT QUALITY ASPECTS: Degraded, day creek. Cattle damage ed weed imasion. hantona provides good hotsitat for small birds, but not exensive enough for quair hobital. large moluccanas with howours.

Wetland YES	s present?	WETL	ANDS	
TYPE	OF WETL	AND:		
☐ Estu	al reef arine I forest (e.ç	☐ Rocky sl ☐ Tidal mu g. mangrove) h lake / swam	dflat	☐ Beach (all) ☐ Tidal marsh ☐ Lagoon
Cree River Smal	ll billabong bby swam ii	(c)	☐ Flo	
Large	ation chann	NDS: ervoir (>8 ha) el, rice field channel, ditch	☐ Wa	all dam, pond, tank stewater treatment t pond / field
AREA OF	mostly		8-100 ha	a >100 ha
FEATURES PRESENT Broad, shallow, swampy areas for birds to feed				
☐ Islands for birds to roost and nest ☐ Dead or living trees in the water (partly submerged) for				
roosting and nesting habitat Fencing to exclude grazing stock from direct access to				
the waters edge Dense tree and / or shrub cover close to the edge of the water				
Noisy Brown Scarlet	Friendind Friendind honeye Honeye w Lonke	an an	5	30-551 [32
			SIT	ENO. FAOG

HLA HABITAT ASS	SESSMENT FOR 1 ha SEARCH AREA
PROJECT ARP GPN	DATE 15/8/2007
SITE NO. FADT LOCATION GPS 046	NAME D. Fleming
AMG S 6 EASTING D 9 2 8	NORTHING 7 3 5 5 9 7 8
DISTANCE and DIRECTION from TOWN: SITE ISkm (s)	(N. S. E. W.) OF IN (state)
WAS GPS USED? YES NO IF YES, WHICH DATUM WAS USE	D? Aust (84/66) WGS 84 or GDA ALTITUDE
GENERAL	VEGETATION STRUCTURE - OVERSTORY
Remnant trees Regrowth Plantation	VEGETATION STRUCTURE: OVERSTORY Tree canopy cover (trees taller that 3 m):
Native grasses (trees / shrubs may be present)	☐ Absent ☐ Sparse ☐ Open ☐ Dense
Non-native grasses (trees / shrubs may be present)	If trees present:
☐ Improved pasture ☐ Other	single tree species Are trees mostly?
6: 0: 0: -:	two or three species attive
N Hard To A LV	more than three species exotic
G 1	Species: C. citrodora, É. cuebra
SOIL Sway day	Average height of overstory?
LANDSCAPE	□ 3-5 m □ 5-10 m □ 10-15 m □ > 15 m
Shape of patch? ☐ Circular / square ☐ Irregular ☐ Strip <50 m	Are the trees?
Strip >50 m	Even-aged (Trees mostly the same age or size)
	Multi-aged (Trees of varing size or age)
Strip details: Creek / river Roadside	Are there obvious signs of dieback in the tree canopy? None Some dieback Extensive dieback
☐ Windbreak ☐ Other	
WidthArea of full patch that contains 1 ha area:	VEGETATION STRUCTURE : UNDERSTORY
☐ < 3 ha ☐ 3-10 ha ☐ 11-30 ha	Tall understory shrub cover (>2 m): ☐ Absent ☐ Scattered ☐ Common ☐ Abundant
☐ 31-100 ha ☐ 101-400 ha ☐ > 400 ha	If shrubs present:
le the 4 he match convented to other similar sized or leaves and the	single shrub species Are shrubs mostly?
Is the 1 ha patch connected to other similar sized or larger patches of yegetation?	☑ two or three species ☑ native
YES NO	more than three species exotic
Position of this 1 ha search area relative to the surrounding tree /	Species: Cascarina cuminghamiara, Metaleuca
shrub cover? A- Isolated B-Semi isolated	Obviatilis, juenile cues
☐ C-Not isolated ☐ D-Continuous tree / shrub	Low shrub cover (0.5 m - 2 m):
Continuous tree/shrub cover Scattered trees Grassland	☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present:
Commons not your core	Single shrub species
•	Are shrubs mostly? two or three species native
	☐ more than three species ☐ exotic
	Species: Lautana (awara
	2.4
200 m	Dominant ground cover within this 1 ha area: Tussocks Hummocks Continuous grass / herbs
200111.	
Is this 1 ha area on a:	Low Heath Weeds Bare dirt / rocks / litter
☐ Flat ☐ Ridge ☑ Gully ☐ Slope If slope, give aspect over 20 m	LAND USE
	Used for?
Degrees of slope over 20 m:	☐ Mixed grazing ☐ Sheep ☐ Cattle
₩ ← 	Crops Crop type
SW V SE	Other State Farest



KEY HABITAT FEATURES HOLLOWS and LOGS No. of hollows within 1 ha patch? Abundant (>10) Absent (0) Scattered (1-5) ☐ Common (6-10) dead living If present, are they mostly? Fallen trees or branches present 10-50 cm diameter? Scattered (1-10) Common (10-20) Abundant □ Absent □ (> 20) Fallen trees or branches present >50 cm diameter? □ Abundant (>10) Scattered Common (6-10) Absent Leaf litter? Patchy Absent Dense Sparse Mistletoe within this 1 ha area? Absent ☐ Scattered ☐ Common Abundant ROCKS Outgrops within this 1 ha area? **☑** Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of 10730 cm diameter? Scattered Common ☐ Absent ☐ Abundant Surface rocks of > 30 cm diameter? ☐ Absent Scattered Common ☐ Abundant Cliffs and overhangs within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant If present, are they mostly? ☐ Sandstone Granite ■ Basalt Karst ☐ Other CRACKING CLAY SOILS ☐ YES ☑ NO HABITAT QUALITY FOR: Hollow dependent fauna Absent Poor Average Good Excellent Rock dependent fauna Average Good Excellent ☐ Absent ☐ Poor Log dependent fauna Average Good Excellent ☐ Absent ☐ Poor Small birds ☐ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent OTHER HABITAT QUALITY ASPECTS: Small dry creek cooking boyles Rd. Understoner prodominally Lantona. Some crossion of side gullies.

91 - 35-148 -	
WETLANDS Wetlands present?	
YES NO	
TYPE OF WETLAND:	
MARINE:	
☐ Coral reef ☐ Rocky shore ☐ Beach (all)	
☐ Estuarine ☐ Tidal mudflat ☐ Tidal marsh	
☐ Tidal forest (e.g. mangrove) ☐ Lagoon	
The state of the s	
Saline / brackish lake / swamp	
INLAND WETLAND:	
☐ Creek Dryk ☐ Flowing	
☐ River ☐ Floodplain, river flat	
☐ Small billabong , pools (<8 ha) ☐ Freshwater lake (>8 ha)	
☐ Shrubby swamp ☐ Wooded swamp	
☐ Gilgai ☐ Claypan	
☐ Ephemeral Marsh / swamp with emergent veg	
ARTIFICIAL WETLANDS: Large dam, reservoir (>8 ha) Small dam, pond, tank	
☐ Irrigation channel, rice field ☐ Wastewater treatment	
☐ Canal, drainage channel, ditch ☐ Salt pond / field	
AREA OF WETLAND:	
☑ < 2 ha	
■ Water mostly	
Fresh Brackish / saline Salty	
FEATURES PRESENT	
☐ Broad, shallow, swampy areas for birds to feed	
☐ Islands for birds to roost and nest	
Dead or living trees in the water (partly submerged) for	
roosting and nesting habitat	
Fencing to exclude grazing stock from direct access to the waters edge	
Dense tree and / or shrub cover close to the edge of the water	
Annual Marie	
ADDITIONAL NOTES:	

ADDITIONA	L NOTES:
Shiard Pardalole	0542.
Rainban hoikeet	
Brown Honeyealer	
Galati	
Noisy Eigsbird	
Pseudo phryne raveni	
Louis Honogeater.	
rayer.	2
Scalybreasted Lonked.	
Enders Com Various fully	north [AO]

HLA HABITAT ASSE	SSMENT FOR 1 ha SEARCH AREA
PROJECT ARP-GPN	DATE 1518107
SITE NO FAOS LOCATION GPS 050	NAME D. F Ening
AMG 5 6 EASTING 3 0 9 9 1	S NORTHING 7358296
DISTANCE and DIRECTION from TOWN: SITE ISkm (s)	(N. S. E. W.) OF
WAS GPS USED? YES NO IF YES, WHICH DATUM WAS USED?	Aust (84/66) WGS 84 or GDA ALTITUDE
GENERAL	VEGETATION STRUCTURE : OVERSTORY
Remnant trees Regrowth Plantation	Tree canopy cover (trees taller that 3 m):
Native grasses (trees / shrubs may be present)	☐ Absent ☑ Sparse ☐ Open ☐ Dense
Non-native grasses (trees / shrubs may be present)	If trees present: tending towards open Forest
☐ Improved pasture ☐ Other	single tree species Are trees mostly?
Good of Control	wo or three species native
Number 196	more than three species exotic
RE LANDFORM L	Species: C citrodora, E cresta
soil Clayey Sand	
LANDSCAPE	Average height of overstory? 3-5 m 5-10 m 10-15 m > 15 m
Shape of patch?	□ 3-5 m □ 5-10 m □ 10-15 m □ > 15 m Are the trees?
☐ Circular / square ☐ Irregular ☐ Strip <50 m	Even-aged (Trees mostly the same age or size)
☐ Strip >50 m	☐ Multi-aged (Trees of varing size or age)
Strip details: Creek / river Roadside	Are there obvious signs of dieback in the tree canopy?
☐ Windbreak ☐ Other	☐ None ☐ Some dieback ☐ Extensive dieback
Width	VEGETATION STRUCTURE : UNDERSTORY
Area of full patch that contains 1 ha area:	
	Tall understory shrub cover (>2 m):
☐ < 3 ha ☐ 3-10 ha ☐ 11-30 ha	Absent
□ < 3 ha □ 3-10 ha □ 11-30 ha □ 31-100 ha □ > 400 ha □ № 400 ha	☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present:
☐ 31-100 ha ☐ 101-400 ha ☐ > 400 ha	☐ Absent ☐ Scattered ☐ Common ☐ Abundant
☐ 31-100 ha ☐ 101-400 ha ☐ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation?	☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present: ☐ single shrub species
☐ 31-100 ha ☐ 101-400 ha ☐ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches	☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present: ☐ single shrub species Are shrubs mostly?
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover?	□ Absent □ Scattered □ Common □ Abundant If shrubs present: □ single shrub species □ two or three species □ native
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree /	□ Absent □ Scattered □ Common □ Abundant If shrubs present: □ single shrub species Are shrubs mostly? □ two or three species □ native □ more than three species □ exotic Species: Laphasteria saveolens, Alphitoria excellant
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover?	□ Absent □ Scattered □ Common □ Abundant If shrubs present: □ single shrub species Are shrubs mostly? □ two or three species □ native □ more than three species □ exotic
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Isolated □ B-Semi isolated	Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species native more than three species exotic Species: La hostenan saccolens, a philonia excellar Low shrub cover (0.5 m − 2 m): Absent Scattered Common Abundant If shrubs present:
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Isolated □ B-Semi isolated □ C-Not isolated □ D-Continuous tree / shrub	Absent
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Isolated □ B-Semi isolated □ C-Not isolated □ D-Continuous tree / shrub	Absent
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Isolated □ B-Semi isolated □ C-Not isolated □ D-Continuous tree / shrub	Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? ✓ two or three species native more than three species exotic Species: La hostenan saveolens, Aphilonia excellant Low shrub cover (0.5 m - 2 m): Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly?
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Isolated □ B-Semi isolated □ C-Not isolated □ D-Continuous tree / shrub	Absent
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Isolated □ B-Semi isolated □ C-Not isolated □ D-Continuous tree / shrub	Absent
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Is olated □ B-Semi is olated □ C-Not is olated □ D-Continuous tree / shrub □ Continuous tree/shrub cover □ Scattered trees □ Grassland □ A- Is olated □ D-Continuous tree □ Grassland	Absent
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Isolated □ B-Semi isolated □ C-Not isolated □ D-Continuous tree / shrub	Absent
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Is olated □ B-Semi is olated □ C-Not is olated □ D-Continuous tree / shrub ■ Continuous tree/shrub cover □ Scattered trees □ Grassland ■ Continuous tree / shrub □ Continuous tree / shrub	Absent
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Is olated □ B-Semi is olated □ C-Not is olated □ D-Continuous tree / shrub □ Continuous tree/shrub cover □ Scattered trees □ Grassland □ Stattered trees □ Grassland □ Stattere	Absent
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yégetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Isolated □ B-Semi isolated □ C-Not isolated □ D-Continuous tree / shrub □ Continuous tree / shrub cover □ Scattered trees □ Grassland □ Stattered trees □ Grassland □ Flat □ Ridge □ Gully □ Slope If slope, give aspect over 20 m	Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species mative more than three species exotic
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Is olated □ B-Semi is olated □ C-Not is olated □ D-Continuous tree / shrub □ Continuous tree / shrub cover □ Scattered trees □ Grassland □ Stattered trees □ Grassland □ Statte	Absent
□ 31-100 ha □ 101-400 ha □ > 400 ha Is the 1 ha patch connected to other similar sized or larger patches of yegetation? □ YES □ NO Position of this 1 ha search area relative to the surrounding tree / shrub cover? □ A- Isolated □ B-Semi isolated □ C-Not isolated □ D-Continuous tree / shrub □ Continuous tree / shrub cover □ Scattered trees □ Grassland □ State □ Ridge □ Gully □ Slope Is this 1 ha area on a: □ □ Flat □ Ridge □ Gully □ Slope If slope, give aspect over 20 m □ Degrees of slope over 20 m:	Absent Scattered Common Abundant If shrubs present: single shrub species Are shrubs mostly? two or three species mative more than three species exotic



KEY HABITAT FEATURES HOLLOWS and LOGS No. of hollows within 1 ha patch? Scattered ☐ Common (6-10) Abundant □ (>10) ☐ dead ☐ living If present, are they mostly? Fallen trees or branches present 10-50 cm diameter? Scattered (1-10) Abundant □ Absent (0) Common ☐ (> 20) Fallen trees or branches present >50 cm diameter? Scattered (1-5) □ Common (6-10) Abundant □ Absent (0) □_(>10) Leaf litter? Patchy Absent Sparse Dense Mistletoe within this 1 ha area? Scattered Common Absent Abundant ROCKS Outcrops within this 1 ha area? ☑ Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of 10-30 cm diameter? Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of > 30 cm diameter? Absent ☐ Scattered ☐ Common Abundant Cliffs and overhangs within this 1 ha area? Absent Scattered Common ☐ Abundant If present, are they mostly? ☐ Granite ■ Sandstone ☐ Basalt ☐ Karst ☐ Other CRACKING CLAY SOILS YES NO HABITAT QUALITY FOR: Hollow dependent fauna Absent Poor Average Good Excellent Rock dependent fauna ☐ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent Log dependent fauna ☐ Average ☐ Good ☐ Excellent ☐ Absent ☐ Poor Small birds Average Good Excellent Absent Poor OTHER HABITAT QUALITY ASPECTS: Infact woodland road resent adjacent to stare Forest

- Carrier and Alexander
WETLANDS Wetlands present? YES NO
TYPE OF WETLAND:
MARINE: Coral reef Rocky shore Beach (all) Estuarine Tidal mudflat Tidal marsh Tidal forest (e.g. mangrove) Lagoon Saline / brackish lake / swamp
INLAND WETLAND: ☐ Creek
River
☐ Small billabong , pools (<8 ha) ☐ Freshwater lake (>8 ha)
☐ Shrubby swamp ☐ Wooded swamp
☐ Gilgai ☐ Claypan
Ephemeral Marsh / swamp with emergent veg
ARTIFICIAL WETLANDS: Large dam, reservoir (>8 ha) Small dam, pond, tank Irrigation channel, rice field Wastewater treatment Canal, drainage channel, ditch Salt pond / field AREA OF WETLAND: <2 ha 2-8 ha 8-100 ha >100 ha Water mostly Fresh Brackish / saline Salty FEATURES PRESENT Broad, shallow, swampy areas for birds to feed Islands for birds to roost and nest Dead or living trees in the water (partly submerged) for roosting and nesting habitat Fencing to exclude grazing stock from direct access to the waters edge Dense tree and / or shrub cover close to the edge of the water
ADDITIONAL NOTES:
lujous whistler 0543-544
Grey fontail
Shidred Pardalote
Grey Strike-Hush
Double-barred Find
Led-barred Fairy-wren
FADS

HABITAT ASSE	ESSMENT FOR 1 ha SEARCH AREA
PROJECT ARP-GPN	DATE 15/8/2007
SITE NO. FA09 LOCATION GPS 65 & Woodland	NAME D. Fleming
AMG 56 EASTING 5 3 9	0 NORTHING 7 3 6 0 6 9 9
DISTANCE and DIRECTION from TOWN: SITE ISkm (s)	(N. S. E. W.) OF IN (state)
WAS GPS USED? YES NO IF YES, WHICH DATUM WAS USED?	Aust (84/66) WGS 84 or GDA ALTITUDE
GENERAL	VEGETATION STRUCTURE : OVERSTORY
Remnant trees Regrowth Plantation	Tree canopy cover (trees taller that 3 m):
☑ Native grasses (trees / shrubs may be present)	☐ Absent ☐ Sparse ☐ Open ☐ Dense
☐ Non-native grasses (trees / shrubs may be present)	If trees present:
☐ Improved pasture ☐ Other	single tree species Are trees mostly?
landari da ella el	two or three speciesnative
0	more than three species exotic
// COLL COLL COLL COLL COLL COLL COLL CO	Species: E-crebra, C-citivadora, E. tereticornis
SOIL Clayer Sand	Average height of overstory?
LANDSCAPE	☐ 3-5 m ☐ 5-10 m ☐ 10-15 m ☐ > 15 m
Shape of patch?	Are the trees?
☐ Circular / square ☐ Irregular ☐ Strip <50 m	Even-aged (Trees mostly the same age or size)
Strip >50 m	Multi-aged (Trees of varing size or age)
Strip details: Creek / river Roadside	Are there obvious signs of dieback in the tree canopy?
☐ Windbreak ☐ Other	None □ Some dieback □ Extensive dieback
Width	VEGETATION STRUCTURE : UNDERSTORY
Area of full patch that contains 1 ha area:	Tall understory shrub cover (>2 m):
	☐ Absent ☐ Scattered ☐ Common ☐ Abundant If shrubs present:
∐ 31-100 ha	☐ single shrub species
Is the 1 ha patch connected to other similar sized or larger patches of vegetation?	Are shrubs mostly?
☑ YES ☐ NO	more than three species exotic
Position of this 1 ha search area relative to the surrounding tree /	Species: Acacia Sp. Alphitonia excelsa
shrub cover?	The regulation of the second
A- Isolated B-Semi isolated	Low shrub cover (0.5 m - 2 m):
C-Not isolated C-Continuous tree / shrub	☐ Absent ☐ Scattered ☐ Common ☐ Abundant
Continuous tree/shrub cover	If shrubs present:
	single shrub species Are shrubs mostly?
	two or three species ative
	more than three species exotic
0	Species: Yanthorrhea ap. Dianeva ap.,
	Dominant ground cover within this 1 ha area:
200 m. O	☐ Tussocks ☐ Hummocks ☐ Continuous grass / herbs
Is this 1 ha area on a:	☐ Low Heath ☐ Weeds ☐ Bare dirt / rocks / litter
☐ Flat ☐ Ridge ☐ Gully ☑ Slope	
If slope, give aspect over 20 m	LAND USE Used for?
Degrees of slope over 20 m:	☐ Mixed grazing ☐ Sheep ☐ Cattle
	□ Crops
	Crop type
SW SE	Other Other Reserve



KEY HABITAT FEATURES HOLLOWS and LOGS No. of hollows within 1 ha patch? Scattered (1-5) □ Common (6-10) Abundant (>10) □ Absent (0) ☐ dead ☐ living If present, are they mostly? Fallen trees or branches present 10-50 cm diameter? ☐ Scattered (1-10) □ Common (10-20) □ Absent (0) Abundant (> 20) Fallen trees or branches present >50 cm diameter? Scattered (1-5) □ Common (6-10) Abundant (>10) □ Absent (0) Leaf litter? Absent ☐ Sparse Patchy Dense Mistletoe within this 1 ha area? Absent ☐ Scattered ☐ Common Abundant ROCKS Outcrops within this 1 ha area? Absent ☐ Scattered ☐ Common ☐ Abundant Surface rocks of 10-30 cm diameter? ☐ Absent ☑ Scattered ☐ Common ☐ Abundant Surface rocks of > 30 cm diameter? Scattered Common Absent ☐ Abundant Cliffs and overhangs within this 1 ha area? ☑ Absent ☐ Scattered ☐ Common ☐ Abundant If present, are they mostly? ☐ Sandstone ☐ Granite ■ Basalt ☐ Karst ☐ Other **CRACKING CLAY SOILS** ☐ YES ☑ NO HABITAT QUALITY FOR: Hollow dependent fauna ☐ Absent ☐ Poor Average Good Excellent Rock dependent fauna ☐ Absent ☐ Poor ☐ Average ☐ Good ☐ Excellent Log dependent fauna ☐ Average ☐ Good ☐ Excellent ☐ Absent ☐ Poor Small birds Average Good Excellent Absent Poor OTHER HABITAT QUALITY ASPECTS: Evidence of past logging: fewer than normal large and brees. Infestation of Russer vive of Courtana on lower slopes.

WETLANDS Wetlands present? YES NO		
TYPE OF WETLAND:		
MARINE: Coral reef Rocky shore Beach (all) Estuarine Tidal mudflat Tidal marsh Tidal forest (e.g. mangrove) Lagoon Saline / brackish lake / swamp		
INLAND WETLAND: Creek Dryiz Flowing River Floodplain, river flat Small billabong, pools (<8 ha) Freshwater lake (>8 ha) Shrubby swamp Wooded swamp Gilgai Claypan Ephemeral Marsh / swamp with emergent veg		
ARTIFICIAL WETLANDS: Large dam, reservoir (>8 ha) Irrigation channel, rice field Canal, drainage channel, ditch Small dam, pond, tank Wastewater treatment Salt pond / field		
AREA OF WETLAND: <pre></pre>		
FEATURES PRESENT Broad, shallow, swampy areas for birds to feed Islands for birds to roost and nest		
Dead or living trees in the water (partly submerged) for roosting and nesting habitat		
Fencing to exclude grazing stock from direct access to the waters edge		
the waters edge Dense tree and / or shrub cover close to the edge of the water		
ADDITIONAL NOTES: Red-backed Fairy when 550-552 Blue-laved Honeyeater. Rabbit activity in easement burrows - Scratchings. Byroes Cecles		
SITE NO FAO9		



Appendix D: Significant Fauna Species Dossiers



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D.1 EVR Species Potentially Impacted by the Pipeline

D.1.1 Brigalow Scaly-foot (Paradelma orientalis)

The Brigalow Scaly-foot inhabits eucalypt woodland and Brigalow scrub and is usually found under logs, rocks and debris, particularly in areas with cracking clay soils (Cogger 2000, Wilson 2005a). It has been observed to climb, in the early morning or evening, to perch well off the ground on the bark of rough Acacia trees. Potential habitat for the Brigalow Scaly-foot occurs along the proposed alignment in Ironbark woodland, therefore has the potential to impact this species. To minimise potential impacts on this species, the proposed alignment should minimise the amount of vegetation to be cleared. Therefore, from KP 0-9.3, Alignment 3 is the preferred option (depending upon assessment of the proposed entry / exit points) and Alignment 1 is the preferred option for the remainder of the route. Brigalow Scaly-foot individuals may also fall into the open trench and become trapped during construction. Implementing fauna retrieval methods during construction will help reduce any potential impact upon this species.

D.1.2 Yakka Skink (Egernia rugosa)

Yakka Skinks occur in a wide variety of habitats including Poplar Box, alluvial soils, low ridges, cypress on sands, belah, mulga and eucalypt woodland, log piles and rabbit warrens. Most of Australia's Yakka Skink population is distributed in south eastern Queensland, in both coastal and inland areas, while there are also satellite populations ranging north to the base of the Cape York Peninsula. The species is therefore widely distributed, although rare. The proposed pipeline traverses potential Yakka Skink habitat in Ironbark woodland and fringing riparian woodland, therefore, has the potential to impact this lizard. To minimise potential impacts on this species, the proposed alignment should minimise the amount of vegetation to be cleared. From KP 0-9.3, Alignment 2 is the preferred option (depending upon assessment of the proposed entry / exit points) and Alignment 1 is the preferred option for the remainder of the route. Yakka Skink individuals may also fall into the open trench and become trapped during construction. Implementing fauna retrieval methods during construction will help reduce any potential impact upon this species.

D.1.3 Black-breasted Button-quail (*Turnix melanogaster*)

The Black-Breasted Button-quail is a small cryptic bird that is restricted to dry rainforest, vine thicket and shrubby scrub with deep leaf litter in south eastern Queensland (Garnett and Crowley 2002). It forages by scratching in the leaf litter for insects. Adults appear to be sedentary, and form small groups typically composed of a female and several males (DOE 1997). The major threat to the Black-breasted Button-quail is land clearing, with over 90% of its habitat having been cleared, leading to local extinction and population fragmentation (Garnett and Crowley 2002). As a result, the species is comprised of small, localised sub-populations in suitable habitat (DOE 1997). Other threats include habitat degradation by grazing and, as a ground-dwelling bird that reacts to danger by becoming immobile, feral predators. This species is listed in the IUCN Red List because its total world population is thought to contain fewer than 2,500 mature individuals and this continues to decline in response to severe fragmentation of its habitat such that no single population is thought to exceed 250 mature individuals (Smyth and Young 1996).

No individuals of the Black-breasted Button-quail were recorded during this assessment. The preferred habitat of this species (vine thicket) is traversed by the proposed alignment at KP 8.2



and KP 12.8. As long as the alignment remains within the road reserve at these points, then no clearing of potential habitat is likely.

D.1.4 Large-eared Pied Bat (Chalinolobus dwyeri)

The Large-eared Pied Bat occurs in eucalypt forest and rainforest from central Queensland to south eastern NSW (Menkhorst and Knight 2004). Habitat requirements are poorly understood for this species, but most records are from drier sclerophyll forests and woodlands (DOE 1997). The Large-eared Pied Bat roosts in small groups in mine shafts, caves and the abandoned conical mud nests of Fairy Martins (Strahan 1995) and it has been suggested that natural roosts of this species may depend heavily on sandstone outcrops (Duncan *et al.* 1999). Currently, no maternity sites are known. This species appears to be sparsely distributed within its range, with localised distributions. Destruction of roost sites is a known threat to the Large-eared Pied Bat, and other possible threats include clearing of habitat for agriculture and urban development, and predation by feral animals (Duncan *et al.* 1999).

The Large-eared Pied Bat may utilise remnant and non-remnant woodland habitats with hollow-bearing trees along the entire alignment and particularly within areas adjacent to State Forest. No potential roost sites for this species were observed along the alignment. Given the relatively small amount of vegetation to be cleared, it is unlikely that the project will significantly impact upon this species. Consideration should be given to an alignment which minimises the clearing of preferred habitat.

D.1.5 Northern Quoli (Dasyurus hallucatus)

The Northern Quoll occurs in a variety of habitats including *Eucalyptus* open forest, monsoon rainforest and savanna woodland, but is most abundant in rocky eucalypt woodlands several disjunct populations across coastal northern Australia (Strahan 1995, Maxwell *et al.* 1996). This carnivorous marsupial dens in tree hollows and rock crevices, often near creeklines. The Northern Quoll was formerly distributed across northern Australia from Brisbane to the Kimberley region and the Pilbara, but has seriously declined in range and numbers (Strahan 1995, Menkhorst and Knight 2004), and now occurs in six main disjunct populations. The reasons for this decline are unclear, but Cane Toads are known to be seriously affecting populations in the Top End of the Northern Territory.

The Northern Quoll was not recorded during the present assessment. No preferred habitat of rocky eucalypt woodland will be traversed by the proposed alignment; however, this species may utilise riparian forest and woodland along some of the creeks and gullies. Given the relatively small amount of vegetation to be cleared, the pipeline is not expected to significantly impact upon the Northern Quoll; however, minimising removal of hollow trees and logs will reduce any potential impact.