

aurecon

Project No. 221708-001
Project: Fairview Ecological Assessment
Report – Lots 7 WT258 and 11 WT15

Prepared for:
Santos Ltd
8 August 2011

Santos Document No: 0020-GLNG-4-1.3-0077 - Rev 0

Document Control Record

Document prepared by:

Aurecon Australia Pty Ltd
 ABN 54 005 139 873
 32 Turbot Street
 Brisbane QLD 4000
 Australia

T +61 7 3173 8000
F +61 7 3173 8001
E brisbane@aurecongroup.com
W aurecongroup.com

A person using Aurecon documents or data accepts the risk of:

- Using the documents of data in electronic form without requesting and checking them for accuracy against the original hard copy version.
- Using the documents or data for any purpose not agreed to in writing by Aurecon.

This document is solely for the purpose of an ecological assessment and does not provide any legal advice regarding development locations and/or activities

Document control							aurecon
Report Title		Fairview Ecological Assessment Report					
Document ID		Lots_11_WT15_and_7_WT258_Ecological_Assessment_-_Corridors		Project Number		221708-001	
Client		Santos Ltd		Client Contact			
Rev	Date	Revision Details/Status	Prepared by	Author	Verifier	Approver	
0	1 July 2011	Draft for Internal Review	HJP	HJP	GAP		
1	7 July 2011	Final for Internal Review	HJP	HJP	GAP		
2	5 August 2011	Final for Issue	KH	HJP	GAP	VJB	
Current Revision		2					

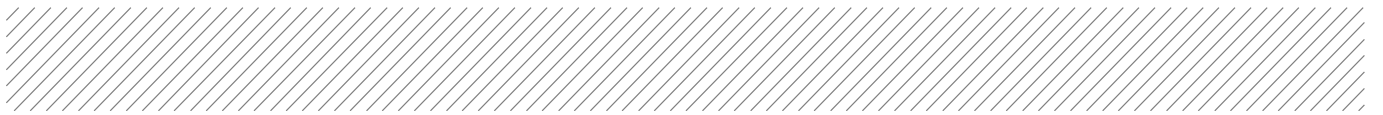
Approval			
Author Signature		Approver Signature	
Name		Name	
Title		Title	

Fairview Ecological Assessment Report – Lots 7 WT258 and 11 WT15

Date | 8 August 2011
Reference | 221708-001
Revision | 2

Aurecon Australia Pty Ltd
ABN 54 005 139 873
32 Turbot Street
Brisbane QLD 4000
Australia

T +61 7 3173 8000
F +61 7 3173 8001
E brisbane@aurecongroup.com
W aurecongroup.com



Contents

1	Background	2
1.1	Project description	2
1.2	Purpose of report	2
2	Methodology	3
2.1	Desktop methodology	3
2.2	Field methodology	3
3	Ecological assessment of development areas	4
3.1	Corridor F183	4
3.2	OK Station 1 water flowline	6
4	Conclusion	9
5	References	10

Appendices

Appendix A Botanical Species List

Appendix B Regional Ecosystem Mapping – Version 6



1 Background

1.1 Project description

Santos Ltd (Santos) have commissioned Aurecon Australia Pty Ltd (Aurecon) to undertake ecological investigations of proposed areas of development for the expansion of the Fairview Gas Fields.

The Fairview gas fields are situated approximately 40 km from Injune in southern Queensland. This area is characterised by elevated sandstone ranges including the Carnarvon and Expedition Ranges and part of the Mount Hutton and Kongabula Ranges. The Dawson River and other smaller watercourses drain this area and the vegetation is dominated by Eucalyptus and White Cypress Pine woodland, Brigalow and Semi-evergreen Vine Thicket (Eddie, 2007).

Much of this area has been subjected to cattle grazing and other agricultural practices as well as previous development associated with the gas fields.

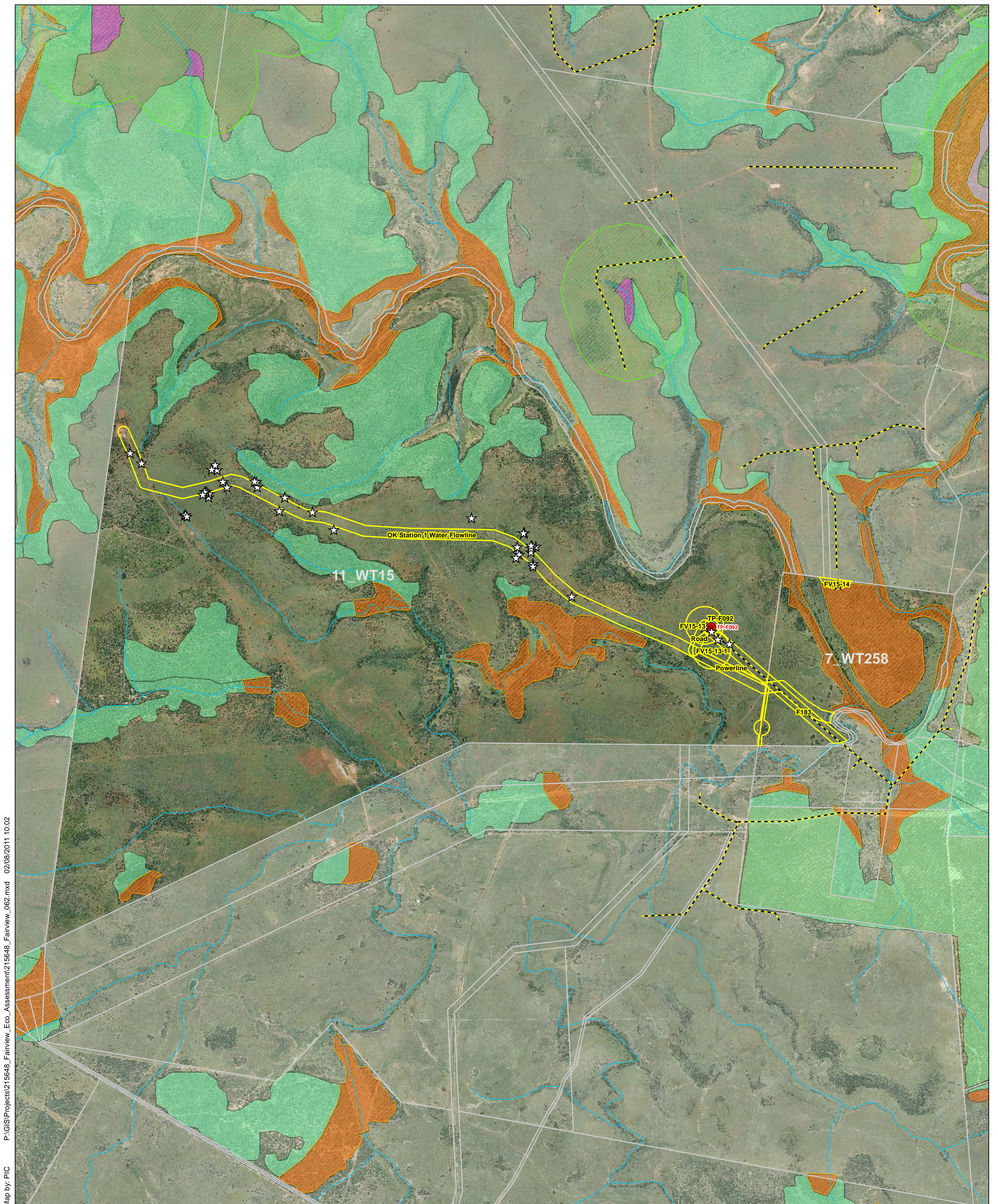
This report is specific to the proposed development areas listed below and shown in Figure 1.1:

- Pipeline corridor F183 and OK Station 1 Water Flowline
- Geotechnical survey locations (including TP-F092 and FV15-13) situated within the above corridors
- Road corridor
- Powerline easement

These areas are collectively referred to as the 'proposed development area', and are located entirely within Lots 7 WT258 and 11 WT15. Note that the subject of this report is solely related to Lots 7 WT258 and 11 WT15. Where survey areas overlap additional properties, these sites will be further addressed in the report relevant to those properties/lots.

1.2 Purpose of report

The aim of this report is to provide an ecological assessment of the proposed development areas located on Lots 7 WT258 and 11 WT15, and to identify areas and species of notable ecological or conservation value. This report does not make any recommendations regarding the development in relation to any Santos environmental authorities or other approvals.

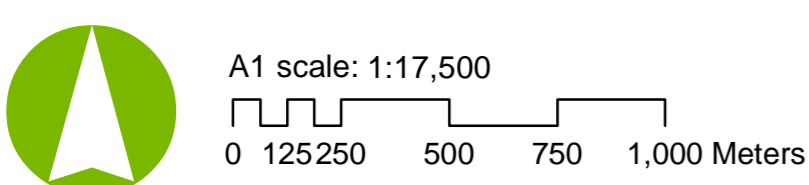


Map by: PIC P:\GIS\Projects\215648_Fairview_Eco_Assessment\215648_Fairview_062.mxd 02/08/2011 10:02

Legend

- | | | |
|--------------------------------------|---|--|
| ☆ EVNT and Type A Species | ESA Mapping (Including Buffer Areas) | Regional Ecosystem |
| Yellow line Corridors - Ground Truth | Category A (Purple hatched) | Endangered - Dominant (Purple) |
| Red dot Geotech Borehole | Category B (Green hatched) | Endangered - Sub-dominant (Light Purple) |
| Thin grey line Cadastral | Category C (Orange hatched) | Of Concern - Dominant (Orange) |
| Blue line Watercourse | | Of Concern - Sub-dominant (Light Orange) |
| | | Least Concern (Green) |

Source:
Cadastral: DERM, 2011.
Regional Ecosystems: Version 6, The State of Queensland
(Department of Environment and Resource Management),
Nov 2009.



Date: 02/08/2011 Version: 1 Job No: 215648
Coordinate system: GDA_1994_MGA_Zone_55

Santos Upstream Ecological Assessment

Figure 1-1: Location of Proposed Pipeline Corridors Investigated



2 Methodology

2.1 Desktop methodology

Proposed development areas have been projected on a range of maps provided by Santos. These maps include Regional Ecosystem (RE) mapping (version 6.0; Department of Environment and Resource Management [DERM]), Environmentally Sensitive Areas (ESA) mapping, drainage mapping and aerial photography. Where available ahead of time, these resources were reviewed to determine target areas for the field inspection. It is important to note that the RE classifications used in this report are based on the 'biodiversity status' of the vegetation and not the '*Vegetation Management Act 1999* (VM Act) status' of the vegetation.

2.2 Field methodology

The proposed development areas were assessed by five (5) ecologists (Vanessa Boettcher, Hayley Poole, Sarah Glauert, Aaron Mulcahy and Samara Schulz) from the 20 - 23 June and 21 July 2011. These assessments were to determine the existing vegetation communities and habitat value of the proposed clearing within the development areas as well as to verify the RE mapping as produced by DERM.

GIS environmental constraints layers (eg RE Mapping, ESA mapping etc) and high resolution aerial photography were uploaded onto a toughbook (C5 mobile clinical assistant CFT-001 – Motion computing) with an integrated GPS used to locate survey areas. Handheld Garmin GPS units (GPS map 76) were also used during the field inspection. It should be noted that while all efforts were made to ensure the GPS co-ordinates provided in this report are accurate, a margin of error approximately ± 15 m is expected due to the limitations of the devices used and the recording environment.

The corridors were 100 m wide and of varying lengths, and the circular well pad areas had a radius of 175 m. Geotechnical survey locations were also assessed as part of the survey areas (a 50 m buffer zone around each survey location was assessed).

The ground-truthing of the proposed development areas included undertaking detailed flora species surveys including sampling of unknown flora, and recording all incidental fauna observations. All species known to be of conservation significance (such as endangered, vulnerable, near threatened or Type A species under the Nature Conservation Act 1992 [NC Act] or endangered, vulnerable or rare species under the Environment Protection and Biodiversity Conservation Act 1999 [EPBC Act]) were recorded using the toughbook.

A list of flora species observed in the proposed development areas has been included in Appendix A. Incidental fauna observations are provided in the relevant sections throughout this report.

3 Ecological assessment of development areas

3.1 Corridor F183

3.1.1 General

Corridor F183 extends from the southern boundary of Lot 7 WT258 in a north-western direction, and intersects the eastern boundary of Lot 11 WT15. The total length of Corridor F183 is approximately 1.7 km long. There is a narrow powerline corridor that extends from the south-west corner of Lot 7 WT258 to the edge of Corridor F183, and then turns west onto Lot 11 WT15. There is a test pit (6399-TP-95) located within the powerline corridor on Lot 7 WT258. Another test pit (TP-F092) is located at the western end of Corridor F183 on Lot 11 WT15. A road corridor extends in a SSW direction from TP-F092 to the western end of the powerline corridor. A revision of well site FV15-13 has resulted in the site being relocated, and FV15-13-1 shows the new approximate location of the site.

Refer to Figure 1.1 and Figure 3.1 for the location of these proposed development areas.

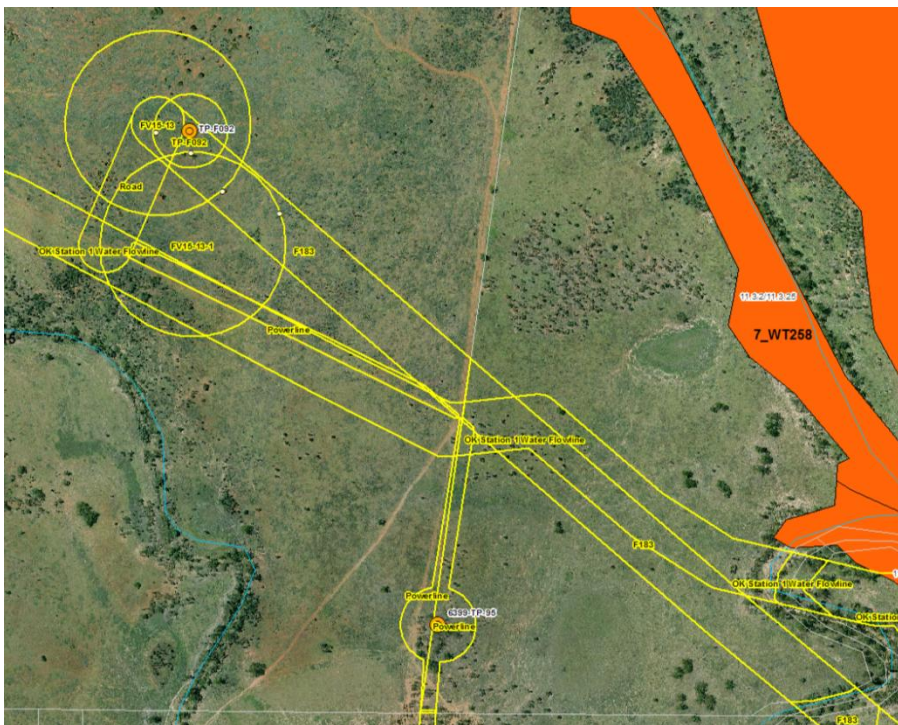


Figure 3.1 Location of Corridor F183 and associated development areas

The entire proposed development area on lots 7 WT258 and 11 WT15 is mapped as non-remnant vegetation and this was verified in the field. The closest remnant vegetation to the area is mapped as an 'of concern' regional ecosystem and is located approximately 120 m to the east.

There are no ESA areas located in or within 120 m of Corridor F183 and associated development areas. The remnant 'of concern' regional ecosystem to the east is classified as a 'Category C' ESA area.

There are no mapped watercourses within the proposed development areas. However there is a mapped watercourse of stream order 4 which is located approximately 6 m from the eastern end of Corridor F183.

There is an access track running along the eastern boundary of Lot 11 WT15 which dissects the middle of Corridor F183.

3.1.2 Floristics

The proposed development areas have been historically cleared, and only scattered trees remain. The vegetation present in the canopy layer was dominated by *Eucalyptus populnea* (Poplar Box). The dense groundcover was generally dominated by *Pennisetum ciliare* (Buffel grass), however there were also some large localised patches dominated by native grasses such as *Heteropogon contortus* (Black speargrass) and *Aristida sp.* (wiregrasses). A patch of *Acacia cambagei* (Gidgee) was evident within the test pit TP-F092 area (refer to Photo 3.1).



Photo 3.1 An example of the vegetation within Corridor F183. A patch of gidgee can be seen in the distance, which is located within test pit area TP-F092. A *Brachychiton populneus* (Kurrajong) is visible in the foreground.

Four (4) *Brachychiton populneus* (Kurrajong) trees were identified within the potential clearing area. This species is classed as a Type A restricted species under the provisions of the *Nature Conservation Act 1992* (NC Act). The Kurrajong trees were located within Corridor F183 and test pit TP-F092. Their location is recorded in Table 3.1 and is shown in Figure 1.1.

Table 3.1 Species of conservation significance within the proposed development area

Species	Easting (GDA 94, Zone 55J)	Northing (GDA 94, Zone 55J)
<i>Brachychiton populneus</i>	689239	7144808
<i>Brachychiton populneus</i>	689304	7144769
<i>Brachychiton populneus</i>	689363	7144696
<i>Brachychiton populneus</i>	689470	7144654

No other species of conservation significance under the NC Act or EPBC Act were observed within the proposed development footprint.

A species list is provided in Appendix A.

3.1.3 Habitat value

The habitat value of the non-remnant vegetation was low, due to the lack of mature trees, absence of various vegetation strata, and lack of nesting hollows and other potential habitat sources. While there were scattered dead poplar box trees in the canopy layer, very few had reached maturity and lacked habitat value for avian and arboreal fauna. Some decaying timber and logs provided limited habitat for ground-dwelling animals. The area has been traditionally cleared and grazed by stock, and this high level of disturbance was evident in the field. It is not likely that the area provides suitable habitat for any threatened native fauna.

The calls of some small avian foragers (ie wrens, finches) were heard within the proposed development area, however they could not be sighted for identification. Eastern Grey Kangaroos (*Macropus giganteus*) were identified within Corridor F183.

No EVNT fauna under the EPBC Act or NC Act were observed within the development footprint of lots 7 WT258 and 11 WT15.

3.2 OK Station 1 water flowline

3.2.1 General

The OK Station 1 Flowline is a single corridor extending through Lots 11 WT15 and 7 WT258. The corridor is 100 m wide and approximately 7.3 km long and does not contain any geo-tech sites.

In the north west of the proposed disturbance area the corridor traverses through areas of non-remnant vegetation. The middle of the corridor is also situated within non-remnant vegetation, the corridor follows but does not enter an area mapped as 11.3.2/11.10.11 'of concern dominant' vegetation that is associated with a 'Category C' ESA. This ESA is located within 20 m of the edge of the corridor. The south east end of the corridor is again located within non-remnant vegetation. This area comes within 20 m of a RE mapped as RE 11.3.2/11.3.25 'of concern-dominant' vegetation. This area is classed as a 'Category C' ESA. All the RE mapping was confirmed during the survey in June.

The corridor occurs within agricultural land that has been historically cleared, with some areas just outside the proposed disturbance area containing standing remnant vegetation. The corridor intersects two watercourses, one classified as a stream order 1 and the other as a stream order 4.

The OK Station 1 Water Flowline is shown in Figure 1.1 and Figure 3.2.

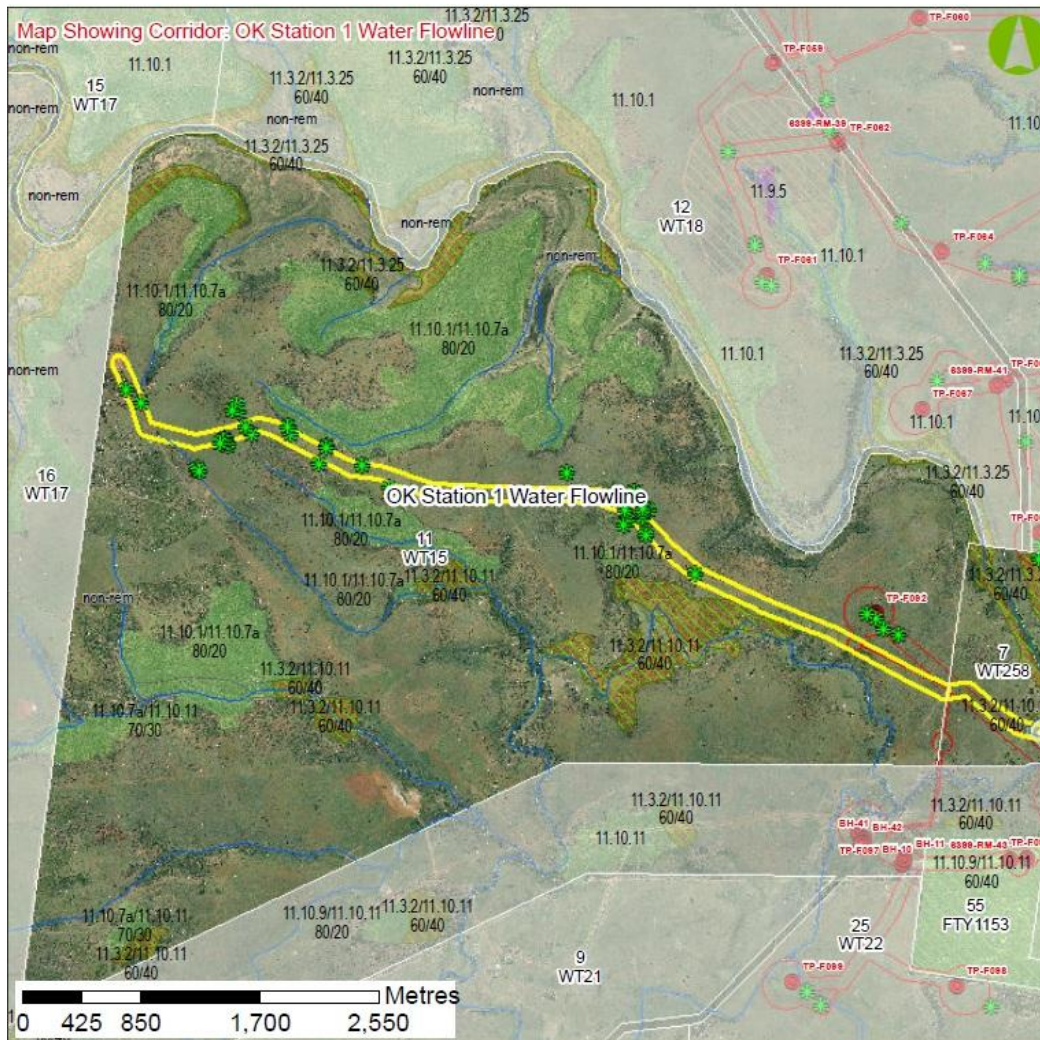


Figure 3.2 Aerial photograph and associated RE mapping of proposed corridor OK Station 1 Water Flowline

3.2.2 Floristics

The vegetation within the non-remnant areas of the corridor is open grasslands dominated by *Pennisetum ciliare* (Buffel Grass) with some native grasses, *Aristida caput medusa* (Curly Head Wire Grass) and *Dichanthium sericeum* (Queensland Blue Grass). Vegetation structure was lacking in these areas with only scattered shrubs and trees, such as *Eucalyptus crebra* (Narrow Leaved Ironbark), *Eucalyptus tereticornis* (Queensland Blue Gum) and *Brachychiton rupestris* (Narrow Leaved Bottle Tree). Within the non-remnant vegetation there is a small patch of shrubby vegetation on a hill in the middle of the corridor that has greater diversity than the open areas. This area is dominated by *Eremophila mitchellii* (False Sandalwood), *Bursaria spinosa* (Prickly Pine), *Pittosporum angustifolium* (Native Apricot), *Carissa ovata* (Current Bush) and *Atalaya hemiglauca* (Whitewood).

Thirteen (13) Type A restricted plants were observed along the corridor, including *Brachychiton populneus* (Kurrajong) and *Brachychiton rupestris* (Narrow Leaved Bottle Tree). Their locations are provided in Table 3.2.

Table 3.2.2 Location of Type A Restricted Plants (*Nature Conservation Act 1992*)

Species	Easting (GDA 94, Zone 55J)	Northing (GDA 94, Zone 55J)
<i>Brachychiton populneus</i>	685619	7145875
<i>Brachychiton rupestris</i>	683934	7146420
<i>Brachychiton rupestris</i>	684039	7146327
<i>Brachychiton rupestris</i>	684790	7146156
<i>Brachychiton rupestris</i>	685109	7146105
<i>Brachychiton rupestris</i>	684639	7146065
<i>Brachychiton rupestris</i>	684622	7146062
<i>Brachychiton rupestris</i>	684636	7146060
<i>Brachychiton rupestris</i>	687510	7145551
<i>Brachychiton rupestris</i>	687635	7145505
<i>Brachychiton rupestris</i>	687654	7145397
<i>Brachychiton rupestris</i>	687654	7145372
<i>Brachychiton rupestris</i>	688013	7145096

No other species of conservation significance under the EPBC Act or NC Act were present.

A species list is provided in Appendix A.

3.2.3 Habitat values

The habitat value of the corridor is generally low. Within the non-remnant pasture areas the habitat value is low due to the lack of vegetation structure, the dominance of *Pennisetum ciliare* (Buffel Grass) and limited woody debris and rocky areas. The shrubby area in the middle of the corridor had moderate habitat value due to the increase in vegetation structure. Although it is still limited this area has moderate floristic diversity and differing habitat types with rocky areas and logs providing good cover with potential nesting and foraging areas for native fauna.

Numerous bird calls were heard in the nearby remnant areas but no fauna species of conservation significance under the EPBC Act or NC Act were observed.



4 Conclusion

The proposed development areas on Lots 7 WT258 and 11 WT15 were located entirely within mapped non-remnant vegetation, which was verified during the field inspection. The vegetation has been extensively cleared and is grazed by stock. As a result, the habitat value of the area is low and is unlikely to provide suitable habitat for any threatened native fauna.

The proposed development areas come into close proximity (approximately 10 m) of mapped remnant 'of concern' regional ecosystems, which are classed as 'Category C' ESA. However, no mapped ESA occur within the development footprint.

Seventeen (17) Type A restricted plants including *Brachychiton populneus* (Kurrajong) and *Brachychiton rupestris* (Narrow Leaved Bottle Tree) were observed and recorded within the development footprint.

No other species of conservation significance under the EPBC Act or NC Act were observed within the proposed development area of Lots 7 WT258 and 11 WT15.

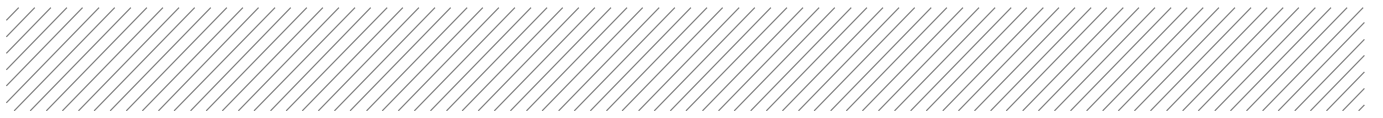


5 References

Eddie, C. (2007). *Field Guide to Trees and Shrubs of Eastern Queensland Oil and Gas Fields*, Santos House, Adelaide.

Regional Ecosystem Mapping - Version 6, Department of Environment and Resource Management

Species Profile and Threats Database, <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>



Appendix A

Botanical Species List



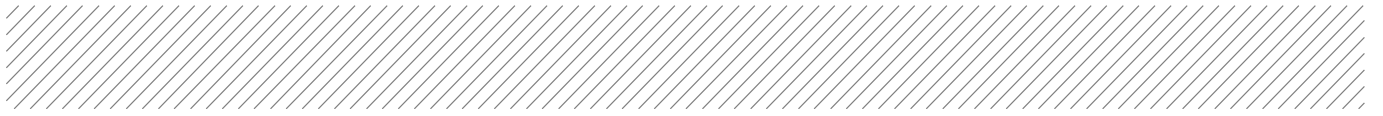
Scientific Name	Common Name	Notes	Corridor F183	OK Station Flowline
<i>Acacia cambagei</i>	Gidgee		x	
<i>Acacia complanata</i>	Velvet Wattle			x
<i>Acacia decora</i>	Pretty Wattle		x	x
<i>Acacia excelsa</i>	Iron wood		x	
<i>Acacia harpophylla</i>	Brigalow			x
<i>Acacia leiocalyx</i>	Black Wattle			x
<i>Acacia omalophylla</i>	Yarran			x
<i>Achyranthes aspera</i>	Two Spine Burr			x
<i>Alectryon diversifolius</i>	Scrub Boonaree			x
<i>Allocasuarina leuhmannii</i>	Bull Oak			x
<i>Alphitonia excelsa</i>	Red Ash			x
<i>Alstonia constricta</i>	Bitter Bark			x
<i>Alternanthera denticulata</i>	Lesser Joyweed			x
<i>Alternanthera pungens</i>	Kaki Burr			x
<i>Angophora floribunda</i>	Rough-barked Apple		x	
<i>Angophora leiocarpa</i>	Smooth-barked Apple			x
<i>Apophyllum anomalum</i>	Warrior bush			x
<i>Aristida caput medusae</i>	Curly Head Wire Grass			x
<i>Aristida ingrata</i>	Purple Aristida			x
<i>Aristida jerichoensis</i>	Jericho wire grass		x	
<i>Aristida ramosa</i>	Wire Grass		x	x
<i>Atalaya hemiglauca</i>	Whitewood		x	x
<i>Austrostipa verticillata</i>	Slender Bamboo Grass		x	
<i>Bidens pilosa</i>	Cobblers Pegs		x	
<i>Bothriochloa bladhii</i>	Forest Blue Grass		x	x
<i>Bothriochloa decipiens</i> var. <i>decipiens</i>	Pitted Bluegrass		x	x
<i>Brachychiton populneus</i>	Kurrajong	NC Act Type A Species	x	x
<i>Brachychiton rupestris</i>	Narrow Leaved Bottle Tree	NC Act Type A Species		x
<i>Bursaria spinosa</i>	Prickly Pine			x
<i>Callitris glaucophylla</i>	White Cypress Pine		x	x

Scientific Name	Common Name	Notes	Corridor F183	OK Station Flowline
<i>Calotis cuneifolia</i>	Purple Burr Daisy		x	x
<i>Calotis hispidula</i>	Bogan Flea		x	
<i>Calotis lappulacea</i>	Yellow Burr Daisy		x	x
<i>Calotis scabiosifolia</i>	Rough Daisy Burr		x	
<i>Capillipedium spicigerum</i>	Scented-top grass		x	
<i>Capparis loranthifolia</i>	Nipan, Wait a while			x
<i>Capparis mitchellii</i>	Bumble fruit			x
<i>Carissa lanceolata</i>	Currant Bush			x
<i>Carissa ovata</i>	Currant Bush			x
<i>Casuarina cristata</i>	Belah			x
<i>Cheilanthes aspera</i>	Bristly cloak fern			x
<i>Cheilanthes sieberi</i>	Mulga Fern		x	x
<i>Chloris divaricata</i>	Windmill Chloris		x	
<i>Chloris gayana</i>	Rhodes Grass		x	
<i>Chloris pectinata</i>	Comb Chloris		x	
<i>Chloris virgata</i>	Silky Topped Rhodes Grass			x
<i>Cirsium vulgare</i>	Spear Thistle, Black Thistle		x	
<i>Cissus opaca</i>	Native Grape		x	
<i>Conyza bonariensis</i>	Fleabane		x	x
<i>Corymbia clarksoniana</i>	Clarkson's Bloodwood			x
<i>Corymbia trachyphloia</i>	Small Fruited bloodwood			x
<i>Crotolaria dissitiflora</i>	Grey Rattlepod		x	
<i>Cyperus bifax</i>	Star Sedge			x
<i>Dianella longifolia</i>	Dianella		x	
<i>Dichanthium sericeum</i>	Queensland Blue Grass		x	x
<i>Digitaria ammophila</i>	Digitaria		x	
<i>Diospyros humilis</i>	Scrub Ebony			x
<i>Dodonaea viscosa subsp. spatulata</i>	Sticky Hopbush			x
<i>Einadia nutans</i>	Climbing Saltbush		x	
<i>Enneapogon polyphyllus</i>	Limestone Bottle washer		x	
<i>Enteropogon acicularis</i>	Curly Windmill Grass			x
<i>Enteropogon ramosus</i>	Twirly Windmill Grass			x
<i>Eragrostis brownii</i>	Browns Lovegrass		x	x

Scientific Name	Common Name	Notes	Corridor F183	OK Station Flowline
<i>Eragrostis curvula</i>	African Lovegrass			x
<i>Eragrostis elongata</i>	Clustered Lovegrass		x	
<i>Eragrostis lacunaria</i>	Tall Love Grass		x	
<i>Eragrostis sororia</i>	Blue eragrostis		x	
<i>Eremophila debilis</i>	Winter Apple		x	
<i>Eremophila mitchellii</i>	False Sandalwood		x	x
<i>Eucalyptus chloroclada</i>	Dirty Gum		x	
<i>Eucalyptus crebra</i>	Narrow Leaved Ironbark			x
<i>Eucalyptus decorticans</i>	Gum Topped Ironbark			x
<i>Eucalyptus fibrosa subsp. nubila</i>	Blue-leaved Ironbark			x
<i>Eucalyptus melanophloia</i>	Silver Leaved Ironbark		x	
<i>Eucalyptus populnea</i>	Poplar Box		x	x
<i>Eucalyptus tereticornis</i>	Queensland Blue Gum			x
<i>Eulalia aurea</i>	Silky Brown Top Grass		x	x
<i>Fimbristylis dichotoma</i>	Fimbristylis		x	x
<i>Geijera parviflora</i>	Wilga		x	x
<i>Gomphrena celosiioides</i>	Gomphrena Weed		x	
<i>Grevillea striata</i>	Beefwood			x
<i>Grewia latifolia</i>	Dysentery Plant			x
<i>Hakea lorea</i>	Bootlace Oak			x
<i>Heteropogon contortus</i>	Black Spear Grass		x	x
<i>Hovea lorata</i>	Hovea			x
<i>Imperata cylindrica</i>	Bladey Grass		x	
<i>Jasminum didymum subsp. racemosum</i>	Native Jasmine		x	x
<i>Jasminum simplicifolium</i>	Native Jasmine			x
<i>Juncus usitatus</i>	Juncus		x	x
<i>Laxmannia compacta</i>			x	
<i>Lepidium sagittulatum</i>	Pepper Cress		x	
<i>Leptochloa digitata</i>	Cane Grass		x	
<i>Lomandra longifolia</i>	Lomandra		x	
<i>Maireana microphylla</i>	Small-leaf Bluebush		x	
<i>Malvastrum americanum</i>	Spiny Malvastrum		x	
<i>Marsilea drummondii</i>	Nardoo		x	

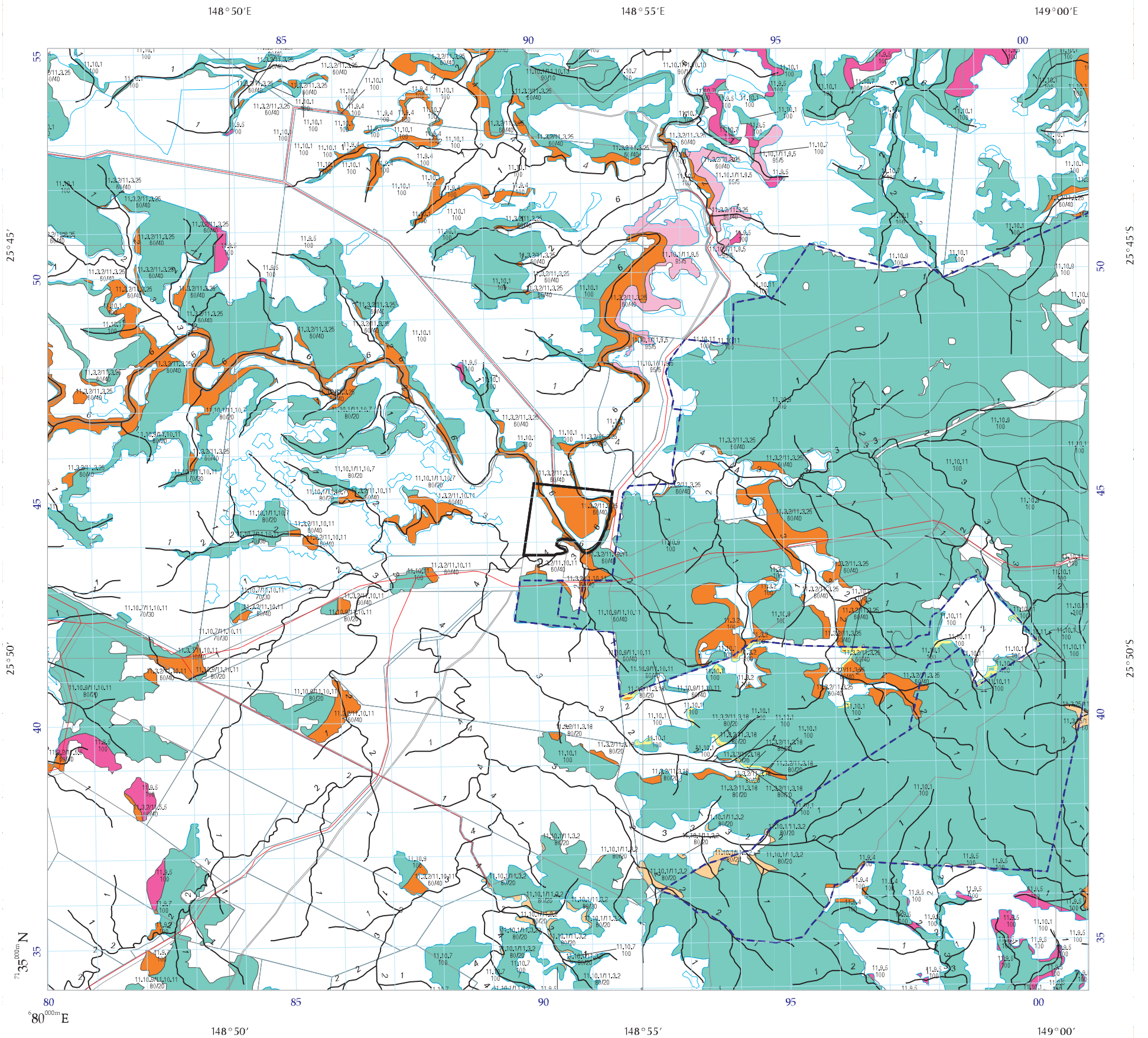
Scientific Name	Common Name	Notes	Corridor F183	OK Station Flowline
<i>Maytenus cunninghamii</i>	Yellow Berry Bush			x
<i>Medicago polymorpha</i>	Burr Medic		x	
<i>Melaleuca sp. Injune</i>			x	x
<i>Melinis repens</i>	Red Natal		x	x
<i>Oplismenus aemulus</i>	Basket Grass			x
<i>Opuntia stricta</i>	Prickly Pear	LP Act Class 2 Weed	x	
<i>Opuntia tomentosa</i>	Velvety Tree Pear	LP Act Class 2 Weed	x	x
<i>Owenia acidula</i>	Emu Apple			x
<i>Pandorea pandorana</i>	Wonga Vine			x
<i>Panicum buncei</i>	Native Panic		x	
<i>Panicum decompositum</i>	Hairy Panic		x	
<i>Parsonsia lanceolata</i>	Monkey Rope		x	x
<i>Paspalidium caespitosum</i>	Brigalow Grass		x	
<i>Paspalidium distichum</i>	Water Couch		x	
<i>Pennisetum ciliare</i>	Buffel Grass		x	x
<i>Petalostigma pubescens</i>	Quinine			x
<i>Pittosporum angustifolium</i>	Native Apricot			x
<i>Pittosporum spinescens</i>	Wallaby Apple			x
<i>Pratia concolour</i>	Poison Pratia		x	x
<i>Psydrax odorata subsp. australiana</i>	Canthium			x
<i>Psydrax oleifolia</i>	Canthium		x	x
<i>Pterocaulon sphacelatum</i>	Apple Bush		x	x
<i>Santalum lanceolatum</i>	Sandalwood			x
<i>Sclerolaena birchii</i>	Galvanised Burr		x	x
<i>Sclerolaena muricata</i>	Black roly-polly		x	
<i>Senna coronilloides</i>	Coffee Senna			x
<i>Sida rohlenae</i>	Shrub Sida		x	x
<i>Sida subspicata</i>	Queensland Hemp		x	x
<i>Sporobolus caroli</i>	Desert Sporobolus		x	x
<i>Sporobolus elongatus</i>	Tall sporobolus		x	
<i>Tagetes minuta</i>	Stinking Rodger		x	x
<i>Tephrosia sp.</i>			x	

Scientific Name	Common Name	Notes	Corridor F183	OK Station Flowline
<i>Themeda avenacea</i>	Wild Oats Grass			x
<i>Themeda quadrivalvis</i>	Grader Grass		x	x
<i>Themeda triandra</i>	Kangaroo Grass		x	
<i>Urochloa mosambicensis</i>	Urochloa		x	
<i>Ventilago viminalis</i>	Vine Tree			x
<i>Verbena litoralis</i>	Tall Verbena		x	
<i>Verbena officinalis</i>	Common Verbena, Native Verbena		x	
<i>Verbena tenuisecta</i>	Mayne's Curse		x	x
<i>Viola hederacea</i>	Native Viola		x	
<i>Wahlenbergia communis</i>	Large Bluebells		x	x
<i>Wahlenbergia gracilis</i>	Sprawling Bluebell			x
<i>Xanthium occidentale</i>	Noogoora Burr		x	



Appendix B

Regional Ecosystem Mapping – Version 6



Vegetation Management Act Regional Ecosystem and Remnant Map-Version 6

Remnant vegetation containing endangered regional ecosystems

Based on 2006 Landsat TM imagery

Requested By: POOLEH@AFAURECONGROUP.COM
Date: 04 Jul 11 Time: 16.48.28

A remnant map covers areas not covered by a regional ecosystem map.

Defined map areas are labelled with the regional ecosystem (RE) code along with the percentage breakdown if more than one RE occurs within the area. Detailed definitions of regional ecosystems are available from www.derm.qld.gov.au/REDD. Defined map areas smaller than 5ha may not be labelled.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/-100 metres. The extent of remnant regional ecosystems as of 2006, depicted on this map is based on rectified 2006 Landsat TM imagery (supplied by the Statewide Landcover and Trees Study (SLATS), Department of Environment and Resource Management (DERM)).

Some watercourse lines are derived from GeoScience Australia 1:250 000 mapping.

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Environment and Resource Management and MapInfo Australia Pty Ltd, makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

All datasets are updated as they become available to provide the most current information as of the date shown on this map.

Additional information is required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.derm.qld.gov.au/vegetation or contact the Department of Environment and Resource Management.

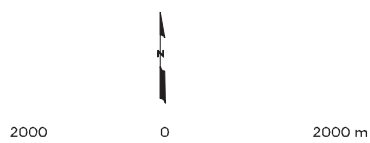
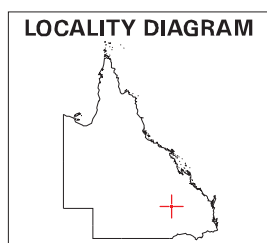
Digital regional ecosystem data is available in shapefile format, for Lot on Plans from www.derm.qld.gov.au/REDATA or from DERM for larger areas.

- Dominant
- Sub-dominant
- Remnant vegetation containing of concern regional ecosystems
- Dominant
- Sub-dominant
- Remnant vegetation that is a least concern regional ecosystem
- Remnant vegetation under Section 20AH of the VMA
- Non-remnant
- Plantation Forest
- Dam or Reservoir
- Remnant Vegetation
- PMAV Category X area
- Great Barrier Reef Wetlands
- Vegetation Management Act Essential Habitat
For further information on VMA Essential Habitat, please see the attached VMA Essential Habitat map.
- Subject Lot
- Watercourse (Stream order shown as black number against stream where available)
- Bioregion boundary
- Roads © MapInfo Australia Pty Ltd 2009
- National Park, Conservation Area State Forest and other reserves
- Cadastral line
Property boundaries shown are provided as a locational aid only.
- Towns

Centered on Lot on Plan:
7 WT258
Bioregion: Brigalow Belt

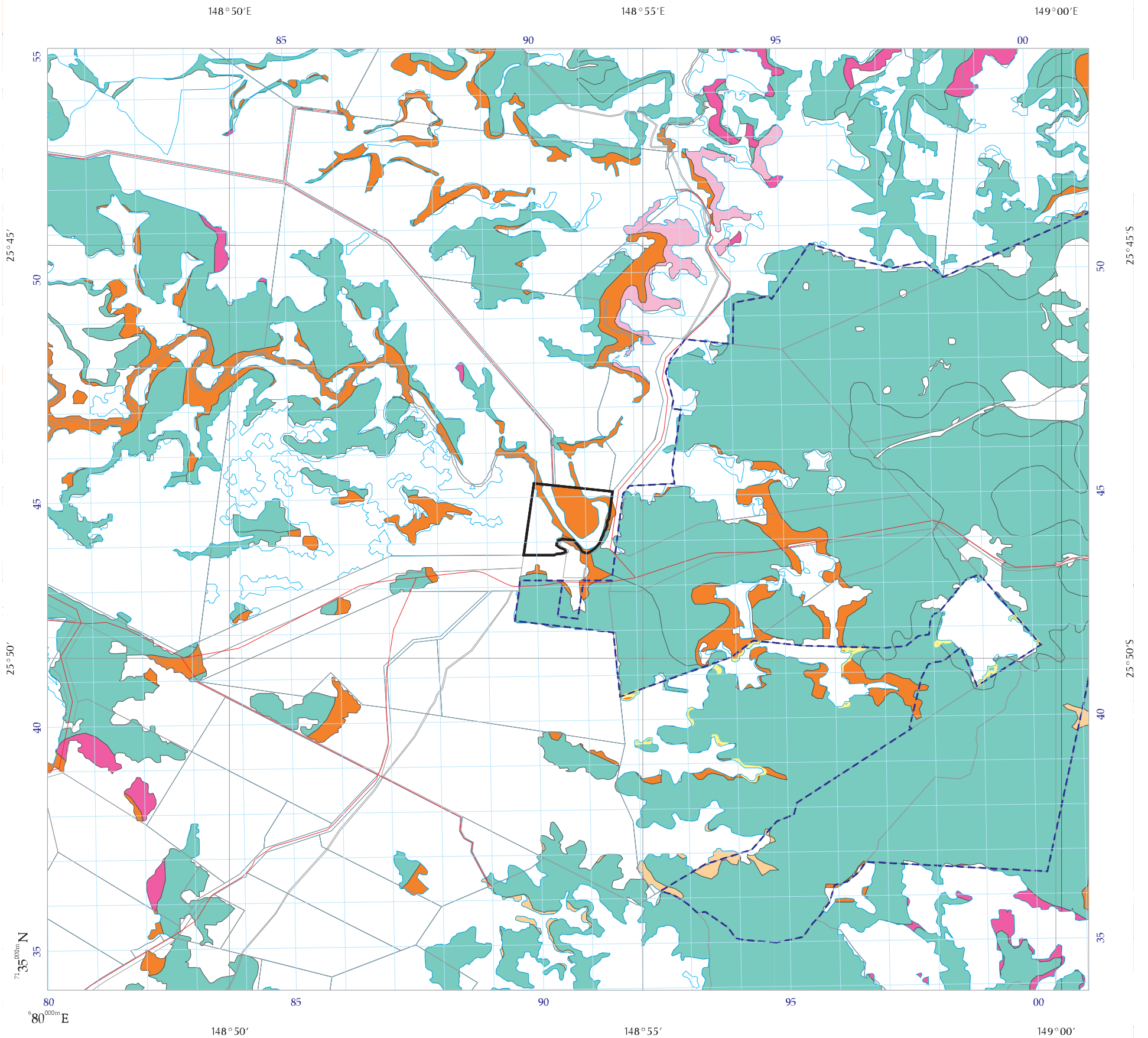


Queensland
Government



Horizontal Datum: Geocentric Datum of Australia 1994 (GDA94)

© The State of Queensland, 2011

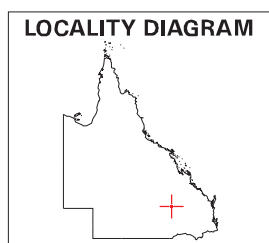


Vegetation Management Act Essential Habitat Map Version 3.0

- Remnant vegetation containing endangered regional ecosystems
- Dominant
- Sub-dominant
- Remnant vegetation containing of concern regional ecosystems
- Dominant
- Sub-dominant
- Remnant vegetation that is a least concern regional ecosystem
- Remnant vegetation under Section 20AH of the VMA
- Non-remnant
- Plantation Forest
- Dam or Reservoir
- Remnant Vegetation
- PMAV Category X area
- Vegetation Management Act Essential Habitat
- Vegetation Management Act Essential Habitat Species Records
- Subject Lot
- Roads © MapInfo Australia Pty Ltd 2009
- National Park, Conservation Area State Forest and other reserves
- Cadastral line
- Property boundaries shown are provided as a locational aid only.
- Towns

Requested By: POOLEH@APAURECONGROUP.COM
Date: 04 Jul 11 Time: 16.48.43

Centered on Lot on Plan:
7 WT258



2000 0 2000 m

Labels for the Vegetation Management Act Essential Habitat are centred on the subject lot (1.1km surrounding and including a Lot on Plan). Labels correlate to the label field in the attached essential habitat database.

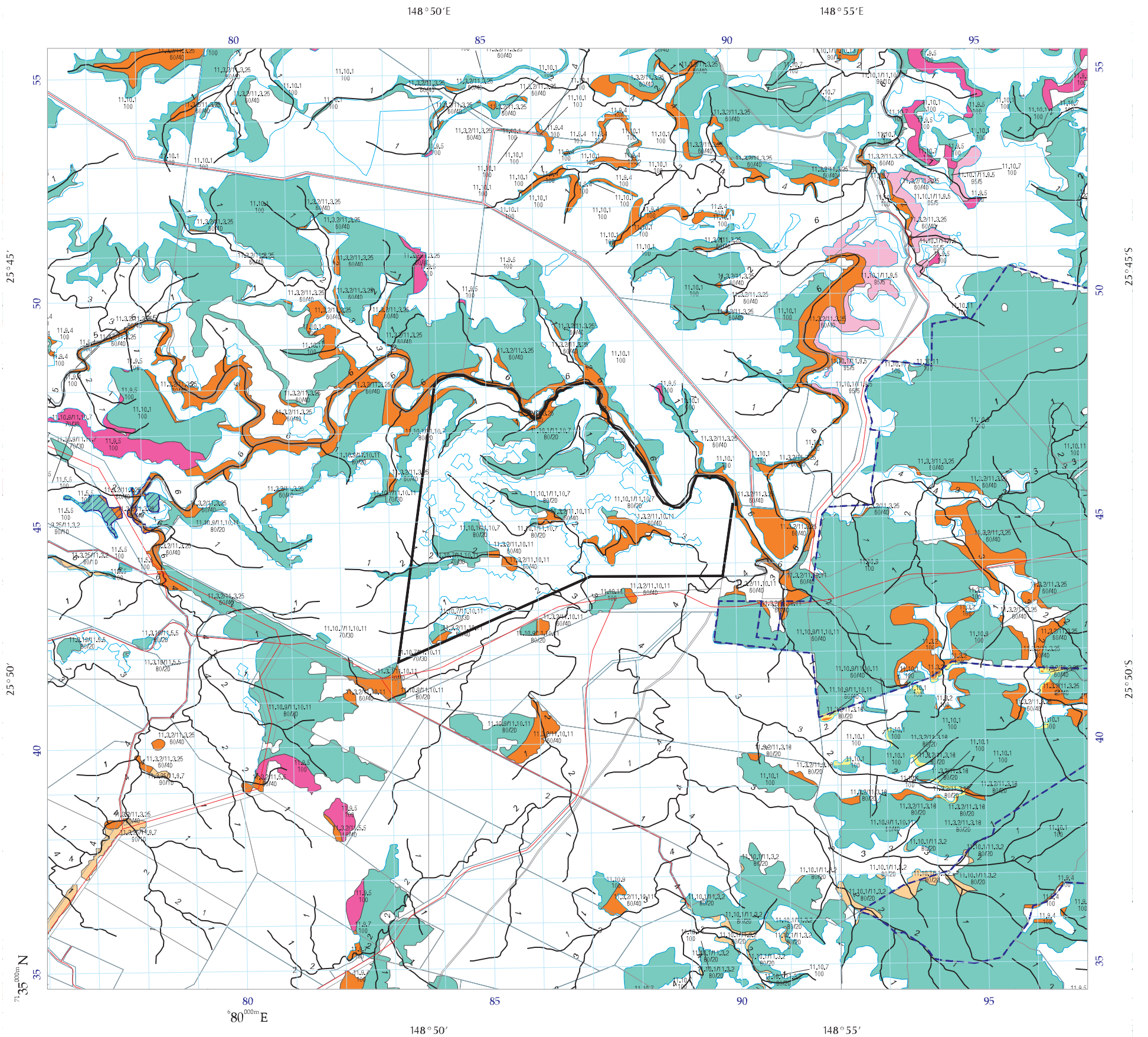
Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/-100 metres. The extent of remnant regional ecosystems as of 2006, depicted on this map is based on rectified 2006 Landsat TM imagery (supplied by SLATS, Department of Environment and Resource Management).

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Environment and Resource Management and MapInfo Australia Pty Ltd, makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

All datasets are updated as they become available to provide the most current information as of the date shown on this map.

Additional information is required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.derm.qld.gov.au/vegetation or contact the Department of Environment and Resource Management.

Digital regional ecosystem data is available in shapefile format, for Lot on Plans from www.derm.qld.gov.au/REDATA or from DERM for larger areas.



Vegetation Management Act Regional Ecosystem and Remnant Map-Version 6

Remnant vegetation containing endangered regional ecosystems

Based on 2006 Landsat TM imagery

A remnant map covers areas not covered by a regional ecosystem map.

Dominant

Requested By: POOLEH@APAURECONGROUP.COM

Date: 04 Jul 11 Time: 16.47.12

Defined map areas are labelled with the regional ecosystem (RE) code along with the percentage breakdown if more than one RE occurs within the area. Detailed definitions of regional ecosystems are available from www.derm.qld.gov.au/REDD. Defined map areas smaller than 5ha may not be labelled.

Sub-dominant

Remnant vegetation containing of concern regional ecosystems

Centered on Lot on Plan:

11 WT15

Bioregion: Brigalow Belt

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/-100 metres. The extent of remnant regional ecosystems as of 2006, depicted on this map is based on rectified 2006 Landsat TM imagery (supplied by the Statewide Landcover and Trees Study (SLATS), Department of Environment and Resource Management (DERM)).

Dominant

Remnant vegetation that is a least concern regional ecosystem

Remnant vegetation under Section 20AH of the VMA

Non-remnant

Plantation Forest

Dam or Reservoir

Remnant Vegetation

PMAV Category X area

Great Barrier Reef Wetlands

Vegetation Management Act Essential Habitat

For further information on VMA Essential Habitat, please see the attached VMA Essential Habitat map.

Subject Lot

Watercourse (Stream order shown as black number against stream where available)

Bioregion boundary

Roads © MapInfo Australia Pty Ltd 2009

National Park, Conservation Area State Forest and other reserves

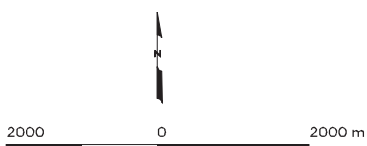
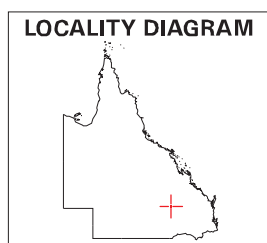
Cadastral line

Property boundaries shown are provided as a locational aid only.

Towns



Queensland Government



Horizontal Datum: Geocentric Datum of Australia 1994 (GDA94)

Some watercourse lines are derived from GeoScience Australia 1:250 000 mapping.

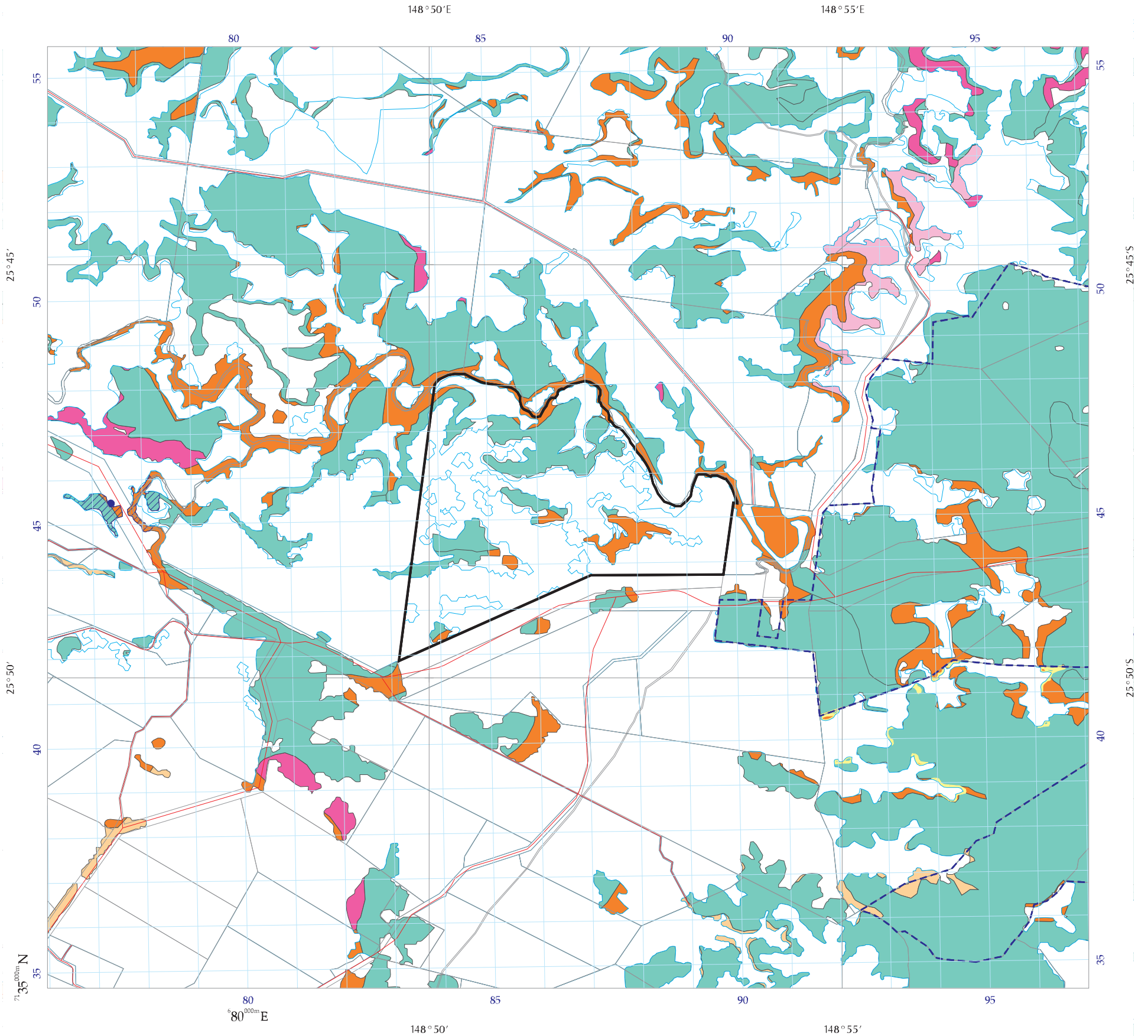
Disclaimer:

While every care is taken to ensure the accuracy of this product, the Department of Environment and Resource Management and MapInfo Australia Pty Ltd, makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

All datasets are updated as they become available to provide the most current information as of the date shown on this map.

Additional information is required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.derm.qld.gov.au/vegetation or contact the Department of Environment and Resource Management.

Digital regional ecosystem data is available in shapefile format, for Lot on Plans from www.derm.qld.gov.au/REDATA or from DERM for larger areas.

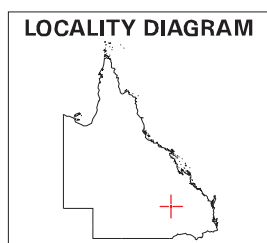


Vegetation Management Act Essential Habitat Map Version 3.0

- Remnant vegetation containing endangered regional ecosystems
- Dominant
- Sub-dominant
- Remnant vegetation containing of concern regional ecosystems
- Dominant
- Sub-dominant
- Remnant vegetation that is a least concern regional ecosystem
- Remnant vegetation under Section 20AH of the VMA
- Non-remnant
- Plantation Forest
- Dam or Reservoir
- Remnant Vegetation
- PMAV Category X area
- Vegetation Management Act Essential Habitat
- Vegetation Management Act Essential Habitat Species Records
- Subject Lot
- Roads © MapInfo Australia Pty Ltd 2009
- National Park, Conservation Area State Forest and other reserves
- Cadastral line
- Property boundaries shown are provided as a locational aid only.
- Towns

Requested By: POOLEH@APAURECONGROUP.COM
Date: 04 Jul 11 Time: 16.47.27

Centered on Lot on Plan:
11 WT15



2000 0 2000 m

Horizontal Datum: Geocentric Datum of Australia 1994 (GDA94)

Labels for the Vegetation Management Act Essential Habitat are centred on the subject lot (1.1km surrounding and including a Lot on Plan). Labels correlate to the label field in the attached essential habitat database.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/-100 metres. The extent of remnant regional ecosystems as of 2006, depicted on this map is based on rectified 2006 Landsat TM imagery (supplied by SLATS, Department of Environment and Resource Management).

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Environment and Resource Management and MapInfo Australia Pty Ltd, makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

All datasets are updated as they become available to provide the most current information as of the date shown on this map.

Additional information is required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.derm.qld.gov.au/vegetation or contact the Department of Environment and Resource Management.

Digital regional ecosystem data is available in shapefile format, for Lot on Plans from www.derm.qld.gov.au/REDATA or from DERM for larger areas.



Aurecon Australia Pty Ltd

32 Turbot Street
Brisbane QLD 4000
Australia

T +61 7 3173 8000

F +61 7 3173 8001

E brisbane@aurecongroup.com

Key Contact

Jane Stark

Environmental Scientist

Level 14, 32 Turbot Street

BRISBANE QLD 4001

T +61 7 3173 8218

E jane.stark@aurecongroup.com

Aurecon offices are located in:

Angola, Australia, Bahrain, Botswana,
China, Ethiopia, Hong Kong, Indonesia,
Lesotho, Libya, Malawi, Mozambique,
Namibia, New Zealand, Nigeria,
Philippines, Singapore, South Africa,
Swaziland, Tanzania, Thailand, Uganda,
United Arab Emirates, Vietnam.

For more information please visit

www.aurecongroup.com