

Offset Area Management Plan Template

December 2012

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Introduction

The purpose of this management plan is to identify the management objectives and outcomes, and the actions necessary to fulfil a statutory requirement for the provision of an offset under an approval (EPBC 2013/6868) granted under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)(EPBC Act) to BM Coal Alliance Operations Pty Ltd (BMA). This Plan has been developed to meet the EPBC Act requirements and also the requirements for a Voluntary Declaration under the Vegetation Management Act 1999 (Qld).

This Plan forms part of a broader set of offset requirements and plans associated with the relocation of part of Dysart Road between Dysart and Moranbah, Qld.

The plan is composed of four components:

Part 1 – Summary Information

This section must be completed by all offset proposals and lists all of the following information:

1. Departmental reference details
2. Legislative triggers and impacts requiring an offset
3. Offset areas details
4. Ecological Assessment
5. Description of the values impacted on the clearing area and the values located on the offset areas

Part 2 – Management Plan

This section contains the management plan details that must be completed based on the offsets triggered and requires at minimum the following information:

1. The offset areas management objectives and outcomes
2. Any restrictions imposed on the use of the offset areas
3. The activities that will be undertaken to achieve the objectives and outcomes
4. Monitoring requirements
5. An analysis of the risks to achieve the management objectives and outcomes
6. A map that shows spatially the areas subject to the management plan
7. A reporting program
8. Consent between the landowner and the delegate

Part 3 - Attachments

1. Baseline data
 - (a) Ecological assessment of offset areas
 - (b) Weed and pest species
 - (c) Flora and fauna present on the offset areas or adjacent to offset area
 - (d) Monitoring data:
 - GPS points
 - Flora quadrats
2. Weed Fact Sheets
3. Detailed Plans
4. Terang Grazing Licence Obligations

Part 4 - Appendices

Appendices are:

1. Mapping
2. Pest Animal Control Measures

1. Summary Information

1.1. Departmental Reference Details

Departmental Reference Details for application that triggers offset	
Departmental Reference Number and Case Name:	EPBC 2013/6868
Offset reference number (if applicable):	N/A
Tenure: Mining Lease Application	Primary Local Government Area: Isaac Regional Council

Offset Triggers and Values	
Offset Trigger	Values requiring to be offset
<input type="checkbox"/> Regional Vegetation Management Code <input type="checkbox"/> Part P <input type="checkbox"/> Part S <input type="checkbox"/> Part Xa <input type="checkbox"/> Part Xb <input type="checkbox"/> Material Change of Use / Reconfiguration of a lot Policies (Table F1) <input checked="" type="checkbox"/> EPBC Act	<input type="checkbox"/> Assessable vegetation adjacent to a wetland, significant wetland <input type="checkbox"/> Assessable vegetation adjacent to a watercourse <input type="checkbox"/> Connectivity <input type="checkbox"/> Endangered regional ecosystem <input type="checkbox"/> Of concern regional ecosystem <input type="checkbox"/> Threshold regional ecosystem <input type="checkbox"/> Critically limited regional ecosystem <input type="checkbox"/> Essential habitat <input type="checkbox"/> Essential habitat for koalas in SEQ <input type="checkbox"/> Values within a highly vegetated bioregion <input checked="" type="checkbox"/> Threatened Species

1.2. Offset Areas Details

Landholder Details	
Register Owner/s on Title: BM ALLIANCE COAL OPERATIONS PTY LTD (ABN 67 0960412 752) is the duly constituted attorney (under registered power of attorney no. 707957220) of: BHP Coal Pty Ltd ABN 83 010 595 721 Umal Consolidated Pty Ltd ABN 29 000 767 386 BHP Queensland Coal Investments Pty Ltd ABN 55 098 876 825 Mitsubishi Development Pty Ltd ABN 17 009 779 873 QCT Investment Pty Ltd ABN 45 010 487 831 QCT Mining Pty Ltd ABN 47 010 487 840 QCT Resources Pty Ltd ABN 74 010 808 705	
Lessee: Mr Les Stewart	Trustee: N/A
Business/Company name: BM Coal Alliance Operations Pty Ltd	
ABN/ACN: 67 096 417 752	
Phone number:	Mobile phone: 0419 780 113
Facsimile number:	Contact person (if required): Hardy Wincen
Email: hardy.wincen@bmacoal.com	
Postal Address: GPO Box 1389, Brisbane Qld 4001	

Property Details	
Property name: "Terang"	
Real property description (lot on Plan/s): Lot 12 SP185512	
Tenure: Land Lease	Primary Local Government Area: Central Highlands Regional Council
Planning Scheme Zone: Rural	Property area (ha): 31,480 Total Offset area (ha): 101 Area 1 = 57 ha Area 2 = 44 ha
Landzone / geology	Landzone 3 – Quaternary Alluvium Landzone 7 – exposed or shallowly covered duricrusts
Soils	Mixture of sandy, clay and gravel soils
Pre-clear regional ecosystem (V.)	N/A
Existing vegetation	Mixture of regrowth and remnant <i>Acacia harphophylla</i> (Brigalow) dominated vegetation (RE11.3.1) and <i>Eucalyptus populnea</i> (Poplar Box) dominated vegetation (RE11.3.2). Also includes remnant <i>Acacia shirleyi</i> (Lancewood) dominated vegetation (RE11.7.2).
Estimated age of vegetation	10 – 20 years
Is there a PMAV currently over all or part of the property, Please detail	No

Legally Binding Mechanism	
<input checked="" type="checkbox"/> Voluntary Declaration (<i>Vegetation Management Act 1999</i>)	<input type="checkbox"/> Covenant (<i>Land Act 1994/ Land Title Act 1994</i>)
Reference Number:	Reference Number:
<input type="checkbox"/> Nature Refuge (<i>Nature Conservation Act 1992</i>)	<input type="checkbox"/> Other
Reference Number:	Reference Number:

1.3. Description of clearing and offset values

The following table (**Table 1**) identifies the values impacted on the clearing area for which an offset is provided on the offset areas.

Table 1. Clearing area and offset areas values

Clearing Area						
Value (as identified in the Offset Policy)	Conservation Status	Regional ecosystem	Broad vegetation group	Essential habitat (species)	Stream Order	Area (ha)
<i>Threatened Species habitat (Ornamental Snake)</i>	<i>Vulnerable</i>	<i>11.3.2 / 11.4.8 / 11.4.9</i>	<i>BVG 17a / BVG 25a</i>	<i>N/A</i>	<i>N/A</i>	<i>10.4</i>
Offset Areas						
Value (as identified in the Offset Policy)	Conservation Status	Regional ecosystem	Broad vegetation group	Essential habitat (species)	Stream Order	Area (ha)
<i>Threatened Species habitat (Ornamental Snake)</i>	<i>Vulnerable</i>	<i>11.3.1 / 11.3.2 / 11.7.2</i>	<i>BVG 17a / BVG 25a / BVG 24a</i>	<i>N/A</i>	<i>N/A</i>	<i>101</i>

1.4. Ecological Equivalence Assessment

Ecological Equivalence Assessment	
Clearing area	Offset areas
Date of Assessment: May 2013	Date of Assessment: May 2013
Ecological Condition: Disturbed regrowth vegetation containing suitable habitat with average microhabitat complexity and low to moderate habitat connectivity.	Ecological Condition: Mixture of disturbed regrowth and remnant vegetation containing suitable habitat with average microhabitat complexity and moderate habitat connectivity.
Undertaken using Ecological Equivalence Methodology: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Assessment was in accordance with the EPBC Act requirements and guidelines.	Undertaken using Ecological Equivalence Methodology: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Assessment was in accordance with the EPBC Act requirements and guidelines.
Score sheets/assessment attached Yes: <input type="checkbox"/> No <input checked="" type="checkbox"/>	Score sheets/assessment attached Yes: <input type="checkbox"/> No <input checked="" type="checkbox"/>

2. Management Plan

2.1 Management area objectives and outcomes

It is intended that the offset areas will remain under active management for at least the next 20 years (i.e. until 2034). It is anticipated that the management area objectives and outcomes identified below will be achieved by 2024. Monitoring and adaptive management will continue for 10 years beyond this date to ensure long-term protection and maintenance of Ornamental Snake habitat. It is recognised that the timeframes are subject to natural conditions and unexpected events, and the risks identified in **Section 4 - Risk Analysis**.

The management area objectives and outcomes for the offset area are:

- (a) **Regional ecosystem:** The offset areas are managed, restored and protected until the habitat provided by RE11.3.1, RE11.3.2 and RE11.7.2 attains the Ecological condition status as defined below.
- (b) **Ecological condition of habitat:** The offset areas are managed to improve the ecological condition of the habitat for the Ornamental Snake through appropriate restoration and management actions. Ecological condition indicators, identified below, must achieve scores consistent with the relevant regional ecosystem benchmark score for that value.
 - Recruitment of woody perennial species, benchmark requirement score: 5
 - Native plant species richness, benchmark requirement: > 50% for each life-form
 - Tree canopy height, benchmark requirement score: 5
 - Tree canopy cover, benchmark requirement score: 5
 - Shrub canopy cover, benchmark requirement score: 5
 - Weed cover, benchmark requirement score: 10
 - Coarse woody debris, benchmark requirement score: 5
 - Organic litter, benchmark requirement score: 5
- (c) **Weeds and pest animals:**
 - As is noted in the Threat Abatement Plan for Pigs, eradication (that is the permanent removal of every last pig) with currently available technology, is not possible except on islands and in some local areas. Consequently, management actions in the offset areas are aimed at sustainable control of the damage caused by this pest species. Accordingly, the offset area will be managed to minimise the physical presence of pigs, as well as for cats and foxes (this will be monitored by way of any evidence of sightings, prey carcasses, scats, tracks or furrowing activity).
 - Weeds will be managed to ensure:
 - the exclusion of *Leucaena* from the offset site; and
 - for other weeds they are restricted to deliver the benchmark scores in (a) above.

2.2 Detailed Offset Area Mapping

Detailed offset areas map/s identifying location, values, and monitoring points are provided in **Appendix 1**.

2.3 Restrictions imposed on the use of the offset areas

The restrictions below (**Table 2**) will be implemented within the offset area management plan.

Table 2: Offset Areas Restrictions

Restriction	Details
Vegetation clearing	<p>1. Vegetation clearing on the offset areas are restricted to:</p> <ol style="list-style-type: none"> that necessary for the removal of non-native weeds or declared pests ensure public safety establishing and maintaining fencing around the boundary of the offset areas maintaining fire breaks <p>Where vegetation clearing is sought for any other purpose, the Lessee must contact the relevant department administering the <i>Vegetation Management Act 1999</i> and BMA Land Manager.</p> <p>2. Collection of firewood is not permitted within the offset areas.</p> <p>Note:</p> <p>3. Any vegetation clearing must be undertaken in accordance with:</p> <ul style="list-style-type: none"> best practice management methods; and any applicable legislative requirements. For example, the clearing of endangered, vulnerable or near-threatened plant species or the tampering with animal breeding places under <i>Nature Conservation Act 1992</i>.
Grazing	<p>1. Grazing of domestic livestock will occur on the offset areas under the following arrangements:</p> <ol style="list-style-type: none"> no grazing or stock access during the wet season (Nov to Feb) at other times, in quantities that are reasonable in accordance with good grazing practices as stipulated in the grazing licence agreement (Attachment 4); for fuel reduction purposes only; under a grazing regime that reduces utilisation during the dry season to ensure minimal grazing pressure along the ephemeral drainage lines.
Fire	<ol style="list-style-type: none"> Fire is managed in accordance with the property fire management plan/strategy for the Terang property (Attachment 3). Prescribed burns are to be undertaken only when necessary within the offset areas by qualified personnel and are to consist of mosaic and 'cool' fuel reduction burns. Prescribed burns are to be undertaken in accordance with the Blackwater Mine Fire Management Plan. Fires for any other purpose are not permitted within the offset areas.
Fencing	<ol style="list-style-type: none"> Stock proof fencing is to be established to assist in the management of grazing within the offset areas.
Other	<ol style="list-style-type: none"> The excavation or removal of any stone, sand, soil, rock, fill, gravel or other material forming part of the offset areas is not permitted as stipulated in the grazing licence agreement. Construction or alteration of dams, bores, fencing, building or other fixed improvement within the offset areas requires approval from BMA as stipulated in the grazing licence agreement.

2.4 Analysis of Risks to Achieving Management Objectives and Outcomes

The following risk assessment (**Table 3**) has considered:

- any real or potential risks associated with achieving the management objectives and outcomes;
- the actions taken to minimise those risks and;
- any remedial action that will be undertaken if any of the risks occur

Table 3: Risk Analysis

Number	Risk	Level of Risk	Proposed Actions to Minimise Risk	Proposed Remedial Actions if Risk Occurs
1	Weeds	Low	Control noxious weeds in compliance with <i>Land Protection (Pest and Stock Route Management) Act 2002</i> and good land management practices as stipulated in grazing licence agreement. Potential weeds of specific concern include: Parthenium (<i>Parthenium hysterophorus</i>), Parkinsonia (<i>Parkinsonia aculeata</i>), Prickly Acacia (<i>Acacia nilotica subsp. indica</i>) Leucaena (<i>Leucaena leucocephala</i>) and Buffel Grass (<i>Cenchrus ciliaris</i>);	Implementation of a targeted weed control program
2	Pest animals	Low	Control noxious pests and vermin in compliance with the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> and good land management practices as stipulated in grazing licence agreement. Pest animals of particular concern are: feral pigs, feral cats and foxes.	Implementation of a targeted pest eradication program
3	Fire	Moderate	Manage fire risk in accordance with the property fire management plan. Manage fuel loads through controlled grazing and if necessary, controlled burns in accordance with the Blackwater Mine Fire Management Plan.	Destock and allow offset areas to recover post fire, particularly through the control of weeds. Rehabilitate and revegetate if necessary, including placement of artificial sheltering habitat within the offset areas.
4	Grazing	Low	Fence the offset areas using stock proof fencing and graze in accordance with this management plan	Reduce, manage or restrict grazing

2.5 Management actions

The following table (**Table 4**) identifies the actions which will be undertaken for the offset area, by whom, when and more specific information relating to the action.

Table 4: Schedule of management actions

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Progress	Comments
Pest Animals	Participate in existing Blackwater Mine animal control program for feral pigs and cats. Measures to be implemented are outlined broadly in Appendix 2.*	Throughout the offset areas	As required	Lessee or suitable qualified professional		
	Monitor for the presence of foxes and, if reported, instigate a fox control program.*	Throughout the offset areas	As required	Lessee or suitable qualified professional		
Weeds	Control noxious weeds in compliance with <i>Land Protection (Pest and Stock Route Management) Act 2002</i> and good land management practices as stipulated in grazing licence agreement. Potential weeds of specific concern include: <i>Parthenium (Parthenium hysterophorus)</i> , <i>Parkinsonia (Parkinsonia aculeata)</i> , Prickly Acacia (<i>Acacia nilotica subsp. indica</i>) <i>Leucaena (Leucaena leucocephala)</i> and Buffel Grass (<i>Cenchrus ciliaris</i>).*	Throughout offset areas	As required	Lessee or suitable qualified professional		
Fire	Fire to be managed in accordance with the property fire management plan/strategy for the Terang property (Attachment 3).	Across the property	As required	Lessee or suitable qualified professional		
	Manage fuel loads primarily through controlled grazing (refer to grazing	Throughout offset areas	As required	Lessee		

	management action).					
	Prescribed burns are to consist of mosaic and 'cool' fuel reduction burns in accordance with the Blackwater Mine Fire Management Plan.	Throughout offset areas	Only when necessary	Suitable qualified professional		
Grazing	Grazing of domestic livestock will occur on the offset areas under the following arrangements: a) no grazing or stock access during the wet season (Nov to Feb)* b) at other times, in quantities that are reasonable in accordance with good grazing practices as stipulated in the grazing licence agreement (Attachment 4); c) for fuel reduction purposes only.	Throughout offset areas	As required	Lessee		
	Grazing utilisation to be managed during the dry season to minimise grazing pressure along the ephemeral drainage lines.	Throughout offset areas	As required	Lessee		
	Stock proof fencing to be installed and maintained to assist in the management of grazing.	Around offset areas	Commencement of offset agreement and as required	Lessee or suitable qualified professional		
Vegetation clearing	Vegetation clearing on the offset areas is restricted to: a) that necessary for the removal of non-native weeds or declared pests b) ensure public safety c) establishing and maintaining fencing around the boundary of the offset areas d) maintaining fire breaks	Throughout offset areas	As required	Lessee or suitable qualified professional		

Note: Actions marked with an asterisk (*) directly relate to priority actions identified in relevant Threat Abatement Plans.

2.6 Monitoring requirements

Monitoring of the offset areas will occur in accordance with **Table 5** at designated sites described in **Table 6**.

Table 5: Offset area monitoring

Monitoring	Attributes monitored	Frequency	Method	Location/s
Baseline monitoring	1. natural regeneration of native understorey and overstorey species; 2. the occurrence of habitat complexity (e.g. logs, litter); 3. plant establishment; and 4. the status of weeds.	At commencement (year 1) and then every 2 years to year 5.	Photo monitoring	BioCondition sites listed in Table 6 .
Ecological condition	Recruitment of woody perennial species	At commencement (year 1) and then every 5 years to year 20.	BioCondition	BioCondition sites listed in Table 6 .
	Native plant species richness			
	Tree canopy height			
	Tree canopy cover			
	Shrub canopy cover			
	Weed cover			
	Coarse woody debris			
Grazing	1. Stocking rates 2. Any evidence of vegetation or landform damage, degradation or erosion caused by stock	Quarterly	Lessee records Photos NB. Any unmanaged stock incursions or fencing failures should be recorded.	Within offset areas
Fire	Incidence and extent	As required		
Weeds	Occurrence	Quarterly		
Pest animals	Occurrence or other physical evidence	Quarterly		

All monitoring (including lessee observations) are to be recorded in documented or electronic form suitable for external audit. It is recommended that six monitoring sites are established (**Table 6**). Sites will be confirmed during the January 2014 surveys.

Table 6: BioCondition monitoring sites

Transect	Start Easting	Start Northing	End Easting	End Northing
T1				
T2				
T3				
T4				
T5				
T6				

2.7 Reporting

BMA will prepare offset area monitoring reports and submit the reports to the administering authority every 5 years for the life of this plan (i.e. till 2034).

Ongoing monitoring is required to ensure the Management Plan achieves the outcomes identified.

Monitoring activities must link back to the outcomes defined in Section 2, and be a measurement of how the areas are progressing in achieving these outcomes, and managing the potential threats and risks to achieving these outcomes.

The frequency of monitoring has been determined based on the current condition of the areas and the likely rate of change (improvement or decline). As a predominantly remnant community the expected rate of change is likely to be slow and, with good management, a low risk of decline. Accordingly, monitoring frequency has been established on an initial 2-year photo point monitoring cycle followed by a 5-year BioCondition monitoring cycle.

3. Consent

Administering authority

SIGNED by the <insert name, position> to indicate approval of the offset area management plan.

Name:..... Signature:.....

Witness name:..... Signature:.....

Date.....

Landholder

The landowner agrees:

1. Any non-compliance with the requirements of this offset area management plan shall constitute a breach of the terms and conditions of the legally binding mechanism entered into.
2. To notify the State in writing of an Event, or the likelihood of the occurrence of an Event.
Event means any agreement or understanding entered into or accepted by and or circumstance permitted or suffered by the landholder which effects a change of ownership, control or use of the offset area, the exercise of power of sale under any Mortgage, the granting of a Mortgage, the appointment of a receiver, the death of a landholder or any other circumstance which may allow or permit a person, other than the Landholder to own, control or use the offset area.
In notifying the State of an Event, the landholder will notify the State of the nature of the change, or potential change of ownership, control or use result from the Event, and the name and address of any person who may own, control or use the offset area as a result of the Event.
3. That if, at the time of execution of this offset area management plan, there exists a Property Map of Assessable Vegetation (PMAV) over the offset area or a part of it, the landholder hereby agrees, where the management plan area is identified as Category X on the PMAV, to the replacement of the PMAV by the State to reflect the offset area as Category A.
4. To take all necessary steps as may be required to accomplish the obligations contained in this offset area management plan.

The landowner acknowledges:

5. That before the State will agree to the release this offset area management plan the State must be satisfied that the objectives and activities contained in the offset area management plan have been achieved.

The landowner notes:

6. All reports, notices or requests for amendment in relation to this offset area management plan must be in writing and delivered to the administering authority at the following address:
<Insert departmental name>
<Insert postal address and telephone number>

SIGNED by <insert name of owner/s> being the current owner/s of the abovementioned property to indicate that the terms of this offset area management plan including responsibilities under the offset area management plan, have been read, understood and accepted.

Name:..... Signature:.....

Witness name:..... Signature:.....

Date.....

Name:..... Signature:.....

Witness name:.....

Signature:.....

Date.....

Name:.....

Signature:.....

Witness name:.....

Signature:.....

Date.....

Attachment 1: Baseline Data

Eco Logical Australia (ELA) data collected May 2013

Site No.	Dominant Canopy Species	Dominant Mid-story Species	Dominant Understory Species	Comments
1*	<i>Acacia harpophylla</i>	<i>Alectryon diversifolius</i>	<i>Aristida</i> spp.	Native – 60% Exotic – 20% Litter – 10% Bare – 10%
		<i>Geijera parviflora</i>	<i>Cenchrus ciliaris</i> [#]	
		<i>Excoecaria dallachyana</i>	<i>Chloris ventricosa</i>	
12	<i>Eucalyptus populnea</i>	<i>Acacia harpophylla</i>	<i>Aristida</i> sp.	Native – 10% Exotic – 60% Bare – 10% Litter – 20%
			<i>Chloris ventricosa</i>	
			<i>Cenchrus ciliaris</i> [#]	
			<i>Eriochloa australiensis</i>	

Note: * - this site is also a full floristic quadrat assessment site and full data is shown in table below. # - exotic species

Species Name	Common Name	Q1
<i>Abutilon oxycarpum</i>	Flannel Flower	3
<i>Acacia harpophylla</i>	Brigalow	4
<i>Alectryon diversifolius</i>	Holly Bush	4
<i>Alectryon</i> sp.		2
<i>Aristida</i> sp.		4
<i>Brunoniella australis</i>	Blue Trumpet	2
<i>Capparis lasiantha</i>	Nepine	2
<i>Cenchrus ciliaris</i> [*]	Buffel Grass	4
<i>Cheilanthes sieberi</i>	Mulga Fern	3
<i>Chloris ventricosa</i>	Plump Windmill Grass	5
<i>Cyperus difformis</i>		3
<i>Desmodium triflorum</i>	Desmodium	1
<i>Dissocarpus paradoxus</i>	Cannonball Burr	3
<i>Einadia nutans subsp. linifolia</i>		1
<i>Enteropogon acicularis</i>	Curly Windmill Grass	2
<i>Excoecaria dallachiana</i>	Scrub Poison Tree	2
<i>Geijera parviflora</i>	Wilga	1
<i>Glycine tabacina</i>	Creeping Glycine	4
<i>Jasminum didymum</i>	Jasmine	2
<i>Malvastrum</i> sp.		1
<i>Oplismenus aemulus</i>	Basket Grass	4

Species Name	Common Name	Q1
<i>Opuntia stricta</i> *	Prickly Pear	3
<i>Panicum queenslandicum</i>	Coolabah Grass	2
<i>Paspalidium caespitosum</i>	Brigalow Grass	4
<i>Phyllanthus virgatus</i>		2
<i>Plectranthus parviflorus</i>	Cockspur Flower	1
<i>Sclerolaena muricata</i>	Black Rolypoly	1
<i>Sporobolus caroli</i>	Fairy Grass	3
<i>Tribulus terrestris</i>	Caltrop	1

Scientific Name	Common Name
Aves	
<i>Corvus orru</i>	Torresiana Crow
<i>Cracticus nigrogularis</i>	Pied Butcherbird
<i>Cracticus tibicen</i>	Australian Magpie
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler
Reptiles	
<i>Suta suta</i>	Curl Snake
<i>Ctenotus robustus</i>	Eastern Striped Skink
<i>Heteronotia binoei</i>	Bynoe's Gecko
Amphibians	
<i>Litoria caerulea</i>	Australian Green Tree Frog
Mammals	
<i>Macropus giganteus</i>	Eastern Grey Kangaroo
<i>Bos primigenius</i>	Cattle

Site No.	Canopy Species	Cover %	Ground Veg %	Bare Ground %	Leaf Litter %	Surface Water	Distance to Surface Water	Evidence of Dogs
2	<i>E. populnea</i>	10	70%	25	5	Ephemeral creek on site	2km	Yes

Attachment 2: Weed Fact Sheets

Fact sheet

DECLARED CLASS 1 AND 2 PEST PLANT

Harrisia cactus

Moonlight cactus

Harrisia martinii, *Harrisia tortuosa* and *Harrisia pomanensis*



Harrisia cactus can form dense infestations that will reduce pastures to a level unsuitable for stock. Harrisia cactus will choke out other pasture species when left unchecked.

The spines are a problem for stock management, interfering with mustering and stock movement.

Harrisia cactus produces large quantities of seed that is highly viable and easily spread by birds and other animals. As well as reproducing from seed, harrisia cactus has long trailing branches that bend and take root wherever they touch the ground. Any broken-off portions of the plant will take root and grow.

Control of this plant is difficult as it has a deep underground tuberous root system.

Declaration details

Harrisia cactus (*Harrisia martinii*, *Harrisia tortuosa* and *Harrisia pomanensis*) are Class 2 declared pest plants under the *Land Protection (Pest and Stock Route Management) Act 2002*. All other Harrisia species are Class 1 declared pest plants.

Declaration requires landholders to control declared pests on the land and waters under their control. A local government may serve a notice upon a landholder requiring control of declared pests.



Queensland Government

It is an offence to introduce, keep or supply Class 1 or 2 pests without a permit issued by Biosecurity Queensland. Penalties of up to \$80 000 apply

Description and general information

Dense infestations of harrisia cactus choke out pasture. The sharp spines, even in light infestations, make pasture unfavourable to stock and interfere with operations such as mustering.

The plant fruits prolifically and seeds are spread widely by birds and animals. Harrisia cactus can also reproduce by stem sections taking root. A deep underground tuberous root system allows the plant to survive even if the above-ground parts are killed.

Harrisia cactus is a perennial. The spiny fleshy stems are jointed and form tangled mats about half a metre high. Many branches often lie flat and take root where they touch the ground. Each section is ribbed lengthwise with six ribs; each rib has low, thick, triangular humps at regular intervals. These humps have cushions of grey felty hairs, three to five short spines lying flat, and one to three erect, stiff, very sharp spines 2.5–3 cm long.

The large flowers open at night. Flowers are pink and funnel-shaped with a tinge of white. These grow singly near the ends of the stems on a scaly but spineless slender grey-green tube 12–15 cm long.

Round, red fruits 4–5 cm across have scattered bumps with hairs and spines. Numerous small black seeds are embedded in the white, juicy pulp of the fruit, which splits open when ripe.

Harrisia cactus roots are of two types. Shallow feeding roots up to 3 cm thick and 30 cm to 2 m long grow mostly horizontally off a crown, up to 15 cm below ground level. Swollen tuberous storage roots descend to a depth of 15–60 cm.

Life cycle

Harrisia cactus bears a bright red fruit containing 400–1000 small black seeds. Fruit and seed are readily eaten by birds and to a lesser extent by feral pigs. Plants are easily established from seed dropped by these animals. Seeds germinate soon after rain.

Seedlings quickly produce a swollen tuberous food storage root that develops as the plant grows. Branches take root where they touch the ground and new plants will grow from broken branches and sections of underground tubers.

Counts of tubers in dense cactus infestations have shown over 125 000 per hectare. Each plant houses many dormant underground buds that are all capable of reshooting when the tip growth dies; any small portion of the tuberous root left in the soil will grow.

Habitat and distribution

Harrisia cactus is a native of Argentina and Paraguay, South America. It was introduced to Australia as a pot plant in the 1890s. In 1935 it was first recognised as a serious pest in the Collinsville district and by the 1950s was rapidly spreading south.

Harrisia cactus is mainly a pest of brigalow and associated softwood country. However, infestations are now appearing in box and ironbark stands and also in pine forests. The cactus is shade tolerant and reaches its maximum development in the shade and shelter of brigalow scrub, though established infestations can persist once scrub is pulled.

Harrisia cactus is found in the Collinsville, Nebo, Moranbah, Dingo, Blackwater and Goondiwindi districts, with minor infestations occurring at Millmerran, Greenmount, Gatton, Ipswich, Rockhampton, Rannes, Mount Morgan, Alpha and Mitchell.

Control

Mechanical control

Dig out plants completely and burn. Ensure that all tubers that can grow are removed and destroyed.

Ploughing is not considered an effective means of control unless followed by annual cropping.

Biological control

Two introduced insects have become established in the field:

- a stem-boring longicorn beetle, *Alcidion cereicola*
- a mealy bug, *Hypogeococcus festerianus*.

The stem-boring beetle only attacks older woody stems. In the Collinsville area, large beetle colonies developed and contributed to the collapse of dense areas of cactus. Populations of *Alcidion cereicola* have declined with the reduction in the cactus in recent years.

The most successful biological control agent is the mealy bug *Hypogeococcus festerianus* which is now present in harrisia cactus in Collinsville, Dingo, Moranbah, Blackwater, Nebo, Charters Towers and Goondiwindi districts, with small colonies established at Alpha, Capella, Rannes, Gatton, Greenmount, Millmerran and Rockhampton.

How mealy bug works

The mealy bug aggregates and feeds in the tips of stems and buds, where it limits growth and causes distortion. This results in the knotting of the stem. The plant's response is to utilise energy reserves within the tuber system to produce new growth. Eventually the plant dies, as it is unable to support the continuous high energy demands.

Dry weather reduces the effectiveness of the mealy bug. When dry, the plant's tuber system becomes dormant. Consequently, mealy bug damage does not result in new growth and the energy reserves within the plant are not affected. Instead the bug may damage all vegetative parts and eventually die out. The tuber will remain dormant until adequate moisture returns, when it will reshoot.

How to spread the bug

Mealy bug disperses naturally via wind, although landholder assistance is necessary for its continuous spread, particularly between patches. The bug is manually spread by cutting infected stems and placing them into healthy plants. The best pieces for starting new colonies are large knobs of twisted and distorted cactus that contain many mealy bugs well protected inside knots. Stem tips covered by white, woolly masses of bug are also good. To collect the bug, cut infected stems approximately 15 cm from the distorted knob and place segments in green, plump sections of the healthy plant. Avoid placing mealy bug in stressed or dried out stems. Small cactus plants require at least one large knot, with larger plants requiring three knots per plant. Where possible, landholders should infest every cactus clump as this ensures a rapid reduction in growth and fruiting potential. When cactus infestations are light, chemical control may be a preferable option.

Cut pieces can be transported in boxes or open vehicles. They are not delicate, but are best kept in the shade. Avoid keeping them in large heaps, in direct sunlight, under tarpaulins or in closed containers for long periods. Such conditions will promote rotting of the stems, leading to poor results or failures. Ideally, stems should be put out within three days and a maximum of five days.

When to infest

Best results come by infesting new areas during spring and early summer, from September to December. Maximum growth and spreading occurs in the summer months of December to February. During the drier and colder months of April to August the mealy bug does not die, but little growth and multiplication occurs. Introduction of mealy bug during autumn and winter will not be lost, but little effect is seen until the following summer.

How soon to expect results

Mealy bugs are generally more active and effective on harrisia cactus growing underneath shrubs and trees, so results will be seen more quickly in these areas than in cactus growing in the open. Best results are obtained when infesting plants that have actively growing new shoots.

During wet summers in northern and central Queensland, the growing points of stems will begin to curl after about six weeks.

By the end of the first summer, damage (severe twisting) will be widespread in infested plants. If the initial infestation was sufficiently heavy, no fruit or growth will

occur during the second year, and the cactus will begin to die during the third year. Seedlings and regrowth shoots will continue to be present but by the end of the fourth year there should be very little cactus left.

In the southern portion of the state, where temperatures are lower, the mealy bug still provides control but the process takes longer. However, the mealy bug will do better on cactus in the open, rather than in the shade, as temperatures are higher in the open.

Where to obtain mealy bugs

If you cannot obtain mealy bugs from your own property or neighbour, contact the vegetation management, weed control, or environmental officer at your local government.

Foliar application of registered herbicides provides effective control, but can be costly over large areas. Before using any herbicide always read the label carefully. All herbicides must be applied strictly in accordance with the directions on the label.

Further information

Further information is available from your local government office, or by contacting Biosecurity Queensland (call 13 25 23 or visit our website at www.biosecurity.qld.gov.au).

Figure 1 Distribution of harrisia cactus in Queensland

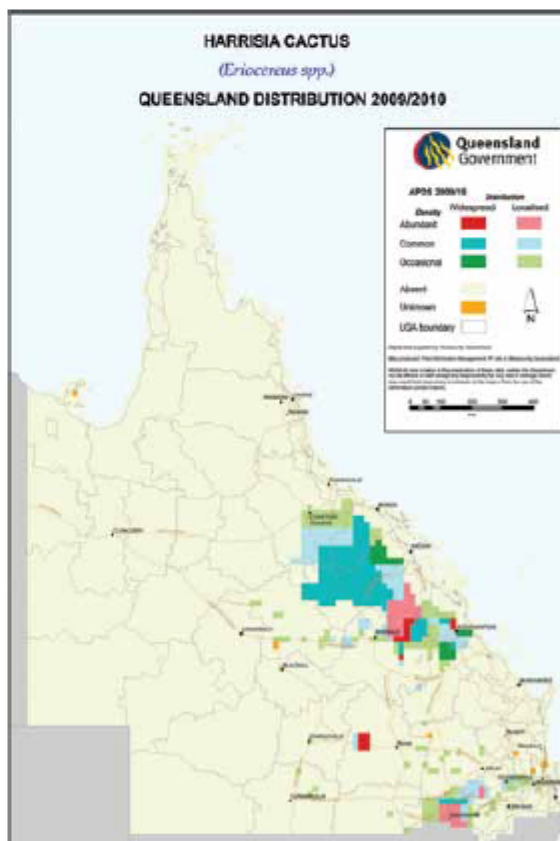


Table 1 Herbicides registered for the control of harrisia cactus

Situation	Herbicide active Ingredient	Rate	Comments
Land – non-agricultural land Land – rights of way	dichlorprop as K salt (600 g/L)	1 L/60 L water	Good soil moisture essential. Spray plant when actively growing to run-off point. A follow-up treatment may be necessary.
Land – commercial/industrial/public Land – rights of way, pastures Pastures – native	metsulfuron-methyl (600 g/kg) (e.g. Brush-Off®)	20 g/100 L water + surfactant	Spray plant when actively growing to run-off point. A follow-up treatment may be necessary
Agricultural land – non-crop Forests – timber production Land – commercial/industrial/public Land – rights of way, pastures	triclopyr as butotyl (240 g/L) + picloram as ioe (120 g/L) (e.g. Access®)	1 L/60 L diesel	Spray plant when actively growing. Apply as overall spray, wetting all areas of the plant to ground level
Land – around buildings Land – commercial/industrial/public Land – rights of way	triclopyr as butotyl (75 g/L) +metsulfuron-methyl (28 g/L) (e.g. Ultimate®)	0.5 L/100L	---
Agricultural land – non-crop Forests – timber production Land – commercial/industrial/public Land – rights of way, pastures	triclopyr as tea (200 g/L) + picloram as tipa (100 g/L) (e.g. Tordon DSH®)	5 L/100 L water 2.5 L/100 L water	Spray plant when actively growing. Treat all stems thoroughly

Read the label carefully before use. Always use the herbicide in accordance with the directions on the label.

Fact sheets are available from Department of Employment, Economic Development and Innovation (DEEDI) service centres and our Customer Service Centre (telephone 13 25 23). Check our website at www.biosecurity.qld.gov.au to ensure you have the latest version of this fact sheet. The control methods referred to in this fact sheet should be used in accordance with the restrictions (federal and state legislation, and local government laws) directly or indirectly related to each control method. These restrictions may prevent the use of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, DEEDI does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.

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Mother-of-millions

Bryophyllum delagoense (syn. *B. tubiflorum*, *Kalanchoe delagoensis*), *Bryophyllum* × *houghtonii* (syn. *B. daigremontianum* × *B. delagoense*, *Kalanchoe* × *houghtonii*)



Mother-of-millions are native to Madagascar and are escaped ornamental plants. Five species are commonly naturalised in Queensland. It is well adapted to dry areas because of its succulent features.

As the name suggests, one plant can reproduce a new generation from masses of embryoids (plantlets) that are formed on the leaf edges. This makes these plants hard to eradicate and follow up controls are essential.

These plants, especially their flowers, are poisonous to stock and occasionally cause a significant number of cattle deaths. When cattle are under stress or in unusual conditions they are more likely to eat plants that they would not normally eat. Shifting cattle to new paddocks, moving stock through infested rubbish dumps and wastelands, and reduction of availability of feed due to flood or drought can all contribute to cattle eating mother-of-millions and being poisoned. The plant flowers from May to October (during the drier months of the year) and the scarcity of feed at this time may cause cattle to consume lethal amounts of mother-of-millions.

Poisoned cattle show signs of dullness, loss of appetite, diarrhoea and heart failure. Some cattle may drool saliva or dribble urine. There are two responses to poisoning:

1. acute—where cattle die within a day
2. chronic—where cattle may take up to five days to die.

Some cattle may make a slow recovery if insufficient plant material was eaten.

Poisoned cattle must be treated within 24 hours of consuming the plant. The treatment is intense and needs to be given by a veterinarian, or under their direction, because of the drugs and materials used. The treatment is costly—\$70 or more for one adult cow, plus veterinary fees.

Declaration details

Bryophyllum delagoense syn. *B. tubiflorum*, *Kalanchoe delagoensis* and the hybrid *Bryophyllum* × *houghtonii* syn. *B. daigremontianum* × *delagoense*, *Kalanchoe* × *houghtonii* are declared Class 2 plants under the *Land Protection (Pest and Stock Route Management) Act 2002*.

A Class 2 pest is one that has already spread over substantial areas of Queensland, but its impact is so serious that there is a need to try and control it and avoid further spread onto properties that are still free of the pest. By law, all landholders must try to keep their land free of Class 2 pests and it is an offence to keep or sell these pests without a permit. A local government may serve a notice upon a landholder requiring control of declared pests.

Description and general information

Mother-of-millions are erect, smooth, fleshy succulent plants growing to 1 m or more in height.

All species form tall flower spikes in winter with clusters of bell-shaped flowers. Each species has a distinctive leaf shape, but all produce small plantlets along the edges of the leaves. These plantlets drop readily, develop roots and establish quickly to form a new colony.

Bryophyllum delagoense syn. *B. tubiflorum* and *Kalanchoe delagoensis* (common mother-of-millions, mission bells, Christmas bells) has grey-brown, fleshy, tubular-like leaves with up to seven projections at the tip of each leaf. The flowers are orange-red and occur in a cluster at the top of a single stem. Seeds can germinate for some years.

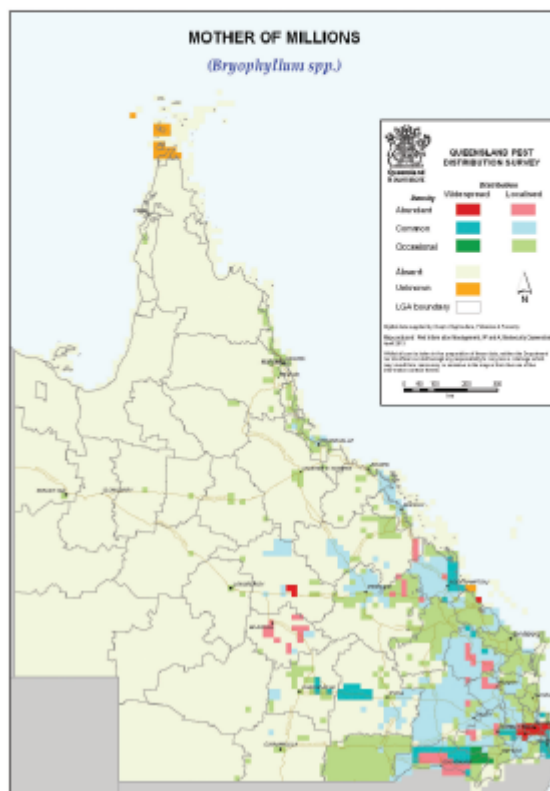
Bryophyllum × *houghtonii* syn. *B. daigremontianum* × *B. delagoense*, *Kalanchoe* × *houghtonii* (hybrid or crossbred mother-of-millions) has similar flowers arranged in a branched cluster at the top of the stem. Its leaves are boat shaped with thick stalks and notches along the edges of the leaves.

A third species, *Bryophyllum pinnatum* (resurrection plant, live-leaf), is also problematic but is not a declared pest plant. This plant has yellow-green, oval, fleshy leaflets with wavy edges and up to five leaflets per leaf. Its flowers are yellowish-green, often tinged with pink, and occur in loose clusters on stalks growing at intervals along the upper portion of the stem.

Habitat and distribution

These popular garden plants have escaped cultivation and spread in various areas of Queensland. They have become a problem in pasture lands in the central highlands around Clermont, Emerald and Dingo, and the Burnett, Moreton and Darling Downs scrub regions. The plants establish well in leaf litter or other debris on shallow soils in shady woodlands, and often grow on roadsides, along fence lines and around old rubbish dumps. They can spread from these areas, especially in flood, and establish if pastures are run down. They are adapted to dry conditions and can survive long periods of drought.

Map 1. Distribution of mother-of-millions in Queensland



Prevention

The best form of weed control is prevention. Always treat weed new infestations when small—do not allow weeds to establish. Weed control is not cheap, but it is cheaper to do it now rather than next year, or the year after. Proper planning ensures better value for each dollar spent.

Permanent control of mother-of-millions infested areas is best ensured by establishing more desirable plants in that location to compete successfully with future mother-of-millions seedlings and plantlets. This is best achieved through soil preparation, replanting, fertilising and using the area more productively.

Ensure scattered infestations and small dumping areas on properties are regularly checked and cleaned up. Day-to-day hygiene management will help prevent establishment of these weeds.

Co-operative control upstream and downstream of problem areas will help prevent re-infestation from other areas.

To prevent poisoning, keep stock (especially hungry stock) away from infested areas until the plants are controlled.

Control

Look at weed problems carefully. Decide whether to contain the weed to stop new infestations developing while reducing existing weeds. Determine what weed control is required by legislation. Determine how weed control fits into your property management. What can be done to restore and prevent re-establishment?

The best approach is usually to combine different methods. Control may include chemical, mechanical, fire and biological methods combined with land management changes. The control methods chosen should suit the specific weed and particular situation.

Fire

When suitable (e.g. after grading firebreaks), burn infestations and the accompanying debris on which mother-of-millions plants thrive. This is the most economical form of control, encourages grass competition and lessens the problem for following years, requiring only spot spraying with selective herbicides.

Biological control

The South African citrus thrips is present in Queensland and is quite widespread through the south of the state. The thrip damages the outer tissue of the mother-of-millions plant and also lays its eggs under the outer tissue. Where high populations of thrips exist, the number of viable plantlets and flowers forming on mother-of-millions is reduced.

The thrips populations vary from year to year, according to mother-of-millions populations and climate. The South African citrus thrips should not be seen as a long term control strategy—only a control option to complement other techniques such as herbicide treatment and burning.

Mechanical control

For small areas, pull up plants by hand and burn on a wood heap. Alternatively, bag the plants and dump them in a bin, the contents of which are buried at council refuse tips rather than being recycled into mulch.

Herbicide control

Before using any herbicide always read the label carefully. All herbicides must be applied strictly in accordance with the directions on the label. Where the addition of a wetting agent is recommended, always use a commercial wetting agent or surfactant.

Mother-of-millions may be controlled with herbicides at any time of the year, but infestations are easiest to see in winter when the plants are in flower. Treating infestations at this time of year also has the benefit of preventing new seeds from developing on common mother-of-millions.

Table 1 details the herbicides registered for mother-of-millions control.

Further information

Further information is available from your local government office, or by contacting Biosecurity Queensland (call 13 25 23 or visit our website at www.biosecurity.qld.gov.au).



South African citrus thrips adult



South African citrus thrips damage to mother-of-millions

Table 1. Herbicides registered for the control of mother-of-millions

Situation	Herbicide	Rate	Comments ¹
Pastures, non-crop land	2,4-D acid (AF 300)	7 L/1000 L water per ha	Overall spray handgun
		70 ml/10 L water	Overall spray knapsack
Pastures, rights of way, non-crop land, forests, non-agricultural land, commercial/Industrial areas	pictoram + triclopyr (e.g. Grass-up, Grazon DS, Picker)	50 ml/10 L water	Overall spray knapsack Apply at flowering
	fluroxypyr	600 ml/100 L water + sufactant	Apply to seedlings and young plants before flowering
	pictoram + triclopyr + aminopyralid (e.g. Grazon Extra)	50 ml/10 L water	Add 100% concentrate non-ionic surfactant (e.g. BS 1000) at 100 ml/100 L water Apply at flowering

Read the label carefully before use. Always use the herbicide in accordance with the directions on the label.

Note: 1. Thorough, even coverage of leaves and plantlets is necessary.



This fact sheet is developed with funding support from the Land Protection Fund.

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Attachment 3: Detailed Plans

Fire Management Plan

Rural Property Fire Management Guide

Property Identification

Name of Property: Terang

Real Property Description: Lot 12 SP164060

Tenure: Leasehold - Licensed to McKenzie & Stewart

Size: 22167ha

Owner: BHP Coal (Hardy Wincen 0419780113) Spouse: _____

Manager: Les Stewart Spouse: Carmen Stewart

Postal Address: Terang, Comet, Qld 4702

Primary Contact: Les

Contact Details: 49826404, 0429137676, 0429852857

Queensland Fire and Rescue Service, Rural Operations

Local Rural Fire Brigade: Taurus Creek Phone: _____

Fire Warden: Trevor Neilsen Phone: 0428719411

Rural Operations Area Office Details

Area Director: _____ Phone: _____

Neighbouring Property Details and Contacts

Name	Location	Phone	Radio
BWM	Mine Dispatch	49805725	
Greg Hutton	Kenmare, Togara	49844925	
Ian McCamley	Memooloo, Ganadero	49843409, 0427844189	

Radio Communications:

Property Channel: UHF 12

Community Channel: UHF repeater 5

Neighbours Channel: _____

Brigade VHF Channel: _____ UHF Channel: _____

Parks/Forestry VHF Channel: _____

QFRS UHF Channel: _____ VHF Channel: _____

Response Resources Available:

Fire Fighting Equipment:

Ute mounted tank & firefighter pump.

Grader



Queensland
Government

Personnel (on hand during fire season):

Name	Location	Contact
Bevan McKenzie		
Gavin McKenzie		

Plant:

Grader

Bores/Water Fill Points:

Name	Location	Contact
See Map 1		

Training Requirements:

Risk Assessment

What are the key fire risks on your property?

accessibility to Northern paddocks - line of retreat limited

What areas must be protected?

Homestead & facilities, holding paddock zone, 18 mile yards
Environmental Offset areas

What assets need to be protected?

Homestead & facilities, 18 mile yards



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Government

Fire History (problem areas, lightning strike locations, illegal ignition prone areas, impact of previous year's wildfires, etc)

Fuel load is high due to light stocking, Southern zone exposure for Gamedoro, Penrose, Reserve area adjacent to mine has body of fuel

HAZARD Reduction and Firebreaks:

(Attach map showing property boundaries, fencing, fire breaks and fuel types)

Fuel types/general:

See Map

Location of fire breaks/best access to fire breaks:

See Map

Hazard reduction target areas (including early burning):

See Map 2

Strategic fire breaks / burning:

Boundary break, railway corridor, Central Laneway break

Airstrip: Good / Maintained / U/S

Lat: _____ Long: _____

Map Attached: Yes No

Landholder Fire Management Plan last updated: June 2013

By: L Stewart **Signed:** _____

Reviewed and understood by (staff / family, etc):

Name: _____ **Signed:** _____

Date: _____

Name: _____ **Signed:** _____

Date: _____



Queensland
Government



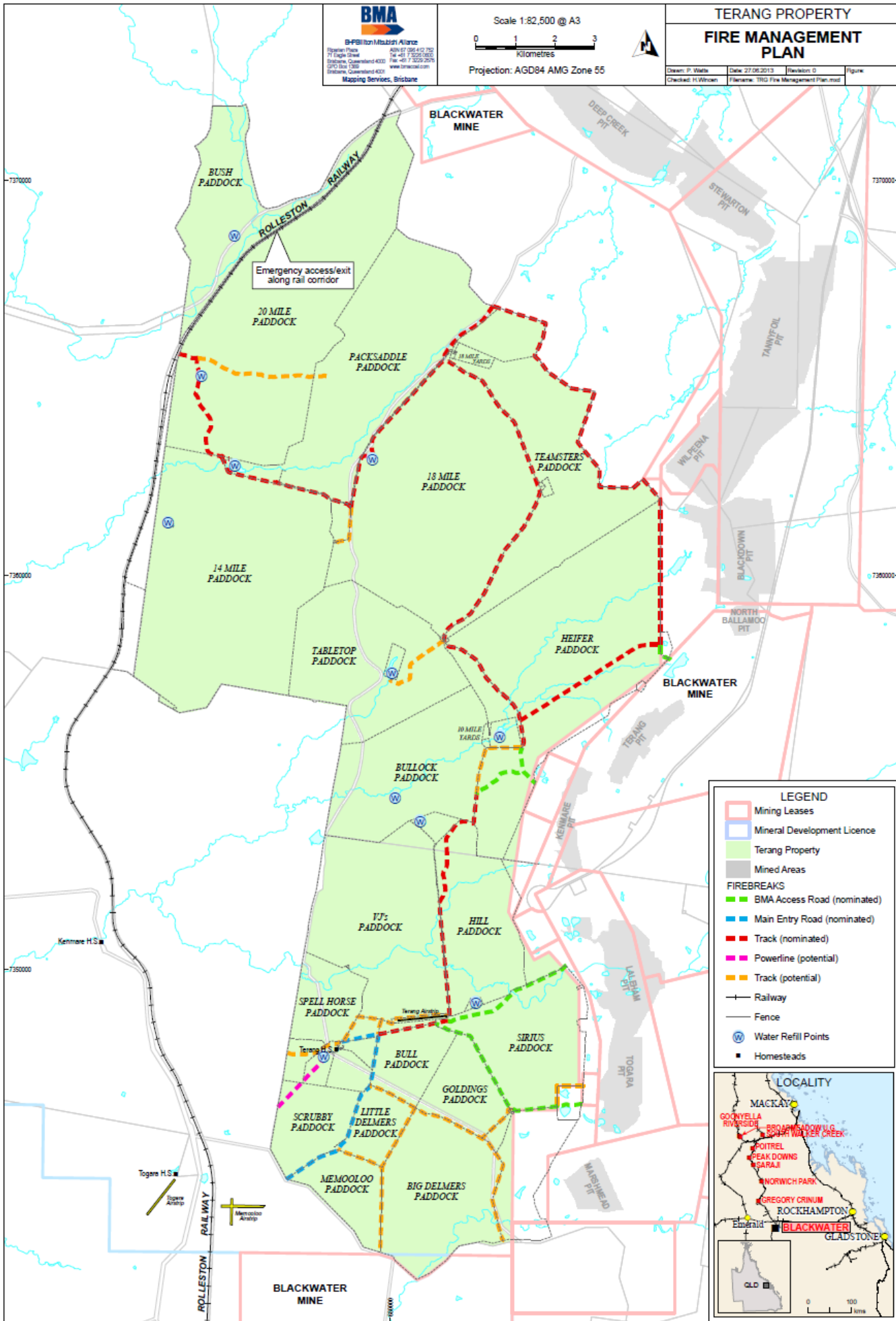
BMA
 Brisbane Mining Alliance
 Register: Place
 71 Eagle Street
 Brisbane, Queensland 4000
 GPO Box 1200
 Brisbane, Queensland 4000
 Mapping Services, Brisbane

Scale 1:82,500 @ A3
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 Kilometres
 Projection: AGD84 AMG Zone 55



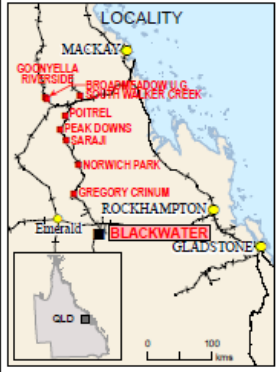
TERANG PROPERTY FIRE MANAGEMENT PLAN

Drawn: P. Wade Date: 27/06/2013 Revision: 0 Figure:
 Checked: H. Wilson Filename: TRG Fire Management Plan.mxd



LEGEND

- Mining Leases
- Mineral Development Licence
- Terang Property
- Mined Areas
- FIREBREAKS**
- BMA Access Road (nominated)
- Main Entry Road (nominated)
- Track (nominated)
- Powerline (potential)
- Track (potential)
- Railway
- Fence
- W Water Refill Points
- Homesteads



Attachment 4: Terang Grazing Licence Obligations

4 Licensee's Obligations

4.1 The Licensee shall graze only such quantities of stock on the Property as are reasonable in accordance with good grazing practices.

4.2 The Licensee shall maintain and manage the Property at the Licensee's sole expense in accordance with good grazing and land management practices in respect of the locality in which the Property is situated. Without limiting the generality of the foregoing provisions of this clause, the Licensee shall use the Licensee's best endeavours to ensure that all fences, grids and other means of holding stock are maintained in good order so as to prevent stock from straying from the Property.

4.3 The Licensee shall meet all costs connected with the Licensee's use of the Property including but not limited to the provision of electricity, telephone, water and the provision of adequate fencing on the Property to meet the Licensee's needs. The Licensor shall pay all rates and other charges levied by the Local Authority in relation to the Property.

4.4 The Licensee shall at all times during the Term duly and punctually comply with and observe all statutes having application to the Property and the Licensee's use of the Property and all requirements and orders of the Local Authority or any statutory authority where the non-compliance or non-observance of such requirements or orders would or might impose some charge or liability upon the Property or any part thereof or the owner of or occupier of the Property.

4.5 The Licensee shall undertake at the Licensee's sole cost good farming practices adopted throughout the district to control noxious weeds, pests and vermin on the Property in compliance with all statutory and Department of Environment and Resource Management requirements and good land management practices.

4.6 The Licensee shall not:-

4.6.1 use the Property for any purpose other than the agistment of stock;

4.6.2 subject to Clause 2 hereof, share the use of the Property or any part of the Property with any person (other than entities related to the Licensee);

4.6.3 construct or make any alteration to any dam, fence, or building or other fixed improvement on the Property, drill any bore or carry out any other activity that may damage or alter the Property, general maintenance in accordance with good farming practices excluded;

4.6.4 remove or alter any fixture or fitting on the Property belonging to the Licensor;

4.6.5 excavate or remove any stone, sand, soil, rock, fill, gravel or other material forming part of the Property for use by, or sale to, any entity unrelated to the Licensee;

4.6.6 cut or destroy any trees, timber or vegetation on the Property or clear any land being part of the Property (except in accordance with clause 4.5) general maintenance in accordance with good farming practices excluded;

4.6.7 light any fires upon the Property general maintenance and upkeep in accordance with good farming practices excluded; or

4.6.8 cause or permit any nuisance to arise or continue on the Property;

without the prior written consent of the Licensor, which consent may be refused in the absolute discretion of the Licensor or granted subject to such conditions as the Licensor may consider appropriate in the circumstances.

4.7 In the event that consent to construct or alter any fencing, structures, buildings or other improvements on the Property is given by the Licensor under clause 4.6, no compensation will be payable by the Licensor in relation to such fencing, structures, buildings or other improvements upon termination or expiration of this Licence. The Licensee will be entitled to remove such fencing, structures, buildings or other improvements on or prior to the date of termination or expiration provided that such fencing, structures, buildings or other improvements can be removed without causing any damage to the Property.

4.8 The Licensee shall not do any act thing or matter which causes the Licensor to:

4.8.1 be in breach of the terms and conditions of any Mining Lease;

4.8.2 be in breach of the terms and conditions of any land tenure held by or on behalf of the Licensor from the Crown over or in connection with the Property;

4.8.3 contravene the town planning scheme of the Local Authority in relation to the Property; or


4.8.4 contravene any statute in relation to the Property.

Appendix 1: Mapping

Locational overview map



Legend

-  Terang Property
-  National Parks
-  Mining Leases

0 1.5 3 6 9 12 15 Kilometers

Prepared by: LF Approved by: BD

Date: 3/12/2013

Datum/Projection:
GDA 1994 MGA Zone 55

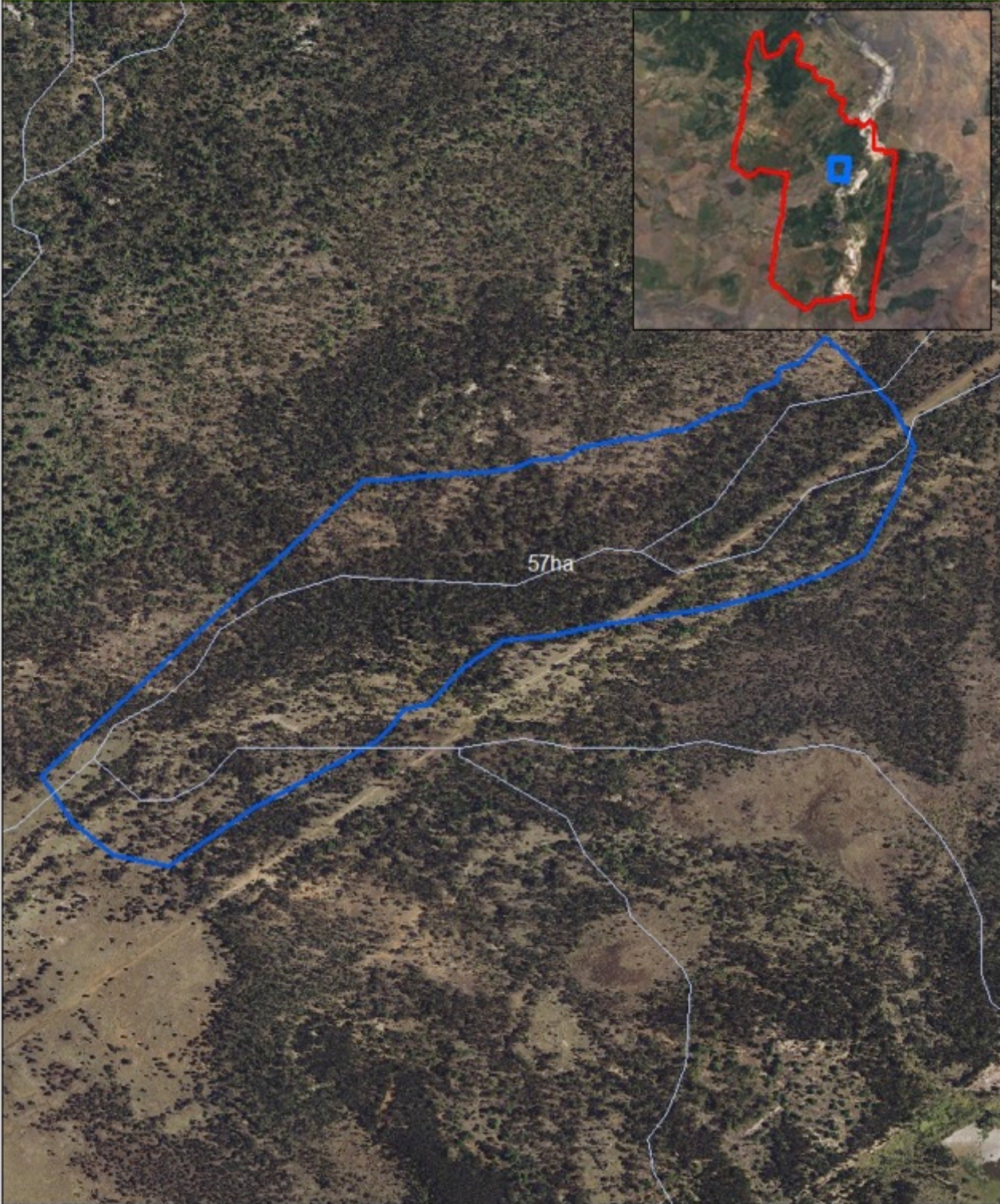
Data Sources:
Base Map © ESRI 2013
Tenure © Qld NRM 2013






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logical
AUSTRALIA

www.ecoaus.com.au

Offset Area 1



Legend

-  Terang Property
-  Waterways
-  Ornamental Snake Offset Site 1

0 65 130 260 390 520 Meters

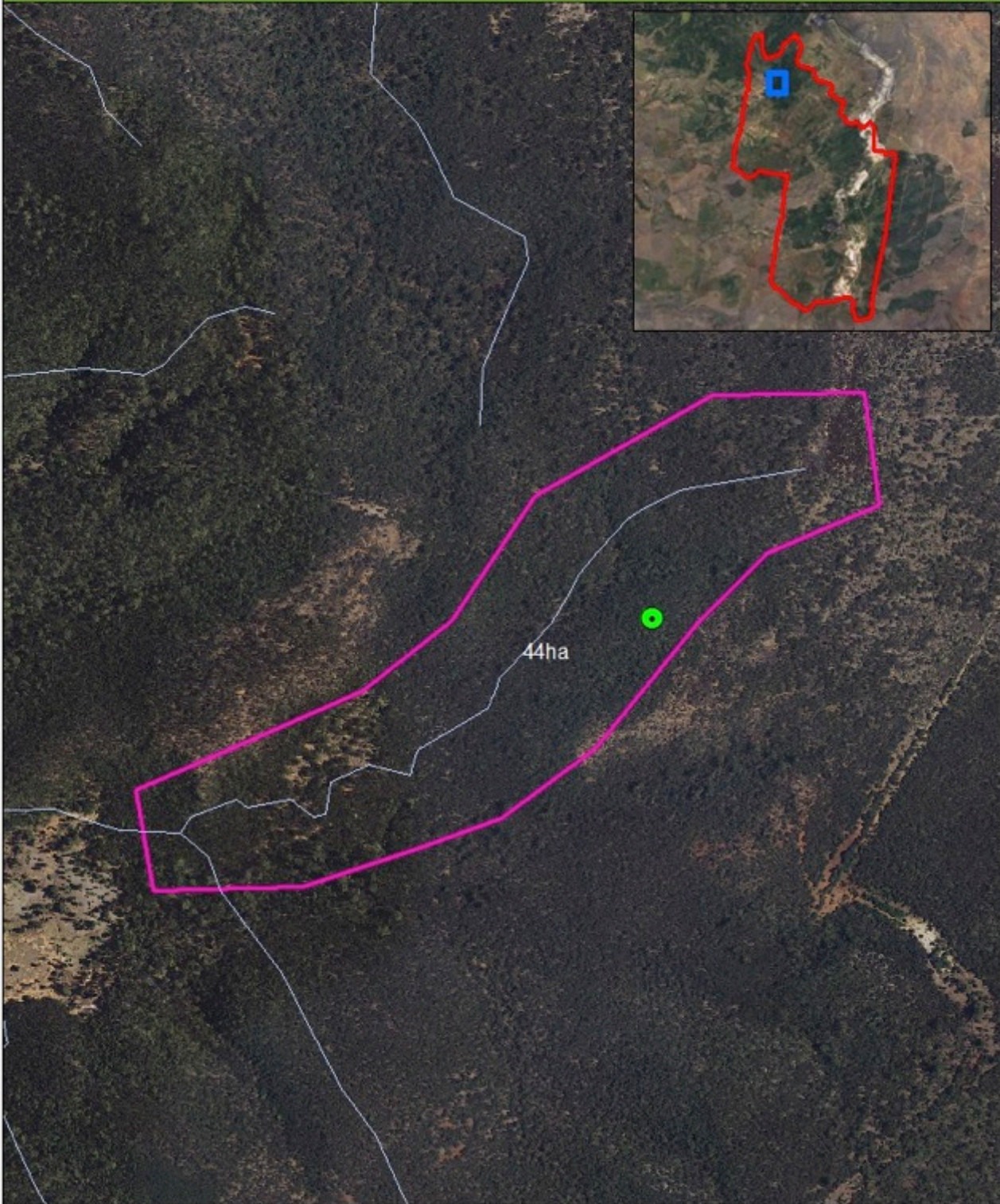
Prepared by: LF Approved by: BD
Date: 28/11/2013

Datum/Projection:
GDA 1994 MGA Zone 55





Data Sources:
Base Map © ESRI 2013
Waterways © Qld NRM 2013



Offset Area 2



Legend

-  Terang Property
-  Waterways
-  Ornamental Snake records
-  Ornamental Snake Offset Site 2

0 65 130 200 390 520 Meters

Prepared by: LF Approved by: BD
Date: 28/11/2013

Datum/Projection:
GDA 1994 MGA Zone 55

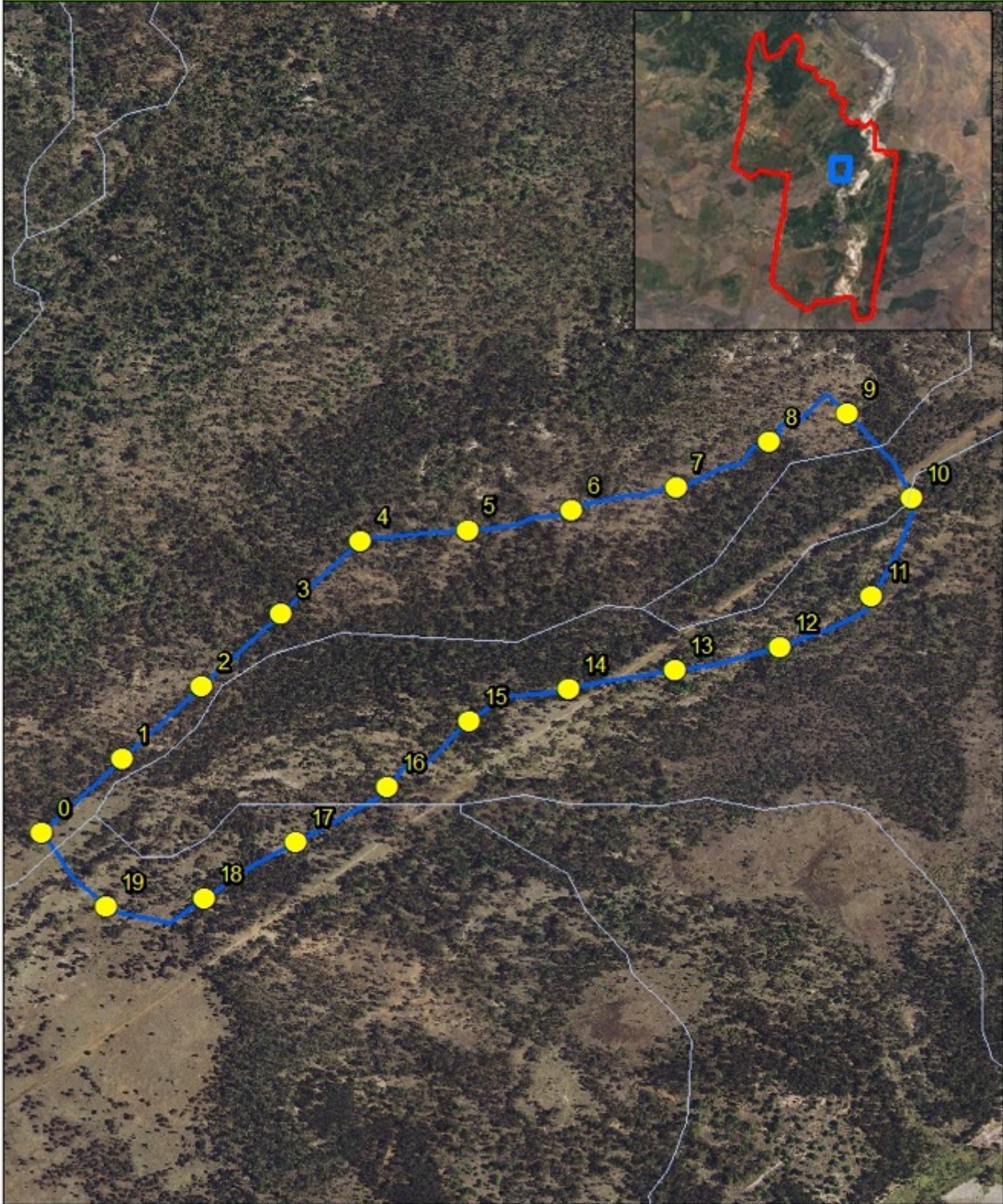
Data Sources:
Base Map © ESRI 2013
Waterways © Qld NRM 2013



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AUSTRALIA

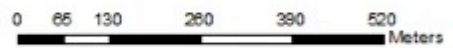
www.ecoaus.com.au

Offset Area 1 - Mapping Coordinates



Legend

- Terang Property
- Waterways
- Ornamental Snake Offset Site 1
- Mapping Points



Prepared by: LF Approved by: BD
Date: 28/11/2013

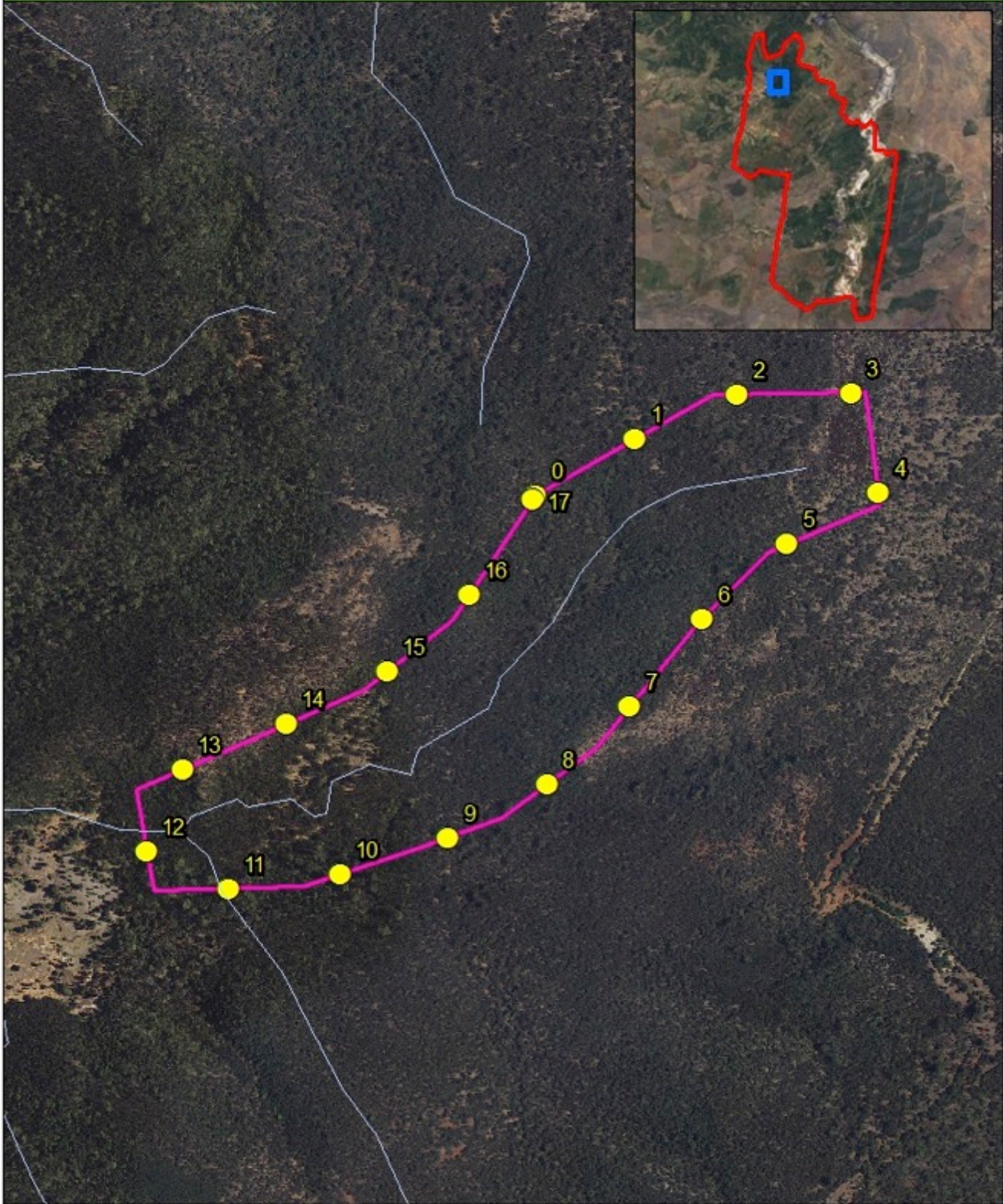
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Data Sources:
Base Map © ESRI 2013
Waterways © Qld NRM 2013







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5	684580	7357574
6	684774.5	7357603
7	684969.3	7357637
8	685146.5	7357715
9	685292.5	7357761
10	685405	7357598
11	685323.5	7357420
12	685150.1	7357334
13	684953.8	7357297
14	684755.5	7357273
15	684567.4	7357221
16	684412.5	7357105
17	684238.8	7357009
18	684064	7356912
19	683882.9	7356906

Offset Area 2 - Mapping Coordinates



Legend

-  Terang Property
-  Waterways
-  Ornamental Snake Offset Site 2
-  Mapping Points

0 65 130 260 390 520 Meters

Prepared by: LF Approved by: BD
Date: 28/11/2013

Datum/Projection:
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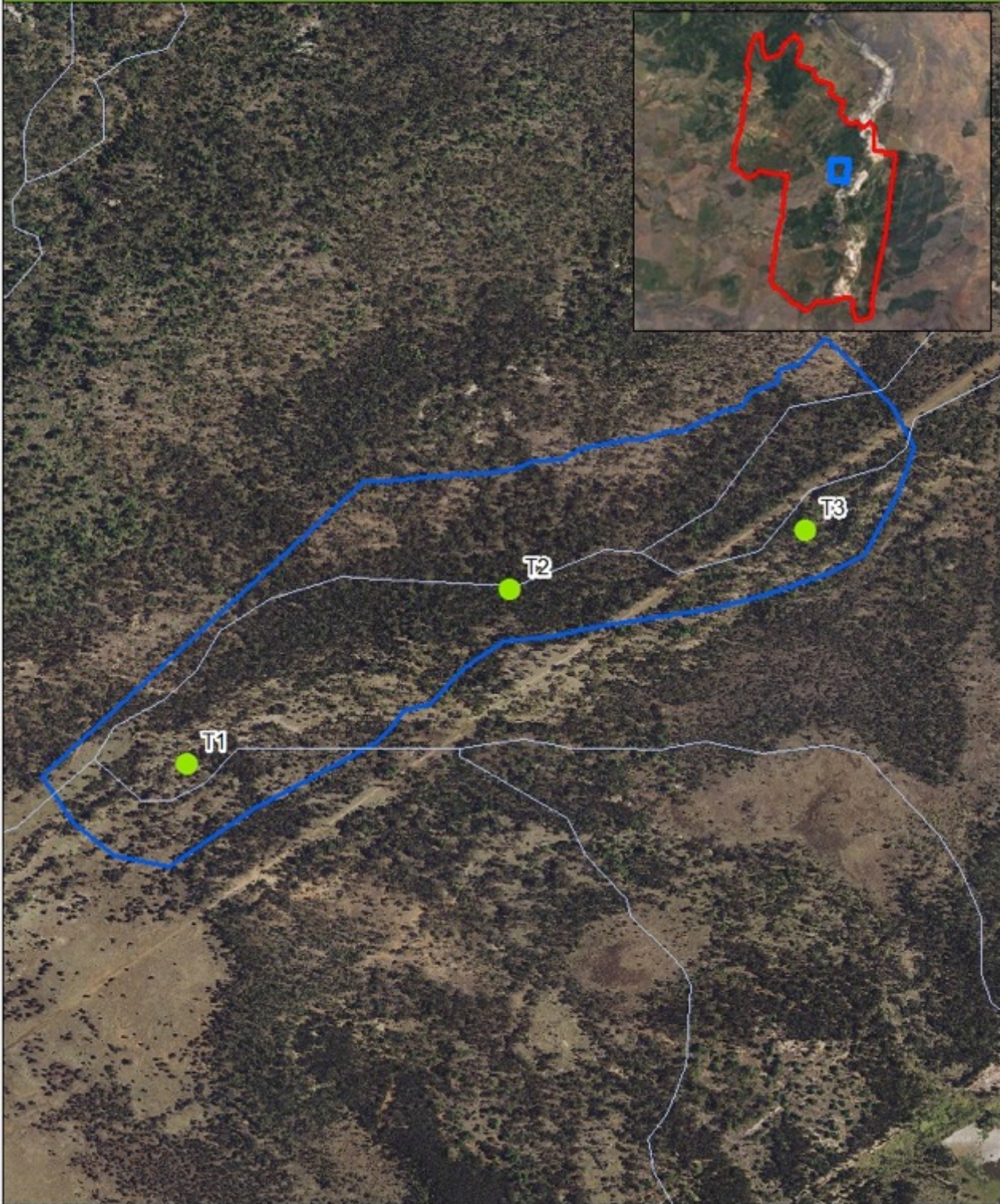
Data Sources:
Base Map © ESRI 2013
Waterways © Qld NRM 2013







Offset Site 2

ID1	x	y
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1	678266.6	7367132
2	678449.3	7367202
3	678649.2	7367196
4	678689.7	7367019
5	678525.3	7366935
6	678371.6	7366811
7	678237.9	7366662
8	678087.6	7366533
9	677909.5	7366446
10	677717.9	7366389
11	677520.5	7366372
12	677380.9	7366443
13	677449.8	7366585
14	677636.3	7366657
15	677815.7	7366743
16	677966.2	7366871
17	678083.3	7367033

Offset Area 1 - Monitoring Points



Legend

-  Terang Property
-  Waterways
-  Ornamental Snake Offset Site 1
-  Monitoring Points

0 65 130 260 390 520 Meters

Prepared by: LF Approved by: BD
Date: 28/11/2013

Datum/Projection:
GDA 1994 MGA Zone 55

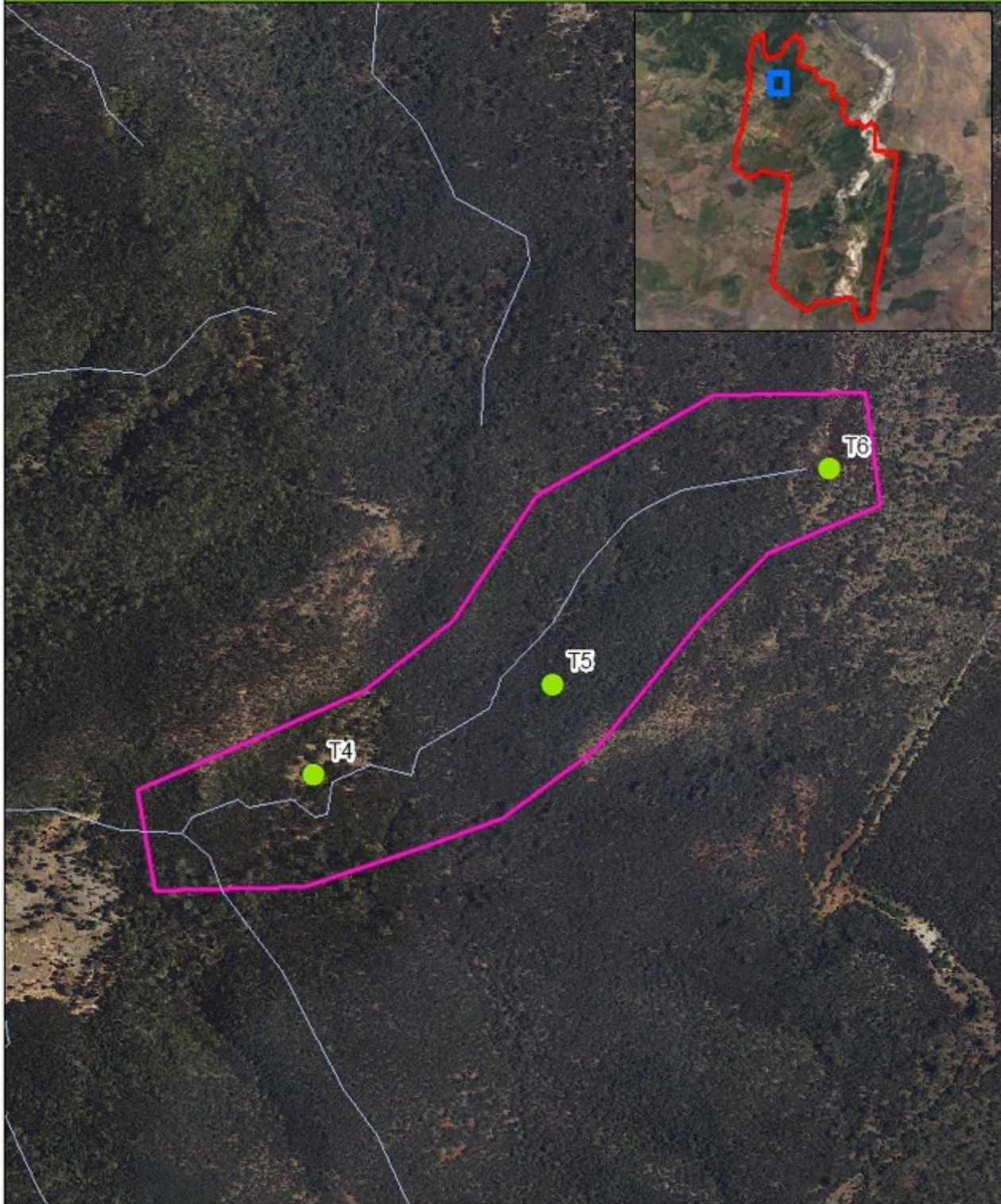
Data Sources:
Base Map © ESRI 2013
Waterways © Qld NRM 2013







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Monitoring Sites - Offset Area 2



Legend

-  Terang Property
-  Waterways
-  Ornamental Snake Offset Site 2
-  Monitoring Points

0 65 130 200 390 520 Meters

Prepared by: LF Approved by: BD
Date: 28/11/2013

Datum/Projection:
GDA 1994 MGA Zone 55

Data Sources:
Base Map © ESRI 2013
Waterways © Qld NRM 2013



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Appendix 2: Pest Animals Control Measures

Property managers must undertake periodic targeted programs, aimed at reducing and controlling the populations of pest animals on the site.

Feral cat trapping

Trap Location

Feral cat trapping will be conducted using wire mesh cage traps. Traps will be set in areas of known feral cat activity. Traps will be set in a shaded location to minimise stress on captured animals. Traps are to be set in relatively close proximity to allow for frequent checking of all traps before transporting any captured cats to the vet.

Trap setting

Traps will be set with a free feed to attract the cat. Free feeding may be used outside that trap to encourage visits to the general location.

Trap Inspection

Traps will be inspected each morning before first light. Traps are to be inspected early to ensure no undue stress is caused. Approach to the trap should be managed to avoid stressing any captured animals. Any non-target species captured are to be released immediately and close to vegetative cover to allow for a safe escape.

Euthanasing of captured cats

Trapped feral cats are to be safely transferred to a suitable veterinarian for euthanasing. The trapped cats are to be transported in a covered cage to avoid the risk of injury and illness from the animal and reduce stress to the cat. Feral cats are not to be kept in cages during the day whilst work continues. They are to be transported immediately to an appropriate veterinarian for euthanasing.

Records

All trap locations are to be recorded using GPS. Records of the locations, date and time of trapped cats are to be recorded.

Feral pigs

Baiting program

Feral pigs are controlled using 1080 grain baits. Fermented corn is used as the grain bait and is tumble mixed with a predetermined amount of 1080. An authorised person loads the baits into pre-soaked grain.

Location

Feral pig baiting is conducted wherever activity has been detected, either through visual identification or by tracks and furrowing activity. All pig baiting is conducted away from mining activity to avoid interaction with mine workers.

Trap establishment

Feral pig baiting is conducted within purpose built traps. The traps are steel panels with wire mesh screening and have one way entry doors. The traps are transported to the baiting location and installed by experienced personnel. Two people will erect traps as a minimum. Traps are to be installed utilising appropriate PPE.

Pre feeding

Traps are free fed for a period prior to baiting to allow feral pigs to locate and become accustomed to the trap. Traps are monitored with infrared cameras to assess the number of pigs visiting the trap. This allows

for an appropriate amount of grain to be baited. Monitoring during free feeding also allows for the identification and control of non targeted species prior to baiting.

Bait preparation

Fermented grain 1080 baits are prepared by an authorised person. A measured volume of 1080 poison is tumble mixed through a given volume of fermented grain. The loaded grain is transferred to a sealed container for transport to the trap location.

Baiting traps

The loaded grain is placed into feeding receptacles within the trap. The trap is set in order to keep 1080 affected animals in the trap to allow for appropriate disposal of carcasses. The baited trap is visited daily to remove any deceased animals. In the event that non-deceased animals are discovered in the trap, further baited grain is supplied to effect mortality.

Carcass and bait disposal

The trap is to be checked each day with all deceased carcasses removed for burial in a deep pit (>1m). Handling of carcasses is to be kept to a minimum, and be undertaken using appropriate PPE and manual handling techniques. Where possible and as required, mechanical means of carcass removal shall be employed (i.e. Loaders or backhoes to remove carcasses to burial pit). Handling of intact carcasses poses no threat of exposure to 1080, however other hygiene issues need to be considered. If no further pig activity is occurring in the trap, the baited grain is to be collected and disposed of in a deep pit (>1m). All feed bins are to be washed out with a large volume of water to remove any 1080 residue. Bins must be left upside down whilst the 1080 degrades (14 days) before free feeding use.

Recording

The location of each trap for each baiting event is to be recorded using GPS. The number of feral pigs destroyed is to be recorded. These details are to be kept along with the date of the program and the quantity of bait used.

Safety

1080

1080 is the trade name given to sodium fluoroacetate. Sodium fluoroacetate is a naturally occurring compound found in some native flora species. Due to this, native fauna can have an increased tolerance to the poison in comparison to introduced species which makes it a useful targeted poison for the control of introduced pest animals. 1080 must only be handled by a competent person. The authorised person prepares the baits on behalf of the landholder. The landholder then places the baits in the desired locations. No 1080 poison is kept or stored onsite. Only prepared baits are used onsite.

Fresh meat baits

Fresh meat baits are prepared using pre cut meat, with a measured dose of 1080 injected into the meat. The effective concentration of 1080 in fresh meat baits is 0.034% 1080 by weight or 6mg 1080 per 125gm of fresh meat. As the product is diluted below 0.1%, it is not classified as a hazardous substance or dangerous goods. The baits may only be handled using elbow length heavy PVC gloves which must be washed well between each use to avoid skin contact with 1080.

Grain baits

Grain baits are made using fermented corn. The corn is tumble mixed with a predetermined dose of 1080 by the authorised person. Green food dye is added to deter grazing by birds. The effective concentration of 1080 in grain baits is 0.02% 1080 by weight or 72mg 1080 per 250gms of fermented grain. As the product is diluted below 0.1%, it is not classified as a hazardous substance or dangerous goods. The baits may only be handled using appropriate PPE including elbow length heavy PVC gloves which must be washed well between uses to avoid skin contact with 1080.