

Appendix 1 Fauna Field Site

Site No	3H KP	Date	Latitude	Longitude	Survey
HA013	327.7	12/05/2010	-23.8849	151.0189	HA
OB014	327.7	13/05/2010	-23.8712	151.0305	OB
OB013	329.6	13/05/2010	-23.8713	151.0284	OB
HA017	331.0	13/05/2010	-23.8592	151.0287	HA
HA015	338.6	13/05/2010	-23.8039	151.0194	HA
HA014	340.9	13/05/2010	-23.7897	151.0351	HA
HA012	341.6	12/05/2010	-23.7855	151.0407	HA
OB012	342.7	12/05/2010	-23.7800	151.0492	OB
HA011	343.0	12/05/2010	-23.7793	151.0519	HA
HA010	343.6	12/05/2010	-23.7754	151.0566	HA
HA009	343.7	12/05/2010	-23.7751	151.0578	HA
HA008	344.0	12/05/2010	-23.7737	151.0598	HA
HA007	344.5	12/05/2010	-23.7696	151.0583	HA
OB011	345.1	12/05/2010	-23.7664	151.0645	OB
OB010	345.5	12/05/2010	-23.7647	151.0655	OB
OB009	345.7	12/05/2010	-23.7625	151.0669	OB
HA006	346.0	12/05/2010	-23.7608	151.0692	HA
OB008	346.3	12/05/2010	-23.7598	151.0714	OB
HA005	347.1	12/05/2010	-23.7574	151.0783	HA
HA004	347.8	12/05/2010	-23.7536	151.0830	HA
HA016	350.0	13/05/2010	-23.7538	151.1039	HA
HA003	351.6	11/05/2010	-23.7532	151.1185	HA
OB007	351.7	11/05/2010	-23.7537	151.1190	OB
OB001	353.3	11/05/2010	-23.7493	151.1349	OB
OB006	353.4	11/05/2010	-23.7511	151.1357	OB
HA002	353.5	11/05/2010	-23.7529	151.1372	HA
OB005	353.8	11/05/2010	-23.7528	151.1393	OB
OB004	354.9	11/05/2010	-23.7521	151.1504	OB
OB003	355.0	11/05/2010	-23.7519	151.1513	OB
OB002	355.1	11/05/2010	-23.7520	151.1521	OB
HA001	355.3	11/05/2010	-23.7520	151.1540	HA

Appendix 2 Flora Survey Proformas

Vegetation Community Type on Substrate (Sup 1T01)



Regional Ecosystem Profile	
Regional Ecosystem Type:	11.1.2a
EPBC Status:	n/a
VMA Status:	Least Concern
EPA Status:	No Concern at Present
DNRW Mapped as:	11.1.2a
Width of Vegetation:	25 m
Total Area of Vegetation:	0.02 ha

Site Description	
Bioregion / Locality:	Brigalow Belt North
KP / Site Description:	355.2
Photo Numbers:	88 - 91
Datum:	WGS 84
Easting / Northing (Precision):	151.1548, -23.7518

Vegetation Community Description													
<p>Open and exposed marine clay pan. The site is located on the eastern most section of mangroves before the "Narrows" that separates Curtis Island and the mainland. The site is open and devoid of vegetation in parts. Where there are mangroves they are dominated by <i>Rhizophora stylosa</i>, with occasional <i>Avicennia marina</i> as emergents with scattered and uncommon samphire species.</p>													
Floristic Summary													
Botanical Species	Misc	Average Height (m)							Abundance (BA – 1m ² /ha)				
		E1	T1	T2	T3	S1	S2	G	E1	T1	T2	T3	S1
<i>Avicennia marina</i>					3								
<i>Rhizophora stylosa</i>						1							
<i>Halosarcia indica</i>								0.3					
<i>Suaeda arbusculoides</i>								0.2					
% Rock	0												
% Bare ground	90												
% Leaf litter	<2												
% Cryptophyte	0												
Misc: D = dominant, C = Codominant, S = subdominant, A = associate, EVR = significant species, # = weed, ## = declared plant, V = collected, + = outside transect													

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 1T01)

Topography , Soils and Geology	
Landform Situation:	Tidal Flat
Erosional Landform Pattern:	Level Plain
Slope Type:	Level
Altitude:	1m
Soils:	Observation (reliability low)
Soil Colour:	Grey Brown
Soil Texture:	Clay
Geology:	Inferred (reliability high)
Geology:	Marine Clay
Geology Formation / Rock Type:	Unconsolidated Materials Clay

Community Health and Condition	
Overall Health:	Good
Weed Species:	-
Weed Cover (%):	0
Disturbance:	Natural tidal erosion causes some disturbance
Disturbance Cover (%):	<5

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	Sup 1T01
Sample Level / Type:	Detailed / Rectangular
Sample Detail / Species List:	Tertiary / Woody species
Sample Area:	10 x 50 m
Date / Time:	11/05/2010 11:57

Vegetation Community Type on Substrate (Sup 1T02)



Regional Ecosystem Profile	
Regional Ecosystem Type:	11.3.4
EPBC Status:	n/a
VMA Status:	Of Concern
EPA Status:	Of Concern
DNRW Mapped as:	11.3.26/11.3.4/11.11.15a
Width of Vegetation:	2 km
Total Area of Vegetation:	> 100 ha

Site Description	
Bioregion / Locality:	Brigalow Belt North
KP / Site Description:	351.5
Photo Numbers:	122 - 125
Datum:	WGS 84
Easting / Northing (Precision):	151.1548, -23.7518

Vegetation Community Description

Tall woodland located 500m form the high tide mark. The site is tall woodland dominated by a wide variety of Myrtaceous tree species (mostly *Eucalyptus tereticornis* and *Corymbia clarksoniana*). There is a scattered shrub layer throughout and a thick groundcover dominated mostly by native grass species (*Aristida spp* and *Heteropogon spp*).

Floristic Summary

Botanical Species	Misc	Average Height (m)							Abundance (BA – 1m ² /ha)				
		E1	T1	T2	T3	S1	S2	G	E1	T1	T2	T3	S1
<i>Eucalyptus tereticornis</i>	D		22	12						2	2		
<i>Corymbia clarksoniana</i>	C		20	10						3	1		
<i>Eucalyptus crebra</i>	S		22								1		
<i>Corymbia tessellaris</i>	S		17										
<i>Eucalyptus moluccana</i>	A		18										
<i>Lophostemon suaveolens</i>	S			10	5								
<i>Acacia disparrima</i>	A					3.5							1
<i>Melaleuca dealbata</i>	A					4							1
<i>Pogonolobus reticulatus</i>	A							2					
<i>Acacia sp.</i>	A						2						
<i>Aristida sp.</i>								0.3					
<i>Heteropogon refractus</i>								0.4					
% Rock	5												
% Bare ground	0												
% Leaf litter	5												
% Cryptophyte	0												

Misc: D = dominant, C = Codominant, S = subdominant, A = associate, EVR = significant species, # = weed, ## = declared plant, V = collected, + = outside transect

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 1T02)

Topography , Soils and Geology	
Landform Situation:	Alluvial Plain
Erosional Landform Pattern:	Gently undulating plain
Slope Type:	Very Gently Inclined
Altitude:	13 m
Soils:	Observation (reliability low)
Soil Colour:	Brown
Soil Texture:	Sandy Loam
Geology:	Inferred (reliability high)
Geology:	Metamorphosed sediments
Geology Formation / Rock Type:	Metamorphosed – interbedded volcanics

Community Health and Condition	
Overall Health:	Good
Weed Species:	-
Weed Cover (%):	0
Disturbance:	Cattle Grazing and a few scattered 4WD tracks
Disturbance Cover (%):	<5

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	Sup 1T02
Sample Level / Type:	Detailed / Rectangular
Sample Detail / Species List:	Tertiary / Woody species
Sample Area:	10 x 50 m
Date / Time:	11/05/2010 16:00

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2T01)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non-Remnant (Regrowth Containing Endangered RE) – 11.11.18
EPBC Status:	n/a (Regrowth SEVT)
VMA Status:	n/a (Regrowth Endangered – 11.11.18)
EPA Status:	n/a (Regrowth Endangered – 11.11.18)
DNRW Mapped as:	Regrowth Containing Endangered RE
Width of Vegetation:	0.5 km
Total Area of Vegetation:	10 ha

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	347.2
Photo Numbers:	122 - 125
Datum:	WGS 84
Easting / Northing (Precision):	151.0783, -23.7572

Vegetation Community Description
Highly disturbed and modified community, consisting of regrowth dry rainforest species pasture grasses and weeds. The site has been mapped as "Regulated regrowth containing endangered Regional Ecosystems".

Floristic Summary													
Botanical Species	Misc	Average Height (m)							Abundance (BA – 1m ² /ha)				
		E1	T1	T2	T3	S1	S2	G	E1	T1	T2	T3	S1
<i>Ficus opposita</i>	C					3							
<i>Geijera salicifolia</i>	D				7					2			
<i>Turraea pubescens</i>	S					2							
<i>Atalaya salicifolia</i>	S				4								
<i>Alstonia constricta</i>	S				6	2							
<i>Bursaria spinosa</i>	A					2							
<i>Acacia sp</i>	A												
<i>Carissa ovata</i>	A						1						
<i>Lantana camara</i>	##						1.5						
<i>Gomphocarpus fruticosus</i>	##						1						
% Rock	5												
% Bare ground	0												
% Leaf litter	5												
% Cryptophyte	0												

Misc: D = dominant, C = Codominant, S = subdominant, A = associate, EVR = significant species, # = weed, ## = declared plant, V = collected, + = outside transect

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2T01)

Topography , Soils and Geology	
Landform Situation:	Slope and Hills
Erosional Landform Pattern:	Rolling to Steep Hills
Slope Type:	Moderately to steeply inclined
Altitude:	86 m
Soils:	Observation (reliability low)
Soil Colour:	Dark Brown to Grey
Soil Texture:	Granite Sandy
Geology:	Inferred (reliability high)
Geology:	Metamorphosed - Granite
Geology Formation / Rock Type:	Metamorphosed – interbedded volcanics

Community Health and Condition	
Overall Health:	Poor
Weed Species:	<i>Lantana camara</i> , <i>Gomphocarpus fruticosus</i> & many pasture grasses
Weed Cover (%):	40
Disturbance:	Clearing, Fences, Cattle Grazing and 4WD tracks
Disturbance Cover (%):	75

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	Sup 2T01
Sample Level / Type:	Detailed / Rectangular
Sample Detail / Species List:	Tertiary / Woody species
Sample Area:	10 x 50 m
Date / Time:	12/05/2010 10:06

Vegetation Community Type on Substrate (Sup 2T02)



Regional Ecosystem Profile	
Regional Ecosystem Type:	11.11.3
EPBC Status:	n/a
VMA Status:	Least Concern
EPA Status:	No Concern at Present
DNRW Mapped as:	11.11.15/11.11.18/11.11.3
Width of Vegetation:	0.2 km
Total Area of Vegetation:	10 ha

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	346
Photo Numbers:	155 - 156
Datum:	WGS 84
Easting / Northing (Precision):	151.0692, -23.7608

Vegetation Community Description													
Open forest in relatively good condition. The area is dominated by <i>Corymbia citriodora</i> which forms almost a monoculture with other species scattered through. The site is located on old sedimentary rocks and is surrounded by former mango and avocado plantations located to the east and open pastures to the west.													
Floristic Summary													
Botanical Species	Misc	Average Height (m)							Abundance (BA – 1m ² /ha)				
		E1	T1	T2	T3	S1	S2	G	E1	T1	T2	T3	S1
<i>Corymbia citriodora</i>	D		22	15	10					8	2		
<i>Eucalyptus crebra</i>	A				10							1	
<i>Chloris gayana</i>													
<i>Aristida</i> spp.													
% Rock	10												
% Bare ground	5												
% Leaf litter	5												
% Cryptophyte	0												
Misc: D = dominant, C = Codominant, S = subdominant, A = associate, EVR = significant species, # = weed, ## = declared plant, V = collected, + = outside transect													

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2T02)

Topography , Soils and Geology	
Landform Situation:	Slope and Hills
Erosional Landform Pattern:	Rolling to Steep Hills
Slope Type:	Moderately to steeply inclined
Altitude:	91 m
Soils:	Observation (reliability low)
Soil Colour:	Grey
Soil Texture:	Granite Sandy
Geology:	Inferred (reliability high)
Geology:	Metamorphosed – Granite or Sandstone
Geology Formation / Rock Type:	Metamorphosed – interbedded volcanics

Community Health and Condition	
Overall Health:	Poor
Weed Species:	<i>Chloris gayana</i>
Weed Cover (%):	10
Disturbance:	Fences and Historic Grazing
Disturbance Cover (%):	10

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	Sup 2T02
Sample Level / Type:	Detailed / Rectangular
Sample Detail / Species List:	Tertiary / Woody species
Sample Area:	10 x 50 m
Date / Time:	12/05/2010 11:30

Vegetation Community Type on Substrate (Sup 2T03)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non-Remnant (Regrowth Containing Endangered RE) – 11.11.18
EPBC Status:	n/a (Regrowth SEVT)
VMA Status:	n/a (Regrowth Endangered – 11.11.18)
EPA Status:	n/a (Regrowth Endangered – 11.11.18)
DNRW Mapped as:	Regrowth Containing Endangered RE
Width of Vegetation:	0.03 km
Total Area of Vegetation:	0.5 ha

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	344
Photo Numbers:	179 - 190
Datum:	WGS 84
Easting / Northing (Precision):	151.0577, 23.7751

Vegetation Community Description													
A community consisting of regrowth dry rainforest species pasture grasses and weeds. The site has been mapped as "Regulated regrowth containing endangered Regional Ecosystems" and would classify as remnant if the patch where the pipeline intersects were larger in size. At present the community is only 0.5 ha in size.													
Floristic Summary													
Botanical Species	Misc	Average Height (m)							Abundance (BA – 1m ² /ha)				
		E1	T1	T2	T3	S1	S2	G	E1	T1	T2	T3	S1
<i>Flindersia collina</i>	C		15							1			
<i>Flindersia australis</i>	C		18							1			
<i>Alstonia constricta</i>	C			10	7	4							
<i>Ficus opposita</i>	C					4							
<i>Geijera salicifolia</i>	C				8	4							
<i>Bursaria spinosa</i>	S						2						
<i>Acacia fasciculifera</i>	S					3							
<i>Carissa ovata</i>	S						2						
<i>Lantana camara</i>	##						2						
<i>Murraya ovatifoliolata</i>	S						1.5						
<i>Alchornea ilicifolia</i>	S						1.5						
<i>Alyxia ruscifolia</i>	S						1.3						
<i>Mallotus philippensis</i>	S					3	1.5						
<i>Brachychiton australis</i>	S			11									
<i>Cupaniopsis shirleyana</i>	EVR						2						
% Rock	5												
% Bare ground	0												
% Leaf litter	5												
% Cryptophyte	0												
Misc: D = dominant, C = Codominant, S = subdominant, A = associate, EVR = significant species, # = weed, ## = declared plant, V = collected, + = outside transect													

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2T03)

Topography , Soils and Geology	
Landform Situation:	Slope and Hills
Erosional Landform Pattern:	Rolling to Steep Hills
Slope Type:	Moderately to steeply inclined
Altitude:	127 m
Soils:	Observation (reliability low)
Soil Colour:	Dark Brown to Grey
Soil Texture:	Granite Sandy
Geology:	Inferred (reliability high)
Geology:	Metamorphosed - Granite
Geology Formation / Rock Type:	Metamorphosed – interbedded volcanics

Community Health and Condition	
Overall Health:	Poor
Weed Species:	<i>Lantana camara</i> & <i>pasture grasses</i>
Weed Cover (%):	40
Disturbance:	Clearing, Fences and Cattle Grazing
Disturbance Cover (%):	50

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	Sup 2T03
Sample Level / Type:	Detailed / Rectangular
Sample Detail / Species List:	Tertiary / Woody species
Sample Area:	10 x 50 m
Date / Time:	12/05/2010 14:00

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 3T01)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non-Remnant
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Non-Remnant
Width of Vegetation:	0.4 km
Total Area of Vegetation:	40 ha

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	340.9
Photo Numbers:	210 - 211
Datum:	WGS 84
Easting / Northing (Precision):	151.0351, 23.7897

Vegetation Community Description

This site exists as a highly modified open disturbed woodland. The trees on the site are dominated by a couple of mature *Eucalyptus crebra* however most of the tree in this area are immature and generally only 5m in height. There is a large infestation of *Sporobolus pyramidalis* (GRT) in this area. Cattle are currently grazed in the area and this small patch of vegetation is surrounded by open paddocks.

Floristic Summary													
Botanical Species	Misc	Average Height (m)							Abundance (BA – 1m ² /ha)				
		E1	T1	T2	T3	S1	S2	G	E1	T1	T2	T3	S1
<i>Eucalyptus crebra</i>	D		18	8	6					2	1		
<i>Corymbia erythrophloia</i>	A				5							1	
<i>Eucalyptus moluccana</i>	A			8							1		
<i>Sporobolus pyramidalis</i>	##												
<i>Chloris gayana</i>	#												
<i>Aristida</i> spp.	A												
% Rock	5												
% Bare ground	15												
% Leaf litter	5												
% Cryptophyte	0												

Misc: D = dominant, C = Codominant, S = subdominant, A = associate, EVR = significant species, # = weed, ## = declared plant, V = collected, + = outside transect

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 3T01)

Topography , Soils and Geology	
Landform Situation:	Downs / Plain
Erosional Landform Pattern:	Gently undulating plain
Slope Type:	Very gently inclined
Altitude:	85 m
Soils:	Observation (reliability low)
Soil Colour:	Light Brown
Soil Texture:	Sandy
Geology:	Inferred (reliability high)
Geology:	Metamorphosed Sediments (Upper Floodplain)
Geology Formation / Rock Type:	Metamorphosed – interbedded volcanics

Community Health and Condition	
Overall Health:	Poor
Weed Species:	<i>Chloris gayana</i> , <i>Sporobolus pyramidalis</i> and other pasture weeds
Weed Cover (%):	40
Disturbance:	Fences and Grazing
Disturbance Cover (%):	50

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	Sup 3T01
Sample Level / Type:	Detailed / Rectangular
Sample Detail / Species List:	Tertiary / Woody species
Sample Area:	10 x 50 m
Date / Time:	13/05/2010 8:10

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 3T02)



Regional Ecosystem Profile	
Regional Ecosystem Type:	11.11.3
EPBC Status:	n/a
VMA Status:	Least Concern
EPA Status:	No Concern at Present
DNRW Mapped as:	11.3.26/11.3.4/11.11.15a
Width of Vegetation:	1 km
Total Area of Vegetation:	>100 ha

Site Description	
Bioregion / Locality:	Brigalow Belt North
KP / Site Description:	350
Photo Numbers:	218 - 219
Datum:	WGS 84
Easting / Northing (Precision):	151.1036, -23.7538

Vegetation Community Description	
Open forest in relatively good condition located within the confines of Targinie State Forest. The area is dominated by <i>Corymbia citriodora</i> with many subdominant species. Together with the neighbouring property this patch of vegetation forms a large remnant patch between the farming land to the west and the mangrove environments associated with "The Narrows"	

Floristic Summary													
Botanical Species	Misc	Average Height (m)							Abundance (BA – 1m ² /ha)				
		E1	T1	T2	T3	S1	S2	G	E1	T1	T2	T3	S1
<i>Corymbia citriodora</i>	D		20	15						6			
<i>Eucalyptus crebra</i>	A			10							1		
<i>Lophostemon suaveolens</i>				14							1		
<i>Eucalyptus acmenoide</i>			20										
<i>Acacia leiocalyx</i>						3							
<i>Allocasuarina littoralis</i>					6	4							
% Rock	10												
% Bare ground	25												
% Leaf litter	10												
% Cryptophyte	0												

Misc: D = dominant, C = Codominant, S = subdominant, A = associate, EVR = significant species, # = weed, ## = declared plant, V = collected, + = outside transect

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 3T02)

Topography , Soils and Geology	
Landform Situation:	Slope
Erosional Landform Pattern:	Rolling to Steep Hills
Slope Type:	Undulating rises
Altitude:	51 m
Soils:	Observation (reliability low)
Soil Colour:	Grey
Soil Texture:	Sandy Granite
Geology:	Inferred (reliability high)
Geology:	Metamorphosed – Granite
Geology Formation / Rock Type:	Metamorphosed – interbedded volcanics

Community Health and Condition	
Overall Health:	Good
Weed Species:	-
Weed Cover (%):	0
Disturbance:	Fences, Road and Roadworks
Disturbance Cover (%):	<5

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	Sup 3T02
Sample Level / Type:	Detailed / Rectangular
Sample Detail / Species List:	Tertiary / Woody species
Sample Area:	10 x 50 m
Date / Time:	13/05/2010 10:30

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 3T03)



Regional Ecosystem Profile	
Regional Ecosystem Type:	11.3.26
EPBC Status:	n/a
VMA Status:	Least Concern
EPA Status:	No Concern at Present
DNRW Mapped as:	11.3.26/11.3.4
Width of Vegetation:	0.5 km
Total Area of Vegetation:	50 ha

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	331.2
Photo Numbers:	228 - 230
Datum:	WGS 84
Easting / Northing (Precision):	151.0287, -23.8591

Vegetation Community Description
Open forest in relatively good condition. The area is dominated by <i>Eucalyptus moluccana</i> with other Eucalypt species scattered throughout. The site is currently being grazed and has a weedy understorey including Lantana and giant rats tail grass.

Floristic Summary													
Botanical Species	Misc	Average Height (m)							Abundance (BA – 1m ² /ha)				
		E1	T1	T2	T3	S1	S2	G	E1	T1	T2	T3	S1
<i>Eucalyptus moluccana</i>	D		22	15	10					6	2		
<i>Eucalyptus crebra</i>	A				10							1	
<i>Eucalyptus tereticornis</i>	A			15									
<i>Lantana camara</i>	##												
<i>Acacia sp</i>	A												
<i>Sporobolus pyramidalis</i>	##												
% Rock	10												
% Bare ground	5												
% Leaf litter	10												
% Cryptophyte	0												

Misc: D = dominant, C = Codominant, S = subdominant, A = associate, EVR = significant species, # = weed, ## = declared plant, V = collected, + = outside transect

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 3T03)

Topography , Soils and Geology	
Landform Situation:	Alluvial Plain
Erosional Landform Pattern:	Gently undulating plain
Slope Type:	Very gently inclined
Altitude:	65 m
Soils:	Observation (reliability low)
Soil Colour:	Grey Brown
Soil Texture:	Sandy
Geology:	Inferred (reliability high)
Geology:	Alluvial
Geology Formation / Rock Type:	Metamorphosed – interbedded volcanics

Community Health and Condition	
Overall Health:	Moderate to Poor
Weed Species:	<i>Chloris gayana</i> , <i>Sporobolus pyramidalis</i> , <i>Lantana camara</i> and other pasture weeds
Weed Cover (%):	10
Disturbance:	Fences and Historic Grazing (lots of compaction)
Disturbance Cover (%):	10

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	Sup 3T03
Sample Level / Type:	Detailed / Rectangular
Sample Detail / Species List:	Tertiary / Woody species
Sample Area:	10 x 50 m
Date / Time:	13/05/2010 12:50

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 1Q01)



Regional Ecosystem Profile	
Regional Ecosystem Type:	RE 11.1.4c
EPBC Status:	n/a
VMA Status:	Least concern
EPA Status:	No concern at present
DNRW Mapped as:	11.1.4c
Overall Health:	Good

Site Description	
Bioregion / Locality:	Brigalow Belt North
KP / Site Description:	355
Photo Numbers:	95 - 98
Datum:	WGS 84
Easting / Northing (Precision):	56 K 311654 7371998
Altitude:	3 m

Vegetation Community Description
<p>A closed short forest of <i>Ceriops tagal</i> which is so dominant it nearly forming a monoculture with one or two scattered emergent <i>Avicennia marina</i>. This patch of vegetation is located on the upper limit of the tidal reach and when surveyed was not at all submerged during the high tide. A small patched of salt couch are located in higher parts of this community forming a groundcover. East and West of the site is a salt pan devoid of all trees.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	Sup 1Q01
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	11/05/2010 12:50

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 1Q02)



Regional Ecosystem Profile	
Regional Ecosystem Type:	RE 11.1.4d
EPBC Status:	n/a
VMA Status:	Least concern
EPA Status:	No concern at present
DNRW Mapped as:	11.1.4a
Overall Health:	Good

Site Description	
Bioregion / Locality:	Brigalow Belt North
KP / Site Description:	535.6
Photo Numbers:	109 - 110
Datum:	WGS 84
Easting / Northing (Precision):	56 K 310368 7371908
Altitude:	3 m

Vegetation Community Description
<p>This site is located on the eastern side of the Targini Creek. This area contained a mix of mangrove species however were dominated by <i>Rhizophora stylosa</i> and <i>Avicennia marina</i>. Most of the mangroves in this area were short to a maximum height of approximately 2m.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	1Q02
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	11/05/2010 13:50

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 1Q03)



Regional Ecosystem Profile	
Regional Ecosystem Type:	RE 11.1.4a
EPBC Status:	n/a
VMA Status:	Least concern
EPA Status:	No concern at present
DNRW Mapped as:	11.1.4a
Overall Health:	Good

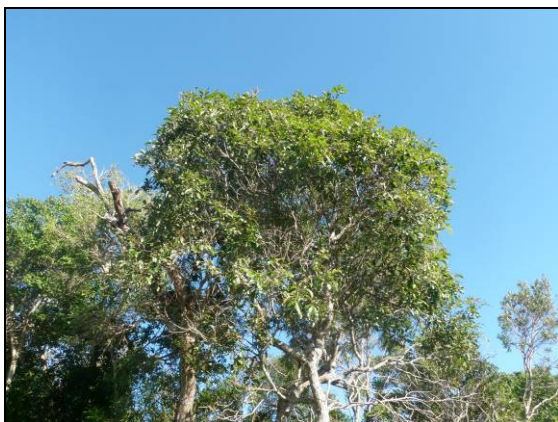
Site Description	
Bioregion / Locality:	Brigalow Belt North
KP / Site Description:	535.5
Photo Numbers:	114 - 115
Datum:	WGS 84
Easting / Northing (Precision):	56 K 310117 7371860
Altitude:	3 m

Vegetation Community Description
<p>A closed short forest of <i>Ceriops tagal</i> which is so dominant it nearly forming a monoculture with one or two scattered emergent <i>Avicennia marina</i>. This patch of vegetation is located on the upper limit of the tidal reach and when surveyed was not at all submerged during the high tide. A small patched of salt couch are located in higher parts of this community forming a groundcover. East and West of the site is a salt pan devoid of all trees.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	1Q03
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	11/05/2010 14:30

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2Q01)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non-Remnant
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Non - Remnant
Overall Health:	Poor

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	348
Photo Numbers:	126 - 130
Datum:	WGS 84
Easting / Northing (Precision):	56K 304835 7371851
Altitude:	55 m

Vegetation Community Description
<p>Small patch (20 x 20m) of vine thicket vegetation located in a paddock currently being grazed by cattle and next to a Mango plantation. The vegetation patch is slightly to the north of the 3h alignment. However it is likely to be impacted as a result of the pipeline construction. Species are typical of dry rainforest species in the area and include The Near Threatened <i>Macropteranthes leiocaulis</i> as well as <i>Alectryon conatus</i>, <i>Notelaea macrocarpa</i>, <i>Carisa ovata</i> and <i>Brachychiton australis</i>. Due to the size of this patch it is non-remnant and is not mapped as high quality regulated regrowth.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	2Q01
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 08:15

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2Q02)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non-Remnant
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Non - Remnant
Overall Health:	Poor

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	247.6
Photo Numbers:	131 - 139
Datum:	WGS 84
Easting / Northing (Precision):	56K 304627 7371748
Altitude:	61 m

Vegetation Community Description
<p>This is a highly disturbed vegetated drainage line approximately 20m located in a paddock currently being grazed by cattle in between two Mango plantations. Species are typical of dry rainforest species in the area and include <i>Alphitonia excelsa</i>, <i>Ficus opposita</i>, <i>Carisa ovata</i> and <i>Flindersia australis</i>. This narrow corridor of dry rainforest species is non-remnant and is not mapped as high value regulated regrowth due to its narrow width regulated regrowth.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	2Q02
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 08:45

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2Q03)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non-Remnant regrowth (most like 11.11.3)
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Regrowth containing endangered Regional Ecosystem
Overall Health:	Moderate

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	345.2
Photo Numbers:	160 - 163
Datum:	WGS 84
Easting / Northing (Precision):	56K 302135 7369918
Altitude:	140 m

Vegetation Community Description
<p>This site is dominated by a regrowth layer of <i>Lophostemon confertus</i> which exists as a thick whipstick layer to 4 m which restricts growth of the groundcover. There are a few scattered emergent eucalypts in this area, mostly <i>Corymbia citriodora</i> and <i>Eucalyptus crebra</i> but they are not common. A feral pig was observed at the top of the ridge to the east of this site. This site has been mapped as high value regulated regrowth containing endangered Regional Ecosystems. However this area appears to be regrowth RE 11.11.3</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	2Q03
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 12:13

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2Q04)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non-Remnant
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Non-remnant
Overall Health:	Poor

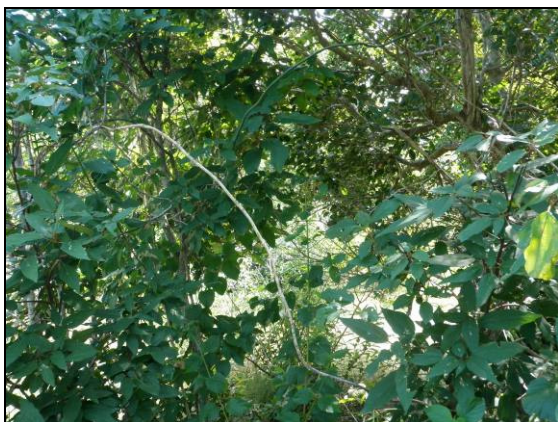
Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	344.5
Photo Numbers:	165 - 166
Datum:	WGS 84
Easting / Northing (Precision):	56K 302741 7370313
Altitude:	115 m

Vegetation Community Description
<p>This area is a highly disturbed creekline that is heavily grazed. The vegetation in the centre of the creek is dominated in sections by regrowth vine thicket species such as <i>Mallotus spp.</i>, <i>Ficus opposita</i> and <i>Carisa ovata</i> and large infestations of Lantana. Where there are no trees and shrubs present there is a thick and green pasture grass present mostly Rhodes grass. The stream in the centre of the site is flowing and contained large fish.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	2Q04
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 12:40

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2Q05)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non-Remnant – Regrowth 11.11.18
EPBC Status:	n/a – Regrowth SEVT
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Non - Remnant
Overall Health:	Moderate to Poor

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	343.9
Photo Numbers:	169 - 170
Datum:	WGS 84
Easting / Northing (Precision):	56K 302246 7369452
Altitude:	142 m

Vegetation Community Description
<p>This site is a small patch of vine thicket vegetation which is in relatively good condition. The areas to the north and west of this site have a few larger patches of SEVT however this area is highly disturbed and currently grazed by cattle. Species here are dominated by <i>Mallotus spp.</i>, <i>Ficus opposita</i>, <i>Carisa ovata</i> and <i>Brachychiton australis</i>. This patch of vegetation has the composition of species and quality to be considered remnant, however, it is far too small to be considered remnant under the VMA. This site is correctly mapped as High quality regulated regrowth containing endangered RE.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	2Q05
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 13:20

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2Q06)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non-Remnant
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Regrowth containing Endangered RE
Overall Health:	Moderate

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	343
Photo Numbers:	194 - 198
Datum:	WGS 84
Easting / Northing (Precision):	56K 301487 7368873
Altitude:	97 m

Vegetation Community Description
<p>This site is located along a reasonably permanent stream (currently flowing) with flat grazing lands to the east and a hill containing some larger eucalyptus species to the west. The vegetation is dominated by <i>Casuarina cunninghamiana</i>, <i>Eucalyptus tereticornis</i> with one scattered <i>Livistona sp.</i> This site is mapped as high quality regulated regrowth containing endangered RE. It is unlikely that this area would regrow to form an endangered RE.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	2Q06
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 14:35

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2Q07)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non Remnant
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Regrowth containing Of Concern RE
Overall Health:	Poor

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	343.3
Photo Numbers:	199 - 201
Datum:	WGS 84
Easting / Northing (Precision):	56K 301257 7368793
Altitude:	100 m

Vegetation Community Description
<p>This site is dominated by a regrowth layer of Myrtaceous species to about 4 m. The regrowth in this area is reasonably scattered but it is uniform (open forest). There are a few scattered emergent eucalypts to the west but they are not common. This site is located at the edge of an area that has been mapped as high value regulated regrowth containing of concern RE and non-remnant vegetation. The location of this boundary appears to be mostly correct.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	2Q07
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 14:53

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2Q08)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non Remnant regrowth likely 11.3.26
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Regrowth containing Of Concern RE
Overall Health:	Poor

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	341.5
Photo Numbers:	201 - 203
Datum:	WGS 84
Easting / Northing (Precision):	56K 300371 7368164
Altitude:	78 m

Vegetation Community Description
<p>The vegetation surveyed for this site is located in a road reserve with cattle grazing paddocks located on the northern and southern sides. The vegetation is Open forest in relatively good condition. The area is dominated by <i>Eucalyptus moluccana</i> with one or two scattered other Eucalypt species. The site has a weedy understorey including Lantana typical of road reserves in the area. The site has been mapped as as high value regulated regrowth containing of concern RE.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	2Q08
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 15:25

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 2Q09)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non Remnant regrowth likely 11.3.26
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Regrowth containing Of Concern RE
Overall Health:	Moderate

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	327.6
Photo Numbers:	204 - 205
Datum:	WGS 84
Easting / Northing (Precision):	56K 298258 7357193
Altitude:	55 m

Vegetation Community Description
<p>This site is located in the Bruce Highway road reserve. The vegetation is Open forest in relatively good condition and could be considered remnant. The area is dominated by <i>Eucalyptus moluccana</i> and given its location on alluvial floodplains is likely to be RE 11.3.26. The site has a weedy understorey including Lantana and many weedy pasture grass species (Rhodes grass and Red Natal Grass) typical of road reserves in the area. The site has been mapped as high value regulated regrowth containing of concern RE.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	2Q09
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 17:05

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 3Q01)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non Remnant
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Regrowth containing Of Concern RE
Overall Health:	Moderate to Poor

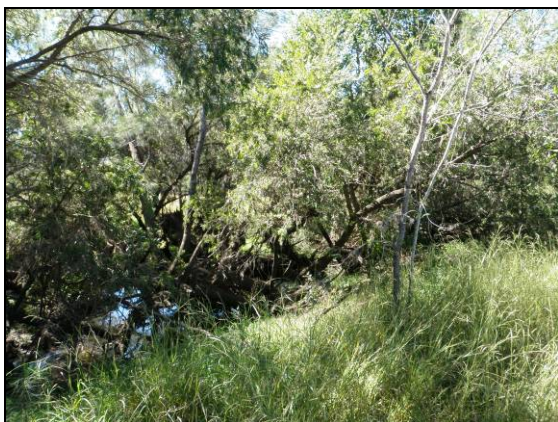
Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	338.5
Photo Numbers:	216 - 219
Datum:	WGS 84
Easting / Northing (Precision):	56K 298197 7366099
Altitude:	95 m

Vegetation Community Description
<p>This site exists as an ephemeral stream or drainage line located in an open paddock currently being grazed by cattle. The vegetation in this drainage line is dominated by <i>Casuarina cunninghamiana</i>, <i>Eucalyptus tereticornis</i> and <i>Melaleuca fluviatilis</i>. The overall quality of this site is considered to be low. The site has been mapped as high value regulated regrowth containing of concern RE. There are numerous infestations of Giant Rats Tail grass located throughout the open paddock to the west of the site. The site has been mapped as high value regulated regrowth containing of concern RE.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	3Q01
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	13/05/2010 09:00

VEGETATION SURVEY

Vegetation Community Type on Substrate (Sup 3Q02)



Regional Ecosystem Profile	
Regional Ecosystem Type:	Non Remant
EPBC Status:	n/a
VMA Status:	n/a
EPA Status:	n/a
DNRW Mapped as:	Regrowth containing Of Concern RE
Overall Health:	Moderate to Poor

Site Description	
Bioregion / Locality:	Brigalow Belt South
KP / Site Description:	329.6
Photo Numbers:	221 - 223
Datum:	WGS 84
Easting / Northing (Precision):	56K 299261 7358629
Altitude:	49 m

Vegetation Community Description
<p>This site is located on the edge of a Larcom Creek, a semi permanent stream containing some large pools. The creekline vegetation is dominated by <i>Melaleuca viminalis</i>, <i>Casuarina cunninghamiana</i> and <i>Eucalyptus tereticornis</i>. The site is surrounded on either side by large open paddocks with large infestations of Giant Rats Tail Grass. These paddocks are currently being grazed by cattle. The site has been mapped as high value regulated regrowth containing of concern RE.</p>

Survey Details	
Project Number:	301001-00448
Recorder/s:	Mitch
Field Site Number:	3Q02
Sample Level / Type:	Reconnaissance / Random
Sample Detail / Species List:	Quaternary / Dominant species
Sample Area:	50 x 50 m
Date / Time:	12/05/2010 11:46

Appendix 3 Fauna Species Recorded During Field Assessment

Common Name	Scientific Name	Location (KP)	EPBC	NCA	BoT	BAMM	AP	Mi	PEST
Amphibians									
large toadlet	<i>Pseudophryne major</i>	327.7							
cane toad*	<i>Rhinella marina</i>	347.8, 347.1, 346.0, 344.5, 345.7							Non-declared
Birds									
Pacific black duck	<i>Anas superciliosa</i>	351.7							
wedge-tailed eagle	<i>Aquila audax</i>	347.1							
sulphur-crested cockatoo	<i>Cacatua galerita</i>	340.9							
fan-tailed cuckoo	<i>Cacomantis flabelliformis</i>	344.0, 343.7							
pheasant coucal	<i>Centropus phasianinus</i>	345.5, 350.0							
red-capped plover	<i>Charadrius ruficapillus</i>	355.3							
black-faced cuckoo-shrike	<i>Coracina novaehollandiae</i>	340.9							
Torresian crow	<i>Corvus orru</i>	355.3, 351.6, 327.7							
Australian magpie	<i>Cracticus tibicen</i>	347.1, 344.0, 341.6, 340.9							
laughing kookaburra	<i>Dacelo novaeguineae</i>	347.8, 347.1, 346.0, 342.7							
spangled drongo	<i>Dicrurus bracteatus</i>	343.7							
little egret	<i>Egretta garzetta</i>	355.3							
brown falcon	<i>Falco berigora</i>	347.1							
bar-shouldered dove	<i>Geopelia humeralis</i>	347.1							
pied oystercatcher	<i>Haematopus longirostris</i>	353.3							
white-bellied sea-eagle	<i>Haliaeetus leucogaster</i>	355.3						Mi	
Brahminy kite	<i>Haliastur indus</i>	353.5							
whistling kite	<i>Haliastur sphenurus</i>	331.0							

Common Name	Scientific Name	Location (KP)	EPBC	NCA	BoT	BAMM	AP	Mi	PEST
noisy miner	<i>Manorina melanocephala</i>	343.7, 340.9							
Lewin's honeyeater	<i>Meliphaga lewinii</i>	345.5, 343.7, 343.0, 342.7, 327.7, 327.7							
rainbow bee-eater	<i>Merops ornatus</i>	327.7						Mi	
satin flycatcher	<i>Myiagra cyanoleuca</i>	345.5						Mi	
crested pigeon	<i>Ocyphaps lophotes</i>	341.6							
striated pardalote	<i>Pardalotus striatus</i>	350.0, 327.7							
noisy friarbird	<i>Philemon corniculatus</i>	351.7, 351.6, 341.6, 331.0							
grey-crowned babbler	<i>Pomatostomus temporalis</i>	353.5				BBS	NT		
grey fantail	<i>Rhipidura albiscapa</i>	347.1, 346.0, 343.6, 340.9, 331.0, 327.7							
willie wagtail	<i>Rhipidura leucophrys</i>	347.1, 346.0, 344.5, 344.0, 327.7, 340.9							
collared kingfisher	<i>Todiramphus chloris</i>	353.5							
forest kingfisher	<i>Todiramphus macleayii</i>	353.4							
rainbow lorikeet	<i>Trichoglossus haematodus</i>	351.6, 343.7, 340.9							
Terrestrial Mammals									
eastern grey kangaroo	<i>Macropus giganteus</i>	347.8, 347.1							
European cattle*	<i>Bos taurus</i>	347.1, 346.3, 346.0, 345.7, 345.1							Non-declared

Appendix 4 Migratory Shorebirds

Scientific Name Common Name	Preferred Habitat	Likelihood of Occurrence**	Source^
<i>Actitis hypoleucos</i> # common sandpiper	Distribution around Australia however it is considered more common in northern Australia. Prefers rocky creeks and mangrove-lined inlets, rarely seen in intertidal mudflats. Recently recorded in the Narrows / SW Curtis Is area (BAAM 2010).	Known	1, 4, 5
<i>Arenaria interpres</i> # ruddy turnstone	Found around the coastline on beaches, coasts with exposed rock, stony or shell beaches, mudflats or reefs.	Likely	1
<i>Calidris acuminata</i> # sharp-tailed sandpiper	Widespread distribution, found in flooded fields, mudflats, mangroves, rocky shores and beaches. Occurs on both coastal and inland wetlands but prefers non-tidal fresh or brackish wetlands. Recently recorded on Kangaroo Is saltpan (Sandpiper 2009b).	Known	1, 2, 4, 5
<i>Calidris alba</i> # sanderling	Open sandy beaches exposed to oceanic swells.	Unlikely	4
<i>Calidris canutus</i> # red knot	Distributed around the coastline on sheltered areas such as mud flats, sandbars in estuaries and lagoons. Recently recorded at South End (Sandpiper 2009b).	Likely	1, 4
<i>Calidris ferruginea</i> # curlew sandpiper	Found on intertidal mudflats of estuaries, lagoons, mangroves, as well as beaches, rocky shores, floodwaters and flooded saltbush surrounds of inland lakes. Recently recorded at South End (BAAM 2010).	Likely	1, 2, 4, 5
<i>Calidris ruficollis</i> # red-necked stint	Wide distribution, in sheltered inlets, bays, lagoons, estuaries, intertidal and inland mudflats and protected sandy or coralline shores. Recently recorded on Kangaroo Is saltpan (Sandpiper 2009b).	Known	1, 4, 5
<i>Calidris tenuirostris</i> # great knot	Found in sheltered areas such as mudflats of estuaries, inlets, harbours, lagoons and mangrove swamps. Recently recorded on Kangaroo Is saltpan (Sandpiper 2009b).	Known	1, 2, 5
<i>Charadrius bicinctus</i> # double-banded plover	Distributed around the southern and east coast of Australia on tidal flats and coastal beaches. Occasionally freshwater wetlands and inland salt lakes.	Likely	1

Scientific Name Common Name	Preferred Habitat	Likelihood of Occurrence**	Source^
<i>Charadrius leschenaultii</i> [#] greater sand plover	Occurring mainly on sheltered sandy, shelly or muddy beaches or estuaries with large intertidal mudflats or sandbanks. Recently recorded in the Narrows / SW Curtis Is area (BAAM 2010).	Known	1, 5
<i>Charadrius mongolus</i> [#] lesser sand plover	Found in sheltered bays, harbours and estuaries with large intertidal sand flats or mudflats. Recently recorded on Kangaroo Is saltpan (Sandpiper 2009b).	Known	1, 5
<i>Gallinago hardwickii</i> [#] Latham's snipe	Low rank vegetation around shallows of wetlands, reeds, sedges, salt marsh.	Possible	1, 2
<i>Gallinago megala</i> [#] Swinhoe's snipe	Distribution along coastal northern Australia, on a variety of freshwater wetlands such as billabongs, swamps, flooded grasslands and claypans.	Unlikely	1
<i>Gallinago stenura</i> [#] pin-tailed snipe	Uncommon in Australia with most recorded sightings in the north west of Australia. Sightings have been in coastal freshwater wetlands.	Unlikely	1
<i>Limosa lapponica</i> [#] bar-tailed godwit	Coastal tidal mudflats and sandbars of estuaries and lagoons. Recently recorded on Friend Point roost and Kangaroo Is saltpan (Sandpiper 2009b).	Known	1, 2, 4, 5
<i>Numenius madagascariensis</i> [#] eastern curlew	Migratory species, arriving in Australia from August and departing from February. Associated with sheltered coast, bays and estuaries. Recently recorded in study area, including Friend Pt roost and Kangaroo Is saltpan (BAAM 2009, 2010, Sandpiper 2009b, WorleyParsons 2010).	Known	1, 2, 4, 5
<i>Numenius minutus</i> [#] little curlew	Coastal and inland grasslands and black soil plains in northern Australia, near swamps, billabongs and flooded areas.	Unlikely	1
<i>Numenius phaeopus</i> [#] whimbrel	Common across northern Australia and uncommon to rare further south. Mainly on the coast, on tidal and estuarine mudflats and lagoons, especially near mangroves. Recently recorded in study area, including Friend Point roost and Kangaroo Is saltpan (BAAM 2009, 2010, Sandpiper 2009b, URS 2009, WorleyParsons 2010).	Known	1, 2, 4, 5
<i>Pluvialis fulva</i> [#] Pacific golden plover	Widespread along the coastline, on muddy, rocky and sandy wetlands, shores, paddocks, salt marsh, estuaries and lagoons. Recently recorded in study area, including Kangaroo Is saltpan (Sandpiper 2009b, WorleyParsons 2010).	Known	1, 2, 4, 5

Scientific Name Common Name	Preferred Habitat	Likelihood of Occurrence**	Source^
<i>Pluvialis squatarola</i> # grey plover	Generally found on intertidal flats, particularly in estuaries and bays. Recorded at South End during recent surveys (BAAM 2010).	Likely	1, 4, 5
<i>Tringa brevipes</i> # grey-tailed tattler	Found in coastal habitats foraging in intertidal pools, mudflats, sand beaches, rock ledges and reefs. Recently recorded on Friend Point roost and Kangaroo Is saltpan (Sandpiper 2009b).	Known	1, 2, 5
<i>Tringa incanous</i> # wandering tattler	Considered an uncommon migrant to Australia's north east coast. Almost entirely confined to rocky shorelines. Recently recorded at South End (BAAM 2010).	Unlikely	5
<i>Tringa nebularia</i> # common greenshank	Permanent and temporary wetlands: swamps, lakes, dams, irrigated crops, estuaries, tidal mudflats and mangroves. Recently recorded in study area, including Kangaroo Is saltpan (Sandpiper 2009b, BAAM 2009).	Known	2, 4, 5
<i>Tringa stagnatilis</i> # marsh sandpiper	Widespread distribution across Australia on a variety of fresh and salt water wetland. Generally avoids intertidal mudflats unless well sheltered.	Likely	1, 2, 4
<i>Xenus cinereus</i> # terek sandpiper	Found in coastal bays and estuaries on tidal mudflats fringed by mangroves and on exposed sea-grass beds. Recently recorded in the Narrows / SW Curtis Is area (BAAM 2010).	Known	1, 4, 5

**Likelihood of Occurrence: Known: species has been recorded by recent surveys of the Narrows and Curtis Island Industrial Precinct with preferred habitat in the study area; Likely: species is known from the wider study area and preferred habitat is present on site; Possible: species is known from the wider study area and suboptimal habitat is present on site; Unlikely: species is known from the wider study area however, suitable habitat is not present on site.

^Source: 1 = EPBC Protected Matters Search Tool, 2 = Birds Australia, 3 = QLD Museum Fauna Collection Records, 4 = EPA Wildlife Online, 5 = Recorded during recent consultant surveys of the Narrows and Curtis Island Industrial Precinct.

= One of the 36 shorebirds listed in the Draft EPBC *Significant Impact Guidelines for 36 Migratory Shorebird Species* (DEWHA 2009a).