

Mining Management Exploration Activities

Northern Territory of Australia – Mining Management Act 2001

It is recommended that the Mining Management Plan (MMP) is completed in conjunction with the user guide available on the [Northern Territory Government website](#).

Section 1 – Project Details

Project Name Provide new or existing project name	Finniss Lithium Project
Authorisation Number Insert existing authorisation number, where applicable	0876-01
Operator Name Use ASIC-ABR registered name (if a company), or name of the applicant	Core Lithium Ltd
Operator ABN and ACN numbers	ACN: 146287809
Location and Access Details Include brief description of the location, access details, and distance to nearest town or community	The Finniss Project is located approximately 32 km west of Darwin in the Cox Peninsula area. Access into the area is excellent from Darwin via the Stuart Highway and sealed Cox Peninsula Rd (through Berry Springs), then west via the Fog Bay Road. From these main sealed roads, access is then by dirt roads and tracks which traverse the Project area. Some of the proposed work areas need to be accessed via new tracks. Berry Springs is the closest community, 30km by road to the southeast.
Target Commodity Details Include target mineral commodities (i.e. gold, copper etc.)	Lithium, Gold

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<p>Mining Activities Summarise the mining activities (exploration) to be the subject of the proposed Authorisation or Variation.</p> <p>Drilling programs over a maximum of four years are supported and encouraged and can be staged. Please refer to the guidelines for further information.</p>	<p>Exploration on the Finnis Lithium Project has progressed to a stage where mining development activities are underway. Mining and development related activities are <i>not</i> covered by this MMP. Please refer to Authorisation 1021-01 “Grant’s Lithium Project” for details of mining and development related activities, which are now associated with ML31726, ML32074 and EMP28651.</p> <p>This MMP only covers exploration related activities. Previously, exploration activities on the Finnis Lithium Project have been approved under a number of different authorisations, as listed in Section 3 below. This is the first MMP to combine them all, which is an attempt to manage them all efficiently, given that environmental management and monitoring procedures are identical through the Company’s exploration leases.</p> <p>Exploration has been, and will continue to be, carried out in a step-wise fashion, commencing with assessment of historical exploration data, geophysics (e.g. airborne magnetics) and remote sensed data (e.g. GoogleEarth). On-ground exploration starts with mapping and prospecting, using a 4WD or ATV. Soil or auger samples follow, collected either via a shovel or an ATV mounted auger. Prospects defined by this baseline data are then tested by drilling, which is the first ground disturbing work, and which is the subject of this authorisation. Drilling can occur in the form of shallow scout drilling via rotary air-blast (“RAB”) and aircore (“AC”) methods. Drilling of subsequent targets is via deeper reverse circulation (“RC”) and diamond core (“DDH”) methods.</p> <p>The variation sought in this renewal is not only to combine the various authorisation listed below, but also to notify the planned 2022 program, which involve approximately:</p> <ul style="list-style-type: none"> • 221 RC holes • 29 DDH holes • 12.3 km tracks • Associated non-ground disturbing activities
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<p>Proposed Schedule Include start and finish dates of ground disturbing work</p>	<p>Commencing in June 2022 and extending through to December, 2022, or while-ever access permits within the wet season.</p>
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Mining Interest and Land Ownership

List the mining interests (titles), the title holder name/s, the title expiry date and the Property name/Land holder (e.g. pastoralist or Aboriginal land trust) for each title.

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Title Number	Title Holder	Expiry Date	Underlying Property Name or Land Holder
EL29698	Lithium Developments Pty Ltd (subsidiary of Core Lithium Ltd)	10/07/2023	<p><i>Vacant Crown Land</i> - Hundred of Parsons, 605/00001 (Cox Peninsula), and Hundred of Hughes, 372/02746</p> <p><i>Crown Lease Perpetual</i> - Charlotte, NT Portion 3283 – privately leased by MS Contracting (Mark Sullivan)</p>
EL29699	Lithium Developments Pty Ltd (subsidiary of Core Lithium Ltd)	10/07/2023	<p><i>Vacant Crown Land</i> - Hundred of Parsons, 605/00001 (Cox Peninsula)</p>
EL30012	Lithium Developments Pty Ltd (subsidiary of Core Lithium Ltd)	21/04/2022 (renewal lodged)	<p><i>Crown Lease Perpetual</i> - Charlotte, NT Portion 3283 – privately leased by MS Contracting (Mark Sullivan)</p>
EL30015	Lithium Developments Pty Ltd (subsidiary of Core Lithium Ltd)	02/03/2022 (renewal lodged)	<p><i>Vacant Crown Land</i> - Hundred of Parsons, 605/00001 (Cox Peninsula), and Hundred of Hughes, 372/02746</p>
EL31126	Lithium Developments Pty Ltd (subsidiary of Core Lithium Ltd)	19/09/2022	<p><i>Vacant Crown Land</i> - Hundred of Hughes, 372/02746 and Hundred of Milne, 510/00157.</p> <p><i>Crown Lease Perpetual</i> - Charlotte, NT Portion 3283 – privately leased by MS Contracting (Mark Sullivan)</p> <p><i>Crown Lease Term</i> - Parcel 11 (S86/198) – privately leased by Graham Chrisp</p> <p><i>Freehold Private Land</i> – Parcel 02751 (S2001/160) - owned by Graham Chrisp</p>
EL31127	Lithium Developments Pty Ltd (subsidiary of Core Lithium Ltd)	19/09/2022	<p><i>Crown Lease Perpetual</i> - Charlotte, NT Portion 3283 – privately leased by MS Contracting (Mark Sullivan)</p> <p><i>Crown Lease Term</i> - NT Portion 03193 –</p> <p><i>Vacant Crown Land</i> – Hundred of Hart – 345/01891 (Charlotte)</p> <p><i>Vacant Crown Land</i> – Hundred of Hughes, 372/02212 & 002213 (Charlotte)</p> <p><i>Vacant Crown Land</i> – Hundred of Finnis, 265/02131, 02132, 02144, 02147, 02149, 02150, 02152 & 02232 (Charlotte)</p> <p><i>Freehold Private Land</i> – Hundred of Finnis 265/02136, 02139, 02140, 02145, 02146, 02148, 02151, 02153, 02154, 02209, 02210, 02211, 02233 & 02234</p>

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Title Number	Title Holder	Expiry Date	Underlying Property Name or Land Holder
EL31279	Lithium Developments Pty Ltd (subsidiary of Core Lithium Ltd)	11/01/2023	<i>Crown Lease Term</i> - Parcel 11 and NT Portion 03193 (S86/198) – privately leased by Graham Chrisp <i>Freehold Private Land</i> – Hundred of Milne 510/00135, 00136, 02553, 02561, 02578 (Westby Pty Ltd) (+ others which are not impacted by CXO's exploration)
MLN813	Bynoe Lithium Pty Ltd (subsidiary of Core Lithium Ltd)	30/12/2022	<i>Crown Lease Perpetual</i> - Charlotte, NT Portion 3283 – privately leased by MS Contracting (Mark Sullivan)
MLN1148	Bynoe Lithium Pty Ltd (subsidiary of Core Lithium Ltd)	19/06/2038	<i>Freehold Private Land</i> – Sec 02859 and – privately owned by Graham Chrisp
ML29912	Bynoe Lithium Pty Ltd (subsidiary of Core Lithium Ltd)	20/04/2023	<i>Crown Lease Perpetual</i> - Charlotte, NT Portion 3283 – privately leased by MS Contracting (Mark Sullivan)
ML29985	Bynoe Lithium Pty Ltd (subsidiary of Core Lithium Ltd)	03/08/2029	<i>Freehold Private Land</i> – Sec 02859 and – privately owned by Graham Chrisp <i>Vacant Crown Land</i> – Hundred of Milne Parcel 02540 <i>Crown Lease Perpetual</i> - Charlotte, NT Portion 3283 – privately leased by MS Contracting (Mark Sullivan)
ML31654	Bynoe Lithium Pty Ltd (subsidiary of Core Lithium Ltd)	15/07/2022	<i>Crown Lease Perpetual</i> - Charlotte, NT Portion 3283 – privately leased by MS Contracting (Mark Sullivan)

Please note a Land Access Agreement (LAA) is required for disturbance proposed on Pastoral Properties on Exploration Licence (EL).

Organisational Structure

Position Title	Name
Managing Director	Mr Stephen Biggins
General Manager	Mr Blair Duncan
Exploration Manager	Mr Andy Bennett
Senior Geologist	Mr Gavin Otto
Environmental Manager	N/A (but with support from Lithium Development Operations team, and SLR Consultants)
Radiation Safety Officer	N/A

Delete or add rows for various position titles as required

Section 2 – Operator Self-Assessment of the Environmental Risk

The purpose of this self-assessment is to ensure Operators complete a project risk assessment of potential environmental impacts and are aware of other legislative obligations from various Agencies. As a result of this self-assessment, further information may be required in the form of a management plan to enable full assessment of the MMP. If you have any queries please contact a Mining Officer prior to submitting the MMP. Useful resources to assist with this self-assessment are provided in the User Guide.

Environmental considerations

ASSESSMENT ASPECT	YES or NO	ACTIONS REQUIRED (if answered YES)	APPENDED INFORMATION (e.g. evidence of consultation with DEPWS and/or management plan where required).
Step 1: Are there any threatened flora and fauna species or habitats of significance that may occur in the proposed work area?	YES	The Operator must assess the likelihood of threatened species or their habitats occurring at or near the site. If the likelihood is high, then a “Significant Impact Assessment” must be undertaken and appended to this document.	Environmental group SLR Consulting undertook an assessment of data and a likelihood analysis for the Finnis Project. The advice provided to Core was that the endangered species risk is low and manageable. Results and management strategies are outlined in Appendix C
Step 2: Are there any known declared weeds within the proposed work area?	YES	Seek advice from DEPWS – Weed Management Branch to determine if weeds are present on site and ensure management measures are appropriate for the level of activity proposed and attach a Weed Management Plan (if required).	Analysis of available data by SLR and the Company own experience in operating locally indicates a number of invasive weeds are likely in the Finnis Project area. Results and management strategies are outlined in Appendix C
Step 3: Will you be using water from bores or other sources for the operation?	YES	Water related matters on mineral titles are no longer exempt from the <i>Water Act 1992</i> . Please consult with DEPWS Water Resources and/or familiarise yourself with the <i>Water Act</i> to ensure compliance under this Act when undertaking exploration activities.	Water for DDH holes is sourced from a number of existing man-made pits in the area that are discrete from waterways as defined in the Act. These are not subject of the Water Act 1992.

Environmental assessment and cultural considerations

ASSESSMENT ASPECT	YES or NO	MANAGEMENT REQUIREMENTS
<p>Step 4: Is your project likely to have a significant impact on the environment?</p>	NO	<p>Refer to the NTEPA Environmental Factors and Objectives Guideline.</p> <p>Refer to Appendix C</p>
<p>Step 5: Are there Aboriginal sacred sites in the Project area?</p>	YES	<p>Sacred Sites are protected under the NT <i>Aboriginal Sacred Sites Act 1989</i> and administered by the Aboriginal Areas Protection Authority (AAPA). It is recommended that advice be sought from AAPA in relation to sacred site protection.</p> <p>Requests were made of the AAPA and the Heritage Branch of the DLPE to identify known historical, aboriginal and heritage site Additional restricted work areas identified during the Grants Mining Lease approval (Authorisation 1021-01) has been added. Refer to Appendix C and D of this MMP.</p>
<p>Step 6: Are there archaeological and heritage sites in the Project area?</p>	YES	<p>Heritage and archaeology sites are protected in the NT. NT Department of Territory Families, Housing and Communities (DTFHC) administers the <i>Heritage Act 2011</i>.</p> <p>Seek advice in relation to protection of heritage and archaeological sites.</p> <p>Requests were made of the AAPA and the Heritage Branch of the DLPE to identify known historical, aboriginal and heritage site Additional restricted work areas identified during the Grants Mining Lease approval (Authorisation 1021-01) has been added. Refer to Appendix C and D of this MMP.</p>

Section 3 – Amendments

As per Section 41(3) of the *Mining Management Act*, an MMP reviewed and amended under Section 41(1)(a) is to have amendments made since the previous MMP submission clearly identified.

Section	Amendment
Whole Document	<p>As noted above, this MMP is combining 7 adjacent MMPs, all operated by the same company using the same procedures, into 1 MMP.</p> <p>The MMPs that are being combined are: 0876-01 “Finniss” – this MMP (EL29698) 0907-01 “Zola” (EL31126) 0909-01 “Litchfield” (EL31127) 0947-01 “Sandpalms” (EL31279) 0959-01 “Bynoe” (EL29699, EL30012, EL30015) 1074-01 “Leviathan” (MLN1148, ML29985) 1075-01 “Annie” (MLN813, ML29912, ML31654)</p>
Whole Document	<p>The combination of the MMPs has included:</p> <ul style="list-style-type: none"> • engaging SLR to combine the ecology assessment into one document • undertaking a thorough database review and compilation of combined the disturbance tracking information, previously held under 7 separate spreadsheets
Rehabilitation and Closure	<p>Although the majority of disturbed sites have been rehabilitated, a large amount still needs to be compiled and assessed for closure. This will happen during the year when final photograph sites are accessible. In the meantime, all disturbances that overlap with the mine development footprint at Grants have been compiled and are requested to be closed out – refer Appendix E.</p>
Proposed Work Program	<p>The work program planned for 2022 involves an estimated 221 RC holes, 29 DDH holes and 12.3km of drilling access track. Other works will be non-ground-disturbing soils, mapping and geophysics. The disturbance tracker calculations indicate that there is more than enough security already held to cover this work program</p>
Security	<p>The security calculation spreadsheet has been updated to reflect the combination of all the MMPs, and the total security sought for each category will stand at: 663 RC holes, 140 DDH holes, 5952 RAB holes and a provision for auger holes</p>

Delete or add rows as required

Section 4 – Activities Proposed for this MMP only (Excludes previous authorised activities)

Provide relevant EL numbers

Mining Interests (i.e. titles)	EL29698	EL30015	EL30012	EL29699	EL31127	MLN1148	MLN813
Number and type of proposed exploration drill holes	DDH: 10 RC: 45	DDH: 15 RC: 75	DDH: 2 RC: 70	DDH: 0 RC: 2	DDH: 0 RC: 1	DDH: 1 RC: 18	DDH: 1 RC: 10
Maximum depth of proposed holes (m)	DDH: 620m RC: 300m	DDH: 680m RC: 380m	DDH: 400m RC: 360m	DDH: - RC: 220m	DDH: - RC: 140m	DDH: 400 RC: 310m	DDH: 400 RC: 200m
Number and size of drill pads to be cleared (Length: 25 m x Width: 20 m)	DDH: 10 RC: 45	DDH: 15 RC: 75	DDH: 2 RC: 70	DDH: 0 RC: 2	DDH: 0 RC: 1	DDH: 1 RC: 18	DDH: 1 RC: 10
Total area of drill pads to be cleared (ha)	2.75 ha	4.5 ha	3.60 ha	0.10 ha	0.05 ha	0.95 ha	0.55 ha
Number of proposed water bores	0	0	0	0	0	0	0
Is drilling likely to encounter groundwater in multiple or confined aquifers? (Y, N, unsure) If answering yes, please provide the number of exploration holes	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
Number of costeans/sumps	65	105	74	2	1	20	12
Volume to backfill costeans/sumps m ³ (Length: 3m x Width: 2m x Depth: 1.2 m)	468	756	533	14.4	7.2	130	86.4
Number of bulk sample pits	0	0	0	0	0	0	0
Volume to backfill bulk sample pits (Length: m x Width: m x Depth: m)	0	0	0	0	0	0	0
Bulk sample pits approved under <i>Mineral Titles Act</i> ? (Y or N). If Yes provide approval	N	N	N	N	N	N	N

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Mining Interests (i.e. titles)	EL29698	EL30015	EL30012	EL29699	EL31127	MLN1148	MLN813
Line/track clearing: (width 2.5m)	1.21km	2.54km	7.65km	0.06km	0.15km	0.56km	0.16km
Area of proposed line/track clearing (ha)	0.30 ha	0.64 ha	1.91ha	0.01 ha	0.04 ha	0.14 ha	0.04 ha
Camp area to be cleared (ha)	0	0	0	0	0	0	0
Camp Infrastructure (i.e. demountable, tents) Please provide a complete list with measurements as required in the security calculation	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total proposed area of disturbance (ha)	3.09 ha	5.20 ha	5.55 ha	0.12 ha	0.09 ha	1.10 ha	0.60 ha

Staging approach based on disturbance can be proposed and will be considered by the Department.

Section 5 – Previous Disturbance (for existing Authorisations only)

The 'Disturbance Tracking' spreadsheet must be completed and attached to the MMP submission to complete this section. The spreadsheet is available on the departmental web page where this template is located.

Refer to Appendix I – please note that a summary has also been provided, given the complexity of combining the different authorisations. The full disturbance tracker sheet also has the breakdown of the individual MMP so the calculations can be transparently seen.

Section 6 – Environmental Management

By checking these shaded boxes, you are agreeing to implement the following minimum environmental management standards on the project area. Where boxes have been left unchecked, justification is required.

6.1	X	Blade-up approach for clearing will be used (i.e. no windrows, leave root stock and topsoil)
6.2	X	Significant vegetation will be avoided during clearing (i.e. large trees, specimens providing habitat or food sources, riparian vegetation, and threatened species)
6.3	X	Vegetation clearing during, and immediately after rainfall events, will be avoided
6.4	X	Vegetation clearing will be kept to the minimum required to safely traverse vehicles and drill rigs along tracks and drill pads
6.5	X	Where blade-up techniques cannot be employed, topsoil and vegetation will be stockpiled appropriately for rehabilitation purposes
6.6	X	All employees and contractors will be trained and inducted in relation to the management of environmental risks in the work area, including weeds, waterways, threatened species, soil erosion, sacred sites and heritage areas
6.7		Sumps will be lined or tanks of appropriate size to contain water, sediment and drilling fluids encountered during drilling, will be used
6.8	X	Sumps, drill holes, and fuel stores will be located away from environmentally significant areas and water courses
6.9	X	Excavations (sumps, costeans and pits) will be appropriately ramped to allow fauna egress
6.10	X	Drill holes will be securely capped immediately after drilling
6.11	X	Vehicle hygiene measures will be employed to prevent the introduction and spread of invasive species and pathogens when mobilising vehicles and equipment from one location to another
6.12	X	Hydrocarbon spills will be minimised using liners and drip trays under machinery, and appropriately sized spill-kits available in the event of a spill
6.13	X	Hazardous substances (including hydrocarbons) will be stored and handled in accordance with relevant Australian Standards
6.14	X	Hydrocarbons will be stored in lined and bunded areas
6.15	X	Waste will be stored securely while on-site to minimise windblown rubbish and access by feral animals
6.16	X	Waste will be removed off-site and disposed of at an appropriate waste management facility
6.17	X	All environmental incidents will be reported to the Department in accordance with Section 29 of the <i>Mining Management Act</i> .
6.18	X	Acid and Metalliferous Drainage (AMD) and Potentially Acid Forming (PAF) material derived from drilling cuts will be managed to avoid AMD and PAF related issues on site.

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6.19	X	Radioactive/NORM drill cuttings will be managed to avoid radiation related issues on site.
6.20	X	Dust management will be implemented on site.

Justification and alternative management measures:

6.7 Sumps not lined because the plastic liner is considered to be a much greater environmental hazard than the groundwater in the sump. All drilling additives used now are biodegradable. Liners are used in arid areas to conserve water, not protect the groundwater system. They subsequently need to be dug out prior to backfill of sump. This is a challenging exercise. In the tropics or where drilling water is plentiful or where there are natural barriers to sump seepage (eg clays), liners are not used.

Section 7 – Rehabilitation and Closure

By checking these shaded boxes, you are agreeing to implement the following minimum rehabilitation standards on the project area. Where boxes have been left unchecked, justification is required.

A refund of security related to completed rehabilitation on site requires the submission of a rehabilitation report including photographs, an updated security calculation and updated disturbance tracking spreadsheet to the Department.

7.1		Drill holes will be plugged below ground level at a minimum depth of 0.4 metres and soil mounded to prevent subsidence, within 6 months of completion of drilling.
7.2	X	Drill holes encountering multiple or confined aquifers will be grouted with concrete.
7.3	X	Drill samples/spoil will be returned down drill holes, buried in sumps, or removed from site.
7.4		All drill hole and access markers including flagging tape, wooden markers and star pickets will be removed from site.
7.5	X	Cut and fill drill pads will be re-contoured to be consistent with the surrounding terrain.
7.6		Drill pads and compacted areas along the contour (on sloping ground) will be ripped/scarified of and tracks will be cross-ripped (zig-zag).
7.7		Tracks will be rehabilitated, including pushing in all windrows, unless otherwise agreed in writing by the land holder or appropriate third party.
7.8	X	Appropriate erosion and sediment controls will be installed where erosion is evident or likely to occur.
7.10	X	Access through watercourses will be removed and banks restored.
7.11	X	All previously disturbed areas will be stable, with no evidence of active soil erosion.
7.12	X	All excavations will be backfilled within 6 months of their completion.
7.13	X	All water bores will be decommissioned unless otherwise agreed in writing by the land holder or appropriate third party.
7.14	X	All rubbish and infrastructure will be removed from site.
7.15	X	Topsoil will be replaced and vegetation re-established.
7.16	X	Contaminated soils (e.g. hydrocarbon or hazardous chemicals) will be rehabilitated or removed from site.
7.17	X	Monitoring will be undertaken following the wet season or a significant rainfall event.

Justification and alternative management measures:

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7.1 The majority of holes are fully rehabilitated within 6 months of drilling, but in prospect areas that are subject to on-going downhole assessment, the holes are kept open, but securely plugged. If the site proceeds to mining, the holes may be grouted to depth. CXO maintains a register of drill sites that retain a PVC collar at surface. The various other aspects of these drill sites have been remediated, however, they are NOT closed out with respect to this Authorisation until the collars are remediated.

7.4 Flagging tape is not removed as it is impractical on most occasions where it has been used to mark 10s of km of line for various activities. In any case, modern flagging tape is not UV stabilised and breaks down within 6 months. Wooden pegs are used to mark Environmental Monitoring Sites that require on-going monitoring. Using wooden pegs enables both CXO and Compliance Branch inspectors to locate sites of disturbance readily. Wooden pegs are broken down by termites or fire within 2 years, which means they leave no long-term legacy. All other markers are removed.

7.6 Ripping of drill pads and access tracks is restricted only to those that have identifiable signs of compaction. Generally, these have received only minimal traffic compared to the main access tracks. Experience at the Finnis Lithium Project indicates that natural rehabilitation of tracks and pads is sufficient. CXO block tracks as soon as practical to minimise the opportunity for them to become a thoroughfare for hunters and adventurers. Refer to Appendix C

7.7 Existing tracks won't be remediated. These have been identified prior to works. These were formed at various times, largely by hunters and adventurers. CXO has no control over any infrastructure that was created prior to the EL being granted, and many active areas are Vacant Crown Land, which is readily accessible to the public.

Section 8 – Required Attachments

8.1	X	Initial Application for Authorisation or variation of Authorisation (only if details on the form have subsequently changed).
8.2	X	Nomination of Operator Form, where required
8.3	X	Security Calculation Spreadsheet
8.4		Evidence of Land Access Agreement if operating on an Exploration Licence (EL) on Pastoral Lease (e.g. two-ways exchange of email)
8.5	X	Disturbance tracking spreadsheet (for existing Authorisations)
8.6		Spreadsheet with coordinates of proposed drill holes or polygons of target areas
8.7	X	<p>KML/shape files/track logs of proposed tracks, camp sites and proposed drill holes or polygons of target areas.</p> <p>Tracks and drillholes are located anywhere within the Exploration Licences except for areas buffered by Environmental or Heritage conditions. Refer to Maps (Appendix G and Spatial data (Appendix F). Drillholes completed are provided both in the spatial GIS data, and the disturbance tracker (Appendix I)</p>
8.8	X	<p>Map(s) of the work area(s) showing:</p> <ol style="list-style-type: none"> 1. title boundaries and title numbers 2. current and proposed drill holes, or polygons of target areas 3. current and proposed tracks 4. rehabilitated areas 5. camp sites 6. heritage sites or significant environmental areas 7. environmental constraints
8.10		Radiation Management Plan (if applicable)
8.12	X	<ul style="list-style-type: none"> Appendix_A - Authorisation Application Appendix_B - Nomination of Operator Appendix_C - Biodiversity Report Appendix_D - Heritage & Sacred Site Reports Appendix_E - Rehab Closure Appendix_F - GIS files Appendix_G - Maps Appendix_H - DITT Tracker Appendix_I - Security Calculation

CONSOLIDATED FAUNA AND FLORA REPORTS

Core Lithium Project Areas

Prepared for:

Core Lithium
Level 1, 366 King William St
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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Core Lithium (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
680.30131-R01-v2.0	9 May 2022	Emmanuelle Aliotti	Jill Woodworth	Jill Woodworth
680.30131-R01-v1.1	9 May 2022	Emmanuelle Aliotti	Jill Woodworth	Jill Woodworth
680.30131-R01-v1.0	26 April 2022	Emmanuelle Aliotti	Jill Woodworth	Jill Woodworth

EXECUTIVE SUMMARY

SLR Consulting Australia Pty Ltd (SLR) was commissioned by Core Lithium Pty Ltd (Core Lithium) to undertake a terrestrial flora and fauna desktop assessment within Exploration Licence and Mineral Leases at the following project tenements to support the development of a Mining Management Plan (MMP):

- Leviathan
- Annie
- Bynoe
- Finniss
- Litchfield
- Sandplams
- Zola

The key focus of the desktop assessment was to identify the potential presence of Commonwealth and Territory listed threatened fauna and flora species within the study areas. A desktop assessment identified one vegetation community considered significant/sensitive under the NT planning scheme, and several listed threatened species as having a potential to occur within the project areas. The desktop surveys also identified several weed and pest species having a potential to occur in the study sites causing a potential threat to biodiversity.

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APPENDICES

- Appendix A Protected Matters Search Tool
- Appendix B NR Maps (Threatened Species and Weeds)
- Appendix C NRM Infonet Reports
- Appendix D SOCS Information Sheets
- Appendix E Flora Species Profiles
- Appendix F Annie and Leviathan Baseline Disturbance and Weed Survey Report (SLR November 2021)

1 Introduction

SLR consulting Pty Ltd (SLR) was engaged by Core Lithium Ltd (Core Lithium) to undertake surveys during 2017 - 2021 to identify the vegetation communities and any threatened flora and fauna with the potential to be present across their project areas comprising of the following:

- Leviathan Project: Mining Leases MLN1148 and ML29985.
- Annie Project: Mining Leases MLN813, ML29912 and ML31654.
- Bynoe Project: Exploration Licence EL29699, EL30012, EL30015 and Mining Lease MLN16.
- Finniss Project: Exploration Licence EL29698.
- Litchfield Project: Exploration Licence EL31127.
- Sandpalms Project: Exploration Licence EL31279.
- Zola Project: Exploration Licence EL31126.

SLR was also engaged to record disturbance footprint and declared weeds that were present across the Leviathan Project and Annie Project (**Appendix F**).

The purposes of the surveys are:

- To identify the presence and likelihood of the vegetation communities and threatened species located within the seven project areas.
- To provide management recommendations of these threatened species.
- Identify and document land previously disturbed by historical mining and exploration activities undertaken within the project areas that may have contributed to environmental degradation.
- To map the presence of Northern Territory (NT) declared weeds across the project areas, prior to Core Lithium undertaking works within these areas.

The project areas are located approximately:

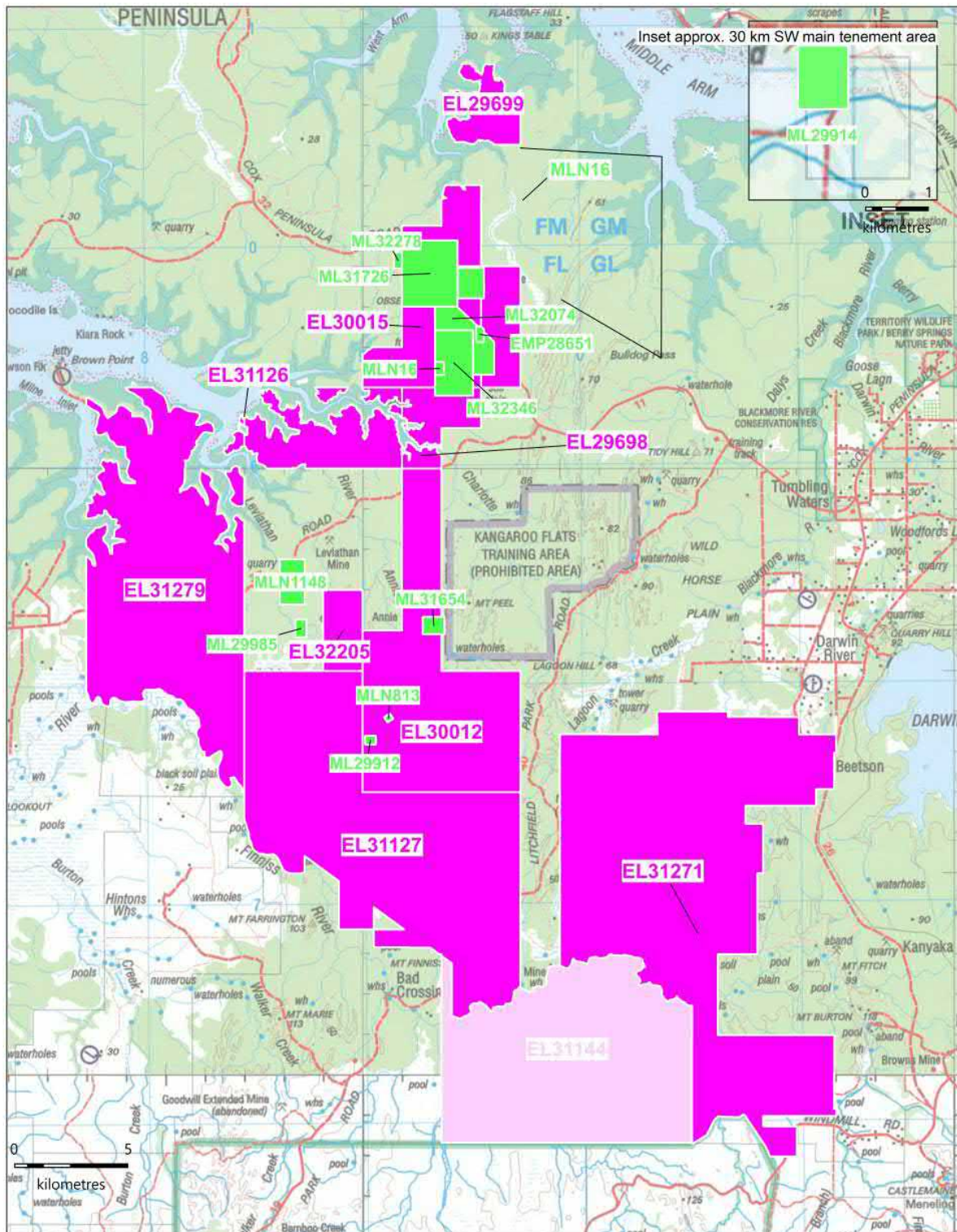
- Leviathan and Annie Projects: 95 km south of Darwin.
- Finniss Project: 32 km west of Darwin in the Cox Peninsula area.
- Litchfield Project: 50 km south-south-east of Darwin in the Mount Finniss area.
- Sandpalms Project: 50 km south-west of Darwin in the Bynoe Harbour area.
- Zola Project: 36 km south-west of Darwin in the Cox Peninsula area.

Table 1 outlines site specific details of the mining leases applicable to the Core Lithium project areas and lease areas are in **Figure 1**.

Table 1 Mining Leases Details

Mining Lease	Project Site Name(s)	Area (ha)
Leviathan Project Area		
MLN1148	Leviathan, Centurion, Northern Reward	237.7
ML29985	Angers	40
Annie Project Area		
MLN813	Bilatos	7.28
ML29912	Saffums 1	20.00
ML31654	Annie	80
Bynoe Project Area		
EL29699	Jade	820
EL30012	Arlee, Jans, Jans West, Saffums 4, Sandras East, Annie North, Rocky Ridge, Sabine, Bilatos, Fred, Turners, Lucy, Fred East, Talmina West, Hungry, Sandras, Fold	6,028
EL30015	Hang Gong, Solomons, Monas, Boulder, Lees, BP33N & BP33NE	2,003
MLN16	Hang Gong, Boulder	194
Finniss Project Area		
EL29698	Ah Hoy, Ah Bung, Bells, Kellys, Vickmans, BP33, BP33E, Two Sisters, BP53, Hills, Central, Grants, Lonesome, Rabbit, Dead Pig, BP7, BP2, Arltunga, Vicki's, Mammoth	3,254
Litchfield Project Area		
EL31127	Litch_Drill_19 including Litchfield drilling 1 to Litchfield drilling 11, Litch_Drill20, Litch_Drill_21	11,007
Sandpalms Project Area		
EL31279	Sandpalms North, Sandpalms Central, Sandpalms South, Sandpalms River East, Sandpalms West	8,931
Zola Project Area		
EL31126	Zola Drilling, Zola North Drilling, Zola East, Zola West	1,807

Figure 1 Project areas locations



- CXO_NT_ML_Current
- CXO_NT_EL_Current
- CXO_NT_ELA_Current

**Core Lithium Tenements
 Finniss Project
 04/03/2022**



2 Vegetation Communities

Vegetation community data across the seven projects tenements was obtained from the following datasets:

- NVIS Version 3.1 National Vegetation Information System (NVIS), NT Data Compilation (Scale 1:1,000,000) (Source: DEPWS)
- Landcover Vegetation Mapping for the Greater Darwin Region (Landcover Vegetation Mapping) (Scale 1:100,000) (Source: DEPWS).

The vegetation communities identified within the seven project areas are presented in the following features:

- Descriptions are provided in **Table 2** (Hempel 2003) and **Table 4** (NVIS, Level 2).
- Areas and percentage are provided in **Table 3** (Hempel 2003) and **Table 5** (NVIS, Level 2).
- Details of vegetation covers as per Hempel and NVIS level 4 are provided in **Table 6**.
- Illustrations are provided in maps **Figure 2** to **Figure 10**.

One sensitive/significant vegetation community listed under the Northern Territory (NT) Planning Scheme occurs within the Annie exploration area. This included the *Melaleuca* mid open forest riparian community.

Vegetation communities are shown in **Figure 2** to **Figure 10**.

Table 2 Vegetation landcover (Greater Darwin) definitions (Hempel, 2003)

Land Cover	Class Description
Eucalypt Woodland	Woodland occurring in shallow soils on undulating uplands, rises and rugged low hills. Grassland ground cover interspersed with a variety of shrubs and vines. Frequently recorded species include <i>Livistona humilis</i> , <i>Pandanus spiralis</i> , <i>Erythrophleum chlorostachys</i> , <i>Grevillea pteridifolia</i> , <i>Lophostemon latifolius</i> , <i>Themeda triandra</i> (perennial grass), <i>Buchanania obovata</i> , <i>Heteropogon triticeus</i> (perennial grass), <i>Petalostigma pubescens</i> , <i>Planchonia careya</i> , <i>Terminalia ferdinandiana</i> , <i>Eucalyptus tetradonta</i> , <i>Eriachne triseta</i> (perennial grass), <i>Eucalyptus miniata</i> , <i>Persoonia falcata</i> , <i>Xanthostemon paradoxus</i> , <i>Cycas armstrongii</i> , <i>Alloteropsis semialata</i> (perennial grass), <i>Petalostigma quadrilobulare</i> , and <i>Pseudopogonatherum contortum</i> (annual grass).
Eucalypt Open Woodland	Open woodland again occurring in shallow soils on undulating uplands, rises, rugged low hills and plains, with grasses beginning to dominate the ground layer. Frequently recorded species include <i>Livistona humilis</i> , <i>Pandanus spiralis</i> , <i>Grevillea pteridifolia</i> , <i>Themeda triandra</i> (perennial grass), <i>Heteropogon triticeus</i> (perennial grass), <i>Eragrostis cumingii</i> (perennial grass), <i>Petalostigma pubescens</i> , <i>Erythrophleum chlorostachys</i> , <i>Buchanania obovata</i> , <i>Schizachyrium fragile</i> (annual grass), <i>Triodia bitextura</i> (perennial grass), <i>Terminalia ferdinandiana</i> , <i>Pseudopogonatherum contortum</i> (annual grass), <i>Cycas armstrongii</i> , <i>Planchonia careya</i> , <i>Eriachne avenacea</i> (perennial grass), <i>Mnesithea rottboellioides</i> (perennial grass), <i>Petalostigma quadrilobulare</i> , <i>Eriachne triseta</i> (perennial grass) and <i>Persoonia falcata</i> . Indicator species include <i>Eragrostis cumingii</i> (perennial grass).
Eucalypt Open Forest	Open forest occurring in deep sandy soils on undulating uplands and rises, often adjacent to the coastline. Frequently recorded species include <i>Pandanus spiralis</i> , <i>Livistona humilis</i> , <i>Erythrophleum chlorostachys</i> , <i>Cycas armstrongii</i> , <i>Terminalia ferdinandiana</i> , <i>Planchonia careya</i> , <i>Buchanania obovata</i> , <i>Petalostigma pubescens</i> , <i>Eucalyptus miniata</i> , <i>Lophostemon lactifolius</i> , <i>Eriachne triseta</i> (perennial grass), <i>Acacia auriculiformis</i> , <i>Eucalyptus tetradonta</i> , <i>Persoonia falcata</i> , <i>Smilax australis</i> (vine), <i>Themeda triandra</i> (perennial grass), <i>Heteropogon triticeus</i> (perennial grass), <i>Grevillea pteridifolia</i> , <i>Mnesithea rottboellioides</i> (perennial grass) and <i>Panicum mindanaense</i> (perennial grass). Indicator species include <i>Cycas armstrongii</i> .

Land Cover	Class Description
Drainage Open Woodland	Open woodland dominated by <i>Lophostemon lactifluus</i> , occurring on broad flats with seasonally waterlogged soils and impeded drainage. Frequently recorded species include <i>Lophostemon lactifluus</i> , <i>Pandanus spiralis</i> , <i>Grevillea pteridifolia</i> , <i>Livistona humilis</i> , <i>Eriachne burkittii</i> (perennial grass), <i>Melaleuca viridiflora</i> , <i>Melaleuca nervosa</i> , <i>Themeda triandra</i> (perennial grass), <i>Xyris complanata</i> (sedge), <i>Ectrosia leporina</i> (annual grass), <i>Ischaemum australe</i> (perennial grass), <i>Erythrophleum chlorostachys</i> , <i>Heteropogon triticeus</i> (perennial grass), <i>Corymbia polycarpa</i> , <i>Corymbia polysciada</i> , <i>Acacia auriculiformis</i> , <i>Drosera petiolaris</i> (herb), <i>Banksia dentata</i> and <i>Xanthostemon paradoxus</i> . Indicator species include <i>Lophostemon lactifluus</i> , <i>Themeda triandra</i> (perennial grass) and <i>Grevillea pteridifolia</i> .
Dry rainforest	Mixed species coastal rainforest associated with seasonally dry habitats. Frequently recorded species included <i>Abrus precatorius</i> (vine), <i>Acacia auriculiformis</i> , <i>Bombax ceiba</i> , <i>Celtis philippensis</i> , <i>Smilax australis</i> (vine), <i>Micromelum minutum</i> , <i>Pongamia pinnata</i> , <i>Canarium australianum</i> , <i>Capparis sepiaria</i> , <i>Opilia amentacea</i> (vine), <i>Pleomele angustifolia</i> , <i>Sterculia auqudrifidia</i> , <i>Strychnos lucida</i> , <i>Cleodendrum costatum</i> , <i>Exocarpus latifolius</i> , <i>Flagellaria indica</i> (vine), <i>Miliusa braheii</i> , <i>Pachgone ovata</i> (vine) and <i>Terminalia macrocarpa</i> . Indicator species include <i>Abrus precatorius</i> , <i>Bombax ceiba</i> , <i>Celtis philippensis</i> and <i>Sterculia quadrifida</i> .
Grassy swamp	Open grassy plains with occasional scattered trees occurring on seasonal black soil swamp. Frequently recorded species include <i>Melaleuca viridiflora</i> , <i>Xyris complanata</i> (sedge), <i>Eriachne burkittii</i> (perennial grass), <i>Livistona humilis</i> , <i>Lophostemon lactifluus</i> , <i>Buchanania obovata</i> , <i>Chrysopogon fallax</i> (perennial grass), <i>Pandanus spiralis</i> , <i>Pseudoraphis spinescens</i> (sedge), <i>Alloteropsis semialata</i> (perennial grass), <i>Drosera petiolaris</i> , <i>Corymbia polysciada</i> , <i>Grevillea pteridifolia</i> , <i>Ischaemum australe</i> (perennial grass) and <i>Sorghum intrans</i> (annual grass). Indicator species include <i>Melaleuca viridiflora</i> .
Mangrove forest	Low open to closed forest growing alongside tidal channels and in areas inundated by salt water. Frequently recorded species include <i>Sonneratia alba</i> , <i>Rhizophora stylosa</i> , <i>Ceriops tagal</i> , <i>Avicennia marina</i> and <i>Lumnitzera racemosa</i> (Brock, 1995). Due to a lack of plot data for this community no indicator species are given.
Melaleuca swamp	Paperbark swamps associated with freshwater lowlands and floodplain margins. Frequently recorded species include <i>Melaleuca viridiflora</i> , <i>Pseudoraphis spinescens</i> (sedge), <i>Melaleuca cajuputi</i> , <i>Acacia auriculiformis</i> , <i>Mimosa pigra</i> and <i>Scleria poaeformis</i> (perennial grass). Indicator species include <i>Melaleuca viridiflora</i> and <i>Pseudoraphis spinescens</i> (sedge).
Spring rainforest	Mixed species monsoon rainforest associated with permanent moisture. Frequently recorded species include <i>Syzygium nervosum</i> , <i>Terminalia microcarpa</i> , <i>Carpentaria acuminata</i> , <i>Nauclea orientalis</i> , <i>Acacia auriculiformis</i> , <i>Breynia cernua</i> , <i>Morinda citrifolia</i> , <i>Smilax australis</i> (vine), <i>Stenochlaena palustris</i> , <i>Vavaea australiana</i> , <i>Carallia brachiata</i> , <i>Polyalthia australis</i> , <i>Stephania japonica</i> (vine), <i>Sterculia holtzei</i> , <i>Timonius timon</i> , <i>Maranthes corymbosa</i> , <i>Melicope elleryana</i> , <i>Myristica insipida</i> , <i>Buchanania arborescens</i> , <i>Calophyllum soulattri</i> , <i>Diospyros calycantha</i> and <i>Strychnos lucida</i> . Indicator species include <i>Syzygium nervosum</i> , <i>Vavaea australiana</i> , <i>Sterculia holtzei</i> , <i>Morinda citrifolia</i> and <i>Nauclea orientalis</i> .
Riparian Open Forest	Open forest associated with the edges of perennial and seasonal watercourses, swamps and floodplains. Dominant species include <i>Pandanus spiralis</i> , <i>Acacia auricoma</i> , <i>Smilax australis</i> (vine), <i>Erythrophleum chlorostachys</i> , <i>Lophostemon lactifluus</i> , <i>Melaleuca cajuputi</i> , <i>Livistonia humilis</i> , <i>Alphitonia excelsa</i> , <i>Eriachne trisetata</i> (perennial grass), <i>Petalostigma pubescens</i> , <i>Carpentaria acuminata</i> , <i>Breynia cernua</i> , <i>Canarium australianum</i> , <i>Carallia brachiata</i> , <i>Cycas armstrongii</i> , <i>Melaleuca viridiflora</i> , <i>Terminalia ferdinandiana</i> , <i>Acacia auriculiformis</i> , <i>Barringtonia acutangula</i> , <i>Buchanania obovata</i> , <i>Diospyros littorea</i> , <i>Corymbia polycarpa</i> , <i>Nauclea orientalis</i> , <i>Opilia amentacea</i> (vine), <i>Panicum trichoides</i> (perennial grass), <i>Planchonia careya</i> , <i>Syzygium suborbiculare</i> , <i>Terminalia microcarpa</i> and <i>Timonius timon</i> . Indicator species include <i>Pandanus spiralis</i> .

Land Cover	Class Description
Mangrove Forest	Low open to closed forest growing alongside tidal channels and in areas inundated by salt water. Frequently recorded species include <i>Sonneratia alba</i> , <i>Rhizophora stylosa</i> , <i>Ceriops tagal</i> , <i>Avicennia marina</i> and <i>Lumnitzera racemosa</i> (Brock, 1995). Due to a lack of plot data for this community no indicator species are given.
Samphire	Hypersaline mudflats usually found on the landward edge of Mangrove Forests, sparsely vegetated with salt tolerant shrubs and stunted mangroves. Frequently recorded species include <i>Batis argillicola</i> and <i>Suaeda arbusculoides</i> (Brock, 1995). Due to a lack of plot data for this community no indicator species are given.
Perennial waterbodies	Major rivers and creeks, man-made dams and deep billabongs, but excluding non-permanent swamps.
Cleared Land	Land where native vegetation has undergone significant land cover change. This includes land cleared for industrial, urban residential, rural residential, horticultural and plantation forest development. Degraded areas with substantial erosion or run-off sites and weed infestations, are also included within this class.

Table 3 Vegetation communities' areas as per Landcover Hempel, 2003

ProjectArea	Sites	Vegetation communities' area (m ² /%)													
		Eucalypt Woodland	Eucalypt Open Woodland	Eucalypt Open Forest	Drainage Open Woodland	Riparian Open Forest	Mangrove Forest	Grassy swamp	Cleared Land	Spring Rainforest	Dry Rainforest	Melaleuca swamp	Samphire	Water	Total (m ²)
Leviathan Project	MLN1148	1.68	0.08	0.07	0.53			0.01						2.38	
	%	70.9	3.5	3.1	22.1			0.4						100	
	ML29985	0.36				0.04								0.40	
	%	89.2				10.8								100	
Annie Project	MLN813	0.01			0.08									0.09	
	%	10.1			89.9									100	
	ML29912	0.01	0.07		0.12									0.20	
	%	3.7	33.9		62.4									100	
	ML31654	0.44	0.02		0.15			0.19						0.80	
	%	55.5	1.9		18.8			23.9						100	
Bynoe Project	EL29699	4.59	2.90	0.15	0.31		0.21							8.17	
	%	56.2	35.6	1.9	3.8		2.6							100	
	EL30012	37.17	3.90	8.36	9.97	0.47		0.18						60.05	
	%	61.9	6.5	13.9	16.6	0.8		0.3						100	
	EL30015	4.47	5.14	0.02	9.01		0.0025	1.24					0.08	19.96	
	%	22.4	25.7	0.1	45.2		0.012	6.2					0.4	100	
Finniss Project	EL29698	16.07	8.36	0.11	6.39	0.08	0.39	0.08	0.77				0.15	32.41	
	%	49.6	25.8	0.3	19.7	0.2	1.2	0.2	2.4				0.5	100	
Litchfield Project	EL31127	58.79	7.06	17.91	21.08	2.47		1.89	0.39	0.06				109.66	
	%	53.6	6.4	16.3	19.2	2.3		1.7	0.4	0.1				100	
Sandpalms Project	EL31279	41.43	17.12	10.34	10.27	4.45	2.58	0.48	0.40	0.03	0.002	1.49	0.35	0.0035	88.96
	%	46.6	19.2	11.6	11.5	5.0	2.9	0.5	0.5	0.04	0.03	1.7	0.4	0.004	100
Zola Project	EL31126	12.04	2.68	0.76	1.51	0.45	0.56							0.01	18.00
	%	66.90	14.90	4.20	8.40	2.50	3.10							0.00	100

Table 4 Vegetation Communities Definitions as per NVIS, Level 2 (Structural Formation)

Cover Characteristics								
	Foliage cover *	70-100	30-70	10-30	<10	=0	0-5	unknown
	Crown cover **	>80	50-80	20-50	0.25-20	<0.25	0-5	unknown
	% Cover ***	>80	50-80	20-50	0.25-20	<0.25	0-5	unknown
	Cover code	d	c	i	r	bi	bc	unknown
Growth Form	Height Ranges (m)	Structural Formation Classes						
tree, palm	30	closed forest	open forest	woodland	open woodland	isolated trees	isolated clumps of trees	trees
tree mallee		closed mallee forest	open mallee forest	mallee woodland	open mallee woodland	isolated mallee trees	isolated clumps of mallee trees	mallee trees
shrub, cycad, grass-tree, tree-fern	2	closed shrubland	shrubland	open shrubland	sparse shrubland	isolated shrubs	isolated clumps of shrubs	shrubs
mallee shrub		closed mallee shrubland	mallee shrubland	open mallee shrubland	sparse mallee shrubland	isolated mallee shrubs	isolated clumps of mallee shrubs	mallee shrubs
heath shrub	2	closed heathland	heathland	open heathland	sparse heathland	isolated heath shrubs	isolated clumps of heath shrubs	heath shrubs
chenopod shrub	2	closed chenopod shrubland	chenopod shrubland	open chenopod shrubland	sparse chenopod shrubland	isolated chenopod shrubs	isolated clumps of chenopod shrubs	chenopod shrubs
samphire shrub	0.5	closed samphire shrubland	samphire shrubland	open samphire shrubland	sparse samphire shrubland	isolated samphire shrubs	isolated clumps of samphire shrubs	samphire shrubs
hummock grass	2	closed hummock grassland	hummock grassland	open hummock grassland	sparse hummock grassland	isolated hummock grasses	isolated clumps of hummock grasses	hummock grasses
tussock grass	0.5	closed tussock grassland	tussock grassland	open tussock grassland	sparse tussock grassland	isolated tussock grasses	isolated clumps of tussock grasses	tussock grasses

Growth Form	Height Ranges (m)	Structural Formation Classes						
other grass	0.5	closed grassland	grassland	open grassland	sparse grassland	isolated grasses	isolated clumps of grasses	other grasses
sedge	0.5	closed sedgeland	sedgeland	open sedgeland	sparse sedgeland	isolated sedges	isolated clumps of sedges	sedges
rush	0.5	closed rushland	rushland	open rushland	sparse rushland	isolated rushes	isolated clumps of rushes	rushes
forb	0.5	closed forbland	forbland	open forbland	sparse forbland	isolated forbs	isolated clumps of forbs	forbs
fern	2	closed fernland	fernland	open fernland	sparse fernland	isolated ferns	isolated clumps of ferns	ferns
bryophyte		closed bryophyteland	bryophyteland	open bryophyteland	sparse bryophyteland	isolated bryophytes	isolated clumps of bryophytes	bryophytes
lichen		closed lichenland	lichenland	open lichenland	sparse lichenland	isolated lichens	isolated clumps of lichens	lichens
vine	30	closed vineland	vineland	open vineland	sparse vineland	isolated vines	isolated clumps of vines	vines
aquatic	0-0.5,	closed aquatic bed	aquatic bed	open aquatic bed	sparse aquatics	isolated aquatics	isolated clumps of aquatics	aquatics
seagrass	0-0.5,	closed seagrass bed	seagrassbed	open seagrassbed	sparse seagrassbed	isolated seagrasses	isolated clumps of seagrasses	seagrasses

*: Foliage Cover is defined for each stratum as 'the proportion of the ground, which would be shaded if sunshine came from directly overhead'. It includes branches and leaves and is obtained by multiplying Crown Cover with Crown type (Hnatiuk et al., 2009). It is applied to a stratum in a plot, rather than an individual crown, with the NVIS measure for a vegetation type ideally being a summary of several plots. Foliage Projective Cover, which considers only the vertical projection of photosynthetic components (generally leaves), can be measured by line interception methods for tree, shrub and ground layer vegetation .

** : Crown Cover (canopy cover) as per Hnatiuk et al. (2009). Although relationships between this attribute and Foliage Cover are dependent on season, species, species age etc., the crown cover category classes have been adopted as the defining measure.

***: The percentage cover is defined as the percentage of a strictly defined plot area, covered by vegetation. This can be an estimate and is a less precise measure than using, for example, a point intercept transect method on ground layer, or overstorey vegetative cover. That is, for precisely measured values (e.g. crown densitometer or point intercept transects) the value measured would be 'foliage' cover. Where less precise or qualitative measures are used these will most probably be recorded as 'percentage' cover.

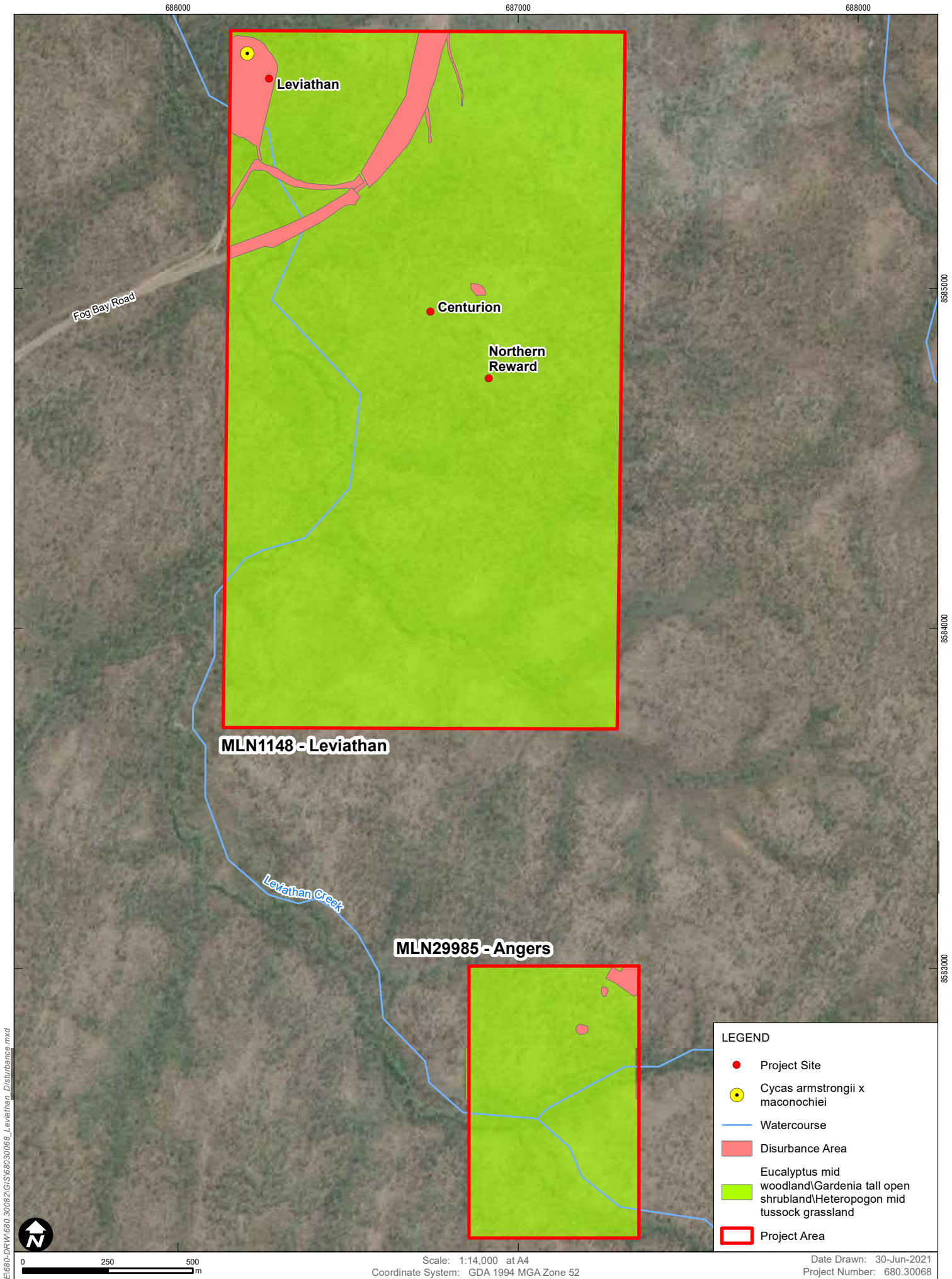
Table 5 Vegetation communities' areas as per NVIS, Level 2

Project Area	Sites	Vegetation communities' area (m ² / %)								
		Closed forest	Mid closed forest	Open forest	Open palmland	Pastoral / Horticulture / roads	Rural / Residential / roads	Sparse samphire shrubland	Woodland	Total (m ²)
Leviathan Project	MLN1148						0.05		2.33	2.38
	%						2.2		97.8	100
	ML29985								0.40	0.40
	%								100.0	100
Annie Project	MLN813					0.06	0.03			0.09
	%					69.3	30.7			100
	ML29912					0.14			0.06	0.20
	%					69.0			31.0	100
	ML31654			0.06		0.30			0.44	0.80
	%			7.7		37.8			54.5	100
Bynoe Project	EL29699	0.20	0.06	7.90				0.01		8.17
	%	2.4	0.7	96.7				0.1		100
	EL30012			0.20		1.55	0.16		58.14	60.05
	%			0.3		2.6	0.3		96.8	100
	EL30015	0.01		16.67			2.14	0.001	1.13	19.96
%	0.05		83.6			10.7	0.005	5.7	100	
Finniss Project	EL29698	0.30	0.09	18.97			1.06		11.99	32.41
	%	0.9	0.3	58.5			3.3		37.0	100
Litchfield Project	EL31127		0.06	0.79	10.32	0.61			97.88	109.66
	%		0.1	0.7	9.4	0.6			89.3	100
Sandpalms Project	EL31279	1.74	0.69	34.48	40.78		2.17	0.52	8.58	88.96
	%	2.0	0.8	38.8	45.8		2.4	0.6	9.6	100
Zola Project	EL31126	1.14	0.14	16.47				0.01	0.23	18.00
	%	6.40	0.80	91.50	0.00	0.00	0.00	0.10	1.30	100

Table 6 Project areas major vegetation cover

Project Area	EL/MLN/ML	NVIS Level 4 Description	Vegetation Landcover Name (Greater Darwin Community)	SOCS
Leviathan Project	MLN1148	Eucalyptus mid woodland\ Gardenia tall open shrubland\Heteropogon mid tussock grassland	Eucalypt open woodland and Eucalypt woodland	No
	ML29985			
Annie Project	MLN813	Eucalyptus mid woodland\ Gardenia tall open shrubland\Heteropogon mid tussock grassland	Eucalypt Woodland	
	ML29912	Melaleuca mid open forest\Pandanus low sparse palmland\Germainia mid open tussock grassland	Eucalypt Woodland and Riparian Open Forest	
	ML31654			
Bynoe Project	EL29699	Eucalyptus mid open forest\Livistona low sparse palmland\Heteropogon tall tussock grassland	Eucalypt woodland and Eucalypt open woodland. The southern boundary is lined with mangrove forest	
	EL30012	Eucalyptus mid woodland\ Gardenia tall open shrubland\Heteropogon mid tussock grassland intersected by Pastoral/Horticulture/roads	Eucalypt woodland Eucalypt open woodland Drainage open woodland Eucalypt open forest	

Project Area	EL/MLN/ML	NVIS Level 4 Description	Vegetation Landcover Name (Greater Darwin Community)	SOCS
	EL30015	Eucalyptus mid open forest\ Livistona low sparse palmland\Heteropogon tall tussock grassland intersected from the north west to the south by Rural/Residential/Roads Eucalyptus mid woodland\Gardenia tall open shrubland\Heteropogon mid tussock grassland	Eucalypt open woodland Drainage open woodland Eucalypt woodland Cleared land	
Finniss Project	EL29698	Eucalyptus mid woodland\ Gardenia tall open shrubland\ Heteropogon mid tussock grassland Eucalyptus open woodland and Melaleuca mid woodland\Melaleuca low open woodland\Chrysopogon mid open tussock grassland.	Eucalypt open woodland Drainage open woodland Eucalypt woodland	Yes Majority Darwin Harbour SOCS
Litchfield Project	EL31127	Eucalyptus mid woodland\ Gardenia tall open shrubland\Heteropogon mid tussock grassland	Drainage open woodland Eucalypt woodland Eucalypt Open Forest Cleared land	No
Sandpalms Project	EL31279	Woodland Open Palmland	Eucalypt Open Woodland Drainage Open Woodland Eucalypt Woodland Eucalypt Open Forest Cleared land	Yes Finniss River Coastal Floodplain SOCS
Zola Project	EL31126	Eucalyptus mid open forest\ Livistona low sparse palmland\Heteropogon tall tussock grassland	Eucalypt open woodland Drainage open woodland Eucalypt open forest Mangrove forest	No



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LEGEND

- Project Site
- Cycas armstrongii x maconochiei
- Watercourse
- Disturbance Area
- Eucalyptus mid woodland/Gardenia tall open shrubland/Heteropogon mid tussock grassland
- Project Area



Scale: 1:14,000 at A4
 Coordinate System: GDA 1994 MGA Zone 52

Date Drawn: 30-Jun-2021
 Project Number: 680.30068



Data Source:
 ESRI Basemaps

Sheet Size : A4 **LEVIATHAN PROJECT AREA**
Vegetation Communities on MLN1148 and ML29985

FIGURE 2

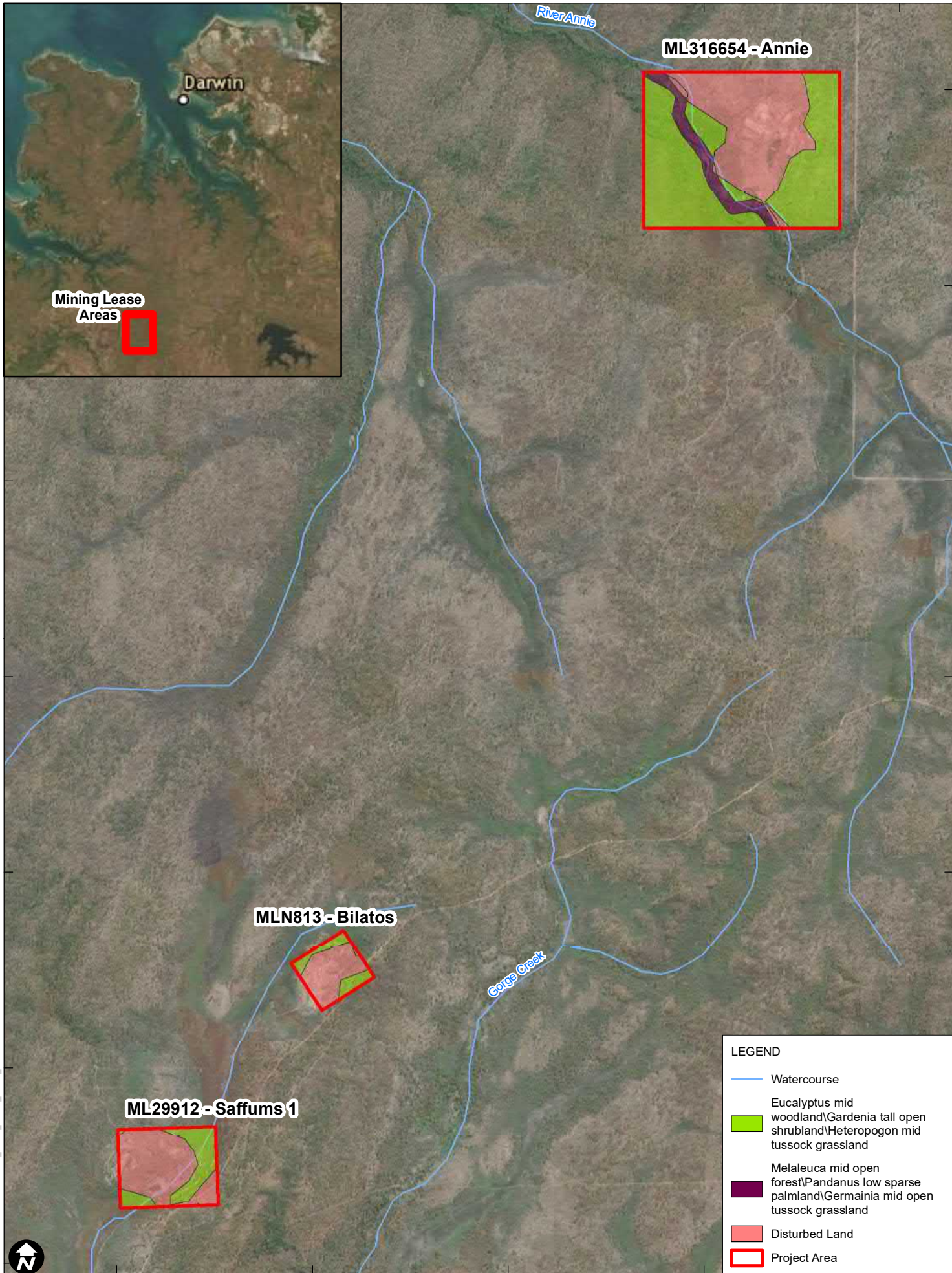
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Mining Lease Areas

Darwin

ML316654 - Annie

MLN813 - Bilatos

ML29912 - Saffums 1

River Annie

Corge Creek

LEGEND

- Watercourse
- Eucalyptus mid woodland\Gardenia tall open shrubland\Heteropogon mid tussock grassland
- Melaleuca mid open forest\Pandanus low sparse palmland\Germania mid open tussock grassland
- Disturbed Land
- Project Area



0 0.5 1 km

Scale: 1:25,000 at A4
Coordinate System: GDA 1994 MGA Zone 52

Date Drawn: 30-Jun-2021
Project Number: 680.30068



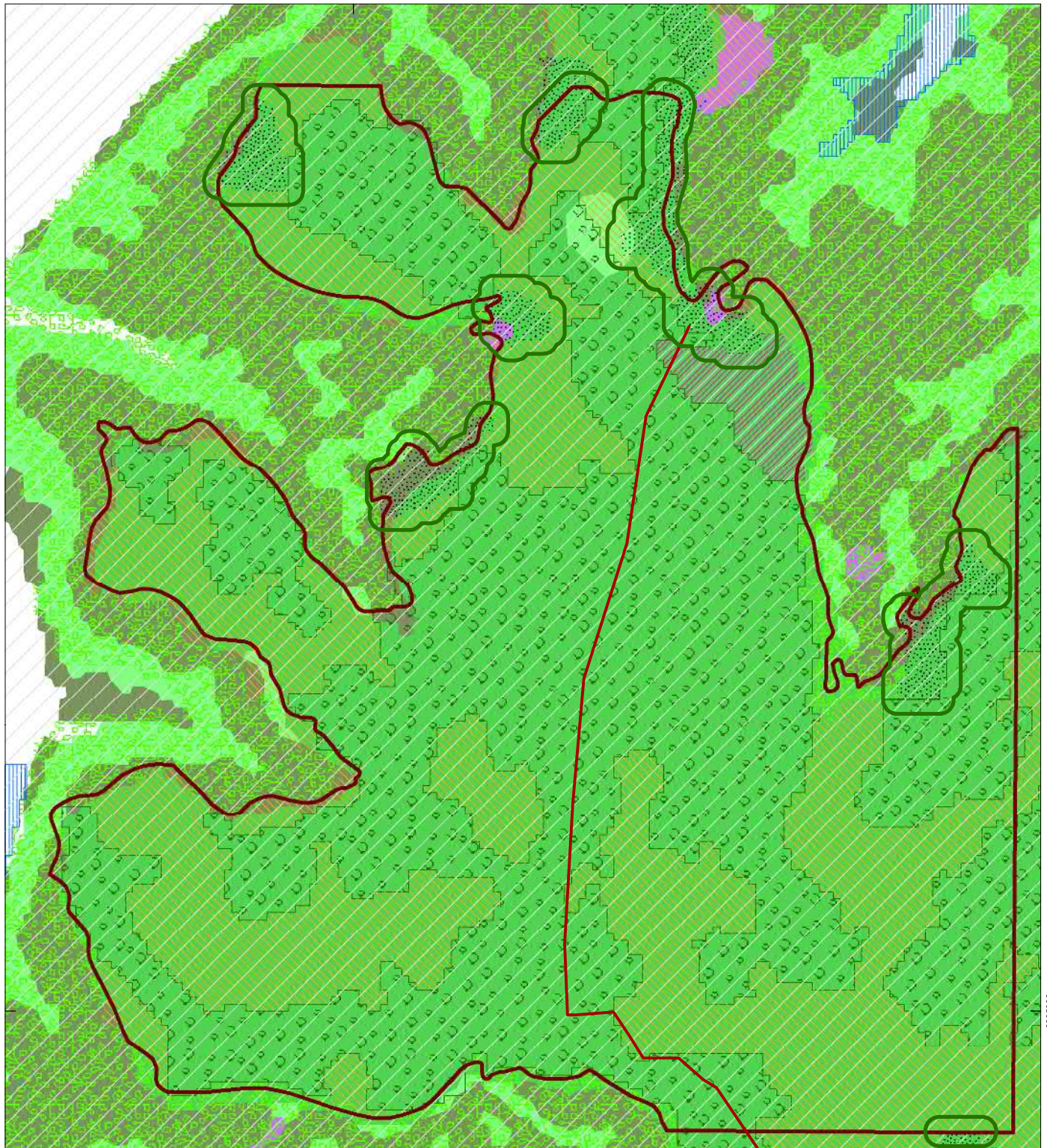
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ESRI Basemaps

ANNIE PROJECT AREA

Vegetation Communities on MLN813, ML29912, ML31654

FIGURE 3

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LEGEND

EL29699

Existing Tracks

Main Roads

Site of Conservation Significance (Darwin Harbour)

Potential habitat for *Utricularia dunstaniae*, *U. singeriana* and/or *Stylidium ensatum* (with 50 m buffer)

Veg Landcover Greater Darwin

Drainage open woodland

Eucalypt open forest

Eucalypt open woodland

Eucalypt woodland

Mangrove forest

Riparian open forest

Water

NVIS Vegetation

Closed forest

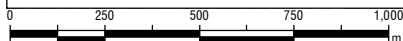
Mid closed forest

Open forest

Sparse samphire shrubland

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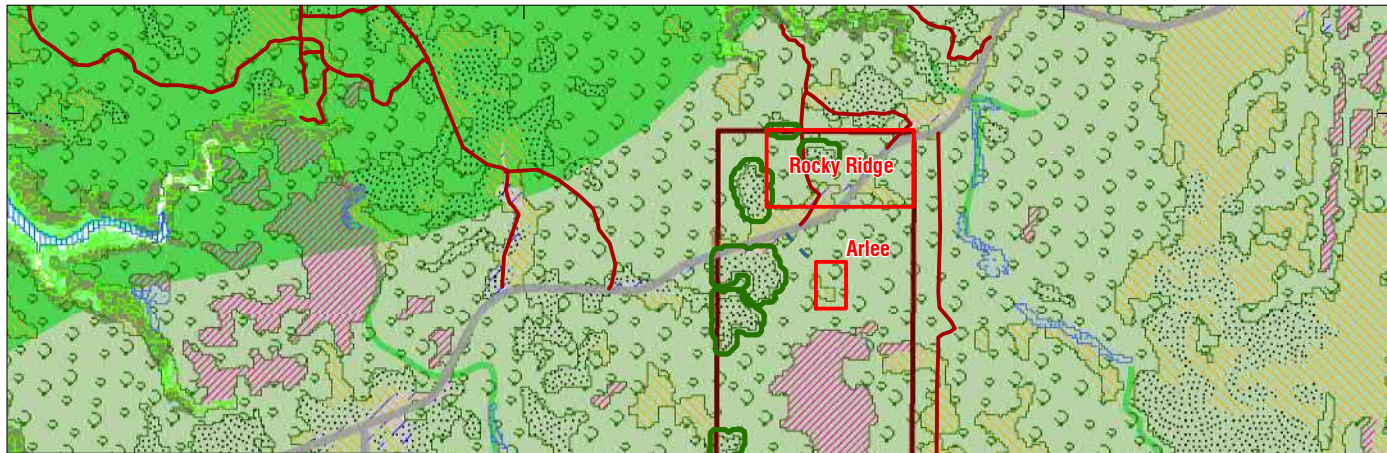
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Scale: 1:20,000
GDA 1994 MGA Zone 52

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LEGEND

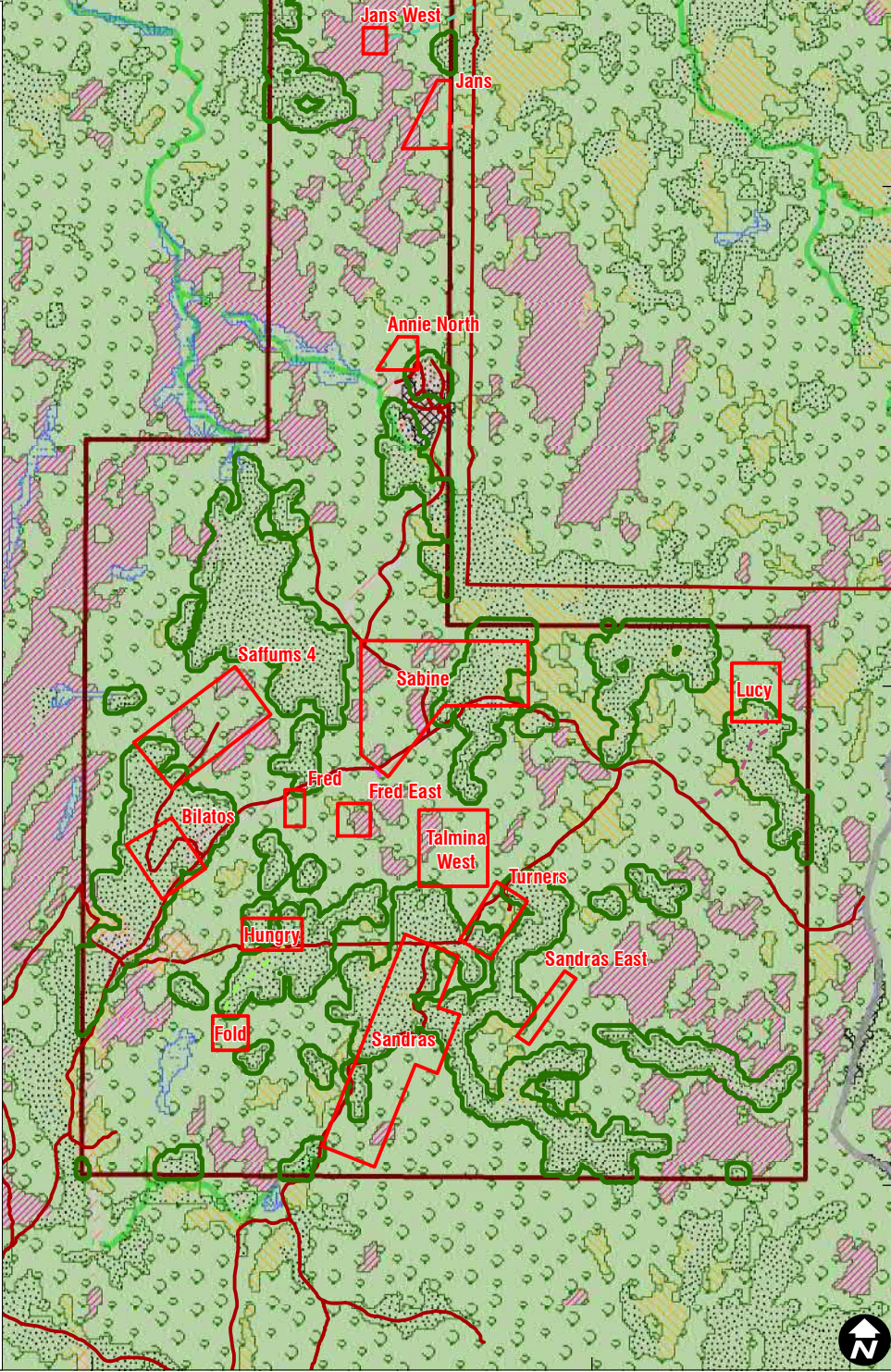
- EL30012
- Drilling Sites
- Arlee Access
- Fold Access
- Freds East Access
- Jans Access
- Jans W Access
- Lucy Access
- Saffums Access
- Existing Tracks
- Main Roads
- Site of Conservation Significance (Darwin Harbour)
- Potential habitat for *Utricularia dunstaniae*, *U. singeriana* and/or *Styliidium ensatum* (with 50 m buffer)

Veg Landcover Greater Darwin

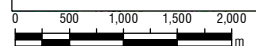
- Cleared land
- Drainage open woodland
- Eucalypt open forest
- Eucalypt open woodland
- Eucalypt woodland
- Grassy swamp
- Mangrove forest
- Riparian open forest
- Water

NVIS Vegetation

- Closed forest
- Mid closed forest
- Open forest
- Woodland
- Open palmland
- Pastoral/Horticulture/roads
- Rural/Residential/roads



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GDA 1994 MGA Zone 52

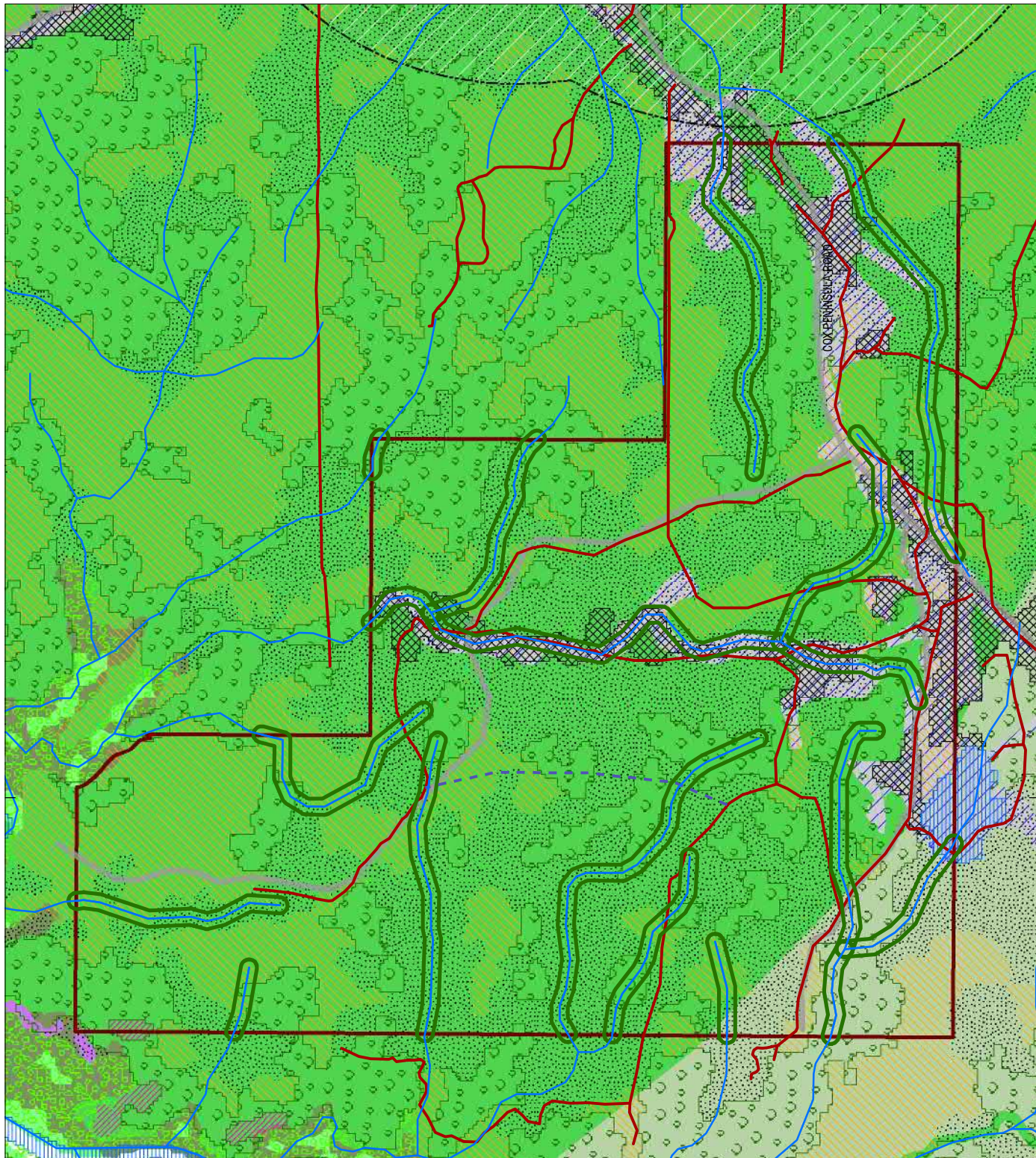
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BYNOE PROJECT AREA

Vegetation Communities on EL30012

FIGURE 5



LEGEND

EL30015

Watercourse (Rivers, Lakes)

Monas Access

Existing Tracks

Main Roads

50m Watercourse Buffer

Site of Conservation Significance(Darwin Harbour)

Veg Landcover Greater Darwin

Cleared land

Drainage open woodland

Eucalypt open forest

Eucalypt open woodland

Eucalypt woodland

Mangrove forest

Water

NVIS Vegetation

Closed forest

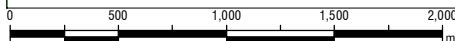
Mid closed forest

Open forest

Woodland

Sparse samphire shrubland

Rural/Residential/roads



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GDA 1994 MGA Zone 52

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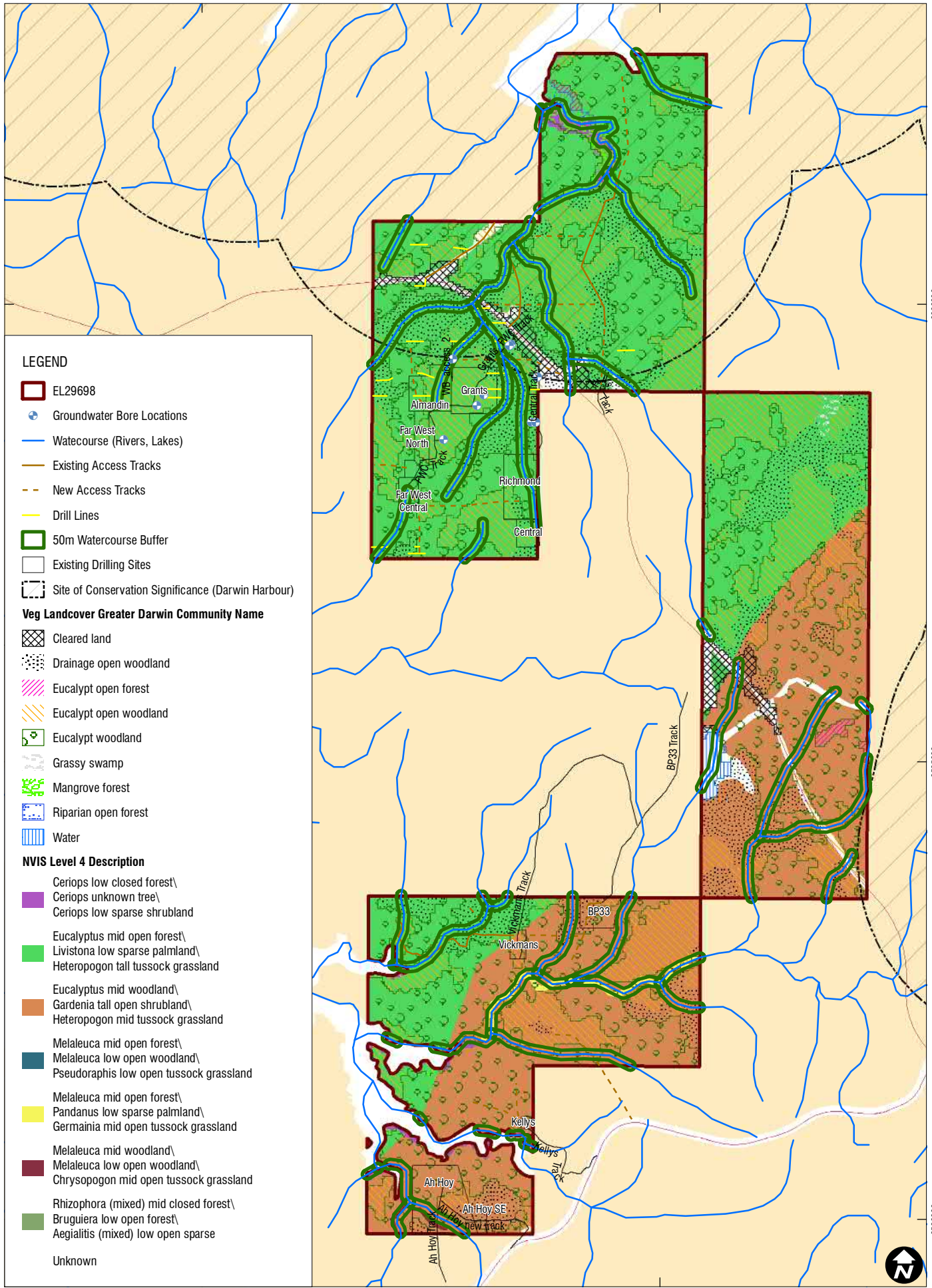
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LEGEND

- EL29698
- + Groundwater Bore Locations
- Watercourse (Rivers, Lakes)
- Existing Access Tracks
- - - New Access Tracks
- Drill Lines
- 50m Watercourse Buffer
- Existing Drilling Sites
- Site of Conservation Significance (Darwin Harbour)

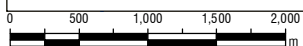
Veg Landcover Greater Darwin Community Name

- Cleared land
- Drainage open woodland
- Eucalypt open forest
- Eucalypt open woodland
- Eucalypt woodland
- Grassy swamp
- Mangrove forest
- Riparian open forest
- Water

NVIS Level 4 Description

- Ceriops low closed forest\
Ceriops unknown tree\
Ceriops low sparse shrubland
- Eucalyptus mid open forest\
Livistona low sparse palmland\
Heteropogon tall tussock grassland
- Eucalyptus mid woodland\
Gardenia tall open shrubland\
Heteropogon mid tussock grassland
- Melaleuca mid open forest\
Melaleuca low open woodland\
Pseudoraphis low open tussock grassland
- Melaleuca mid open forest\
Pandanus low sparse palmland\
Germainia mid open tussock grassland
- Melaleuca mid woodland\
Melaleuca low open woodland\
Chrysopogon mid open tussock grassland
- Rhizophora (mixed) mid closed forest\
Bruguiera low open forest\
Aegialitis (mixed) low open sparse
- Unknown

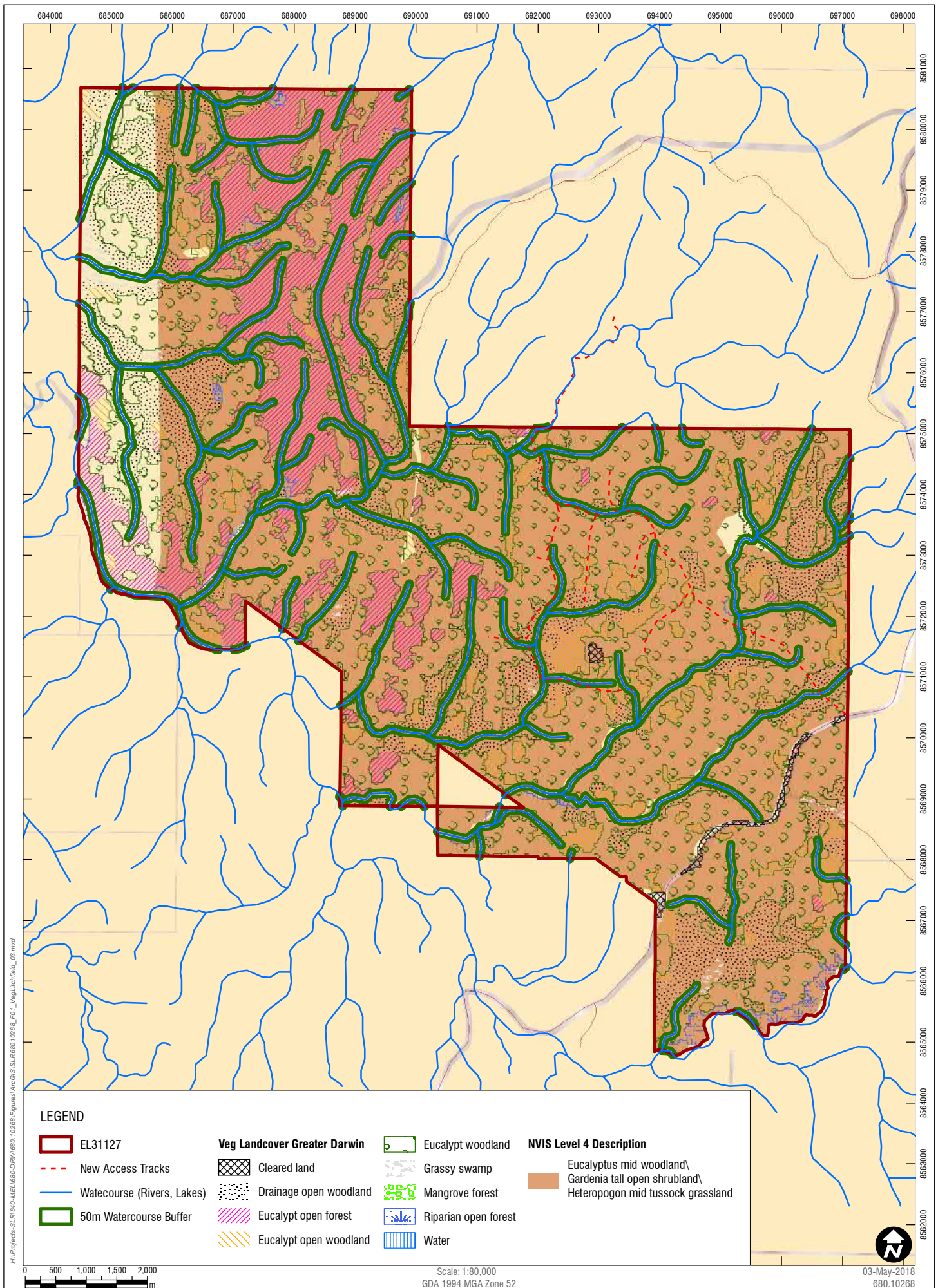
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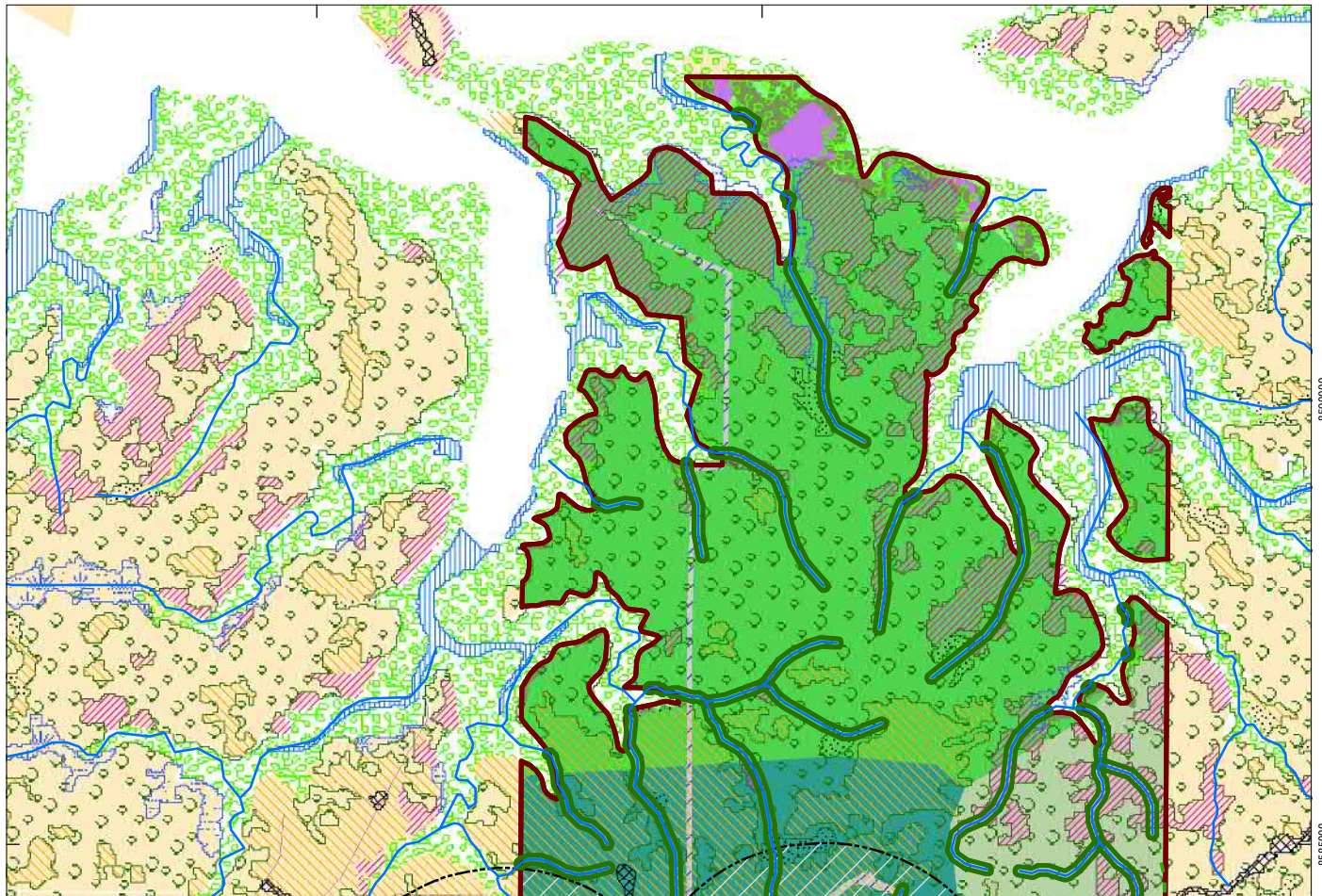
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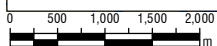
LEGEND

- EL31279
- Watercourse (Rivers, Lakes)
- Finniss River Access
- Sandpalms North Access
- Sandpalms South Access
- 50m Watercourse Buffer
- Site of Conservation Significance (Finniss River)

Veg Landcover Greater Darwin

- Cleared land
- Drainage open woodland
- Eucalypt open forest
- Eucalypt open woodland
- Eucalypt woodland
- Grassy swamp
- Mangrove forest
- Riparian open forest
- Water
- Closed forest
- Mid closed forest
- Open forest
- Woodland
- Open palmland
- Sparse samphire shrubland
- Rural/Residential/roads

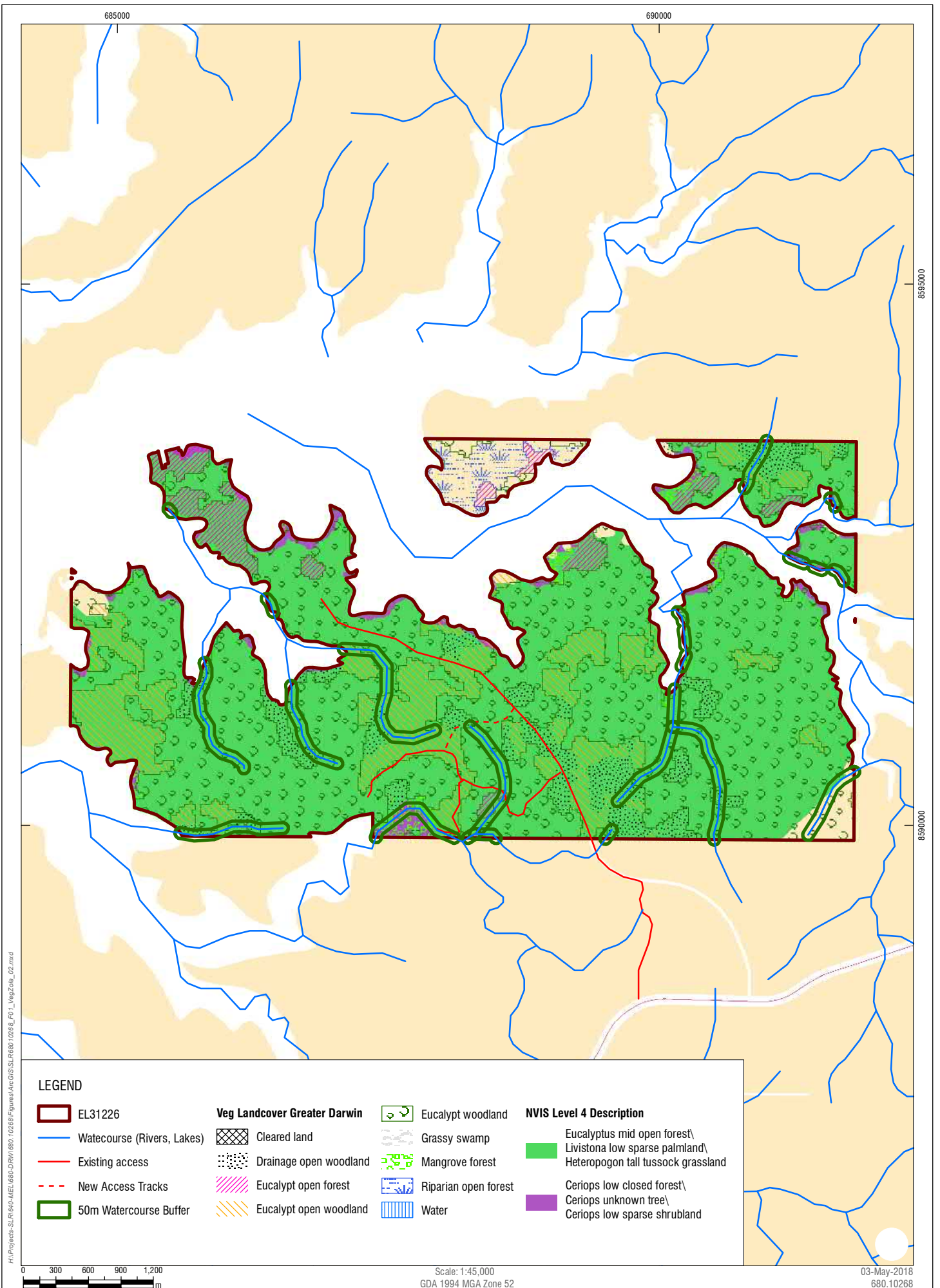
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3 Flora

3.1 General

A search of the biodiversity databases was undertaken for the seven project tenements with a 5 km buffer. The 5 km buffer was considered adequate given the proximity of the site to Darwin and the volume of flora records in the region. The biodiversity databases with the relevant references are listed in **Table 7**.

Table 7 References of biodiversity databases - flora

Project Area	Australian Government's 'Protected Matters Search Tool'	NT Government's 'NR Maps'	NT Government Flora Atlas	NRM Infonet	SOCS Factsheet
Leviathan Project	2021*	2021** - Appendix B	N/A	N/A	N/A
Annie Project	2021*	2021**	N/A	N/A	N/A
Bynoe Project	2017 - Appendix A	2017 - Appendix B	N/A	2017 - Appendix C	Darwin Harbour - NRETAS 2008 – Appendix D
Finniss Project	2016 - Appendix A	2016 - Appendix B	N/A	2016 - Appendix C	Darwin Harbour - NRETAS 2008
Litchfield Project	2016 - Appendix A	2016 - Appendix B	N/A	2016 - Appendix C	N/A
Sandpalms Project	2018 - Appendix A	2018 - Appendix B	DENR 2018	2017 - Appendix C	Finniss River Coastal Floodplain - NRETAS 2008 – Appendix D
Zola Project	2018 - Appendix A	2016 - Appendix B	N/A	2016 - Appendix C	N/A

*10 km buffer applied.

**7 km buffer applied.

NR Maps lists the following number of native flora species occurring within the applied buffer:

- Leviathan Project: 130 native flora species as occurring within 7 km.
- Annie Project: 130 native flora species as occurring within 7 km.
- Bynoe Project: 145 native flora species as occurring within 5 km.
- Finniss Project: 141 native flora species as occurring within 5 km of EL29698.
- Litchfield Project: 236 native flora species as occurring in, or within 5 km of EL31127.
- Sandpalms Project: 117 native flora species as occurring in, or within 5 km of EL31279.
- Zola Project: 117 native flora species as occurring in, or within 5 km of EL31126.

3.2 Site of Conservation Significance

Sites of Conservation Significance (SOCS) are considered to contribute significantly to the biodiversity and 67 sites were identified in the NT. Of the 67 identified sites, 25 are primarily on Aboriginal lands, 24 are primarily on pastoral lands, seven are primarily in national parks, three are primarily near urban areas and the remaining eight sites have a more even mix of tenures.

Core Lithium project areas fall under two SOCS:

- Darwin Harbour
- Finniss River Coastal Floodplain

Darwin Harbour and its surrounds is considered an internationally significant SOCS, as it is relatively undisturbed and has one of the richest coastal environments in the Asia Pacific region (Ward and Harrison 2009). Mangrove communities, tidal mudflats, and marine and terrestrial fauna species are among the key ecological values of the Darwin Harbour SOCS. Threats to the Darwin Harbour SOCS include urban and industrial development (primarily around Darwin).

EL29699 –Bynoe Project and the northern portion of EL29698 –Finniss Project overlap with the Darwin Harbour SOCS. Two threatened flora species are known to occur in the Darwin Harbour SOCS, these are Armstrong’s Cycad (*Cycas armstrongii*) and *Utricularia singeriana*.

The Finniss River Coastal Floodplain is considered internationally significant as it supports very large aggregations of waterbirds. The floodplain also supports important breeding activity by saltwater crocodiles, magpie geese, and other waterbirds. There are also three large waterbird breeding colonies which are located in paperbark swamps on the floodplain. Threats to the Finniss River Coastal Floodplain SOCS include weed invasion and feral animals.

The southern portion of EL31279 – Sandpalms Project overlaps with the Finniss River Coastal Floodplain SOCS. Leaf Pondweed (*Monochoria hasata*) is the only species of vulnerable flora known to occur within the Finniss River Coastal Floodplain SOCS (National/NT Listing).

Fact sheets of both SOCS are presented in **Appendix D**.

3.3 Threatened species

NRM database searches identified six threatened flora species with the potential to occur within the vicinity of the project areas, these species are listed in **Table 8** (NRM Report **Appendix C**). Further investigation of the likelihood of occurrence within the project tenements and the applied buffer are outlined in **Table 11**.

Further assessments of species being impacted as a result of the projects are presented in **Table 16**, along with their conservation status, preferred habitat and likelihood of occurrence. The NT species profiles have been provided as **Appendix E**. Additional specific environmental management measures for the listed species have been provided in **Section 6.2** in the event that the species is encountered during the proposed drilling events. Maps of threatened species for Bynoe, Litchfield, Sandpalms and Zola Projects are provided in **Figure 11** to **Figure 15**. Threatened species for Leviathan and Annie project areas are provided in **Figure 2** and **Figure 3**.

Table 8 Threatened flora potentially occurring in or within 5 km the project area

Common Name	Clausena	Armstrong's Cycad	Arrowleaf Monochoria	Trigger Plant, Annual herb	Bladderwort	Bladderwort
Scientific Name	<i>Clausena sp. tipperary</i>	<i>Cycas armstrongii</i>	<i>Monochoria hastata</i>	<i>Stylidium ensatum</i>	<i>Utricularia dunstaniae</i>	<i>Utricularia singeriana</i>
Leviathan Project		✓				
Annie Project		✓				
Bynoe Project		✓		✓		✓
Finniss Project		✓		✓		✓
Litchfield Project	✓	✓	✓		✓	✓
Sandpalms Project		✓				
Zola Project		✓	✓		✓	✓

3.3.1 Clausena (*Clausena sp. Tipperary*)

Clausena sp. Tipperary grows as slender shrub 1-4 m height that can produce a compound inflorescence of pale green- or cream-coloured flowers. *Clausena sp. Tipperary* is listed as Endangered under the TPWC Act. The species occurs on the perimeter of vine thicket community and as such are susceptible to edge effects, weed invasion, marginal attrition of the vine thicket through frequent intense fires and land use activities.

3.3.2 Armstrong's Cycad (*Cycas armstrongii*)

Cycas armstrongii is endemic to the Northern Territory and is known to occur from Gunn Point to Hayes Creek, west to within 50 km of the coast and east to the Wildman River catchment, and also occurs on the Tiwi Islands and Cobourg Peninsula (Kerrigan *et al.* 2006). *Cycas armstrongii* is listed Vulnerable under the TPWC Act. Threatening processes include land clearing for development projects in the Darwin region and forestry operations on the Tiwi islands (Kerrigan *et al.* 2006). It occurs mainly in open grassy woodland on yellow and red earths.

Armstrong's Cycad, like all cycads, is a long-lived, slow-growing, woody plant, with male and female individuals. Reproductive age is unknown, but can be 15 years under cultivation. Seeding may be annual or sporadic. Pollination appears to be mainly through insects, in particular beetles in the family Boganiidae. Seeds are dispersed through gravity, water and animals. Cycads live in symbiosis with cyanobacteria which provide the plant with nitrogen. The species is relatively resilient to low intensity fires, and can regenerate from crown damage, apical growing shoot damage, and even from destruction of the entire above ground stem, through regrowth from the stem base or root stock. However, populations decline when subjected to high intensity fires (Liddle, 2009).

3.3.3 Arrowleaf Monochoria (*Monochoria hastata*)

Monochoria hastata is an emergent aquatic herb with measuring approximately 0.7-1.2 m long. The species is listed as Vulnerable under the TPWC Act. Threatening processes include the invasive grass *Urochloa mutica*, *Hymenachne amplexicaulis* and *Mimos pigra* and global warming effect with saltwater intrusion of wetlands resulting in the decline in the quality of the habitat.

3.3.4 Bladderwort (*Utricularia singeriana*)

Utricularia singeriana is a small to medium-sized, terrestrial bladderwort, known to occur on the margins of wet sandy flats and swamps with short relatively open grasses and sedges. The species is endemic to the NT. The species is listed as Vulnerable under the TPWC Act. Threatening processes for *Utricularia singeriana* include direct and indirect impacts associated with rural subdivisions, and the species may be affected by trampling by feral animals and changes in hydrology precipitated by erosion due to the effects of feral animals.

3.3.5 Bladderwort (*Utricularia dunstaniae*)

Utricularia dunstaniae is a small, annual terrestrial bladderwort, known to occur from Western Australia (in the Mitchell Plateau) to the NT. It is known from nine collections: including subpopulations recorded near the Finniss River. The species is listed as Vulnerable under the TPWC Act. Threatening processes include sandmining, motor activities, subdivision and potential changes to hydrology (Cowie 2002).

3.3.6 Trigger Plant (*Stylidium ensatum*)

Stylidium ensatum is an annual herb to 22 cm tall, endemic to the area around Darwin. The preferred habitat thought to be the wet margins of drainage flats in damp heavy clay or peaty soils (Cowie & Westaway, 2012). *Stylidium ensatum* occurs with sedges (e.g. *Fimbristylis furva*), perennial grasses such as *Eriachne burkittii*, herbs such as *Burmannia* spp. and shrubs such as *Osbeckia* and scattered *Banksia dentata*. The sites occupied are poorly drained sandy or loamy flats that are seasonally inundated and are damp well into the dry season (June-August). *Stylidium ensatum* is listed as Endangered under both the EPBC Act and TPWC Act. Threatening processes include invasion of habitat by weeds, encroaching urban development and early Dry season burning before these annual plants have produced seeds are seen as threats to the species.

3.4 Weeds

Weeds classified under the NT *Weeds Management Act 2001* (WM Act) are to be managed in accordance with this Act. All owners, managers and occupiers of land as well as any other land user within the NT must comply with the WM Act.

Once a weed is declared in accordance with Section 7 of the WM Act, there is a requirement for all land holders, land managers and land users to comply with the declaration classification.

In the NT, there are three classification types, these being:

- Class A - To be eradicated
- Class B - Growth and spread to be controlled
- Class C - Not to be introduced into the NT.

Both Class A and Class B weeds are also considered Class C.

National classifications or statuses of weeds must also be considered in the ongoing management of an area. The Australian Government has compiled a list of 32 Weeds of National Significance (WoNS) based on an assessment process which categorise these weeds based on their invasiveness, potential for spread, and environmental, social and economic impacts (DoE, 2016b). In conjunction with the WoNS, there is a National Environmental Alert List (the Alert List). The Alert List identifies plant species that are in the early stages of establishment and have the potential to become a significant threat to biodiversity if they are not managed (DoE, 2016a). It is up to the relevant state or territory government to take responsibility for this within their own jurisdiction.

NR Maps and the NRM Infonet list the following number of weed species occurring within the applied buffer:

- Leviathan Project: 12 weed specie, including eight WoNS.
- Annie Project: 12 weed specie, including eight WoNS.
- Bynoe Project: 43 weed species, including three WoNS.
- Finniss Project: 11 weed species including two WoNS.
- Litchfield Project: 42 weed species, including three WoNS.
- Sandpalms Project: 34 weed species, including four WoNS.
- Zola Project: 42 weed species, including three WoNS.

Table 9 lists the most abundant weeds occurring at the vicinity of the project areas.

SLR was engaged by Core Lithium to undertake surveys to record the disturbance footprint and declared weeds currently present across the Leviathan and Annie project areas. The full report including the methodology and the results of the survey are presented in **Appendix F**.

Table 9 Most abundant recorded weed species in the proximity of the project tenements

Common Name	Scientific Name	Declared Weed (NT)	WoNS	Leviathan Project	Annie Project	Bynoe Project	Finniss Project	Litchfield Project	Sandpalms Project	Zola Project
Gamba Grass	<i>Andropogon gayanus</i>	A/B/C	Yes	✓	✓	✓	✓	✓	✓	✓
Buffel Grass	<i>Cenchrus ciliaris</i>	No	No			✓				
Mission grass – annual	<i>Cenchrus pedicellatus</i>	No	No	✓	✓	✓	✓	✓	✓	✓
Mission grass – perennial	<i>Cenchrus polystachios</i>	B/C	No	✓	✓	✓	✓	✓	✓	✓
Cabomba	<i>Cabomba caroliniana</i>	A	Yes	✓	✓					
Gambia Pea	<i>Crotalaria goreensis</i>	No	No					✓		
Cynodon	<i>Cynodon radiatus</i>	No	No				✓			
Fireplant	<i>Euphorbia heterophylla</i>	No	No				✓			✓
Hymenachne	<i>Hymenachne amplexicaulis</i>	B	Yes	✓	✓					
Hyptis	<i>Hyptis suaveolens</i>	B/C	No	✓	✓	✓		✓	✓	✓
Bellyache Bush	<i>Jatropha gossypifolia</i>	A	Yes	✓	✓					
Lantana	<i>Lantana camara</i>	B/C	Yes			✓	✓		✓	✓
Coffee Bush	<i>Leucaena leucocephala</i>	No	No			✓	✓		✓	
Mimosa	<i>Mimosa pigra</i>	A/B	Yes	✓	✓	✓		✓	✓	✓
Parkinsonia	<i>Parkinsonia aculeata</i>	B	Yes	✓	✓					
Stinking passionflower	<i>Passiflora foetida</i>	No	No							✓
Minnieroot	<i>Ruellia tuberosa</i>	No	No				✓			
Sicklepod	<i>Senna obtusifolia</i>	No	No			✓	✓		✓	✓
Salvinia	<i>Salvinia molesta</i>	B/C	Yes	✓	✓			✓	✓	
Spiny-head Sida	<i>Sida acuta</i>	B/C	No			✓		✓		
Flannel Weed	<i>Sida cordifolia</i>	B/C	No				✓	✓		
Paddys Lucerne	<i>Sida rhombifolia</i>	B/C	No				✓			
Caltrop	<i>Tribulus terrestris</i>	B/C	No			✓			✓	✓
Para Grass	<i>Urochloa mutica</i>	No	No	✓	✓	✓		✓		

4 Fauna

4.1 General

A search of the biodiversity databases was undertaken for the seven project tenements with a 5 km buffer. The 5 km buffer was considered adequate given the proximity of the site to Darwin and the volume of fauna records in the region. The biodiversity databases with the relevant references are listed in **Table 10**.

Table 10 References of biodiversity databases - fauna

Project Area	Australian Government's 'Protected Matters Search Tool'	NT Government's 'NR Maps'	NRM Infonet	SOCS Factsheet
Leviathan Project	2021*	2021** - Appendix B	N/A	N/A
Annie Project	2021*	2021**	N/A	N/A
Bynoe Project	2017 - Appendix A	2017 - Appendix B	2017 - Appendix C	Darwin Harbour - NRETAS 2008 – Appendix D
Finniss Project	2016 - Appendix A	2016 - Appendix B	2016 - Appendix C	N/A
Litchfield Project	2016 - Appendix A	2016 - Appendix B	2016 - Appendix C	N/A
Sandpalms Project	2018 - Appendix A	2017 - Appendix B	2017 - Appendix C	Finniss River Coastal Floodplain - NRETAS 2008 – Appendix D
Zola Project	2018 - Appendix A	2016 - Appendix B	2016 - Appendix C	N/A

*10 km buffer applied.

**7 km buffer applied.

NR Maps lists the following number of native fauna species occurring within the applied buffer:

- Leviathan Project: 51 native flora species as occurring within 7 km.
- Annie Project: 51 native flora species as occurring within 7 km.
- Bynoe Project: 164 native fauna species as occurring within 5 km.
- Finniss Project: 156 native fauna species as occurring within 5 km of EL29698.
- Litchfield Project: 96 native fauna species as occurring in, or within 5 km of EL31127.
- Sandpalms Project: 44 native fauna species as occurring in, or within 5 km of EL31279.
- Zola Project: 73 native fauna species as occurring in, or within 5 km of EL31126.

Many of these species are common within the Darwin region, including several species of finches, honeyeaters, kingfishers, parrots, lorikeets and cockatoos. Kites, black cockatoos, lorikeets and sea eagles are also common. In addition, mammals commonly found in the vegetation communities identified in the project areas include Antilopine Wallaroos and Sugar Gliders.

4.2 Site of Conservation Significance

As previously mentioned EL29699 – Bynoe Project lies entirely within the Darwin Harbour SOCS. The following threatened fauna species have been known to occur within the Darwin Harbour SOCS (National/NT Listing):

- Atlas Moth *Attacus atlas* (VU/-).

- Australian Bustard *Ardeotis australis* (-/VU).
- Christmas Frigatebird *Fregata andrewsi* (EN/EN).
- Gouldian Finch *Erythrura gouldiae* (VU/EN).
- Masked Owl *Tyto novaehollandiae kimberli* (VU/VU).
- Mertens Water Monitor *Varanus mertensi* (VU/-).
- Northern Quoll *Dasyurus hallucatus* (CR/EN).
- Partridge Pigeon *Geophaps smithii* (VU/VU).
- Red Goshawk *Erythrotriorchis radiatus* (VU/VU).
- Yellow-spotted Monitor *Varanus panoptes* (-/VU).

Whilst none of these species have been mapped on the Darwin Harbour SOCS factsheet (**Appendix D**) to occur within EL29699, the Masked Owl, Partridge Pigeon, Red Goshawk, Gouldian Finch and Northern Quoll have all been listed as likely to occur on or within 5 km of the Bynoe Project tenements.

The southern portion of EL31279 – Sandpalms Project overlaps with the Finniss River Coastal Floodplain SOCS. The following threatened fauna species have been known to occur within the Finniss River Coastal Floodplains SOCS (National/NT Listing):

- Australian Bustard *Ardeotis australis* (Not Listed/VU)
- Masked Owl *Tyto Novaehollandiae kimberli* (VU/VU)
- Partridge Pigeon *Geophaps smithii* (VU/VU)
- Red Goshawk *Erythrotriorchis radiatus* (VU/VU)
- Yellow-spotted Monitor *Varanus panoptes* (-/VU)

The western boundary of EL31127 – Litchfield Project adjoins the Finniss River Coastal Floodplain SOCS. With the implemented impact avoidance and mitigation measures outlined in the MMP, the SOCS will not be impacted by both projects.

4.3 Threatened Species

NRM database searches identified the following fauna species with the potential to occur within the project tenements:

- Leviathan Project: 20 threatened fauna species.
- Annie Project: 20 threatened fauna species.
- Bynoe Project: 38 threatened fauna species.
- Finniss Project: 20 threatened fauna species.
- Litchfield Project: 24 threatened fauna species.
- Sandpalms Project: 37 threatened fauna species.
- Zola Project: 23 threatened fauna species.

The likelihood of occurrence of any threatened species occurring within the areas to be disturbed by the projects was assessed based on their known distributions, ecology and habitat use (**Table 11**). Further assessment of species being impacted as a result of the projects is presented in **Table 16**, along with its conservation status, preferred habitat and likelihood of occurrence.

Whilst **Table 11** contains records of marine fauna (e.g. dolphins, whales, sharks and turtles) and/or their habitats as occurring, suitable habitat for these species is not known to occur within the project tenements and, therefore, this report does not further address them.

Despite the listed marine turtles frequent the waters of Darwin Harbour, the lack of sandy beaches close to the project area inhibit nesting activity. Bynoe project is the closest to the coast yet remains a significant distance from any beach areas.

It should be noted that significant aggregations of seabirds are not known from the Bynoe project area (Chatto 2001) and although large areas of mudflats occur around Darwin Harbour during periods of low tide, high numbers of shorebirds have not previously been recorded (Chatto 2003). As such, it is likely that the majority of migratory bird species listed in **Table 11** are unlikely to be impacted by the proposed explorations.

Table 11 Threatened fauna and flora species or species habitat known or likely to occur on or within the applied buffer of the project tenements (EPBC Protected Matters and NRM Reports)

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer												
		TPWC Status*	EPBC Status*		Leviathan Project	Annie Project	Bynoe Project	Finniss Project	Litchfield Project	Sandpalms Project	Zola Project						
FAUNA																	
Birds																	
Australian Bustard	<i>Ardeotis australis</i>	Not Listed	VU	Open grasslands, perhaps with some trees, spinifex plains and low shrublands	N/A		N/A		N/A		N/A		Possible – EL31279 overlaps with the Finniss River Coastal Floodplain SOCS	N/A			
Red Knot	<i>Calidris canutus</i>	VU	EN	Intertidal mudflats, sandflats and sandy beaches of sheltered coasts	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no previous records preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	N/A		N/A	Likely – There is suitable habitat in the project area	-	N/A	
Curlew Sandpiper	<i>Calidris ferruginea</i>	VU	CR	Forages around coastal brackish lagoons, intertidal mud and sand flats, estuaries, saltmarshes and occasionally on inland freshwater wetlands (Garnett et al 2011, cited in Ward, 2012a).	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no previous records preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	N/A		Unlikely – no previous records and preferred habitat not understood to be present.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Great Knot	<i>Calidris tenuirostris</i>	EN	CR	Forages around coastal brackish lagoons, intertidal mud and sand flats, estuaries, saltmarshes and occasionally on inland freshwater wetlands.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no previous records and preferred habitat not present.	0	N/A	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area	
Greater Sand Plover	<i>Charadrius leschenaultii</i>	VU	EN	Almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons (Bamford 1988; Blakers et al. 1984), and inshore reefs, rock platforms, small rocky islands or sand cays on coral reefs.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no previous records preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	Unlikely – no previous records and preferred habitat not present.	0	N/A	Likely – There is suitable habitat in the project area	-	Unlikely – No suitable habitat occurs in the project area	

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer													
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project	
Lesser Sand Plover	<i>Charadrius mongolus</i>	VU	VU	Coastal littoral and estuarine environments. It inhabits large intertidal sandflats or mudflats in sheltered bays, harbours and estuaries, and occasionally sandy ocean beaches, coral reefs, wave-cut rock platforms and rocky outcrops.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no previous records preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	Unlikely – no previous records and preferred habitat not known to be present.	0	N/A	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area	
Red Goshawk	<i>Erythrotriorchis radiatus</i>	VU	VU	Forest and woodland with a mosaic of vegetation types, including eucalypt woodland, open forest, gallery rainforest, swamp sclerophyll forest and rainforest margins	Possible – May be suitable habitat in the project area	0	Possible – May be suitable habitat in the project area	0	Possible – foraging habitat likely to be present.	0	Possible – foraging habitat likely to be present.	0	Possible – foraging habitat likely to be present.	0	Possible – foraging habitat likely to be present.	-	Possible – foraging habitat likely to be present.	
Gouldian Finch	<i>Erythrura gouldiae</i>	VU	EN	Open woodland. Wooded hills with snappy or salmon gums in the breeding season, and surrounding lowland grasslands during the non-breeding season.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no previous records and preferred habitat not understood to be present.	0	Unlikely – no previous records and preferred habitat not known to be present.	0	Unlikely – no previous records and preferred habitat not understood to be present.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – no previous records and preferred habitat not understood to be present.	
Grey Falcon	<i>Falco hypoleucos</i>	VU	VU	Lightly timbered lowland plains on inland drainage systems	Likely – There is suitable habitat in the project area	0	Possible – There is suitable habitat in the project area	0	N/A		N/A		N/A		N/A		N/A	
Partridge Pigeon (eastern)	<i>Geophaps smithii smithii</i>	VU	VU	Lowland eucalypt open forests and woodlands, with grassy understoreys.	Likely – There is suitable habitat in the project area	3 ^{b,f}	Likely – There is suitable habitat in the project area	3 ^{b,f}	Possible – habitat likely to occur.	9 ^c	Possible – habitat likely to occur.	0	Possible – habitat likely to occur.	4 ^c	Possible – habitat likely to occur.	-	Possible – habitat likely to occur.	3 ^c
Bar-tailed Godwit (baueri)	<i>Limosa lapponica baueri</i>	VU	VU	Intertidal mudflats and shallow water.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – Preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	1 ^a	Unlikely – preferred habitat not present.	1 ^a	N/A	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area	
Northern Siberian Bar-tailed Godwit	<i>Limosa lapponica menzbier</i>	VU	CR	Large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no previous records preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	Unlikely – no previous records and preferred habitat not present.	0	N/A	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area	

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer												
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project
Eastern Curlew, Far Eastern Curlew	<i>Numenius madagascariensis</i>	VU	CR	Most common in mangrove areas, will forage on intertidal mudflats, rarely far from coast	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – Preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	2 ^a	N/A	Unlikely – no previous records and preferred habitat not understood to be present.	0	Likely – There is suitable habitat in the project area	-	Unlikely – No suitable habitat occurs in the project area	
Australian Painted Snipe	<i>Rostratula australis</i>	VU	EN	Shallow, vegetated, freshwater swamps, claypans or inundated grassland. In the NT, most suitable habitat occurs on pastoral land.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – there are no previous known records and preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	Unlikely – no previous records and preferred habitat not present.	0	Unlikely – there are no previous known records and preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Masked Owl (northern)	<i>Tyto novaehollandiae kimberli</i>	EN	VU	Tall open <i>Eucalyptus miniata</i> , <i>E. tetradonta</i> woodland, roosts in monsoon rainforests and forages in open habitats including grasslands (Woinarski and Ward, 2012b)	Possible – May be suitable habitat in the project area, may use habitat in the project area time to time	0	Possible – May be suitable habitat in the project area, may use habitat in the project area time to time	0	Possible – foraging habitat likely to be present.	0	Possible – foraging habitat likely to be present.	0	Possible – foraging habitat likely to be present	0	Possible – foraging habitat likely to be present	-	Possible – foraging habitat and prey species likely to be present.
Insects																	
Dodd's Azure Butterfly	<i>Ogyris iphis doddii</i>	EN	Not listed	The larvae shelter during the day in hollows or cracks in the haustorium of the mistletoe where the attendant ants have established a nest, and pupate in similar situations. The adults fly rapidly among the tree tops, but are rarely observed (Braby and Woinarski, 2006).	N/A		N/A		N/A		N/A		N/A		N/A		Unlikely – no previous records and preferred habitat not understood to be present.
Mammals																	
Fawn Antechinus	<i>Antechinus bellus</i>	EN	VU	Savannah woodland and Eucalypt tall open forest	Likely – There is suitable habitat in the project area	0	Likely – There is suitable habitat in the project area	0	Possible – preferred habitat likely to occur, although no records exist.	1 ^b	Possible – preferred habitat likely to occur, although no records exist	0	Possible – preferred habitat likely to occur, although only four records in the region from ten years ago (2008).	0	Possible – preferred habitat likely to occur	-	Possible – preferred habitat likely to occur, although only one record in the region from about 15 years ago.

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer													
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project	
Blue Whale	<i>Balaenoptera musculus</i>	DD	EN	Occurs in all oceans and inhabits coastal, shelf and oceanic waters	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no previous records and preferred habitat not present	0	N/A		N/A		Unlikely – no previous records and preferred habitat not present	-	Unlikely – No suitable habitat occurs in the project area	
Brush-tailed Rabbit-rat, Bush-tailed Tree-rat, Pakooma	<i>Conilurus penicillatus</i>	EN	VU	Eucalypt tall open forest	Unlikely - There is suitable habitat in the project area, but the distribution is identified to be restricted to other known areas	0	Unlikely - There is suitable habitat in the project area, but the distribution is identified to be restricted to other known areas	0	Possible – preferred habitat likely to occur, although no records exist	0	Possible – preferred habitat likely to occur, although no records exist	0	Possible – preferred habitat likely to occur, although no records exist	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area	
Northern Quoll	<i>Dasyurus hallucatus</i>	CR	EN	Near-coastal forests and open woodlands, most commonly in rocky country	Possible – May be suitable habitat in the project area	0	Possible – May be suitable habitat in the project area	0	Possible – whilst preferred habitat probably exists, the numerous records from the region all occur pre-1995. Given that numbers of quolls reduced drastically elsewhere following Cane Toad arrival to the Darwin region (approx. 2006), it is possible (though with much less certainty than 2006) that the species occurs on site.	9 ^b	Unlikely – although preferred habitat probably exists, all records are pre-2000 and numbers reduced drastically elsewhere following Cane Toad arrival to the Darwin region (approx. 2006).	3 ^b	Possible – whilst preferred habitat probably exists in EL31127, the numerous records from the region all occur pre-2006. Given that numbers of quolls reduced drastically elsewhere following Cane Toad arrival to the Darwin region (approx. 2006), it is possible (though with much less certainty than 2006) that the species occurs on site.	0	Possible – May be suitable habitat in the project area	-	Possible – foraging habitat probably exists in EL31126; however, previous records from the region are all pre-2006. Given that numbers of quolls reduced drastically elsewhere following Cane Toad arrival to the Darwin region (approx. 2006), it remains possible (though with much less certainty than 2006) the species occurs on site.	
Arnhem Leaf-nosed Bat	<i>Hipposideros inornata</i>	VU	VU	The Arnhem leaf-nosed bat roosts in cool, draughty areas in caves in rugged sandstone formations during the day, particularly where these are close to water (Churchill, 1998, cited in TSSC, 2015a)	N/A		N/A		N/A		N/A		Unlikely – only one record from the region in 1978 and not generally understood to occur from this area.	0	Unlikely – No suitable habitat occurs in the project area	-	N/A	

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer												
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project
Ghost Bat	<i>Macroderma gigas</i>	NT	VU	Varied – from arid Pilbara to tropical savanna woodlands and rainforests. Favoured roosting sites are undisturbed caves or mineshafts.	Possible – May be suitable habitat in the project area	0	Possible – May be suitable habitat in the project area	0	Possible – preferred habitat likely to occur, although no records exist.	0	Possible – preferred habitat likely to occur, although no records exist	0	Possible – preferred habitat likely to occur, although all records from the region are nearly 30 years old.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Humpback Whale	<i>Megaptera novaeangliae</i>	Not listed	VU	Occurs in all major oceans, mostly in coastal and continental shelf waters	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no previous records and preferred habitat not present		N/A		N/A		Unlikely – no previous records and preferred habitat not present	-	N/A
Black-footed Tree-rat	<i>Mesembriomys gouldii gouldii</i>	VU	EN	Eucalypt woodlands. Continuous forest with large trees with tree hollows and diverse shrubby understorey	Likely – There is suitable habitat in the project area	0	Likely – There is suitable habitat in the project area	0	Possible – suitable habitat likely to exist, however no records exist.	0	Possible – suitable habitat likely to exist, however there are no records.	0	Possible – suitable habitat likely to exist, however only two records exist from the region, the latest being from 1984.	0	Possible – May be suitable habitat in the project area	-	Possible – suitable habitat likely to exist, however no records are known to exist in the general area.
Nabarlek	<i>Petrogale concinna canescens</i>	VU	EN	Rocky areas (sandstone or granite), especially on steep slopes, with large boulders, caves and crevices	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – no records and preferred habitat not predicated to occur on site.	0	Unlikely – no records and preferred habitat not present.	0	Unlikely – no records and preferred habitat not predicated to occur on site.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Northern Brush-tailed Phascogale	<i>Phascogale pirata</i>	EN	VU	Tall open <i>Eucalyptus miniata</i> , <i>E. tetradonta</i> forest	Likely – There is suitable habitat in the project area	0	Possible – There is suitable habitat in the project area, however the current distribution of the species is highly restricted	0	Possible – suitable habitat likely to exist, however no records exist.	0	Possible – suitable habitat likely to exist, however there are no records.	0	Possible – preferred habitat likely to occur, although only one record in the region from over 20 years ago.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Pale Field-rat	<i>Rattus tunneyi</i>	VU	Not listed	Dense vegetation along creeks.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Possible – preferred habitat likely to occur, although few records exist from the region with the latest being over 20 years ago.	2 ^b	N/A		Possible – preferred habitat likely to occur, although few records exist from the region with the latest being over 20 years ago.	0	N/A	-	Possible – preferred habitat likely to occur, although few records exist from the region with the latest being over 20 years ago.

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer												
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project
Bare-rumped Sheath-tailed Bat	<i>Saccolaimus saccolaimus nudicluniatas</i>	NT	VU	Coastal lowlands, where they have been recorded in open screw-palm woodland, eucalypt tall open forest and rainforest	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Possible – preferred habitat likely to occur, although no records exist.	0	Possible – suitable habitat may exist, however there are no records.	0	Unlikely – it is currently not known from this region.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Water Mouse	<i>Xeromys myoides</i>	Not listed	VU	Mangrove forests, freshwater swamps and floodplain saline grasslands	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – suitable habitat likely to exist within EL29699 however unlikely to be located within the proposed drilling areas, nor in new access tracks to be created. No records exist.	0	Unlikely – no previous records and preferred habitat not present.	0	Unlikely – no previous records and preferred habitat not present.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Reptiles																	
Plains Death Adder	<i>Acanthopis hawkei</i>	VU	VU	Flat treeless cracking soil on floodplains.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – not within, or near to, the known distribution of the species.	0	Unlikely – not within, or near to, the known distribution of the species.	0	Unlikely – not within, or near to, the known distribution of the species.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – no previous records and known populations not located in the region.
Loggerhead Turtle	<i>Caretta caretta</i>	VU	EN	Open ocean, benthic foraging habitat and sandy beaches for nesting.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	N/A		N/A		Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Green Turtle	<i>Chelonia mydas</i>	LC	VU	Tropical and subtropical waters throughout the world. Nesting common in the NT.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	2 ⁹	N/A		N/A		Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer												
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project
Leatherback Turtle	<i>Dermochelys coriacea</i>	CR	EN	Regarded as an oceanic species nesting mostly in tropical areas and feeding in temperate areas.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	N/A		N/A		Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Hawksbill Turtle	<i>Eretmochelys imbricata</i>	VU	VU	Tropical, subtropical and temperate waters of all oceans of the world.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	N/A		N/A		Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Olive Ridley Turtle	<i>Lepidochelys olivacea</i>	VU	EN	Shallow, protected tropical and subtropical waters throughout the world. Nesting common in the NT.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	0	N/A		N/A		Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Yellow-snouted Gecko	<i>Lucasium occultum</i>	VU	EN	All individuals captured to date have occurred in conjunction with well-developed leaf litter and grasses (King et al. 1982, cited in DoE, 2016) in open forests dominated by <i>Eucalyptus miniata</i> and <i>E. tetradonta</i> .	N/A		N/A		N/A		N/A		N/A		N/A	-	N/A
Flatback Turtle	<i>Natator depressus</i>	DD	VU	Tropical waters of Australia and New Guinea.	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – preferred habitat is unlikely to be located within the proposed drilling areas, nor in new access tracks to be created.	1 ^d	N/A		Possible – Suitable habitat likely to exist on site, however the species has likely been substantially impacted by Cane Toads and therefore it's abundance in the region is uncertain.	0	Unlikely – No suitable habitat occurs in the project area	-	Possible – Suitable habitat likely to exist on site, however the species has likely been substantially impacted by Cane Toads and therefore it's abundance in the region is uncertain.

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer													
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project	
Mertens' Water Monitor	<i>Varanus mertensi</i>	VU	Not listed	Seldom seen far from water, preferring to climb on rocks or trees near water, and often basking on branches overhanging the water or on rocks mid-stream (Ward et al., 2006).	Likely – There is suitable habitat in the project area	0	Likely – There is suitable habitat in the project area	0	Possible – Suitable habitat likely to exist on site, however the species has likely been substantially impacted by Cane Toads and therefore it's abundance in the region is uncertain.	1 ^b	N/A		Possible – Suitable habitat likely to exist on site, however the species has likely been substantially impacted by Cane Toads and therefore it's abundance in the region is uncertain.	0	N/A	-	Possible – Suitable habitat likely to exist on site, however the species has likely been substantially impacted by Cane Toads and therefore it's abundance in the region is uncertain.	
Mitchell's Water Monitor	<i>Varanus mitchelli</i>	VU	Not listed	Semi-aquatic and arboreal and inhabits margins of watercourses, swamps and lagoons in northern Australia. It rests and shelters in hollows and under bark on trees next to water. It basks on rocks and overhanging limbs and readily takes to the water when disturbed (Ward, 2012).	N/A		N/A		N/A		N/A		Possible – Suitable habitat likely to exist on site, however the species has likely been substantially impacted by Cane Toads and therefore it's abundance in the region is uncertain.	0	N/A	-	Possible – Suitable habitat likely to exist on site, however the species has likely been substantially impacted by Cane Toads and therefore it's abundance in the region is uncertain.	
Yellow-spotted Monitor	<i>Varanus panoptes</i>	VU	Not listed	Ground-dwelling, coastal beaches, floodplains, grasslands and woodlands (Ward et al. 2012)	N/A		N/A		Possible – Suitable habitat likely to exist on site, however the species has likely been substantially impacted by Cane Toads and therefore it's abundance in the region is uncertain.	0	N/A		N/A		Possible – Suitable habitat likely to exist on site, however the species has likely been substantially impacted by Cane Toads and therefore it's abundance in the region is uncertain.	-	N/A	
Amphibians																		
Howard Springs Toadlet	<i>Uperoleia daviesae</i>	VU	Not listed	Appears to be confined to sandsheet heath, areas of sandy soils with short vegetation that is inundated in the Wet season, or to adjacent melaleuca woodland areas.	N/A		N/A		Possible – Records show observations of the species have been made within 5 km of EL30015.	16 ^b	N/A		N/A		N/A		N/A	
Fish																		

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer													
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project	
Lorentz's Grunter	<i>Pingalla lorentzi</i>	VU	Not listed	Small and large pools with rock and sand substrates, usually in open unshaded sections of streams and in water temperatures between 25°C and 30°C.	N/A		N/A		N/A		N/A		Possible – Only current known records are from the Rum Jungle mine site (approximately 10 km to the east), however further surveys are required to better understand its distribution. Given that suitable habitat appears possible to exist on site, it is possible that the species could occur there.	0	Unlikely – No suitable habitat occurs in the project area	-	N/A	
Sharks																		
Great White Shark	<i>Carcharodon carcharias</i>	Data Deficient	VU	Range from close inshore around rocky reefs, surf beaches and shallow coastal bays to outer continental shelf and slope areas.	Unlikely – No suitable habitat occurs in the project area		Unlikely – No suitable habitat occurs in the project area		Unlikely – no previous records and preferred habitat not present	0	N/A		N/A		N/A		Unlikely – No suitable habitat occurs in the project area	
Northern River Shark	<i>Glyphis garricki</i>	EN	EN	Restricted to shallow, brackish reaches of large rivers.	Unlikely – No suitable habitat occurs in the project area		Unlikely – No suitable habitat occurs in the project area		Unlikely – no previous records and preferred habitat not present	0	N/A		N/A		Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area	
Dwarf Sawfish	<i>Pristis clavata</i>	VU	VU	Usually inhabits shallow (2–3 m) coastal waters and estuarine habitats.	Unlikely – No suitable habitat occurs in the project area		Unlikely – No suitable habitat occurs in the project area		Unlikely – no previous records and preferred habitat not present	0	N/A		N/A		Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area	
Freshwater Sawfish	<i>Pristis pristis</i>	VU	VU	Muddy bottoms of freshwater areas and upper reaches of estuaries.	Unlikely – No suitable habitat occurs in the project area		Unlikely – No suitable habitat occurs in the project area		Unlikely – no previous records and preferred habitat not present	0	N/A		Unlikely – no previous records and preferred habitat not understood to be present.	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area	
Green Sawfish	<i>Pristis zijsron</i>	VU	VU	Inhabits muddy bottom habitats and enters estuaries.	Unlikely – No suitable habitat occurs in the project area		Unlikely – No suitable habitat occurs in the project area		Unlikely – no previous records and preferred habitat not present	0	N/A		N/A		Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area	

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer																			
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project							
Whale Shark	<i>Rhincodon typus</i> **	DD	VU	Oceanic and coastal, tropical to warm-temperate seas/oceans	Unlikely – No suitable habitat occurs in the project area		Unlikely – No suitable habitat occurs in the project area		Unlikely – no previous records and preferred habitat not present		0	N/A	N/A		Unlikely – No suitable habitat occurs in the project area		Unlikely – No suitable habitat occurs in the project area							
FLORA																								
Clausena	<i>Clausena sp. Tipperary</i>	EN	Not listed	Species collected from the exposed edges of two small monsoon vine thicket patches situated on limestone (karst) geology. One site consists of broken, outcropping limestone and the other is the perimeter of a limestone sinkhole (Cowie and Westaway, 2012). In common with several other plants of monsoon vine thickets this species may be facultatively deciduous during the Dry season to reduce water loss and stress over the long rainless period (Cowie and Westaway, 2012).	N/A		N/A		N/A		N/A		Unlikely - This highly restricted species is known from only a small area approx. 4–5 km north-west of Mt. Burrell, on Tipperary Station in the Daly Basin Bioregion (Cowie and Westaway, 2012).		0	N/A		N/A						
Armstrong's Cycad	<i>Cycas armstrongii</i>	VU	Not listed	Open grassy woodland on yellow and red earths	Known – May be suitable habitat in the project area		3 ^{b,f}	Likely (at low density) – it is likely that suitable habitat in the project area, which is at the western edge of the species' distribution.		3 ^{b,f}	Unlikely - There is suitable habitat in the project area, but the distribution is identified to be restricted to other known areas		0	Possible – NR Maps lists the closest record as ~15 km to the east however advice from DME indicates its presence in the area.		0	Likely – NR Maps lists the closest record as ~11 km to the east however it is likely that the species occurs in the drilling areas given the suitable vegetation on site. In addition, it is possible that the lack of species records on site is due to the lack of survey effort in the area.		0	Likely – There is suitable habitat in the project area		-	Possible – NT Maps lists the closest record as ~18 km to the east however it is likely that the species occurs in the drilling areas given the suitable vegetation on site. In addition, it is possible that the lack of species records on site is due to the lack of survey effort in the area	

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer												
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project
Arrowleaf Monochoria	<i>Monochoria hastata</i>	VU	Not listed	This species is recorded as a component of floating mat vegetation in both the Finniss and Raynolds Rivers. It also occurs on near-permanently wet back-swamps and drainage channels, and in permanent billabongs	N/A		N/A		N/A		N/A		Unlikely – NR Maps lists the closest record as ~16 km to the west and whilst the species has been recorded in the Finniss River floodplains (Kerrigan and Cowie, 2006) (which may exist on the western portions of EL31127) it is unlikely that the species exists in the vicinity of the drilling areas given their vegetation as mapped.	0	N/A		Unlikely – NR Maps lists the closest record as ~40 km to the south-west in the Finniss River floodplains.
Trigger Plant, Annual herb	<i>Stylidium ensatum</i>	EN	EN	Wet margins of drainage flats in damp heavy clay or peaty soils	N/A		N/A		Unlikely - There is suitable habitat in the project area, but the distribution is identified to be restricted to other known areas	0	Unlikely – NR Maps lists the closest record as only ~7 km to the south-west and it has not been collected anywhere across its range since 1974 (Cowie & Westaway, 2012).	0	Unlikely – No suitable habitat occurs in the project area	0	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – No suitable habitat occurs in the project area
Bladderwort	<i>Utricularia dunstaniae</i>	VU	Not listed	Wet sand, often in shallow water, in <i>Melaleuca nervosa</i> woodland or <i>Verticordia</i> shrubland. Slightly wetter micro-habitats than other sympatric <i>Utricularia</i> species, frequently where water is percolating from the ground. Populations appear to be small and very localised (Kerrigan and Cowie, 2012).	N/A		N/A		Unlikely – No suitable habitat occurs in the project area	0	N/A		Possible - There has been a sub-population recently identified near the Finniss River (Kerrigan and Cowie, 2012) and NR Maps shows the closest record from 2010 about 3 km to the south-east of EL31127 (NR Maps, 2016).	1 ^e	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – The closest records that exist are near the Finniss River, approximately 26 km to the south. In addition, the vegetation communities within the drilling areas appear not to comprise substantial areas of 'drainage open woodland' which is where the species may be possible to occur.

Common Name	Scientific Name	NT Status	National Status	Preferred Habitat	Likelihood of Occurring / Number of records within the applied buffer												
		TPWC Status*	EPBC Status*		Leviathan Project		Annie Project		Bynoe Project		Finniss Project		Litchfield Project		Sandpalms Project		Zola Project
Bladderwort	<i>Utricularia singeriana</i>	VU	Not listed	The species occurs on the margins of wet sandy flats and swamps with short relatively open grasses and sedges. Dominant associated plants include <i>Eriachne burkittii</i> , <i>Sorghum</i> spp., <i>Pseudopogonatherum</i> spp. and sedges (Cowie and Kerrigan, 2012)	N/A		N/A		N/A		Unlikely - There is suitable habitat in the project area, but the distribution is identified to be restricted to other known areas	0	Possible - There has been a sub-population recently identified near the Finniss River (Kerrigan and Cowie, 2012) and NR Maps shows the closest record from 2010 about 3 km to the south-east of EL31127 (NR Maps, 2016).	2 ^e	Unlikely – No suitable habitat occurs in the project area	-	Unlikely – The closest records that exist are near the Finniss River, approximately 26 km to the south. Vegetation communities within the drilling areas appear not to comprise substantial areas of ‘drainage open woodland’, which is where the species may occur.

a: 1994, b: 1995, c: 1994, d: 1995, e: 1996, f: 2001, g: 2015, h: unknown

N/A: Not Applicable

-: No data

*: Status under the EPBC Act and TPWC Act until 2018

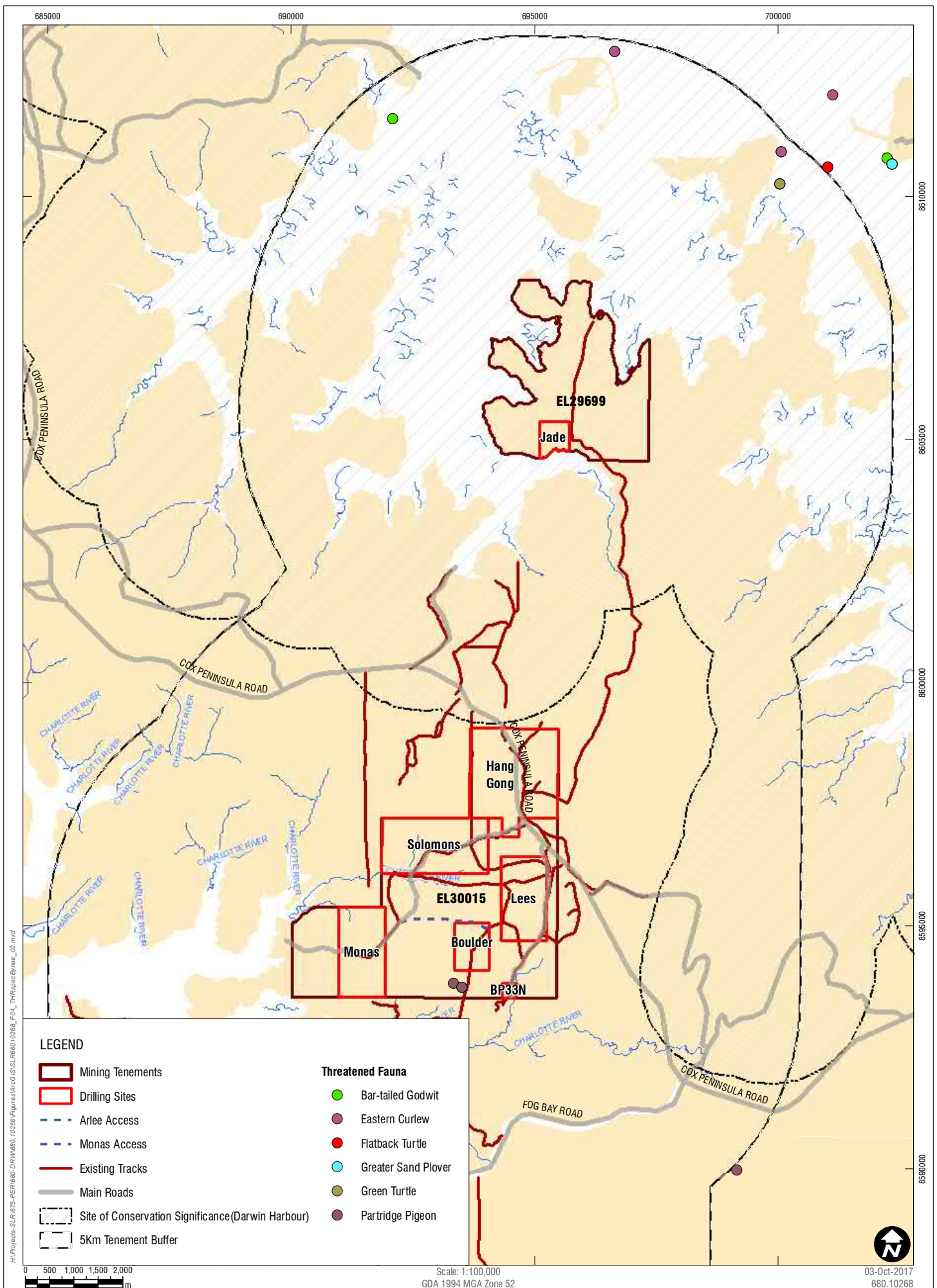
**: Listed as *Pristis microdon* under the TPWC Act

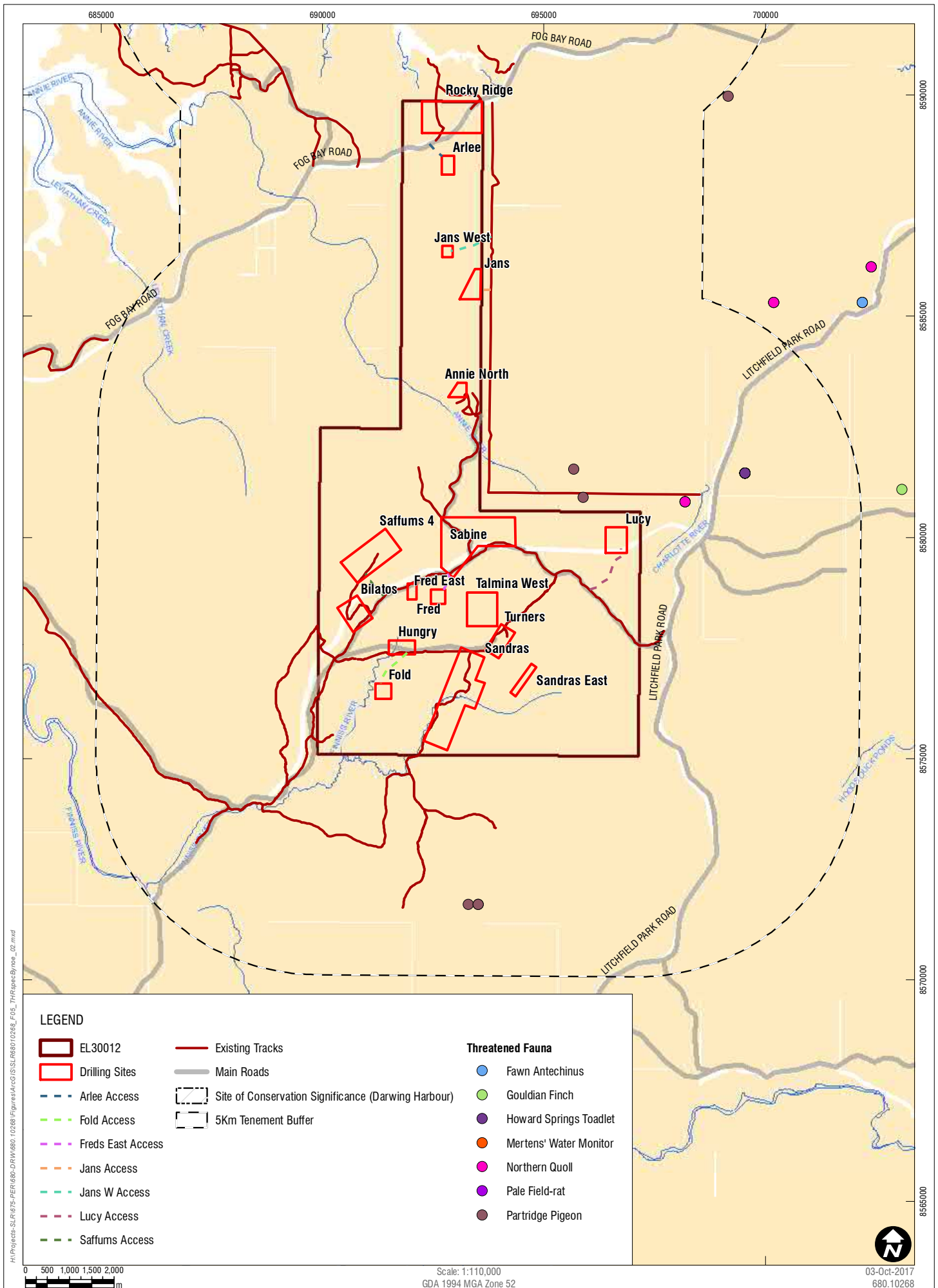
4.4 Feral Animals

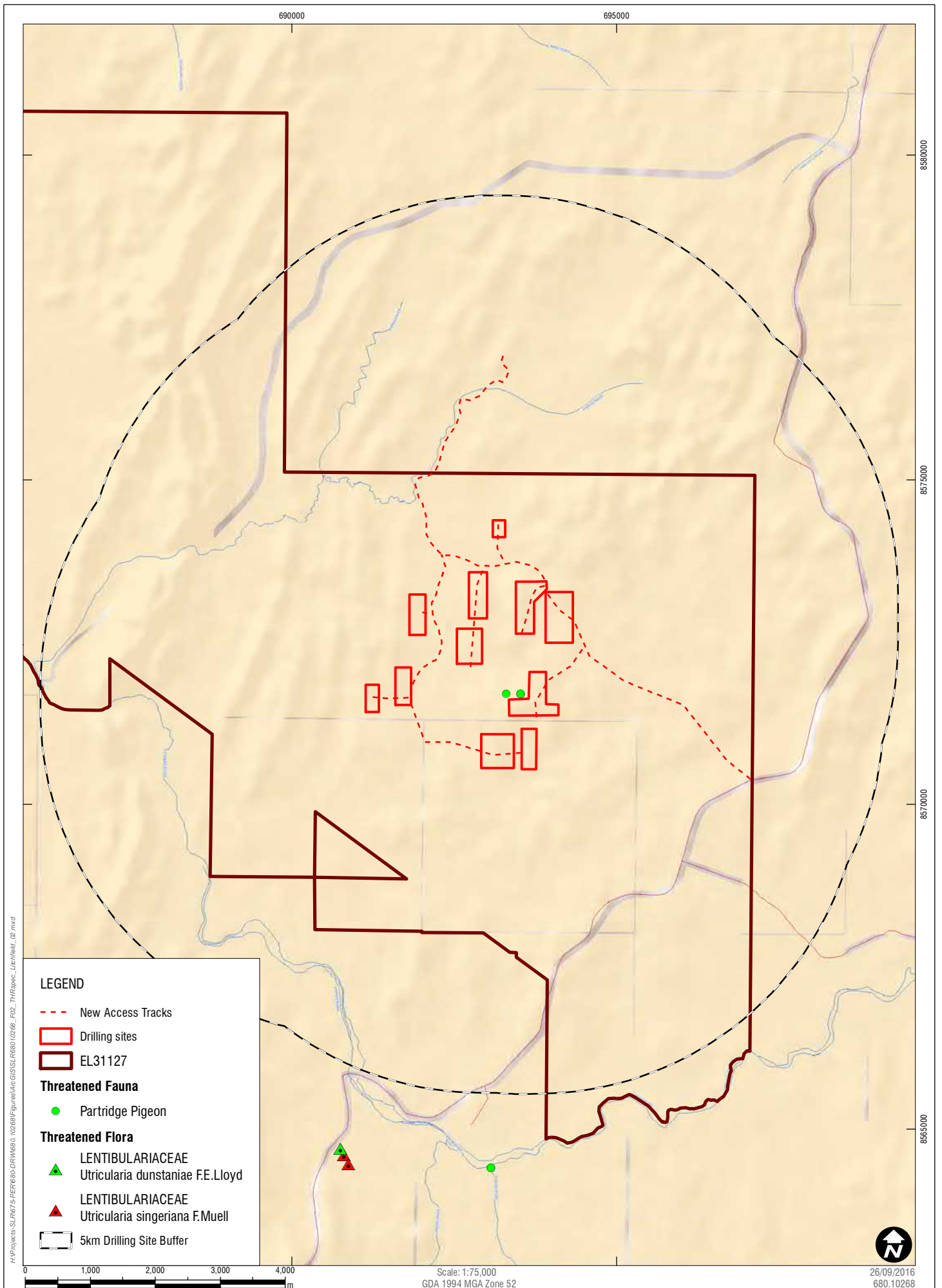
The databases indicated the following feral animal on or within 5 km or 10 km of the project tenements (NR Maps, **Appendix B**):

- Leviathan Project: 11 species –
 - Domestic Pigeon (*Columba livia*)
 - Domestic Cattle (*Bos taurus*)
 - Swamp Buffalo (*Bubalus bubalis*)
 - Domestic Dog (*Canis lupus familiaris*)
 - Horse (*Equus caballus*)
 - Domestic Cat (*Felis catus*)
 - House Mouse (*Mus musculus*)
 - Black rat (*Rattus rattus*)
 - Pig (*Sus scrofa*)
 - Asian House Gecko (*Hemidactylus frenatus*)
 - Flowerpot Blind Snake (*Ramphotyphlops braminus*)
- Annie Project: 11 species similar to the Leviathan Project.
- Bynoe Project: possible but not limited to, cane toads, cattle, pigs, cats and introduced rats.
- Finniss Project: Dingo (*Canis lupus*) and Pig (*Sus scrofa*) within 10 km of EL29698.
- Litchfield Project: Cattle (*Bos taurus*) within 5 km of EL31127.
- Sandpalms Project: possible but not limited to cattle, pigs, cats and introduced rats.
- Zola Project: possible but not limited to cattle, pigs, cats and introduced rats.

Management of these species, appropriate to the projects, is detailed in **Section 5**.



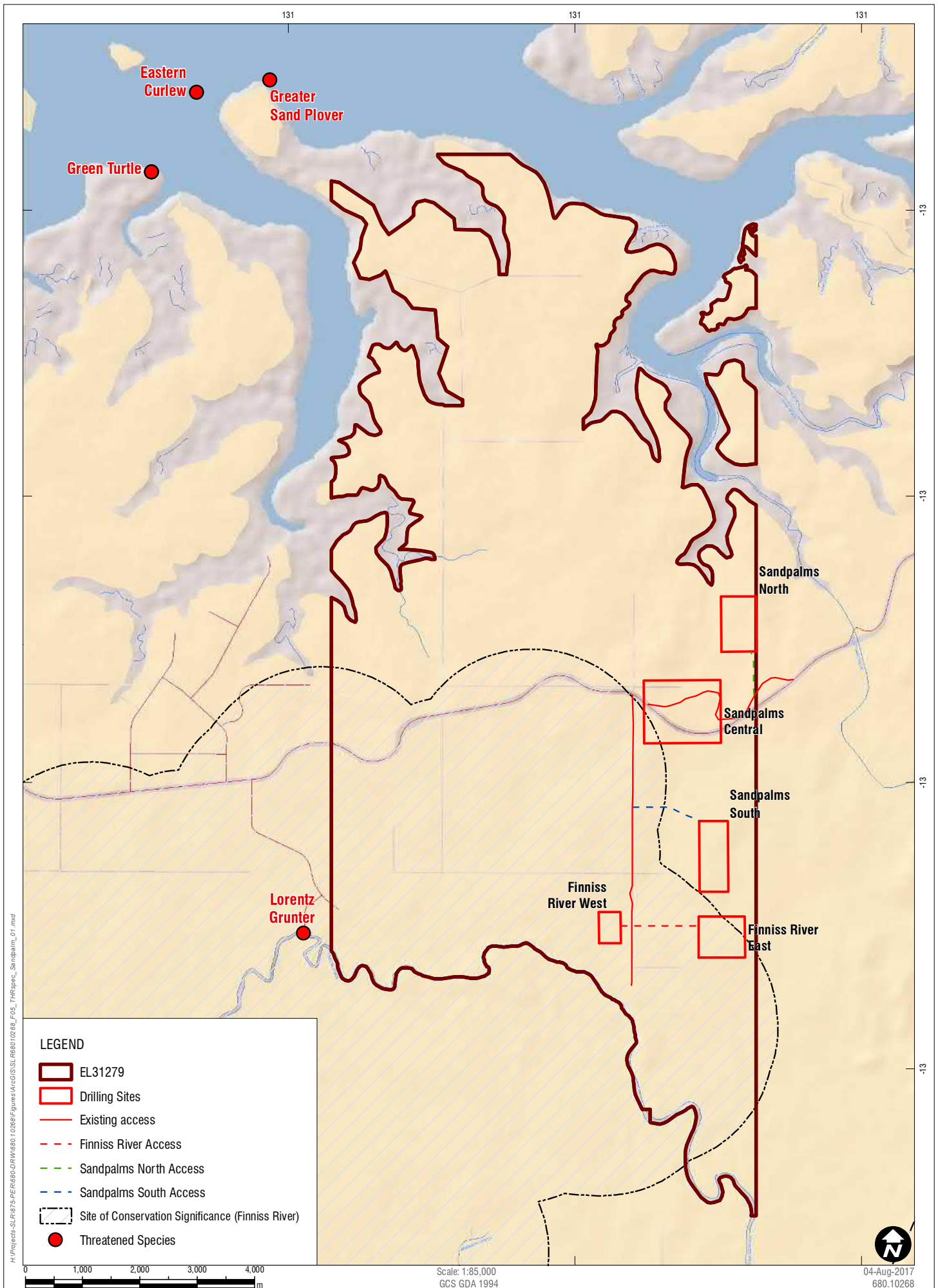


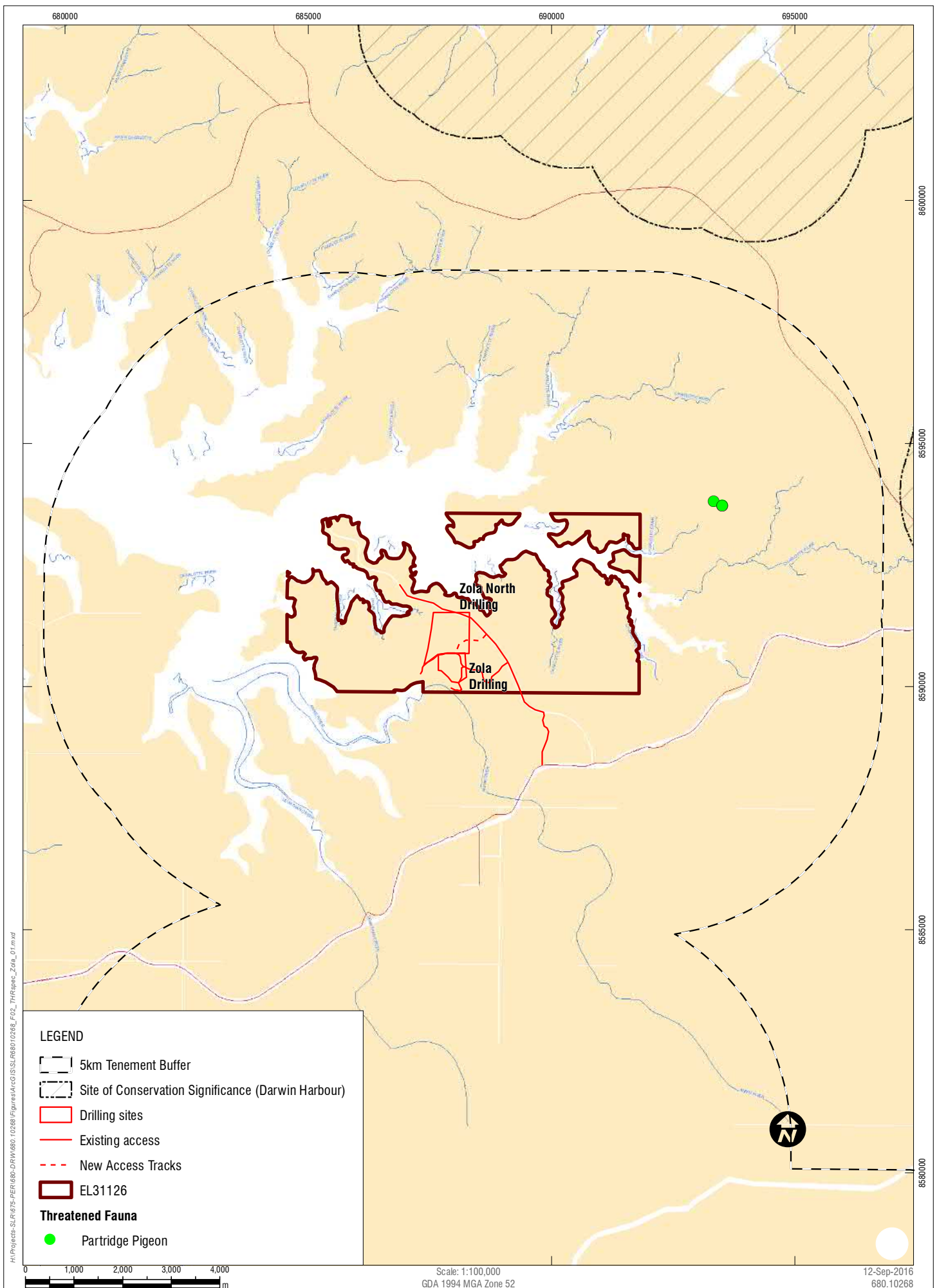


LITCHFIELD PROJECT AREA

Threatened Species on EL31127

FIGURE 13





LEGEND

- 5km Tenement Buffer
- Site of Conservation Significance (Darwin Harbour)
- Drilling sites
- Existing access
- New Access Tracks
- EL31126

Threatened Fauna

- Partridge Pigeon

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Scale: 1:100,000
GDA 1994 MGA Zone 52

12-Sep-2016
680.10268

5 Risk Assessments

5.1 Risk Assessment by Core Lithium

A qualitative risk assessment has been applied to the environmental risks associated with Core Lithium’s Bynoe Project. It has been applied in accordance with *AS/NZS ISO 31000:2009 Risk management – Principles and guidelines* (Standards Australia, 2009). Each environmental risk has been given a rating in terms of likelihood and consequence using the criteria in **Table 12** with the definitions outlined in **Table 13** and the results in Definitions of levels of potential impact (TSSC, 2015b). These ratings were then combined to generate a risk rating in the absence of mitigation measures (i.e. inherent risk) as well as following the application of the mitigation measures identified above (i.e. residual risk) (**Table 14**). The objective of the risk assessment process is to ensure that significant risks are identified and evaluated in order to ensure an appropriate level of risk treatment is applied to mitigate such risks.

Table 12 Environmental risk assessment – risk matrix

		Consequence		
		Low (little to no impact)	Medium (medium term negative impact)	High (irreversible or long-term impact)
Likelihood	High (>75% chance event will occur in life of plan)	4	7	9
	Medium (25-75% chance event will occur in life of plan)	2	5	8
	Low (<25% chance event will occur in life of plan)	1	3	6

Table 13 Environmental risk rating definitions

Risk Level	Risk Treatment Criteria
Low	No significant action or further assessments required Managed under existing operational controls Some mitigation may be required - no detailed assessment of factors and aspects required but addressed in management measures as routine controls
Moderate	Substantial mitigation required - assessment required of factors and aspects
High	Major mitigation action required - assessment required of factors and aspects
Critical	Potentially unacceptable - Urgent management and mitigation action required

Table 14 Results of the environmental risk assessment

Aspect	Impact	Inherent Risk Rating	Management Measures (prevention)	Management Measures (remediation)	Residual Risk Rating
Native vegetation disturbance	Potential for damage to native vegetation	M	<p>The Bynoe Project tenements have limited established access tracks, and these variably overgrown since last used intensively. These will be used where possible, but not all of the target areas are serviced by existing tracks and will require new access track construction.</p> <p>New tracks or drill pads at will need to be “cleared” along at least part of their length because the vegetation is thick, particularly with sandpalms.</p> <p>Naturally clear pathways between large trees will be utilised, but shrubs and grass will need to be driven over using a loader with blade-up techniques, thereby reducing the disturbance to the topsoil, and allowing for a greater chance of quick regeneration from in-situ root systems. Large trees will be avoided by not drilling near them and directing tracks around them.</p> <p>Difficult sandpalms will either be removed by the rootball or will be cut off at ground level with a chainsaw. The extent of this sandpalm problem can only be gauged once the access is being created. It is likely that the area will be burnt by the time access is being put in place, so the “clearing” process will be minimised further.</p>	<p>Where continued use of vehicle pathways results in the development of a firm track the site will be scarified after use to even the ground surface and encourage the regeneration of native vegetation.</p> <p>If vegetation is physically removed from the track route, it will be placed back over the track upon rehabilitation.</p>	L
Soil disturbance	Potential for erosion of soil due to exploration activities	M	<p>The drill sites/pads for this program will preferably be located in naturally clear areas and as such will not require clearing. Drill sites/pads will not be located within riparian zones. This greatly reduces the potential impact of the drilling in terms of soil disturbance, vegetation disturbance, and fauna habitat disturbance. This should be the case for many of the already-disturbed historic mine sites. However, at least some “clearing” will be required for drill pads, as described above. Regardless, allowance has been made in this MMP for all drill pads to be cleared.</p> <p>As discussed in the MMP, new access tracks are locally required to undertake this drill program. The tracks are planned to begin at existing tracks and/or public roads. The new tracks are located along routes designed to have the minimum impact on the natural environment, as determined from imagery and from field reconnaissance.</p> <p>The tracks are designed to avoid, when possible, steep topography and large or significant vegetation. The tracks will largely be simple flattened paths clear of upright vegetation, however, if vegetation is thick and not responding to flattening techniques, it may be necessary to physically remove specific vegetation (e.g., Sandpalms) off the track route, as described above. The tracks will not be graded or have topsoil cleared/removed. Vehicle speeds will be restricted (variant on style and condition of track). Core Lithium believes that by utilising these techniques the program will have only minor disturbance to the soil profile from its proposed new tracks and drill pads.</p> <p>Where soil is disturbed due to earthworks activities, where possible the topsoil will be separately stockpiled and restored in its correct position in the soil profile during rehabilitation.</p> <p>In the event of heavy rain, works will cease to prevent damage to tracks, soils and vegetation.</p>	<p>By utilising natural clear paths and avoiding soil disturbance constructing the new tracks, it is planned that little to no scarification will be necessary during rehabilitation. However, if it is deemed necessary and beneficial, tracks and drill pads will be scarified. Tracks will be blocked by vegetation to discourage future use by the general public.</p> <p>The speed restrictions on tracks will reduce the potential for tracks to degrade or “bull dust”.</p> <p>In the event that this occurs Core Lithium will endeavour to rehabilitate the problem area before continuing use.</p>	L
Scientific & cultural sites	Disturbance of sites of cultural or scientific interest	M	<p>There are no recorded specific scientific or cultural sites within the confines of the proposed work program. Where work areas or access tracks exist nearby to sites of significance, a sufficient buffer is put in place to minimise the chances of encroachment on the site. In addition, staff are alerted of the nearby existence of the site prior to works via the induction process.</p> <p>Disturbance of un-recorded sites will be avoided through fact sheets provided to field staff with feed-back as determined by the AAPA and the DEPWS Heritage Branch.</p>	<p>Any un-recorded culturally significant site that is encountered during reconnoitre will be avoided during clearing.</p> <p>If Core Lithium earthworks, by accident, encroach on a site, work will be suspended in that area while the AAPA is consulted.</p>	L
Fauna disturbance	Disturbance of vulnerable or endangered fauna	L	<p>A desktop study undertaken by environmental consultants SLR and has shown that the potential disturbance to fauna, especially threatened species, from this program is low. They did not recommend a specific on-ground survey of the work area. Regardless, suitably skilled Core Lithium personnel will walk new access tracks and drill pads prior to construction to avoid specific threatened fauna occurrences (see Section 6). All Employees will be inducted using the materials provided by SLR, including a threatened species identification information pack.</p>	<p>Any habitat that is damaged through Core Lithium works will be re-established.</p> <p>Recognition of NTG INFONET listed species or significant damage to fauna or fauna habitat will be reported to NT DEPWS by calling (08) 8995 5000.</p>	L
Flora disturbance	Disturbance of vulnerable or endangered flora	L	<p>Two threatened species possibly or likely occur within the proposed work areas – Armstrong’s Cycad, <i>Stylidium ensatum</i> and <i>Utricularia singeriana</i> (Appendix E) (refer Section 3.3 and Table 11).</p> <p>All Employees will be inducted to be able to recognise these species.</p>	<p>Recognition of NTG INFONET species or damaged flora of significance will be reported to NT DEPWS by calling (08) 8995 5000.</p> <p>Individuals of Armstrong’s Cycad will be avoided, or where disturbance is unavoidable, managed in accordance with the process described in Section 6.</p>	L

Aspect	Impact	Inherent Risk Rating	Management Measures (prevention)	Management Measures (remediation)	Residual Risk Rating
			Disturbance of vegetation will be minimised by careful management of all earthworks. Individuals of Armstrong's Cycad will be avoided, or where disturbance is unavoidable, managed in accordance with the process described in Section 6 . Suitably skilled personnel will walk new access tracks and drill pads prior to construction to identify any species of conservation significance. In the case of <i>Stylidium ensatum</i> and <i>Utricularia singeriana</i> , should Core Lithium be undertaking ground-disturbing activities within the preferred vegetation community (Drainage Open Woodland), where possible, drilling will be confined to the drier and rockier parts of the landscape, avoiding wet sandy substrates.	Whilst several individuals of Armstrong's Cycad may exist in the areas proposed for drilling activities (including new tracks), the avoidance and/or translocation measures detailed in Section 6 are likely to reduce the residual level of potential impact sufficiently. For example, all individuals of the species will be avoided as much as possible and even where there may be impacts to a small number of individuals (<10), given that the species is locally abundant (Clugston & Nagalingum, 2016; Kerrigan et al, 2006), it is expected that such impacts are unlikely to be significant. Where there is a higher number of individuals (>10) that may be unavoidably impacted, they should be translocated as per the guidelines in Section 6 . The implementation of the above measures (as detailed in Section 6) is likely to ensure: <ul style="list-style-type: none"> Minimal impact on local population numbers Area affected negligible compared to total population Minimal or acceptable impact on population size.	
Visual impact	Evidence of increased vehicle activity in the area.	L	Through implementing the land use techniques discussed in this document Core Lithium is reducing the impact of the program on the environment and therefore having a lesser effect on the visual impact on the area. All works are well off the main roads and won't be visible or audible to passers-by in vehicles. There are no residences within 5 km of the work area.	It is expected that once the program is completed and rehabilitation has taken place the evidence of the work program on the area will be restricted to increased tyre tracks due to increased traffic in an otherwise rarely used area, it will be evident that vehicles have used the new proposed tracks and the drillhole locations will be visible due to the lack of grasses and other small vegetation in the immediate radius of the hole. Over time natural regeneration will remediate the visual impacts of this program to their pre disturbance state.	L
Fire	Ignition of a fire from hot exhausts/ equipment Threat to safety of people or equipment by wild fire	L	Core Lithium believes fire risk from this program is likely to be minimal, as it will have been burnt by the regular burning regime of the Bushfires NT (Government). However, if work areas have not been burnt, there is a high risk of a wild fire starting in the area (generally by members of the public) and resulting in a threat to Core Lithium people and equipment. Drilling operations will cease on total fire ban days, unless the area has previously been burnt and no grass fire risk exists. No vehicles with petrol engines which can have hot exhausts will be allowed on site, except for ATV's and quadbikes with sufficient fire control measures in place. This should drastically reduce the chances of Core Lithium starting a fire. All vehicles will carry fire extinguishers and shovels. Vehicles and equipment will be parked on open ground.	For non-emergency situations call NT Emergency Services 24-hour call 131 444 For information on controlled burns call Bushfires NT: <ul style="list-style-type: none"> Batchelor office (08) 8976 0098 Darwin office (08) 8922 0844 	L
Groundwater contamination	Cross contamination of fresh aquifers with saline aquifers	L	There is little or no cross contamination of aquifers expected during this program, as all groundwater is in tight fracture controlled situations.	If significant aquifers are encountered cement plugs will be placed between and above aquifers to preserve the integrity of the seals. Water Resources will be consulted first by calling (08) 8999 4455.	L
Surface drainage interference	Disturbance of natural drainage systems and erosion	L	The proposed work area has only minor low-order surface drainage with no significant or steeply banked drainage systems. No clearing will occur within 25 m of any significant drainage features and will follow the guidelines discussed in the proposed impact reduction and mitigation section of the MMP.	Any works will be removed/cleared at the completion of the program back to as close to its original state as possible.	L
Introduced weeds	Introduction and spread of weeds from vehicles and equipment	M	Core Lithium anticipates that the risk from introduced species is low for this work program. Induction processes will inform all Employees of potential weed species and their management to prevent weed propagation. As a precautionary measure Core Lithium will ensure that all Core Lithium staff and contractors vehicles are cleaned before entering the site and when moving between sites, to reduce the risk of contamination. Fact sheets and/or weed-decks will be distributed to Core Lithium staff during the program.	Weed monitoring will be periodically ongoing to ensure any blow down areas do not become infested. Weeds Hotline number is 1800 084 881 Weeds Management Branch (08) 8999 4567	L
Feral Animals	Increased potential for disturbance by introduced animals such as horses or feral pigs.	L	Monitoring. Manage impacts.	Treatment of disturbed areas.	L
Rubbish and waste	Contamination of drill sites and tracks with rubbish and waste	H	Core Lithium will induct all staff and contractors on the appropriate actions when dealing with rubbish and waste.	All rubbish at the drill sites will be collected and removed from site.	L
Soil contamination exposure	Exposure of contaminants such as hazardous materials or ASS	L	Monitoring during drilling and appropriate control if suspected contaminated materials located	Appropriate remediation, if required. All contaminated material will be disposed of in accordance with relevant legislation	L

Aspect	Impact	Inherent Risk Rating	Management Measures (prevention)	Management Measures (remediation)	Residual Risk Rating
Landowner activities/interests	Disturbance of landowner activities/assets	H	As the land is freehold land owned by the NT Government there are no landowner activities or interests present on the site.	The exploration manager will be responsible for managing any unforeseen conflicts with the wishes of the stakeholders.	L
Fuel Storage	Hydrocarbon leak / spill – contamination of soil, surface and ground water	H	No refuelling is to take place within 50m of any water source. Spill Kits and absorbent matting will be available at all areas where there is potential to spill hydrocarbons (ie drill sites). Where possible, full or partial bunding will be deployed to storage tanks/drums to contain any leaks (exceptions include fitted vehicle fuel tanks). Water based dust suppression, where required.	Any contaminated soil will be removed, bagged and disposed of at an appropriately licenced facility with contaminated areas replaced with clean topsoil. All leaks of hydrocarbons over 20L will be recorded as an environmental incident and will thus be fully investigated and reported to the Department with the rehabilitation report. Environmental Emergency procedures are outlined in the MMP.	L
Air Quality	Potential for excessive dust	L	Dust suppression of access roads and mining areas, where required.	Water based dust suppression, where required.	L
Public or third party activities	Disturbance of public activities. Access by unauthorized parties to drill sites.	H	The area is frequented by pig hunters and ATV enthusiasts, and as such there is potential for Core Lithium’s programs to come into contact with these people. Signs will be placed at all public entrances stating no unauthorised access to the immediate drill work area. Core Lithium have no authority to deny access to the work area more generally, but the new access tracks will need to be made impassable as soon as possible after drilling.	Any unauthorized access to drill sites will be managed by the supervising geologist who will be on site at all times while drilling.	L

5.2 Risk Assessment by SLR Consulting

In addition to the Risk Assessment (**Section 5.1**) carried out by Core Lithium, a qualitative risk assessment has also been carried out by Environmental Consultants SLR Consulting, based on the desktop biodiversity assessments. Based on the results of the assessment of likelihood of occurrence of threatened species in **Section 4.3**, an additional assessment of potential (inherent) impacts to these species was undertaken. The ratings used to define the levels of potential residual impacts to the species are shown in **Table 15**. The results of the assessment are provided in **Table 16**. Note that these assessments relate to inherent potential impacts, that is, prior to the application of recommended impact avoidance and mitigation measures.

The previous sections have assessed the likelihood of occurrence of a range of threatened species, the inherent and residual potential impacts to species determined to possibly occur within the drilling areas and tracks, and their recommended avoidance and mitigation measures. With the measures provided in the MMP to avoid or mitigation impacts to species of concern, it is expected that the residual potential impact to each threatened species assessed is insignificant.

Table 15 Definitions of levels of potential impact (TSSC, 2015b)

Consequence	Insignificant 1	Minor 2	Moderate 3	Major 4	Critical 5
Impact on population¹	Minimal impact on local population numbers; area affected negligible compared to total population; minimal or acceptable impact on population size	Minor impact on local population numbers. Population in other locations not impacted	Moderate impact on local population numbers. Some impacts on populations in other locations; moderate and/or short term effects	Major population reduction or loss of local population; recovery measured in years to decades; serious and significant impact on species	Population reduction which may result in species extinction; recovery period is greater than decades; very significant and serious impact on high value species
Fragmentation of habitat/loss of habitat connectivity/reduce the areas of occupancy²	Minimal losses of local habitat only, recovery likely in a relatively short period of time; threats are covered by current management or legislation	Minor losses of local habitat requiring recovery over short term	Moderate loss of local habitat requiring recovery over a short to medium term and resulting in loss of connectivity between habitats at a local scale	Loss of local habitat with no potential for recovery, or partial loss of habitat across large areas and/or with limited potential for recovery in the medium to long term. Results in a net reduction in connectivity over a large area	Complete loss of local habitat with no potential for recovery and loss of habitat in other locations with limited potential for recovery in the long term resulting in a significant impact on habitat connectivity over a large area
Impact on the habitat critical to the survival of the species³	Minimal modification, destruction, removal or decrease of local habitat only, recovery likely in a relatively short period of time; insignificant impact to habitat or threat activity only occurs in a very small area of habitat; limited damage to minimal area of low significance; minor effects on physical environment	Minor modification, destruction, removal or decrease of local habitat requiring recovery over short term	Moderate modification, destruction, removal or decrease of local habitat requiring recovery over a short to medium term and resulting in loss of connectivity between habitats at a local scale	Modification, destruction, removal or loss of local habitat with no potential for recovery, or partial loss of habitat across large areas and/or with limited potential for recovery in the medium to long term. Results in a net reduction in connectivity over a large area; habitat is affected which may endanger the species and habitat long term survival – 70-90% habitat affected or removed; 30% fragile habitat affected or removed; 10-20% critical habitat affected or removed;	Significant impact resulting in the removal, destruction, fragmentation and degradation of habitat; the entire habitat is in danger of being affected or removed, that >90% habitat, >50% fragile habitat, and >30% critical habitat
Disruption to breeding cycle⁴	Minimal impact on any aspect of the breeding cycle;	Minor disruption to the breeding cycle	Moderate disruption to breeding cycle resulting in modification of behaviour both within the direct impact zone and at nearby locations; long term recruitment and/or population dynamics are not adversely impacted	Direct impacts on breeding cycle resulting in a net decline in size of the population; the is limited information to judge the impact	Complete disruption of breeding cycles over several seasons with significant population decline and possible extinction
Impact of invasive species and/or disease⁵	Minimal impact on local population numbers or habitat quality	Minor impact on local population numbers or habitat quality. Population in other locations not impacted	Moderate impact on local population numbers or habitat quality. Some impacts on populations in other locations	Major population reduction or loss of local population or loss of habitat quality	Population reduction which may result in species extinction loss of critical habitat extent or quality
Interaction with species migration	Minimal impact on species migratory patterns	Results in minor behavioural modification on a local scale or impacts to physical conditions of animal interfering with migration for the short term only. Unlikely to negatively impact on the overall success of migration	Results in modification of behaviour or animal conditions such that there is potential for medium term impacts, with some possibility of individuals failing to complete migration	Results in modification of behaviour or animal condition such that there is potential for medium to long term impacts, both locally and in nearby locations, with some individuals failing to complete migration	Significant impact resulting in either complete failure, or failure of majority of individuals, to complete migration in that cycle

¹ Refers to the proportional changes to the numbers of individuals; change in the size of the population

² Refers to the physical destruction of the species habitat and/or chemical or physical barriers

³ Refers to species habitat resource includes modify, destroy, isolate or decrease the availability or quality of habitat

⁴ Breeding cycle including activities associated with breeding (mating, gestation, nesting). Assessment assumes that the species is present in the affected area during the breeding cycle

⁵ Refers to the invasive species that is harmful to the species becoming established in the species habitat and introduced disease that may cause the species to decline

Table 16 Level of potential inherent and residual impacts to threatened species possible or likely to occur within the project drilling areas

Common Name	Scientific Name	Level of Potential Impact - Inherent ⁶	Level of Potential Impact - Residual ⁷
FLORA			
Armstrong's Cycad	<i>Cycad armstrongii</i>	<p>All Project Areas</p> <p>Minor – several individuals of the species may occur within areas proposed for development of access tracks or drill pads and may be damaged as a result of unmanaged activities. This could have a minor impact on local population numbers (as per the definition in Table 15).</p>	<p>All Project Areas</p> <p>Insignificant – whilst several individuals may exist in the areas proposed for drilling activities (including new tracks), the avoidance and/or translocation measures detailed in the MMP are likely to reduce the residual level of potential impact sufficiently. For example, all individuals of the species will be avoided as much as possible and even where there may be impacts to a small number of individuals (<10), given that the species is locally abundant (Clugston & Nagalingum, 2016; Kerrigan <i>et al</i>, 2006), it is expected that such impacts are unlikely to be significant. Where there is a higher number of individuals (>10) that may be unavoidably impacted, they should be translocated as per the guidelines in Section 6.</p> <p>The implementation of the measures (as detailed in Section 6) is likely to ensure that the definition for an 'insignificant' impact (as per Table 15) is achieved, as follows:</p> <ul style="list-style-type: none"> • Minimal impact on local population numbers • Area affected negligible compared to total population <p>Minimal or acceptable impact on population size.</p>
Trigger Plant, Annual herb	<i>Stylidium ensatum</i>	<p>Bynoe, Finniss Project Areas</p> <p>Minor – disturbances to the species habitat from the proposed exploration activities are considered to be minor and short term given the limited amount of vegetation clearance required within the species preferred habitat (Drainage Open Woodland).</p>	<p>Bynoe, Finniss Project Areas</p> <p>Insignificant – Where exploration activities are proposed to be undertaken within the preferred vegetation community (Drainage Open Woodland), Core will, where possible, confine drilling to the drier and rockier parts of the landscape, avoiding wet sandy substrates.</p>
Bladderwort	<i>Utricularia dunstaniae</i>	<p>Litchfield Project</p> <p>Minor - given that Litchfield drilling areas 5 and 8 could both contain potentially suitable habitat ('drainage open woodland' containing <i>Melaleuca nervosa</i> and <i>Eriachne burkittii</i>), there are known locations of the species in relative close proximity to the drilling areas and this sub-populations measures approximately 50 x 5 m, there may be additional sub-populations not yet identified, and a sub-populations are small in number, it is considered possible that the drilling activities would have a minor impact (if not managed appropriately) due to:</p> <ul style="list-style-type: none"> • Loss of a few individuals. • Loss or modification of local habitat quality requiring recovery over short term. 	<p>Litchfield Project</p> <p>Insignificant – the avoidance and mitigation measures listed in Section 6 are considered adequate to reduce the level of potential impact sufficiently to both <i>Utricularia</i> species. For example, drilling areas will be targeted to those areas of the local environment that comprise drier and rockier habitats, thereby avoiding any potential impact to the species preferred habitat (wet sand in <i>Melaleuca nervosa</i> woodland or <i>Verticordia</i> shrubland) (Kerrigan and Cowie, 2012). In these areas, any new tracks will be created by flattening the vegetation with the vehicle tyres. This will ensure that the root structure and surface soil stability is retained. Tracks are not expected to be scraped with earthmoving equipment.</p>
		<p>Zola Project</p> <p>Minor – disturbances to the species habitat from the proposed exploration activities are considered to be minor and short term given the limited amount of vegetation clearance required within the species preferred habitat (Drainage Open Woodland).</p>	<p>Zola Project</p> <p>Insignificant – Where exploration activities are proposed to be undertaken within the preferred vegetation community (Drainage Open Woodland), Core Lithium will, where possible, confine drilling to the drier and rockier parts of the landscape, avoiding wet sandy substrates.</p> <p>In order to minimise direct and indirect impact on the potential habitat, diversions of tracks and/or avoiding the removal of ground cover on that portion of the track may also be implemented.</p>
		<p>Litchfield Project</p>	<p>Litchfield Project</p>

⁶ Level of potential impact prior to the application of impact avoidance or mitigation measures

⁷ Level of potential impact following the application of impact avoidance and mitigation measures (detailed in the MMP)

Common Name	Scientific Name	Level of Potential Impact - Inherent ⁶	Level of Potential Impact - Residual ⁷
Bladderwort	<i>Utricularia singeriana</i>	Minor – given that Litchfield drilling areas 5 and 8, and a small portion of Litchfield drilling area 10, contain potentially suitable habitat ('drainage open woodland' containing <i>Melaleuca nervosa</i>), and that there are known sub-populations in close relative proximity to the drilling areas (nearest 6-7 km south-east), it may be possible that additional sub-populations are present and could be impacted if not managed appropriately due to: Loss of, or damage to, a few individuals Loss or modification of local habitat quality requiring recovery over short term.	Insignificant – the avoidance and mitigation measures listed in Section 6 are considered adequate to reduce the level of potential impact sufficiently to both <i>Utricularia</i> species. For example, drilling areas will be targeted to those areas of the local environment that comprise drier and rockier habitats, thereby avoiding any potential impact to the species preferred habitat (wet sand in <i>Melaleuca nervosa</i> woodland or <i>Verticordia</i> shrubland) (Kerrigan and Cowie, 2012). In these areas, any new tracks will be created by flattening the vegetation with the vehicle tyres. This will ensure that the root structure and surface soil stability is retained. Tracks are not expected to be scraped with earthmoving equipment.
		Zola Projects	Zola Projects
		Minor – disturbances to the species habitat from the proposed exploration activities are considered to be minor and short term given the limited amount of vegetation clearance required within the species preferred habitat (Drainage Open Woodland).	Insignificant – Where exploration activities are proposed to be undertaken within the preferred vegetation community (Drainage Open Woodland), Core Lithium will, where possible, confine drilling to the drier and rockier parts of the landscape, avoiding wet sandy substrates. In order to minimise direct and indirect impact on the potential habitat, diversions of tracks and/or avoiding the removal of ground cover on that portion of the track may also be implemented.
FAUNA			
Birds			
Australian Bustard	<i>Ardeotis australis</i>	Sandpalms Project	Sandpalms Project
		Insignificant – any disturbances to the species from the exploration activities not considered to be significant given small area of habitat to be modified, the mobile nature of the species and the minimal impact to its breeding cycle.	Insignificant
Red Goshawk	<i>Erythrorchis radiatus</i>	All Project Areas	All Project Areas
		Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the minimal modification/ destruction/ removal of potential habitat, the mobile nature of the species and the minimal impact to its breeding cycle.	Insignificant
Partridge Pigeon (eastern)	<i>Geophaps smithii smithii</i>	All Project Areas	All Project Areas
		Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the minimal modification/ destruction/ removal of potential habitat, the mobile nature of the species and the minimal impact to its breeding cycle.	Insignificant
Eastern Curlew	<i>Numenius madagascariensis</i>	Sandpalms Project	Sandpalms Project
		Insignificant – any disturbances to the species from the exploration activities not considered to be significant given small area of habitat to be modified, the mobile nature of the species and the minimal impact to its breeding cycle.	Insignificant
Lorentz's Grunter	<i>Pingalla lorentzi</i>	Litchfield Project	Litchfield Project
		Insignificant – given remote possibility of the species occurring in region, it may be possible that new tracks traverse the species' potential habitat. However, any impacts are likely to be insignificant given the small scale of activities proposed.	Insignificant
Masked Owl (northern)	<i>Tyto novaehollandiae Kimberli</i>	All Project Areas	All Project Areas
		Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the minimal modification/ destruction/ removal of potential habitat, the mobile nature of the species and the minimal impact to its breeding cycle.	Insignificant

Common Name	Scientific Name	Level of Potential Impact - Inherent ⁶	Level of Potential Impact - Residual ⁷
Mammals			
Fawn Antechinus	<i>Antechinus bellus</i>	All Project Areas Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the minimal modification/ destruction/ removal of potential habitat, the mobile nature of the species and the minimal impact to its breeding cycle.	All Project Areas Insignificant
Brush-tailed Rabbit-rat	<i>Conilurus penicillatus</i>	Bynoe, Finniss, Litchfield Project Areas Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the minimal modification/ destruction/ removal of potential habitat, the mobile nature of the species and the minimal impact to its breeding cycle.	Bynoe, Finniss, Litchfield Project Areas Insignificant
Northern Quoll	<i>Dasyurus hallucatus</i>	Leviathan, Annie, Bynoe, Litchfield, Sandpalms and Zola Project Areas Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the minimal modification/ destruction/ removal of potential habitat, the mobile nature of the species and the minimal impact to its breeding cycle.	Leviathan, Annie, Bynoe, Litchfield, Sandpalms and Zola Project Areas Insignificant
Ghost Bat	<i>Macroderma gigas</i>	Leviathan, Annie, Bynoe, Finniss, Litchfield Project Areas Insignificant – any disturbances to the species from the exploration activities are not considered to be significant given the small area of habitat to be modified, no caves will be disturbed, the mobile nature of the species and the minimal impact to its breeding cycle.	Leviathan, Annie, Bynoe, Finniss, Litchfield Project Areas Insignificant
Black-footed Tree-rat	<i>Mesembriomys gouldii gouldii</i>	All Project Areas Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the minimal modification/ destruction/ removal of potential habitat, the mobile nature of the species and the minimal impact to its breeding cycle.	All Project Areas Insignificant
Northern Brush-tailed Phascogale	<i>Phascogale pirate</i>	Leviathan, Annie, Bynoe and Litchfield Project Areas Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the minimal modification/ destruction/ removal of potential habitat, the mobile nature of the species and the minimal impact to its breeding cycle.	Leviathan, Annie, Bynoe and Litchfield Project Areas Insignificant
Bare-rumped Sheathtail Bat	<i>Saccolaimus saccolaimus nudicluniatus</i>	Bynoe, Finniss Project Areas Insignificant – any disturbances to the species from the exploration activities are not considered to be significant given the small area of habitat to be modified, no caves will be disturbed, the mobile nature of the species and the minimal impact to its breeding cycle.	Bynoe, Finniss Project Areas Insignificant
Pale Field-rat	<i>Rattus tunneyi</i>	Bynoe, Litchfield, Zola Project Areas Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the preferred habitat (dense vegetation along creeks) is unlikely to be impacted, the mobile nature of the species and the minimal impact to its breeding cycle.	Bynoe, Litchfield, Zola Project Areas Insignificant
Reptiles			
		Bynoe, Litchfield, Zola Project Areas	Bynoe, Litchfield, Zola Project Areas

Common Name	Scientific Name	Level of Potential Impact - Inherent ⁶	Level of Potential Impact - Residual ⁷
Mertens Water Monitor	<i>Varanus mertensi</i>	Insignificant – there will be a limited amount of vegetation clearance required and, at most, very few creeks will require traversing.	Insignificant
Mitchell's Water Monitor	<i>Varanus mitchelli</i>	Bynoe, Litchfield, Zola Project Areas	Bynoe, Litchfield, Zola Project Areas
		Insignificant – there will be a limited amount of vegetation clearance required and, at most, very few creeks will require traversing.	Insignificant
Yellow-spotted Monitor	<i>Varanus panoptes</i>	Bynoe, Litchfield, Sandpalms, Zola Project Areas	Bynoe, Litchfield, Sandpalms, Zola Project Areas
		Insignificant – there will be a limited amount of vegetation clearance required and, at most, very few creeks will require traversing.	Insignificant
Amphibians			
Howard Springs Toadlet	<i>Uperoleia daviesae</i>	Bynoe Project Area	Bynoe Project Area
		Insignificant – any disturbances to the species from the proposed exploration activities are not considered to be significant given the lack of suitable habitat at proposed drill locations. Results from recent surveys appear to suggest that the Howard River toadlet is confined to sandsheet heathland within the Howard and Elizabeth River Catchments close to Darwin (Fisher et al. 2011).	Insignificant

6 Management

6.1 Sensitive/significant vegetation Management

Where a drainage depression or watercourse is mapped to occur within a project area it is recommended that a clearing buffer is implemented around these features. Recommended widths of riparian vegetation buffers within the *Land clearing guidelines* associated with the Northern Territory Planning Scheme (DENR, 2020) are provided in (Table 17).

The implementation of these buffers will protect sensitive or significant vegetation within the project areas and also preserve habitat values for a variety of local fauna and flora. Additionally, potential impacts to water quality from erosion will also be reduced by the implementation of these buffers.

Riparian vegetation occurs along the River Annie in ML31654 – Annie Project, as this is a second order stream, a 50 m buffer is recommended.

Table 17 Recommended widths for riparian buffers

Riparian class	Stream order	Minimum buffer width (m)	Measured from
Drainage depression	N/A	25	The outer edge of the drainage depression, which is the extent of the associated poorly drained soils and associated vegetation.
Intermittent streams	First	25	The outer edge of the riparian vegetation or levee (whichever is the greater). If braided channels are present, the edge of the outer most stream channel.
Intermittent streams	Second	50	
Creeks	Third and fourth	100	
Rivers	Fifth or higher	250	

6.2 Threatened Species Management

Core Lithium staff inductions include identification and avoidance measures for threatened and endangered flora and fauna in the area. The threatened species identification information pack used in these inductions is provided in the MMP. In addition, suitably skilled Core Lithium personnel will walk new access tracks and drill pads prior to construction to avoid specific threatened fauna occurrences.

6.2.1 *Cycas armstrongii*

The species is threatened by:

- Conversion of its habitat for residential and rural pursuits
- Through changes in prevailing fire regimes, facilitated by the influx of weeds into the species' habitat, resulting in enhanced fuel loads and higher intensity fires.
- The performance criterion and indicator for this issue includes the following:

- Number of Armstrong's Cycad individuals to be impacted and where relevant, the number successfully translocated.
- Number of seed collected, number of seed successfully grown into plants, number of seedlings successfully planted.
- Majority (>80 %) of translocated Armstrong's Cycad individuals survive two years after translocation.

Recognition

Armstrong's Cycad grows to a height of 6 m, with a slender trunk 6-12 cm in diameter. Branching occurs, with occasional offsets and basal suckers. The crown is obliquely erect to spreading, with 84-156 leaflets. Leaflets have a prominent midrib on the upper surface, and are attached to the rachis at an angle of about 56-70 degrees. Additional description is available in Hill (1996), Hill and Osborne (2001), Jones (2002) and Dixon (2004).

Management Measures

The following management measures have been formulated specifically for Armstrong's Cycad. Procedures for propagation and translocation are summarised from Origin Energy (2014).

Pre-Clearing Survey

The following measures should be employed prior to disturbance activities commencing:

- Proposed new tracks and drill sites should be surveyed by personnel suitably skilled in the recognition of Armstrong's Cycad. Should any individuals of Armstrong's Cycad be encountered within these areas, plants should be avoided as much as practically possible. Where it is anticipated that a substantial number of individuals (>10) cannot be avoided, the plants should be clearly marked for appropriate removal during clearing operations with the aim of translocation.
- The northern side of the plant should be marked with marker paint or fluorescent dye to facilitate re-planting with the same orientation.
- Seed encountered on the forest floor surrounding the plants should be collected for propagation and rehabilitation purposes, either elsewhere on the site or at the collection location once mining operations have ceased.

Operational Phase

The following measures should be employed during drilling operations, where a substantial number of plants (>10) cannot be avoided:

- During clearing operations, Armstrong's Cycad individuals marked during pre-clearing surveys must be removed for relocation in rehabilitation areas elsewhere on the site or for temporary storage for rehabilitation at a later date.

- Prior to removal, the area around plants must be cleaned by hand or with machinery (e.g. front end loader) and foliage removed to where the rhachis is attached to the stem. Using a spade, excavator or backhoe, soils surrounding the root ball is loosened prior to excavation ensuring that as much of the rootball around the plant roots remains intact. Damaged roots are to be trimmed and treated with Banrot® and/or Formula20®. To initiate root growth, Vitamin B or Seaweed can be sprayed on the roots. Roots are bagged in breathing material, such as hessian, and moistened with water prior to transport to a temporary holding location or to a prepared rehabilitation location elsewhere on the site. Care should be taken not to bruise plant stems during transport, using soft materials such as hessian to stabilise the plant.
- Upon arrival, plants are to be immediately potted or put into woven fibre planter bags for temporary holding or, if used for rehabilitation elsewhere on the site, in a prepared hole of a size suitable for the inserted root ball. Plants should be positioned in their original orientation. Washed sand or sandy loam should be used to for packing around the roots, to provide a suitable medium for root growth. The crown of each cycad must be sprayed with an insecticide (either Confidor® at a rate of application of 10 millilitres (mL) per 9 litres (L) of water or application of Crown® at a rate of application of 5 mL per 9 L of water). Translocated plants must also be watered with 5-9 L of water around each root ball with a systemic fungicide (Banrot® at the recommended rate). Rocks can be placed around the base of plants to assist in the stability of plants and to provide protection from fires and hot weather.
- Seed collected from the cleared areas must be propagated in pots using standard horticultural methods or direct seeded in areas to be rehabilitated.
- Translocation and propagation operations must be supervised by a suitably trained horticulturalist or arborist.

Post-Operation

The following measures should be employed following mining operations:

- Translocation of individuals held in the temporary storage area back to the original area of extraction must follow similar procedures as outlined above. Each plant must be watered about once a month (10-20 L) depending on rainfall for six months after replanting or as appropriate and any new expanding leaves must be sprayed with insecticide.
- Plants must be monitored for new growth, death, insect attack, reproduction, gender etc. for a period of at least two years after planting in the ground.

Monitoring and Reporting

Monitoring will be the responsibility of Core Lithium's Exploration Manager to ensure the health of translocated individuals in accordance with the performance indicators outlined above. This person will be responsible for reporting the number of individuals found on areas to be cleared (if any) to the Department of Industry, Tourism and Trade (DITT) upon completion of the pre-clearing search. Further reports will be submitted on completion of the initial translocation and once again on completion of replanting of the translocated stock on completion of mining and revegetation operations.

6.2.2 *Stylidium ensatum* and *Utricularia* Species

Management Measures

The following avoidance and mitigation measures should be employed for threatened *Stylidium* and *Utricularia* species. These will be focused on areas identified by vegetation mapping as having the potential for the presence of these species, largely the Drainage Open Woodland community.

Pre-Clearing Survey

The following measures should be employed prior to the commencement of disturbance activities involving clearing:

- Tracks and drill sites to be cleared of vegetation should be surveyed for the species' preferred habitat by suitably skilled personnel.
- Should the potential habitat for the species be encountered within areas to be disturbed, it should be marked using a GPS, and appropriate plans developed to avoid and/or minimise direct (e.g. removal through clearance) and indirect (e.g. changes to hydrology, erosion etc.) impacts during the operational phase. These plans should involve diverting new tracks around the sensitive habitat, or where avoidance is not possible, ensuring track development activities in these habitats do not involve scraping of the ground with earthmoving equipment.

Operational Phase

To manage indirect impacts to the species' habitat, the following should be adhered to:

1. Avoid drilling within 50 m of well-established watercourse.
2. The introduction, or ineffective control, of weeds that flourish in floodplain environments, especially Prickly Mimosa (*Mimosa pigra*) and Para Grass (*Urochloa mutica*), should be addressed.
3. Areas of wet sandy habitat should be avoided and drilling should be undertaken in the drier and rockier parts of the local landscape.
4. Activities relating to low impact exploration, such as ATV mapping and shallow ATV-based augering, are not likely to have a significant impact on this habitat. However, adherence to 1), 2), 3) and 4) will limit the risk.

6.3 Weed Management

It is the requirement and responsibility of the owner and occupier of land to adhere to the following measures under the NT Weeds Management Act:

- Take all reasonable measures to prevent the land being infested with a declared weed.
- Take all reasonable measures to prevent a declared weed or potential weed on the land spreading to other land.
- Within 14 days after first becoming aware of a declared weed that has not previously been, or known to have been, present on the land, notify an officer of the presence of the declared weed.

There are many weed species known to occur in the local area. Site inductions will include discussion on weed management and cover identification of main weed species declared under the Weeds Management Act or as WoNS (**Section 3.4**).

Exploration activities may result in introduction or spread of weed species if appropriate planning and weed control measures are not implemented. The following mitigations will be adopted (at a minimum) by Core Lithium to reduce weed impact on the site as a result of the exploration drilling operations.

All machinery and vehicles will be cleaned in suitable facility in Darwin (or site of origin) prior to mobilisation to site. Likewise, if moving between areas and at the completion of the program prior to demobilisation all vehicles and equipment will be washed / blown-down at site at the nominated weed washdown and inspection site.

No vehicles will go off-road on transit to site and approved access routes will be strictly adhered to.

Follow up weed monitoring activities will occur as part of site inspections conducted by Core Lithium, and will target weed blow down points, drill pads, and access tracks. Any suspected weeds will be photographed and supplied to an ecologist for identification. If weeds are identified, Core Lithium will inform DITT and initiate relevant controls for the species.

7 Feedback

At SLR, we are committed to delivering professional quality service to our clients. We are constantly looking for ways to improve the quality of our deliverables and our service to our clients. Client feedback is a valuable tool in helping us prioritise services and resources according to our client needs.

To achieve this, your feedback on the team's performance, deliverables and service are valuable and SLR welcome all feedback via <https://www.slrconsulting.com/en/feedback>. We recognise the value of your time and we will make a \$10 donation to our 2022 Charity Partner – Lifeline, for every completed form.

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APPENDIX A

Protected Matters Search Tool

Bynoe Project



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 20/09/17 12:41:26

[Summary](#)

[Details](#)

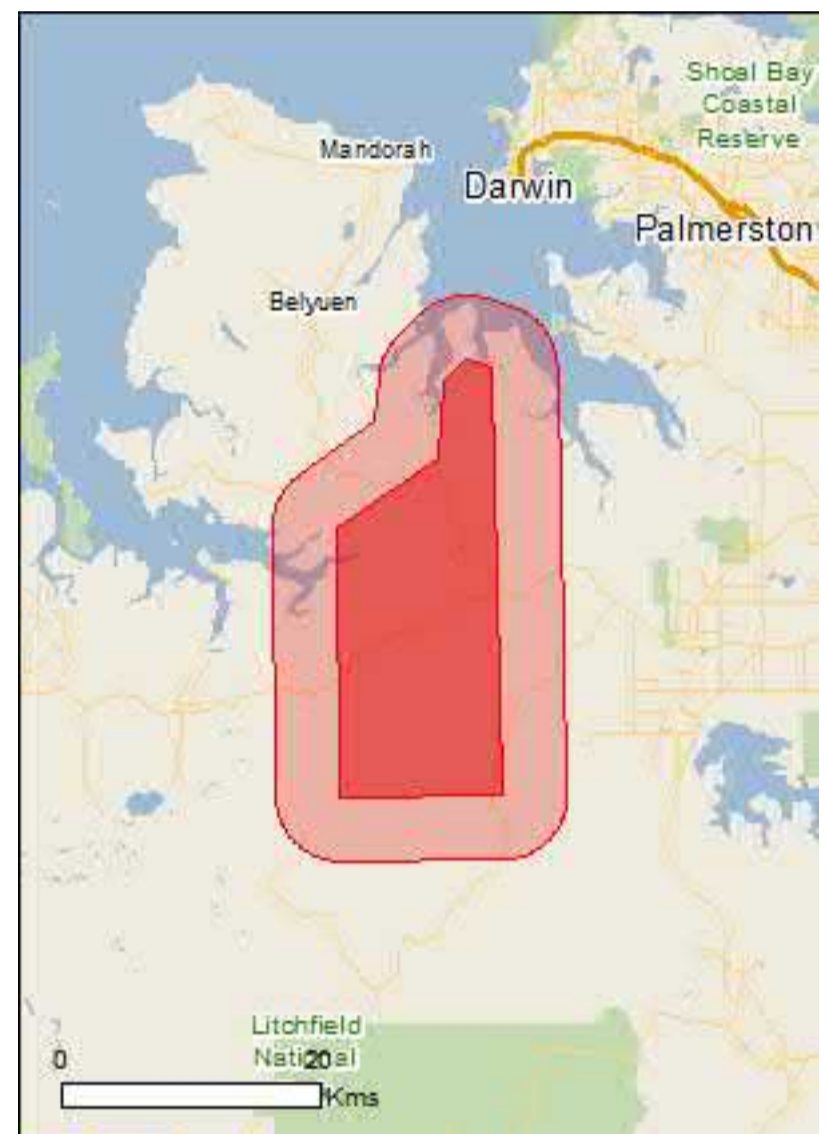
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

[Buffer: 5.0Km](#)



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	38
Listed Migratory Species:	55

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	94
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	23
Nationally Important Wetlands:	2
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
Geophaps smithii smithii Partridge Pigeon (eastern) [64441]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species

Name	Status	Type of Presence
Mammals		
Antechinus bellus Fawn Antechinus [344]	Vulnerable	Species or species habitat known to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Mesembriomys gouldii gouldii Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat likely to occur within area
Petrogale concinna canescens Nabarlek (Top End) [87606]	Endangered	Species or species habitat likely to occur within area
Phascogale pirata Northern Brush-tailed Phascogale [82954]	Vulnerable	Species or species habitat likely to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheath-tailed Bat, Bare-rumped Sheath-tail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area
Plants		
Stylidium ensatum a triggerplant [86366]	Endangered	Species or species habitat likely to occur within area
Reptiles		
Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or

Name	Status	Type of Presence
Natator depressus Flatback Turtle [59257]	Vulnerable	related behaviour known to occur within area Breeding known to occur within area
Sharks		
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat known to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Breeding known to occur within area

Name	Threatened	Type of Presence
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Migratory Terrestrial Species		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris alba Sanderling [875]		Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur

Name	Threatened	Type of Presence within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Defence - KANGAROO FLATS TRAINING AREA

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris alba Sanderling [875]		Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundo daurica Red-rumped Swallow [59480]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
Fish		
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus spirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paegnius Rough-snout Ghost Pipefish [68425]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammals		
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Reptiles		
Acalyptophis peronii Horned Seasnake [1114]		Species or species habitat may occur within area
Aipysurus duboisii Dubois' Seasnake [1116]		Species or species habitat may occur within area
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnston's River Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area
Enhydrina schistosa Beaked Seasnake [1126]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Hydrelaps darwiniensis Black-ringed Seasnake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Seasnake [1101]		Species or species habitat may occur within area
Hydrophis coggeri Slender-necked Seasnake [25925]		Species or species habitat may occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Hydrophis inornatus Plain Seasnake [1107]		Species or species habitat may occur within area
Hydrophis mcdowellii null [25926]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [1111]		Species or species habitat may occur within area
Hydrophis pacificus Large-headed Seasnake, Pacific Seasnake [1112]		Species or species habitat may occur within area
Lapemis hardwickii Spine-bellied Seasnake [1113]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Parahydrophis mertoni Northern Mangrove Seasnake [1090]		Species or species habitat may occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and other Cetaceans

[Resource Information]

Name	Status	Type of Presence
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Name	Status	Type of Presence
Mammals		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Breeding known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

Invasive Species [\[Resource Information \]](#)

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species

Name	Status	Type of Presence
habitat likely to occur within area		
Frogs		
Rhinella marina		
Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Bos taurus		
Domestic Cattle [16]		Species or species habitat likely to occur within area
Bubalus bubalis		
Water Buffalo, Swamp Buffalo [1]		Species or species habitat likely to occur within area
Canis lupus familiaris		
Domestic Dog [82654]		Species or species habitat likely to occur within area
Equus caballus		
Horse [5]		Species or species habitat likely to occur within area
Felis catus		
Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus		
House Mouse [120]		Species or species habitat likely to occur within area
Rattus rattus		
Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa		
Pig [6]		Species or species habitat likely to occur within area
Plants		
Andropogon gayanus		
Gamba Grass [66895]		Species or species habitat likely to occur within area
Brachiaria mutica		
Para Grass [5879]		Species or species habitat likely to occur within area
Cabomba caroliniana		
Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Cenchrus ciliaris		
Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Hymenachne amplexicaulis		
Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Jatropha gossypifolia		
Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Lantana camara		
Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Mimosa pigra		
Mimosa, Giant Mimosa, Giant Sensitive Plant, Thorny Sensitive Plant, Black Mimosa, Catclaw		Species or species habitat likely to occur

Name	Status	Type of Presence
Mimosa, Bashful Plant [11223] Parkinsonia aculeata		within area
Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Pennisetum polystachyon Mission Grass, Perennial Mission Grass, Missiongrass, Feathery Pennisetum, Feather Pennisetum, Thin Napier Grass, West Indian Pennisetum, Blue Buffel Grass [21194] Salvinia molesta		Species or species habitat likely to occur within area
Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area

Reptiles

Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area

Nationally Important Wetlands

[Resource Information]

Name	State
Finniss Floodplain and Fog Bay Systems	NT
Port Darwin	NT

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-12.576803 130.802416,-12.576803 130.80379,-12.582164 130.821642,-12.871507 130.828509,-12.872845 130.715899,-12.690706 130.713152,-12.642471 130.78319,-12.591546 130.78731,-12.576803 130.802416

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Finniss Project



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 27/06/16 12:11:39

[Summary](#)

[Details](#)

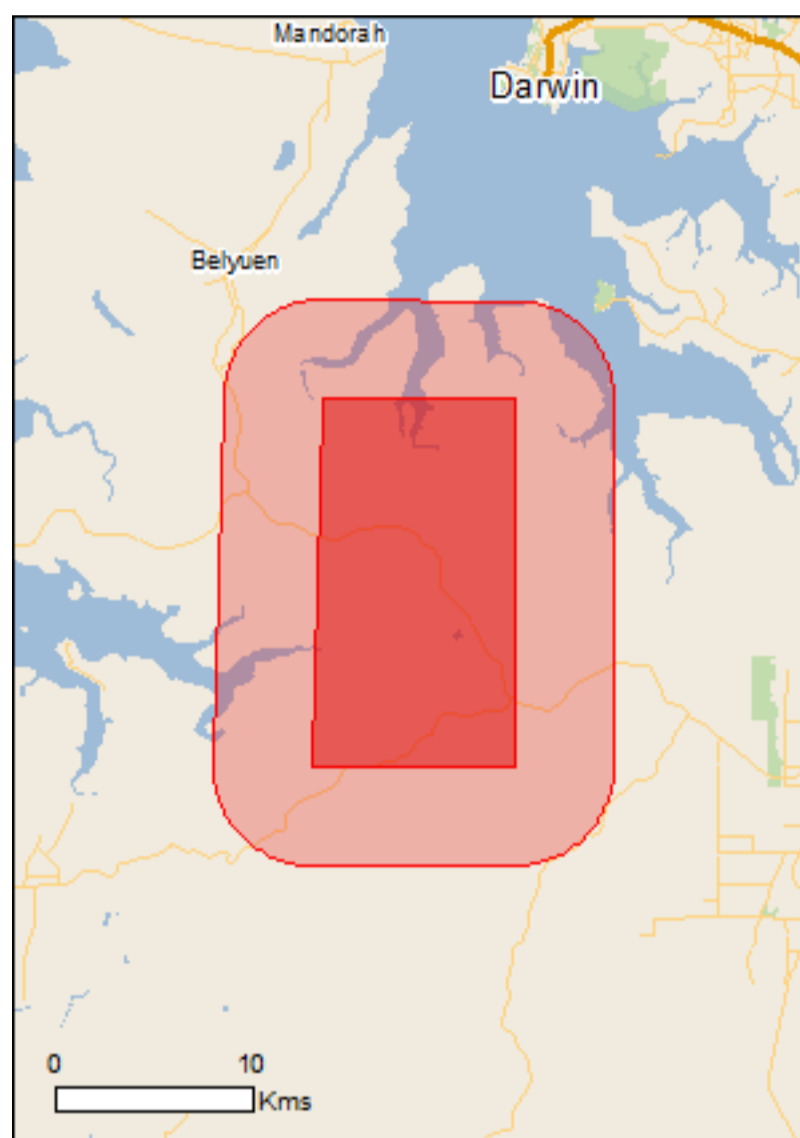
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

[Buffer: 5.0Km](#)



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	35
Listed Migratory Species:	46

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	85
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	23
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
Geophaps smithii smithii Partridge Pigeon (eastern) [64441]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat likely to occur within area
Mammals		
Antechinus bellus Fawn Antechinus [344]	Vulnerable	Species or species habitat known to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [331]	Endangered	Species or species habitat known to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat likely to occur within area
Mesembriomys gouldii gouldii Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga [87618]	Endangered	Species or species habitat likely to occur within area
Petrogale concinna canescens Nabarlek (Top End) [87606]	Endangered	Species or species habitat likely to occur within area
Phascogale pirata Northern Brush-tailed Phascogale [82954]	Vulnerable	Species or species habitat likely to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheathtail Bat [66889]	Critically Endangered	Species or species habitat likely to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area
Plants		
Stylidium ensatum a triggerplant [86366]	Endangered	Species or species habitat likely to occur within area
Reptiles		
Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sharks		
Carcharodon carcharias Great White Shark [64470]	Vulnerable	Species or species

Name	Status	Type of Presence
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	habitat may occur within area Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Carcharodon carcharias Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Breeding known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris alba Sanderling [875]		Species or species habitat likely to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat likely to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land

[[Resource Information](#)]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name

Defence - KANGAROO FLATS TRAINING AREA

Listed Marine Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris alba Sanderling [875]		Species or species habitat likely to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundo daurica Red-rumped Swallow [59480]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
Fish		
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus spinostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paegnius Rough-snout Ghost Pipefish [68425]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammals		
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Reptiles		
Acalyptophis peronii Horned Seasnake [1114]		Species or species habitat may occur within area
Aipysurus duboisii Dubois' Seasnake [1116]		Species or species habitat may occur within area
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnston's River Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely

Name	Threatened	Type of Presence
Disteira kingii Spectacled Seasnake [1123]		to occur within area Species or species habitat may occur within area
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area
Enhydrina schistosa Beaked Seasnake [1126]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Hydrelaps darwiniensis Black-ringed Seasnake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Seasnake [1101]		Species or species habitat may occur within area
Hydrophis coggeri Slender-necked Seasnake [25925]		Species or species habitat may occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Hydrophis inornatus Plain Seasnake [1107]		Species or species habitat may occur within area
Hydrophis mcdowelli null [25926]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [1111]		Species or species habitat may occur within area
Hydrophis pacificus Large-headed Seasnake, Pacific Seasnake [1112]		Species or species habitat may occur within area
Lapemis hardwickii Spine-bellied Seasnake [1113]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Parahydrophis mertoni Northern Mangrove Seasnake [1090]		Species or species habitat may occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and other Cetaceans

[[Resource Information](#)]

Name	Status	Type of Presence
Mammals		

Name	Status	Type of Presence
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat likely to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Breeding known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

Invasive Species

[[Resource Information](#)]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Bubalus bubalis Water Buffalo, Swamp Buffalo [1]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Plants		
Andropogon gayanus Gamba Grass [66895]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Jatropha gossypifolia Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Mimosa pigra Mimosa, Giant Mimosa, Giant Sensitive Plant, Thorny Sensitive Plant, Black Mimosa, Catclaw Mimosa, Bashful Plant [11223]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Pennisetum polystachyon Mission Grass, Perennial Mission Grass, Missiongrass, Feathery Pennisetum, Feather Pennisetum, Thin Napier Grass, West Indian Pennisetum, Blue Buffel Grass [21194]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area

Reptiles

Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area

Nationally Important Wetlands

[[Resource Information](#)]

Name	State
Port Darwin	NT

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-12.597781 130.737795,-12.598451 130.826372,-12.762576 130.826372,-12.762576 130.732989,-12.597781 130.737795

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Parks and Wildlife Commission NT, Northern Territory Government](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Litchfield Project



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 09/09/16 12:23:28

[Summary](#)

[Details](#)

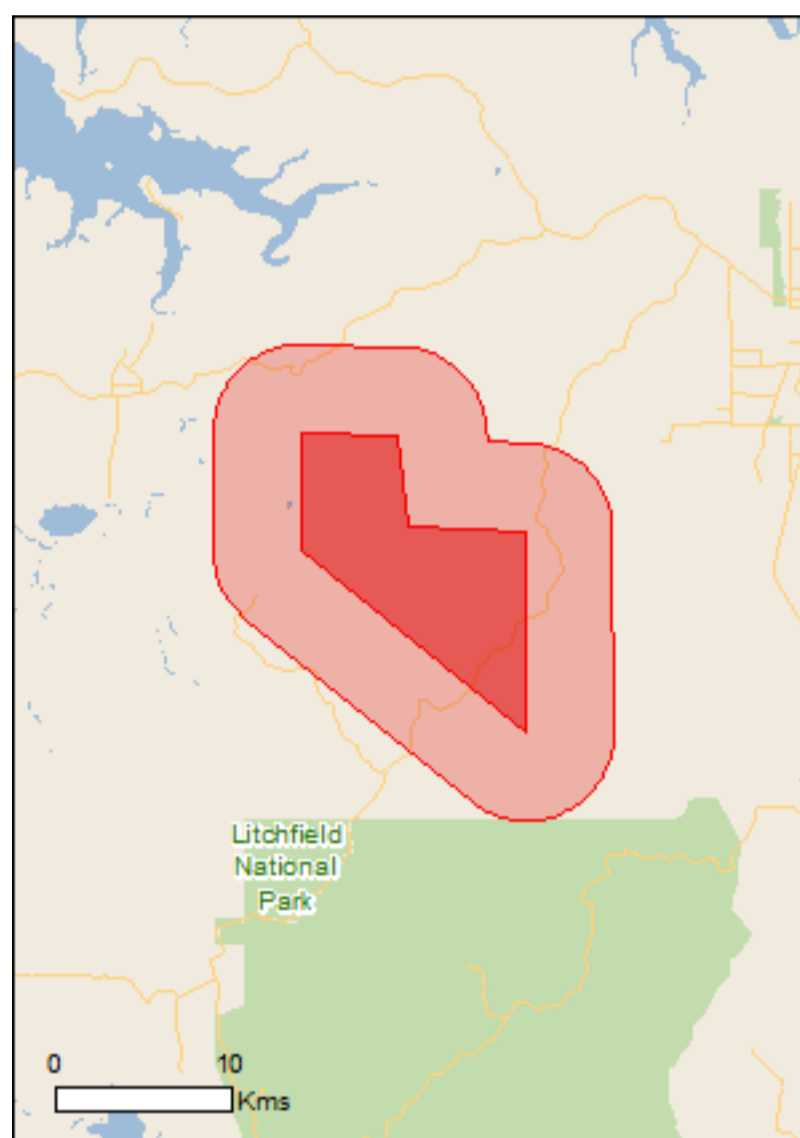
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

[Buffer: 5.0Km](#)



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	18
Listed Migratory Species:	15

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	21
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	23
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat known to occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
Geophaps smithii smithii Partridge Pigeon (eastern) [64441]	Vulnerable	Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat likely to occur within area
Mammals		
Antechinus bellus Fawn Antechinus [344]	Vulnerable	Species or species habitat likely to occur within area
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [331]	Endangered	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Mesembriomys gouldii gouldii Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Petrogale concinna canescens Nabarlek (Top End) [87606]	Endangered	Species or species habitat likely to occur within area
Phascogale pirata Northern Brush-tailed Phascogale [82954]	Vulnerable	Species or species habitat may occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheath-tailed Bat, Bare-rumped Sheath-tail Bat [66889]	Critically Endangered	Species or species habitat likely to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area

Reptiles

Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat known to occur within area
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Sharks

Pristis pristis Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
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Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Migratory Marine Species

Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Pristis pristis Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area

Migratory Terrestrial Species

Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area

Migratory Wetlands Species

Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species
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Name	Threatened	Type of Presence
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	habitat may occur within area Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Defence - KANGAROO FLATS TRAINING AREA

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundo daurica Red-rumped Swallow [59480]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Reptiles		
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnston's River Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves [\[Resource Information \]](#)

Name	State
Litchfield	NT

Invasive Species [\[Resource Information \]](#)

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
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Birds

Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
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Frogs

Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
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Mammals

Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
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Bubalus bubalis Water Buffalo, Swamp Buffalo [1]		Species or species habitat likely to occur within area
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Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
--	--	--

Equus caballus Horse [5]		Species or species habitat likely to occur within area
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Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
--	--	--

Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
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Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
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Sus scrofa Pig [6]		Species or species habitat likely to occur within area
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Plants

Andropogon gayanus Gamba Grass [66895]		Species or species habitat likely to occur within area
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Brachiaria mutica Para Grass [5879]		Species or species habitat likely to occur within area
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Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
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Name	Status	Type of Presence
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Jatropha gossypifolia Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Mimosa pigra Mimosa, Giant Mimosa, Giant Sensitive Plant, Thorny Sensitive Plant, Black Mimosa, Catclaw Mimosa, Bashful Plant [11223]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Pennisetum polystachyon Mission Grass, Perennial Mission Grass, Missiongrass, Feathery Pennisetum, Feather Pennisetum, Thin Napier Grass, West Indian Pennisetum, Blue Buffel Grass [21194]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area

Reptiles

Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area

Nationally Important Wetlands

[Resource Information]

Name	State
Finniss Floodplain and Fog Bay Systems	NT

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-12.83355 130.699454,-12.834889 130.749579,-12.88041 130.754385,-12.883087 130.814124,-12.98414 130.81481,-12.893128 130.699454,-12.83355 130.699454

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Parks and Wildlife Commission NT, Northern Territory Government](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Sandpalms Project



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 27/06/18 11:23:53

[Summary](#)

[Details](#)

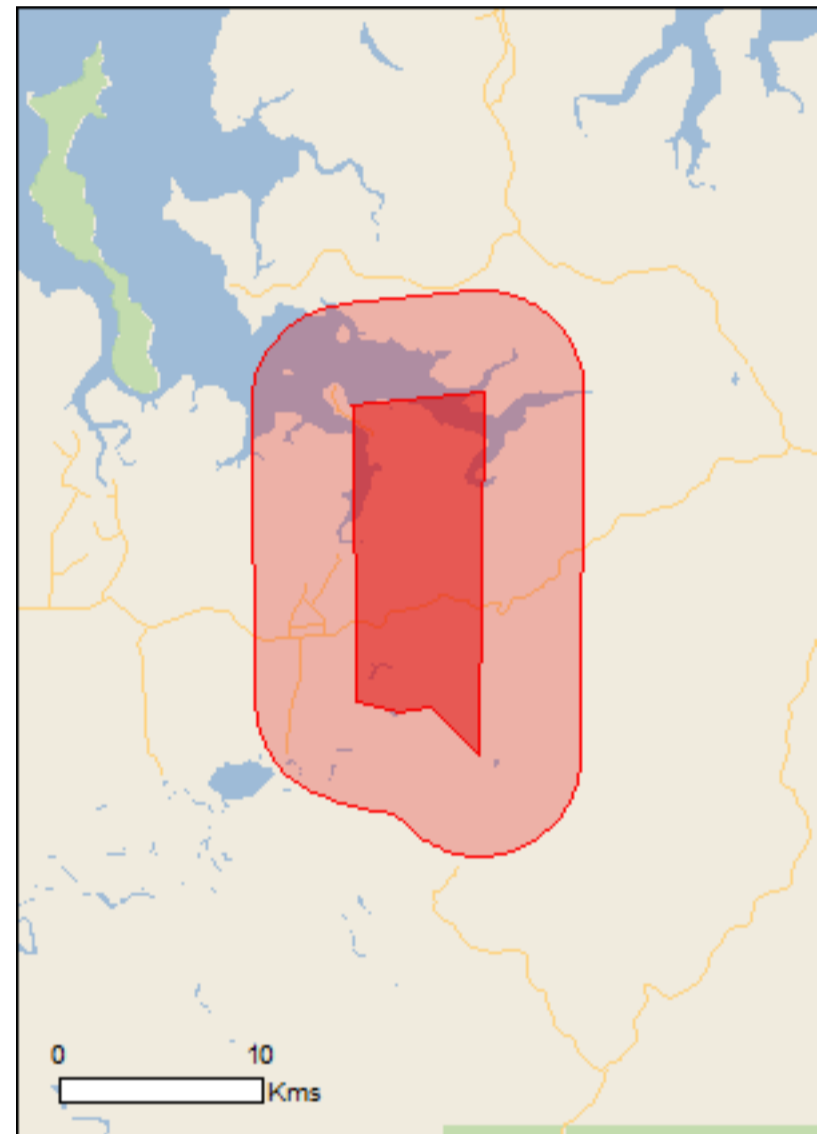
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 5.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	37
Listed Migratory Species:	55

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	93
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	23
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
Geophaps smithii smithii Partridge Pigeon (eastern) [64441]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species

Name	Status	Type of Presence
Mammals		
Antechinus bellus Fawn Antechinus [344]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Mesembriomys gouldii gouldii Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat likely to occur within area
Petrogale concinna canescens Nabarlek (Top End) [87606]	Endangered	Species or species habitat likely to occur within area
Phascogale pirata Northern Brush-tailed Phascogale [82954]	Vulnerable	Species or species habitat likely to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheath-tailed Bat, Bare-rumped Sheath-tail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat likely to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area

Name	Status	Type of Presence
Sharks		
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area

Migratory Marine Species

Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Migratory Terrestrial Species		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris alba Sanderling [875]		Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris alba Sanderling [875]		Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundo daurica Red-rumped Swallow [59480]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
Fish		
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus spirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribbioned Pipehorse, Ribbioned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammals		
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Reptiles		
Acalyptophis peronii Horned Seasnake [1114]		Species or species habitat may occur within area
Aipysurus duboisii Dubois' Seasnake [1116]		Species or species habitat may occur within area
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnston's River Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area
Enhydrina schistosa Beaked Seasnake [1126]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Hydrelaps darwiniensis Black-ringed Seasnake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Seasnake [1101]		Species or species habitat may occur within area
Hydrophis coggeri Slender-necked Seasnake [25925]		Species or species habitat may occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Hydrophis inornatus Plain Seasnake [1107]		Species or species habitat may occur within area
Hydrophis mcdowelli null [25926]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [1111]		Species or species habitat may occur within area
Hydrophis pacificus Large-headed Seasnake, Pacific Seasnake [1112]		Species or species habitat may occur within area
Lapemis hardwickii Spine-bellied Seasnake [1113]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Parahydrophis mertoni Northern Mangrove Seasnake [1090]		Species or species habitat may occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and other Cetaceans [\[Resource Information \]](#)

Name	Status	Type of Presence
Mammals		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species

Name	Status	Type of Presence
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	habitat may occur within area Species or species habitat may occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

Invasive Species [\[Resource Information \]](#)

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Bubalus bubalis Water Buffalo, Swamp Buffalo [1]		Species or species

Name	Status	Type of Presence
Canis lupus familiaris Domestic Dog [82654]		habitat likely to occur within area Species or species habitat likely to occur within area
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Plants		
Andropogon gayanus Gamba Grass [66895]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Jatropha gossypifolia Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Mimosa pigra Mimosa, Giant Mimosa, Giant Sensitive Plant, Thorny Sensitive Plant, Black Mimosa, Catclaw Mimosa, Bashful Plant [11223]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Pennisetum polystachyon Mission Grass, Perennial Mission Grass, Missiongrass, Feathery Pennisetum, Feather Pennisetum, Thin Napier Grass, West Indian Pennisetum, Blue Buffel Grass [21194]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area

Nationally Important Wetlands		<u>[Resource Information]</u>
Name		State
Finniss Floodplain and Fog Bay Systems		NT

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-12.715125 130.630089,-12.715125 130.629402,-12.709097 130.687767,-12.867125 130.686394,-12.846373 130.664421,-12.848381 130.650002,-12.843695 130.631462,-12.715125 130.630089

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Zola Project



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 27/06/18 11:15:53

[Summary](#)

[Details](#)

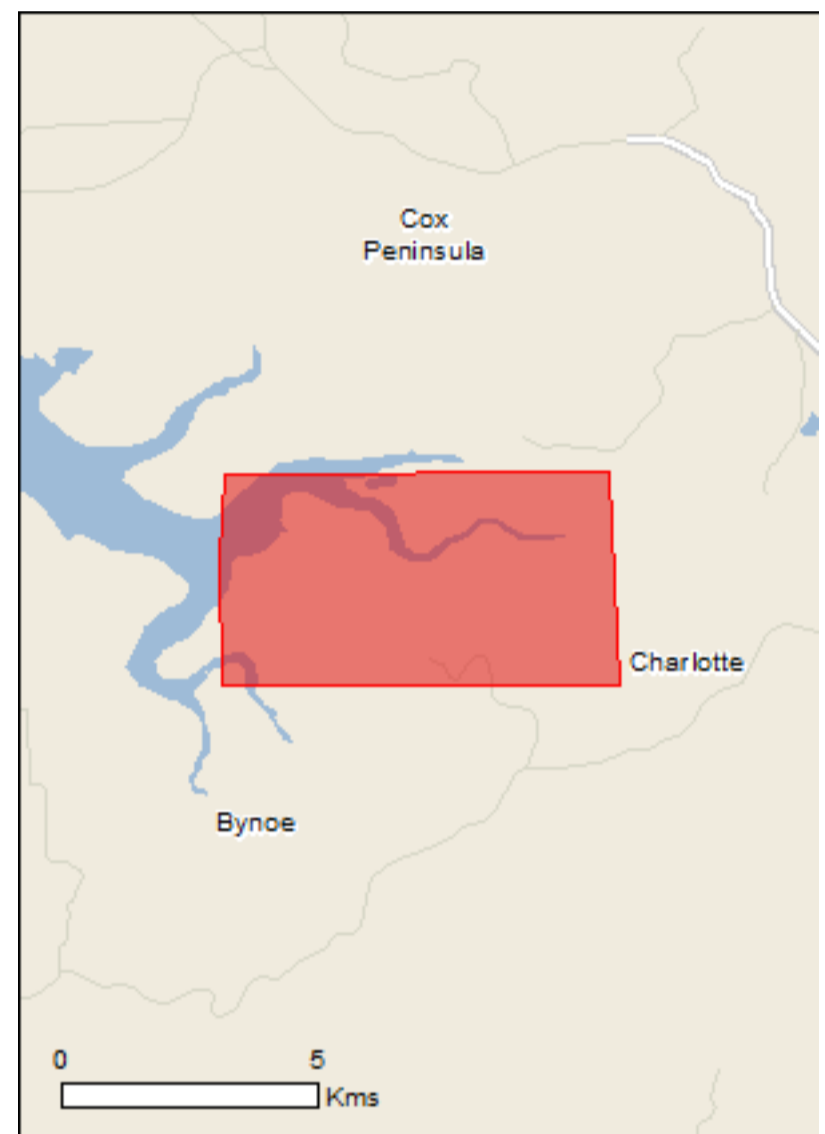
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 5.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	37
Listed Migratory Species:	55

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	93
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	23
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
Geophaps smithii smithii Partridge Pigeon (eastern) [64441]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species

Name	Status	Type of Presence
Mammals		
Antechinus bellus Fawn Antechinus [344]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Mesembriomys gouldii gouldii Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat likely to occur within area
Petrogale concinna canescens Nabarlek (Top End) [87606]	Endangered	Species or species habitat likely to occur within area
Phascogale pirata Northern Brush-tailed Phascogale [82954]	Vulnerable	Species or species habitat likely to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheath-tailed Bat, Bare-rumped Sheath-tail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat likely to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area

Name	Status	Type of Presence
Sharks		
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area

Migratory Marine Species

Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Migratory Terrestrial Species		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat likely to occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris alba Sanderling [875]		Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name

Defence - KANGAROO FLATS TRAINING AREA

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
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Birds

Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris alba Sanderling [875]		Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Hirundo daurica Red-rumped Swallow [59480]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
Fish		
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammals		
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Reptiles		
Acalyptophis peronii Horned Seasnake [1114]		Species or species habitat may occur within area
Aipysurus duboisii Dubois' Seasnake [1116]		Species or species habitat may occur within area
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnston's River Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area
Enhydrina schistosa Beaked Seasnake [1126]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Hydrelaps darwiniensis Black-ringed Seasnake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Seasnake [1101]		Species or species habitat may occur within area
Hydrophis coggeri Slender-necked Seasnake [25925]		Species or species habitat may occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Hydrophis inornatus Plain Seasnake [1107]		Species or species habitat may occur within area
Hydrophis mcdowelli null [25926]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [1111]		Species or species habitat may occur within area
Hydrophis pacificus Large-headed Seasnake, Pacific Seasnake [1112]		Species or species habitat may occur within area
Lapemis hardwickii Spine-bellied Seasnake [1113]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Parahydrophis mertoni Northern Mangrove Seasnake [1090]		Species or species habitat may occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and other Cetaceans

[[Resource Information](#)]

Name	Status	Type of Presence
Mammals		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species

Name	Status	Type of Presence
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		habitat may occur within area Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

Invasive Species

[[Resource Information](#)]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area

Name	Status	Type of Presence
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Bubalus bubalis Water Buffalo, Swamp Buffalo [1]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Plants		
Andropogon gayanus Gamba Grass [66895]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Jatropha gossypifolia Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Mimosa pigra Mimosa, Giant Mimosa, Giant Sensitive Plant, Thorny Sensitive Plant, Black Mimosa, Catclaw Mimosa, Bashful Plant [11223]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Pennisetum polystachyon Mission Grass, Perennial Mission Grass,		Species or species

Name	Status	Type of Presence
Missiongrass, Feathery Pennisetum, Feather Pennisetum, Thin Napier Grass, West Indian Pennisetum, Blue Buffel Grass [21194] Salvinia molesta		habitat likely to occur within area
Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area

Reptiles

Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-12.727181 130.695914,-12.727181 130.695914,-12.712781 130.696944,-12.712111 130.763892,-12.748613 130.765952,-12.748613 130.696601,-12.727181 130.695914

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

APPENDIX B

NR Maps (Threatened Species and Weeds)

Leviathan and Annie Projects

203	Point	<Null>	Helminthostachys zeylanica	Helminthostachys	LC	<Null>	4229453	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	4040	-12.85789	130.71798	7	OPHIOGLOSSACEAE	0	0	No	1	Native to the N.T.
204	Point	<Null>	Hydrastale wendlandiana	Hydrastale, Hydrastale Palm	LC	<Null>	4229454	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	343	-12.85789	130.71798	14	ARECACEAE	0	0	No	1	Native to the N.T.
205	Point	<Null>	Leisa sabra	Leisa	LC	<Null>	4229456	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	2913	-12.85789	130.71798	13	VITACEAE	0	0	No	1	Native to the N.T.
206	Point	<Null>	Leisa glutinosa	Leisa	LC	<Null>	4229457	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	2501	-12.85789	130.71798	10	LAURACEAE	0	0	No	1	Native to the N.T.
207	Point	<Null>	Livistona benthiana	Livistona, Fan Palm	LC	<Null>	4229458	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	345	-12.85789	130.71798	14	ARECACEAE	0	0	No	1	Native to the N.T.
208	Point	<Null>	Lycopodium microphyllum	Lycopodium, Climbing Maidenhair Fern	LC	<Null>	4229459	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	5452	-12.85789	130.71798	7	LYCOGDIACEAE	0	0	No	1	Native to the N.T.
209	Point	<Null>	Malaisia leucandrita	Malaisia, Weeping Paperbark, White Paperbark, Cajuput Tree, Cajuput, Weeping River Tea-tree, Paperbark	LC	<Null>	4229460	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	3912	-12.85789	130.71798	13	MYRTACEAE	0	0	No	1	Native to the N.T.
210	Point	<Null>	Malaisia malabathrum subsp. malabathrum	Malaisia, Native Lasiandra	LC	<Null>	4229461	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	22071	-12.85789	130.71798	13	MYRTACEAE	0	0	No	1	Native to the N.T.
211	Point	<Null>	Melicope elleryana	Melicope, Euoda	LC	<Null>	4229462	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	5259	-12.85789	130.71798	13	RUTACEAE	0	0	No	1	Native to the N.T.
212	Point	<Null>	Myrsine benthiana	Myrsine	LC	<Null>	4229463	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	3729	-12.85789	130.71798	13	PRIMULACEAE	0	0	No	1	Native to the N.T.
213	Point	<Null>	Scleria ciliata	Scleria	LC	<Null>	4229464	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	1793	-12.85789	130.71798	14	CYPERACEAE	0	0	No	1	Native to the N.T.
214	Point	<Null>	Scleria polyperpa	Scleria	LC	<Null>	4229465	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	1824	-12.85789	130.71798	14	CYPERACEAE	0	0	No	1	Native to the N.T.
215	Point	<Null>	Slenochlamis palustris	Slenochlamis, Climbing Fern, Branched Comb Fern	LC	<Null>	4229466	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	779	-12.85789	130.71798	7	BLECHNACEAE	0	0	No	1	Native to the N.T.
216	Point	<Null>	Strygium angaphorodes	Strygium	LC	<Null>	4229467	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	3940	-12.85789	130.71798	13	MYRTACEAE	0	0	No	1	Native to the N.T.
217	Point	<Null>	Strygium mutabiliflorum	Strygium	LC	<Null>	4229468	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	3949	-12.85789	130.71798	13	MYRTACEAE	0	0	Yes	1	Native to the N.T.
218	Point	<Null>	Terminalia microcarpa	Terminalia	LC	<Null>	4229469	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	1327	-12.85789	130.71798	13	COMBRACEAE	0	0	No	1	Native to the N.T.
219	Point	<Null>	Trinoria imon	Trinoria	LC	<Null>	4229470	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	5274	-12.85789	130.71798	13	RUBIACEAE	0	0	No	1	Native to the N.T.
220	Point	<Null>	Trema tomentosa	Trema, Peach-leaved Poison Bush, Poison Peach, Native Peach	LC	<Null>	4229471	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	5834	-12.85789	130.71798	13	CANNABACEAE	0	0	No	1	Native to the N.T.
221	Point	<Null>	Triumfetta micrantha	Triumfetta	LC	<Null>	4229472	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	5919	-12.85789	130.71798	13	MALVACEAE	0	0	No	1	Native to the N.T.
222	Point	<Null>	Xanthostemon eucalyptoides	Xanthostemon	LC	<Null>	4229473	Plant	VSD	<Null>	DOCS	DOCS	KARGURBA	<Null>	<Null>	Unknown	Land Assessment Branch	3661	-12.85789	130.71798	13	MYRTACEAE	0	0	No	1	Native to the N.T.

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-Null>	N	01-Jan-99	Ferns and Allies	Lycopodium	microphyllum	-Null>	-Null>	Fern	914249
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-Null>	N	01-Jan-99	Flowering Plants - Eudicots	Xanthoxylon	eucalyptoides	-Null>	-Null>	Tree	914263

OBJECTID	SHAPE_ID	TAXONID	FUNCTIONALGROUPID	SCIENTIFICNAME	COMMONNAME	TPWCA	EPBCA	OROSPECIESNAME	ENVIRONMENT	TAXONCLASS	QUANTITY	SAMPLING_METHOD	LATITUDE	LONGITUDE	LOCATION_DESCRIPTION	HABITAT	SITE_CODE	COORD_UNCERTAINTY_M	DATE	DATE_TO	OBSERVER_NAME	ORGANISATION_NAME	OBSERVER_NOTES	DATASET	DATASET_ABSTRACT	ORIGINAL_DATASOURCE	DATASOURCE_ABSTRACT	TPWCA_NOTES	EPBCA_NOTES	EPBCA_MIG_SP	THREATENED_SPECIES	SIGNIFICANT_SPECIES	INTRODUCEDSTATUS	
1	Point	182190	10140	1 Ardea modesta	Eastern Great Egret	LC	(not listed)	Ardea modesta	Terrestrial	Birds	<Null>	<Null>	-13.123592	130.57122	<Null>	<Null>	<Null>	<Null>	26-Apr-90	<Null>	Ch	<Null>	<Null>	Miscellaneous Fauna Data	AI	Ch	Ra	<Null>	<Null>	1	0	1	1	
2	Point	183624	10143	1 Ardea ibis	Cattle Egret	LC	(not listed)	Ardea ibis	TERRESTRIAL	Birds	<Null>	<Null>	-13.123592	130.571608	<Null>	<Null>	<Null>	<Null>	19-Mar-91	<Null>	Ch	<Null>	<Null>	Miscellaneous Fauna Data	AI	Ch	Ra	<Null>	<Null>	0	0	1	1	
3	Point	263672	10036	1 Bos taurus	Cattle	(Int)	(not listed)	Bos taurus	TERRESTRIAL	Mammals	<Null>	<Null>	-13.124667	130.563034	<Null>	<Null>	<Null>	<Null>	27-Apr-00	<Null>	<Null>	<Null>	<Null>	Miscellaneous Fauna Data	AI	Ma	un	<Null>	<Null>	0	0	5	5	
4	Point	263673	10036	1 Bos taurus	Cattle	(Int)	(not listed)	Bos taurus	TERRESTRIAL	Mammals	<Null>	<Null>	-13.124667	130.566967	<Null>	<Null>	<Null>	<Null>	27-Apr-00	<Null>	<Null>	<Null>	<Null>	Miscellaneous Fauna Data	AI	Ma	un	<Null>	<Null>	0	0	5	5	
5	Point	263674	10036	1 Bos taurus	Cattle	(Int)	(not listed)	Bos taurus	TERRESTRIAL	Mammals	<Null>	<Null>	-13.1245	130.569501	<Null>	<Null>	<Null>	<Null>	27-Apr-00	<Null>	<Null>	<Null>	<Null>	Miscellaneous Fauna Data	AI	Ma	un	<Null>	<Null>	0	0	5	5	
6	Point	263679	10036	1 Bos taurus	Cattle	(Int)	(not listed)	Bos taurus	TERRESTRIAL	Mammals	<Null>	<Null>	-13.109667	130.56334	<Null>	<Null>	<Null>	<Null>	27-Apr-00	<Null>	<Null>	<Null>	<Null>	Miscellaneous Fauna Data	AI	Ma	un	<Null>	<Null>	0	0	5	5	
7	Point	1011111	10140	1 Ardea modesta	Eastern Great Egret	LC	(not listed)	Ardea modesta	Terrestrial	Birds	<Null>	<Null>	-13.123592	130.57122	<Null>	<Null>	<Null>	<Null>	26-Apr-90	<Null>	Ch	<Null>	<Null>	Miscellaneous Fauna Data	AI	DL	DL	<Null>	<Null>	1	0	1	1	
8	Point	1012316	10143	1 Ardea ibis	Cattle Egret	LC	(not listed)	Ardea ibis	TERRESTRIAL	Birds	<Null>	<Null>	-13.123592	130.571608	<Null>	<Null>	<Null>	<Null>	19-Mar-91	<Null>	Ch	<Null>	<Null>	Miscellaneous Fauna Data	AI	DL	DL	<Null>	<Null>	1	0	1	1	
9	Point	1678956	10032	1 Sus scrofa	Pig	(Int)	(not listed)	Pig	TERRESTRIAL	Mammals	1	Fixed Wing Aerial Transect	-13.124795	130.559988	<Null>	<Null>	Tr	<Null>	27-04-2017 9:32	<Null>	DENR - Flora and Faun	<Null>	<Null>	Terrestrial Aerial Surveys	Sy	Ma	un	<Null>	<Null>	0	0	5	5	
10	Point	1679174	10034	1 Bubalus bubalis	Swamp Buffalo	(Int)	(not listed)	Buffalo	TERRESTRIAL	Mammals	1	Fixed Wing Aerial Transect	-13.123005	130.5567	<Null>	<Null>	Tr	<Null>	04-05-2016 9:31	<Null>	DENR - Flora and Faun	<Null>	<Null>	Terrestrial Aerial Surveys	Sy	Ma	un	<Null>	<Null>	0	0	5	5	
11	Point	1684299	10036	1 Bos taurus	Cattle	(Int)	(not listed)	Cattle	TERRESTRIAL	Mammals	7	Fixed Wing Aerial Transect	-13.124667	130.563034	<Null>	<Null>	Su	<Null>	27-Apr-00	<Null>	<Null>	DENR - Flora and Faun	<Null>	<Null>	Terrestrial Aerial Surveys	Sy	Ma	un	<Null>	<Null>	0	0	5	5
12	Point	1684300	10036	1 Bos taurus	Cattle	(Int)	(not listed)	Cattle	TERRESTRIAL	Mammals	3	Fixed Wing Aerial Transect	-13.124667	130.566967	<Null>	<Null>	Su	<Null>	27-Apr-00	<Null>	<Null>	DENR - Flora and Faun	<Null>	<Null>	Terrestrial Aerial Surveys	Sy	Ma	un	<Null>	<Null>	0	0	5	5
13	Point	1684301	10036	1 Bos taurus	Cattle	(Int)	(not listed)	Cattle	TERRESTRIAL	Mammals	4	Fixed Wing Aerial Transect	-13.1245	130.569501	<Null>	<Null>	Su	<Null>	27-Apr-00	<Null>	<Null>	DENR - Flora and Faun	<Null>	<Null>	Terrestrial Aerial Surveys	Sy	Ma	un	<Null>	<Null>	0	0	5	5
14	Point	1684305	10036	1 Bos taurus	Cattle	(Int)	(not listed)	Cattle	TERRESTRIAL	Mammals	6	Fixed Wing Aerial Transect	-13.109667	130.56334	<Null>	<Null>	Su	<Null>	27-Apr-00	<Null>	<Null>	DENR - Flora and Faun	<Null>	<Null>	Terrestrial Aerial Surveys	Sy	Ma	un	<Null>	<Null>	0	0	5	5

INTRODUCEDSTATUS_TEXT

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OBJECTID	SHAPE	SE_ANNO_CAD_DATA	SCIENTIFICNAME	COMMONNAME	TPWCA	EPBCA	KINGDOM	DATABASE	ACCESSION_NO	SITE_CODE	LOCATION_DESCRIPTION	COORD_UNCERTAINTY_M	OBSERVER	DATASET	TAXONID	LATITUDE	LONGITUDE	FUNCTIONALGROUPID	FAMILY	THREATENED_SPECIES	SIGNIFICANT_SPECIES	ENDEMIC	INTRODUCEDSTATUS
1	Point	<Null>	Andropogon cavanus	Andropogon, Gamba Grass	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Tom Price	DENR Weed Management Branch	4207	-13.1056	130.57896	14	POACEAE	0	0	No	5
2	Point	<Null>	Senna obtusifolia	Senna, Cassia	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Guy McSkimming	DENR Weed Management Branch	922	-13.10536	130.55215	13	FABACEAE	0	0	No	5
3	Point	<Null>	Andropogon gayanus	Andropogon, Gamba Grass	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Tom Price	DENR Weed Management Branch	4207	-13.10564	130.57231	14	POACEAE	0	0	No	5
4	Point	<Null>	Andropogon gayanus	Andropogon, Gamba Grass	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Tom Price	DENR Weed Management Branch	4207	-13.10561	130.57474	14	POACEAE	0	0	No	5
5	Point	<Null>	Mimosa pigra	Mimosa, Sensitive Plant, Giant Sensitive Plant	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	NRETA Weeds Officer	DENR Weed Management Branch	3601	-13.09763	130.56508	13	FABACEAE	0	0	No	5
6	Point	<Null>	Mimosa pigra	Mimosa, Sensitive Plant, Giant Sensitive Plant	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	Chris Collins	DENR Weed Management Branch	3601	-13.0971	130.56933	13	FABACEAE	0	0	No	5
7	Point	<Null>	Andropogon cavanus	Andropogon, Gamba Grass	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Tom Price	DENR Weed Management Branch	4207	-13.10538	130.55326	14	POACEAE	0	0	No	5
8	Point	<Null>	Mimosa pigra	Mimosa, Sensitive Plant, Giant Sensitive Plant	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Chris Collins	DENR Weed Management Branch	3601	-13.09607	130.56197	13	FABACEAE	0	0	No	5
9	Point	<Null>	Senna obtusifolia	Senna, Cassia	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Guy McSkimming	DENR Weed Management Branch	922	-13.10548	130.54834	13	FABACEAE	0	0	No	5
10	Point	<Null>	Andropogon gayanus	Andropogon, Gamba Grass	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Tom Price	DENR Weed Management Branch	4207	-13.1054	130.55441	14	POACEAE	0	0	No	5
11	Point	<Null>	Senna obtusifolia	Senna, Cassia	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Guy McSkimming	DENR Weed Management Branch	922	-13.10538	130.55444	13	FABACEAE	0	0	No	5
12	Point	<Null>	Andropogon cavanus	Andropogon, Gamba Grass	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Tom Price	DENR Weed Management Branch	4207	-13.1054	130.55493	14	POACEAE	0	0	No	5
13	Point	<Null>	Sporobolus fertilis	<Null>	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Tom Price	DENR Weed Management Branch	2427	-13.10528	130.56581	14	POACEAE	0	0	No	5
14	Point	<Null>	Andropogon gayanus	Andropogon, Gamba Grass	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Tom Price	DENR Weed Management Branch	4207	-13.10547	130.54832	14	POACEAE	0	0	No	5
15	Point	<Null>	Andropogon gayanus	Andropogon, Gamba Grass	NE	<Null>	Plant	Weeds	<Null>	<Null>	<Null>	<Null>	25 Tom Price	DENR Weed Management Branch	4207	-13.10559	130.57858	14	POACEAE	0	0	No	5
16	Point	<Null>	Persicaria attenuata subsp. attenuata	Persicaria, Knotweed	LC	<Null>	Plant	HOLTZE	D0054495	<Null>	Dry Lake, Waqat Reserve.	<Null>	Karen L. Wilson	HOLTZE	4946	-13.098594	130.567887	13	POLYGONACEAE	0	0	No	1
17	Point	<Null>	Scleria poaeiformis	Scleria	LC	<Null>	Plant	HOLTZE	D0155053	<Null>	Dry Lake, Waqat Reserve	<Null>	Karen L. Wilson	HOLTZE	1803	-13.1	130.56667	14	CYPERACEAE	0	0	No	1
18	Point	<Null>	Eleocharis jaccasiana	Eleocharis	LC	<Null>	Plant	HOLTZE	D0212255	<Null>	Dry Lake, Waqat Reserve.	<Null>	Karen L. Wilson	HOLTZE	1049555	-13.1	130.566667	14	CYPERACEAE	0	0	No	1
19	Point	<Null>	Nymphaea violacea	Nymphaea, Water Lily	LC	<Null>	Plant	HOLTZE	D0273503	<Null>	Dry Lake, Waqat Reserve, NT.	<Null>	Surrey Jacobs	HOLTZE	4002	-13.1	130.566667	11	NYMPHAEACEAE	0	0	No	1

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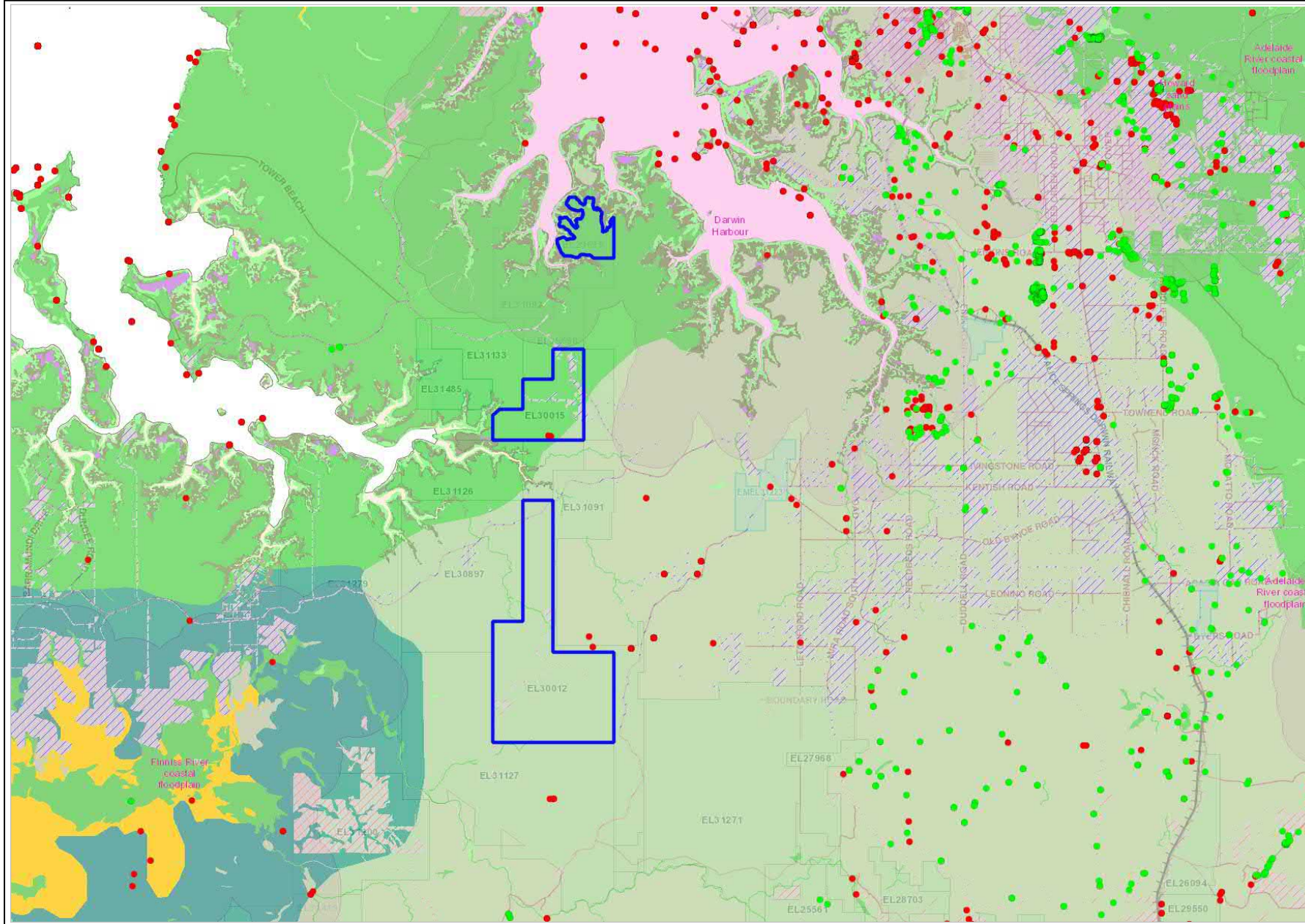
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WEED_MNGT_ACT	RESTRICTEDRANGE	DATE	FUNCTIONALGROUPNAME	GENUS	SPECIES	INFRASPECIFIC_RANK	INFRASPECIFIC_NAME	GROWTH_FORM	OBJECTID
A/B	<Null>	06-Feb-15	Flowering Plants - Monocots	Andropogon	oavanus	<Null>	<Null>	<Null>	11984
B	<Null>	31-Aug-03	Flowering Plants - Eudicots	Senna	obtusifolia	<Null>	<Null>	<Null>	24235
A/B	<Null>	27-May-14	Flowering Plants - Monocots	Andropogon	gayanus	<Null>	<Null>	<Null>	58105
A/B	<Null>	26-May-14	Flowering Plants - Monocots	Andropogon	gayanus	<Null>	<Null>	<Null>	72114
A/B	<Null>	01-Jan-03	Flowering Plants - Eudicots	Mimosa	pigra	<Null>	<Null>	<Null>	73151
A/B	<Null>	20-Sep-12	Flowering Plants - Eudicots	Mimosa	pigra	<Null>	<Null>	<Null>	73334
A/B	<Null>	06-Feb-15	Flowering Plants - Monocots	Andropogon	oavanus	<Null>	<Null>	<Null>	88002
A/B	<Null>	27-Aug-09	Flowering Plants - Eudicots	Mimosa	pigra	<Null>	<Null>	<Null>	100207
B	<Null>	31-Aug-03	Flowering Plants - Eudicots	Senna	obtusifolia	<Null>	<Null>	<Null>	103858
A/B	<Null>	06-Feb-15	Flowering Plants - Monocots	Andropogon	gayanus	<Null>	<Null>	<Null>	151173
B	<Null>	31-Aug-03	Flowering Plants - Eudicots	Senna	obtusifolia	<Null>	<Null>	<Null>	153201
A/B	<Null>	06-Feb-15	Flowering Plants - Monocots	Andropogon	oavanus	<Null>	<Null>	<Null>	161939
No	<Null>	10-Sep-13	Flowering Plants - Monocots	Sporobolus	fertilis	<Null>	<Null>	<Null>	178864
A/B	<Null>	06-Feb-15	Flowering Plants - Monocots	Andropogon	gayanus	<Null>	<Null>	<Null>	193490
A/B	<Null>	29-Jun-14	Flowering Plants - Monocots	Andropogon	gayanus	<Null>	<Null>	<Null>	201776
<Null>	N	03-Jun-87	Flowering Plants - Eudicots	Persicaria	attenuata	subsp.	attenuata	Aquatic,Forb	303486
<Null>	N	03-Jun-87	Flowering Plants - Monocots	Scleria	poaeiformis	<Null>	<Null>	Sedge	314486
<Null>	N	03-Jun-87	Flowering Plants - Monocots	Eleocharis	jacobiana	<Null>	<Null>	Sedge	476320
<Null>	N	03-Jun-87	Flowering Plants - Basal Angiosperms	Nymphaea	violacea	<Null>	<Null>	Aquatic	546274

Bynoe Project

NR MAPS

Bynoe Project



Legend

Threatened Fauna























Threatened Flora

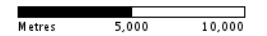


Sites of Conservation Significance



NVIS 2007 Level 2

-  Closed forest
-  Mid closed forest
-  Open forest
-  Woodland
-  Open woodland
-  Open shrubland
-  Sparse shrubland
-  Open palm/land
-  Closed tussock grassland
-  Tussock grassland
-  Open tussock grassland
-  Sparse tussock grassland
-  Hummock grassland
-  Open hummock grassland
-  Forbland
-  Sparse samphire shrubland
-  Inland salt lake
-  Pastoral/Horticulture/roads
-  Plantations/roads
-  Rural/Residential/roads



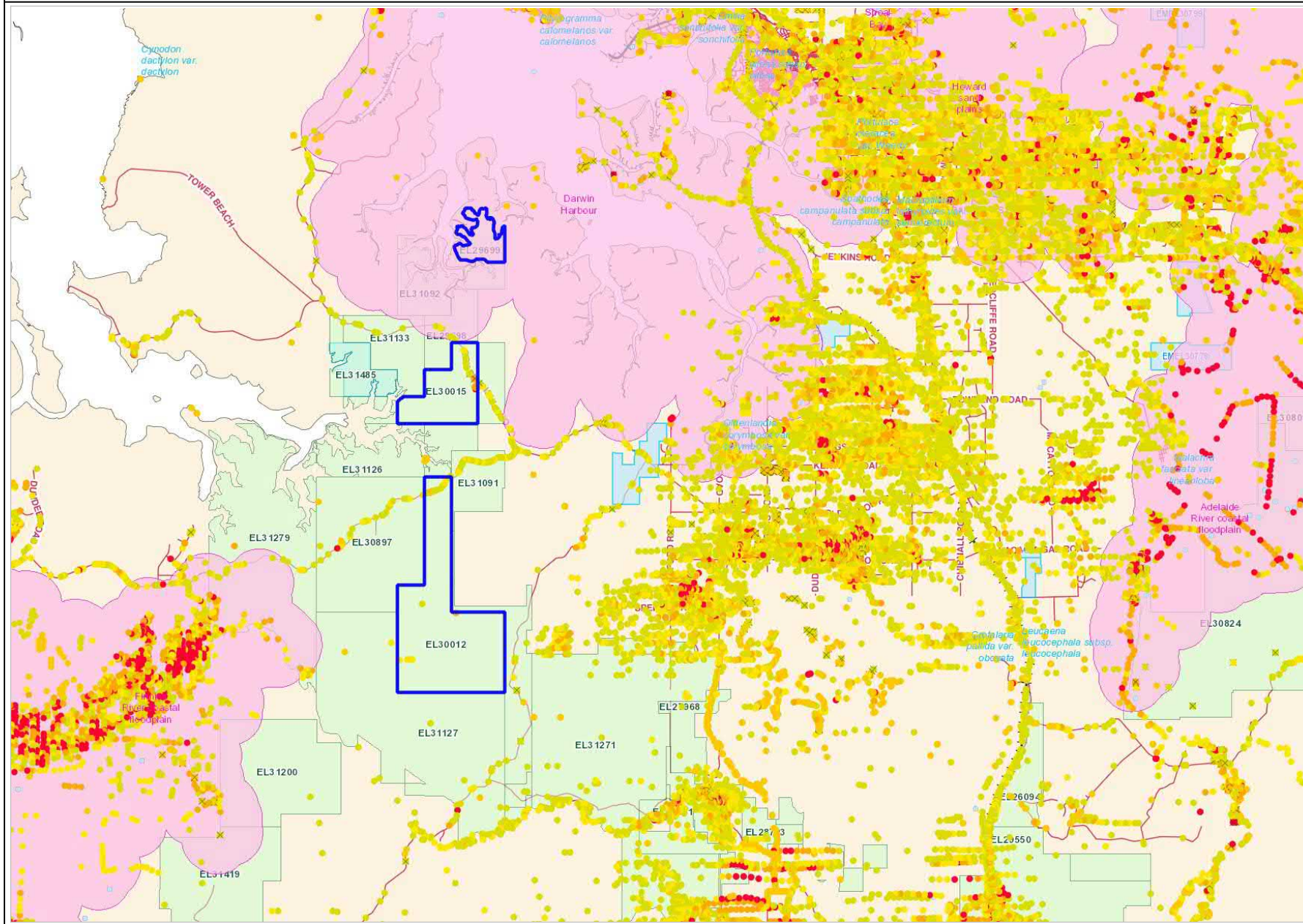
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NR MAPS

Bynoe Project - Weeds



Legend

Introduced Flora

Sites of Conservation Significance



NT Weed Records

- Absent
- Scattered
- ✕ Scattered (Treated)
- Moderate
- ✕ Moderate (Treated)
- Dense
- ✕ Dense (Treated)
- Very Dense
- Very Dense (Treated)
- Unknown Density
- ✕ Unknown Density (Treated)

Extractive Mineral Exploration Licence - Granted

Exploration Licence - Granted

Metres 5,000 10,000 15,000

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Scientific Name	Common Name	TWPCA	EPBCA	EPBCA Migratory Species	Threatened Species	Significant Species	Introduced Status Text
<i>Myiagra ruficollis</i>	Broad-billed Flycatcher	LC	(not listed)		0	0	Native to the N.T.
<i>Numenius madagascariensis</i>	Eastern Curlew	VU	CR	1	1	1	Native to the N.T.
<i>Limosa lapponica</i>	Bar-tailed Godwit	VU	(not listed)	1	1	1	Native to the N.T.
<i>Egretta novaehollandiae</i>	White-faced Heron	LC	(not listed)		0	0	Native to the N.T.
<i>Manorina flavigula</i>	Yellow-throated Miner	LC	(not listed)		0	0	Native to the N.T.
<i>Ardea intermedia</i>	Intermediate Egret	LC	(not listed)		0	0	Native to the N.T.
<i>Podargus strigoides</i>	Tawny Frogmouth	LC	(not listed)		0	0	Native to the N.T.
<i>Lalage sueurii</i>	White-winged Triller	LC	(not listed)		0	0	Native to the N.T.
<i>Gehyra nana</i>	Northern Spotted Rock Dtella	LC	(not listed)		0	0	Native to the N.T.
<i>Myiagra rubecula</i>	Leaden Flycatcher	LC	(not listed)		0	0	Native to the N.T.
<i>Zosterops luteus</i>	Yellow White-eye	LC	(not listed)		0	0	Native to the N.T.
<i>Cracticus nigrogularis</i>	Pied Butcherbird	LC	(not listed)		0	0	Native to the N.T.
<i>Todiramphus macleayii</i>	Forest Kingfisher	LC	(not listed)		0	0	Native to the N.T.
<i>Myzomela obscura</i>	Dusky Honeyeater	LC	(not listed)		0	0	Native to the N.T.
<i>Tiliqua scincoides</i>	Common Blue-Tongued Lizard	DD	(not listed)		0	1	Native to the N.T.
<i>Tringa brevipes</i>	Grey-tailed Tattler	NT	(not listed)	1	0	1	Native to the N.T.
<i>Nycticorax caledonicus</i>	Nankeen Night Heron	LC	(not listed)		0	0	Native to the N.T.
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	LC	(not listed)		0	0	Native to the N.T.
<i>Dacelo leachii</i>	Blue-winged Kookaburra	LC	(not listed)		0	0	Native to the N.T.
<i>Demansia vestigiata</i>	Black Whip Snake	LC	(not listed)		0	0	Native to the N.T.
<i>Limnodynastes convexiusculus</i>	Marbled Frog	LC	(not listed)		0	0	Native to the N.T.
<i>Oriolus flavocinctus</i>	Yellow Oriole	LC	(not listed)		0	0	Native to the N.T.
<i>Myiagra inquieta</i>	Restless Flycatcher	LC	(not listed)		0	0	Native to the N.T.
<i>Falco berigora</i>	Brown Falcon	LC	(not listed)		0	0	Native to the N.T.
<i>Milvus migrans</i>	Black Kite	LC	(not listed)		0	0	Native to the N.T.
<i>Eudynamys orientalis</i>	Eastern Koel	LC	(not listed)		0	0	Native to the N.T.
<i>Gelochelidon nilotica</i>	Gull-billed Tern	LC	(not listed)		0	0	Native to the N.T.
<i>Climacteris melanura</i>	Black-tailed Treecreeper	LC	(not listed)		0	0	Native to the N.T.
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	LC	(not listed)		0	0	Native to the N.T.
<i>Ducula bicolor</i>	Pied Imperial-Pigeon	LC	(not listed)		0	0	Native to the N.T.
<i>Malurus melanocephalus</i>	Red-backed Fairy-wren	LC	(not listed)		0	0	Native to the N.T.
<i>Lonchura castaneothorax</i>	Chestnut-breasted Mannikin	LC	(not listed)		0	0	Native to the N.T.
<i>Ardeotis australis</i>	Australian Bustard	NT	(not listed)		0	1	Native to the N.T.
<i>Petrochelidon nigricans</i>	Tree Martin	LC	(not listed)		0	0	Native to the N.T.
<i>Haliastur indus</i>	Brahminy Kite	LC	(not listed)		0	0	Native to the N.T.
<i>Xenus cinereus</i>	Terek Sandpiper	LC	(not listed)	1	0	1	Native to the N.T.

<i>Tadorna radjah</i>	Radjah Shelduck	LC	(not listed)		0	0	Native to the N.T.
<i>Threskiornis spinicollis</i>	Straw-necked Ibis	LC	(not listed)		0	0	Native to the N.T.
<i>Conopophila albogularis</i>	Rufous-banded Honeyeater	LC	(not listed)		0	0	Native to the N.T.
<i>Ctenotus robustus</i>	Robust Ctenotus	LC	(not listed)		0	0	Native to the N.T.
<i>Isodon macrourus</i>	Northern Brown Bandicoot	NT	(not listed)		0	1	Native to the N.T.
<i>Pachycephala rufiventris</i>	Rufous Whistler	LC	(not listed)		0	0	Native to the N.T.
<i>Uperoleia inundata</i>	Floodplain Toadlet	LC	(not listed)		0	0	Native to the N.T.
<i>Anseranas semipalmata</i>	Magpie Goose	LC	(not listed)		0	0	Native to the N.T.
<i>Chalcites basalis</i>	Horsfield's Bronze-Cuckoo	LC	(not listed)		0	0	Native to the N.T.
<i>Cisticola exilis</i>	Golden-headed Cisticola	LC	(not listed)		0	0	Native to the N.T.
<i>Gerygone chloronota</i>	Green-backed Gerygone	LC	(not listed)		0	0	Native to the N.T.
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	LC	(not listed)		0	0	Native to the N.T.
<i>Geopelia striata</i>	Peaceful Dove	LC	(not listed)		0	0	Native to the N.T.
<i>Ceyx azureus</i>	Azure Kingfisher	LC	(not listed)		0	0	Native to the N.T.
<i>Todiramphus chloris</i>	Collared Kingfisher	LC	(not listed)		0	0	Native to the N.T.
<i>Philemon citreogularis</i>	Little Friarbird	LC	(not listed)		0	0	Native to the N.T.
<i>Sousa sahalensis</i>	Indo-Pacific Humpbacked Dolphin	(NL)	(not listed)		0	0	Native to the N.T.
<i>Vanellus miles</i>	Masked Lapwing	LC	(not listed)		0	0	Native to the N.T.
<i>Actitis hypoleucos</i>	Common Sandpiper	LC	(not listed)	1	0	1	Native to the N.T.
<i>Numenius phaeopus</i>	Whimbrel	NT	(not listed)	1	0	1	Native to the N.T.
<i>Ardea modesta</i>	Eastern Great Egret	LC	(not listed)	1	0	1	Native to the N.T.
<i>Threskiornis molucca</i>	Australian White Ibis	LC	(not listed)		0	0	Native to the N.T.
<i>Hamirostra melanosternon</i>	Black-breasted Buzzard	LC	(not listed)		0	0	Native to the N.T.
<i>Pardalotus striatus</i>	Striated Pardalote	LC	(not listed)		0	0	Native to the N.T.
<i>Rattus tunneyi</i>	Pale Field-rat	VU	(not listed)		1	1	Native to the N.T.
<i>Artamus minor</i>	Little Woodswallow	LC	(not listed)		0	0	Native to the N.T.
<i>Carlia munda</i>	Striped Rainbow Skink	LC	(not listed)		0	0	Native to the N.T.
<i>Carlia triacantha</i>	Three-Spined Rainbow Skink	LC	(not listed)		0	0	Native to the N.T.
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	LC	(not listed)		0	0	Native to the N.T.
<i>Dicaeum hirundinaceum</i>	Mistletoebird	LC	(not listed)		0	0	Native to the N.T.
<i>Coracina papuensis</i>	White-bellied Cuckoo-shrike	LC	(not listed)		0	0	Native to the N.T.
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar	LC	(not listed)		0	0	Native to the N.T.
<i>Ramsayornis fasciatus</i>	Bar-breasted Honeyeater	LC	(not listed)		0	0	Native to the N.T.
<i>Uperoleia daviesae</i>	Howard Springs Toadlet	VU	(not listed)		1	1	Endemic to the N.T.
<i>Philemon argenteiceps</i>	Silver-crowned Friarbird	LC	(not listed)		0	0	Native to the N.T.
<i>Lalage leucomela</i>	Varied Triller	LC	(not listed)		0	0	Native to the N.T.
<i>Microeca flavigaster</i>	Lemon-bellied Flycatcher	LC	(not listed)		0	0	Native to the N.T.
<i>Caprimulgus macrurus</i>	Large-tailed Nightjar	LC	(not listed)		0	0	Native to the N.T.
<i>Cacomantis variolosus</i>	Brush Cuckoo	LC	(not listed)		0	0	Native to the N.T.

<i>Calyptorhynchus banksii</i>	Red-tailed Black-cockatoo	LC	(not listed)		0	0	Native to the N.T.
<i>Lichmera indistincta</i>	Brown Honeyeater	LC	(not listed)		0	0	Native to the N.T.
<i>Anhinga novaehollandiae</i>	Australasian Darter	LC	(not listed)		0	0	Native to the N.T.
<i>Nettapus pulchellus</i>	Green Pygmy-Goose	LC	(not listed)		0	0	Native to the N.T.
<i>Haematopus longirostris</i>	Australian Pied Oystercatcher	LC	(not listed)		0	0	Native to the N.T.
<i>Ardea sumatrana</i>	Great-billed Heron	LC	(not listed)		0	0	Native to the N.T.
<i>Dasyurus hallucatus</i>	Northern Quoll	CR	EN		1	1	Native to the N.T.
<i>Irediparra gallinacea</i>	Comb-crested Jacana	LC	(not listed)		0	0	Native to the N.T.
<i>Colluricincla megarhyncha</i>	Little Shrike-thrush	LC	(not listed)		0	0	Native to the N.T.
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant	LC	(not listed)		0	0	Native to the N.T.
<i>Dugong dugon</i>	Dugong	NT	(not listed)	1	0	1	Native to the N.T.
<i>Antaresia childreni</i>	Children's Python	LC	(not listed)		0	0	Native to the N.T.
<i>Ctenotus hilli</i>	Hill's Ctenotus	LC	(not listed)		0	0	Endemic to the N.T.
<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater	LC	(not listed)		0	0	Native to the N.T.
<i>Myiagra alecto</i>	Shining Flycatcher	LC	(not listed)		0	0	Native to the N.T.
<i>Rhipidura rufiventris</i>	Northern Fantail	LC	(not listed)		0	0	Native to the N.T.
<i>Smicromis brevirostris</i>	Weebill	LC	(not listed)		0	0	Native to the N.T.
<i>Dicrurus bracteatus</i>	Spangled Drongo	LC	(not listed)		0	0	Native to the N.T.
<i>Orcaella heinsohni</i>	Australian Snubfin Dolphin	DD	(not listed)	1	0	1	Native to the N.T.
<i>Sphecotheres vieilloti</i>	Australasian Figbird	LC	(not listed)		0	0	Native to the N.T.
<i>Phalacrocorax varius</i>	Pied Cormorant	LC	(not listed)		0	0	Native to the N.T.
<i>Ardea pacifica</i>	White-necked Heron	LC	(not listed)		0	0	Native to the N.T.
<i>Haliaeetus leucogaster</i>	White-bellied Sea-eagle	LC	(not listed)	1	0	1	Native to the N.T.
<i>Butorides striata</i>	Striated Heron	LC	(not listed)		0	0	Native to the N.T.
<i>Chlamydosaurus kingii</i>	Frilled Lizard	LC	(not listed)		0	0	Native to the N.T.
<i>Litoria bicolor</i>	Northern Dwarf Tree-frog	LC	(not listed)		0	0	Native to the N.T.
<i>Merops ornatus</i>	Rainbow Bee-eater	LC	(not listed)	1	0	1	Native to the N.T.
<i>Anas superciliosa</i>	Pacific Black Duck	LC	(not listed)		0	0	Native to the N.T.
<i>Falco cenchroides</i>	Nankeen Kestrel	LC	(not listed)		0	0	Native to the N.T.
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	LC	(not listed)		0	0	Native to the N.T.
<i>Varanus scalaris</i>	Spotted Tree Monitor	DD	(not listed)		0	1	Native to the N.T.
<i>Pygopus steelescotti</i>	Northern Hooded Scaly-foot	LC	(not listed)		0	0	Native to the N.T.
<i>Cracticus quoyi</i>	Black Butcherbird	LC	(not listed)		0	0	Native to the N.T.
<i>Centropus phasianinus</i>	Pheasant Coucal	LC	(not listed)		0	0	Native to the N.T.
<i>Todiramphus sanctus</i>	Sacred Kingfisher	LC	(not listed)		0	0	Native to the N.T.
<i>Esacus magnirostris</i>	Beach Stone-curlew	LC	(not listed)		0	0	Native to the N.T.
<i>Gerygone albogularis</i>	White-throated Gerygone	LC	(not listed)		0	0	Native to the N.T.
<i>Poecilodryas cerviniventris</i>	Buff-sided Robin	NT	(not listed)		0	1	Native to the N.T.
<i>Eulabeornis castaneoventris</i>	Chestnut Rail	LC	(not listed)		0	0	Native to the N.T.

<i>Psitteuteles versicolor</i>	Varied Lorikeet	LC	(not listed)		0	0	Native to the N.T.
<i>Pteropus alecto</i>	Black Flying-fox	LC	(not listed)		0	0	Native to the N.T.
<i>Grus rubicunda</i>	Brolga	LC	(not listed)		0	0	Native to the N.T.
<i>Egretta garzetta</i>	Little Egret	LC	(not listed)		0	0	Native to the N.T.
<i>Rhipidura leucophrys</i>	Willie Wagtail	LC	(not listed)		0	0	Native to the N.T.
<i>Furina ornata</i>	Orange-naped Snake	LC	(not listed)		0	0	Native to the N.T.
<i>Stiltia isabella</i>	Australian Pratincole	LC	(not listed)		0	0	Native to the N.T.
<i>Accipiter fasciatus</i>	Brown Goshawk	LC	(not listed)		0	0	Native to the N.T.
<i>Myzomela erythrocephala</i>	Red-headed Honeyeater	LC	(not listed)		0	0	Native to the N.T.
<i>Oriolus sagittatus</i>	Olive-backed Oriole	LC	(not listed)		0	0	Native to the N.T.
<i>Artamus cinereus</i>	Black-faced Woodswallow	LC	(not listed)		0	0	Native to the N.T.
<i>Neochmia phaeton</i>	Crimson Finch	LC	(not listed)		0	0	Native to the N.T.
<i>Ninox connivens</i>	Barking Owl	LC	(not listed)		0	0	Native to the N.T.
<i>Eolophus roseicapilla</i>	Galah	LC	(not listed)		0	0	Native to the N.T.
<i>Apus pacificus</i>	Fork-tailed Swift	LC	(not listed)	1	0	1	Native to the N.T.
<i>Chalcites minutillus</i>	Little Bronze-Cuckoo	LC	(not listed)		0	0	Native to the N.T.
<i>Ninox novaeseelandiae</i>	Southern Boobook	LC	(not listed)		0	0	Native to the N.T.
<i>Chelonia mydas</i>	Green Turtle	NT	VU	1	1	1	Native to the N.T.
<i>Aprosmictus erythropterus</i>	Red-winged Parrot	LC	(not listed)		0	0	Native to the N.T.
<i>Arenaria interpres</i>	Ruddy Turnstone	NT	(not listed)	1	0	1	Native to the N.T.
<i>Artamus leucorhynchus</i>	White-breasted Woodswallow	LC	(not listed)		0	0	Native to the N.T.
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	LC	(not listed)		0	0	Native to the N.T.
<i>Tringa nebularia</i>	Common Greenshank	LC	(not listed)	1	0	1	Native to the N.T.
<i>Grallina cyanoleuca</i>	Magpie-lark	LC	(not listed)		0	0	Native to the N.T.
<i>Platycercus venustus</i>	Northern Rosella	LC	(not listed)		0	0	Native to the N.T.
<i>Poephila acuticauda</i>	Long-tailed Finch	LC	(not listed)		0	0	Native to the N.T.
<i>Carlia gracilis</i>	Slender Rainbow Skink	LC	(not listed)		0	0	Native to the N.T.
<i>Lichenostomus unicolor</i>	White-gaped Honeyeater	LC	(not listed)		0	0	Native to the N.T.
<i>Haliastur sphenurus</i>	Whistling Kite	LC	(not listed)		0	0	Native to the N.T.
<i>Cissomela pectoralis</i>	Banded Honeyeater	LC	(not listed)		0	0	Native to the N.T.
<i>Pelecanus conspicillatus</i>	Australian Pelican	LC	(not listed)		0	0	Native to the N.T.
<i>Heteronotia binoei</i>	Bynoe's Gecko	LC	(not listed)		0	0	Native to the N.T.
<i>Tropidonophis mairii</i>	Keelback	LC	(not listed)		0	0	Native to the N.T.
<i>Rhinonictes aurantia</i>	Orange Leaf-nosed bat	NT	(not listed)		0	1	Native to the N.T.
<i>Geophaps smithii</i>	Partridge Pigeon	VU	VU		1	1	Native to the N.T.
<i>Geopelia humeralis</i>	Bar-shouldered Dove	LC	(not listed)		0	0	Native to the N.T.
<i>Poephila personata</i>	Masked Finch	LC	(not listed)		0	0	Native to the N.T.
<i>Ptilonorhynchus nuchalis</i>	Great Bowerbird	LC	(not listed)		0	0	Native to the N.T.
<i>Calyptorhynchus banksii macrorhynchus</i>	Red-tailed Black-cockatoo (Top End)	LC	(not listed)		0	0	Native to the N.T.

<i>Corvus orru</i>	Torresian Crow	LC	(not listed)		0	0	Native to the N.T.
<i>Gerygone magnirostris</i>	Large-billed Gerygone	LC	(not listed)		0	0	Native to the N.T.
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler	LC	(not listed)		0	0	Native to the N.T.
<i>Melithreptus albogularis</i>	White-throated Honeyeater	LC	(not listed)		0	0	Native to the N.T.
<i>Ixobrychus flavicollis</i>	Black Bittern	LC	(not listed)		0	0	Native to the N.T.
<i>Carlia amax</i>	Two-Spined Rainbow Skink	LC	(not listed)		0	0	Native to the N.T.
<i>Philemon buceroides</i>	Helmeted Friarbird	LC	(not listed)		0	0	Native to the N.T.
<i>Pachycephala simplex</i>	Grey Whistler	LC	(not listed)		0	0	Native to the N.T.
<i>Ctenotus strauchii</i>	Strauch's Ctenotus	LC	(not listed)		0	0	Native to the N.T.
<i>Peneoneanthe pulverulenta</i>	Mangrove Robin	LC	(not listed)		0	0	Native to the N.T.
<i>Taeniopygia bichenovii</i>	Double-barred Finch	LC	(not listed)		0	0	Native to the N.T.

Finniss Project

336478	A380384	590	179	Threskiornis molucca	Australian White Ibis	19941114	-12.6383	130.87	GDA94		0	0	LC	0
462125	A606316	591	180	Threskiornis spinicollis	Straw-necked Ibis	19770819	-12.7486	130.7512	GDA94		0	0	LC	0
288156	A319665	762	327	Todiramphus chloris	Collared Kingfisher	19860417	-12.5819	130.8179 1800	GDA94		0	0	LC	0
382910	A451180	759	324	Todiramphus macleayii	Forest Kingfisher	19950427	-12.7906	130.8443	GDA94		0	0	LC	0
137332	A166068	761	326	Todiramphus sanctus	Sacred Kingfisher	20010701	-12.6611	130.7376 5000	GDA94	Cox Peninsula Road	0	0	LC	0
290239	A322056	727	9947	Trichoglossus haematodus	Rainbow Lorikeet	19860417	-12.5819	130.8179 1800	GDA94		0	0	LC	0
219924	A254046	670	155	Tringa brevipes	Grey-tailed Tattler	19860417	-12.5819	130.8179 1800	GDA94		0	0	1 NT	0
336351	A382122	672	158	Tringa nebularia	Common Greenshank	19941115	-12.5634	130.8124	GDA94		0	0	1 LC	0
935311	M237076	365	2629	Tropidonophis mairii	Keelback	20060319	-12.65	130.75	GDA94	MAGNT R28010 Berry Springs Cox Peninsula Road	0	0	LC	0
382915	A451185	16	3157	Uperoleia inundata	Floodplain Toadlet	19950427	-12.7906	130.8443	GDA94		0	0	LC	0
144019	A168059	655	133	Vanellus miles	Masked Lapwing	20000610	-12.7142	130.8142 100	WGS84	Cox Peninsula Road	0	0	LC	0
296028	A326461	667	160	Xenus cinereus	Terek Sandpiper	19860417	-12.5653	130.7512 1800	GDA94		0	0	1 LC	0
296495	A326594	900	576	Zosterops luteus	Yellow White-eye	19860417	-12.5653	130.7512 1800	GDA94		0	0	LC	0

84672		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6858	130.7948	Single GP	20	314	2 0	0	100	Yes	0 No	No	2
84673		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6859	130.7949	Single GP	20	314	2 0 0	0	100	Yes	0 No	No	2
84674		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6893	130.7977	Single GP	50	1962	3 0 0	0	100	Yes	0 Today	Yes	3
84675		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6939	130.7981	Single GP	100	7850	3 0 0	0	100	Yes	0 No	No	3
84676		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6941	130.7998	Single GP	100	7850	4 0 0	0	100	Yes	0 No	No	4
84677		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6953	130.7983	Single GP	20	314	3 0 0	0	100	Yes	0 No	No	3
84678		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6999	130.8074	Single GP	20	314	3 0 0	0	100	Yes	0 No	No	3
84680		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.7126	130.8142	Single GP	20	314	2 0 0	0	100	Yes	0 No	No	2
84681		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6653	130.7858	Single GP	20	314	3 0 0	0	100	Yes	0 No	No	3
84687		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.7207	130.8201	Single GP	50	1962	3 0 0	0	100	Yes	0 No	No	3
84688		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.7255	130.8549	Single GP	20	314	2 0 0	0	100	No	0 No	No	2
84689		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.7262	130.8207	Single GP	20	314	3 0 0	0	100	Yes	0 No	No	3
84691		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.71	130.8123	Single GP	50	1962	2 0 0	0	100	Yes	0 No	No	2
84766		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6754	130.7925	Single GP	20	314	2 0 0	0	100	Yes	0 No	No	2
84768		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6711	130.7912	Single GP	20	314	3 0 0	0	100	Yes	0 No	No	3
84776		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6577	130.7772	Single GP	50	1962	4 0 0	0	100	Yes	0 No	No	4
84777		Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.7296	130.8507	Single GP	20	314	2 0 0	0	100	Yes	0 No	No	2
91365 9332	4263533	Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6573	130.7766	Single GP	50	1962	3 0 0	0	100	Yes	0 No	No	3
91366 9335	4264764	Mission grass - annual	Cenchrus pedicellatus	2010-04-29 2010	-12.6561	130.7738	Single GP	20	314	2 0 0	0	100	Yes	0 No	No	2
98409 9729	4332602	Mission grass - annual	Cenchrus pedicellatus	2010-06-29 2010	-12.7205	130.8202	Single GP	20	314	3 0 0	0	100	Yes	0 No	No	3
33228 190313		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7356	130.8339	Roadside	100	7854	1 -1 -1	-1	-1	-1	-1 No	No	1
33231 190313		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.71	130.8123	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
33233 190313		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.6962	130.805	Roadside	100	7854	1 -1 -1	-1	-1	-1	-1 No	No	1
36961 814		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7727	130.7422	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
36970 824		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7602	130.7674	Roadside	100	7854	3 -1 -1	-1	-1	-1	-1 No	No	3
36973 827		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7594	130.7698	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
36975 830		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7582	130.7735	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
36976 831		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7549	130.7785	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
36979 834		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7495	130.7831	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37042 836		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7471	130.7879	Roadside	100	7854	3 -1 -1	-1	-1	-1	-1 No	No	3
37043 837		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7466	130.7881	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37044 838		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7458	130.7884	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37048 843		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.742	130.79	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37049 844		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.741	130.7905	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37050 845		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7401	130.7911	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37051 846		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7393	130.7921	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37055 850		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7411	130.8029	Roadside	100	7854	3 -1 -1	-1	-1	-1	-1 No	No	3
37056 851		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7411	130.8046	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37057 852		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7404	130.8071	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37058 853		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7377	130.8137	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37059 854		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7379	130.8177	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37060 855		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7376	130.8191	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37122 856		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7371	130.8203	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37123 857		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7364	130.8214	Roadside	100	7854	3 -1 -1	-1	-1	-1	-1 No	No	3
37124 858		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7354	130.8222	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37125 859		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.734	130.8229	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37126 860		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7331	130.8233	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37128 862		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7332	130.8253	Roadside	100	7854	3 -1 -1	-1	-1	-1	-1 No	No	3
37129 863		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7346	130.8297	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37130 864		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7348	130.8308	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37131 865		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7371	130.8404	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37132 866		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7224	130.8605	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37177 222		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.6561	130.7273	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37178 223		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.6601	130.7363	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37248 229		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7028	130.8087	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37250 231		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.707	130.8106	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37252 233		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7194	130.8196	Roadside	100	7854	3 -1 -1	-1	-1	-1	-1 No	No	3
37253 234		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7279	130.821	Roadside	100	7854	3 -1 -1	-1	-1	-1	-1 No	No	3
37254 235		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7306	130.8222	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37255 236		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7349	130.8224	Roadside	100	7854	3 -1 -1	-1	-1	-1	-1 No	No	3
37257 238		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7368	130.8209	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2
37258 239		Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7372	130.82	Roadside	100	7854	2 -1 -1	-1	-1	-1	-1 No	No	2

37259 240	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7378	130.8184	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37260 241	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.738	130.8172	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37261 242	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7378	130.8149	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37264 245	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7396	130.8092	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37266 247	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.739	130.8103	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37330 249	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7398	130.8087	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37331 250	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7401	130.8079	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37332 251	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7407	130.806	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37333 252	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.741	130.8047	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37334 253	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7407	130.801	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37335 254	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7401	130.7984	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37336 255	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7391	130.7945	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37338 257	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.739	130.7934	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37339 258	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7401	130.791	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37340 259	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7411	130.7903	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37341 260	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7454	130.7885	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37345 264	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.755	130.7784	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37346 266	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7566	130.777	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37347 267	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7577	130.775	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37349 269	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7585	130.7727	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37413 270	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7589	130.7713	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37414 271	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7593	130.7703	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37415 272	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7596	130.7691	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37416 273	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7635	130.7559	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37417 274	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7635	130.7545	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37418 275	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7736	130.7403	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37419 276	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7749	130.7368	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37420 277	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.7767	130.732	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37640 190313	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.6718	130.7916	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
37641 190313	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.6656	130.7862	Roadside	100	7854	3	-1	-1	-1	-1	-1	No	No	3
37642 190313	Mission grass - perennial	Cenchrus polystachios	2012-05-16 2012	-12.6578	130.7774	Roadside	100	7854	2	-1	-1	-1	-1	-1	No	No	2
84846	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6561	130.7738	Single GP	20	314	2	0	0	100	Yes	0	No	No	2
84857	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6573	130.7766	Single GP	50	1962	3	0	0	100	Yes	0	No	No	3
85402	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.7032	130.8089	Single GP	50	1962	3	0	0	100	Yes	0	No	No	3
85403	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.682	130.7929	Single GP	20	314	2	0	0	100	Yes	0	No	No	2
85404	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.689	130.7979	Single GP	50	1962	4	0	0	100	Yes	0	Today	Yes	4
85405	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6923	130.8003	Single GP	100	7850	4	0	0	100	Yes	0	No	No	4
85406	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6938	130.798	Single GP	100	7850	4	0	0	100	Yes	0	No	No	4
85407	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6939	130.803	Single GP	20	314	3	0	0	100	Yes	0	No	No	3
85408	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6945	130.799	Single GP	100	7850	4	0	0	100	Yes	0	No	No	4
85409	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.695	130.7988	Single GP	100	7850	5	0	0	100	Yes	0	No	No	5
85410	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6755	130.7924	Single GP	20	314	2	0	0	100	Yes	0	No	No	2
85411	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6997	130.8073	Single GP	20	314	3	0	0	100	Yes	0	No	No	3
85412	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6649	130.7854	Single GP	50	1962	3	0	0	100	Yes	0	No	No	3
85413	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.709	130.8116	Single GP	50	1962	3	0	0	100	Yes	0	No	No	3
85483	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6953	130.7983	Single GP	100	7850	5	0	0	100	Yes	0	No	No	5
85484	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6813	130.7927	Single GP	20	314	2	0	0	100	Yes	0	No	No	2
85485	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.6627	130.783	Single GP	20	314	2	0	0	100	Yes	0	No	No	2
85656	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.733	130.8247	Single GP	20	314	3	0	0	100	Yes	0	No	No	3
85739	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.7311	130.8495	Single GP	20	314	3	0	0	100	Yes	0	No	No	3
85992	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.7336	130.8261	Single GP	20	314	3	0	0	100	Yes	0	No	No	3
85995	Mission grass - perennial	Cenchrus polystachios	2010-06-29 2010	-12.7349	130.8312	Not Record	100	7850	3	0	0	100	Yes	0	No	No	3
85997	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.737	130.8424	Single GP	100	7850	2	0	0	100	Yes	0	No	No	2
85998	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.7371	130.8418	Single GP	100	7850	3	0	0	100	Yes	0	No	No	3
85999	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.7371	130.8403	Single GP	50	1962	3	0	0	100	Yes	0	No	No	3
86166	Mission grass - perennial	Cenchrus polystachios	2010-06-29 2010	-12.7358	130.8219	Not Record	100	7850	2	0	0	100	Yes	0	No	No	2
86167	Mission grass - perennial	Cenchrus polystachios	2010-06-29 2010	-12.7378	130.8184	Not Record	100	7850	3	0	0	100	Yes	0	No	No	3
86168	Mission grass - perennial	Cenchrus polystachios	2010-06-29 2010	-12.7551	130.7782	Not Record	100	7850	2	0	0	100	Yes	0	No	No	2
86169	Mission grass - perennial	Cenchrus polystachios	2010-06-29 2010	-12.7587	130.7716	Not Record	100	7850	4	0	0	100	Yes	0	No	No	4
86171	Mission grass - perennial	Cenchrus polystachios	2010-06-29 2010	-12.7264	130.8537	Not Record	100	7850	3	0	0	100	Yes	0	No	No	3
86181	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.7206	130.8201	Single GP	20	314	2	0	0	100	Yes	0	No	No	2
86182	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.7281	130.821	Single GP	20	314	2	0	0	100	Yes	0	No	No	2

91364	9324	4263497	Mission grass - perennial	Cenchrus polystachios	2010-04-29 2010	-12.7264	130.8537	Single GP†	50	1962	3	0	0	100	No	0	No	No	3
98405	8942	4133064	Mission grass - perennial	Cenchrus polystachios	2010-06-29 2010	-12.7205	130.8201	Single GP†	20	314	3	0	0	100	Unk	0	No	No	3
98407	9039	3985002	Mission grass - perennial	Cenchrus polystachios	2010-06-29 2010	-12.7032	130.809	Single GP†	20	314	2	0	0	100	Yes	0	Unknown	No	2
90424	15472	D0132849	Mission grass sp	Cenchrus sp	2010-02-25 2010	-12.7377	130.8142	Single GP†	100	7850	2	0	0	100	No	0	No	No	2
90439	20031	D0128036	Mission grass sp	Cenchrus sp	2010-02-25 2010	-12.7595	130.7692	Single GP†	100	7850	2	0	0	100	No	0	No	No	2
90857	7133	3968976	Mission grass sp	Cenchrus sp	2010-04-13 2010	-12.6548	130.7242	Single GP†	20	314	2	0	0	100	Yes	0	No	No	2
90858	7144	3966841	Mission grass sp	Cenchrus sp	2010-04-13 2010	-12.6555	130.7266	Single GP†	20	314	2	0	0	100	Yes	0	No	No	2
3767	14532	D0021277		Cynodon radiatus	1947-02-28 1947	-12.6653	130.8345	Herbarium	20	314	6	-1	-1	-1	0	-1	No	No	6
89410	18755	D0208030		Euphorbia heterophylla	2010-02-25 2010	-12.7596	130.7692	Single GP†	100	7850	2	0	0	100	No	0	No	No	2
9332	5335	1908795	Lantana - common	Lantana camara	2000-07-23 2000	-12.74	130.7669	Herbarium	20	314	6	-1	-1	-1	0	-1	No	No	6
94707	512	1947689	Lantana - common	Lantana camara	2005-04-20 2005	-12.7385	130.7672	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94708	527	1947765	Lantana - common	Lantana camara	2005-04-20 2005	-12.7383	130.7679	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94709	530	1947787	Lantana - common	Lantana camara	2005-04-20 2005	-12.7382	130.7671	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94710	531	1947795	Lantana - common	Lantana camara	2005-04-20 2005	-12.7381	130.7678	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94711	550	1940058	Lantana - common	Lantana camara	2005-04-20 2005	-12.7381	130.7676	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94712	553	1940088	Lantana - common	Lantana camara	2005-04-20 2005	-12.7381	130.7675	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94714	564	1940590	Lantana - common	Lantana camara	2005-04-20 2005	-12.7388	130.7672	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94721	638	1945318	Lantana - common	Lantana camara	2005-04-20 2005	-12.7385	130.7681	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94792	659	1946833	Lantana - common	Lantana camara	2005-04-20 2005	-12.7386	130.7672	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94795	666	1947021	Lantana - common	Lantana camara	2005-04-20 2005	-12.7391	130.7675	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94796	668	1947058	Lantana - common	Lantana camara	2005-04-20 2005	-12.7391	130.7677	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94797	680	1868761	Lantana - common	Lantana camara	2005-04-20 2005	-12.739	130.7677	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94798	717	68877	Lantana - common	Lantana camara	2005-04-20 2005	-12.7389	130.7673	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
94799	744	115125	Lantana - common	Lantana camara	2005-04-20 2005	-12.7388	130.7683	Single GP†	-1	1	6	-1	-1	-1	No	-1	No	No	6
26955	1349		Lantana sp	Lantana sp	2005-04-20 2005	-12.7383	130.7679	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27013	1350		Lantana sp	Lantana sp	2005-04-20 2005	-12.7385	130.7681	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27014	1351		Lantana sp	Lantana sp	2005-04-20 2005	-12.7388	130.7683	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27015	1352		Lantana sp	Lantana sp	2005-04-20 2005	-12.7381	130.7676	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27016	1353		Lantana sp	Lantana sp	2005-04-20 2005	-12.7381	130.7675	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27017	1354		Lantana sp	Lantana sp	2005-04-20 2005	-12.7382	130.7671	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27018	1355		Lantana sp	Lantana sp	2005-04-20 2005	-12.7385	130.7672	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27019	1356		Lantana sp	Lantana sp	2005-04-20 2005	-12.7386	130.7672	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27020	1357		Lantana sp	Lantana sp	2005-04-20 2005	-12.7388	130.7672	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27021	1358		Lantana sp	Lantana sp	2005-04-20 2005	-12.7389	130.7673	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27022	1359		Lantana sp	Lantana sp	2005-04-20 2005	-12.7391	130.7675	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27023	1360		Lantana sp	Lantana sp	2005-04-20 2005	-12.739	130.7677	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
27024	1363		Lantana sp	Lantana sp	2005-04-20 2005	-12.7391	130.7677	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
26954	1348		Lantana sp	Lantana sp	2005-04-20 2005	-12.7381	130.7678	Single GP†	-1	0	6	-1	-1	-1	No	-1	No	No	6
92461	19897	D0070406	Coffee bush	Leucaena leucocephala	2010-04-29 2010	-12.7262	130.8208	Single GP†	20	314	2	0	0	100	Yes	0	No	No	2
15753	15857	D0175189		Ruellia tuberosa	1983-05-01 1983	-12.7486	130.8345	Herbarium	20	314	6	-1	-1	-1	0	-1	No	No	6
87880	6594	4311982	Senna - Sicklepod	Senna obtusifolia	2010-02-25 2010	-12.7595	130.7692	Single GP†	100	7850	2	0	0	100	No	0	Today	Yes	2
93974	18355	D0069322	Sida - Flannel weed	Sida cordifolia	2010-04-29 2010	-12.6626	130.7828	Single GP†	20	314	2	0	0	100	Yes	0	No	No	2
97388	17088	D0163640	Sida - Paddys lucerne	Sida rhombifolia	2010-06-29 2010	-12.7205	130.8201	Single GP†	20	314	2	0	0	100	Yes	0	No	No	2

Appendix 4b - Feral Animals within 10 km of EL29698 (NR Maps - Accessed 27 June 2016)

Objectid	Id No	Speciesid	Biocode	Fullname	Common Name	Date	Lat	Long	Accuracy	Datum	Museum	Reg No	Location	Endemic	Aus	Non	NEpbca	200	Epbca	Miç	Tpwca	201Threat	201:Sig	2012	Notes
373644	A451054	1126	1531	Canis lupu	Dingo	19950427	-12.7906	130.8443		GDA94				0	1					LC			0		
373645	A451055	1126	1531	Canis lupu	Dingo	19950427	-12.7842	130.8553		GDA94				0	1					LC			0		
373646	A451056	1126	1531	Canis lupu	Dingo	19950427	-12.7616	130.8625		GDA94				0	1					LC			0		
382906	A451176	1132	1514	Sus scrofa	Pig	19950427	-12.8307	130.805		GDA94				0	1					(Int)			0		
382907	A451177	1132	1514	Sus scrofa	Pig	19950427	-12.7842	130.8553		GDA94				0	1					(Int)			0		

Litchfield Project

Genus	Species	Gda94 Long	Gda94 Lat	Tpwa 2012	Epbc 2012	Restricted Range	Nt Endemic	Nt Only	Threatened2012	Significant2012	Introduced Status
Nelsonia	campestris	130.66968	-12.84029	Least Concern	-	N	-	-			NATIVE TO NT
Buchanania	obovata	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Buchanania	obovata	130.7466677	-12.85839385	Least Concern	-	N	-	-			NATIVE TO NT
Carpentaria	acuminata	130.71798	-12.85789	Least Concern	-	N	Y	-			NATIVE TO NT
Hydriastele	wendlandiana	130.71798	-12.85789	Least Concern	-	N	-	-			NATIVE TO NT
Livistona	benthamii	130.71798	-12.85789	Least Concern	-	N	-	-			NATIVE TO NT
Livistona	humilis	130.7351213	-12.83109131	Least Concern	-	N	Y	-			NATIVE TO NT
Livistona	humilis	130.7466677	-12.85839385	Least Concern	-	N	Y	-			NATIVE TO NT
Gymnanthera	oblonga	130.7151667	-12.78933333	Least Concern	-	N	-	-			NATIVE TO NT
Blumea	saxatilis	130.7151667	-12.78933333	Least Concern	-	N	-	-			NATIVE TO NT
Cochlospermum	fraseri	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Blechnum	indicum	130.71798	-12.85789	Least Concern	-	N	-	-			NATIVE TO NT
Stenochlaena	palustris	130.71798	-12.85789	Least Concern	-	N	-	-			NATIVE TO NT
Erythrophleum	chlorostachys	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Erythrophleum	chlorostachys	130.7466677	-12.85839385	Least Concern	-	N	-	-			NATIVE TO NT
Denhamia	obscura	130.7151667	-12.78933333	Least Concern	-	N	-	-			NATIVE TO NT
Lumnitzera	littorea	130.7151667	-12.78933333	Least Concern	-	N	-	-			NATIVE TO NT
Terminalia	ferdinandiana	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Terminalia	ferdinandiana	130.7466677	-12.85839385	Least Concern	-	N	-	-			NATIVE TO NT
Terminalia	microcarpa	130.71798	-12.85789	Least Concern	-	N	-	-			NATIVE TO NT
Murdannia	graminea	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Cyanotis	axillaris	130.66968	-12.84029	Least Concern	-	N	-	-			NATIVE TO NT
Cyperus	javanicus	130.7151667	-12.78933333	Least Concern	-	N	-	-			NATIVE TO NT
Scleria	ciliaris	130.71798	-12.85789	Least Concern	-	N	-	-			NATIVE TO NT
Scleria	polycarpa	130.71798	-12.85789	Least Concern	-	N	-	-			NATIVE TO NT
Hibbertia	lepidota	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Hibbertia	dilatata	130.7466677	-12.85839385	Least Concern	-	N	Y	-			NATIVE TO NT
Diospyros	calycantha	130.7151667	-12.78933333	Least Concern	-	N	-	-			NATIVE TO NT
Breynia	cernua	130.71798	-12.85789	Least Concern	-	N	-	-			NATIVE TO NT
Petalostigma	quadrioculare	130.7466677	-12.85839385	Least Concern	-	N	-	-			NATIVE TO NT
Petalostigma	quadrioculare	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Sauropus	glaucus	130.7466677	-12.85839385	Least Concern	-	N	-	-			NATIVE TO NT
Phyllanthus	urinaria	130.66968	-12.84029	Least Concern	-	N	-	-			NATIVE TO NT
Sauropus	glaucus	130.66968	-12.84029	Least Concern	-	N	-	-			NATIVE TO NT
Desmodium	heterocarpon	130.66968	-12.84029	Least Concern	-	N	-	-			NATIVE TO NT
Desmodium	pycnotrichum	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Desmodium	pycnotrichum	130.7466677	-12.85839385	Least Concern	-	N	-	-			NATIVE TO NT
Eriosema	chinense	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Indigofera	saxicola	130.7351213	-12.83109131	Least Concern	-	N	-	-			NATIVE TO NT
Indigofera	schultziiana	130.8316541	-12.9054649	Data Deficient	-	N	Y	-			1 NATIVE TO NT
Indigofera	schultziiana	130.824734	-12.9185809	Data Deficient	-	N	Y	-			1 NATIVE TO NT
Indigofera	schultziiana	130.8247823	-12.9182483	Data Deficient	-	N	Y	-			1 NATIVE TO NT

Indigofera	schultziiana	130.8253992	-12.9156948	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8256245	-12.9147775	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8276361	-12.9116178	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8277702	-12.9114247	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8282691	-12.9107273	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.829283	-12.9091073	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8296907	-12.908426	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8300608	-12.9078413	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8303452	-12.9074068	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8245248	-12.9194982	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8310747	-12.9062749	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8318847	-12.8980029	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.832051	-12.904907	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8322334	-12.9046065	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8325875	-12.9040379	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8320564	-12.8987701	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8315039	-12.8959967	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8311445	-12.8942049	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8309191	-12.8927619	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8307797	-12.8920753	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8306777	-12.8916998	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8305222	-12.891276	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8301252	-12.8907234	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8298516	-12.8903908	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.830667	-12.9069186	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8232963	-12.9238487	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8209789	-12.9250342	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8218426	-12.9248304	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8243316	-12.9203887	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.823527	-12.9234893	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8238435	-12.9224915	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.823822	-12.9225827	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8237576	-12.9228563	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.7947	-12.8461	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8126	-12.8598	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.7763	-12.8502	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.7901	-12.8258	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Flagellaria	indica	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Flagellaria	indica	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Litsea	glutinosa	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Planchonia	careya	130.7466677	-12.85839385	Least Concern	-	N	-	-	NATIVE TO NT
Owenia	vernica	130.7466677	-12.85839385	Least Concern	-	N	-	-	NATIVE TO NT
Owenia	vernica	130.7351213	-12.83109131	Least Concern	-	N	-	-	NATIVE TO NT

Tinospora	smilacina	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Acacia	auriculiformis	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Thysanotus	banksii	130.7351213	-12.83109131	Least Concern	-	N	-	-	NATIVE TO NT
Fagraea	racemosa	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Thespesia	populneoides	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Leea	rubra	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Calytrix	achaeta	130.7351213	-12.83109131	Least Concern	-	N	-	-	NATIVE TO NT
Myrsine	benthamiana	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Acacia	oncinocarpa	130.7351213	-12.83109131	Least Concern	-	N	Y	-	NATIVE TO NT
Acacia	praelongata	130.7351213	-12.83109131	Least Concern	-	N	Y	-	NATIVE TO NT
Mitrasacme	nummularia	130.66968	-12.84029	Least Concern	-	N	-	-	NATIVE TO NT
Ficus	congesta	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Ficus	racemosa	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Melaleuca	leucadendra	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Melaleuca	leucadendra	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Eucalyptus	tetrodonta	130.7466677	-12.85839385	Least Concern	-	N	-	-	NATIVE TO NT
Eucalyptus	tetrodonta	130.7351213	-12.83109131	Least Concern	-	N	-	-	NATIVE TO NT
Lophostemon	lactifluus	130.66968	-12.84029	Least Concern	-	N	-	-	NATIVE TO NT
Helminthostachys	zeylanica	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Xanthostemon	paradoxus	130.7351213	-12.83109131	Least Concern	-	N	-	-	NATIVE TO NT
Melaleuca	viridiflora	130.7151667	-12.78933333	Least Concern	-	N	N	N	NATIVE TO NT
Syzygium	angophoroides	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Syzygium	minutuliflorum	130.71798	-12.85789	Least Concern	-	N	Y	-	NATIVE TO NT
Xanthostemon	eucalyptoides	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Pandanus	spiralis	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Cymbopogon	bombycinus	130.7466677	-12.85839385	Least Concern	-	N	-	-	NATIVE TO NT
Bothriochloa	bladhii	130.66968	-12.84029	Least Concern	-	N	-	-	NATIVE TO NT
Panicum	mindanaense	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Eulalia	mackinlayi	130.7351213	-12.83109131	Least Concern	-	N	-	-	NATIVE TO NT
Eulalia	mackinlayi	130.7466677	-12.85839385	Least Concern	-	N	-	-	NATIVE TO NT
Eriachne	obtusa	130.7466677	-12.85839385	Least Concern	-	N	-	-	NATIVE TO NT
Eriachne	avenacea	130.7351213	-12.83109131	Least Concern	-	N	-	-	NATIVE TO NT
Eriachne	avenacea	130.7466677	-12.85839385	Least Concern	-	N	-	-	NATIVE TO NT
Sporobolus	virginicus	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Themeda	triandra	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Themeda	triandra	130.7466677	-12.85839385	Least Concern	-	N	-	-	NATIVE TO NT
Persoonia	falcata	130.7466677	-12.85839385	Least Concern	-	N	-	-	NATIVE TO NT
Persoonia	falcata	130.7351213	-12.83109131	Least Concern	-	N	-	-	NATIVE TO NT
Acrostichum	speciosum	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Alphitonia	excelsa	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Helicia	australasica	130.71798	-12.85789	Least Concern	-	N	-	-	NATIVE TO NT
Xerochloa	imberbis	130.7151667	-12.78933333	Least Concern	-	N	-	-	NATIVE TO NT
Polygala	longifolia	130.7351213	-12.83109131	Least Concern	-	N	-	-	NATIVE TO NT

Grevillea	longicuspis	130.8277273	-12.8889424	Near Threatened	-	N	Y	-	1	NATIVE TO NT
Grevillea	goodii	130.7466677	-12.85839385	Least Concern	-	N	Y	-		NATIVE TO NT
Anthobolus	filifolius	130.7151667	-12.78933333	Least Concern	-	N	-	-		NATIVE TO NT
Exocarpos	latifolius	130.7466677	-12.85839385	Least Concern	-	N	-	-		NATIVE TO NT
Exocarpos	latifolius	130.7351213	-12.83109131	Least Concern	-	N	-	-		NATIVE TO NT
Lygodium	microphyllum	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Actinostachys	digitata	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Dodonaea	hispidula	130.7466677	-12.85839385	Infraspecific	-	N	-	-		NATIVE TO NT
Timonius	timon	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Carallia	brachiata	130.7151667	-12.78933333	Least Concern	-	N	-	-		NATIVE TO NT
Gardenia	megasperma	130.7351213	-12.83109131	Least Concern	-	N	-	-		NATIVE TO NT
Bruguiera	exaristata	130.7151667	-12.78933333	Least Concern	-	N	-	-		NATIVE TO NT
Carallia	brachiata	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Rhizophora	stylosa	130.7151667	-12.78933333	Least Concern	-	N	-	-		NATIVE TO NT
Buchnera	linearis	130.7351213	-12.83109131	Least Concern	-	N	-	-		NATIVE TO NT
Melicope	elleryana	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Triumfetta	micracantha	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Cyclosorus	interruptus	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Cheilanthes	tenuifolia	130.7466677	-12.85839385	Least Concern	-	N	-	-		NATIVE TO NT
Cayratia	maritima	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Clerodendrum	costatum	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Avicennia	marina	130.7151667	-12.78933333	Least Concern	-	N	-	-		NATIVE TO NT
Erycibe	coccinea	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Acacia	lamprocarpa	130.7351213	-12.83109131	Least Concern	-	N	-	-		NATIVE TO NT
Acacia	lamprocarpa	130.7151667	-12.78933333	Least Concern	-	N	-	-		NATIVE TO NT
Acacia	lamprocarpa	130.7466677	-12.85839385	Least Concern	-	N	-	-		NATIVE TO NT
Leea	indica	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Melastoma	malabathricum	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Cyperus	haspan	130.71798	-12.85789	Infraspecific	-	-	-	-		NATIVE TO NT
Melaleuca	cajuputi	130.7151667	-12.78933333	Least Concern	-	N	-	-		NATIVE TO NT
Ficus	virens	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Cyclophyllum	schultzii	130.71798	-12.85789	Not Evaluated	-	N	-	-		NATIVE TO NT
Trema	tomentosa	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Alysicarpus	brownii	130.66968	-12.84029	Data Deficient	-	N	Y	-	1	NATIVE TO NT
Ilex	arnhemensis	130.784544	-12.948599	Least Concern	-	N	-	-		NATIVE TO NT
Miliusa	brahei	130.75121	-12.998593	Least Concern	-	N	-	-		NATIVE TO NT
Trachymene	rotundifolia	130.751213	-12.981925	Least Concern	-	N	-	-		NATIVE TO NT
Coelospermum	reticulatum	130.7466677	-12.85839385	Least Concern	-	N	-	-		NATIVE TO NT
Trianthema	rhyrachalyptra	130.751213	-12.981925	Least Concern	-	N	-	-		NATIVE TO NT
Geodorum	densiflorum	130.71798	-12.85789	Least Concern	-	N	-	-		NATIVE TO NT
Gymnanthera	oblonga	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Blumea	integrifolia	130.801215	-12.948593	Least Concern	-	N	-	-		NATIVE TO NT
Blumea	saxatilis	130.7253	-12.7933	Least Concern	-	N	-	-		NATIVE TO NT

Polycarpea	violacea	130.667882	-12.831924	Least Concern	-	N	-	-	NATIVE TO NT
Terminalia	latipes	130.817882	-12.865267	Least Concern	-	N	-	-	NATIVE TO NT
Murdannia	gigantea	130.801215	-12.948593	Least Concern	-	N	-	-	NATIVE TO NT
Pleurocarpea	denticulata	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Schoenus	punctatus	130.784542	-12.86527	Least Concern	-	N	-	-	NATIVE TO NT
Scleria	ciliaris	130.834514	-12.981893	Least Concern	-	N	-	-	NATIVE TO NT
Scleria	psilorrhiza	130.8208	-12.8728	Data Deficient	-	N	-	-	1 NATIVE TO NT
Tricostularia	undulata	130.801215	-12.948593	Least Concern	-	N	-	-	NATIVE TO NT
Hibbertia	lepidota	130.751209	-12.915264	Least Concern	-	N	-	-	NATIVE TO NT
Hibbertia	lepidota	130.751209	-12.915264	Least Concern	-	N	-	-	NATIVE TO NT
Drosera	indica	130.75954	-12.97746	Least Concern	-	N	-	-	NATIVE TO NT
Commelina	ensifolia	130.751213	-12.981925	Least Concern	-	N	-	-	NATIVE TO NT
Suaeda	arbusculoides	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Tecticornia	australasica	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Fimbristylis	dichotoma	130.834545	-12.998596	Least Concern	-	N	-	-	NATIVE TO NT
Fimbristylis	clavata	130.76	-12.9781	Least Concern	-	N	-	-	NATIVE TO NT
Eleocharis	sundaica	130.717	-12.791	Least Concern	-	N	-	-	NATIVE TO NT
Choriceras	tricorne	130.801215	-12.948593	Least Concern	-	N	-	-	NATIVE TO NT
Glochidion	xerocarpum	130.751217	-12.965267	Least Concern	-	N	-	-	NATIVE TO NT
Petalostigma	pubescens	130.767887	-12.98193	Least Concern	-	N	-	-	NATIVE TO NT
Clitoria	australis	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Desmodium	trichostachyum	130.667881	-12.848593	Least Concern	-	N	-	-	NATIVE TO NT
Sauropus	ochrophyllus	130.801215	-12.948593	Least Concern	-	N	-	-	NATIVE TO NT
Indigofera	hirsuta	130.834545	-12.998596	Least Concern	-	N	-	-	NATIVE TO NT
Indigofera	saxicola	130.8236	-12.9225	Least Concern	-	N	-	-	NATIVE TO NT
Indigofera	saxicola	130.8261	-12.885	Least Concern	-	N	-	-	NATIVE TO NT
Indigofera	saxicola	130.82	-12.8758	Least Concern	-	N	-	-	NATIVE TO NT
Indigofera	saxicola	130.8264	-12.9133	Least Concern	-	N	-	-	NATIVE TO NT
Indigofera	saxicola	130.7172	-12.7917	Least Concern	-	N	-	-	NATIVE TO NT
Indigofera	saxicola	130.7172	-12.7917	Least Concern	-	N	-	-	NATIVE TO NT
Crotalaria	novae-hollandiae	130.83454	-12.965262	Least Concern	-	N	-	-	NATIVE TO NT
Flemingia	trifoliatrum	130.801215	-12.948593	Least Concern	-	N	-	-	NATIVE TO NT
Indigofera	saxicola	130.7172	-12.7917	Least Concern	-	N	-	-	NATIVE TO NT
Indigofera	saxicola	130.82576	-12.88532	Least Concern	-	N	-	-	NATIVE TO NT
Cyperus	javanicus	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Jacksonia	dilatata	130.66788	-12.898598	Least Concern	-	N	-	-	NATIVE TO NT
Goodenia	armstrongiana	130.7594	-12.9775	Least Concern	-	N	-	-	NATIVE TO NT
Vigna	vexillata	130.76788	-12.965262	Infraspecific	-	N	-	-	NATIVE TO NT
Acacia	difficilis	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Goodenia	armstrongiana	130.75954	-12.97746	Least Concern	-	N	-	-	NATIVE TO NT
Osbeckia	australiana	130.817882	-12.865267	Least Concern	-	N	-	-	NATIVE TO NT
Nymphoides	quadriloba	130.76016	-12.9782	Least Concern	-	N	-	-	NATIVE TO NT
Utricularia	singeriana	130.75908	-12.9784	Vulnerable	-	N	-	-	1 NATIVE TO NT

Utricularia	singeriana	130.75972	-12.97963	Vulnerable	-	N	-	-	1	1 NATIVE TO NT
Utricularia	dunstaniae	130.75862	-12.9775	Vulnerable	-	N	-	-	1	1 NATIVE TO NT
Utricularia	hamiltonii	130.75972	-12.97963	Near Threatened	-	N	-	-		1 NATIVE TO NT
Tricoryne	elatior	130.801215	-12.948593	Near Threatened	-	N	-	-		1 NATIVE TO NT
Cryptocarya	cunninghamii	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Pogostemon	stellatus	130.717879	-12.865264	Least Concern	-	N	-	-		NATIVE TO NT
Vallisneria	rubra	130.834539	-12.881927	Least Concern	-	N	-	-		NATIVE TO NT
Acacia	leptocarpa	130.7253	-12.7933	Least Concern	-	N	-	-		NATIVE TO NT
Eucalyptus	alba	130.717881	-12.815269	Least Concern	-	N	-	-		NATIVE TO NT
Calytrix	achaeta	130.667882	-12.831924	Least Concern	-	N	-	-		NATIVE TO NT
Calytrix	achaeta	130.717881	-12.815269	Least Concern	-	N	-	-		NATIVE TO NT
Melaleuca	argentea	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Xanthostemon	eucalyptoides	130.7253	-12.7933	Least Concern	-	N	-	-		NATIVE TO NT
Lophostemon	lactifluus	130.801215	-12.948593	Least Concern	-	N	-	-		NATIVE TO NT
Leptospermum	madidum	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Melaleuca	argentea	130.75121	-12.831925	Least Concern	-	N	-	-		NATIVE TO NT
Melaleuca	argentea	130.751217	-12.965267	Least Concern	-	N	-	-		NATIVE TO NT
Melaleuca	nervosa	130.767887	-12.98193	Least Concern	-	N	-	-		NATIVE TO NT
Opilia	amentacea	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Pandanus	aquaticus	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Pandanus	spiralis	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Alloteropsis	semialata	130.801215	-12.948593	Least Concern	-	N	-	-		NATIVE TO NT
Alloteropsis	semialata	130.801215	-12.948593	Least Concern	-	N	-	-		NATIVE TO NT
Xanthostemon	paradoxus	130.717885	-12.8986	Least Concern	-	N	-	-		NATIVE TO NT
Xanthostemon	paradoxus	130.767887	-12.98193	Least Concern	-	N	-	-		NATIVE TO NT
Imperata	cylindrica	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Mnesithea	rottboellioides	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Grevillea	dryandri	130.767887	-12.98193	Least Concern	-	N	-	-		NATIVE TO NT
Mnesithea	rottboellioides	130.684546	-12.831927	Least Concern	-	N	-	-		NATIVE TO NT
Eriachne	avenacea	130.801215	-12.948593	Least Concern	-	N	-	-		NATIVE TO NT
Eriachne	avenacea	130.801215	-12.948593	Least Concern	-	N	-	-		NATIVE TO NT
Pseudoraphis	spinescens	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Grevillea	pteridifolia	130.767887	-12.98193	Least Concern	-	N	-	-		NATIVE TO NT
Lindernia	lobelioides	130.75862	-12.9775	Least Concern	-	N	-	-		NATIVE TO NT
Helicia	australasica	130.801215	-12.948593	Least Concern	-	N	-	-		NATIVE TO NT
Carallia	brachiata	130.751217	-12.965267	Least Concern	-	N	-	-		NATIVE TO NT
Trema	tomentosa	130.717879	-12.865264	Least Concern	-	N	-	-		NATIVE TO NT
Marsdenia	viridiflora	130.8256	-12.885	Least Concern	-	N	-	-		NATIVE TO NT
Hibbertia	brevipedunculata	130.76788	-12.848598	Least Concern	-	N	-	-		NATIVE TO NT
Hibbertia	brevipedunculata	130.819944	-12.876444	Least Concern	-	N	-	-		NATIVE TO NT
Chrysopogon	filipes	130.784543	-12.965266	Least Concern	-	N	-	-		NATIVE TO NT
Corymbia	ptychocarpa	130.801215	-12.948593	Least Concern	-	N	-	-		NATIVE TO NT
Hibbertia	caudice	130.7172	-12.7917	Least Concern	-	N	-	-		NATIVE TO NT

Hibbertia	caudice	130.751209	-12.915264	Least Concern	-	N	-	-	NATIVE TO NT
Isoetes	coromandelina	130.801215	-12.948593	Least Concern	-	N	-	-	NATIVE TO NT
Tecticornia	indica	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Diospyros	rugosula	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Boerhavia	albiflora	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Boerhavia	albiflora	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Eleocharis	jacobsiana	130.717	-12.791	Least Concern	-	N	-	-	NATIVE TO NT
Diospyros	rugosula	130.801215	-12.948593	Least Concern	-	N	-	-	NATIVE TO NT
Grevillea	pluricaulis	130.7172	-12.7917	Least Concern	-	N	Y	-	NATIVE TO NT
Hibbertia	goyderi	130.77803	-12.96921	Least Concern	-	N	Y	-	NATIVE TO NT
Hibbertia	goyderi	130.76788	-12.848598	Least Concern	-	N	Y	-	NATIVE TO NT
Hibbertia	goyderi	130.834543	-12.91527	Least Concern	-	N	Y	-	NATIVE TO NT
Hibbertia	goyderi	130.751209	-12.915264	Least Concern	-	N	Y	-	NATIVE TO NT
Euphorbia	litticola	130.784543	-12.965266	Least Concern	-	N	-	-	NATIVE TO NT
Hibbertia	dilatata	130.67508	-12.80112	Least Concern	-	N	Y	-	NATIVE TO NT
Grevillea	pluricaulis	130.784543	-12.965266	Least Concern	-	N	Y	-	NATIVE TO NT
Grevillea	pluricaulis	130.751209	-12.915264	Least Concern	-	N	Y	-	NATIVE TO NT
Hibbertia	dilatata	130.767887	-12.98193	Least Concern	-	N	Y	-	NATIVE TO NT
Euphorbia	muelleri	130.834541	-12.898594	Least Concern	-	N	Y	-	NATIVE TO NT
Hibbertia	goyderi	130.784515	-12.965294	Least Concern	-	N	Y	-	NATIVE TO NT
Hibbertia	goyderi	130.784543	-12.965266	Least Concern	-	N	Y	-	NATIVE TO NT
Lindernia	sp. Hann River	130.76016	-12.9782	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Galactia	megalophylla	130.834539	-12.881927	Least Concern	-	N	Y	-	NATIVE TO NT
Galactia	megalophylla	130.751209	-12.915264	Least Concern	-	N	Y	-	NATIVE TO NT
Galactia	megalophylla	130.751209	-12.915264	Least Concern	-	N	Y	-	NATIVE TO NT
Eriachne	bleeseri	130.801215	-12.948593	Least Concern	-	N	Y	-	NATIVE TO NT
Clerodendrum	tatei	130.784543	-12.965266	Least Concern	-	N	Y	-	NATIVE TO NT
Phyllanthus	eutaxioides	130.76788	-12.965262	Least Concern	-	N	Y	-	NATIVE TO NT
Cycas	calcicola	130.75121	-12.998593	Least Concern	-	N	Y	-	NATIVE TO NT
Cycas	calcicola	130.75121	-12.998593	Least Concern	-	N	Y	-	NATIVE TO NT
Cycas	calcicola	130.75121	-12.998593	Least Concern	-	N	Y	-	NATIVE TO NT
Cycas	calcicola	130.75121	-12.998593	Least Concern	-	N	Y	-	NATIVE TO NT
Brachychiton	megaphyllus	130.834545	-12.998596	Least Concern	-	N	Y	-	NATIVE TO NT
Arnhemia	cryptantha	130.7872	-12.9581	Least Concern	-	N	Y	-	NATIVE TO NT
Cyclophyllum	schultzi	130.784543	-12.965266	Least Concern	-	N	Y	-	NATIVE TO NT
Phyllanthus	eutaxioides	130.834545	-12.998596	Least Concern	-	N	Y	-	NATIVE TO NT
Sauropus	paucifolius	130.76788	-12.965262	Least Concern	-	N	Y	-	NATIVE TO NT
Gomphrena	canescens	130.75777	-12.97807	Least Concern	-	N	Y	-	NATIVE TO NT
Stylidium	aquaticum	130.75862	-12.9775	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Trithuria	cowieana	130.76	-12.9781	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Goodenia	elaiosoma	130.7601	-12.97816	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Goodenia	elaiosoma	130.7594	-12.9775	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Corymbia	polysciada	130.734541	-12.848595	Least Concern	-	N	Y	-	NATIVE TO NT

Corymbia	polysciada	130.801215	-12.948593	Least Concern	-	N	Y	-	NATIVE TO NT
Tephrosia	bifacialis	130.8317	-12.8964	Least Concern	-	N	Y	-	NATIVE TO NT
Spermacoce	erythrosepala	130.68137	-12.80174	Least Concern	-	N	Y	-	NATIVE TO NT
Trithuria	cowieana	130.75679	-12.97636	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Tephrosia	nematophylla	130.767887	-12.915269	Least Concern	-	N	Y	-	NATIVE TO NT
Indigofera	schultziiana	130.82673	-12.9132	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8317	-12.9053	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8208	-12.8731	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8231	-12.8633	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Tephrosia	nematophylla	130.77803	-12.96921	Least Concern	-	N	Y	-	NATIVE TO NT
Patersonia	macrantha	130.751213	-12.981925	Least Concern	-	N	Y	-	NATIVE TO NT
Patersonia	macrantha	130.751209	-12.915264	Least Concern	-	N	Y	-	NATIVE TO NT
Mitrasacme	latiflora	130.7158	-12.79	Least Concern	-	N	Y	-	NATIVE TO NT
Ficus	scobina	130.784543	-12.965266	Least Concern	-	N	Y	-	NATIVE TO NT
Blyxa	echinosperma	130.717879	-12.865264	Least Concern	-	N	-	-	NATIVE TO NT
Acacia	tolmerensis	130.751217	-12.965267	Least Concern	-	N	Y	-	NATIVE TO NT
Eriocaulon	schultzi	130.75999	-12.9781	Least Concern	-	N	Y	-	NATIVE TO NT
Eriocaulon	schultzi	130.75862	-12.9775	Least Concern	-	N	Y	-	NATIVE TO NT
Eriocaulon	schultzi	130.76	-12.9781	Least Concern	-	N	Y	-	NATIVE TO NT
Euphorbia	schultzi	130.784543	-12.965266	Not Evaluated	-	-	-	-	NATIVE TO NT
Indigofera	schultziiana	130.8251	-12.8831	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8264	-12.9133	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8264	-12.9133	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8228	-12.8544	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.7872	-12.9581	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8261	-12.885	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8236	-12.9225	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8083	-12.9314	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8083	-12.9314	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.8208	-12.8731	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.82769	-12.88896	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.817885	-12.948594	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.82576	-12.88532	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.819944	-12.876444	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.834541	-12.898594	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.751209	-12.915264	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Indigofera	schultziiana	130.751209	-12.915264	Data Deficient	-	N	Y	-	1 NATIVE TO NT
Corynotheca	lateriflora	130.701212	-12.848596	Least Concern	-	N	N	N	NATIVE TO NT
Utricularia	involvens	130.75972	-12.97963	Least Concern	-	N	-	Y	NATIVE TO NT
Melaleuca	viridiflora	130.784544	-12.948599	Least Concern	-	N	N	N	NATIVE TO NT
Centranthera	tranquebarica	130.7601	-12.97816	Data Deficient	-	N	-	Y	1 NATIVE TO NT
Centranthera	tranquebarica	130.7594	-12.9775	Data Deficient	-	N	-	Y	1 NATIVE TO NT
Peltophorum	pterothecum	130.784543	-12.965266	Least Concern	-	N	-	Y	NATIVE TO NT

Tephrosia	porrecta	130.7253	-12.7933	Least Concern	-	N	Y	N	NATIVE TO NT
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Fullname	Common Name	Date	Lat	Long	Endemic	Aus	Non Native	Epbca 2007	Epbca	Migratory Sp	Tpwca 2012	Threat2012	Sig2012
Ducula bicolor	Pied Imperial-Pigeon	19920310	-12.82359238	130.6735099	0			0			LC	0	
Geopelia humeralis	Bar-shouldered Dove	19990724	-12.9682916	130.7593174	0			0			LC	0	
Geophaps smithii	Partridge Pigeon	19960928	-12.98	130.78	0			0	VU		VU	1	1
Aprosmictus erythropterus	Red-winged Parrot	19990803	-12.9667	130.7583	0			0			LC	0	
Aprosmictus erythropterus	Red-winged Parrot	19770423	-12.91859177	130.7512172	0			0			LC	0	
Vanellus miles	Masked Lapwing	19930325	-12.89859217	130.675828	0			0			LC	0	
Ardea ibis	Cattle Egret	19910314	-12.87359231	130.6602601	0			0		1	LC	0	1
Stiltia isabella	Australian Pratincole	19850627	-12.88189528	130.717873	0			0			LC	0	
Burhinus grallarius	Bush Stone-curlew	19850627	-12.83189559	130.667873	0			0			NT	0	1
Ardeotis australis	Australian Bustard	20000412	-12.877333	130.712001	0			0			NT	0	1
Grus rubicunda	Brolga	19910314	-12.87359206	130.7135891	0			0			LC	0	
Threskiornis molucca	Australian White Ibis	19990803	-12.9667	130.7583	0			0			LC	0	
Artamus cinereus	Black-faced Woodswallow	20080831	-12.9674236	130.7616806	0			0			LC	0	
Artamus cinereus	Black-faced Woodswallow	20080831	-12.9674236	130.7616806	0			0			LC	0	
Threskiornis spinicollis	Straw-necked Ibis	20031021	-12.85333335	130.8466666	0			0			LC	0	
Platalea regia	Royal Spoonbill	19920310	-12.92359208	130.6812643	0			0			LC	0	
Ephippiorhynchus asiaticus	Black-necked Stork	19930325	-12.82359239	130.6712671	0			0			LC	0	
Cacatua galerita	Sulphur-crested Cockatoo	19770423	-12.91859177	130.7512172	0			0			LC	0	
Cacatua galerita	Sulphur-crested Cockatoo	19771023	-12.91859177	130.7512172	0			0			LC	0	
Cacatua galerita	Sulphur-crested Cockatoo	20080831	-12.9674236	130.7616806	0			0			LC	0	
Cacatua galerita	Sulphur-crested Cockatoo	20080831	-12.9674236	130.7616806	0			0			LC	0	
Ardea intermedia	Intermediate Egret	19770423	-12.91859177	130.7512172	0			0			LC	0	
Egretta novaehollandiae	White-faced Heron	19770423	-12.91859177	130.7512172	0			0			LC	0	
Ardea pacifica	White-necked Heron	20031021	-12.86166668	130.8383333	0			0			LC	0	
Calyptorhynchus banksii macrorhynchus	Red-tailed Black-cockatoo (Top End)	19990803	-12.9667	130.7583	0			0			LC	0	
Calyptorhynchus banksii macrorhynchus	Red-tailed Black-cockatoo (Top End)	20000412	-12.878	130.722834	0			0			LC	0	
Calyptorhynchus banksii macrorhynchus	Red-tailed Black-cockatoo (Top End)	19770423	-12.91859177	130.7512172	0			0			LC	0	
Calyptorhynchus banksii macrorhynchus	Red-tailed Black-cockatoo (Top End)	19771023	-12.91859177	130.7512172	0			0			LC	0	
Calyptorhynchus banksii macrorhynchus	Red-tailed Black-cockatoo (Top End)	19850627	-12.88189528	130.717873	0			0			LC	0	
Nycticorax caledonicus	Nankeen Night Heron	19990803	-12.9667	130.7583	0			0			LC	0	
Ixobrychus flavicollis	Black Bittern	19770423	-12.91859177	130.7512172	0			0			LC	0	1
Hieraaetus morphnoides	Little Eagle	19990724	-12.9682916	130.7593174	0			0			LC	0	
Carlia gracilis	Slender Rainbow Skink	19800917	-12.96522837	130.7512065	0			0			LC	0	
Haliastur sphenurus	Whistling Kite	19990803	-12.9667	130.7583	0			0			LC	0	
Ninox connivens	Barking Owl	19770423	-12.91859177	130.7512172	0			0			LC	0	
Psitteuteles versicolor	Varied Lorikeet	19770423	-12.91859177	130.7512172	0			0			LC	0	
Cacatua galerita	Sulphur-crested Cockatoo	19990803	-12.9667	130.7583	0			0			LC	0	
Cacatua sanguinea	Little Corella	19990803	-12.9667	130.7583	0			0			LC	0	
Eulophus roseicapilla	Galah	19770423	-12.91859177	130.7512172	0			0			LC	0	
Conopophila albogularis	Rufous-banded Honeyeater	19771023	-12.91859177	130.7512172	0			0			LC	0	
Aprosmictus erythropterus	Red-winged Parrot	19990724	-12.9682916	130.7593174	0			0			LC	0	
Coracina novaehollandiae	Black-faced Cuckoo-shrike	20080831	-12.9674236	130.7616806	0			0			LC	0	
Aegotheles cristatus	Australian Owlet-nightjar	19770423	-12.91859177	130.7512172	0			0			LC	0	
Coracina papuensis	White-bellied Cuckoo-shrike	20080831	-12.9674236	130.7616806	0			0			LC	0	
Coracina papuensis	White-bellied Cuckoo-shrike	20080831	-12.9674236	130.7616806	0			0			LC	0	
Ceyx azureus	Azure Kingfisher	19770423	-12.91859177	130.7512172	0			0			LC	0	
Corvus orru	Torresian Crow	19770423	-12.91859177	130.7512172	0			0			LC	0	
Corvus orru	Torresian Crow	19771023	-12.91859177	130.7512172	0			0			LC	0	
Corvus orru	Torresian Crow	20080831	-12.9674236	130.7616806	0			0			LC	0	
Corvus orru	Torresian Crow	20080831	-12.9674236	130.7616806	0			0			LC	0	
Dacelo leachii	Blue-winged Kookaburra	19770423	-12.91859177	130.7512172	0			0			LC	0	1

Todiramphus macleayii	Forest Kingfisher	19770423	-12.91859177	130.7512172	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.88192543	130.7012174	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile	19801218	-12.9818951	130.73454	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile	19810801	-12.9818951	130.73454	0	0	LC	0	
Crocodylus johnstoni	Freshwater Crocodile	19810801	-12.9818951	130.73454	0	0	LC	0	
Todiramphus sanctus	Sacred Kingfisher	19990803	-12.9667	130.7583	0	0	LC	0	
Crocodylus porosus	Saltwater Crocodile	19810402	-12.84049234	130.6722174	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1

Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1	LC	0	1

Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile	-12.94859177	130.7345508	0	0	1 LC	0	1

Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Crocodylus porosus	Saltwater Crocodile		-12.94859177	130.7345508	0	0	1 LC	0	1
Merops ornatus	Rainbow Bee-eater	19990724	-12.9682916	130.7593174	0	0	1 LC	0	1
Eurostopodus argus	Spotted Nightjar	19850627	-12.83189559	130.667873	0	0	LC	0	
Caprimulgus macrurus	Large-tailed Nightjar	19770423	-12.91859177	130.7512172	0	0	LC	0	
Cacomantis variolosus	Brush Cuckoo	19770423	-12.91859177	130.7512172	0	0	LC	0	
Chalcites basalis	Horsfield's Bronze-Cuckoo	19770423	-12.91859177	130.7512172	0	0	LC	0	
Dicrurus bracteatus	Spangled Drongo	19990803	-12.9667	130.7583	0	0	LC	0	
Dicrurus bracteatus	Spangled Drongo	19770423	-12.91859177	130.7512172	0	0	LC	0	
Dicrurus bracteatus	Spangled Drongo	19771023	-12.91859177	130.7512172	0	0	LC	0	
Eudynamys orientalis	Eastern Koel	19771023	-12.91859177	130.7512172	0	0	LC	0	
Ducula bicolor	Pied Imperial-Pigeon	19770000	-12.91859177	130.7512172	0	0	LC	0	
Centropus phasianinus	Pheasant Coucal	19770423	-12.91859177	130.7512172	0	0	LC	0	
Petrochelidon nigricans	Tree Martin	19990724	-12.9682916	130.7593174	0	0	LC	0	
Rhipidura rufiventris	Northern Fantail	20000613	-12.96719161	130.7598173	0	0	LC	0	
Entomyzon cyanotis	Blue-faced Honeyeater	19771023	-12.91859177	130.7512172	0	0	LC	0	
Rhipidura leucophrys	Willie Wagtail	19990724	-12.9682916	130.7593174	0	0	LC	0	
Myiagra rubecula	Leaden Flycatcher	19770423	-12.91859177	130.7512172	0	0	LC	0	
Eremiascincus douglasi	Douglas' Skink	19810301	-12.94859177	130.7345508	1	0	LC	0	
Myiagra alecto	Shining Flycatcher	20000613	-12.96719161	130.7598173	0	0	LC	0	
Microeca flavigaster	Lemon-bellied Flycatcher	20000613	-12.96719161	130.7598173	0	0	LC	0	
Eulophus roseicapilla	Galah	20080831	-12.9674236	130.7616806	0	0	LC	0	
Eulophus roseicapilla	Galah	20080831	-12.9674236	130.7616806	0	0	LC	0	
Pachycephala rufiventris	Rufous Whistler	19990803	-12.9667	130.7583	0	0	LC	0	
Eurostopodus argus	Spotted Nightjar	19850627	-12.83189559	130.667873	0	0	LC	0	
Eurostopodus argus	Spotted Nightjar	19870616	-12.98189485	130.7845397	0	0	LC	0	
Colluricincla megarhyncha	Little Shrike-thrush	19770423	-12.91859177	130.7512172	0	0	LC	0	
Geopelia humeralis	Bar-shouldered Dove	19990803	-12.9667	130.7583	0	0	LC	0	
Geopelia humeralis	Bar-shouldered Dove	19770423	-12.91859177	130.7512172	0	0	LC	0	
Geopelia humeralis	Bar-shouldered Dove	20080831	-12.9674236	130.7616806	0	0	LC	0	
Geopelia humeralis	Bar-shouldered Dove	20080831	-12.9674236	130.7616806	0	0	LC	0	
Grallina cyanoleuca	Magpie-lark	19990803	-12.9667	130.7583	0	0	LC	0	
Geopelia striata	Peaceful Dove	19771023	-12.91859177	130.7512172	0	0	LC	0	
Coracina novaehollandiae	Black-faced Cuckoo-shrike	19990724	-12.9682916	130.7593174	0	0	LC	0	
Geophaps smithii	Partridge Pigeon	19960504	-12.914	130.7817	0	0 VU	VU	1	1
Geophaps smithii	Partridge Pigeon	19960925	-12.914	130.7817	0	0 VU	VU	1	1
Geophaps smithii	Partridge Pigeon	19960504	-12.914	130.7837	0	0 VU	VU	1	1
Geophaps smithii	Partridge Pigeon	19960516	-12.914	130.7837	0	0 VU	VU	1	1
Coracina papuensis	White-bellied Cuckoo-shrike	19770423	-12.91859177	130.7512172	0	0	LC	0	
Grallina cyanoleuca	Magpie-lark	19771023	-12.91859177	130.7512172	0	0	LC	0	
Lalage leucomela	Varied Triller	19770423	-12.91859177	130.7512172	0	0	LC	0	
Grus rubicunda	Brolga	20000412	-12.8765	130.703501	0	0	LC	0	
Grus rubicunda	Brolga	20000411	-12.829167	130.679001	0	0	LC	0	
Grus rubicunda	Brolga	19770423	-12.91859177	130.7512172	0	0	LC	0	
Smicronis brevirostris	Weebill	19770423	-12.91859177	130.7512172	0	0	LC	0	
Haliastur spheurus	Whistling Kite	19770423	-12.91859177	130.7512172	0	0	LC	0	
Malurus melanocephalus	Red-backed Fairy-wren	19770423	-12.91859177	130.7512172	0	0	LC	0	
Artamus cinereus	Black-faced Woodswallow	19770423	-12.91859177	130.7512172	0	0	LC	0	
Artamus minor	Little Woodswallow	19990724	-12.9682916	130.7593174	0	0	LC	0	
Dicaeum hirundinaceum	Mistletoebird	19770423	-12.91859177	130.7512172	0	0	LC	0	
Lalage leucomela	Varied Triller	19771023	-12.91859177	130.7512172	0	0	LC	0	
Melithreptus albigularis	White-throated Honeyeater	20000613	-12.96719161	130.7598173	0	0	LC	0	

Lichenostomus unicolor	White-gaped Honeyeater	19770423	-12.91859177	130.7512172	0	0	LC	0
Lichenostomus unicolor	White-gaped Honeyeater	19771023	-12.91859177	130.7512172	0	0	LC	0
Cissomela pectoralis	Banded Honeyeater	19771023	-12.91859177	130.7512172	0	0	LC	0
Myzomela obscura	Dusky Honeyeater	19770423	-12.91859177	130.7512172	0	0	LC	0
Lichmera indistincta	Brown Honeyeater	19770423	-12.91859177	130.7512172	0	0	LC	0
Lichmera indistincta	Brown Honeyeater	19771023	-12.91859177	130.7512172	0	0	LC	0
Lichmera indistincta	Brown Honeyeater	19860627	-12.89856185	130.7345396	0	0	LC	0
Ramsayornis fasciatus	Bar-breasted Honeyeater	19771023	-12.91859177	130.7512172	0	0	LC	0
Lichmera indistincta	Brown Honeyeater	19990803	-12.9667	130.7583	0	0	LC	0
Conopophila albogularis	Rufous-banded Honeyeater	19990803	-12.9667	130.7583	0	0	LC	0
Lichenostomus virescens	Singing Honeyeater	19850626	-12.83189559	130.667873	0	0	LC	0
Malurus melanocephalus	Red-backed Fairy-wren	19771023	-12.91859177	130.7512172	0	0	LC	0
Lichenostomus unicolor	White-gaped Honeyeater	19990724	-12.9682916	130.7593174	0	0	LC	0
Manorina flavigula	Yellow-throated Miner	19770423	-12.91859177	130.7512172	0	0	LC	0
Melithreptus albogularis	White-throated Honeyeater	19770423	-12.91859177	130.7512172	0	0	LC	0
Melithreptus albogularis	White-throated Honeyeater	19771023	-12.91859177	130.7512172	0	0	LC	0
Melithreptus albogularis	White-throated Honeyeater	19850627	-12.89856185	130.7345396	0	0	LC	0
Melithreptus albogularis	White-throated Honeyeater	19850627	-12.89856185	130.7345396	0	0	LC	0
Entomyzon cyanotis	Blue-faced Honeyeater	19770423	-12.91859177	130.7512172	0	0	LC	0
Merops ornatus	Rainbow Bee-eater	20000613	-12.96719161	130.7598173	0	0	1 LC	0 1
Merops ornatus	Rainbow Bee-eater	19990803	-12.9667	130.7583	0	0	1 LC	0 1
Merops ornatus	Rainbow Bee-eater	19770423	-12.91859177	130.7512172	0	0	1 LC	0 1
Merops ornatus	Rainbow Bee-eater	19771023	-12.91859177	130.7512172	0	0	1 LC	0 1
Merops ornatus	Rainbow Bee-eater	20080831	-12.9674236	130.7616806	0	0	1 LC	0 1
Merops ornatus	Rainbow Bee-eater	20080831	-12.9674236	130.7616806	0	0	1 LC	0 1
Philemon argenticeps	Silver-crowned Friarbird	19990803	-12.9667	130.7583	0	0	LC	0
Microeca flavigaster	Lemon-bellied Flycatcher	19990803	-12.9667	130.7583	0	0	LC	0
Microeca flavigaster	Lemon-bellied Flycatcher	19770423	-12.91859177	130.7512172	0	0	LC	0
Taeniopygia bichenovii	Double-barred Finch	19770423	-12.91859177	130.7512172	0	0	LC	0
Myiagra alecto	Shining Flycatcher	19990803	-12.9667	130.7583	0	0	LC	0
Myiagra alecto	Shining Flycatcher	19770423	-12.91859177	130.7512172	0	0	LC	0
Myiagra alecto	Shining Flycatcher	19850627	-12.89856185	130.7345396	0	0	LC	0
Myiagra alecto	Shining Flycatcher	19850627	-12.89856185	130.7345396	0	0	LC	0
Poephila personata	Masked Finch	20000613	-12.96719161	130.7598173	0	0	LC	0
Oriolus flavocinctus	Yellow Oriole	19990724	-12.9682916	130.7593174	0	0	LC	0
Dicrurus bracteatus	Spangled Drongo	20000613	-12.96719161	130.7598173	0	0	LC	0
Ptilonorhynchus nuchalis	Great Bowerbird	19770423	-12.91859177	130.7512172	0	0	LC	0
Cracticus nigrogularis	Pied Butcherbird	19770423	-12.91859177	130.7512172	0	0	LC	0
Pardalotus striatus	Striated Pardalote	19990724	-12.9682916	130.7593174	0	0	LC	0
Oriolus flavocinctus	Yellow Oriole	20000613	-12.96719161	130.7598173	0	0	LC	0
Oriolus flavocinctus	Yellow Oriole	19770423	-12.91859177	130.7512172	0	0	LC	0
Oriolus flavocinctus	Yellow Oriole	19771023	-12.91859177	130.7512172	0	0	LC	0
Ardea ibis	Cattle Egret	19910314	-12.92359226	130.6839264	0	0	1 LC	0 1
Rhinonictis aurantia	Orange Leaf-nosed bat	19920712	-12.88191841	130.801183	0	0	NT	0 1
Pachycephala rufiventris	Rufous Whistler	19770423	-12.91859177	130.7512172	0	0	LC	0
Crocodylus johnstoni	Freshwater Crocodile		-12.94859177	130.7345508	0	0	LC	0
Pardalotus striatus	Striated Pardalote	19990803	-12.9667	130.7583	0	0	LC	0
Pardalotus striatus	Striated Pardalote	19770423	-12.91859177	130.7512172	0	0	LC	0
Crocodylus porosus	Saltwater Crocodile	19810402	-12.84190262	130.6709048	0	0	1 LC	0 1
Petrochelidon nigricans	Tree Martin	19990803	-12.9667	130.7583	0	0	LC	0
Petrochelidon nigricans	Tree Martin	19770423	-12.91859177	130.7512172	0	0	LC	0
Strophurus ciliaris	Spiny-tailed Gecko	20100725	-12.80129	130.68085	0	0	LC	0

Philemon argenticeps	Silver-crowned Friarbird	19770423	-12.91859177	130.7512172	0	0	LC	0
Philemon argenticeps	Silver-crowned Friarbird	19771023	-12.91859177	130.7512172	0	0	LC	0
Heteronotia binoei	Bynoe's Gecko		-12.83192533	130.7512168	0	0	LC	0
Carlia amax	Two-Spined Rainbow Skink		-12.83192533	130.7512168	0	0	LC	0
Poephila personata	Masked Finch	19770423	-12.91859177	130.7512172	0	0	LC	0
Carlia gracilis	Slender Rainbow Skink	19810508	-12.94859177	130.7345508	0	0	LC	0
Ctenotus hilli	Hill's Ctenotus	19830927	-12.9652282	130.7845396	1	0	LC	0
Ptilonorhynchus nuchalis	Great Bowerbird	19771023	-12.91859177	130.7512172	0	0	LC	0
Eremiascincus douglasi	Douglas' Skink	19810301	-12.94859177	130.7345508	1	0	LC	0
Ramsayornis fasciatus	Bar-breasted Honeyeater	19850627	-12.89856185	130.7345396	0	0	LC	0
Tiliqua scincoides	Common Blue-Tongued Lizard	20041121	-12.911	130.8276667	0	0	DD	0 1
Oxyuranus scutellatus	Taipan	19800101	-12.94856155	130.7845395	0	0	DD	0 1
Rhipidura leucophrys	Willie Wagtail	19990803	-12.9667	130.7583	0	0	LC	0
Emydura tanybaraga	Northern Yellow-faced Turtle	20020629	-12.95	130.7333333	0	0	LC	0
Rhipidura rufiventris	Northern Fantail	19770423	-12.91859177	130.7512172	0	0	LC	0
Litoria dahlia	Dahl's Aquatic Frog	20080611	-12.83166667	130.6555	0	0	LC	0
Litoria wotjulumensis	Wotjulum Frog	19800917	-12.96522837	130.7512065	0	0	LC	0
Litoria pallida	Pale Frog	19800917	-12.96522837	130.7512065	0	0	LC	0
Cryptoblepharus cygnatus	Swanson's Snake-eyed Skink	19800917	-12.96522837	130.7512065	0	0	LC	0
Taeniopygia bichenovii	Double-barred Finch	19850627	-12.83189559	130.667873	0	0	LC	0
Taeniopygia bichenovii	Double-barred Finch	19850627	-12.83189559	130.667873	0	0	LC	0
Ardea modesta	Eastern Great Egret	19770423	-12.91859177	130.7512172	0	0	1 LC	0 1
Threskiornis molucca	Australian White Ibis	20031021	-12.86166668	130.8383333	0	0	LC	0
Anhinga novaehollandiae	Australasian Darter	20031021	-12.8696667	130.826	0	0	LC	0
Calyptorhynchus banksii macrorhynchus	Red-tailed Black-cockatoo (Top End)	19990724	-12.9682916	130.7593174	0	0	LC	0
Tiliqua scincoides	Common Blue-Tongued Lizard	20041121	-12.911	130.8276667	0	0	DD	0 1
Tiliqua scincoides	Common Blue-Tongued Lizard	20041121	-12.911	130.8276667	0	0	DD	0 1
Tiliqua scincoides	Common Blue-Tongued Lizard	20041121	-12.911	130.8276667	0	0	DD	0 1
Tiliqua scincoides	Common Blue-Tongued Lizard	20041121	-12.911	130.8276667	0	0	DD	0 1
Tiliqua scincoides	Common Blue-Tongued Lizard	20041121	-12.911	130.8276667	0	0	DD	0 1
Tiliqua scincoides	Common Blue-Tongued Lizard	20041121	-12.911	130.8276667	0	0	DD	0 1
Tiliqua scincoides	Common Blue-Tongued Lizard	20041121	-12.911	130.8276667	0	0	DD	0 1
Corvus orru	Torresian Crow	19990803	-12.9667	130.7583	0	0	LC	0
Geopelia striata	Peaceful Dove	19770423	-12.91859177	130.7512172	0	0	LC	0
Trichoglossus haematodus	Rainbow Lorikeet	19770423	-12.91859177	130.7512172	0	0	LC	0
Trichoglossus haematodus	Rainbow Lorikeet	19771023	-12.91859177	130.7512172	0	0	LC	0
Trichoglossus haematodus	Rainbow Lorikeet	20080831	-12.9674236	130.7616806	0	0	LC	0
Trichoglossus haematodus	Rainbow Lorikeet	20080831	-12.9674236	130.7616806	0	0	LC	0
Myiagra inquieta	Restless Flycatcher	19770423	-12.91859177	130.7512172	0	0	LC	0

Fullname	Common Name	Date	Lat	Long	Endemic	Aus Non Native	Epbca 2007	Epbca Migratory Sp	Tpwca 2012	Threat2012	Sig2012
Geophaps smithii	Partridge Pigeon	19960928	-12.98	130.78	0		0 VU		VU	1	1
Geophaps smithii	Partridge Pigeon	19960504	-12.98	130.78	0		0 VU		VU	1	1
Geophaps smithii	Partridge Pigeon	19960925	-12.914	130.7817	0		0 VU		VU	1	1
Geophaps smithii	Partridge Pigeon	19960504	-12.914	130.7837	0		0 VU		VU	1	1
Geophaps smithii	Partridge Pigeon	19960516	-12.914	130.7837	0		0 VU		VU	1	1

Objectid	Source	Genus	Species	Gda94 Long	Gda94 Lat	Tpwa 2012	Epbw 2012	Restricted Range	Nt Endemic	Nt Only	Threatened2012	Significant2012	Introduced Status
685982	HOLTZE	Utricularia	singeriana	130.75908	-12.9784	Vulnerable	-	N	-	-	1	1	NATIVE TO NT
685983	HOLTZE	Utricularia	singeriana	130.75972	-12.97963	Vulnerable	-	N	-	-	1	1	NATIVE TO NT
688414	HOLTZE	Utricularia	dunstaniae	130.75862	-12.9775	Vulnerable	-	N	-	-	1	1	NATIVE TO NT

Fullname	Common Name	Date	Lat	Long	Endemic	Aus Non Native	Epbca 2007	Epbca Migratory Sp	Tpwca 2012	Threat2012	Sig2012
Bos taurus	Cattle	20000412	-12.925833	130.677501	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.925667	130.678501	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.925667	130.683667	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.925333	130.687834	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.925333	130.689834	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.925333	130.691834	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.924833	130.699667	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.9	130.677834	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.899833	130.657667	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.899833	130.685001	0		1		(Int)		0
Bos taurus	Cattle	20000412	-12.8995	130.693667	0		1		(Int)		0

Weed Name	Genus Spp	Date Recorded	Latitude	Longitude
Gamba grass	Andropogon gayanus	2012-05-16	-12.79193	130.71503
Gamba grass	Andropogon gayanus	2012-05-16	-12.79262	130.7148
Gamba grass	Andropogon gayanus	2012-05-16	-12.79392	130.71378
Gamba grass	Andropogon gayanus	2012-05-16	-12.79418	130.71315
Gamba grass	Andropogon gayanus	2012-05-16	-12.7942	130.71312
Gamba grass	Andropogon gayanus	2012-05-16	-12.80755	130.69107
Gamba grass	Andropogon gayanus	2014-07-30	-12.98352	130.75473
Gamba grass	Andropogon gayanus	2014-07-31	-12.98061	130.75556
Gamba grass	Andropogon gayanus	2014-08-01	-12.92742	130.81312
Gamba grass	Andropogon gayanus	2014-08-02	-12.93202	130.80824
Gamba grass	Andropogon gayanus	2014-08-03	-12.91352	130.82643
Gamba grass	Andropogon gayanus	2014-08-04	-12.88956	130.82844
Gamba grass	Andropogon gayanus	2014-08-05	-12.88215	130.82405
Gamba grass	Andropogon gayanus	2009-01-01	-12.96277	130.82506
Gamba grass	Andropogon gayanus	2009-01-01	-12.96255	130.81642
Gamba grass	Andropogon gayanus	2009-01-01	-13.00159	130.78576
Gamba grass	Andropogon gayanus	2009-01-01	-12.92884	130.84307
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	Grewia asiatica	1961-07-12	-12.94859	130.80122
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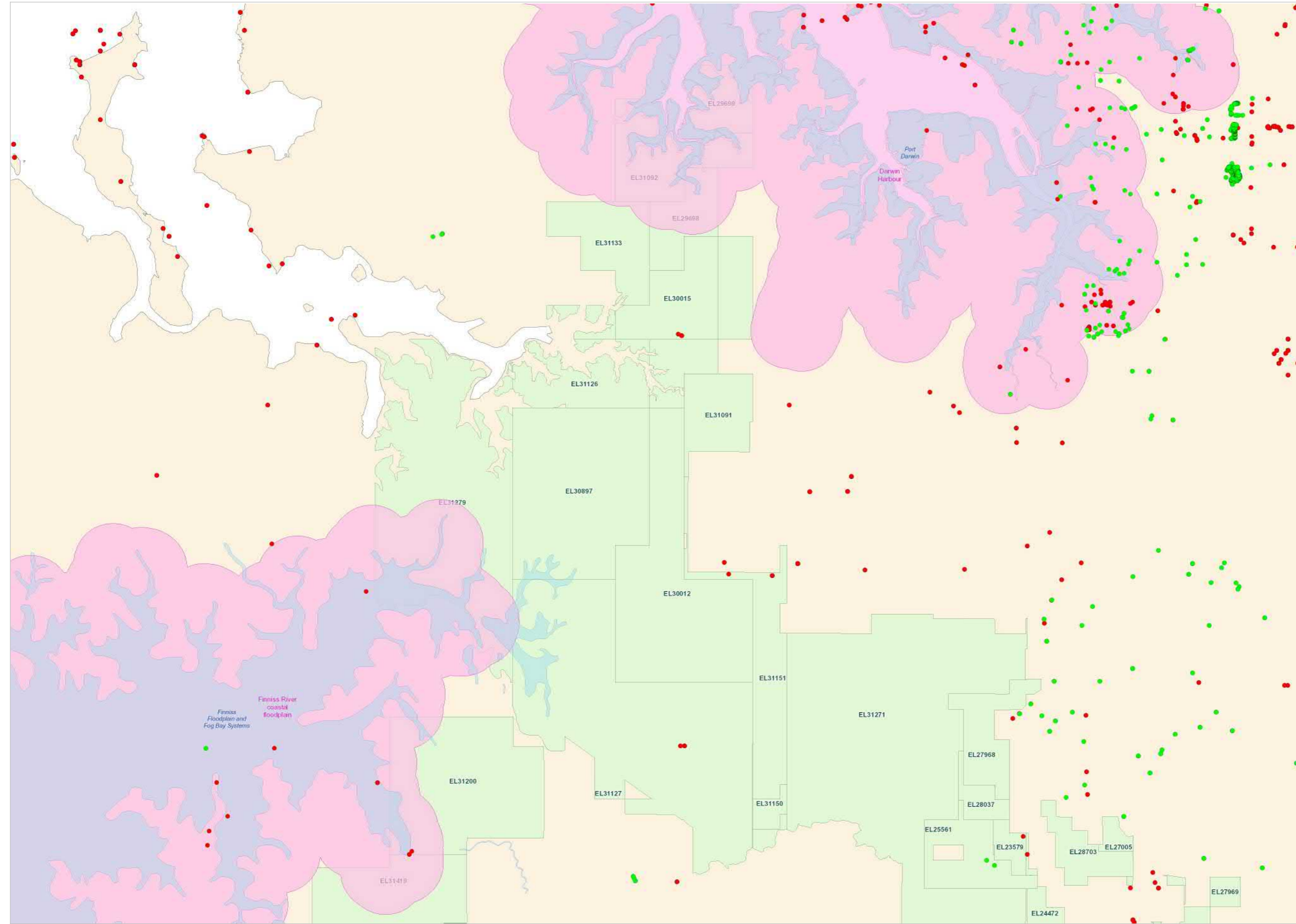
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	Oxalis corniculata	1980-02-04	-12.89859	130.83454
	Passiflora foetida	1997-08-15	-12.78944	130.71528
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Sida - Flannel weed	Sida cordifolia	2010-04-27	-12.92558	130.81769
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Sida - Flannel weed	Sida cordifolia	2010-04-27	-12.95207	130.78924
Sida - Flannel weed	Sida cordifolia	2010-04-27	-12.95974	130.78701
Sida - Flannel weed	Sida cordifolia	2010-04-27	-12.96258	130.78542
Urochloa - Para grass	Urochloa mutica	2012-09-19	-12.97678	130.78995

Sandpalms Project

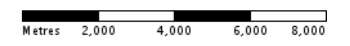
NR MAPS

Sandpalms Drilling Project - EL31279



Legend

- Threatened Fauna ●
- Threatened Flora ●
- DIWA ■
- Sites of Conservation Significance
 - International ■
 - National ■
- Exploration Licence - Granted ■



www.lrm.nt.gov.au/nrmmapsnt



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Zola Project

Fullname	Common Name	Date	Lat	Long	Endemic	Aus Non Native	Epbca 2007	Epbca Migratory Sp	Tpwca 2012	Threat2012	Sig2012
Geophaps smithii	Partridge Pigeon	19960616	-12.7142	130.7806	0		0 VU		VU	1	1
Geophaps smithii	Partridge Pigeon	19960927	-12.7149	130.7822	0		0 VU		VU	1	1
Geophaps smithii	Partridge Pigeon	19960925	-12.7149	130.7822	0		0 VU		VU	1	1

APPENDIX C

NRM Infonet Reports

Bynoe Project



Custom area

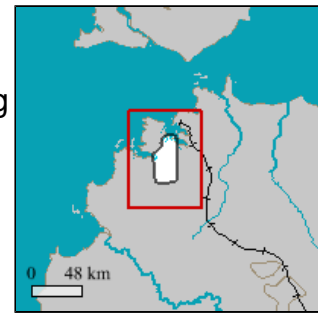
NT NRM Report



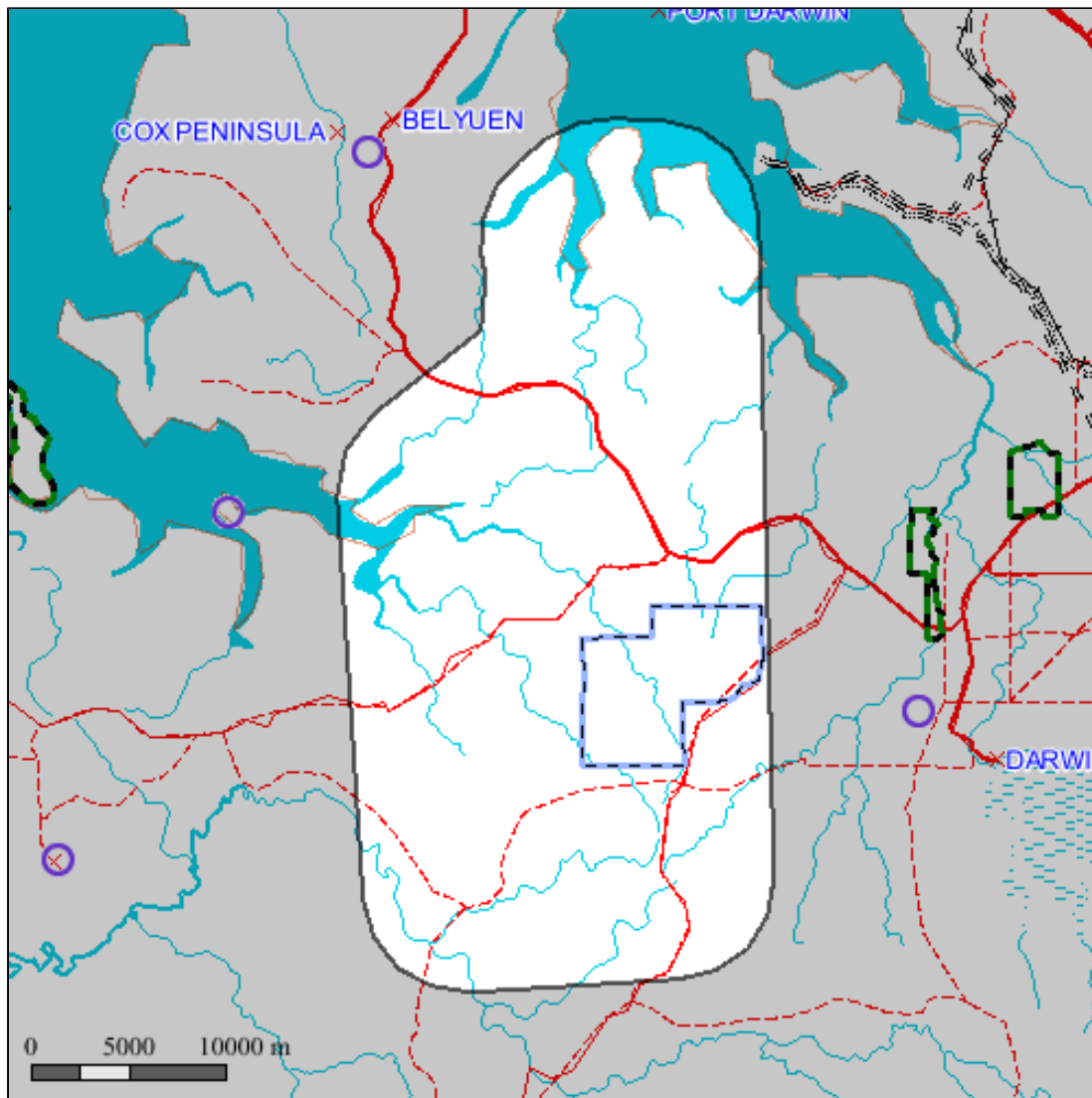
Custom area

Custom area encompasses an area of 783.04 sq km extending from 12 deg 32.0 min to 12 deg 56.0 min S and 130 deg 40.0 min to 130 deg 52.0 min E.

Custom area is located in the Darwin Coastal, Pine Creek, bioregion(s)



Location of Custom area



Custom area Climate

The closest long-term weather station is DARWIN AIRPORT (12 deg 25.0 min S, 130.8925E) 36 km N of the center of selected area

Statistics

Mean max temp (deg C)
 Mean min temp (deg C)
 Average rainfall (mm)
 Average days of rain

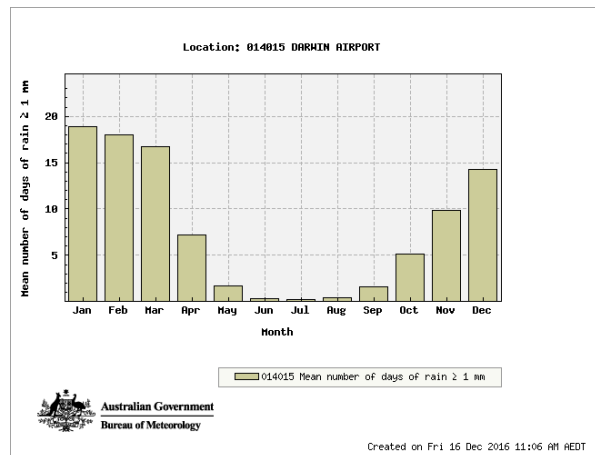
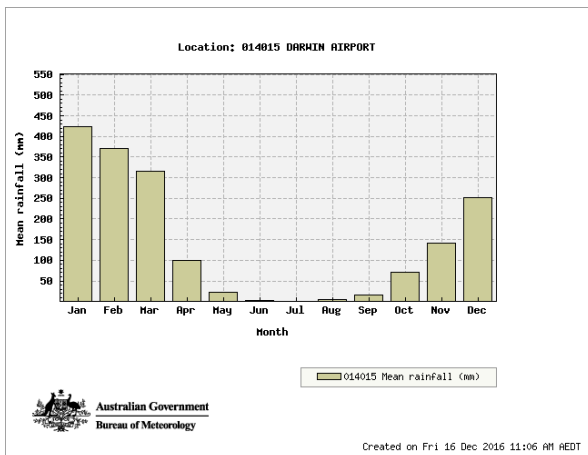
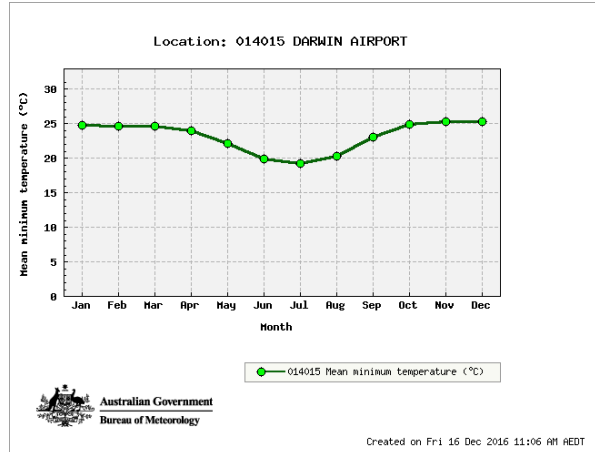
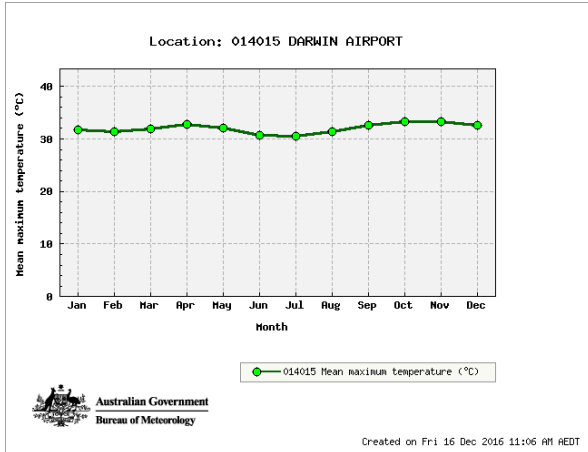
Annual Values

32.0
 23.2
 1727.5
 94.2

Years of record

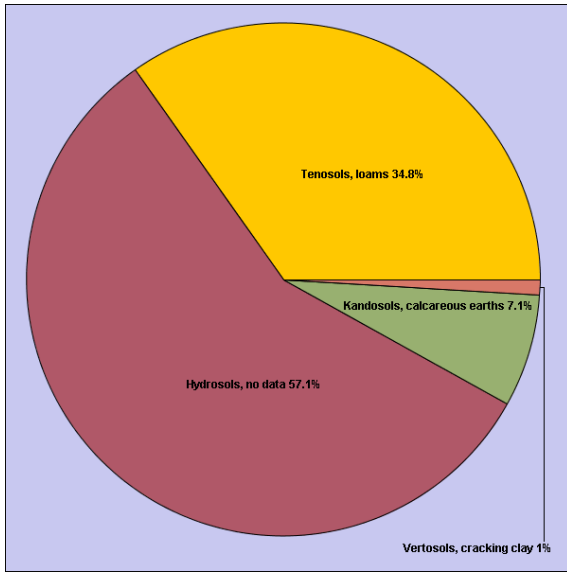
76
 76
 75
 76

Climate summaries from Bureau of Meteorology (www.bom.gov.au)



Custom area Soils

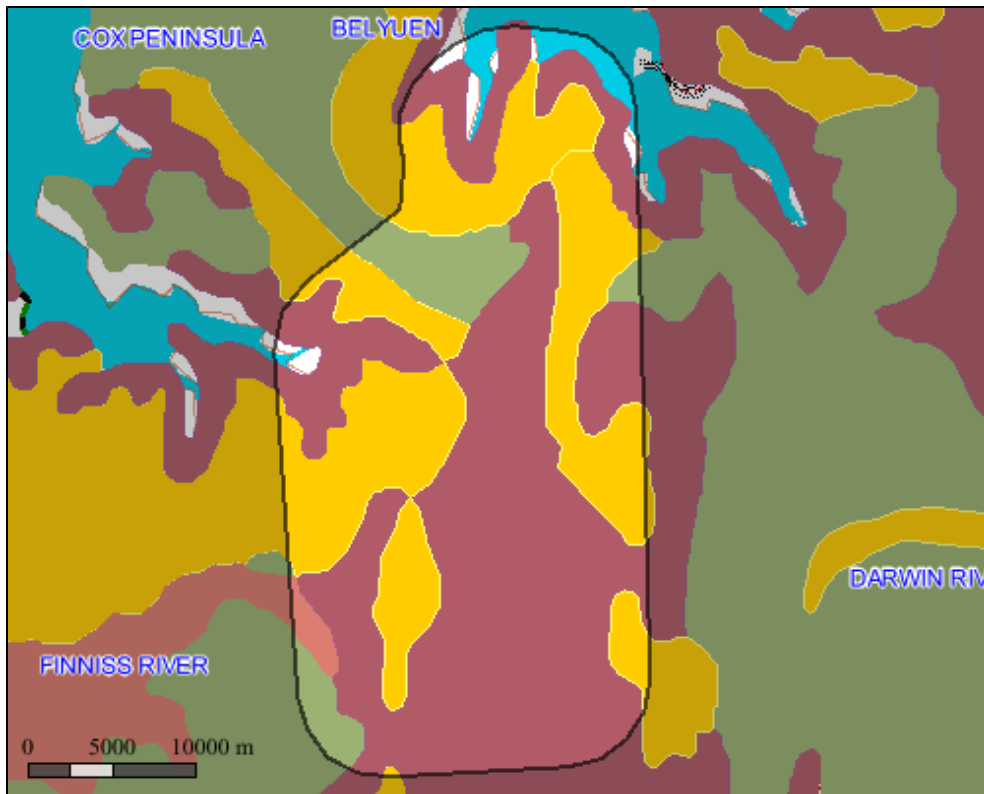
Soil Types



Area of soil types (Northcote Factual Key)

Category	Area sq km	Area%
Hydrosols, no data	433.89	55.41
Tenosols, loams	264.16	33.73
Kandosols, calcareous earths	54.11	6.91
Vertosols, cracking clay	7.35	.94

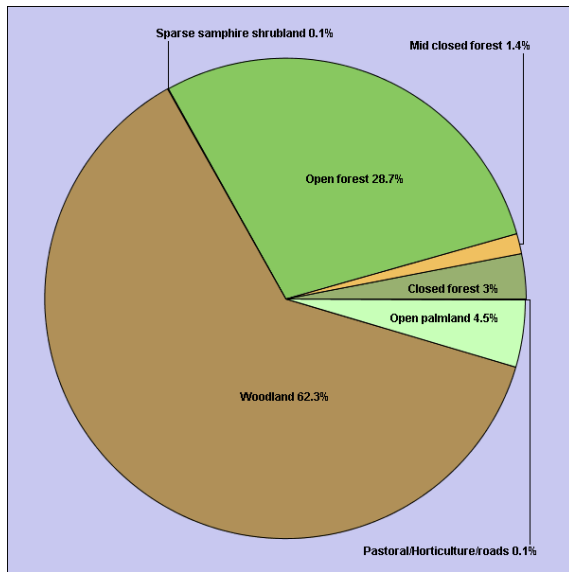
Soil Types



Soils 1:2M Layer is a copy of the NT portion (1:2,000,000 scale dataset) of the CSIRO Atlas of Australian Soils - K.H. Northcote et al. Data scale: 1:2,000,000 ANZLIC Identifier: 2DBC771205D06B6E040CD9B0F274EFE
 More details: Go to www.lrm.nt.gov.au/nrm/apsnt/ and enter the ANZLIC identifier in the Spatial Data Search

Custom area Vegetation

Vegetation Communities



Area of vegetation communities

Category	Area sq km	Area%
Woodland	459.44	58.67
Open forest	211.96	27.07
Open palmland	33.12	4.23
Closed forest	22.08	2.82
Mid closed forest	10.19	1.30
Pastoral/Horticulture/roads	.74	.09
Sparse samphire shrubland	.42	.05

Vegetation Communities

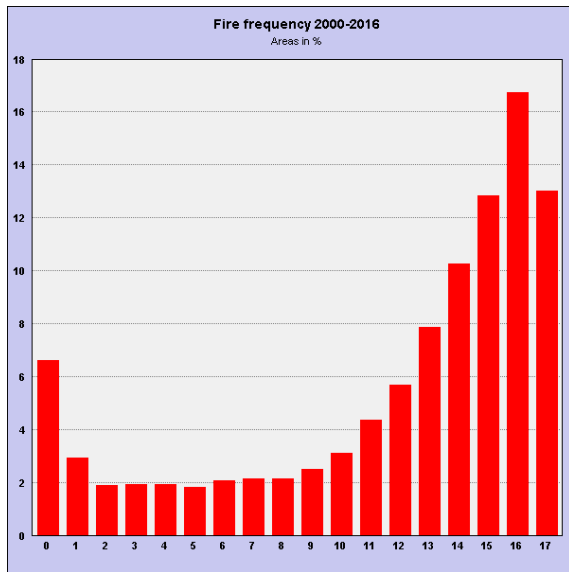


The NVIS 2005 Layer is compiled from a number of vegetation and land unit survey maps that were recoded and re-attributed for the National Vegetation Information System (NVIS)

Data scale variable depending on location. ANZLIC Identifier:2DBC771207006B6E040CD9B0F274EFE
 More details: Go to www.lrm.nt.gov.au/nrm/apsnt/ and enter the ANZLIC identifier in the Spatial Data Search

Custom area Fire History

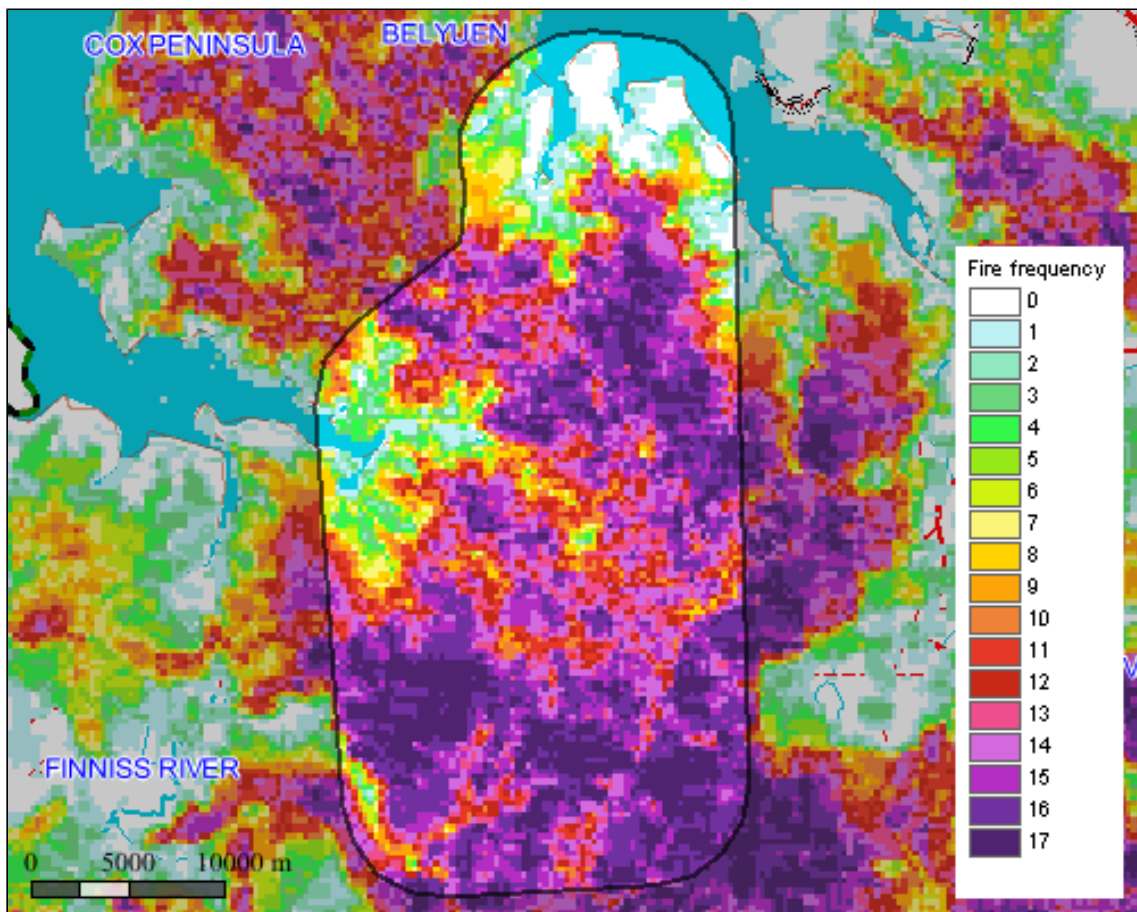
Fire frequency 2000-2016



area burnt for each fire frequency category 2000-2016

Category	Area sq km	Area%
0	51.96	6.64
1	22.98	2.94
2	14.98	1.91
3	15.04	1.92
4	15.22	1.94
5	14.42	1.84
6	16.34	2.09
7	16.81	2.15
8	16.74	2.14
9	19.70	2.52
10	24.35	3.11
11	34.28	4.38
12	44.65	5.70
13	61.59	7.87
14	80.56	10.29
15	100.48	12.83
16	131.00	16.73
17	101.95	13.02

Fire frequency 2000-2016



The fire frequency(250m) Layer is derived from satellite imagery sourced from the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Terra satellite
Spatial Resolution: 250m x 250m pixels (at Nadir).

Custom area Threatened Species



Threatened species recorded in Custom area (Records Updated: Sept 2013)

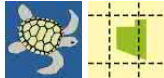
Group	Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Cycads	Armstrong's Cycad	<i>Cycas armstrongii x maconochiei</i>	VU	.	351085	0 (Unknown)	1 (1993)	0 (Unknown)
Reptiles	Green Turtle	<i>Chelonia mydas</i>	.	VU	176291	2 (1995)	0 (Unknown)	0 (Unknown)
Reptiles	Flatback Turtle	<i>Natator depressus</i>	.	VU	176284	1 (2010)	0 (Unknown)	0 (Unknown)
Reptiles	Mertens' Water Monitor	<i>Varanus mertensi</i>	VU	.	347295	1 (1995)	0 (Unknown)	0 (Unknown)
Birds	Partridge Pigeon	<i>Geophaps smithii</i>	VU	VU	176384	9 (1996)	0 (Unknown)	0 (Unknown)
Birds	Bar-tailed Godwit	<i>Limosa lapponica</i>	VU	.	.	1 (1994)	0 (Unknown)	0 (Unknown)
Birds	Eastern Curlew	<i>Numenius madagascariensis</i>	VU	CE	.	2 (1994)	0 (Unknown)	0 (Unknown)
Mammals	Northern Quoll	<i>Dasyurus hallucatus</i>	CR	EN	176443	9 (1995)	0 (Unknown)	0 (Unknown)
Mammals	Fawn Antechinus	<i>Antechinus bellus</i>	EN	VU	.	1 (1995)	0 (Unknown)	0 (Unknown)
Mammals	Pale Field-rat	<i>Rattus tunneyi</i>	VU	.	.	2 (1995)	0 (Unknown)	0 (Unknown)

EX = Extinct
 EW = Extinct in the Wild
 ER = Extinct in the NT
 EN = Endangered
 EN/VU = One Endangered subspecies/One Vulnerable subspecies
 VU = Vulnerable
 VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

Survey = this category refers to data collected using systematic survey methodology
 Specimen = this category refers to museum or other records where a specimen has been collected and lodged
 Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####
 where #### is the ID number from the tables above for the species of interest.

Custom area Threatened Species Grid



Threatened species recorded in the grid cell(s) in which Custom area occurs (Records Updated: Sept 2013)

Group	Family Name	Scientific Name	Common Name	NT Status	National Status	#Observations	Latest Observation Date	#Specimens	Latest Specimen Date	#Surveys	Latest Survey Record
Cycads	Cycadaceae	<i>Cycas armstrongii</i>	Armstrong's Cycad	VU		0	Unknown	0	Unknown	2	1998
Cycads	Cycadaceae	<i>Cycas armstrongii x maconochiei</i>	Armstrong's Cycad	VU		0	Unknown	2	2001	0	Unknown
Flowering Plants	Pontederiaceae	<i>Monochoria hastata</i>	Arrowleaf Monochoria	VU		0	Unknown	1	1981	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia dunstaniae</i>	Bladderwort	VU		0	Unknown	1	2010	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia singeriana</i>	Bladderwort	VU		0	Unknown	2	2010	0	Unknown
Insects	Lycaenidae	<i>Ogyris iphis doddi</i>	Dodd's Azure Butterfly	EN		0	Unknown	0	Unknown	0	Unknown
Reptiles	Cheloniidae	<i>Chelonia mydas</i>	Green Turtle		VU	5	2010	1	1993	0	Unknown
Reptiles	Cheloniidae	<i>Eretmochelys imbricata</i>	Hawksbill Turtle	VU	VU	2	1997	0	Unknown	1	1997
Reptiles	Cheloniidae	<i>Natator depressus</i>	Flatback Turtle		VU	6	2010	0	Unknown	1	1997
Reptiles	Gekkonidae	<i>Lucasium occultum</i>	Yellow-snouted Gecko	VU	EN	0	Unknown	1	2004	0	Unknown
Reptiles	Varanidae	<i>Varanus mertensi</i>	Mertens' Water Monitor	VU		3	2010	3	2007	1	2000
Reptiles	Varanidae	<i>Varanus mitchelli</i>	Mitchell's Water Monitor	VU		0	Unknown	1	1973	0	Unknown
Reptiles	Varanidae	<i>Varanus panoptes</i>	Yellow-spotted Monitor	VU		4	2002	2	2008	3	2002
Birds	Columbidae	<i>Geophaps smithii</i>	Partridge Pigeon	VU	VU	37	2007	0	Unknown	0	Unknown
Birds	Accipitridae	<i>Erythrotriorchis radiatus</i>	Red Goshawk	VU	VU	2	1999	0	Unknown	0	Unknown
Birds	Charadriidae	<i>Charadrius mongolus</i>	Lesser Sand Plover	VU	EN	39	2008	1	1984	1	1997
Birds	Charadriidae	<i>Charadrius leschenaultii</i>	Greater Sand Plover	VU	VU	84	2001	0	Unknown	2	1997
Birds	Scolopacidae	<i>Limosa lapponica</i>	Bar-tailed Godwit	VU		32	1997	0	Unknown	1	1997
Birds	Scolopacidae	<i>Numenius madagascariensis</i>	Eastern Curlew	VU	CE	117	2008	0	Unknown	3	1997
Birds	Scolopacidae	<i>Calidris tenuirostris</i>	Great Knot	VU	CE	4	1997	0	Unknown	1	1997
Birds	Scolopacidae	<i>Calidris canutus</i>	Red Knot	VU	EN	2	2005	0	Unknown	1	1997
Birds	Scolopacidae	<i>Calidris ferruginea</i>	Curlew Sandpiper	VU	CE	4	2005	0	Unknown	0	Unknown
Birds	Tytonidae	<i>Tyto novaehollandiae kimberli</i>	Masked Owl (northern mainland)	VU	VU	1	2000	0	Unknown	0	Unknown
Birds	Estrildidae	<i>Erythrura gouldiae</i>	Gouldian Finch	VU	EN	1	1996	0	Unknown	0	Unknown
Mammals	Dasyuridae	<i>Dasyurus hallucatus</i>	Northern Quoll	CR	EN	14	2000	2	1954	11	2002
Mammals	Dasyuridae	<i>Antechinus bellus</i>	Fawn Antechinus	EN	VU	2	2001	0	Unknown	5	2002
Mammals	Muridae	<i>Mesembriomys gouldii gouldii</i>	Black-footed Tree-rat	VU	EN	0	Unknown	1	1990	14	2007
Mammals	Muridae	<i>Rattus tunneyi</i>	Pale Field-rat	VU		2	1995	0	Unknown	7	2002

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 EW = Extinct in the Wild
 ER = Extinct in the NT
 EN = Endangered
 EN/VU = One Endangered subspecies/One Vulnerable subspecies

VU=Vulnerable

VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

Survey = this category refers to data collected using systematic survey methodology

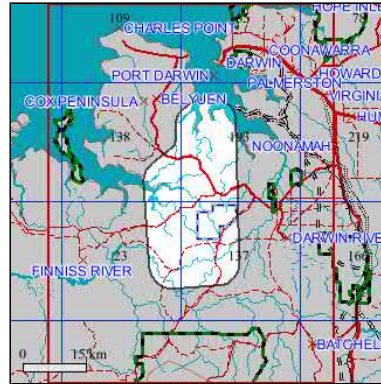
Specimen = this category refers to museum or other records where a specimen has been collected and lodged

Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Species listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area



Custom area Weeds and Potential Weeds



Introduced plants recorded in the grid cell(s) in which Custom area occurs and that have been identified as problem weeds in one or more locations in northern Australia. Occurrence based on Northern Territory Government databases.

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Acanthaceae	<i>Barleria prionitis</i>	Barleria	A C	ALERT	MP K2 C&E G&M	0	Unknown
Poaceae	<i>Bothriochloa pertusa</i>	Indian Bluegrass			DEU	0	Unknown
Fabaceae	<i>Calopogonium mucunoides</i>	Calopo			MP C&E CYP	0	Unknown
Poaceae	<i>Cenchrus ciliaris</i>	Buffel Grass			MP Gr G&M DEU	0	Unknown
Poaceae	<i>Cenchrus pedicellatus</i>	Mission Grass (annual)			WeedsAus	1	2003
Poaceae	<i>Cenchrus polystachios</i>	Mission Grass (perennial)	B C		MP K2 C&E G&M	1	2003
Fabaceae	<i>Centrosema molle</i>	Centro			MP	0	Unknown
Poaceae	<i>Chloris barbata</i>	Purpletop Chloris			DEU	0	Unknown
Fabaceae	<i>Crotalaria goreensis</i>	Gambia Pea			MP	1	2003
Fabaceae	<i>Delonix regia</i>	Poinciana			C&E	0	Unknown
Poaceae	<i>Echinochloa colona</i>	Awnless Barnyard Grass			DEU	0	Unknown
Poaceae	<i>Echinochloa polystachya</i>	Aleman Grass			MP C&E G&M CYP	0	Unknown
Amaranthaceae	<i>Gomphrena celosioides</i>	Gomphrena Weed			DEU	0	Unknown
Malvaceae	<i>Grewia asiatica</i>	Phassa Plum			C&E G&M CYP	0	Unknown
Boraginaceae	<i>Heliotropium indicum</i>	Indian Heliotrope			DEU	0	Unknown
Lamiaceae	<i>Hyptis suaveolens</i>	Hyptis	B C		G&M	6	2003
Convolvulaceae	<i>Ipomoea quamoclit</i>	Cupid's Flower			C&E	0	Unknown
Euphorbiaceae	<i>Jatropha curcas</i>	Physic Nut	A C		MP WA1 WA2 WA4 G&M	0	Unknown
Meliaceae	<i>Khaya senegalensis</i>	African Mahogany			C&E	0	Unknown
Verbenaceae	<i>Lantana camara</i>	Lantana	B C	WONS	K2 WA1 Q3 Gr G&M CYP DEU NSW SA	3	1988
Fabaceae	<i>Leucaena leucocephala</i>	Coffee Bush			MP C&E G&M CYP	0	Unknown
Poaceae	<i>Melinis repens</i>	Red Natal Grass			DEU	0	Unknown
Fabaceae	<i>Mimosa pigra</i>	Mimosa	A (S of 14 deg S) B (N of 14 deg S) C	WONS	MP K2 WA1 WA2 Q1 G&M CYP SA	2	1991
Oxalidaceae	<i>Oxalis corniculata</i>	Creeping Wood-sorrel			NSW	0	Unknown
Araceae	<i>Pistia stratiotes</i>	Water Lettuce	B C		WA1 WA2 Q2 CYP NSW	0	Unknown
Plantaginaceae	<i>Scoparia dulcis</i>	Bitter Broom			DEU	0	Unknown
Fabaceae	<i>Senna alata</i>	Candle Bush	B C		WA1 WA2	0	Unknown
Fabaceae	<i>Senna occidentalis</i>	Coffee Senna	B C		G&M DEU	0	Unknown

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Fabaceae	<i>Senna tora</i>	Foetid Cassia			WA1 WA2 Q2 G&M CYP	0	Unknown
Malvaceae	<i>Sida acuta</i>	Spiny-head Sida	B C		WA1 G&M	0	Unknown
Malvaceae	<i>Sida cordifolia</i>	Flannel Weed	B C		WA1 G&M DEU	0	Unknown
Malvaceae	<i>Sida rhombifolia</i>	Paddy's Lucerne	B C		MP G&M DEU	0	Unknown
Poaceae	<i>Sorghum almum</i>	Columbus Grass			NSW	0	Unknown
Poaceae	<i>Sporobolus jacquemontii</i>	American Rat's Tail Grass			Q2 G&M	0	Unknown
Verbenaceae	<i>Stachytarpheta cayennensis</i>	Cayenne Snakeweed	B C		NSW	0	Unknown
Verbenaceae	<i>Stachytarpheta jamaicensis</i>	Jamaican Snakeweed	B C			0	Unknown
Fabaceae	<i>Stylosanthes humilis</i>	Townsville Lucerne			DEU	1	1991
Fabaceae	<i>Stylosanthes scabra</i>	Shrubby Stylo			G&M DEU	0	Unknown
Asteraceae	<i>Synedrella nodiflora</i>	Cinderella Weed			C&E	1	1988
Zygophyllaceae	<i>Tribulus terrestris</i>	Caltrop	B C		CYP SA	0	Unknown
Poaceae	<i>Urochloa mutica</i>	Para Grass			MP G&M	2	1991

Status Codes:

1. NATIONAL STATUS CODES

Alert, Alert List for Environmental Weeds (Please call Exotic Plant Pest Hotline 1800 084 881 if you think you have seen this weed)

Sleeper, National Sleeper Weed

Target, Targeted for eradication. (www.landmanager.com.au/view/index.aspx?id=449837)

WONS, Weeds of National Significance

2. NT STATUS CODES

A, NT Class A Weed (to be eradicated)

B, NT Class B Weed (growth & spread to be controlled)

C, NT Class C Weed (not to be introduced) (www.landmanager.com.au/view/index.aspx?id=449869)

3. OTHER STATUS CODES

C&E, Csurhes, S. & Edwards, R. (1998) Potential Environmental Weeds in Australia. Candidate Species for Preventative Control. Environment Australia, Canberra (www.landmanager.com.au/view/index.aspx?id=394504)

CYP, Draft Cape York Peninsula Pest Management Plan 2006-2011 (www.landmanager.com.au/view/index.aspx?id=371200)

DEU, Plants listed as environmental weeds by the Desert Uplands Strategic Land Resource

Assessment (www.landmanager.com.au/view/index.aspx?id=332123)

G&M, Grice AC, Martin TG. 2005. The Management of Weeds and Their Impact on Biodiversity in the Rangelands. Cooperative Research Centre (CRC) for Australian Weed Management and CSIRO Sustainable Ecosystems. Commonwealth Australia (www.landmanager.com.au/view/index.aspx?id=163572)

Gr, Groves et al. 2003. Weed categories for natural and agricultural ecosystem management. Bureau of Rural Sciences (www.landmanager.com.au/view/index.aspx?id=388018)

K0, High Priority Weeds not yet established in the Katherine region

K1, High Priority Weeds posing environmental threats in the Katherine region

K2, High Priority Weeds posing existing threats in the Katherine region, as described in the Katherine Regional Weed Management Strategy 2005-2010 (www.landmanager.com.au/view/index.aspx?id=130286)

MP, Northern Territory Parks & Conservation Masterplan (www.landmanager.com.au/view/index.aspx?id=144141)

NAQS, North Australian Quarantine Strategy Target List (www.landmanager.com.au/view/index.aspx?id=449416)

NSW, Declared Noxious Weed in NSW (www.landmanager.com.au/view/index.aspx?id=449983)

Q1, QLD Class 1 Weed (not to be introduced, kept or supplied)

Q2, Class 2 Weed (eradicate where possible, not to be introduced, kept or supplied)

Q3, Qld Class 3 Weed (to be controlled near environmentally sensitive areas- not to be supplied/sold without a permit) (www.landmanager.com.au/view/index.aspx?id=190714)

SA, Declared Plant in South Australia (www.landmanager.com.au/view/index.aspx?id=449996)

WeedsAus, Listed as a significant weed by Weeds Australia (www.landmanager.com.au/view/index.aspx?id=14576)

WA1, WA Weed Class P1 (movement prohibited)

WA2, WA Weed Class P2 (aim to eradicate)

WA3, WA Weed Class P3 (control infestations)

WA4, WA Weed Class P4 (prevent spread)

WA5, WA Weed Class P3 (control infestations on public land) (www.landmanager.com.au/view/index.aspx?id=449884).

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Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Plants listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area

Custom area Pest and Potential Pest Animals



Animals with pest potential recorded in the grid cell(s) in which Custom area occurs. Occurrence based on Northern Territory Government databases.

Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Cane Toad	<i>Rhinella marina</i>	P	.	183252	8 (2010)	0 (Unknown)	18 (2010)
Asian House Gecko	<i>Hemidactylus frenatus</i>	P	.	188964	1 (Unknown)	1 (1979)	6 (2010)
Flower-pot Blind Snake	<i>Ramphotyphlops braminus</i>	P	.	189084	0 (Unknown)	2 (2002)	0 (Unknown)
Rock Dove	<i>Columba livia</i>	P	.	183336	3 (1997)	0 (Unknown)	0 (Unknown)
Red-tailed Black-cockatoo	<i>Calyptorhynchus banksii macrorhynchus</i>	N	.	223765	116 (2010)	2 (1985)	11 (2010)
Sulphur-Crested Cockatoo	<i>Cacatua galerita</i>	N	.	223772	124 (2010)	0 (Unknown)	13 (2010)
Agile Wallaby	<i>Macropus agilis</i>	N	.	223786	11 (2008)	1 (Unknown)	27 (2010)
Black Rat	<i>Rattus rattus</i>	P	.	183236	2 (2008)	1 (1974)	0 (Unknown)
Dingo / Wild dog	<i>Canis lupus</i>	N	.	183280	7 (2010)	0 (Unknown)	1 (2000)
Cat	<i>Felis catus</i>	P	.	183259	4 (2010)	0 (Unknown)	7 (2010)
Horse	<i>Equus caballus</i>	P	.	183315	1 (1991)	0 (Unknown)	1 (2010)
Pig	<i>Sus scrofa</i>	P	.	183329	9 (2008)	0 (Unknown)	10 (2010)
Swamp Buffalo	<i>Bubalus bubalis</i>	P	.	183245	1 (2000)	0 (Unknown)	0 (Unknown)
Cattle	<i>Bos taurus</i>	P	.	183266	33 (2002)	0 (Unknown)	1 (2000)

NT STATUS CODES:

Int, Introduced species (all non-prohibited vertebrates, and all other exotic species (www.landmanager.com.au/view/index.aspx?id=280771))

N, Native species with pest potential.

P, Prohibited species (all exotic vertebrates except those listed as non-prohibited (www.landmanager.com.au/view/index.aspx?id=450509))

Survey = this category refers to data collected using systematic survey methodology

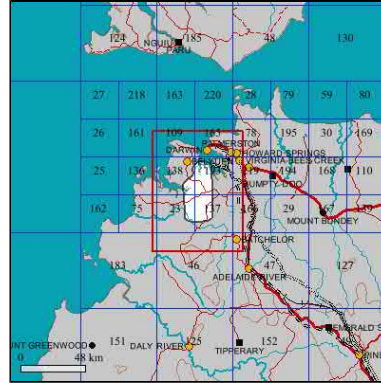
Specimen = this category refers to museum or other records where a specimen has been collected and lodged

Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Potential pest animals listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area



Soils and vegetation graphs and tables refer to area of soils and vegetation only. Fire graphs and tables refer to entire selected area including sea if present. Calculations are derived from map images or vector data, and should be taken as a guide only. Accuracy cannot be guaranteed. For small areas, figures should be rounded to the nearest whole number.

Finniss Project



Custom area

NT NRM Report



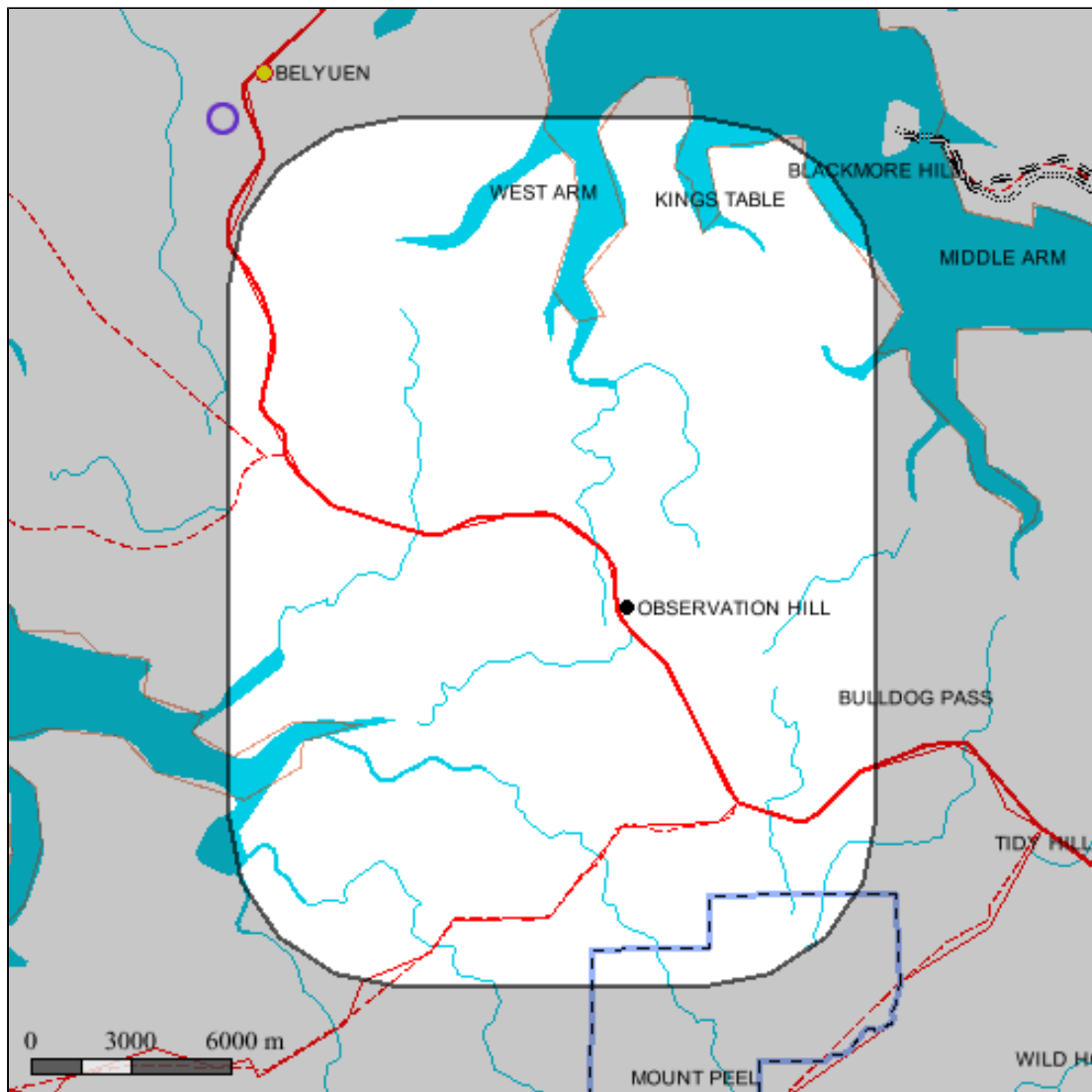
Custom area

Custom area encompasses an area of 455.68 sq km extending from 12 deg 33.0 min to 12 deg 46.0 min S and 130 deg 41.0 min to 130 deg 51.0 min E.

Custom area is located in the Darwin Coastal, Pine Creek, bioregion(s)



Location of Custom area



Custom area Climate

The closest long-term weather station is DARWIN POST OFFICE (12 deg 24.0 min S, 130.8E) 29 km N of the center of selected area

Statistics

Mean max temp (deg C)
 Mean min temp (deg C)
 Average rainfall (mm)
 Average days of rain

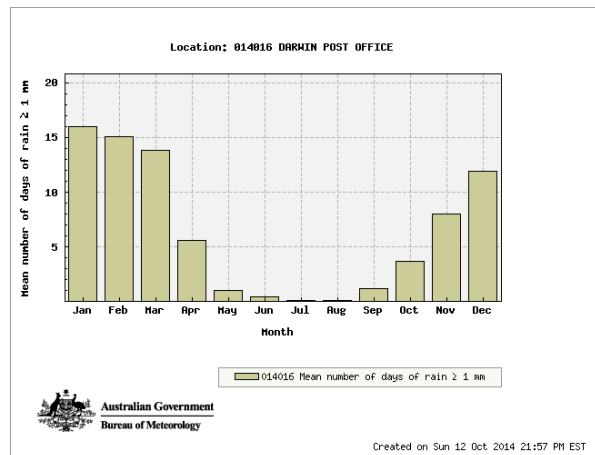
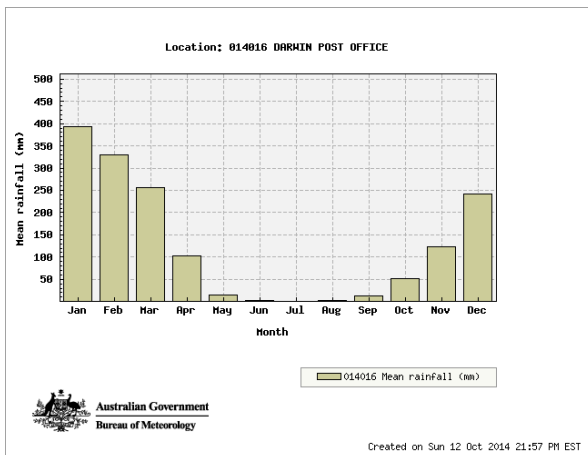
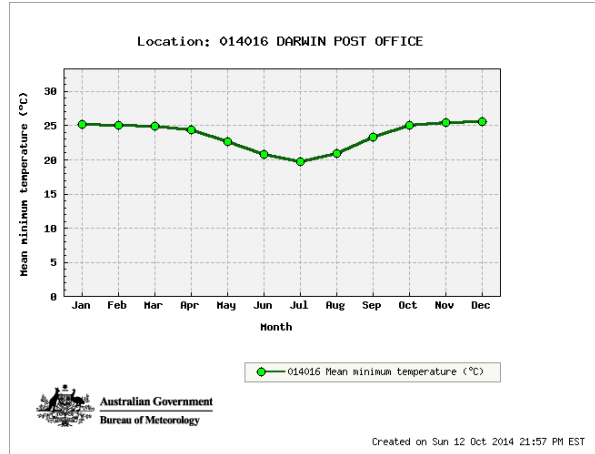
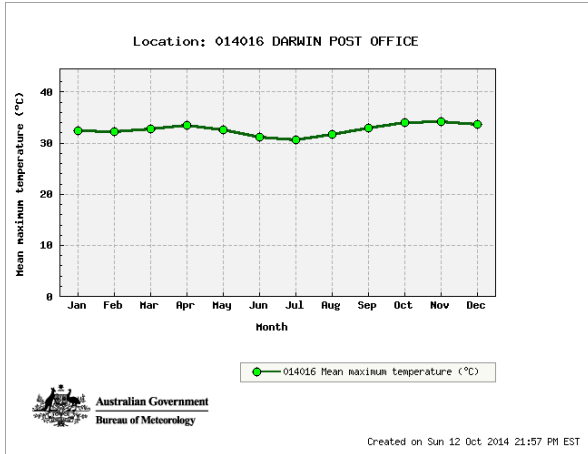
Annual Values

32.6
 23.6
 1537.9
 76.9

Years of record

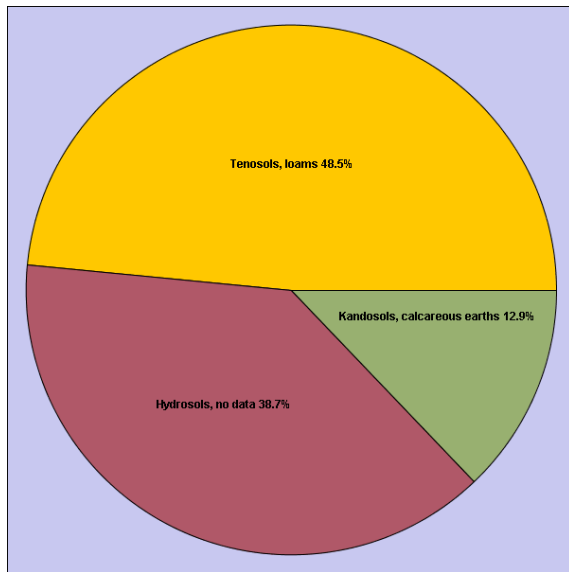
60
 60
 87
 86

Climate summaries from Bureau of Meteorology (www.bom.gov.au)



Custom area Soils

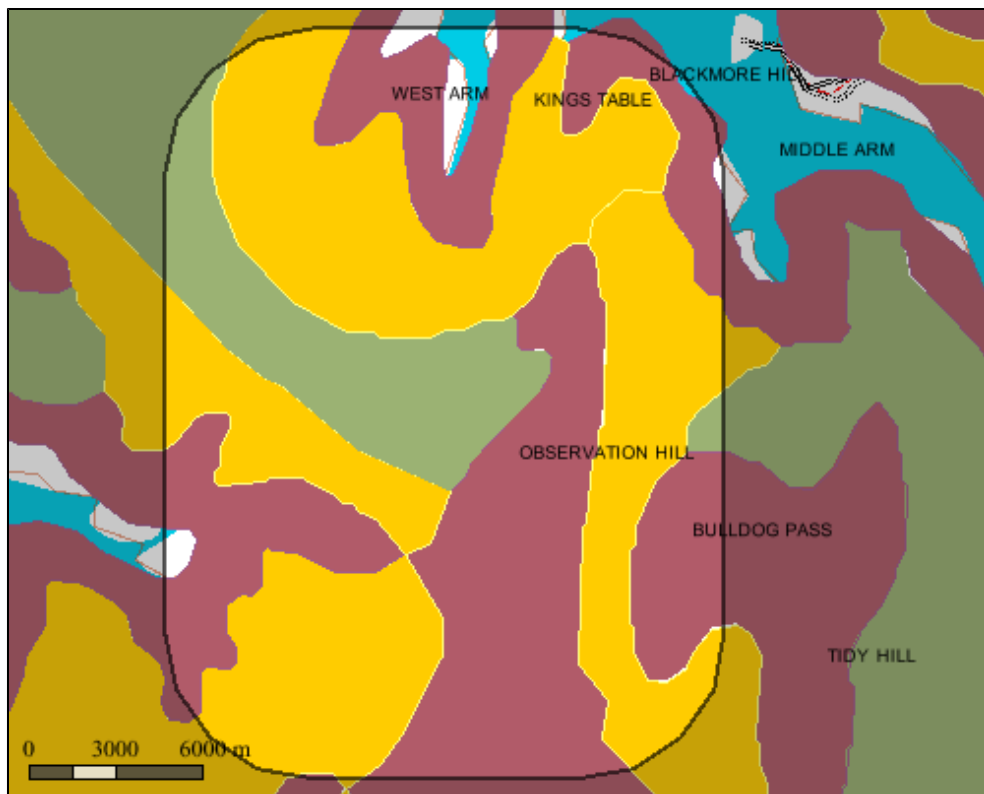
Soil Types



Area of soil types (Northcote Factual Key)

Category	Area sq km	Area%
Tenosols, loams	216.83	47.58
Hydrosols, no data	172.86	37.93
Kandosols, calcareous earths	57.50	12.62

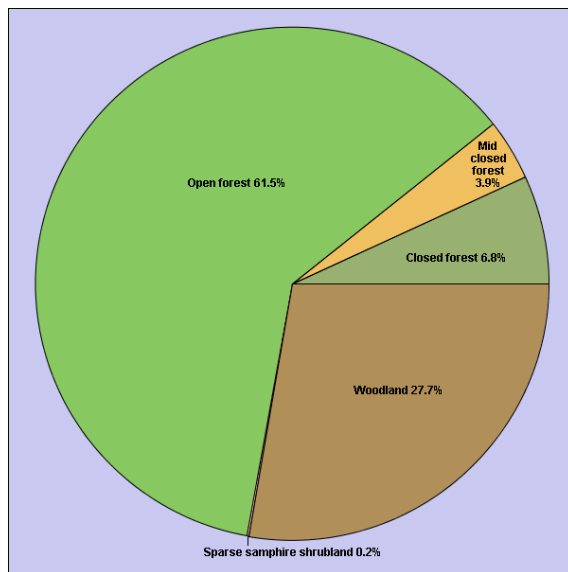
Soil Types



Soils 1:2M Layer is a copy of the NT portion (1:2,000,000 scale dataset) of the CSIRO Atlas of Australian Soils - K.H. Northcote et al. Data scale: 1:2,000,000 ANZLIC Identifier: 2DBC771205D06B6E040CD9B0F274EFE
 More details: Go to www.lrm.nt.gov.au/nrmapsnt/ and enter the ANZLIC identifier in the Spatial Data Search

Custom area Vegetation

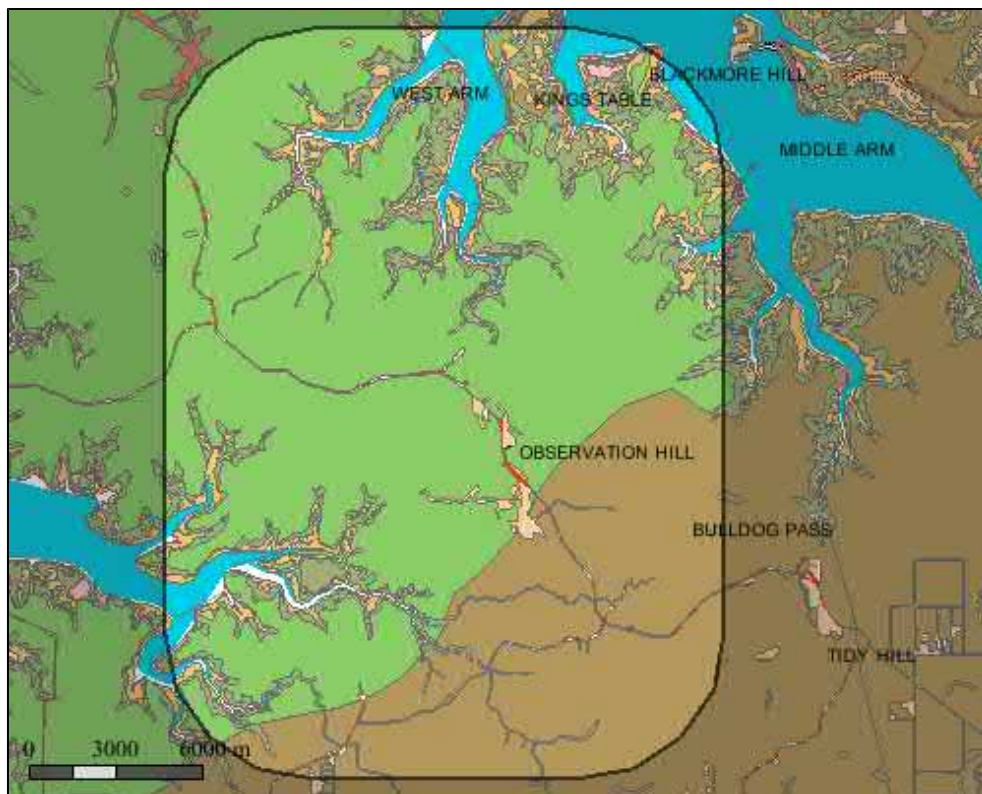
Vegetation Communities



Area of vegetation communities

Category	Area sq km	Area%
Open forest	264.00	57.94
Woodland	118.81	26.07
Closed forest	29.28	6.43
Mid closed forest	16.57	3.64
Sparse samphire shrubland	.65	.14

Vegetation Communities

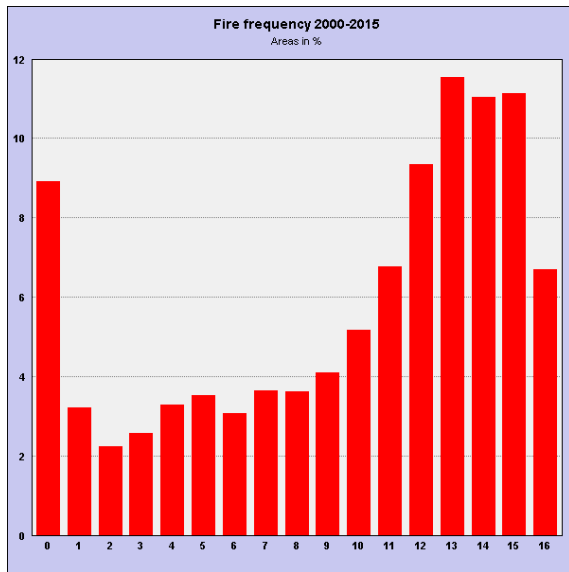


The NVIS 2005 Layer is compiled from a number of vegetation and land unit survey maps that were recoded and re-attributed for the National Vegetation Information System (NVIS)

Data scale variable depending on location. ANZLIC Identifier:2DBC771207006B6E040CD9B0F274EFE
 More details:Go to www.lrm.nt.gov.au/nrmapsnt/ and enter the ANZLIC identifier in the Spatial Data Search

Custom area Fire History

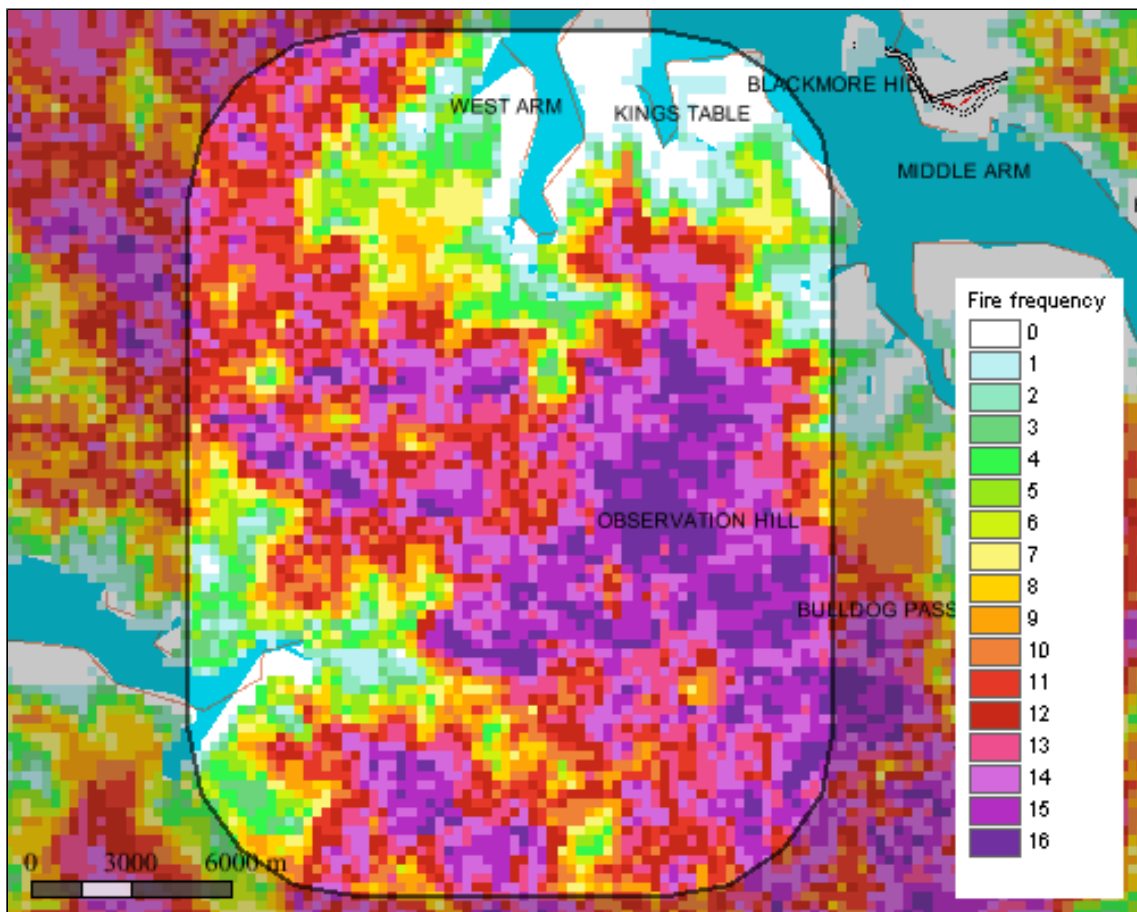
Fire frequency 2000-2015



area burnt for each fire frequency category 2000-2015

Category	Area sq km	Area%
0	40.64	8.92
1	14.69	3.22
2	10.23	2.25
3	11.72	2.57
4	15.00	3.29
5	16.10	3.53
6	14.00	3.07
7	16.59	3.64
8	16.48	3.62
9	18.75	4.11
10	23.63	5.19
11	30.89	6.78
12	42.62	9.35
13	52.65	11.55
14	50.35	11.05
15	50.78	11.14
16	30.57	6.71

Fire frequency 2000-2015



The fire frequency(250m) Layer is derived from satellite imagery sourced from the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Terra satellite
Spatial Resolution: 250m x 250m pixels (at Nadir).

Custom area Threatened Species



Threatened species recorded in Custom area (Records Updated: Sept 2013)

Group	Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Reptiles	Green Turtle	<i>Chelonia mydas</i>	.	VU	176291	2 (1995)	0 (Unknown)	0 (Unknown)
Birds	Partridge Pigeon	<i>Geophaps smithii</i>	VU	VU	176384	4 (1996)	0 (Unknown)	0 (Unknown)
Birds	Bar-tailed Godwit	<i>Limosa lapponica</i>	VU	.	.	1 (1994)	0 (Unknown)	0 (Unknown)
Birds	Eastern Curlew	<i>Numenius madagascariensis</i>	VU	CE	.	1 (1994)	0 (Unknown)	0 (Unknown)

EX = Extinct

EW = Extinct in the Wild

ER = Extinct in the NT

EN = Endangered

EN/VU = One Endangered subspecies/One Vulnerable subspecies

VU=Vulnerable

VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

Survey = this category refers to data collected using systematic survey methodology

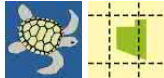
Specimen = this category refers to museum or other records where a specimen has been collected and lodged

Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Custom area Threatened Species Grid



Threatened species recorded in the grid cell(s) in which Custom area occurs (Records Updated: Sept 2013)

Group	Family Name	Scientific Name	Common Name	NT Status	National Status	#Observations	Latest Observation Date	#Specimens	Latest Specimen Date	#Surveys	Latest Survey Record
Cycads	Cycadaceae	<i>Cycas armstrongii</i>	Armstrong's Cycad	VU		0	Unknown	0	Unknown	2	1998
Cycads	Cycadaceae	<i>Cycas armstrongii x maconochiei</i>	Armstrong's Cycad	VU		0	Unknown	2	2001	0	Unknown
Flowering Plants	Pontederiaceae	<i>Monochoria hastata</i>	Arrowleaf Monochoria	VU		0	Unknown	1	1981	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia dunstaniae</i>	Bladderwort	VU		0	Unknown	1	2010	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia singeriana</i>	Bladderwort	VU		0	Unknown	2	2010	0	Unknown
Insects	Lycaenidae	<i>Ogyris iphis doddi</i>	Dodd's Azure Butterfly	EN		0	Unknown	0	Unknown	0	Unknown
Reptiles	Cheloniidae	<i>Chelonia mydas</i>	Green Turtle		VU	5	2010	1	1993	0	Unknown
Reptiles	Cheloniidae	<i>Eretmochelys imbricata</i>	Hawksbill Turtle	VU	VU	2	1997	0	Unknown	1	1997
Reptiles	Cheloniidae	<i>Natator depressus</i>	Flatback Turtle		VU	6	2010	0	Unknown	1	1997
Reptiles	Gekkonidae	<i>Lucasium occultum</i>	Yellow-snouted Gecko	VU	EN	0	Unknown	1	2004	0	Unknown
Reptiles	Varanidae	<i>Varanus mertensi</i>	Mertens' Water Monitor	VU		3	2010	3	2007	1	2000
Reptiles	Varanidae	<i>Varanus mitchelli</i>	Mitchell's Water Monitor	VU		0	Unknown	1	1973	0	Unknown
Reptiles	Varanidae	<i>Varanus panoptes</i>	Yellow-spotted Monitor	VU		4	2002	2	2008	3	2002
Birds	Columbidae	<i>Geophaps smithii</i>	Partridge Pigeon	VU	VU	37	2007	0	Unknown	0	Unknown
Birds	Accipitridae	<i>Erythrotriorchis radiatus</i>	Red Goshawk	VU	VU	2	1999	0	Unknown	0	Unknown
Birds	Charadriidae	<i>Charadrius mongolus</i>	Lesser Sand Plover	VU	EN	39	2008	1	1984	1	1997
Birds	Charadriidae	<i>Charadrius leschenaultii</i>	Greater Sand Plover	VU	VU	84	2001	0	Unknown	2	1997
Birds	Scolopacidae	<i>Limosa lapponica</i>	Bar-tailed Godwit	VU		32	1997	0	Unknown	1	1997
Birds	Scolopacidae	<i>Numenius madagascariensis</i>	Eastern Curlew	VU	CE	117	2008	0	Unknown	3	1997
Birds	Scolopacidae	<i>Calidris tenuirostris</i>	Great Knot	VU	CE	4	1997	0	Unknown	1	1997
Birds	Scolopacidae	<i>Calidris canutus</i>	Red Knot	VU	EN	2	2005	0	Unknown	1	1997
Birds	Scolopacidae	<i>Calidris ferruginea</i>	Curlew Sandpiper	VU	CE	4	2005	0	Unknown	0	Unknown
Birds	Tytonidae	<i>Tyto novaehollandiae kimberli</i>	Masked Owl (northern mainland)	VU	VU	1	2000	0	Unknown	0	Unknown
Birds	Estrildidae	<i>Erythrura gouldiae</i>	Gouldian Finch	VU	EN	1	1996	0	Unknown	0	Unknown
Mammals	Dasyuridae	<i>Dasyurus hallucatus</i>	Northern Quoll	CR	EN	14	2000	2	1954	11	2002
Mammals	Dasyuridae	<i>Antechinus bellus</i>	Fawn Antechinus	EN	VU	2	2001	0	Unknown	5	2002
Mammals	Muridae	<i>Mesembriomys gouldii gouldii</i>	Black-footed Tree-rat	VU	EN	0	Unknown	1	1990	14	2007
Mammals	Muridae	<i>Rattus tunneyi</i>	Pale Field-rat	VU		2	1995	0	Unknown	7	2002

EX = Extinct
 EW = Extinct in the Wild
 ER = Extinct in the NT
 EN = Endangered
 EN/VU = One Endangered subspecies/One Vulnerable subspecies

VU=Vulnerable

VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

Survey = this category refers to data collected using systematic survey methodology

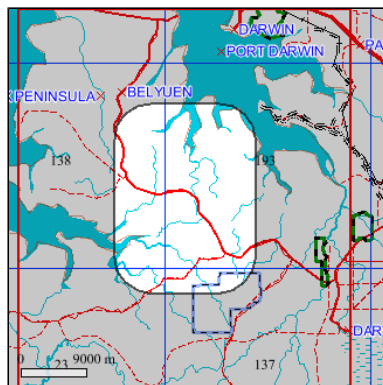
Specimen = this category refers to museum or other records where a specimen has been collected and lodged

Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Species listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area



Custom area Weeds and Potential Weeds



Introduced plants recorded in the grid cell(s) in which Custom area occurs and that have been identified as problem weeds in one or more locations in northern Australia. Occurrence based on Northern Territory Government databases.

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Acanthaceae	<i>Barleria prionitis</i>	Barleria	A C	ALERT	MP K2 C&E G&M	0	Unknown
Poaceae	<i>Bothriochloa pertusa</i>	Indian Bluegrass			DEU	0	Unknown
Fabaceae	<i>Calopogonium mucunoides</i>	Calopo			MP C&E CYP	0	Unknown
Poaceae	<i>Cenchrus ciliaris</i>	Buffel Grass			MP Gr G&M DEU	0	Unknown
Poaceae	<i>Cenchrus pedicellatus</i>	Mission Grass (annual)			WeedsAus	1	2003
Poaceae	<i>Cenchrus polystachios</i>	Mission Grass (perennial)	B C		MP K2 C&E G&M	1	2003
Fabaceae	<i>Centrosema molle</i>	Centro			MP	0	Unknown
Poaceae	<i>Chloris barbata</i>	Purpletop Chloris			DEU	0	Unknown
Fabaceae	<i>Crotalaria goreensis</i>	Gambia Pea			MP	1	2003
Fabaceae	<i>Delonix regia</i>	Poinciana			C&E	0	Unknown
Poaceae	<i>Echinochloa colona</i>	Awnless Barnyard Grass			DEU	0	Unknown
Poaceae	<i>Echinochloa polystachya</i>	Aleman Grass			MP C&E G&M CYP	0	Unknown
Amaranthaceae	<i>Gomphrena celosioides</i>	Gomphrena Weed			DEU	0	Unknown
Malvaceae	<i>Grewia asiatica</i>	Phassa Plum			C&E G&M CYP	0	Unknown
Boraginaceae	<i>Heliotropium indicum</i>	Indian Heliotrope			DEU	0	Unknown
Lamiaceae	<i>Hyptis suaveolens</i>	Hyptis	B C		G&M	6	2003
Convolvulaceae	<i>Ipomoea quamoclit</i>	Cupid's Flower			C&E	0	Unknown
Euphorbiaceae	<i>Jatropha curcas</i>	Physic Nut	A C		MP WA1 WA2 WA4 G&M	0	Unknown
Meliaceae	<i>Khaya senegalensis</i>	African Mahogany			C&E	0	Unknown
Verbenaceae	<i>Lantana camara</i>	Lantana	B C	WONS	K2 WA1 Q3 Gr G&M CYP DEU NSW SA	3	1988
Fabaceae	<i>Leucaena leucocephala</i>	Coffee Bush			MP C&E G&M CYP	0	Unknown
Poaceae	<i>Melinis repens</i>	Red Natal Grass			DEU	0	Unknown
Fabaceae	<i>Mimosa pigra</i>	Mimosa	A (S of 14 deg S) B (N of 14 deg S) C	WONS	MP K2 WA1 WA2 Q1 G&M CYP SA	2	1991
Oxalidaceae	<i>Oxalis corniculata</i>	Creeping Wood-sorrel			NSW	0	Unknown
Araceae	<i>Pistia stratiotes</i>	Water Lettuce	B C		WA1 WA2 Q2 CYP NSW	0	Unknown
Plantaginaceae	<i>Scoparia dulcis</i>	Bitter Broom			DEU	0	Unknown
Fabaceae	<i>Senna alata</i>	Candle Bush	B C		WA1 WA2	0	Unknown
Fabaceae	<i>Senna occidentalis</i>	Coffee Senna	B C		G&M DEU	0	Unknown

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Fabaceae	<i>Senna tora</i>	Foetid Cassia			WA1 WA2 Q2 G&M CYP	0	Unknown
Malvaceae	<i>Sida acuta</i>	Spiny-head Sida	B C		WA1 G&M	0	Unknown
Malvaceae	<i>Sida cordifolia</i>	Flannel Weed	B C		WA1 G&M DEU	0	Unknown
Malvaceae	<i>Sida rhombifolia</i>	Paddy's Lucerne	B C		MP G&M DEU	0	Unknown
Poaceae	<i>Sorghum almum</i>	Columbus Grass			NSW	0	Unknown
Poaceae	<i>Sporobolus jacquemontii</i>	American Rat's Tail Grass			Q2 G&M	0	Unknown
Verbenaceae	<i>Stachytarpheta cayennensis</i>	Cayenne Snakeweed	B C		NSW	0	Unknown
Verbenaceae	<i>Stachytarpheta jamaicensis</i>	Jamaican Snakeweed	B C			0	Unknown
Fabaceae	<i>Stylosanthes humilis</i>	Townsville Lucerne			DEU	1	1991
Fabaceae	<i>Stylosanthes scabra</i>	Shrubby Stylo			G&M DEU	0	Unknown
Asteraceae	<i>Synedrella nodiflora</i>	Cinderella Weed			C&E	1	1988
Zygophyllaceae	<i>Tribulus terrestris</i>	Caltrop	B C		CYP SA	0	Unknown
Poaceae	<i>Urochloa mutica</i>	Para Grass			MP G&M	2	1991

Status Codes:

1. NATIONAL STATUS CODES

Alert, Alert List for Environmental Weeds (Please call Exotic Plant Pest Hotline 1800 084 881 if you think you have seen this weed)

Sleeper, National Sleeper Weed

Target, Targeted for eradication. (www.landmanager.com.au/view/index.aspx?id=449837)

WONS, Weeds of National Significance

2. NT STATUS CODES

A, NT Class A Weed (to be eradicated)

B, NT Class B Weed (growth & spread to be controlled)

C, NT Class C Weed (not to be introduced) (www.landmanager.com.au/view/index.aspx?id=449869)

3. OTHER STATUS CODES

C&E, Csurhes, S. & Edwards, R. (1998) Potential Environmental Weeds in Australia. Candidate Species for Preventative Control. Environment Australia, Canberra (www.landmanager.com.au/view/index.aspx?id=394504)

CYP, Draft Cape York Peninsula Pest Management Plan 2006-2011 (www.landmanager.com.au/view/index.aspx?id=371200)

DEU, Plants listed as environmental weeds by the Desert Uplands Strategic Land Resource

Assessment (www.landmanager.com.au/view/index.aspx?id=332123)

G&M, Grice AC, Martin TG. 2005. The Management of Weeds and Their Impact on Biodiversity in the Rangelands. Cooperative Research Centre (CRC) for Australian Weed Management and CSIRO Sustainable Ecosystems. Commonwealth Australia (www.landmanager.com.au/view/index.aspx?id=163572)

Gr, Groves et al. 2003. Weed categories for natural and agricultural ecosystem management. Bureau of Rural Sciences (www.landmanager.com.au/view/index.aspx?id=388018)

K0, High Priority Weeds not yet established in the Katherine region

K1, High Priority Weeds posing environmental threats in the Katherine region

K2, High Priority Weeds posing existing threats in the Katherine region, as described in the Katherine Regional Weed Management Strategy 2005-2010 (www.landmanager.com.au/view/index.aspx?id=130286)

MP, Northern Territory Parks & Conservation Masterplan (www.landmanager.com.au/view/index.aspx?id=144141)

NAQS, North Australian Quarantine Strategy Target List (www.landmanager.com.au/view/index.aspx?id=449416)

NSW, Declared Noxious Weed in NSW (www.landmanager.com.au/view/index.aspx?id=449983)

Q1, QLD Class 1 Weed (not to be introduced, kept or supplied)

Q2, Class 2 Weed (eradicate where possible, not to be introduced, kept or supplied)

Q3, Qld Class 3 Weed (to be controlled near environmentally sensitive areas- not to be supplied/sold without a permit) (www.landmanager.com.au/view/index.aspx?id=190714)

SA, Declared Plant in South Australia (www.landmanager.com.au/view/index.aspx?id=449996)

WeedsAus, Listed as a significant weed by Weeds Australia (www.landmanager.com.au/view/index.aspx?id=14576)

WA1, WA Weed Class P1 (movement prohibited)

WA2, WA Weed Class P2 (aim to eradicate)

WA3, WA Weed Class P3 (control infestations)

WA4, WA Weed Class P4 (prevent spread)

WA5, WA Weed Class P3 (control infestations on public land) (www.landmanager.com.au/view/index.aspx?id=449884).

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More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Plants listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area

Custom area Pest and Potential Pest Animals



Animals with pest potential recorded in the grid cell(s) in which Custom area occurs. Occurrence based on Northern Territory Government databases.

Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Cane Toad	<i>Rhinella marina</i>	P	.	183252	8 (2010)	0 (Unknown)	18 (2010)
Asian House Gecko	<i>Hemidactylus frenatus</i>	P	.	188964	1 (Unknown)	1 (1979)	6 (2010)
Flower-pot Blind Snake	<i>Ramphotyphlops braminus</i>	P	.	189084	0 (Unknown)	2 (2002)	0 (Unknown)
Rock Dove	<i>Columba livia</i>	P	.	183336	3 (1997)	0 (Unknown)	0 (Unknown)
Red-tailed Black-cockatoo	<i>Calyptorhynchus banksii macrorhynchus</i>	N	.	223765	116 (2010)	2 (1985)	11 (2010)
Sulphur-Crested Cockatoo	<i>Cacatua galerita</i>	N	.	223772	124 (2010)	0 (Unknown)	13 (2010)
Agile Wallaby	<i>Macropus agilis</i>	N	.	223786	11 (2008)	1 (Unknown)	27 (2010)
Black Rat	<i>Rattus rattus</i>	P	.	183236	2 (2008)	1 (1974)	0 (Unknown)
Dingo / Wild dog	<i>Canis lupus</i>	N	.	183280	7 (2010)	0 (Unknown)	1 (2000)
Cat	<i>Felis catus</i>	P	.	183259	4 (2010)	0 (Unknown)	7 (2010)
Horse	<i>Equus caballus</i>	P	.	183315	1 (1991)	0 (Unknown)	1 (2010)
Pig	<i>Sus scrofa</i>	P	.	183329	9 (2008)	0 (Unknown)	10 (2010)
Swamp Buffalo	<i>Bubalus bubalis</i>	P	.	183245	1 (2000)	0 (Unknown)	0 (Unknown)
Cattle	<i>Bos taurus</i>	P	.	183266	33 (2002)	0 (Unknown)	1 (2000)

NT STATUS CODES:

Int, Introduced species (all non-prohibited vertebrates, and all other exotic species (www.landmanager.com.au/view/index.aspx?id=280771))

N, Native species with pest potential.

P, Prohibited species (all exotic vertebrates except those listed as non-prohibited (www.landmanager.com.au/view/index.aspx?id=450509))

Survey = this category refers to data collected using systematic survey methodology

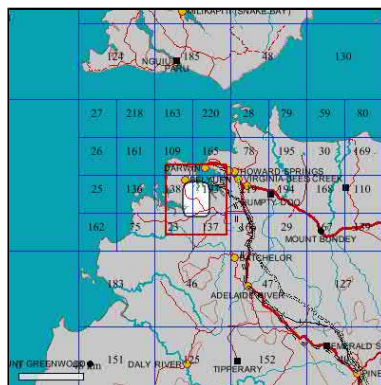
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More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Potential pest animals listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area



Soils and vegetation graphs and tables refer to area of soils and vegetation only. Fire graphs and tables refer to entire selected area including sea if present. Calculations are derived from map images or vector data, and should be taken as a guide only. Accuracy cannot be guaranteed. For small areas, figures should be rounded to the nearest whole number.

Litchfield Project



Custom area

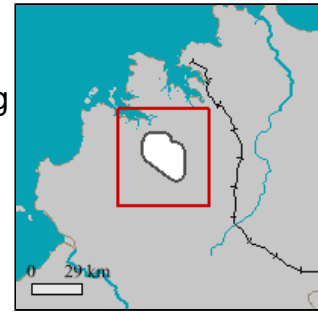
NT NRM Report



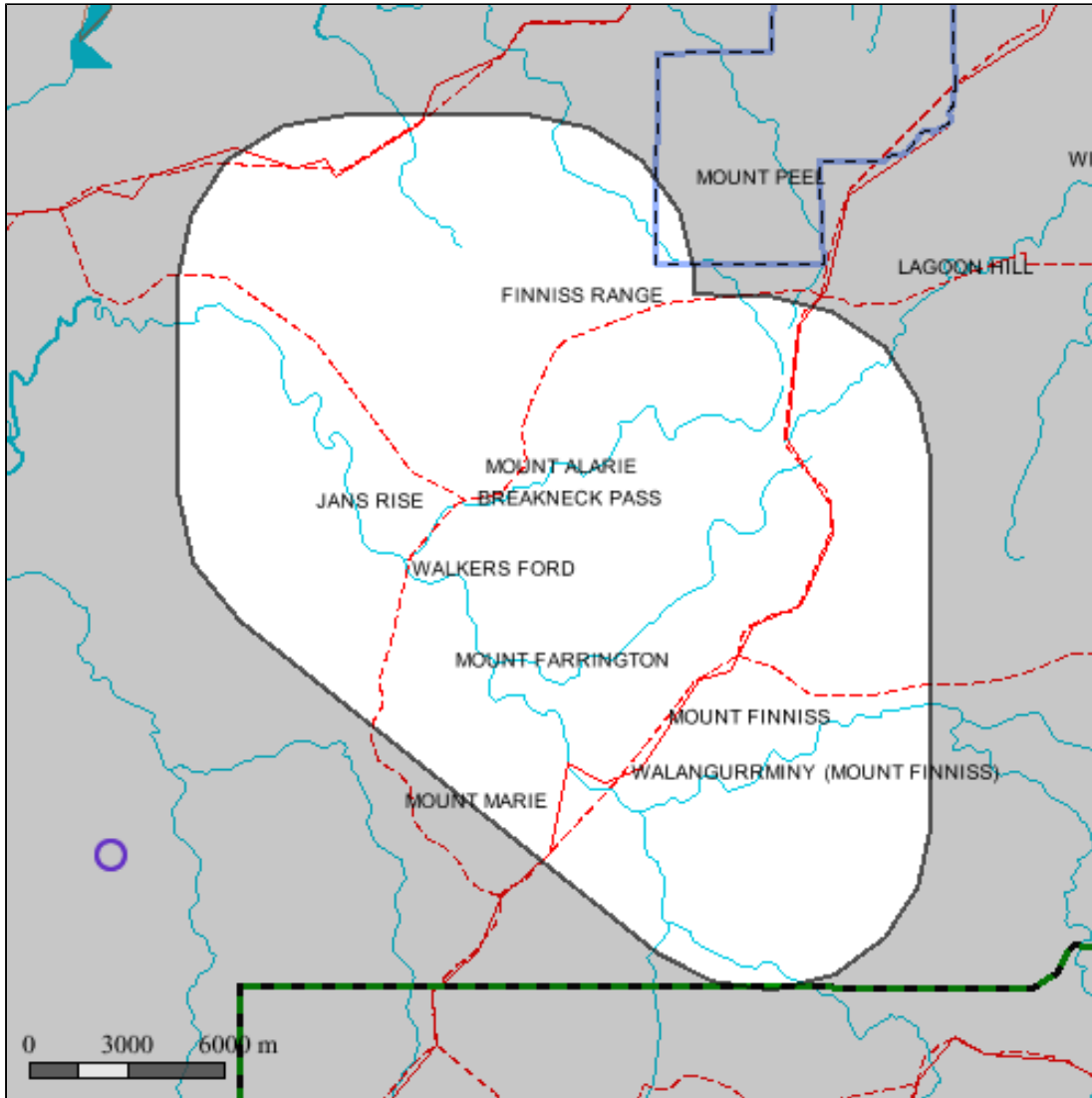
Custom area

Custom area encompasses an area of 434.13 sq km extending from 12 deg 47.0 min to 13 deg 1.0 min S and 130 deg 39.0 min to 130 deg 51.0 min E.

Custom area is located in the Darwin Coastal, Pine Creek, bioregion(s)



Location of Custom area



Custom area Climate

The closest long-term weather station is DARWIN AIRPORT (12 deg 25.0 min S, 130.8925E) 55 km N of the center of selected area

Statistics

Mean max temp (deg C)
 Mean min temp (deg C)
 Average rainfall (mm)
 Average days of rain

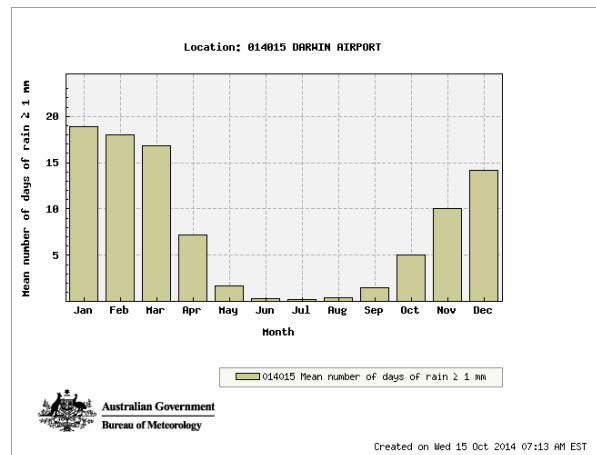
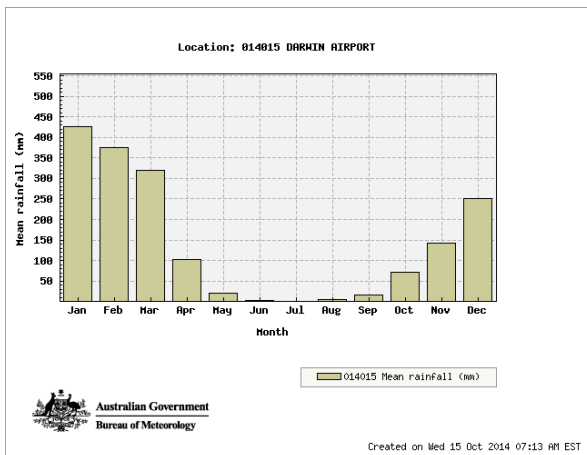
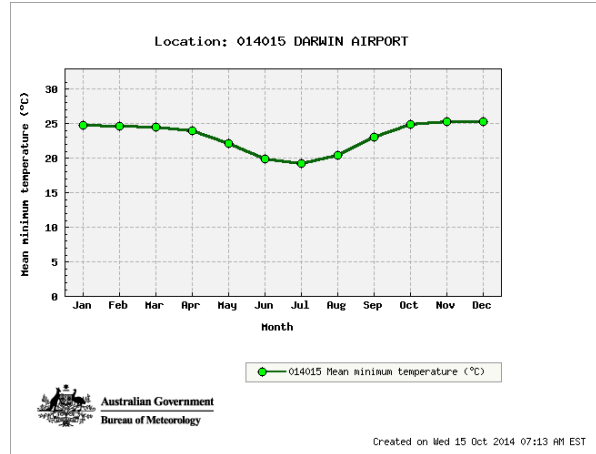
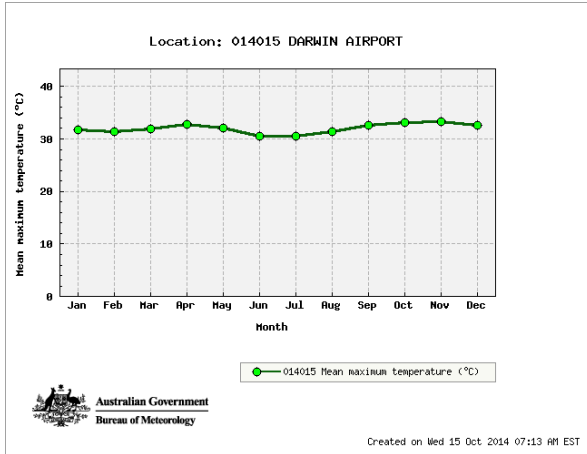
Annual Values

32.0
 23.2
 1729.1
 94.2

Years of record

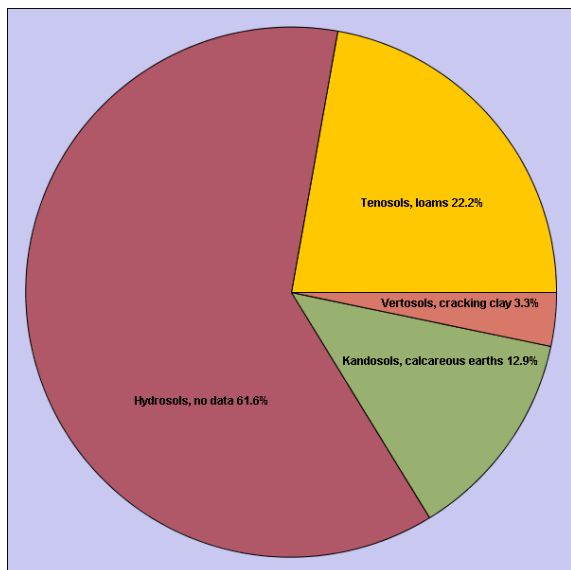
73
 73
 74
 74

Climate summaries from Bureau of Meteorology (www.bom.gov.au)



Custom area Soils

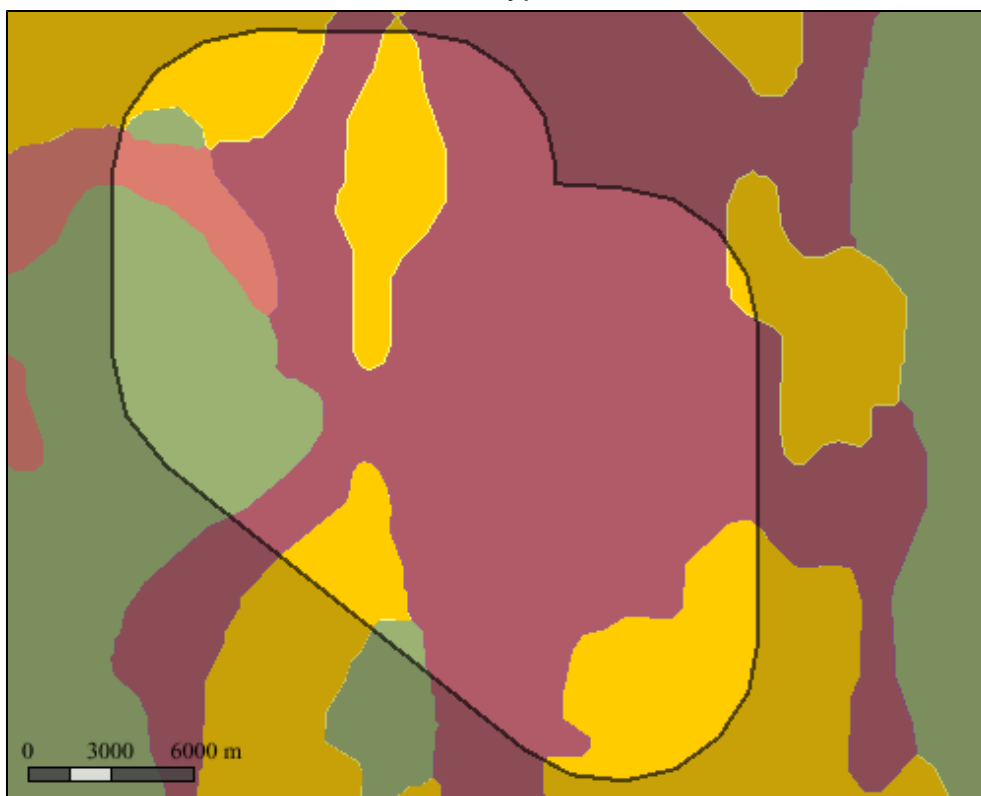
Soil Types



Area of soil types (Northcote Factual Key)

Category	Area sq km	Area%
Hydrosols, no data	267.33	61.58
Tenosols, loams	96.36	22.20
Kandosols, calcareous earths	56.12	12.93
Vertosols, cracking clay	14.32	3.30

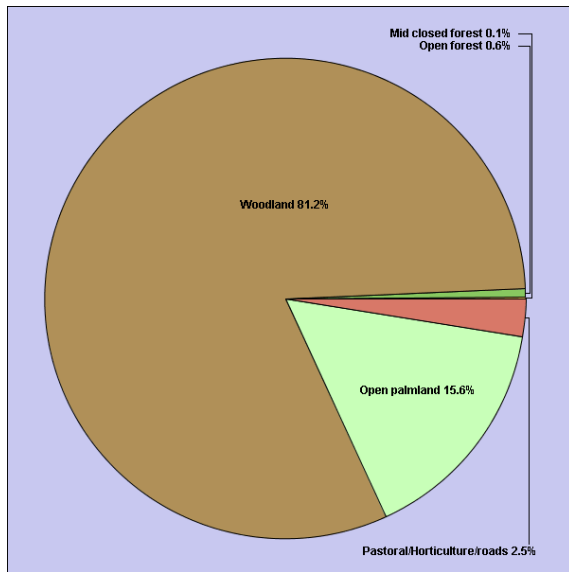
Soil Types



Soils 1:2M Layer is a copy of the NT portion (1:2,000,000 scale dataset) of the CSIRO Atlas of Australian Soils - K.H. Northcote et al. Data scale: 1:2,000,000 ANZLIC Identifier: 2DBCB771205D06B6E040CD9B0F274EFE
More details: Go to www.lrm.nt.gov.au/nrmapsnt/ and enter the ANZLIC identifier in the Spatial Data Search

Custom area Vegetation

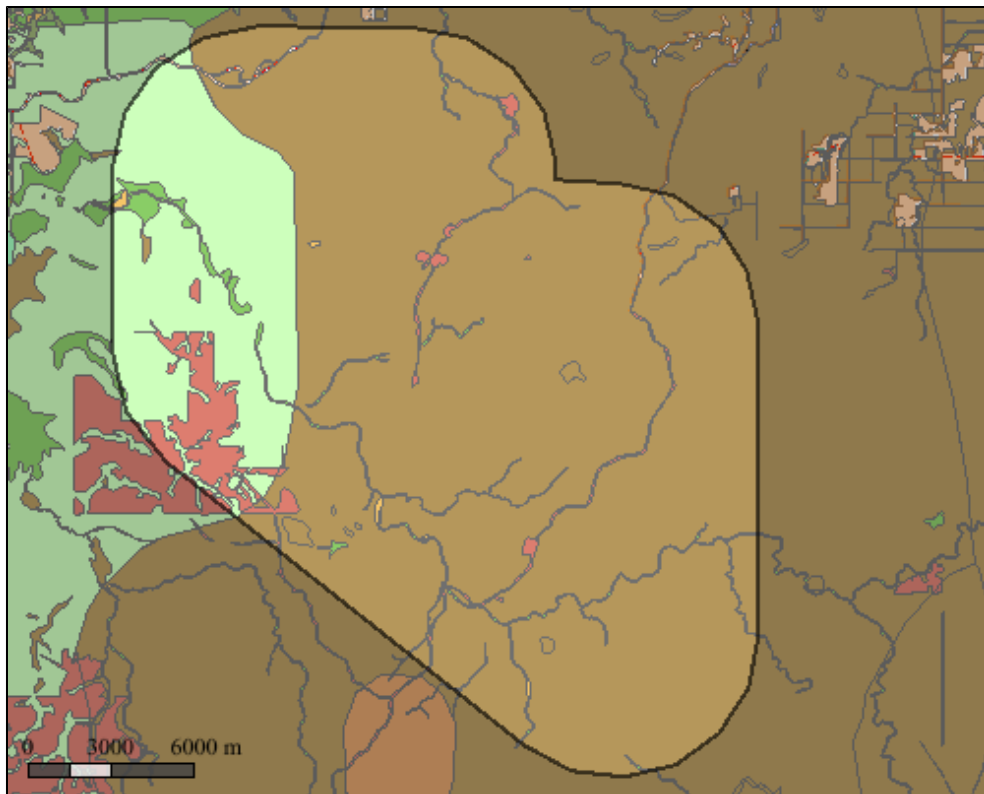
Vegetation Communities



Area of vegetation communities

Category	Area sq km	Area%
Woodland	352.54	81.21
Open palmland	67.76	15.61
Pastoral/Horticulture/roads	11.00	2.53
Open forest	2.41	.55
Mid closed forest	.32	.07
Unknown	.00	.00

Vegetation Communities

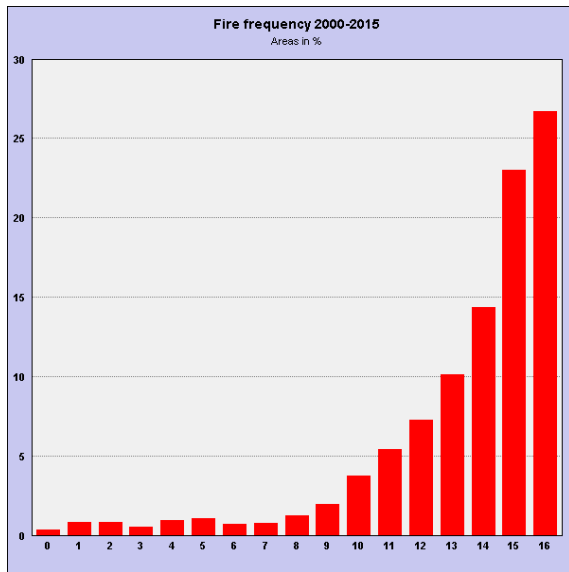


The NVIS 2005 Layer is compiled from a number of vegetation and land unit survey maps that were recoded and re-attributed for the National Vegetation Information System (NVIS)

Data scale variable depending on location. ANZLIC Identifier:2DBC771207006B6E040CD9B0F274EFE
More details:Go to www.lrm.nt.gov.au/nrmapsnt/ and enter the ANZLIC identifier in the Spatial Data Search

Custom area Fire History

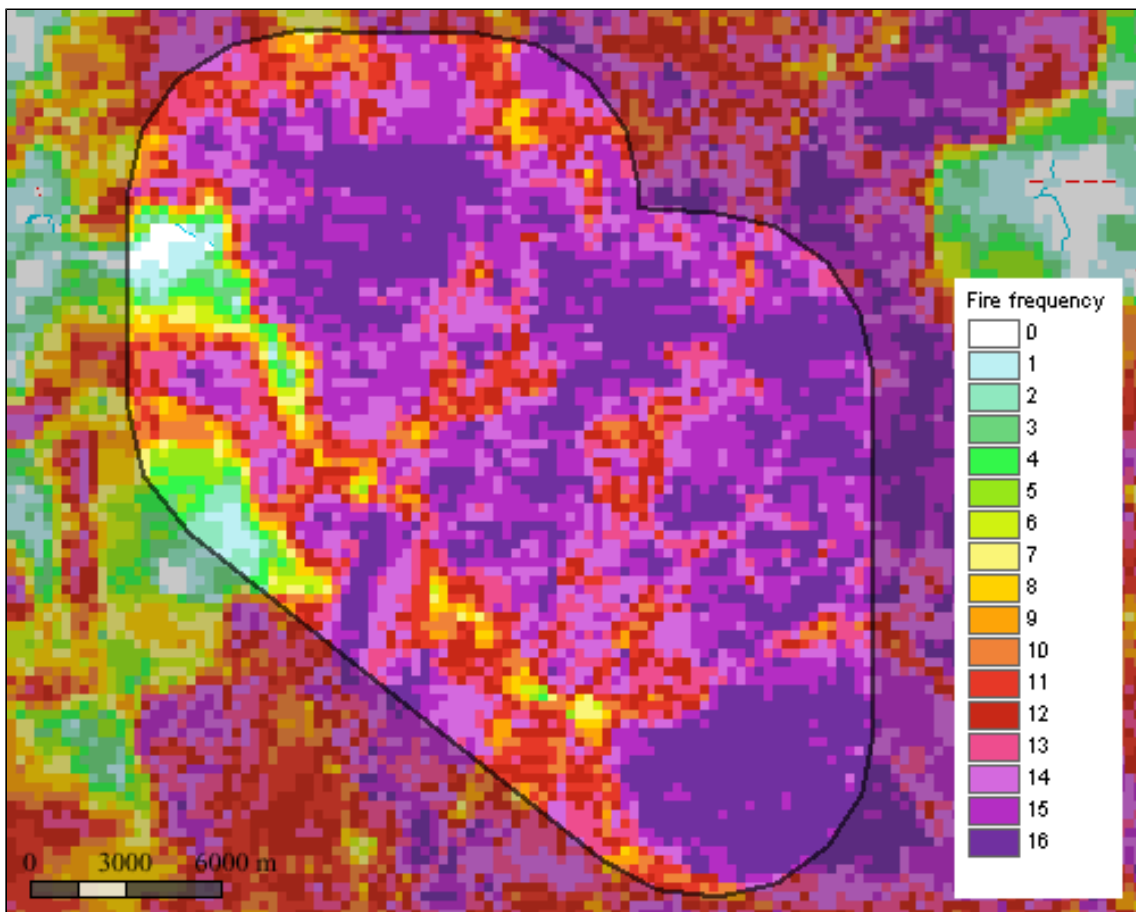
Fire frequency 2000-2015



area burnt for each fire frequency category 2000-2015

Category	Area sq km	Area%
0	1.50	.35
1	3.66	.84
2	3.58	.82
3	2.21	.51
4	4.08	.94
5	4.69	1.08
6	3.22	.74
7	3.41	.79
8	5.46	1.26
9	8.51	1.96
10	16.31	3.76
11	23.45	5.40
12	31.70	7.30
13	44.03	10.14
14	62.38	14.37
15	99.86	23.00
16	116.08	26.74

Fire frequency 2000-2015



The fire frequency(250m) Layer is derived from satellite imagery sourced from the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Terra satellite
Spatial Resolution: 250m x 250m pixels (at Nadir).

Custom area Threatened Species



Threatened species recorded in Custom area (Records Updated: Sept 2013)

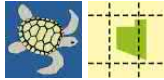
Group	Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Flowering Plants	Bladderwort	<i>Utricularia dunstaniae</i>	VU	.	256111	0 (Unknown)	1 (2010)	0 (Unknown)
Flowering Plants	Bladderwort	<i>Utricularia singeriana</i>	VU	.	256156	0 (Unknown)	2 (2010)	0 (Unknown)
Birds	Partridge Pigeon	<i>Geophaps smithii</i>	VU	VU	176384	5 (1996)	0 (Unknown)	0 (Unknown)

EX = Extinct
 EW = Extinct in the Wild
 ER = Extinct in the NT
 EN = Endangered
 EN/VU = One Endangered subspecies/One Vulnerable subspecies
 VU=Vulnerable
 VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

Survey = this category refers to data collected using systematic survey methodology
 Specimen = this category refers to museum or other records where a specimen has been collected and lodged
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More species info: Go to www.landmanager.org.au/view/index.aspx?id=####
 where #### is the ID number from the tables above for the species of interest.

Custom area Threatened Species Grid



Threatened species recorded in the grid cell(s) in which Custom area occurs (Records Updated: Sept 2013)

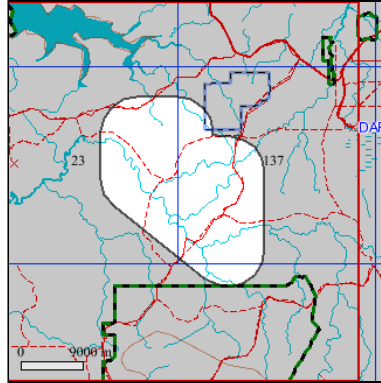
Group	Family Name	Scientific Name	Common Name	NT Status	National Status	#Observations	Latest Observation Date	#Specimens	Latest Specimen Date	#Surveys	Latest Survey Record
Cycads	Cycadaceae	<i>Cycas armstrongii</i>	Armstrong's Cycad	VU		0	Unknown	3	2002	0	Unknown
Cycads	Cycadaceae	<i>Cycas armstrongii x maconochiei</i>	Armstrong's Cycad	VU		0	Unknown	2	2001	0	Unknown
Flowering Plants	Pontederiaceae	<i>Monochoria hastata</i>	Arrowleaf Monochoria	VU		0	Unknown	1	1981	0	Unknown
Flowering Plants	Rutaceae	<i>Clausena sp. Tipperary</i>	Clausena	EN	-	0	Unknown	4	2010	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia dunstaniae</i>	Bladderwort	VU		0	Unknown	1	2010	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia singeriana</i>	Bladderwort	VU		0	Unknown	2	2010	0	Unknown
Fish	Terapontidae	<i>Pingalla lorentzi</i>	Lorentz's Grunter	VU		0	Unknown	0	Unknown	0	Unknown
Reptiles	Varanidae	<i>Varanus mertensi</i>	Mertens' Water Monitor	VU		5	2001	2	2000	3	1996
Reptiles	Varanidae	<i>Varanus mitchelli</i>	Mitchell's Water Monitor	VU		3	2011	3	1995	1	2006
Reptiles	Varanidae	<i>Varanus panoptes</i>	Yellow-spotted Monitor	VU		9	2002	0	Unknown	2	2002
Birds	Columbidae	<i>Geophaps smithii</i>	Partridge Pigeon	VU	VU	84	2011	0	Unknown	9	2011
Birds	Accipitridae	<i>Erythrotriorchis radiatus</i>	Red Goshawk	VU	VU	2	1999	0	Unknown	0	Unknown
Birds	Tytonidae	<i>Tyto novaehollandiae kimberli</i>	Masked Owl (northern mainland)	VU	VU	2	2008	0	Unknown	0	Unknown
Birds	Estrildidae	<i>Erythrura gouldiae</i>	Gouldian Finch	VU	EN	1	1996	0	Unknown	0	Unknown
Mammals	Dasyuridae	<i>Dasyurus hallucatus</i>	Northern Quoll	CR	EN	27	2006	9	1955	53	2002
Mammals	Dasyuridae	<i>Antechinus bellus</i>	Fawn Antechinus	EN	VU	1	1995	4	1995	9	2011
Mammals	Dasyuridae	<i>Phascogale pirata</i>	Northern Brush-tailed Phascogale	EN	VU	2	1995	0	Unknown	0	Unknown
Mammals	Macropodidae	<i>Petrogale concinna</i>	Nabarlek	VU	EN	0	Unknown	2	1957	0	Unknown
Mammals	Megadermatidae	<i>Macroderma gigas</i>	Ghost Bat		VU	13	1988	1	1954	3	2011
Mammals	Hipposideridae	<i>Hipposideros inornata</i>	Arnhem Leaf-nosed Bat	VU	EN	1	1978	0	Unknown	0	Unknown
Mammals	Muridae	<i>Conilurus penicillatus</i>	Brush-tailed Rabbit-rat	EN	VU	2	Unknown	0	Unknown	0	Unknown
Mammals	Muridae	<i>Mesembriomys gouldii gouldii</i>	Black-footed Tree-rat	VU	EN	2	1984	1	1990	15	2006
Mammals	Muridae	<i>Xeromys myoides</i>	Water Mouse		VU	1	1972	0	Unknown	0	Unknown
Mammals	Muridae	<i>Rattus tunneyi</i>	Pale Field-rat	VU		6	1995	3	1996	56	2006

EX = Extinct
 EW = Extinct in the Wild
 ER = Extinct in the NT
 EN = Endangered
 EN/VU = One Endangered subspecies/One Vulnerable subspecies
 VU = Vulnerable
 VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

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More species info: Go to www.landmanager.org.au/view/index.aspx?id=####
where #### is the ID number from the tables above for the species of interest.

Species listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area



Custom area Weeds and Potential Weeds



Introduced plants recorded in the grid cell(s) in which Custom area occurs and that have been identified as problem weeds in one or more locations in northern Australia. Occurrence based on Northern Territory Government databases.

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Anacardiaceae	<i>Anacardium occidentale</i>	Cashew Nut			C&E	0	Unknown
Poaceae	<i>Andropogon gayanus</i>	Gamba Grass	A C	WONS	MP K1 Q2 WA2 C&E G&M CYP	0	Unknown
Fabaceae	<i>Calopogonium mucunoides</i>	Calopo			MP C&E CYP	0	Unknown
Poaceae	<i>Cenchrus echinatus</i>	Mossman River Grass	B C		NSW	0	Unknown
Poaceae	<i>Cenchrus pedicellatus</i>	Mission Grass (annual)			WeedsAus	61	2006
Poaceae	<i>Cenchrus polystachios</i>	Mission Grass (perennial)	B C		MP K2 C&E G&M	1	2003
Poaceae	<i>Cenchrus setiger</i>	Birdwood Grass			DEU	0	Unknown
Poaceae	<i>Cenchrus setosus</i>	Mission Grass (perennial)	B C		MP K2 C&E G&M	0	Unknown
Fabaceae	<i>Centrosema molle</i>	Centro			MP	0	Unknown
Poaceae	<i>Chloris barbata</i>	Purpletop Chloris			DEU	0	Unknown
Fabaceae	<i>Crotalaria goreensis</i>	Gambia Pea			MP	11	2006
Fabaceae	<i>Delonix regia</i>	Poinciana			C&E	0	Unknown
Poaceae	<i>Echinochloa colona</i>	Awnless Barnyard Grass			DEU	6	2001
Poaceae	<i>Echinochloa polystachya</i>	Aleman Grass			MP C&E G&M CYP	0	Unknown
Amaranthaceae	<i>Gomphrena celosioides</i>	Gomphrena Weed			DEU	0	Unknown
Malvaceae	<i>Grewia asiatica</i>	Phassa Plum			C&E G&M CYP	0	Unknown
Boraginaceae	<i>Heliotropium indicum</i>	Indian Heliotrope			DEU	0	Unknown
Lamiaceae	<i>Hyptis suaveolens</i>	Hyptis	B C		G&M	170	2006
Fabaceae	<i>Macroptilium atropurpureum</i>	Siratro			C&E	0	Unknown
Poaceae	<i>Melinis repens</i>	Red Natal Grass			DEU	0	Unknown
Fabaceae	<i>Mimosa pigra</i>	Mimosa	A (S of 14 deg S) B (N of 14 deg S) C	WONS	MP K2 WA1 WA2 Q1 G&M CYP SA	2	1991
Oxalidaceae	<i>Oxalis corniculata</i>	Creeping Wood-sorrel			NSW	0	Unknown
Verbenaceae	<i>Phyla nodiflora var. nodiflora</i>	Lippia			G&M NSW	1	1981
Araceae	<i>Pistia stratiotes</i>	Water Lettuce	B C		WA1 WA2 Q2 CYP NSW	1	1991
Combretaceae	<i>Quisqualis indica</i>	Rangoon Creeper			C&E	0	Unknown
Salviniaceae	<i>Salvinia molesta</i>	Salvinia	B C	WONS	MP WA1 WA2 Q2 G&M NSW SA	0	Unknown
Plantaginaceae	<i>Scoparia dulcis</i>	Bitter Broom			DEU	0	Unknown
Fabaceae	<i>Senna obtusifolia</i>	Sicklepod	B C		WA1 WA2 Q2 G&M CYP DEU	0	Unknown

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Fabaceae	<i>Senna tora</i>	Foetid Cassia			WA1 WA2 Q2 G&M CYP	0	Unknown
Malvaceae	<i>Sida acuta</i>	Spiny-head Sida	B C		WA1 G&M	8	2006
Malvaceae	<i>Sida cordifolia</i>	Flannel Weed	B C		WA1 G&M DEU	3	1990
Malvaceae	<i>Sida rhombifolia</i>	Paddy`s Lucerne	B C		MP G&M DEU	0	Unknown
Verbenaceae	<i>Stachytarpheta australis</i>	Branched Porterweed	B C			2	2006
Verbenaceae	<i>Stachytarpheta cayennensis</i>	Cayenne Snakeweed	B C		NSW	1	1989
Verbenaceae	<i>Stachytarpheta jamaicensis</i>	Jamaican Snakeweed	B C			0	Unknown
Fabaceae	<i>Stylosanthes hamata</i>	Caribbean Stylo			DEU	0	Unknown
Fabaceae	<i>Stylosanthes humilis</i>	Townsville Lucerne			DEU	1	1991
Asteraceae	<i>Synedrella nodiflora</i>	Cinderella Weed			C&E	1	1988
Zygophyllaceae	<i>Tribulus terrestris</i>	Caltrop	B C		CYP SA	0	Unknown
Poaceae	<i>Urochloa mosambicensis</i>	Sabi Grass			DEU	1	1993
Poaceae	<i>Urochloa mutica</i>	Para Grass			MP G&M	3	1991
Rhamnaceae	<i>Ziziphus mauritiana</i>	Chinee Apple	A C		K2 WA1 WA5 Q2 G&M CYP DEU	0	Unknown

Status Codes:

1. NATIONAL STATUS CODES

Alert, Alert List for Environmental Weeds (Please call Exotic Plant Pest Hotline 1800 084 881 if you think you have seen this weed)

Sleeper, National Sleeper Weed

Target, Targeted for eradication. (www.landmanager.com.au/view/index.aspx?id=449837)

WONS, Weeds of National Significance

2. NT STATUS CODES

A, NT Class A Weed (to be eradicated)

B, NT Class B Weed (growth & spread to be controlled)

C, NT Class C Weed (not to be introduced) (www.landmanager.com.au/view/index.aspx?id=449869)

3. OTHER STATUS CODES

C&E, Csurhes, S. & Edwards, R. (1998) Potential Environmental Weeds in Australia. Candidate Species for Preventative Control. Environment Australia, Canberra (www.landmanager.com.au/view/index.aspx?id=394504)

CYP, Draft Cape York Peninsula Pest Management Plan 2006-2011 (www.landmanager.com.au/view/index.aspx?id=371200)

DEU, Plants listed as environmental weeds by the Desert Uplands Strategic Land Resource

Assessment (www.landmanager.com.au/view/index.aspx?id=332123)

G&M, Grice AC, Martin TG. 2005. The Management of Weeds and Their Impact on Biodiversity in the Rangelands. Cooperative Research Centre (CRC) for Australian Weed Management and CSIRO Sustainable Ecosystems. Commonwealth Australia (www.landmanager.com.au/view/index.aspx?id=163572)

Gr, Groves et al. 2003. Weed categories for natural and agricultural ecosystem management. Bureau of

Rural Sciences (www.landmanager.com.au/view/index.aspx?id=388018)

K0, High Priority Weeds not yet established in the Katherine region

K1, High Priority Weeds posing environmental threats in the Katherine region

K2, High Priority Weeds posing existing threats in the Katherine region, as described in the Katherine Regional Weed Management Strategy 2005-2010 (www.landmanager.com.au/view/index.aspx?id=130286)

MP, Northern Territory Parks & Conservation Masterplan (www.landmanager.com.au/view/index.aspx?id=144141)

NAQS, North Australian Quarantine Strategy Target List (www.landmanager.com.au/view/index.aspx?id=449416)

NSW, Declared Noxious Weed in NSW (www.landmanager.com.au/view/index.aspx?id=449983)

Q1, QLD Class 1 Weed (not to be introduced, kept or supplied)

Q2, Class 2 Weed (eradicate where possible, not to be introduced, kept or supplied)

Q3, Qld Class 3 Weed (to be controlled near environmentally sensitive areas- not to be supplied/sold without a permit) (www.landmanager.com.au/view/index.aspx?id=190714)

SA, Declared Plant in South Australia (www.landmanager.com.au/view/index.aspx?id=449996)

WeedsAus, Listed as a significant weed by Weeds Australia (www.landmanager.com.au/view/index.aspx?id=14576)

WA1, WA Weed Class P1 (movement prohibited)

WA2, WA Weed Class P2 (aim to eradicate)

WA3, WA Weed Class P3 (control infestations)

WA4, WA Weed Class P4 (prevent spread)

WA5, WA Weed Class P3 (control infestations on public land) (www.landmanager.com.au/view/index.aspx?id=449884).

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More species info: Go to www.landmanager.org.au/view/index.aspx?id=####
where #### is the ID number from the tables above for the species of interest.

Plants listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area

Custom area Pest and Potential Pest Animals



Animals with pest potential recorded in the grid cell(s) in which Custom area occurs. Occurrence based on Northern Territory Government databases.

Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Cane Toad	<i>Rhinella marina</i>	P	.	183252	9 (2011)	1 (2010)	21 (2011)
Asian House Gecko	<i>Hemidactylus frenatus</i>	P	.	188964	2 (2007)	0 (Unknown)	0 (Unknown)
Flower-pot Blind Snake	<i>Ramphotyphlops braminus</i>	P	.	189084	0 (Unknown)	1 (2002)	0 (Unknown)
Red-tailed Black-cockatoo	<i>Calyptorhynchus banksii macrorhynchus</i>	N	.	223765	89 (2011)	3 (1985)	6 (2011)
Sulphur-Crested Cockatoo	<i>Cacatua galerita</i>	N	.	223772	115 (2011)	0 (Unknown)	23 (2011)
Agile Wallaby	<i>Macropus agilis</i>	N	.	223786	26 (2011)	1 (1954)	28 (2011)
Black Rat	<i>Rattus rattus</i>	P	.	183236	0 (Unknown)	6 (1977)	1 (2001)
Dingo / Wild dog	<i>Canis lupus</i>	N	.	183280	7 (2011)	0 (Unknown)	0 (Unknown)
Cat	<i>Felis catus</i>	P	.	183259	1 (1985)	0 (Unknown)	0 (Unknown)
Horse	<i>Equus caballus</i>	P	.	183315	12 (2011)	0 (Unknown)	0 (Unknown)
Pig	<i>Sus scrofa</i>	P	.	183329	22 (2011)	1 (1974)	8 (1990)
Swamp Buffalo	<i>Bubalus bubalis</i>	P	.	183245	15 (2011)	0 (Unknown)	4 (2011)
Cattle	<i>Bos taurus</i>	P	.	183266	114 (2002)	0 (Unknown)	1 (2011)
Sambar	<i>Cervus unicolor</i>	P	.	183343	1 (2008)	0 (Unknown)	0 (Unknown)

NT STATUS CODES:

Int, Introduced species (all non-prohibited vertebrates, and all other exotic species (www.landmanager.com.au/view/index.aspx?id=280771))

N, Native species with pest potential.

P, Prohibited species (all exotic vertebrates except those listed as non-prohibited (www.landmanager.com.au/view/index.aspx?id=450509))

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More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Soils and vegetation graphs and tables refer to area of soils and vegetation only. Fire graphs and tables refer to entire selected area including sea if present. Calculations are derived from map images or vector data, and should be taken as a guide only. Accuracy cannot be guaranteed. For small areas, figures should be rounded to the nearest whole number.

Sandpalms Project



Custom area

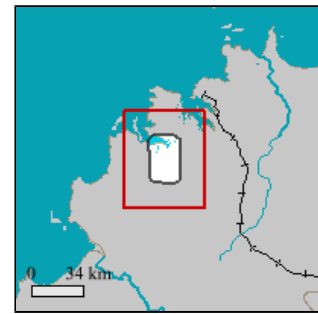
NT NRM Report



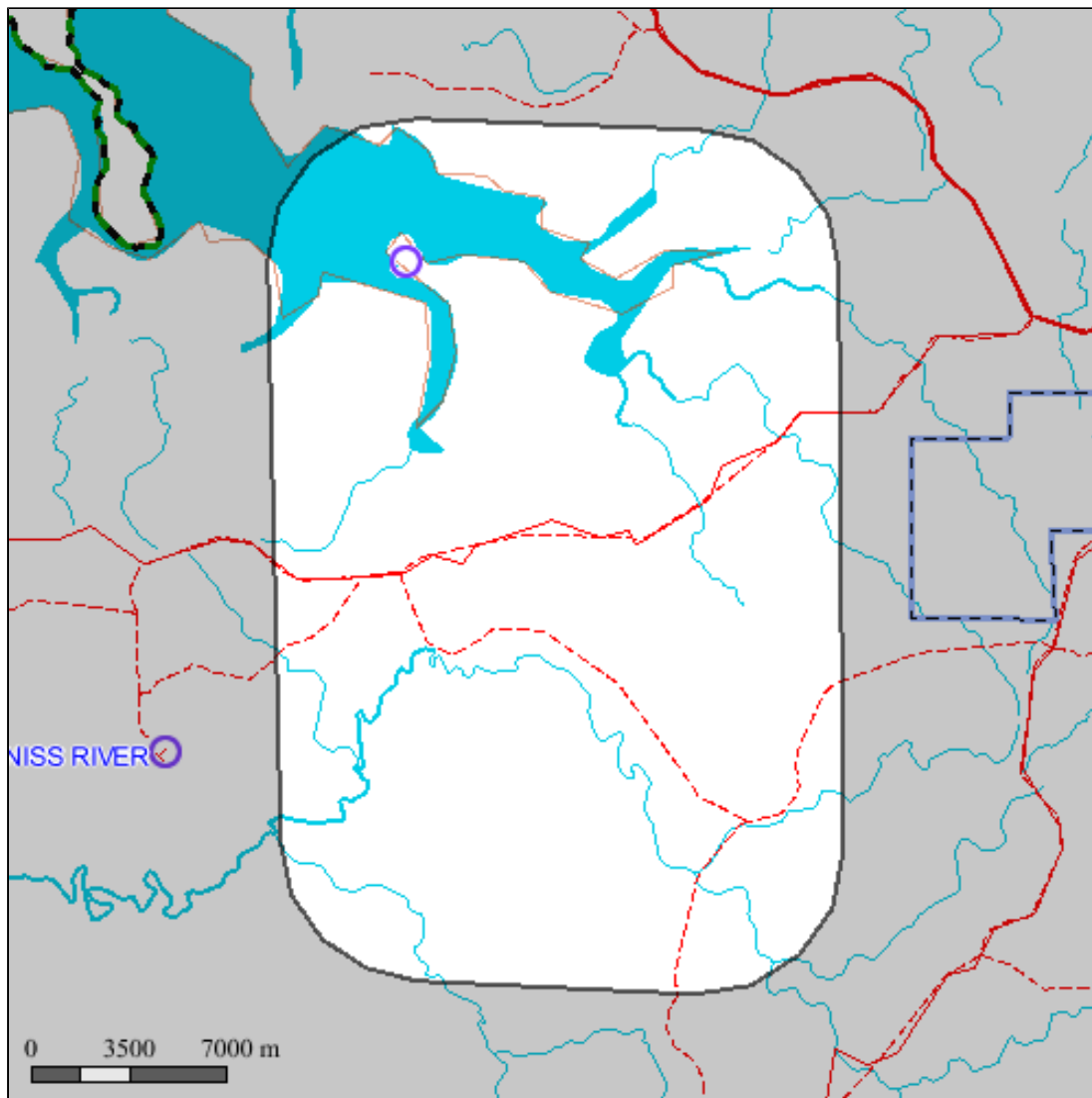
Custom area

Custom area encompasses an area of 581.2 sq km extending from 12 deg 40.0 min to 12 deg 57.0 min S and 130 deg 34.0 min to 130 deg 45.0 min E.

Custom area is located in the Darwin Coastal, Pine Creek, bioregion(s)



Location of Custom area



Custom area Climate

The closest long-term weather station is DARWIN POST OFFICE (12 deg 24.0 min S, 130.8E) 47 km N of the center of selected area

Statistics

Mean max temp (deg C)
 Mean min temp (deg C)
 Average rainfall (mm)
 Average days of rain

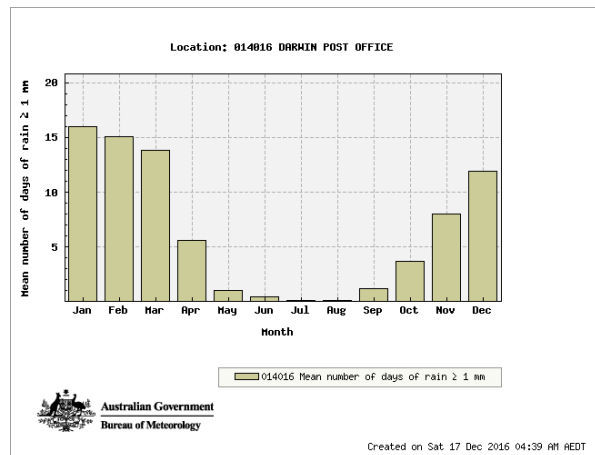
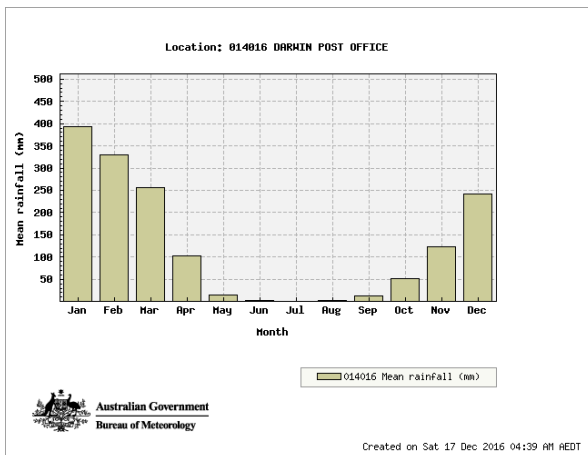
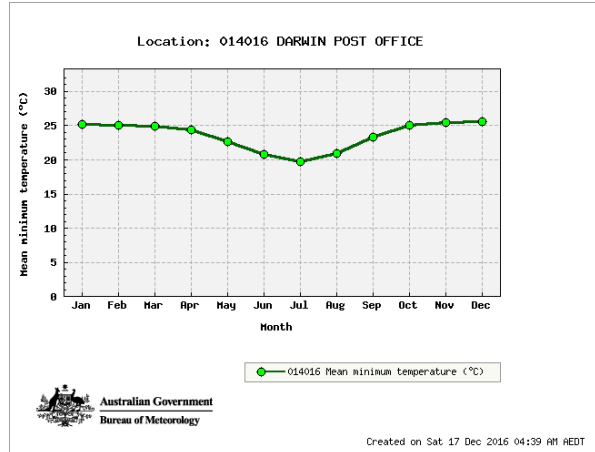
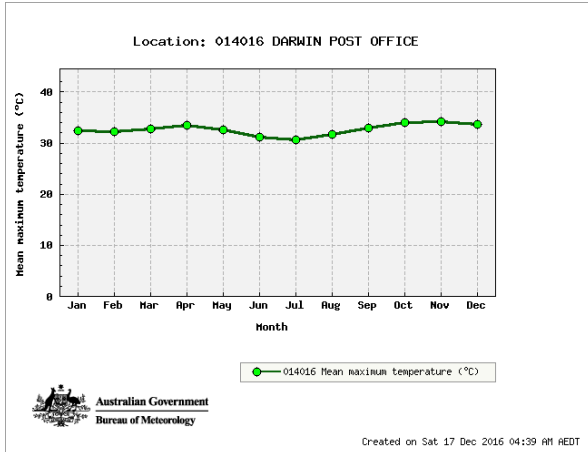
Annual Values

32.6
 23.6
 1536.0
 76.9

Years of record

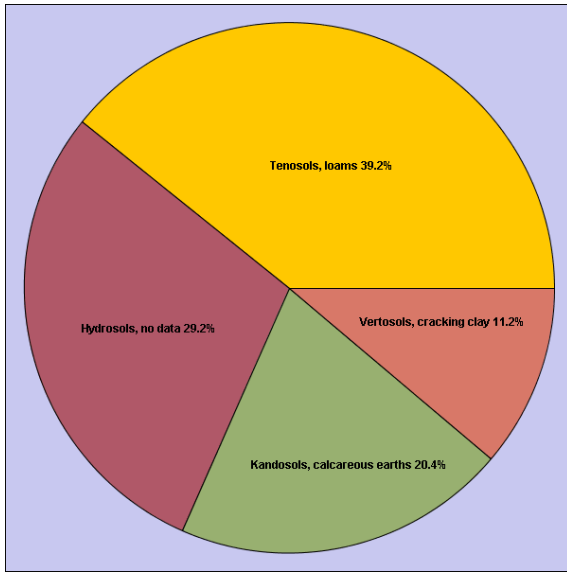
60
 60
 86
 86

Climate summaries from Bureau of Meteorology (www.bom.gov.au)



Custom area Soils

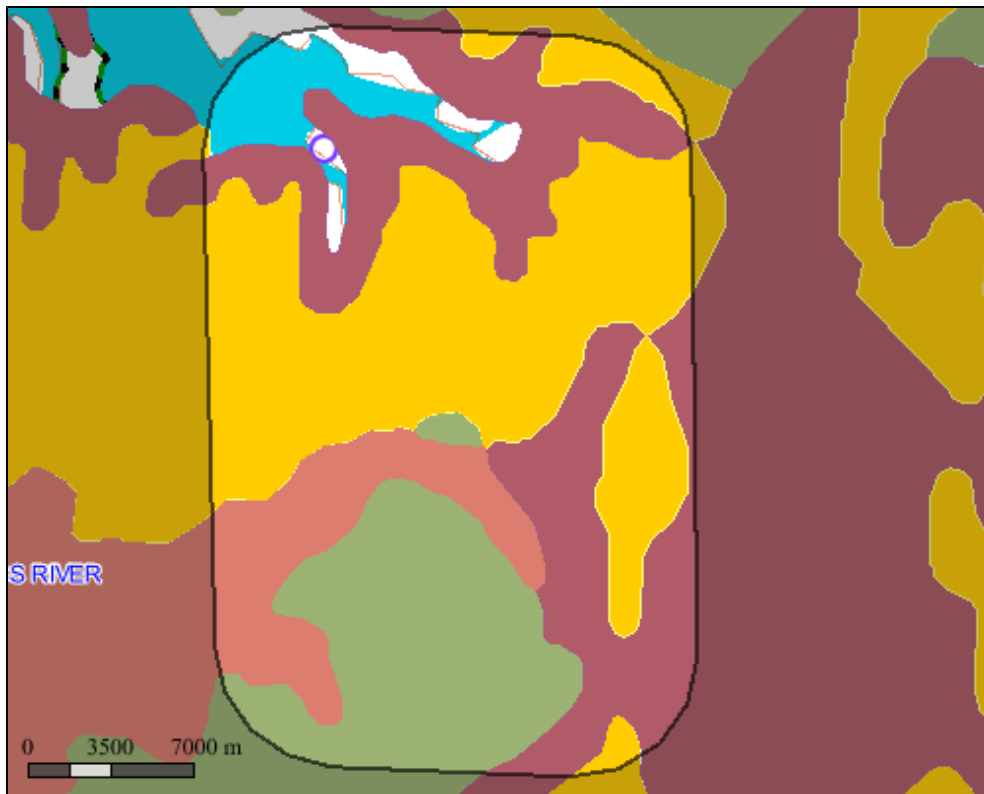
Soil Types



Area of soil types (Northcote Factual Key)

Category	Area sq km	Area%
Tenosols, loams	213.40	36.72
Hydrosols, no data	158.82	27.33
Kandosols, calcareous earths	111.04	19.11
Vertosols, cracking clay	60.78	10.46

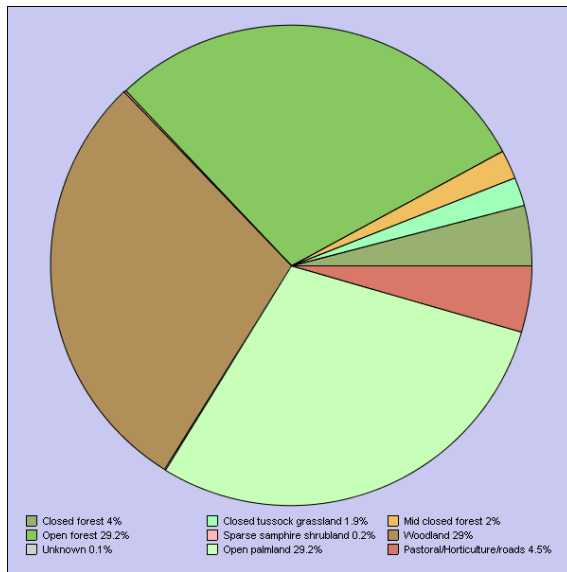
Soil Types



Soils 1:2M Layer is a copy of the NT portion (1:2,000,000 scale dataset) of the CSIRO Atlas of Australian Soils - K.H. Northcote et al. Data scale: 1:2,000,000 ANZLIC Identifier: 2DBC771205D06B6E040CD9B0F274EFE
 More details: Go to www.lrm.nt.gov.au/nrmapsnt/ and enter the ANZLIC identifier in the Spatial Data Search

Custom area Vegetation

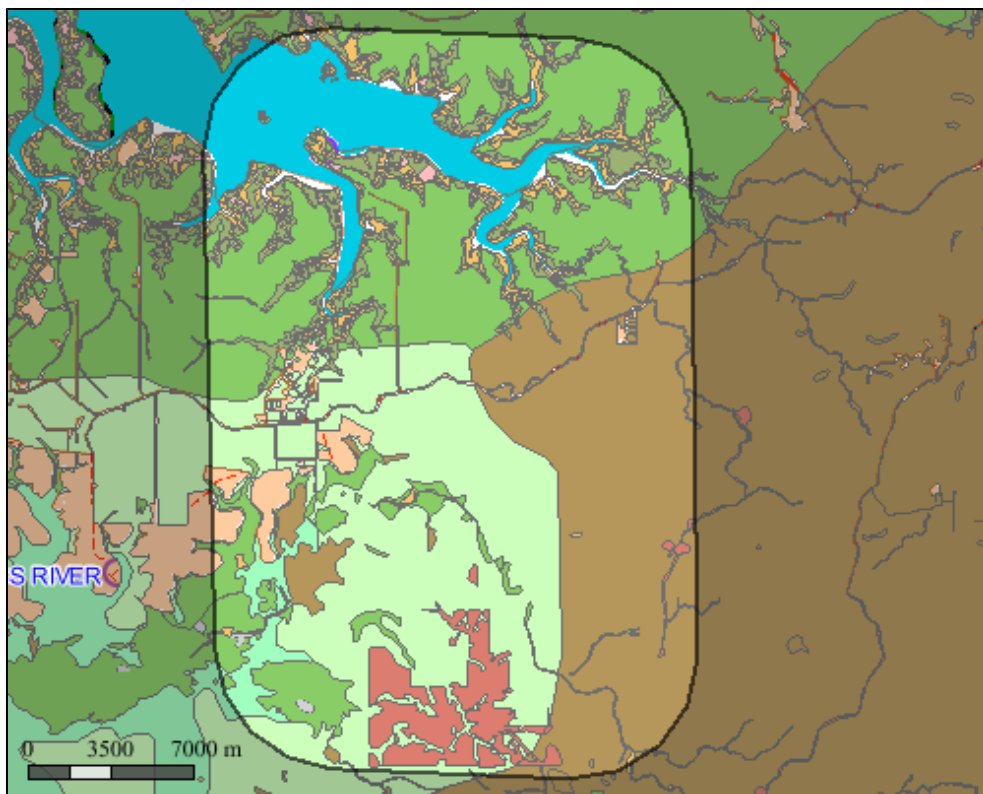
Vegetation Communities



Area of vegetation communities

Category	Area sq km	Area%
Open palmland	152.01	26.16
Open forest	151.53	26.07
Woodland	150.58	25.91
Pastoral/Horticulture/roads	23.40	4.03
Closed forest	20.74	3.57
Mid closed forest	10.17	1.75
Closed tussock grassland	10.11	1.74
Sparse samphire shrubland	.79	.14
Unknown	.49	.09

Vegetation Communities

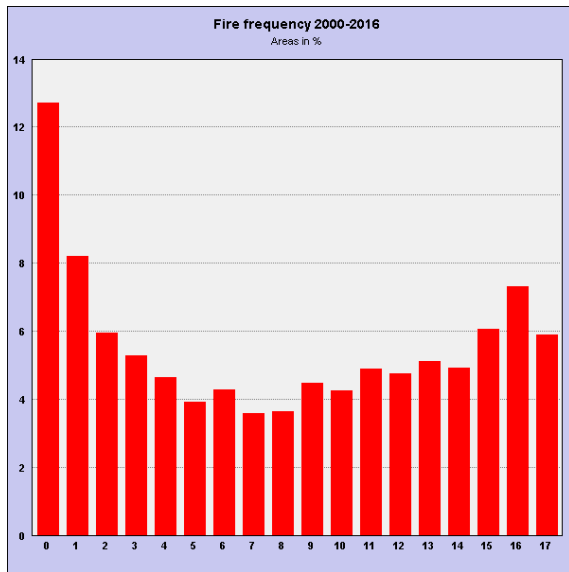


The NVIS 2005 Layer is compiled from a number of vegetation and land unit survey maps that were recoded and re-attributed for the National Vegetation Information System (NVIS)

Data scale variable depending on location. ANZLIC Identifier:2DBC771207006B6E040CD9B0F274EFE
 More details: Go to www.lrm.nt.gov.au/nrmapsnt/ and enter the ANZLIC identifier in the Spatial Data Search

Custom area Fire History

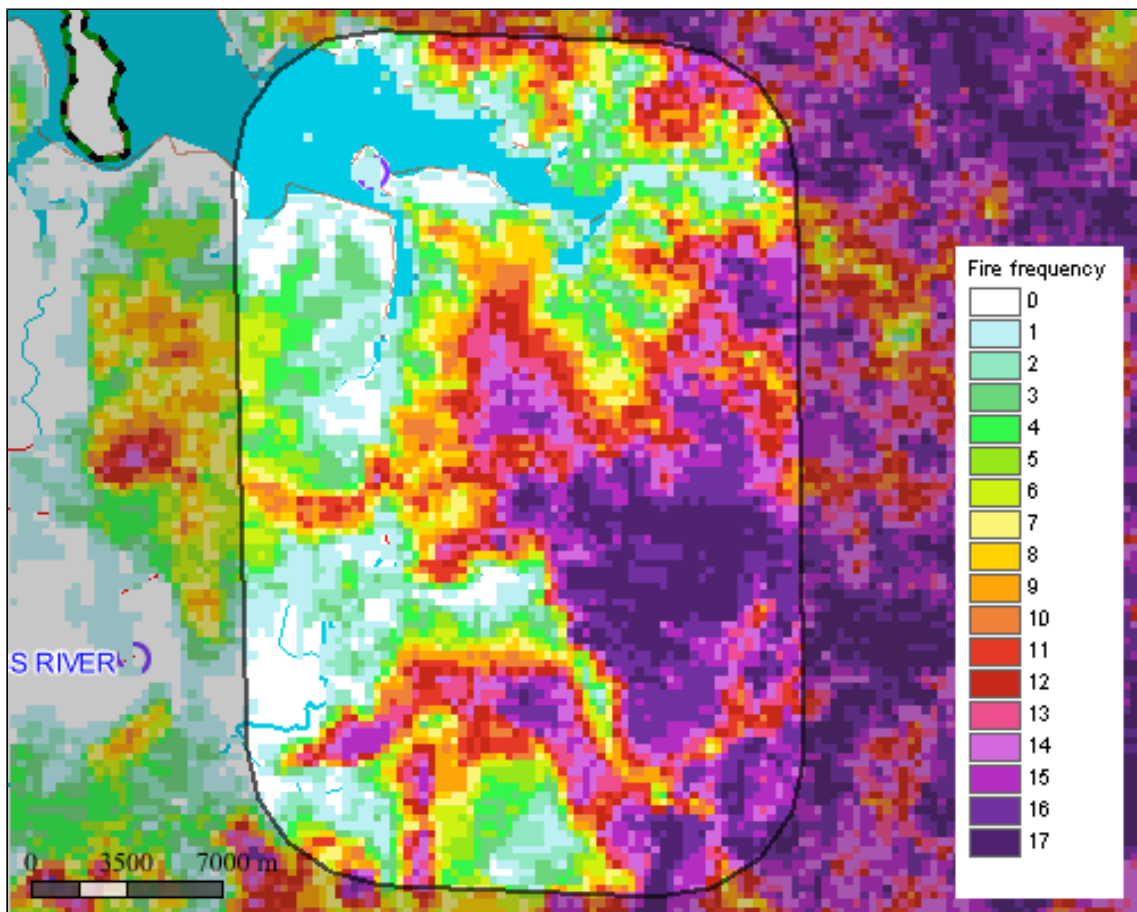
Fire frequency 2000-2016



area burnt for each fire frequency category 2000-2016

Category	Area sq km	Area%
0	73.91	12.72
1	47.66	8.20
2	34.57	5.95
3	30.75	5.29
4	26.95	4.64
5	22.86	3.93
6	24.92	4.29
7	20.79	3.58
8	21.26	3.66
9	26.07	4.49
10	24.80	4.27
11	28.53	4.91
12	27.59	4.75
13	29.79	5.13
14	28.56	4.91
15	35.34	6.08
16	42.59	7.33
17	34.27	5.90

Fire frequency 2000-2016



The fire frequency(250m) Layer is derived from satellite imagery sourced from the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Terra satellite
Spatial Resolution: 250m x 250m pixels (at Nadir).

Custom area Threatened Species



Threatened species recorded in Custom area (Records Updated: Sept 2013)

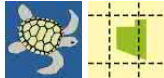
Group	Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Cycads	Armstrong's Cycad	<i>Cycas armstrongii x maconochiei</i>	VU	.	351085	0 (Unknown)	1 (1993)	0 (Unknown)
Reptiles	Green Turtle	<i>Chelonia mydas</i>	.	VU	176291	2 (1995)	0 (Unknown)	0 (Unknown)
Birds	Partridge Pigeon	<i>Geophaps smithii</i>	VU	VU	176384	3 (1996)	0 (Unknown)	0 (Unknown)
Birds	Greater Sand Plover	<i>Charadrius leschenaultii</i>	VU	VU	.	2 (2001)	0 (Unknown)	0 (Unknown)
Birds	Eastern Curlew	<i>Numenius madagascariensis</i>	VU	CE	.	2 (2001)	0 (Unknown)	0 (Unknown)

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 EW = Extinct in the Wild
 ER = Extinct in the NT
 EN = Endangered
 EN/VU = One Endangered subspecies/One Vulnerable subspecies
 VU = Vulnerable
 VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

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 Specimen = this category refers to museum or other records where a specimen has been collected and lodged
 Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####
 where #### is the ID number from the tables above for the species of interest.

Custom area Threatened Species Grid



Threatened species recorded in the grid cell(s) in which Custom area occurs (Records Updated: Sept 2013)

Group	Family Name	Scientific Name	Common Name	NT Status	National Status	#Observations	Latest Observation Date	#Specimens	Latest Specimen Date	#Surveys	Latest Survey Record
Cycads	Cycadaceae	<i>Cycas armstrongii</i>	Armstrong's Cycad	VU		0	Unknown	0	Unknown	2	1998
Cycads	Cycadaceae	<i>Cycas armstrongii x maconochiei</i>	Armstrong's Cycad	VU		0	Unknown	2	2001	0	Unknown
Flowering Plants	Pontederiaceae	<i>Monochoria hastata</i>	Arrowleaf Monochoria	VU		0	Unknown	1	1981	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia dunstaniae</i>	Bladderwort	VU		0	Unknown	1	2010	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia singeriana</i>	Bladderwort	VU		0	Unknown	2	2010	0	Unknown
Insects	Lycaenidae	<i>Ogyris iphis doddi</i>	Dodd's Azure Butterfly	EN		0	Unknown	0	Unknown	0	Unknown
Reptiles	Cheloniidae	<i>Chelonia mydas</i>	Green Turtle		VU	5	2010	1	1993	0	Unknown
Reptiles	Cheloniidae	<i>Eretmochelys imbricata</i>	Hawksbill Turtle	VU	VU	2	1997	0	Unknown	1	1997
Reptiles	Cheloniidae	<i>Natator depressus</i>	Flatback Turtle		VU	6	2010	0	Unknown	1	1997
Reptiles	Gekkonidae	<i>Lucasium occultum</i>	Yellow-snouted Gecko	VU	EN	0	Unknown	1	2004	0	Unknown
Reptiles	Varanidae	<i>Varanus mertensi</i>	Mertens' Water Monitor	VU		3	2010	3	2007	1	2000
Reptiles	Varanidae	<i>Varanus mitchelli</i>	Mitchell's Water Monitor	VU		0	Unknown	1	1973	0	Unknown
Reptiles	Varanidae	<i>Varanus panoptes</i>	Yellow-spotted Monitor	VU		4	2002	2	2008	3	2002
Birds	Columbidae	<i>Geophaps smithii</i>	Partridge Pigeon	VU	VU	37	2007	0	Unknown	0	Unknown
Birds	Accipitridae	<i>Erythrotriorchis radiatus</i>	Red Goshawk	VU	VU	2	1999	0	Unknown	0	Unknown
Birds	Charadriidae	<i>Charadrius mongolus</i>	Lesser Sand Plover	VU	EN	39	2008	1	1984	1	1997
Birds	Charadriidae	<i>Charadrius leschenaultii</i>	Greater Sand Plover	VU	VU	84	2001	0	Unknown	2	1997
Birds	Scolopacidae	<i>Limosa lapponica</i>	Bar-tailed Godwit	VU		32	1997	0	Unknown	1	1997
Birds	Scolopacidae	<i>Numenius madagascariensis</i>	Eastern Curlew	VU	CE	117	2008	0	Unknown	3	1997
Birds	Scolopacidae	<i>Calidris tenuirostris</i>	Great Knot	VU	CE	4	1997	0	Unknown	1	1997
Birds	Scolopacidae	<i>Calidris canutus</i>	Red Knot	VU	EN	2	2005	0	Unknown	1	1997
Birds	Scolopacidae	<i>Calidris ferruginea</i>	Curlew Sandpiper	VU	CE	4	2005	0	Unknown	0	Unknown
Birds	Tytonidae	<i>Tyto novaehollandiae kimberli</i>	Masked Owl (northern mainland)	VU	VU	1	2000	0	Unknown	0	Unknown
Birds	Estrildidae	<i>Erythrura gouldiae</i>	Gouldian Finch	VU	EN	1	1996	0	Unknown	0	Unknown
Mammals	Dasyuridae	<i>Dasyurus hallucatus</i>	Northern Quoll	CR	EN	14	2000	2	1954	11	2002
Mammals	Dasyuridae	<i>Antechinus bellus</i>	Fawn Antechinus	EN	VU	2	2001	0	Unknown	5	2002
Mammals	Muridae	<i>Mesembriomys gouldii gouldii</i>	Black-footed Tree-rat	VU	EN	0	Unknown	1	1990	14	2007
Mammals	Muridae	<i>Rattus tunneyi</i>	Pale Field-rat	VU		2	1995	0	Unknown	7	2002

EX = Extinct
 EW = Extinct in the Wild
 ER = Extinct in the NT
 EN = Endangered
 EN/VU = One Endangered subspecies/One Vulnerable subspecies

VU=Vulnerable

VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

Survey = this category refers to data collected using systematic survey methodology

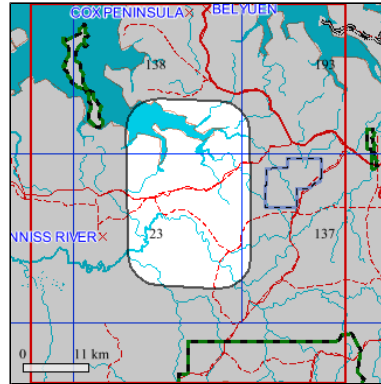
Specimen = this category refers to museum or other records where a specimen has been collected and lodged

Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Species listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area



Custom area Weeds and Potential Weeds



Introduced plants recorded in the grid cell(s) in which Custom area occurs and that have been identified as problem weeds in one or more locations in northern Australia. Occurrence based on Northern Territory Government databases.

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Acanthaceae	<i>Barleria prionitis</i>	Barleria	A C	ALERT	MP K2 C&E G&M	0	Unknown
Poaceae	<i>Bothriochloa pertusa</i>	Indian Bluegrass			DEU	0	Unknown
Fabaceae	<i>Calopogonium mucunoides</i>	Calopo			MP C&E CYP	0	Unknown
Poaceae	<i>Cenchrus ciliaris</i>	Buffel Grass			MP Gr G&M DEU	0	Unknown
Poaceae	<i>Cenchrus pedicellatus</i>	Mission Grass (annual)			WeedsAus	1	2003
Poaceae	<i>Cenchrus polystachios</i>	Mission Grass (perennial)	B C		MP K2 C&E G&M	1	2003
Fabaceae	<i>Centrosema molle</i>	Centro			MP	0	Unknown
Poaceae	<i>Chloris barbata</i>	Purpletop Chloris			DEU	0	Unknown
Fabaceae	<i>Crotalaria goreensis</i>	Gambia Pea			MP	1	2003
Fabaceae	<i>Delonix regia</i>	Poinciana			C&E	0	Unknown
Poaceae	<i>Echinochloa colona</i>	Awnless Barnyard Grass			DEU	0	Unknown
Poaceae	<i>Echinochloa polystachya</i>	Aleman Grass			MP C&E G&M CYP	0	Unknown
Amaranthaceae	<i>Gomphrena celosioides</i>	Gomphrena Weed			DEU	0	Unknown
Malvaceae	<i>Grewia asiatica</i>	Phassa Plum			C&E G&M CYP	0	Unknown
Boraginaceae	<i>Heliotropium indicum</i>	Indian Heliotrope			DEU	0	Unknown
Lamiaceae	<i>Hyptis suaveolens</i>	Hyptis	B C		G&M	6	2003
Convolvulaceae	<i>Ipomoea quamoclit</i>	Cupid's Flower			C&E	0	Unknown
Euphorbiaceae	<i>Jatropha curcas</i>	Physic Nut	A C		MP WA1 WA2 WA4 G&M	0	Unknown
Meliaceae	<i>Khaya senegalensis</i>	African Mahogany			C&E	0	Unknown
Verbenaceae	<i>Lantana camara</i>	Lantana	B C	WONS	K2 WA1 Q3 Gr G&M CYP DEU NSW SA	3	1988
Fabaceae	<i>Leucaena leucocephala</i>	Coffee Bush			MP C&E G&M CYP	0	Unknown
Poaceae	<i>Melinis repens</i>	Red Natal Grass			DEU	0	Unknown
Fabaceae	<i>Mimosa pigra</i>	Mimosa	A (S of 14 deg S) B (N of 14 deg S) C	WONS	MP K2 WA1 WA2 Q1 G&M CYP SA	2	1991
Oxalidaceae	<i>Oxalis corniculata</i>	Creeping Wood-sorrel			NSW	0	Unknown
Araceae	<i>Pistia stratiotes</i>	Water Lettuce	B C		WA1 WA2 Q2 CYP NSW	0	Unknown
Plantaginaceae	<i>Scoparia dulcis</i>	Bitter Broom			DEU	0	Unknown
Fabaceae	<i>Senna alata</i>	Candle Bush	B C		WA1 WA2	0	Unknown
Fabaceae	<i>Senna occidentalis</i>	Coffee Senna	B C		G&M DEU	0	Unknown

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Fabaceae	<i>Senna tora</i>	Foetid Cassia			WA1 WA2 Q2 G&M CYP	0	Unknown
Malvaceae	<i>Sida acuta</i>	Spiny-head Sida	B C		WA1 G&M	0	Unknown
Malvaceae	<i>Sida cordifolia</i>	Flannel Weed	B C		WA1 G&M DEU	0	Unknown
Malvaceae	<i>Sida rhombifolia</i>	Paddy's Lucerne	B C		MP G&M DEU	0	Unknown
Poaceae	<i>Sorghum almum</i>	Columbus Grass			NSW	0	Unknown
Poaceae	<i>Sporobolus jacquemontii</i>	American Rat's Tail Grass			Q2 G&M	0	Unknown
Verbenaceae	<i>Stachytarpheta cayennensis</i>	Cayenne Snakeweed	B C		NSW	0	Unknown
Verbenaceae	<i>Stachytarpheta jamaicensis</i>	Jamaican Snakeweed	B C			0	Unknown
Fabaceae	<i>Stylosanthes humilis</i>	Townsville Lucerne			DEU	1	1991
Fabaceae	<i>Stylosanthes scabra</i>	Shrubby Stylo			G&M DEU	0	Unknown
Asteraceae	<i>Synedrella nodiflora</i>	Cinderella Weed			C&E	1	1988
Zygophyllaceae	<i>Tribulus terrestris</i>	Caltrop	B C		CYP SA	0	Unknown
Poaceae	<i>Urochloa mutica</i>	Para Grass			MP G&M	2	1991

Status Codes:

1. NATIONAL STATUS CODES

Alert, Alert List for Environmental Weeds (Please call Exotic Plant Pest Hotline 1800 084 881 if you think you have seen this weed)

Sleeper, National Sleeper Weed

Target, Targeted for eradication. (www.landmanager.com.au/view/index.aspx?id=449837)

WONS, Weeds of National Significance

2. NT STATUS CODES

A, NT Class A Weed (to be eradicated)

B, NT Class B Weed (growth & spread to be controlled)

C, NT Class C Weed (not to be introduced) (www.landmanager.com.au/view/index.aspx?id=449869)

3. OTHER STATUS CODES

C&E, Csurhes, S. & Edwards, R. (1998) Potential Environmental Weeds in Australia. Candidate Species for Preventative Control. Environment Australia, Canberra (www.landmanager.com.au/view/index.aspx?id=394504)

CYP, Draft Cape York Peninsula Pest Management Plan 2006-2011 (www.landmanager.com.au/view/index.aspx?id=371200)

DEU, Plants listed as environmental weeds by the Desert Uplands Strategic Land Resource

Assessment (www.landmanager.com.au/view/index.aspx?id=332123)

G&M, Grice AC, Martin TG. 2005. The Management of Weeds and Their Impact on Biodiversity in the Rangelands. Cooperative Research Centre (CRC) for Australian Weed Management and CSIRO Sustainable Ecosystems. Commonwealth Australia (www.landmanager.com.au/view/index.aspx?id=163572)

Gr, Groves et al. 2003. Weed categories for natural and agricultural ecosystem management. Bureau of Rural Sciences (www.landmanager.com.au/view/index.aspx?id=388018)

K0, High Priority Weeds not yet established in the Katherine region

K1, High Priority Weeds posing environmental threats in the Katherine region

K2, High Priority Weeds posing existing threats in the Katherine region, as described in the Katherine Regional Weed Management Strategy 2005-2010 (www.landmanager.com.au/view/index.aspx?id=130286)

MP, Northern Territory Parks & Conservation Masterplan (www.landmanager.com.au/view/index.aspx?id=144141)

NAQS, North Australian Quarantine Strategy Target List (www.landmanager.com.au/view/index.aspx?id=449416)

NSW, Declared Noxious Weed in NSW (www.landmanager.com.au/view/index.aspx?id=449983)

Q1, QLD Class 1 Weed (not to be introduced, kept or supplied)

Q2, Class 2 Weed (eradicate where possible, not to be introduced, kept or supplied)

Q3, Qld Class 3 Weed (to be controlled near environmentally sensitive areas- not to be supplied/sold without a permit) (www.landmanager.com.au/view/index.aspx?id=190714)

SA, Declared Plant in South Australia (www.landmanager.com.au/view/index.aspx?id=449996)

WeedsAus, Listed as a significant weed by Weeds Australia (www.landmanager.com.au/view/index.aspx?id=14576)

WA1, WA Weed Class P1 (movement prohibited)

WA2, WA Weed Class P2 (aim to eradicate)

WA3, WA Weed Class P3 (control infestations)

WA4, WA Weed Class P4 (prevent spread)

WA5, WA Weed Class P3 (control infestations on public land) (www.landmanager.com.au/view/index.aspx?id=449884).

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More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Plants listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area

Custom area Pest and Potential Pest Animals



Animals with pest potential recorded in the grid cell(s) in which Custom area occurs. Occurrence based on Northern Territory Government databases.

Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Cane Toad	<i>Rhinella marina</i>	P	.	183252	8 (2010)	0 (Unknown)	18 (2010)
Asian House Gecko	<i>Hemidactylus frenatus</i>	P	.	188964	1 (Unknown)	1 (1979)	6 (2010)
Flower-pot Blind Snake	<i>Ramphotyphlops braminus</i>	P	.	189084	0 (Unknown)	2 (2002)	0 (Unknown)
Rock Dove	<i>Columba livia</i>	P	.	183336	3 (1997)	0 (Unknown)	0 (Unknown)
Red-tailed Black-cockatoo	<i>Calyptorhynchus banksii macrorhynchus</i>	N	.	223765	116 (2010)	2 (1985)	11 (2010)
Sulphur-Crested Cockatoo	<i>Cacatua galerita</i>	N	.	223772	124 (2010)	0 (Unknown)	13 (2010)
Agile Wallaby	<i>Macropus agilis</i>	N	.	223786	11 (2008)	1 (Unknown)	27 (2010)
Black Rat	<i>Rattus rattus</i>	P	.	183236	2 (2008)	1 (1974)	0 (Unknown)
Dingo / Wild dog	<i>Canis lupus</i>	N	.	183280	7 (2010)	0 (Unknown)	1 (2000)
Cat	<i>Felis catus</i>	P	.	183259	4 (2010)	0 (Unknown)	7 (2010)
Horse	<i>Equus caballus</i>	P	.	183315	1 (1991)	0 (Unknown)	1 (2010)
Pig	<i>Sus scrofa</i>	P	.	183329	9 (2008)	0 (Unknown)	10 (2010)
Swamp Buffalo	<i>Bubalus bubalis</i>	P	.	183245	1 (2000)	0 (Unknown)	0 (Unknown)
Cattle	<i>Bos taurus</i>	P	.	183266	33 (2002)	0 (Unknown)	1 (2000)

NT STATUS CODES:

Int, Introduced species (all non-prohibited vertebrates, and all other exotic species (www.landmanager.com.au/view/index.aspx?id=280771))

N, Native species with pest potential.

P, Prohibited species (all exotic vertebrates except those listed as non-prohibited (www.landmanager.com.au/view/index.aspx?id=450509))

Survey = this category refers to data collected using systematic survey methodology

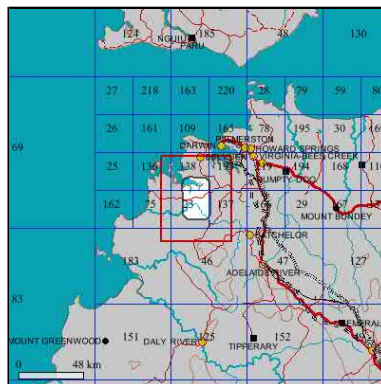
Specimen = this category refers to museum or other records where a specimen has been collected and lodged

Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Potential pest animals listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Custom area



Soils and vegetation graphs and tables refer to area of soils and vegetation only. Fire graphs and tables refer to entire selected area including sea if present. Calculations are derived from map images or vector data, and should be taken as a guide only. Accuracy cannot be guaranteed. For small areas, figures should be rounded to the nearest whole number.

Zola Project



Zola DA

NT NRM Report



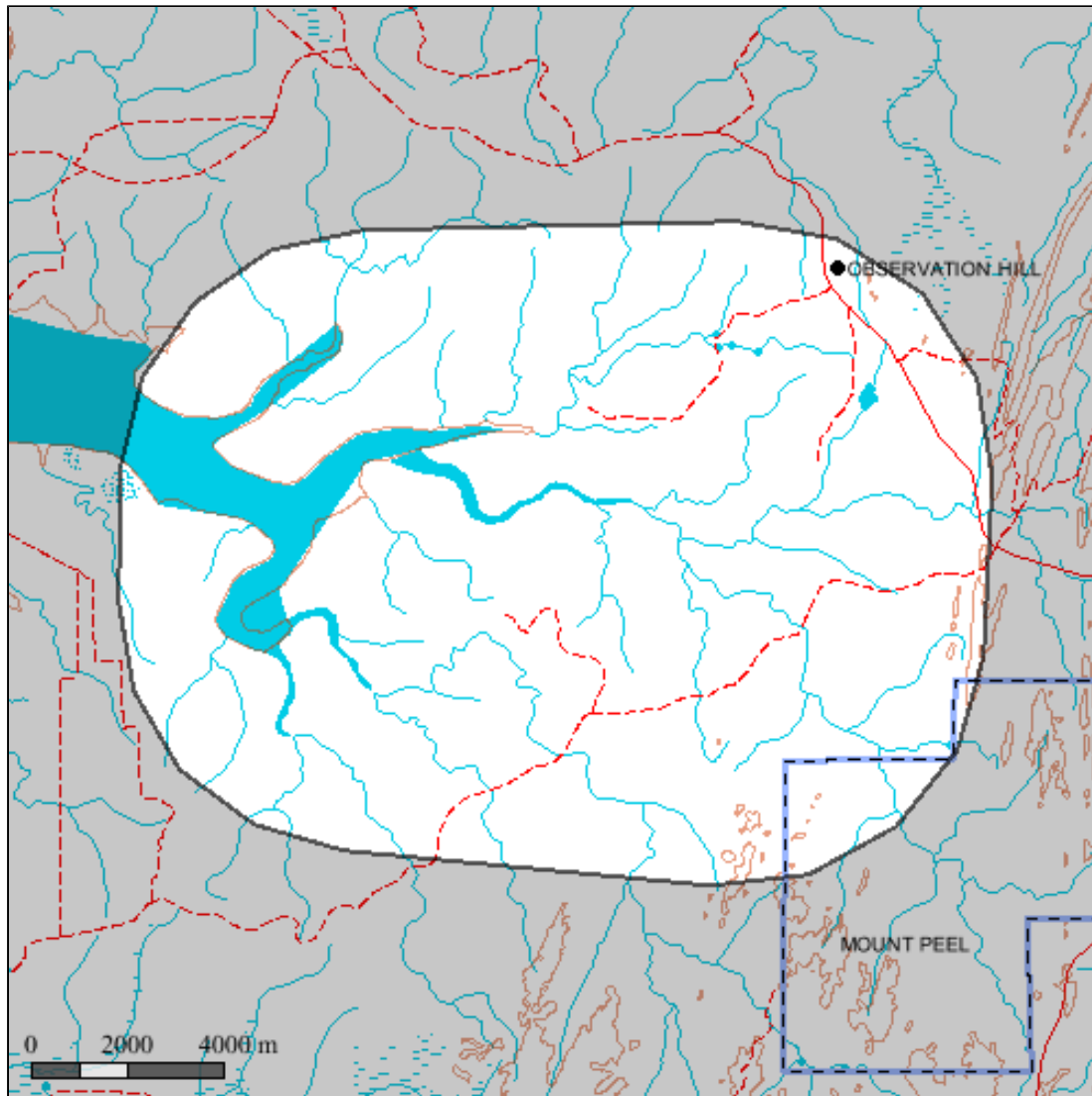
Zola DA

Zola DA encompasses an area of 206.44 sq km extending from 12 deg 40.0 min to 12 deg 47.0 min S and 130 deg 39.0 min to 130 deg 49.0 min E.

Zola DA is located in the Darwin Coastal, Pine Creek, bioregion(s)



Location of Zola DA



Zola DA Climate

The closest long-term weather station is DARWIN POST OFFICE (12 deg 24.0 min S, 130.8E) 37 km N of the center of selected area

Statistics

Mean max temp (deg C)
 Mean min temp (deg C)
 Average rainfall (mm)
 Average days of rain

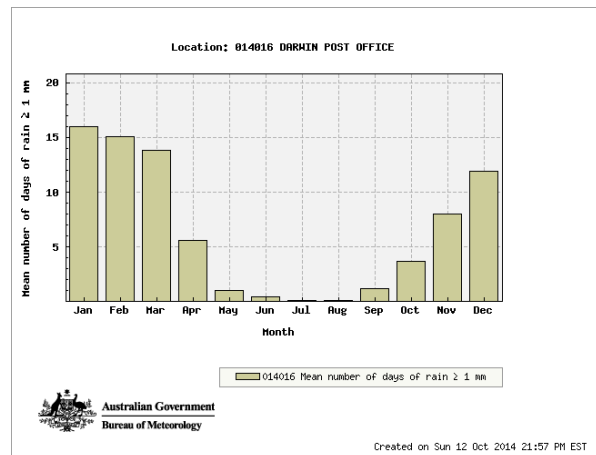
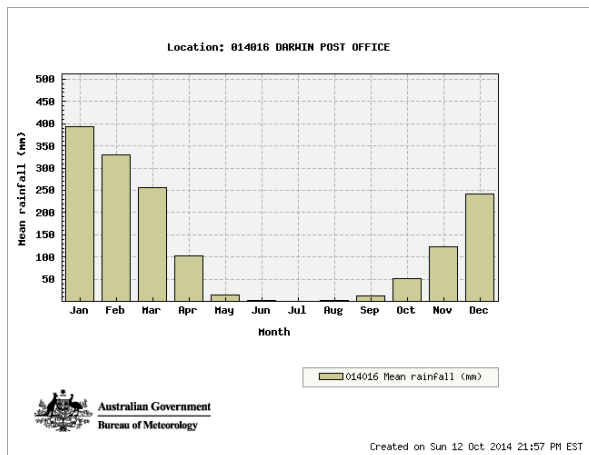
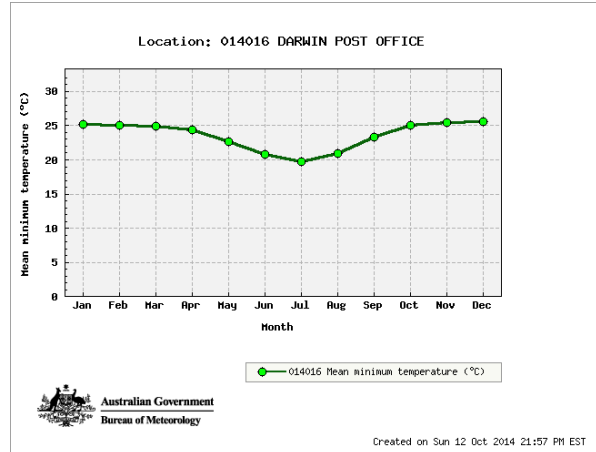
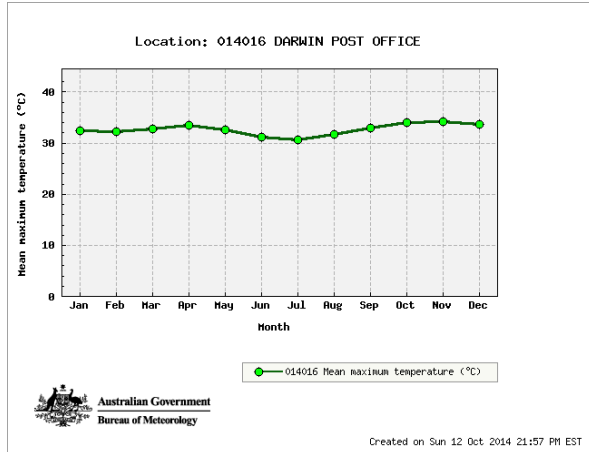
Annual Values

32.6
 23.6
 1537.9
 76.9

Years of record

60
 60
 87
 86

Climate summaries from Bureau of Meteorology (www.bom.gov.au)



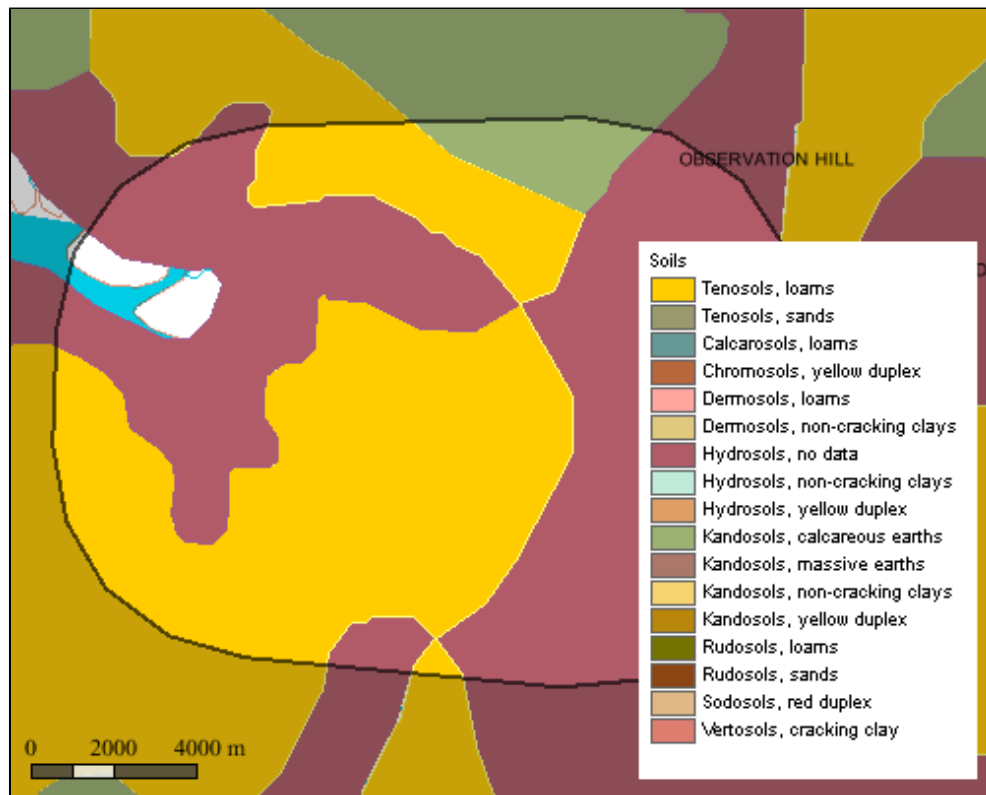
Zola DA Soils

Soil Types

Area of soil types (Northcote Factual Key)

Selected area is too small to produce reliable statistics

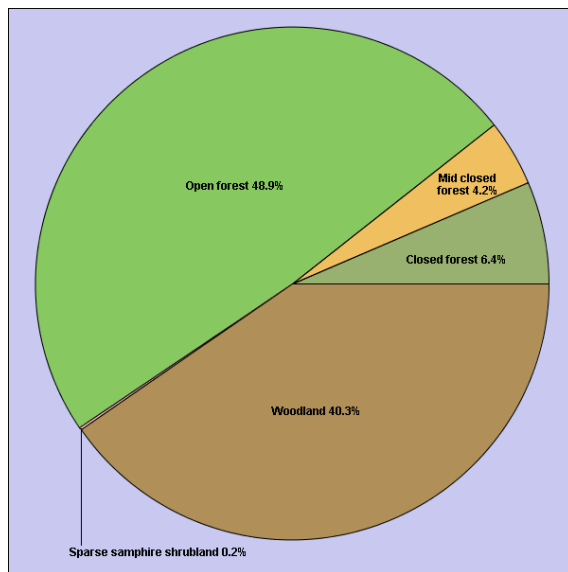
Soil Types



Soils 1:2M Layer is a copy of the NT portion (1:2,000,000 scale dataset) of the CSIRO Atlas of Australian Soils - K.H. Northcote et al. Data scale: 1:2,000,000 ANZLIC Identifier: 2DBC771205D06B6E040CD9B0F274EFE
More details: Go to www.lrm.nt.gov.au/nrm/nt/ and enter the ANZLIC identifier in the Spatial Data Search

Zola DA Vegetation

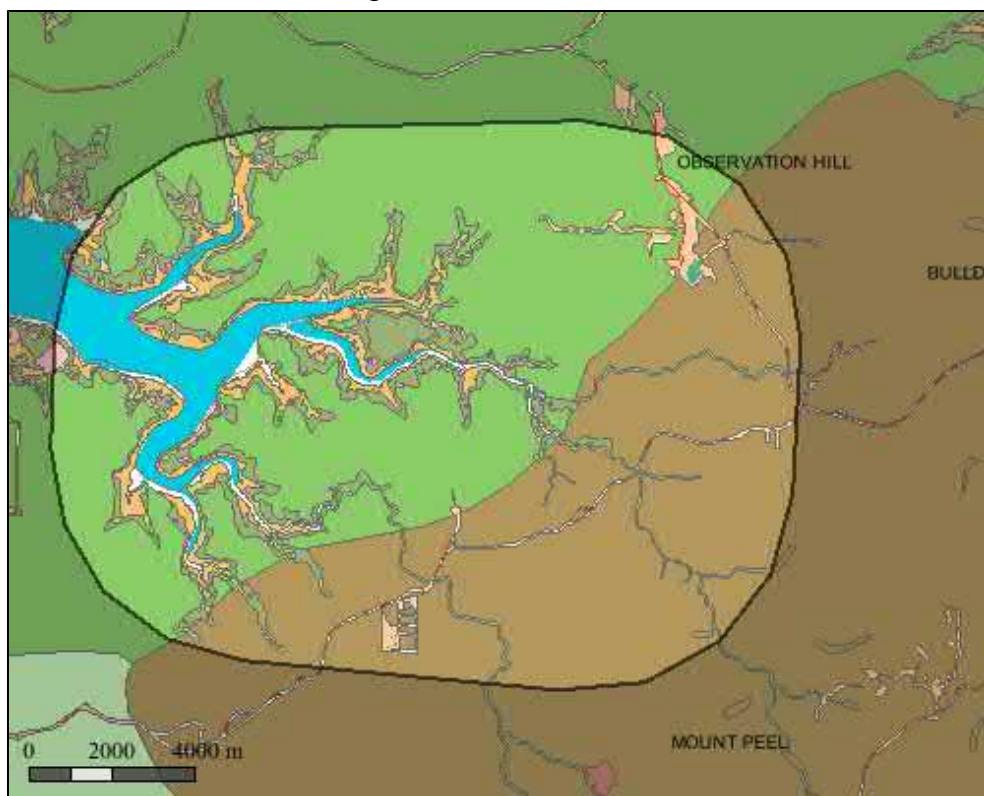
Vegetation Communities



Area of vegetation communities

Category	Area sq km	Area%
Open forest	93.90	45.48
Woodland	77.48	37.53
Closed forest	12.31	5.96
Mid closed forest	8.03	3.89
Sparse samphire shrubland	.34	.16

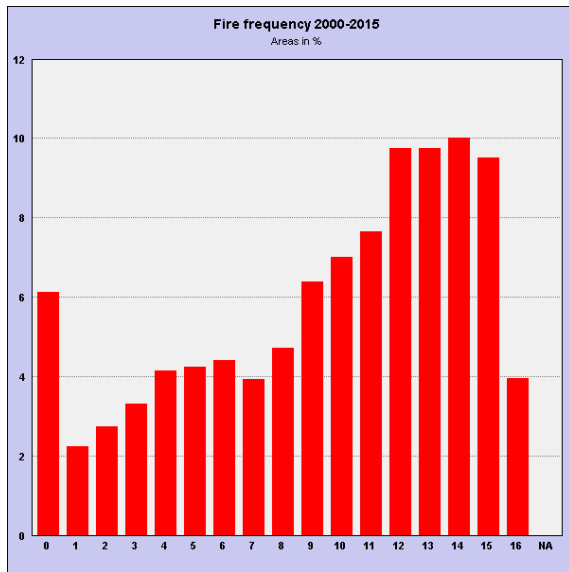
Vegetation Communities



The NVIS 2005 Layer is compiled from a number of vegetation and land unit survey maps that were recoded and re-attributed for the National Vegetation Information System (NVIS)
 Data scale variable depending on location. ANZLIC Identifier:2DBC771207006B6E040CD9B0F274EFE
 More details:Go to www.lrm.nt.gov.au/nrmapsnt/ and enter the ANZLIC identifier in the Spatial Data Search

Zola DA Fire History

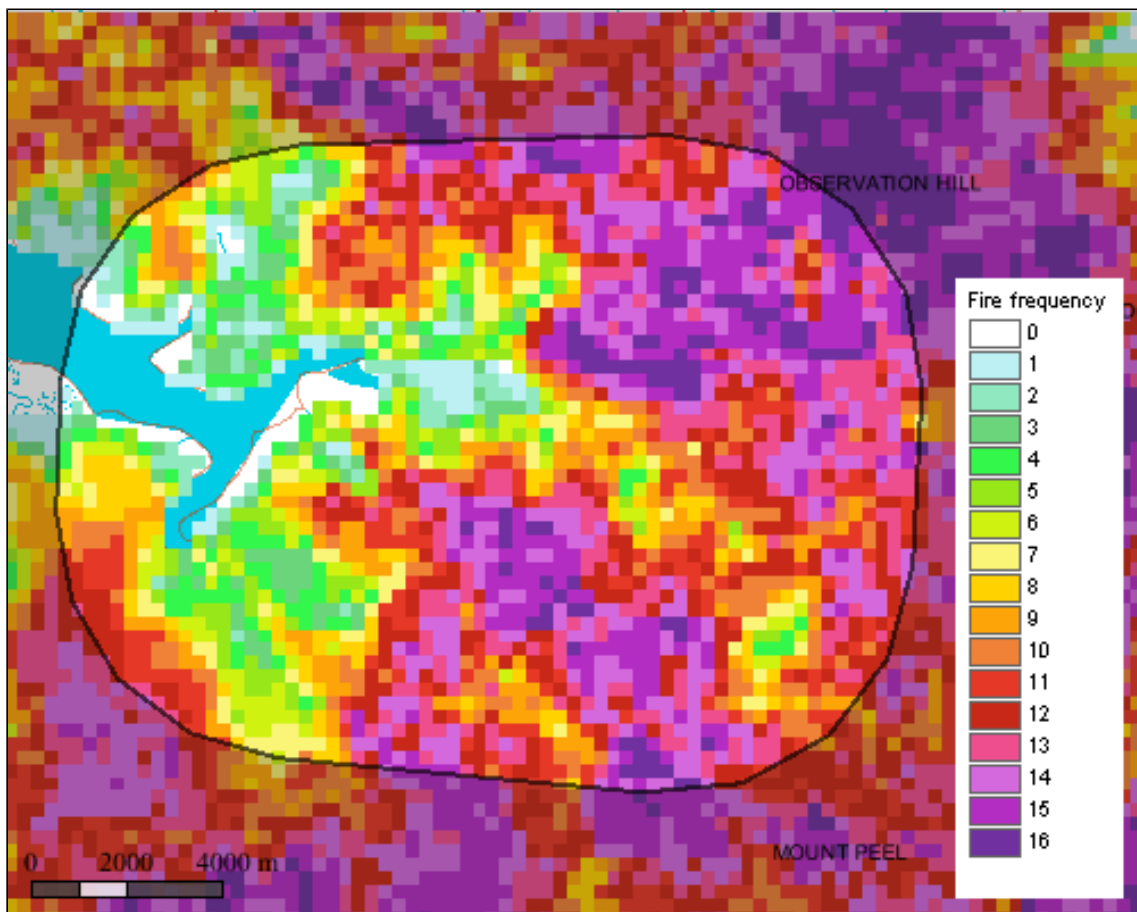
Fire frequency 2000-2015



area burnt for each fire frequency category 2000-2015

Category	Area sq km	Area%
0	12.65	6.13
1	4.63	2.24
2	5.64	2.73
3	6.87	3.33
4	8.57	4.15
5	8.76	4.25
6	9.12	4.42
7	8.15	3.95
8	9.77	4.73
9	13.18	6.38
10	14.46	7.01
11	15.83	7.67
12	20.12	9.75
13	20.14	9.75
14	20.68	10.02
15	19.65	9.52
16	8.20	3.97

Fire frequency 2000-2015



The fire frequency(250m) Layer is derived from satellite imagery sourced from the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Terra satellite
Spatial Resolution: 250m x 250m pixels (at Nadir).

Zola DA Threatened Species



Threatened species recorded in Zola DA (Records Updated: Sept 2013)

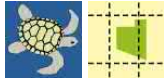
Group	Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Cycads	Armstrong's Cycad	<i>Cycas armstrongii x maconochiei</i>	VU	.	351085	0 (Unknown)	1 (1993)	0 (Unknown)
Birds	Partridge Pigeon	<i>Geophaps smithii</i>	VU	VU	176384	3 (1996)	0 (Unknown)	0 (Unknown)

EX = Extinct
 EW = Extinct in the Wild
 ER = Extinct in the NT
 EN = Endangered
 EN/VU = One Endangered subspecies/One Vulnerable subspecies
 VU=Vulnerable
 VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

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 Specimen = this category refers to museum or other records where a specimen has been collected and lodged
 Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####
 where #### is the ID number from the tables above for the species of interest.

Zola DA Threatened Species Grid



Threatened species recorded in the grid cell(s) in which Zola DA occurs (Records Updated: Sept 2013)

Group	Family Name	Scientific Name	Common Name	NT Status	National Status	#Observations	Latest Observation Date	#Specimens	Latest Specimen Date	#Surveys	Latest Survey Record
Cycads	Cycadaceae	<i>Cycas armstrongii</i>	Armstrong's Cycad	VU		0	Unknown	0	Unknown	2	1998
Cycads	Cycadaceae	<i>Cycas armstrongii x maconochiei</i>	Armstrong's Cycad	VU		0	Unknown	2	2001	0	Unknown
Flowering Plants	Pontederiaceae	<i>Monochoria hastata</i>	Arrowleaf Monochoria	VU		0	Unknown	1	1981	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia dunstaniae</i>	Bladderwort	VU		0	Unknown	1	2010	0	Unknown
Flowering Plants	Lentibulariaceae	<i>Utricularia singeriana</i>	Bladderwort	VU		0	Unknown	2	2010	0	Unknown
Insects	Lycaenidae	<i>Ogyris iphis doddi</i>	Dodd's Azure Butterfly	EN		0	Unknown	0	Unknown	0	Unknown
Reptiles	Cheloniidae	<i>Chelonia mydas</i>	Green Turtle		VU	5	2010	1	1993	0	Unknown
Reptiles	Cheloniidae	<i>Eretmochelys imbricata</i>	Hawksbill Turtle	VU	VU	2	1997	0	Unknown	1	1997
Reptiles	Cheloniidae	<i>Natator depressus</i>	Flatback Turtle		VU	6	2010	0	Unknown	1	1997
Reptiles	Gekkonidae	<i>Lucasium occultum</i>	Yellow-snouted Gecko	VU	EN	0	Unknown	1	2004	0	Unknown
Reptiles	Varanidae	<i>Varanus mertensi</i>	Mertens' Water Monitor	VU		3	2010	3	2007	1	2000
Reptiles	Varanidae	<i>Varanus mitchelli</i>	Mitchell's Water Monitor	VU		0	Unknown	1	1973	0	Unknown
Reptiles	Varanidae	<i>Varanus panoptes</i>	Yellow-spotted Monitor	VU		4	2002	2	2008	3	2002
Birds	Columbidae	<i>Geophaps smithii</i>	Partridge Pigeon	VU	VU	37	2007	0	Unknown	0	Unknown
Birds	Accipitridae	<i>Erythrotriorchis radiatus</i>	Red Goshawk	VU	VU	2	1999	0	Unknown	0	Unknown
Birds	Charadriidae	<i>Charadrius mongolus</i>	Lesser Sand Plover	VU	EN	39	2008	1	1984	1	1997
Birds	Charadriidae	<i>Charadrius leschenaultii</i>	Greater Sand Plover	VU	VU	84	2001	0	Unknown	2	1997
Birds	Scolopacidae	<i>Limosa lapponica</i>	Bar-tailed Godwit	VU		32	1997	0	Unknown	1	1997
Birds	Scolopacidae	<i>Numenius madagascariensis</i>	Eastern Curlew	VU	CE	117	2008	0	Unknown	3	1997
Birds	Scolopacidae	<i>Calidris tenuirostris</i>	Great Knot	VU	CE	4	1997	0	Unknown	1	1997
Birds	Scolopacidae	<i>Calidris canutus</i>	Red Knot	VU	EN	2	2005	0	Unknown	1	1997
Birds	Scolopacidae	<i>Calidris ferruginea</i>	Curlew Sandpiper	VU	CE	4	2005	0	Unknown	0	Unknown
Birds	Tytonidae	<i>Tyto novaehollandiae kimberli</i>	Masked Owl (northern mainland)	VU	VU	1	2000	0	Unknown	0	Unknown
Birds	Estrildidae	<i>Erythrura gouldiae</i>	Gouldian Finch	VU	EN	1	1996	0	Unknown	0	Unknown
Mammals	Dasyuridae	<i>Dasyurus hallucatus</i>	Northern Quoll	CR	EN	14	2000	2	1954	11	2002
Mammals	Dasyuridae	<i>Antechinus bellus</i>	Fawn Antechinus	EN	VU	2	2001	0	Unknown	5	2002
Mammals	Muridae	<i>Mesembriomys gouldii gouldii</i>	Black-footed Tree-rat	VU	EN	0	Unknown	1	1990	14	2007
Mammals	Muridae	<i>Rattus tunneyi</i>	Pale Field-rat	VU		2	1995	0	Unknown	7	2002

EX = Extinct
 EW = Extinct in the Wild
 ER = Extinct in the NT
 EN = Endangered
 EN/VU = One Endangered subspecies/One Vulnerable subspecies

VU=Vulnerable

VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

Survey = this category refers to data collected using systematic survey methodology

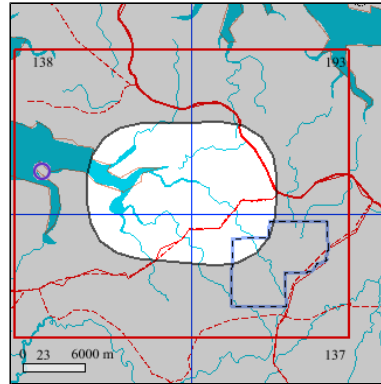
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More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Species listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Zola DA



Zola DA Weeds and Potential Weeds



Introduced plants recorded in the grid cell(s) in which Zola DA occurs and that have been identified as problem weeds in one or more locations in northern Australia. Occurrence based on Northern Territory Government databases.

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Acanthaceae	<i>Barleria prionitis</i>	Barleria	A C	ALERT	MP K2 C&E G&M	0	Unknown
Poaceae	<i>Bothriochloa pertusa</i>	Indian Bluegrass			DEU	0	Unknown
Fabaceae	<i>Calopogonium mucunoides</i>	Calopo			MP C&E CYP	0	Unknown
Poaceae	<i>Cenchrus ciliaris</i>	Buffel Grass			MP Gr G&M DEU	0	Unknown
Poaceae	<i>Cenchrus pedicellatus</i>	Mission Grass (annual)			WeedsAus	1	2003
Poaceae	<i>Cenchrus polystachios</i>	Mission Grass (perennial)	B C		MP K2 C&E G&M	1	2003
Fabaceae	<i>Centrosema molle</i>	Centro			MP	0	Unknown
Poaceae	<i>Chloris barbata</i>	Purpletop Chloris			DEU	0	Unknown
Fabaceae	<i>Crotalaria goreensis</i>	Gambia Pea			MP	1	2003
Fabaceae	<i>Delonix regia</i>	Poinciana			C&E	0	Unknown
Poaceae	<i>Echinochloa colona</i>	Awnless Barnyard Grass			DEU	0	Unknown
Poaceae	<i>Echinochloa polystachya</i>	Aleman Grass			MP C&E G&M CYP	0	Unknown
Amaranthaceae	<i>Gomphrena celosioides</i>	Gomphrena Weed			DEU	0	Unknown
Malvaceae	<i>Grewia asiatica</i>	Phassa Plum			C&E G&M CYP	0	Unknown
Boraginaceae	<i>Heliotropium indicum</i>	Indian Heliotrope			DEU	0	Unknown
Lamiaceae	<i>Hyptis suaveolens</i>	Hyptis	B C		G&M	6	2003
Convolvulaceae	<i>Ipomoea quamoclit</i>	Cupid's Flower			C&E	0	Unknown
Euphorbiaceae	<i>Jatropha curcas</i>	Physic Nut	A C		MP WA1 WA2 WA4 G&M	0	Unknown
Meliaceae	<i>Khaya senegalensis</i>	African Mahogany			C&E	0	Unknown
Verbenaceae	<i>Lantana camara</i>	Lantana	B C	WONS	K2 WA1 Q3 Gr G&M CYP DEU NSW SA	3	1988
Fabaceae	<i>Leucaena leucocephala</i>	Coffee Bush			MP C&E G&M CYP	0	Unknown
Poaceae	<i>Melinis repens</i>	Red Natal Grass			DEU	0	Unknown
Fabaceae	<i>Mimosa pigra</i>	Mimosa	A (S of 14 deg S) B (N of 14 deg S) C	WONS	MP K2 WA1 WA2 Q1 G&M CYP SA	2	1991
Oxalidaceae	<i>Oxalis corniculata</i>	Creeping Wood-sorrel			NSW	0	Unknown
Araceae	<i>Pistia stratiotes</i>	Water Lettuce	B C		WA1 WA2 Q2 CYP NSW	0	Unknown
Plantaginaceae	<i>Scoparia dulcis</i>	Bitter Broom			DEU	0	Unknown
Fabaceae	<i>Senna alata</i>	Candle Bush	B C		WA1 WA2	0	Unknown
Fabaceae	<i>Senna occidentalis</i>	Coffee Senna	B C		G&M DEU	0	Unknown

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Fabaceae	<i>Senna tora</i>	Foetid Cassia			WA1 WA2 Q2 G&M CYP	0	Unknown
Malvaceae	<i>Sida acuta</i>	Spiny-head Sida	B C		WA1 G&M	0	Unknown
Malvaceae	<i>Sida cordifolia</i>	Flannel Weed	B C		WA1 G&M DEU	0	Unknown
Malvaceae	<i>Sida rhombifolia</i>	Paddy's Lucerne	B C		MP G&M DEU	0	Unknown
Poaceae	<i>Sorghum almum</i>	Columbus Grass			NSW	0	Unknown
Poaceae	<i>Sporobolus jacquemontii</i>	American Rat's Tail Grass			Q2 G&M	0	Unknown
Verbenaceae	<i>Stachytarpheta cayennensis</i>	Cayenne Snakeweed	B C		NSW	0	Unknown
Verbenaceae	<i>Stachytarpheta jamaicensis</i>	Jamaican Snakeweed	B C			0	Unknown
Fabaceae	<i>Stylosanthes humilis</i>	Townsville Lucerne			DEU	1	1991
Fabaceae	<i>Stylosanthes scabra</i>	Shrubby Stylo			G&M DEU	0	Unknown
Asteraceae	<i>Synedrella nodiflora</i>	Cinderella Weed			C&E	1	1988
Zygophyllaceae	<i>Tribulus terrestris</i>	Caltrop	B C		CYP SA	0	Unknown
Poaceae	<i>Urochloa mutica</i>	Para Grass			MP G&M	2	1991

Status Codes:

1. NATIONAL STATUS CODES

Alert, Alert List for Environmental Weeds (Please call Exotic Plant Pest Hotline 1800 084 881 if you think you have seen this weed)

Sleeper, National Sleeper Weed

Target, Targeted for eradication. (www.landmanager.com.au/view/index.aspx?id=449837)

WONS, Weeds of National Significance

2. NT STATUS CODES

A, NT Class A Weed (to be eradicated)

B, NT Class B Weed (growth & spread to be controlled)

C, NT Class C Weed (not to be introduced) (www.landmanager.com.au/view/index.aspx?id=449869)

3. OTHER STATUS CODES

C&E, Csurhes, S. & Edwards, R. (1998) Potential Environmental Weeds in Australia. Candidate Species for Preventative Control. Environment Australia, Canberra (www.landmanager.com.au/view/index.aspx?id=394504)

CYP, Draft Cape York Peninsula Pest Management Plan 2006-2011 (www.landmanager.com.au/view/index.aspx?id=371200)

DEU, Plants listed as environmental weeds by the Desert Uplands Strategic Land Resource

Assessment (www.landmanager.com.au/view/index.aspx?id=332123)

G&M, Grice AC, Martin TG. 2005. The Management of Weeds and Their Impact on Biodiversity in the Rangelands. Cooperative Research Centre (CRC) for Australian Weed Management and CSIRO Sustainable Ecosystems. Commonwealth Australia (www.landmanager.com.au/view/index.aspx?id=163572)

Gr, Groves et al. 2003. Weed categories for natural and agricultural ecosystem management. Bureau of Rural Sciences (www.landmanager.com.au/view/index.aspx?id=388018)

K0, High Priority Weeds not yet established in the Katherine region

K1, High Priority Weeds posing environmental threats in the Katherine region

K2, High Priority Weeds posing existing threats in the Katherine region, as described in the Katherine Regional Weed Management Strategy 2005-2010 (www.landmanager.com.au/view/index.aspx?id=130286)

MP, Northern Territory Parks & Conservation Masterplan (www.landmanager.com.au/view/index.aspx?id=144141)

NAQS, North Australian Quarantine Strategy Target List (www.landmanager.com.au/view/index.aspx?id=449416)

NSW, Declared Noxious Weed in NSW (www.landmanager.com.au/view/index.aspx?id=449983)

Q1, QLD Class 1 Weed (not to be introduced, kept or supplied)

Q2, Class 2 Weed (eradicate where possible, not to be introduced, kept or supplied)

Q3, Qld Class 3 Weed (to be controlled near environmentally sensitive areas- not to be supplied/sold without a permit) (www.landmanager.com.au/view/index.aspx?id=190714)

SA, Declared Plant in South Australia (www.landmanager.com.au/view/index.aspx?id=449996)

WeedsAus, Listed as a significant weed by Weeds Australia (www.landmanager.com.au/view/index.aspx?id=14576)

WA1, WA Weed Class P1 (movement prohibited)

WA2, WA Weed Class P2 (aim to eradicate)

WA3, WA Weed Class P3 (control infestations)

WA4, WA Weed Class P4 (prevent spread)

WA5, WA Weed Class P3 (control infestations on public land) (www.landmanager.com.au/view/index.aspx?id=449884).

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More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Plants listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Zola DA

Zola DA Pest and Potential Pest Animals



Animals with pest potential recorded in the grid cell(s) in which Zola DA occurs. Occurrence based on Northern Territory Government databases.

Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys (Latest)
Cane Toad	<i>Rhinella marina</i>	P	.	183252	8 (2010)	0 (Unknown)	18 (2010)
Asian House Gecko	<i>Hemidactylus frenatus</i>	P	.	188964	1 (Unknown)	1 (1979)	6 (2010)
Flower-pot Blind Snake	<i>Ramphotyphlops braminus</i>	P	.	189084	0 (Unknown)	2 (2002)	0 (Unknown)
Rock Dove	<i>Columba livia</i>	P	.	183336	3 (1997)	0 (Unknown)	0 (Unknown)
Red-tailed Black-cockatoo	<i>Calyptorhynchus banksii macrorhynchus</i>	N	.	223765	116 (2010)	2 (1985)	11 (2010)
Sulphur-Crested Cockatoo	<i>Cacatua galerita</i>	N	.	223772	124 (2010)	0 (Unknown)	13 (2010)
Agile Wallaby	<i>Macropus agilis</i>	N	.	223786	11 (2008)	1 (Unknown)	27 (2010)
Black Rat	<i>Rattus rattus</i>	P	.	183236	2 (2008)	1 (1974)	0 (Unknown)
Dingo / Wild dog	<i>Canis lupus</i>	N	.	183280	7 (2010)	0 (Unknown)	1 (2000)
Cat	<i>Felis catus</i>	P	.	183259	4 (2010)	0 (Unknown)	7 (2010)
Horse	<i>Equus caballus</i>	P	.	183315	1 (1991)	0 (Unknown)	1 (2010)
Pig	<i>Sus scrofa</i>	P	.	183329	9 (2008)	0 (Unknown)	10 (2010)
Swamp Buffalo	<i>Bubalus bubalis</i>	P	.	183245	1 (2000)	0 (Unknown)	0 (Unknown)
Cattle	<i>Bos taurus</i>	P	.	183266	33 (2002)	0 (Unknown)	1 (2000)

NT STATUS CODES:

Int, Introduced species (all non-prohibited vertebrates, and all other exotic species (www.landmanager.com.au/view/index.aspx?id=280771))

N, Native species with pest potential.

P, Prohibited species (all exotic vertebrates except those listed as non-prohibited (www.landmanager.com.au/view/index.aspx?id=450509))

Survey = this category refers to data collected using systematic survey methodology

Specimen = this category refers to museum or other records where a specimen has been collected and lodged

Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=####

where #### is the ID number from the tables above for the species of interest.

Potential pest animals listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap Zola DA



Soils and vegetation graphs and tables refer to area of soils and vegetation only. Fire graphs and tables refer to entire selected area including sea if present. Calculations are derived from map images or vector data, and should be taken as a guide only. Accuracy cannot be guaranteed. For small areas, figures should be rounded to the nearest whole number.

APPENDIX D

SOCS Information Sheets

Darwin Harbour

Location and Description

Darwin Harbour is a large indented embayment with three main arms – East, Middle and West. Two major rivers, the Elizabeth and Darwin Rivers drain into the Harbour and the city of Darwin is located on the north-eastern shore. The shoreline is dominated by mangroves, which largely remain in undisturbed condition and the Site contains more than 5% of the Northern Territory's entire mangrove area. Darwin Harbour has one of the richest coastal environments anywhere in the Asia Pacific region, and occurs within one of the world's least impacted marine regions. The coastal and mangrove environments are backed by savanna woodlands and patches of monsoon rainforest.

Tenure and Land Use

The Darwin Harbour Site, especially its west and south-west portions, is predominantly vacant Crown land. The remainder is mostly freehold land associated with the cities of Darwin and Palmerston. The land uses within the Site are many and varied - the freehold portions support a mix of commercial, residential and industrial land uses. The Harbour has port facilities and supports tourism, recreation and aquaculture. Approximately 3% of the Site is managed as conservation reserves.

Significance Rating

International Significance

Ecological Values

Darwin Harbour supports a range of estuarine, freshwater and terrestrial environments including extensive areas of tidal mudflats and one of the largest and most diverse areas of mangroves in the Northern Territory. The mangroves of Darwin Harbour support a highly specialised fauna and 14 bird species that are entirely restricted to mangrove environments (e.g. Chestnut Rail, White-breasted Whistler and Mangrove Golden Whistler). The Harbour itself supports a diverse range of marine species including dugongs, dolphins, marine turtles and a large variety of fish. A total of 15 threatened species are reported from within the Site.

Management Issues

Future urban and industrial developments around Darwin Harbour represent a major management issue for this Site. The north-eastern part of Darwin Harbour catchment is already highly developed and native vegetation and tidal flats have been cleared and drained. Further major industrial developments around Middle Arm are currently



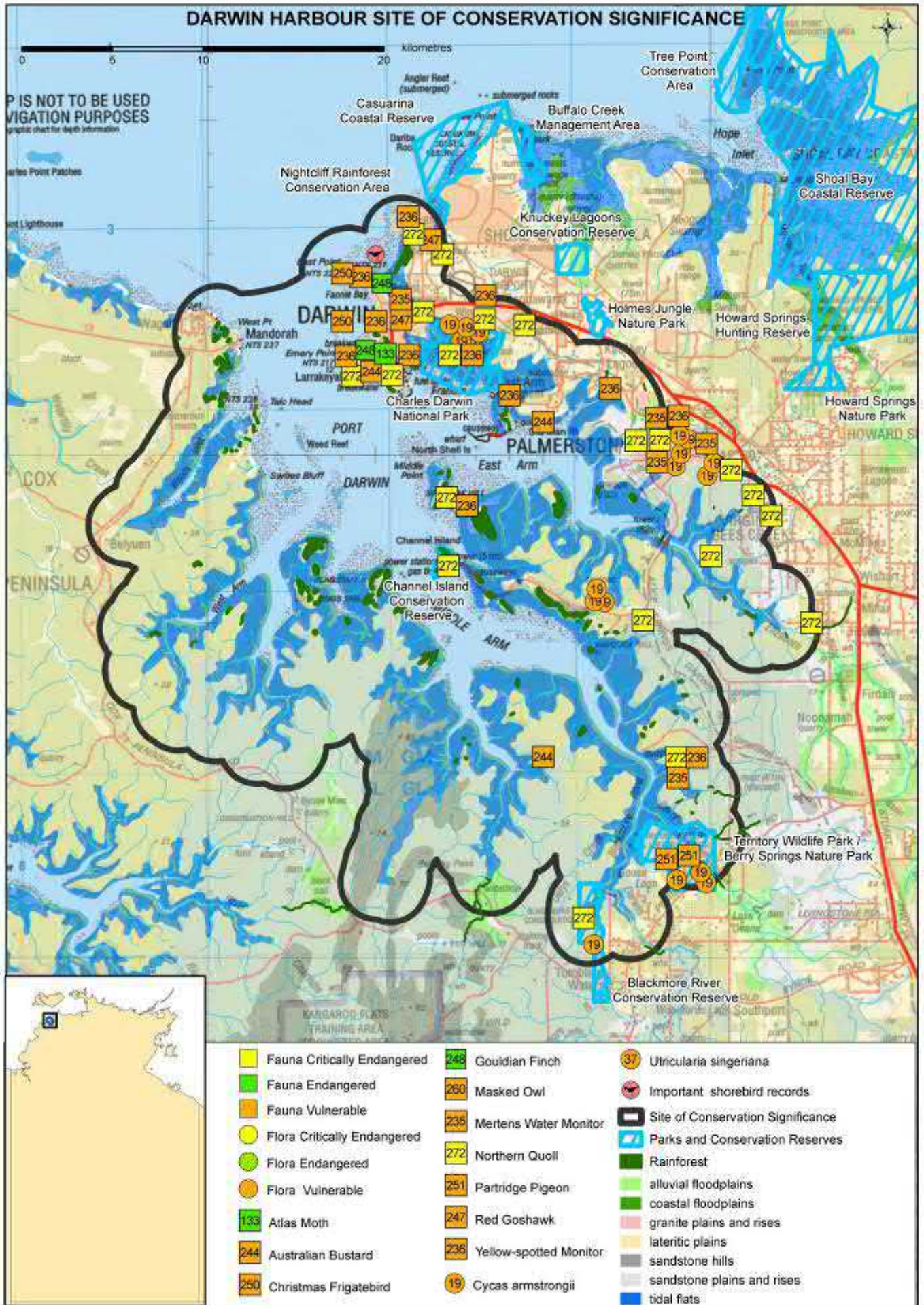
being considered. Water pollution from run-off and industry and sea-level rise will also potentially affect the Harbour environment.

Condition

In comparison with marine areas near other major cities, Darwin Harbour is in good condition. However, a range of human activities do impact on the marine and coastal environments and these are likely to intensify in future years.

Current Conservation Initiatives

A regional plan of management has been developed for Darwin Harbour and its catchment area, and priority actions are being implemented. Ecosystem monitoring and research groups have been established to direct strategic research and co-ordinate monitoring activities within the Harbour.



DARWIN HARBOUR - SITE OF CONSERVATION SIGNIFICANCE

LOCATION	SOCS Number	6 (NT Parks and Conservation Masterplan Map Number 12)
	Latitude/Longitude	12° 34' South, 130° 52' East (at centre)
	Bioregion	Darwin Coastal (98%), Pine Creek (2%)
	Description	<p>The site includes the tidal flats (222 km²) within the Harbour from East Point around to West Point (including the major sub-embayments of East Arm, Middle Arm, West Arm, Woods Inlet, Frances Bay and Fannie Bay) and a buffering terrestrial area (527 km²). Sub-tidal waters of the Harbour are not included in this assessment.</p> <p>The rivers that flow into the Harbour (including the Darwin, Blackmore and Elizabeth Rivers and Berry Creek) have small catchments and lack the large floodplains and freshwater wetlands that characterise many other coastal areas around the Top End. Much of the area behind the extensive tidal flats in this site is high ground forested with woodland rather than wetlands (Darwin Harbour Advisory Committee 2003).</p> <p>The extensive tidal flats associated with nearby Shoal Bay and the sand sheets of the Howard River are also recognised as sites of high conservation significance in the NT.</p>
THREATENED SPECIES	Significance Rating	International Significance
	Threatened plants and animals (Listings at National/NT level CR - Critically Endangered, EN - Endangered, VU - Vulnerable, NT - Near Threatened, LC - Least Concern, DD - Data Deficient)	<p>15 threatened species are reported from this site.</p> <p>Plants</p> <ul style="list-style-type: none"> ▪ <i>Cycas armstrongii</i> (-/VU) ▪ <i>Utricularia singeriana</i> (-/VU) <p>Vertebrates</p> <ul style="list-style-type: none"> ▪ Australian Bustard <i>Ardeotis australis</i> (-/VU) ▪ Christmas Frigatebird <i>Fregata andrewsi</i> (VU/-) ▪ Gouldian Finch <i>Erythrura gouldiae</i> (EN/EN) ▪ Masked Owl <i>Tyto novaehollandiae kimberlii</i> (VU/VU) ▪ Partridge Pigeon <i>Geophaps smithii</i> (VU/VU) ▪ Red Goshawk <i>Erythrotriorchis radiatus</i> (VU/VU) ▪ Northern Quoll <i>Dasyurus hallucatus</i> (EN/CR) ▪ Merten's Water Monitor <i>Varanus mertensi</i> (-/VU) ▪ Yellow-spotted Monitor <i>Varanus panoptes</i> (-/VU) ▪ Flatback Turtle <i>Natator depressus</i> (VU/DD) ▪ Green Turtle <i>Chelonia mydas</i> (VU/LC) ▪ Hawksbill Turtle <i>Eretmochelys imbricata</i> (VU/-) <p>Invertebrates</p> <ul style="list-style-type: none"> ▪ Atlas Moth <i>Attacus wardi</i> (-/EN) <p>There are only historic records of <i>Utricularia singeriana</i> and the Atlas Moth from this site, and suitable habitat may no longer be present.</p>
ENDEMIC SPECIES	Significance Rating	Not Significant
	Notes	<p>Endemic to the bioregion: One vertebrate (<i>Ramphotyphlops nema</i>) and two plant species (<i>Spermacoco phalloides</i>, <i>Typhonium praetermissum</i>) recorded in this site are NT endemics and are only known from the Darwin Coastal bioregion.</p> <p>Endemic to the NT: 77 plant and 12 vertebrate species recorded in the site are only known from the NT.</p> <p>Other: 12 plant and one vertebrate species (Lewin's Rail) are only known from the site or the Darwin Coastal bioregion within the NT, but are also found in other states. There is a collection of records of vagrant bird species from Darwin Harbour/Shoal Bay that have not been recorded elsewhere in the NT.</p>
WILDLIFE AGGREGATIONS	Significance Rating	Not Significant
	Marine turtles	Flatback, Hawksbill, and Green Turtles frequent the waters of Darwin Harbour but the lack of sandy beaches within the Harbour inhibits nesting activity.
	Seabirds	Significant aggregations of seabirds are not known from this site (Chatto 2001).
	Waterbirds	This site lacks a large area of freshwater wetland and supports relatively low numbers of waterbirds (Chatto 2006).
	Shorebirds	Although large areas of mudflats occur around Darwin Harbour during periods of low tide, high numbers of shorebirds have not been recorded. The highest count is 3000 individuals in 1994 (Chatto 2003).
	Other aggregations	None known
WETLANDS	Significance Rating	National Significance
	Ramsar criteria met	Not assessed
	DIWA criteria met	Darwin Harbour is listed as a wetland of national significance in the Directory of Important Wetlands in Australia (DIWA: NT029 Port Darwin). The site meets criteria 1, 2, 3, 4, 5, 6 and includes wetland types: A1, A2, A3, A6, A7, and A9.
	Notes	<p>Darwin Harbour is a good example of a shallow branching embayment of the Top End Region, supporting one of the largest discrete areas of mangrove swamp in the NT (DIWA).</p> <p>Within the Darwin Harbour catchment there are series of ponding systems (Dambos) that may play an important role in filtering organic material before it is delivered to the harbour. Many of these are not included within the current boundary of the site (R. Wasson, Charles Darwin University, pers. comm.).</p>

DARWIN HARBOUR - SITE OF CONSERVATION SIGNIFICANCE

	Rivers	The Darwin, Blackmore and Elizabeth Rivers and Berry Creek flow into Darwin Harbour. All are relatively small Top End rivers.
FLORA	Significance Rating	National Significance
	Notes	<p>Rainforest: About 1150 ha of mostly dry rainforest (or 0.4% of the NT rainforest estate) occur as small patches around the margin of the tidal flats in this site. One patch is >100 ha but most patches are small (<10 ha) (Russell-Smith 1991).</p> <p>Large areas of rainforest or vine-thicket habitat occur within the Harbour on peninsulas or 'hinterland islands' such as Blaydin Point, Wickham Point, Flagstaff Hill and Kings Table. Fire-sensitive vine-thicket communities have become particularly well developed in these habitats due to the protection offered by the surrounding mangroves, which unlike savannah woodlands, do not burn.</p> <p>Other: Mangroves fringe the whole embayment of Darwin Harbour and comprise one of the largest (~20 400 ha) and most floristically diverse (~41 species) areas of mangroves in the NT (Duke 2006). Mangrove communities within the Harbour have been identified and mapped by Brocklehurst and Edmeades (1996).</p>
OTHER ENVIRONMENTAL VALUES		<p>The mangroves of Darwin Harbour support a highly specialised fauna including over 306 invertebrate species and 112 species of mammals, bats and birds (Metcalf 2007).</p> <p>Mangroves in north-western Australia support distinctive fauna and more mangrove-endemic bird species than any other region in the world (Noske 1996). Some of the highly specialised bird species that occur in Darwin Harbour include the Mangrove Gerygone, Mangrove Robin, Mangrove Golden Whistler and Chestnut Rail.</p> <p>A group of colubrid snakes including the White-bellied Mangrove Snake <i>Fordonia leucobalia</i>, are also part of the distinctive mangrove fauna found in Darwin Harbour, and compliments the wider, but poorly-known, community of sea-snakes in the area (Whiting 2003).</p> <p>In terms of faunal diversity, Darwin Harbour is one of the richest mangrove systems in the Indo-west Pacific region. Each of the eight different floristic assemblages defined in Darwin Harbour mangroves (Brocklehurst and Edmeades 1996) supports a distinctive faunal community. In particular, the most seaward assemblage, with <i>Sonneratia alba</i> dominant, is an exceptionally productive mangrove community with the highest primary productivity (Metcalf 1999) and faunal diversity and abundance of any assemblage in the harbour (Metcalf 2007).</p> <p>Eight sites around Darwin Harbour are listed on the Register of the National Estate for their natural values including: Berry Springs Nature Park, Darwin Foreshores, <i>Pachystoma pubescens</i> Sites 1 and 2, Channel Island Reefs, Imaluk Creek Area, Southport Area, and the Darwin Harbour Wetlands (Australian Heritage Council).</p> <p>80 species recorded from this site are listed under international conventions or bilateral agreements protecting migratory animals.</p> <p>Dugongs are common in the Harbour (Whiting 2004).</p> <p>The marine areas within this site are likely to encompass other significant biodiversity values and these are currently being explored and collated in a project by the Marine Biodiversity Group of NRETAS (K. Edyvane, NRETAS, pers. comm.).</p>
MANAGEMENT ISSUES		<p>Fire: The current fire regime in the Darwin region differs from that in other sparsely populated savanna areas of the NT and is ad hoc and closely linked to tenure (Price and Baker 2007). The frequency of late dry season fires is lower in the Darwin region than other areas (Price and Baker 2007), but exotic grasses are increasing fuel loads and the intensity of fires (Kean and Price 2003). In the period 1993-2004, 43% of the site was burnt in fewer than three years, and 24% was burnt in more than six years.</p> <p>Feral animals: Feral cat, dog, rat, pig and Cane Toad are present in the site. Marine pest incursions remain a concern given the proximity of Darwin Harbour to Asia (Smit 2003).</p> <p>Weeds: Four Weeds of National Significance (<i>Lantana camara</i>, <i>Mimosa pigra</i>, <i>Salvinia molesta</i>, <i>Parkinsonia aculeata</i>), 25 declared Category A and B weeds and 12 other undeclared but problematic environmental weeds (high priority weeds: Smith 2001) are recorded from this site. The aquatic weed <i>Cabomba caroliniana</i> is reported from Darwin River (Smith 2002).</p> <p>Other: The north-eastern part of Darwin Harbour catchment is highly developed and native vegetation and tidal flats have been cleared and drained. With the current rapid growth of the city of Darwin, further pressure is likely to come from future recreational, residential and industrial developments within the Harbour (Wightman 2006). Major industrial developments around Middle Arm are currently being considered.</p> <p>Nutrient enrichment from sewerage discharge and storm water run-off may affect mangrove communities in the Harbour (Dames and Moore 1984 in Wightman 2006).</p> <p>Despite having a macrotidal range of 7.8 m, the waters of Darwin Harbour are not particularly well flushed and recent research and modelling indicates that pollution may circulate within the upper reaches of the Harbour for considerable periods (Williams, 2006). Pollution and increased turbidity (e.g. from dredging) associated with future developments within the Harbour, may therefore affect water quality and the biodiversity values.</p> <p>The potential rise in sea level predicted in response to global climate change may affect mangrove communities in Darwin Harbour, especially in areas where coastal developments exclude the landward retreat of coastal ecosystems.</p> <p>Although mangroves are generally well adapted to the dynamic conditions at the land-sea interface, recovery from severe disturbance (e.g. storms, cyclones, clear-felling) may be very slow (Metcalf, 2007). Indeed, severely damaged mangroves may take several decades to recover and such delayed recovery times increase their vulnerability to disturbance (McGuinness 1992).</p>

DARWIN HARBOUR - SITE OF CONSERVATION SIGNIFICANCE

MANAGEMENT INFORMATION	NRM groups	Belyuen Land Management Group (Belyuen), Larrakia Rangers (Darwin) (Northern Land Council 2006).
	Protected areas	Blackmore River Conservation Reserve (4 km ² / 0.6% of site), Channel Island Conservation Reserve (1 km ² / 0.1% of site), Charles Darwin National Park (10 km ² / 1% of site), Territory Wildlife Park/Berry Springs Nature Park (11 km ² / 1% of site).
	Current management plans	<p>Site-specific plans: Charles Darwin National Park Plan of Management (PWCNT undated); Darwin Harbour Regional Plan of Management (Darwin Harbour Advisory Committee 2003).</p> <p>National recovery plans for threatened species: marine turtles (Environment Australia 2003); Northern Quoll (Hill and Ward in prep.); Partridge Pigeon and Masked Owl (Woinarski 2004a), Gouldian Finch (O'Malley 2006); Red Goshawk (Baker-Gabb in prep.).</p> <p>Other management plans: Australian Weeds Strategy (NRMCC 2007); Threat Abatement Plan for Predation by Feral Cats (Environment Australia, 1999); Threat Abatement Plan for Predation, habitat degradation, competition and disease transmission by feral pigs (DEH 2005); FIREPLAN: Fire management for the savanna community (Russell-Smith <i>et al.</i> in prep.).</p>
KEY REFERENCES	Monitoring programs and research projects	<p>Fire in the tropical savannas is mapped continuously under the North Australia Fire Information Project http://www.firenorth.org.au/nafi/app/init.jsp</p> <p>Numerous programs and sites exist for monitoring water quality and ecological condition within the Darwin Harbour catchment area and a summary of them is reported by the Darwin Harbour Advisory Committee (2005).</p> <p>Fauna and vegetation are monitored at permanent sites in NT parks within the Darwin region including the Territory Wildlife Park and Charles Darwin National Park (Calnan <i>et al.</i> 2008).</p> <p>Populations of the rare ground orchid <i>Nervilia peltata</i> (D. Liddle, NRETAS unpubl.) and <i>Cycas armstrongii</i> (Liddle 2004) are monitored under different fire regimes at permanent plots in Charles Darwin National Park.</p> <p>There is an ongoing program of monitoring and removal of Saltwater Crocodiles from within Darwin Harbour and Shoal Bay (Nichols and Letnic in press).</p> <p>Dolphins are surveyed monthly along transects within Darwin Harbour and Shoal Bay (C. Palmer, NRETAS unpubl.).</p> <p>Research on the biodiversity of mangrove habitats in Darwin Harbour involving surveys of vertebrate and invertebrate fauna in disturbed and undisturbed mangroves was conducted from 1999-2002 (Metcalf 2007). The methodology developed has since been applied for mangrove monitoring purposes.</p> <p>A two year study of primary productivity within the eight different mangrove assemblages was conducted at eight sites in the three arms of Darwin Harbour from 1997-1999 (Metcalf 1999). Monitoring of mangrove productivity was continued for a 3rd year by DIPE.</p> <p>Recommended methodology for monitoring of flora and soils in mangrove habitats of Darwin Harbour was developed by DIPE (Moritz-Zimmeman <i>et al.</i> 2002), developed further in a research framework (Comley 2002) and later applied at the Darwin LNG plant (McHugh 2004).</p> <p>Commercial mangrove monitoring programs for aquaculture developments in Darwin Harbour including Wild River and Tiger International subsequently adopted this monitoring methodology for impact assessment purposes.</p> <p>Research on the distribution and role of Dambo wetland systems in the Darwin Harbour catchment (R. Wasson, Charles Darwin University, pers. comm.).</p> <p>Research on the use of mangrove habitats by fish in Darwin Harbour was conducted from 1998 to 2001 including development of a trophic model for the harbour (Martin 2004).</p> <p>As part of the Environmental Management Plan for the Darwin LNG Plant, Conoco Phillips established in 2002 a mangrove monitoring program at Wickham Point with matched control sites in Darwin Harbour. The monitoring program has provided over 6 years of valuable baseline data on mangrove flora and invertebrate fauna (URS 2003; Metcalfe 2005; 2006).</p>
	Management recommendations	<p>Continue to implement the Darwin Harbour Regional Plan of Management (NRETA 2005).</p> <p>Develop a fire management strategy for the Darwin region that identifies clear objectives, roles and responsibilities (Price and Baker 2007).</p> <p>Prevent the spread of exotic grasses, especially mission grasses and gamba grass, into new areas in the Darwin region and reduce populations in areas with high conservation value or where fires threaten properties (Kean and Price 2003).</p> <p>Assess the data for Darwin Harbour against Ramsar criteria and consider listing as a wetland of international significance (S. Blanch, Environment Centre NT, pers. comm.).</p> <p>Consider expanding the boundary of the site to the catchment boundary to incorporate Dambo wetland systems (R. Wasson, Charles Darwin University, pers. comm.).</p>
KEY REFERENCES	Papers and reports	<p>Darwin Harbour Advisory Committee (2003). <i>Darwin Harbour Regional Plan of Management</i>. Department of Infrastructure, Planning and Environment, Darwin.</p> <p>Darwin Harbour Advisory Committee (2005). <i>A Review of Environmental Monitoring of the Darwin Harbour Region and Recommendations for Integrated Monitoring</i>. Darwin Harbour Advisory Committee, Darwin.</p> <p>DIWA (A Directory of Important Wetlands in Australia). <i>Australian Wetlands Database</i>. Department of Environment, Water, Heritage & the Arts, Canberra ACT (accessed November 2007).</p> <p>Metcalf, K. (2007). <i>The biological diversity, recovery from disturbance and rehabilitation of mangroves in Darwin Harbour</i>. PhD thesis. Charles Darwin University, Darwin.</p>
	Contributors	Kristin Metcalfe, Consultant Environmental Scientist, Darwin

Finniss River coastal floodplain

Location and Description

The Finniss River coastal floodplain is about 70 km south-west of Darwin and is at the northern end of a linked series of coastal floodplains and tidal flats in the west of the Top End. This floodplain differs in character from the better-known floodplains of the Adelaide-Mary-Alligator rivers system. The Finniss River coastal floodplain is dominated by seasonally inundated grassland and sedgeland with areas of paperbark open-forest.

Tenure and Land Use

The Finniss River coastal floodplain Site is predominantly Aboriginal freehold land and owned by the Delissaville/ Wagait/ Larrakia Aboriginal Land Trust. The portions of the Site north of the river are Crown leasehold land, privately owned freehold land, and a small area of pastoral leasehold land (Labelle Downs). The land mainly supports Indigenous uses, but other uses include pastoral operations, horticulture, and recreation.

Significance Rating

International Significance

Ecological Values

The Finniss River floodplain supports very large aggregations of waterbirds, including more than 1% of the world's populations of Magpie Geese and Pied Herons, and high densities of many other waterbird species. The floodplain supports important breeding activity by Saltwater Crocodiles, Magpie Geese and other waterbirds, and three large waterbird breeding colonies are located in paperbark swamps on the floodplain. Five threatened birds and one threatened plant are reported from this Site.

Management Issues

The two major management issues for the Finniss River coastal floodplain are weed invasion and feral animals. *Mimosa pigra* is a problem along some of the river banks and floodplain areas, and other exotic plants are choking the waterways and increasing fire fuel loads in woodland areas. Feral herbivores, such as Water Buffalo and pig, have disturbed riparian, floodplain and wetland vegetation. Further research and monitoring is needed to more fully assess the management issues affecting this site.

Condition

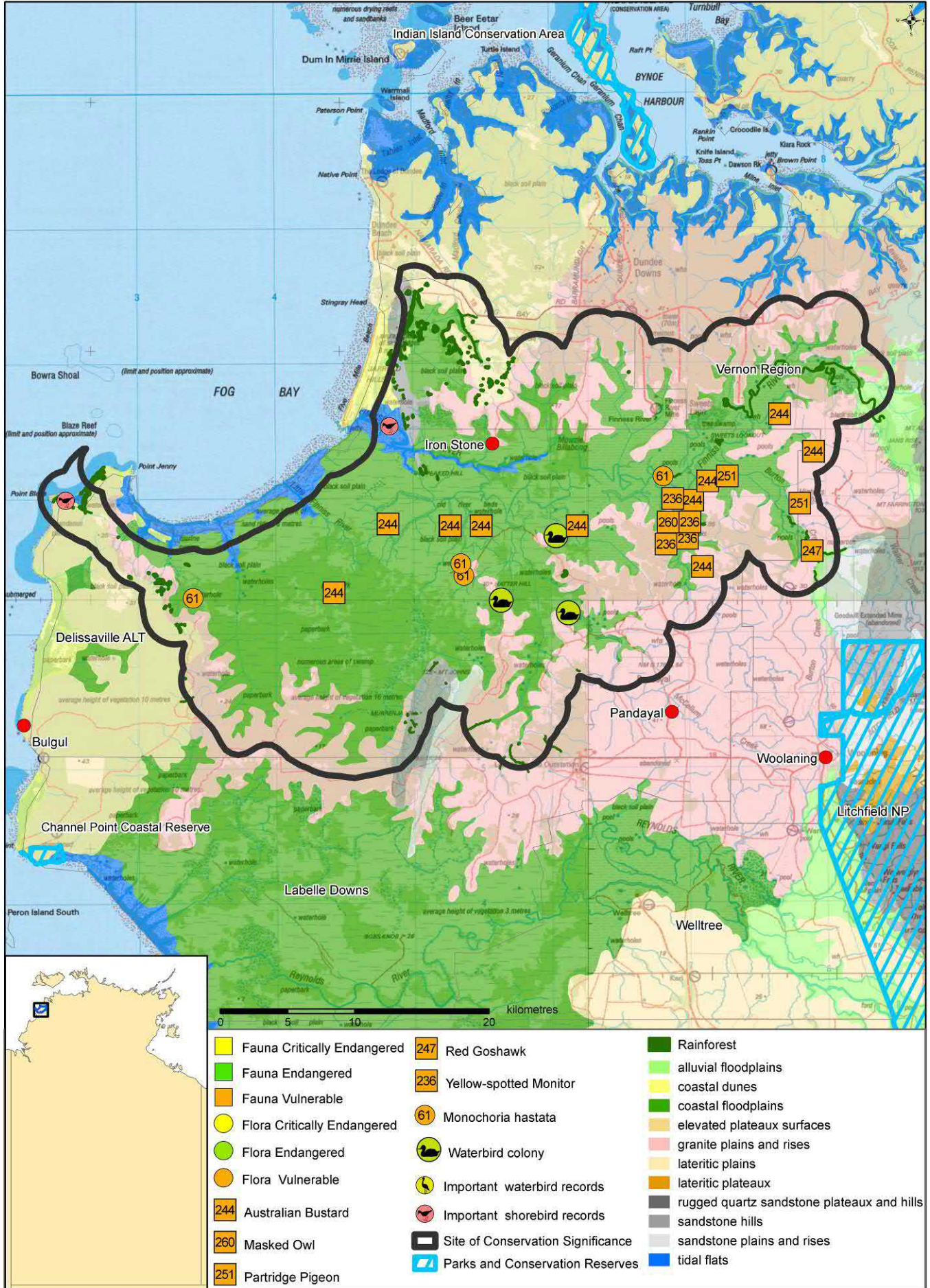
No information located.



Current Conservation Initiatives

Indigenous ranger groups based at Batchelor and Bulgul are currently managing infestations of *Mimosa pigra* on the Finniss River floodplain. The ranger groups also construct and maintain fire breaks and implement early season burns to help manage fire.

FINNISS RIVER COASTAL FLOODPLAIN SITE OF CONSERVATION SIGNIFICANCE



FINNISS RIVER COASTAL FLOODPLAIN - SITE OF CONSERVATION SIGNIFICANCE

LOCATION	SOCS Number	4 (NT Parks and Conservation Masterplan Map Number 121)
	Latitude/Longitude	12° 57' South, 130° 27' East (at centre)
	Bioregion	Darwin Coastal
	Description	<p>This site includes the entire floodplain associated with the Little Finnis and Finnis Rivers and extends from near the Finnis Range in the east to Fog Bay in the west. The northern extent of the site lies near the Cox Peninsula Road, and the southern extent is near the Reynolds River floodplain. The site encompasses an area of 1210 km² and is dominated by seasonally inundated freshwater floodplain (653 km²).</p> <p>The adjacent extensive tidal flats of Fog Bay are also recognised as a site of high conservation significance in the NT.</p>
THREATENED SPECIES	Significance Rating	National Significance
	Threatened plants and animals (Listings at National/NT level CR - Critically Endangered, EN - Endangered, VU - Vulnerable, NT - Near Threatened, LC - Least Concern, DD - Data Deficient)	Six threatened species are reported from this site. Plants <ul style="list-style-type: none"> ▪ <i>Monochoria hastate</i> (-/VU) Vertebrates <ul style="list-style-type: none"> ▪ Australian Bustard <i>Ardeotis australis</i> (-/VU) ▪ Masked Owl <i>Tyto novaehollandiae kimberli</i> (VU/VU) ▪ Partridge Pigeon <i>Geophaps smithii</i> (VU/VU) ▪ Red Goshawk <i>Erythrotriorchis radiatus</i> (VU/VU) ▪ Yellow-spotted Monitor <i>Varanus panoptes</i> (-/VU)
ENDEMIC SPECIES	Significance Rating	Not Significant
	Notes	<p>Endemic to the bioregion: One plant species (<i>Cycas canalis</i> subsp. <i>canalis</i>) recorded in this site is an NT endemic only found in the Darwin Coastal bioregion.</p> <p>Endemic to the NT: 37 plant and three vertebrate species recorded from this site are only found in the NT.</p> <p>Other: Three plant species recorded from this site only occur in the Darwin Coastal bioregion in the NT but are also found in other states.</p>
WILDLIFE AGGREGATIONS	Significance Rating	International Significance
	Marine turtles	Not applicable
	Seabirds	No major aggregations recorded
	Waterbirds	<p>Total numbers of waterbirds: The Finnis floodplain is highly significant for waterbirds. Numbers of Magpie Geese vary year to year and the highest estimated population is 394 000 in 1985 (DIWA). Separate surveys of other waterbird species in part of the site report numbers >22 000 (1996) (Chatto 2006).</p> <p>Counts of individual species: Maximum counts of species that are internationally significant (>1% global population; G. Dutson in prep.) include: 1000 Pied Heron (Chatto 2000a); 394 000 Magpie Geese (DIWA).</p> <p>High counts of other species such as Brolga, Australasian Darter, Great Egret, Little Black Cormorant and Royal Spoonbill (R. Chatto NRETAS unpubl.) are likely to be nationally significant (>1% Oceania population; Wetlands International 2006).</p> <p>Chatto (2006; R. Chatto NRETAS unpubl.) notes 37 important waterbird records for this site (including records for Fog Bay), including the significant counts identified above and counts of whistling-ducks, Brolgas and other species that are regionally important.</p> <p>Breeding records: Three large and significant waterbird breeding colonies (W019, W020, W022) are reported in paperbark trees on the Finnis floodplain (Chatto 2000a). The largest colony supports >13 500 adult birds and is dominated by egrets, cormorants and herons. Parts of the site are also a major breeding area for Magpie Geese and the highest reported count of nests is 11 460 in 1984 (DIWA).</p>
	Shorebirds	Large numbers of shorebirds have not been reported from the site, but the tidal flats around Fog Bay (west of the Finnis River floodplain) support internationally significant numbers of shorebirds.
	Other aggregations	None known
	WETLANDS	Significance Rating
Ramsar criteria met		While not yet formally assessed against Ramsar criteria, the Finnis River floodplain satisfies waterbird-based criteria (criterion 5: important waterbird aggregation site with >20,000 waterbirds; criterion 6: regularly supports >1% of the individuals in a population) for listing as a Wetland of International Importance under the Ramsar Convention (1971).
DIWA criteria met		This site is listed as a wetland of national significance in the Directory of Important Wetlands in Australia (DIWA: NT025 Finnis Floodplain and Fog Bay System). The site meets Criteria 1, 2, 3, 4, 6, and includes DIWA wetland types: B4, A7, B2, B9, B10, B14, A6, A8, and A9.

FINNISS RIVER COASTAL FLOODPLAIN - SITE OF CONSERVATION SIGNIFICANCE

	Notes	<p>This site has been nominated as a national High Conservation Value Aquatic Ecosystem (the finalised list of HCVAE will replace the DIWA list).</p> <p>The Finnis coastal floodplain is seasonal, with near- permanent water in deeper channels and billabongs. Surface inflow is from the Finnis River and other creeks, and the river is tidal for a few kilometres. The site (including Fog Bay) is a good example of a beach-fringed, curved bay with continuous intertidal mudflats, and a modified but relatively intact floodplain with extensive paperbark swamps (DIWA).</p>
	Rivers	The Finnis River is one of a series of five NT rivers that have almost contiguous floodplains and feed into the Joseph Bonaparte Gulf.
FLORA	Significance Rating	Regional Significance
	Notes	<p>Rainforest: About 870 ha of mostly dry rainforest occur in this site, especially in coastal areas near Stingray Head. Most of the rainforest occurs as small patches (<10 ha) but one patch is >100 ha (Russell-Smith 1991).</p> <p>Other: Large well-developed floating grass mats were formerly a feature of the billabongs of the Finnis and Reynolds Rivers, providing an important habitat refuge and source of food for a range of fauna in the dry season, especially crocodiles (Hill <i>et al.</i> 1987). However, the activities of feral water buffalo led to a dramatic loss of floating mats in these rivers. Their current status is not known.</p>
OTHER ENVIRONMENTAL VALUES		<p>The Finnis River floodplain and adjoining Fog Bay are proposed to be nominated by Birds Australia as an internationally-recognised <i>Important Bird Area</i> (G. Dutson in prep.) due to the occurrence of globally significant numbers of a number of waterbird and shorebird species.</p> <p>Two sites on the Finnis coastal floodplain are listed on the Register of the National Estate including: Finnis and Reynolds Rivers Floating Grass Mats and the Reynolds River/ Tabletop Range (Australian Heritage Council).</p> <p>The Finnis River supports a high density of Saltwater Crocodiles (Fukuda <i>et al.</i> 2007).</p> <p>Thirty five species recorded from this site are listed under international conventions or bilateral agreements protecting migratory animals.</p>
MANAGEMENT ISSUES		<p>Fire: In the period 1993-2004, 30% of the site was burnt in fewer than three years, and 27% was burnt in more than six years.</p> <p>Feral animals: The floodplain supports relatively high densities of feral water buffalo and pig and these are degrading floodplain vegetation communities (DIWA). The Cane Toad is common in the area and likely to be causing declines in Monitor populations.</p> <p>Weeds: Three Weeds of National Significance (<i>Mimosa pigra</i>, <i>Salvinia molesta</i>, <i>Hymenachne amplexicaulis</i>), one declared Category B weed (<i>Sida acuta</i>), and two undeclared but problematic environmental weeds (high priority weeds: Smith 2001) (<i>Crotalaria goreensis</i>, <i>Urochloa mutica</i>) are recorded from this site.</p> <p>Other: Parts of the floodplain have a relatively long history of pastoral/agricultural development and further development for agriculture may occur in the future (DIWA).</p> <p>All coastal areas in northern Australia are at risk of degradation from sea-level rise resulting from climate change (Hyder Consulting 2007).</p> <p>Further research and monitoring is needed to more fully assess the management issues affecting this site (G. Dutson in prep.).</p>
MANAGEMENT INFORMATION	NRM groups	White Eagle Aboriginal Corporation (Batchelor), Ngatpuk Rangers (Bulgul) (Northern Land Council 2006).
	Protected areas	The site is not included within the NT system of protected areas.
	Current management plans	<p>Site-specific plans: No information located.</p> <p>National recovery plans for threatened species: Partridge Pigeon and Masked Owl (Woinarski 2004a); Red Goshawk (Baker-Gabb in prep.).</p> <p>Other management plans: Australian Weeds Strategy (NRMCM 2007); Threat Abatement Plan for Predation, habitat degradation, competition and disease transmission by feral pigs (DEH 2005); FIREPLAN: Fire management for the savanna community (Russell-Smith <i>et al.</i> in prep.).</p>
	Monitoring programs and research projects	<p>Crocodile numbers have been monitored in the Finnis River in recent years (M. Letnic, University of Sydney, pers. comm.).</p> <p>Fire in the tropical savannas is mapped continuously under the North Australia Fire Information Project http://www.firenorth.org.au/nafi/app/init.jsp</p>
	Management recommendations	<p>Assist landholders and the community ranger group to survey conservation values and develop natural resource management programs (NRETA 2005).</p> <p>Provide financial and technical support to landholders and community ranger groups to undertake conservation management programs (NRETA 2005).</p>
KEY REFERENCES	Papers and reports	<p>Chatto, R. (2006). <i>The distribution and status of waterbirds around the coast and coastal wetlands of the Northern Territory</i>. Technical Report 76, Parks and Wildlife Commission of the Northern Territory, Palmerston. 254pp.</p> <p>Chatto, R. (2000a). <i>Waterbird breeding colonies in the Top End of the Northern Territory</i>. Technical Report 69, Parks and Wildlife Commission of the Northern Territory, Darwin. 159pp.</p> <p>DIWA (A Directory of Important Wetlands in Australia). <i>Australian Wetlands Database</i>. Department of Environment, Water, Heritage & the Arts, Canberra ACT (accessed February 2008).</p> <p>Hill, R., Webb, G.J.W. and Smith, A.M.A. (1987). Floating vegetation mats on a floodplain billabong in the Northern Territory of Australia. <i>Hydrobiologia</i> 150, 153-164.</p>
	Contributors	

APPENDIX E

Flora Species Profiles

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Threatened species of the Northern Territory

Clausena excavata

Conservation status

Australia: Critically Endangered

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Critically Endangered

Territory Parks and Wildlife Conservation Act 1976

Description

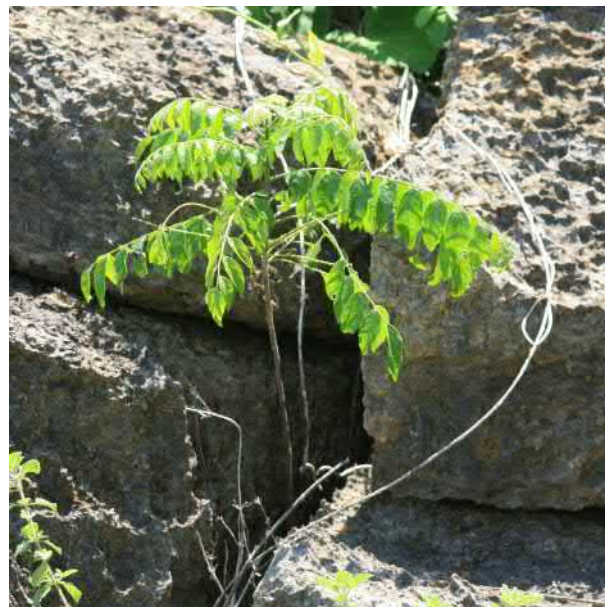
Clausena excavata grows as a slender shrub 1-4 m in height. Leaves are compound with approximately 10–30 leaflets. Leaflets ovate 3-6 cm long, ca. 1.5 cm wide, asymmetrical, finely hairy and aromatic with a distinctive aniseed or sarsaparilla smell. Plants can produce a compound inflorescence of pale green or cream coloured flowers in the leaf axils. Fruit are small, hairy, fleshy and are red at maturity.

Flowering: November (in cultivation).

Immature fruit: December.

Distribution

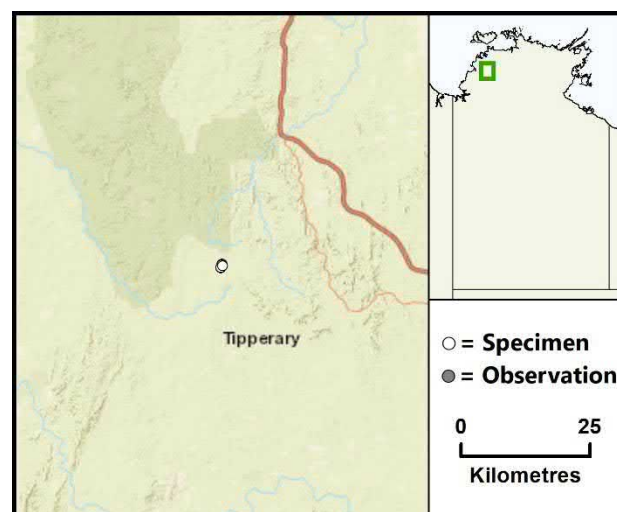
Clausena excavata occurs naturally on the Australian mainland with a highly restricted distribution in the NT¹. The species also occurs on Christmas Island where it is recently derived from plants introduced from Indonesia or Malaysia, is very different in origin to the native NT population and is considered an invasive weed. Outside of Australia, it occurs in Malesia and South East Asia, from the Ganges Delta in eastern India to southern China and Timor.



Credit: I.D. Cowie

Where *C. excavata* occurs in the NT, it is known from a small area located on Tipperary Station, and approximately 4-5 km north-west of Mt. Burrell, in the Daly Basin Bioregion. It has been recorded from only two sites approximately 0.5 km apart. The distribution is associated with the margins of dry vine thickets around limestone.

NT conservation reserves where reported: None.



Caption: Known locations of the *Clausena excavata* in the NT (nrmmaps.nt.gov.au)

Ecology

In the NT, *Clausena excavata* has been recorded from the exposed edges of two small monsoon vine thicket patches situated on limestone (karst) geology. One site consists of broken, outcropping limestone and the other is the perimeter of a limestone sinkhole.

In common with several other plants of monsoon vine thickets, this species may be facultatively deciduous during the Dry season to reduce water loss and stress over the long rainless period. The plant is a basal resprouter and has been observed to produce root suckers.

The plant is likely to rely on the protection from fire afforded by the limestone rock outcrops but may also require the higher light levels available at the forest edge.

Threatening processes

In the NT, *Clausena excavata* is known only from the Daly Basin, a region that is the focus of land-use intensification and agricultural development. This species is known from rocky limestone areas that are unlikely to be directly affected by land clearing in the Daly Basin. However, plants occur on the perimeter of the vine thicket community and as such are susceptible to edge effects, weed invasion, marginal attrition of the vine thicket patch through too frequent or intense fires, and land use activities (e.g. disturbance from stock) in the adjacent woodland vegetation. Physical disturbance to *C. excavata* plants from stock and feral pigs is a threat.

The major threat to *C. excavata* is incursion of Gamba Grass (*Andropogon gayanus*) and Mission grasses (*Cenchrus polystachios* and *C. pedicellatus*) into its ecotonal habitat. Gamba Grass is a high-biomass-producing introduced perennial grass species and is now established and common at the main site. A massive propagule source of Gamba Grass occurs in the large cleared paddocks to the south and satellite sites also occur sporadically in the intervening woodland. Gamba Grass forms taller, denser stands, curing later in the Dry season. This results in substantial changes to savanna fire regimes. It can

dramatically increase local fuel loads from the 2–4 t/ha typical for native grasses to 11–15 t/ha or sometimes even 30 t/ha for Gamba Grass resulting in later, more intense fires that can kill or reduce the vigour of tree species^{2,3}. Gamba Grass may also out-compete native woody species both by grossly altering the availability of nitrogen to native plant species and by using larger amounts of water than native grasses^{2,4}. The Mission grasses present a similar threat⁴.

Conservation objectives and management

Survey of other nearby limestone vine thicket vegetation for the presence of *C. excavata* is a priority, as is investigation into the size, extent and status of populations. A monitoring site should be established for this species at one or more of the known sites.

Adequate buffering from land use activities in the adjacent woodland vegetation is required. Judicious fire management is essential. Fire should be prevented from incurring into the limestone vine thicket community and ecotone from adjoining areas. Gamba Grass and other invasive weeds (especially perennial grasses) should be controlled and managed at the known sites to prevent the development of excessive fuel loads that will inevitably result in high intensity fires that pose a threat of loss or decline in the *C. excavata* stands.

References

- ¹ Little, D.T., Russell-Smith, J., Brock, J., Leach, G.J. and Connors, G.T. 1994. Atlas of the vascular rainforest plants of the Northern Territory. Flora of Australia Supplementary Series No. 3. (ABRS, Canberra.)
- ² Rossiter, N.A., Setterfield, S.A., Douglas, M.M., Hutley, L.B. and Cook, G.D. 2004. 'Exotic grass invasion in the tropical savannas of northern Australia: Ecosystem consequences', in *Proceedings of the 14th Australian Weeds Conference*, Eds. B.M. Sindel and S.B. Johnson. Weeds Society of New South Wales, Sydney, pp. 168–171.
- ³ Ferdinands, K., Setterfield, S.A., Douglas, M.M. and Barratt, J. 2006. Africanising the tropical woodlands: Canopy loss and tree death following gamba grass *Andropogon gayanus* invasion. In *Proceedings of the 15th Australian Weeds Conference*, Eds. C. Preston, J.H. Watts and N.D. Crossman. Weed Management Society of South Australia, Adelaide, p. 296.

⁴ Rossiter-Rachor, N. A., Setterfield S. A., Douglas, M. M., Hutley, L. B., Cook, G. D. and Schmidt, S. 2009. Invasive *Andropogon gayanus* (gamba grass) is an ecosystem transformer of nitrogen relations in Australian savanna. *Ecological Applications* 19(6): 1546-1560.

Threatened Species of the Northern Territory

Cycas armstrongii

Conservation status

Australia: Not listed

Northern Territory: Vulnerable



Photo: D.T. Liddle

Description

Cycas armstrongii is a medium-sized cycad up to 6 m tall with a slender trunk 6-12 cm in diameter. Branching occurs along with occasional offsets and basal suckers. Leaves form an obliquely erect to spreading crown. Each has 160-300 leaflets attached to the rachis at about 70° with a prominent midrib above.

Distribution

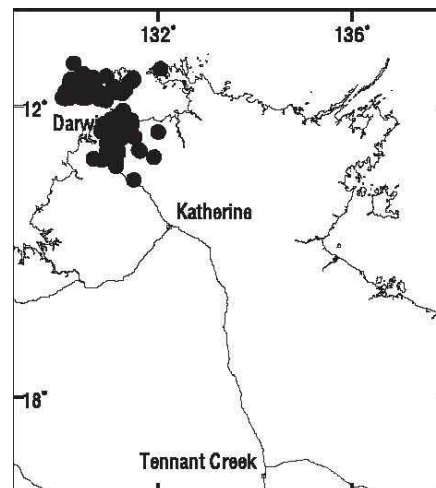
This species is endemic to the NT. It is known from Gunn Point to Hayes Creek, west to within 50 km of the coast and east to the Wildman River catchment, and also occurs on the Tiwi Islands and Cobourg Peninsula.

Conservation reserves where reported:

Berry Springs Nature Park, Blackmore River Conservation Reserve, Casuarina Coastal Reserve, Djukbinj National Park, Garig Gunak Barlu National Park, Holmes Jungle Nature Park, Howard Springs Nature Park, Howard Springs Hunting Reserve, Kakadu National Park, Litchfield National Park, Manton Dam Recreation Area.

Ecology

It occurs mainly in open grassy woodland on yellow and red earths, limited in the area by drainage.



Known locations of *Cycas armstrongii* (o = pre 1970; ● = post 1970).

Conservation assessment

This species is locally abundant, but has less than 1% of its population included in conservation reserves. Applying the precautionary principle, this species qualifies as **Vulnerable** (under criteria A4ce) based on a predicted >30% reduction in population size over a 100 year period (= <3 generations), commencing a decade ago (Liddle 2004).

Threatening processes

Land clearing due to the expansion of Darwin, rural residential living, horticulture, agriculture and forestry is a major threat to the species. Available habitat in and around Darwin and the Litchfield Shire has been reduced and further land clearing is expected as Darwin

expands. In particular, prime cycad habitat with deep loamy soil has been identified as land suitable for horticulture and agriculture. Substantial areas of prime habitat on the Tiwi Islands will be cleared for forestry.

In areas not subject to clearing, there is a major threat from the combined impact of introduced grasses and fire whereby increased fuel loads lead to increased mortality of adult stems and subsequent population decline (Liddle 2004). Mortality in excess of 50% of adult stems per fire event has been recorded when subject to fuel loads of 20 tonnes per hectare. While adult stem mortality is substantial with these high intensity fire events, many plants resprout from the base. Despite this capacity to resprout, a frequency of intense fire in excess of around 1 in 5 years is predicted to result in long-term population decline. Fires commonly occur more frequently than 1 in 5 years throughout the range of *Cycas armstrongii* and the occurrence of intense fire is set to increase as exotic grasses spread rapidly across the landscape (Kean and Price 2003). The exotic pasture species, Gamba Grass *Andropogon gayanus*, supports fuel loads up to 20 tonnes per hectare (Barrow 1995), and the exotic Perennial Mission Grass *Pennisetum polystachyon*, supports fuel loads up to 27 tonnes per hectare (Panton 1993), both far higher than the fuel loads of native grasses. These exotic species have the potential to extend over the full range of *C. armstrongii*. Fire also reduces seed viability in *C. armstrongii* (Liddle 2004).

Conservation objectives and management

A management program for this species, and other cycads, has been established (Anon 1997).

Reservation of high quality habitat, control of exotic grasses and fire management are

priority management requirements. Promotion of the value of cycad habitat through the economic returns gained by the sustainable use of this species may assist conservation of the species. A monitoring program for this species has been established, and should be maintained.

Compiled by

Raelee Kerrigan
Ian Cowie
Dave Liddle
[May 2006]

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Threatened species of the Northern Territory

Monochoria hastata

Conservation status

Australia: Not Listed

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Vulnerable

Territory Parks and Wildlife Conservation Act 1976



Credit: I.D. Cowie

Description

Monochoria hastata is an emergent aquatic herb with stems approximately 0.7-1.2 m long. The basal leaves are arrow-shaped. The inflorescence of 25-60 flowers is in a dense spike 6-9 cm long. The flowers are 13-16 mm long, purple or whitish. One anther is coloured blue, c. 6 mm long, the other 5 anthers are yellow and c. 4 mm long. The seed capsule is 7 mm long, and 5-6 mm diameter¹.

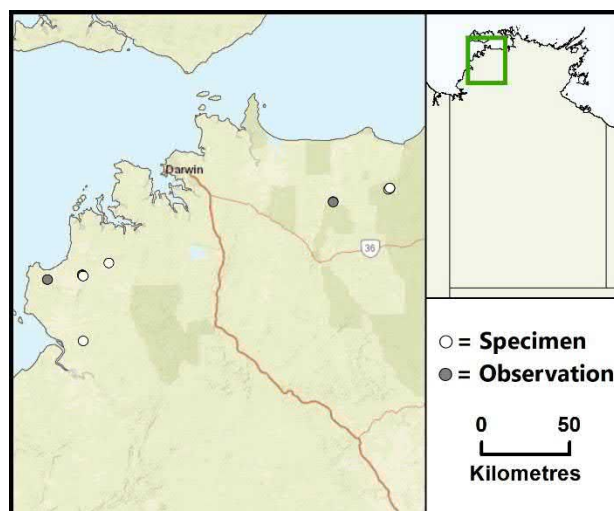
Flowering: March - June.

Fruiting: April - June.

Distribution

This species occurs in India, Sri Lanka and SE Asia, extending to New Guinea and Australia. In Australia, the only confirmed records are from the Northern Territory (NT), on floodplains of the Finniss-Little Finniss, Reynolds and Wildman Rivers. There is one observational record from the Mary River floodplain.

NT conservation reserves where reported:
Kakadu National Park.



Caption: Known locations of *Monochoria hastata* in the NT (nrmmaps.nt.gov.au)

Ecology

This species is recorded as a component of floating mat vegetation in both the Finniss and Reynolds Rivers. It also occurs on near-permanently wet back-swamps and drainage channels, and in permanent billabongs.



Caption: Leaf of *Monochoria hastata* (Credit: I.D. Cowie)

Threatening processes

Invasion by introduced plant species such as para grass (*Urochloa mutica*), *Hymenachne amplexicaulis* and *Mimosa pigra* appears to be the most immediate threat to this species. The Finnis, Reynolds and Mary river floodplains have all been heavily infested by *Mimosa pigra* including most localities supporting *M. hastata*. Intensive aerial and ground control of *Mimosa* is required on these floodplains to prevent their conversion to *Mimosa* dominated shrublands. Herbicides used to control *Mimosa* may also kill non-target species such as *Monochoria hastata*.

Saltwater intrusion of wetlands resulting from rising sea levels triggered by global warming or other factors is projected to result in a decline in the quality and extent of habitat. The Intergovernmental Panel on Climate Change predicted a 0.70 m rise in sea level by 2070 and this is expected to inundate 42 percent of Kakadu's freshwater wetlands with seawater. Over the past 20 years sea levels in northern Australia have been rising by around 10 mm per year and this has resulted in the incursion of salt water to what were previously freshwater

swetlands. As a floodplain species, changes to local hydrology due to erosion and sedimentation may also affect populations, although such changes are unpredictable.

The Wildman River site, when first discovered, had been extensively grazed by buffalo, and *Monochoria* individuals were found only in areas protected from buffalo activity. With the removal of animals from the area, the *Monochoria* population expanded and relatively large stands were observed in open water (J. Maddison *pers. comm.*). The same site was in 2003 considerably congested with the native grass *Leersia hexandra*, the only open water present is beneath a small stand of *Barringtonia acutangula* and the majority of the population is now growing interspersed with *Leersia*². This species is recorded overseas as being fed to cattle and used as a vegetable¹. As such, it may be grazed by feral animals in the area although no evidence of this was observed during recent survey.

Conservation objectives and management

Within Australia, this species has been recorded from only three floodplain localities. Floodplain habitats are a dynamic environment, often subject to natural fluctuations in abundance of individual species³. Research into the status, population dynamics and extent of distribution of this species is required. A monitoring program was previously established for the site within Kakadu National Park². Other sites have not been monitored or assessed for many years; survey is required to clarify whether they are still extant and the impacts of threats.

References

- ¹ Cowie, I.D., Short, P.S., and Osterkamp Madsen, M. 2000. *Floodplain Flora*. Flora of Australia Supplementary Series No. 10. (ABRS, Canberra/PWCNT, Darwin.)
- ² Kerrigan, R. 2003. *Kakadu Threatened Flora Report. Results of a threatened flora survey 2003*. (NT Department of Infrastructure Planning and Environment, Darwin.)
- ³ Wilson, B.A., Brocklehurst, P.S., and Whitehead, P.J. 1991. *Classification, distribution and environmental relationships of coastal floodplain vegetation, Northern Territory, Australia, March-May 1990*. Technical Report 91/2. (Conservation Commission of the Northern Territory, Darwin.)

Threatened Species of the Northern Territory



Photo: K. Brennan

Utricularia dunstaniae

Conservation status

Australia: Not listed

Northern Territory: Vulnerable

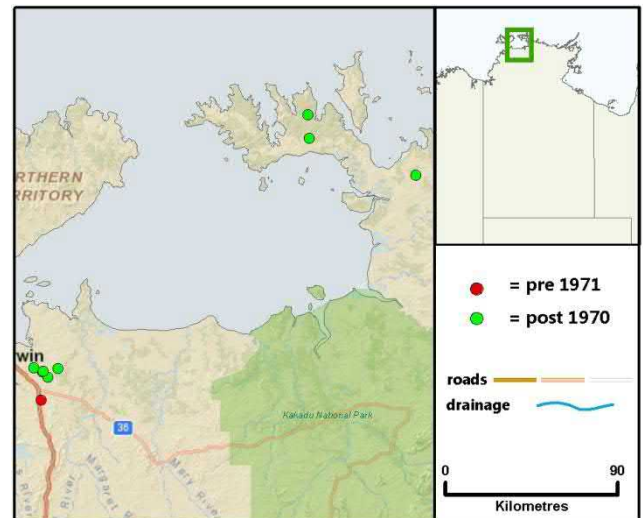
Description

Utricularia dunstaniae is a small, annual, terrestrial bladderwort. The inflorescence is erect, solitary, 6–15 cm. The flowers are apparently always solitary. The corolla is yellowish, the lower lobes two with erect filiform appendages 1.5–4 cm long.

Flowering: March–May.

Distribution

This species is an Australian endemic, known from Western Australia (in the Mitchell Plateau) and the Northern Territory (NT). In the NT, it is known from nine collections: these include a single collection from “near Jabiru at the foot of the Arnhem Land Escarpment” (Taylor 1989), one collection from “24 miles S of Darwin” (the McMinns Lagoon area) in 1965, three collections from the Howard River floodplain (including the type collection), and one collection from the Adelaide River floodplain. New subpopulations have recently been recorded from Cobourg Peninsula, near Murgellenella and near Finnis River.



Known locations of *Utricularia dunstaniae*

Conservation reserves where reported:

Garig Gunak Barlu National Park and Kakadu National Park.

Ecology

The species grows in wet sand, often in shallow water, in *Melaleuca nervosa* woodland or *Verticordia* shrubland. It occurs in slightly wetter micro-habitats than other sympatric *Utricularia* species, frequently where water is percolating from the ground. Populations appear to be small and very localised.

Conservation assessment

This species is currently known from only seven localities despite extensive surveys in the Darwin-Litchfield-western Kakadu area over the period 2000-3 (Cowie 2002; I. Cowie *unpubl. data*). In addition, a number of other *Utricularia*-specific surveys have been carried out in the NT (with Darwin Herbarium staff and the world authority on the group, P. Taylor). However, as apparently suitable habitat within the extent of occurrence remains unsurveyed, it is likely that additional, undiscovered subpopulations exist. On experience to date these are not likely to be numerous. Three populations are estimated to have around 50 individuals each. The '24 mile' population has not been relocated and is apparently locally extinct.

This species qualifies as **Vulnerable** (under criteria B2ab(iii); C2a(i), D1 + 2) based on:

- an estimated population size of <1 000 mature individuals;
- area of occupancy <2 000 km²;
- an inferred decline in area and extent and quality of habitat; and
- an inferred decline in numbers of mature individuals.

Threatening processes

Three of the seven known localities are susceptible to disturbance from sandmining, quadbike and motorbike activity, subdivision and potential changes to hydrology (Cowie 2002).

Sand sheets in the Howard River Floodplain have been identified as an extractive mineral resource and a very high proportion of this habitat is likely to be affected by sand mining (Price *et al.* 2005).

Conservation objectives and management

Habitat protection at the known localities is required to maintain the status of the species.

Research priorities are to:

- i. provide a more detailed assessment of its distribution, habitat requirements and population size; and
- ii. provide an assessment of the factors limiting distribution, and/or threats to its survival.

Further survey may yield additional populations. A monitoring program should be established.

Compiled by

Raelee Kerrigan

Ian Cowie

[updated December 2012]

References

- Cowie, I. (2002). *Preliminary report on a survey of Utricularia (Lentibulariaceae) in the Howard River-Shoal Bay area*. Unpublished report. (Parks and Wildlife Commission of the Northern Territory, Palmerston.)
- Price, O., Milne, D., and Tynan, C. (2005). Poor recovery of woody vegetation on sand and gravel mines in the Darwin region of the Northern Territory. *Ecological Management and Restoration* **6**, 118-123.
- Taylor, P. (1989). *The Genus Utricularia: a taxonomic monograph*. Kew Bulletin Series XIV. (Her Majesty's Stationery Office, London.)



Threatened Species of the Northern Territory



Photo: I. Cowie

Utricularia singeriana

Conservation status

Australia: Not listed

Northern Territory: Vulnerable

Description

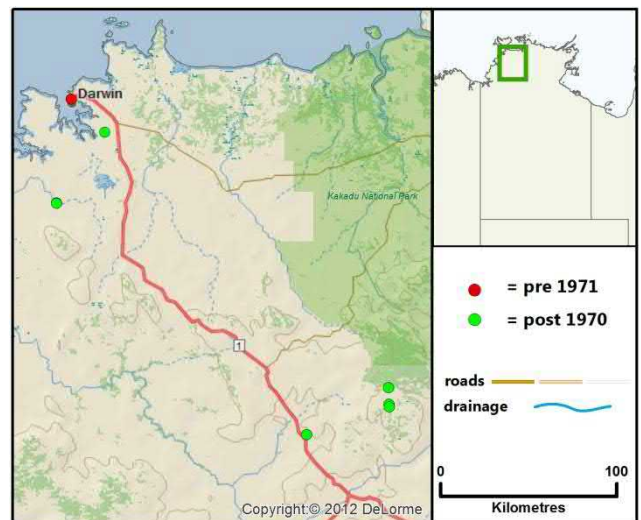
Utricularia singeriana is a small to medium-sized, terrestrial bladderwort. The inflorescence is erect, solitary, and simple. The flower is purple, the outer surface sometimes bronzed. The lower lip is 6-11 mm long, 17-19 mm wide, the upper lip is 9-12 mm long, with the lips held almost parallel to the ground. The spur similar in length to the lower lip and is held almost appressed to it.

Flowering: March to May.

Fruiting: May.

Distribution

This species is a Northern Territory (NT) endemic. It was previously regarded as occurring in Western Australia but recent research shows that the only Western Australian specimen was misidentified and the species is endemic to NT (Taylor, 1989; Cowie 2010). In the NT, it was recorded early last century from "four miles northeast of Port Darwin" and more recently from the Edith River area and Marrawal



Known locations of *Utricularia singeriana*

Plateau (Upper Fergusson River area). Additional subpopulations were located near the Finniss River in May 2010 and in the greater Darwin area in May 2011 (K. Brennan, *pers. comm.*; B. Stuckey *pers. comm.*).

Conservation reserves where reported:
Nitmiluk National Park.

Ecology

The species occurs on the margins of wet sandy flats and swamps with short relatively open grasses and sedges (C. Michell *pers. comm.*; Holtze 2011). Dominant associated plants include *Eriachne burkittii*, *Sorghum* spp., *Pseudopogonatherum* spp. and sedges.

Conservation assessment

This species is currently known from five NT localities with the Port Darwin population believed to be no longer in existence (Cowie, 2010). Anecdotal evidence from the locality near Edith River gives a population estimate in the hundreds, with several hundred individuals counted in Upper Fergusson River area of Nitmiluk National Park (C. Michell *pers. comm.*; R. Kerrigan & I. Cowie *unpubl. data*). It was estimated that over 15 000 plants existed in a c. 500 m x 20 m transect in the Darwin rural subpopulation (B. Stuckey *pers. comm.*). The Finnis River subpopulation extended over an area of c. 50 m x 5 m and consisted of a few dozen flowering stems (I. Cowie *unpubl. data*). The species was not located in surveys of *Utricularia*-rich habitat in the Darwin-Litchfield-western Kakadu area over the period 2000-3 (Cowie 2002; I. Cowie *unpubl. data*). In addition, a number of other *Utricularia*-specific surveys have been carried out in the NT (with Darwin Herbarium staff and the world authority on the group, P. Taylor). However, as much apparently suitable habitat within the extent of occurrence remains unsurveyed, it is likely that additional, undiscovered subpopulations exist. On experience to date, these are not likely to be numerous.

In the NT, the species qualifies as **Vulnerable** (under criteria B2ab(ii,iii,iv,v) + D2) based on:

- Area of occupancy <20 km²; and
- number of locations less than five; and
- continuing decline in area of occupancy, area, extent and or quality of habitat, number of locations or subpopulations, and number of mature individuals.

Threatening processes

The Darwin Rural subpopulation (by far the largest known) is within the area proposed for development for the new township of Weddell to the south of Darwin. Even if the species is not directly affected by the development, alterations to hydrology and weed invasion are highly likely to threaten this subpopulation in the longer term.

With a relatively small population size, small area of occupancy and restricted distribution the population is also susceptible to stochastic events. At other locations, the species may be affected by trampling by feral animals and changes in hydrology precipitated by erosion due to the affects of feral animals. While there was evidence of feral animal activity and erosion of the stream at Upper Fergusson River, the effect on *U. singeriana* was not clear.

Conservation objectives and management

Habitat protection at the known localities is required to maintain the status of the species.

Research priorities are to:

- i. provide a more detailed assessment of its distribution, habitat requirements and population size; and
- ii. provide an assessment of the factors limiting distribution, and/or threats to its survival.

Further survey may yield additional populations. A monitoring program should be established.

Compiled by

Ian Cowie

Raelee Kerrigan

[updated December 2012]

References

- Cowie, I. (2002). *Preliminary report on a survey of Utricularia (Lentibulariaceae) in the Howard River-Shoal Bay area*. Unpublished report. (Parks and Wildlife Commission of the Northern Territory, Palmerston.)
- Cowie, I.D. (2010). Notes on the identity, distribution and conservation status of the threatened plant species *Utricularia singeriana* F. Muell. (Lentibulariaceae). *The Beagle, Records of the Museum and Art Galleries of the Northern Territory* **26**, 119–121.

Taylor, P. (1989). *The Genus Utricularia: a taxonomic monograph*. Kew Bulletin Series XIV. (Her Majesty's Stationery Office, London.)

APPENDIX F

Annie and Leviathan Baseline Disturbance and Weed Survey Report (SLR
November 2021)

BASELINE DISTURBANCE AND WEED SURVEY REPORT

Leviathan and Annie Project Areas
Northern Territory

Prepared for:
Core Lithium Ltd
Level 1
366 King William Street
Adelaide South Australia 5000

SLR Ref: 680.30082.00000-R01
Version No: -v1.0
November 2021

SLR 

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Core Lithium Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
680.30082.00000-R01-v1.0	15 November 2021	Robin Birua	Julie McDowell	Paul Turyn

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APPENDICES

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Appendix B	Photographs Angers (ML29985)
Appendix C	Photographs Blatos (MLN813)
Appendix D	Photographs Saffums 1 (ML29912)
Appendix E	Photographs Annie (ML31654)

ABBREVIATIONS

CBD	Central Business District
ML	Mining Lease
NTG	Northern Territory Government
NT	Northern Territory
SLR	SLR Consulting Pty Ltd
WoNS	Weed of National Significance
WM Act	Weed Management Act

1 Introduction

SLR consulting Pty Ltd (SLR) was engaged by Core Lithium Ltd (Core Lithium) to undertake surveys to record the disturbance footprint and declared weeds currently present across the Leviathan and Annie project areas comprising:

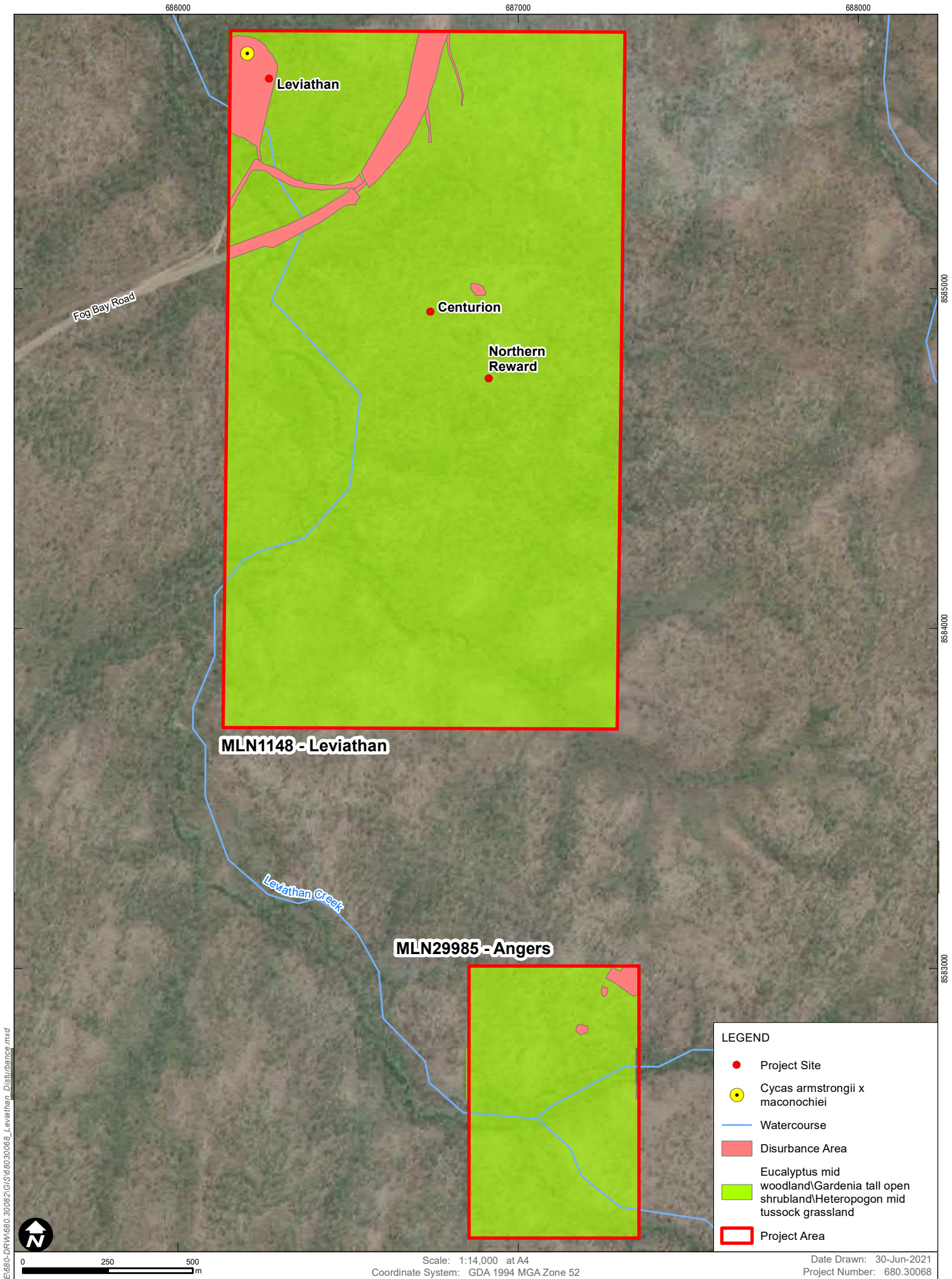
- Leviathan Project: Mining leases MLN1148 and ML29985; and
- Annie Project: Mining leases MLN813, ML29912 and ML31654.

The purpose of the surveys is to identify and document land previously disturbed by historical mining and exploration activities undertaken within the project areas that may have contributed to environmental degradation and map the presence of Northern Territory (NT) declared weeds across the project areas, prior to Core Lithium undertaking works within these areas.

The project areas are located approximately 95 km south of the Darwin Central Business District (CBD), NT. Table 1 outlines site specific details of the mining leases applicable to the Leviathan and Annie project areas. Locations of the sites within the Leviathan project area are shown in Figure 1 and the locations of the sites associated with the Annie Project area are included in Figure 2.

Table 1 Mining Leases Details

Mining Lease	Project Site Name(s)	Area (ha)
Leviathan Project Area		
MLN1148	Leviathan, Centurion, Northern Reward	237.675
ML29985	Angers	39.997
Annie Project Area		
MLN813	Bilatos	9.067
ML29912	Saffums 1	20.00
ML31654	Annie	80.025



LEGEND

- Project Site
- Cycas armstrongii x maconochiei
- Watercourse
- Disturbance Area
- Eucalyptus mid woodland/Gardenia tall open shrubland/Heteropogon mid tussock grassland
- Project Area

Date Drawn: 30-Jun-2021
Project Number: 680.30068



Scale: 1:14,000 at A4
Coordinate System: GDA 1994 MGA Zone 52

Data Source:
ESRI Basemaps



**LEVIATHAN PROJECT AREA -
DISTURBANCE FOOTPRINT**

FIGURE 1

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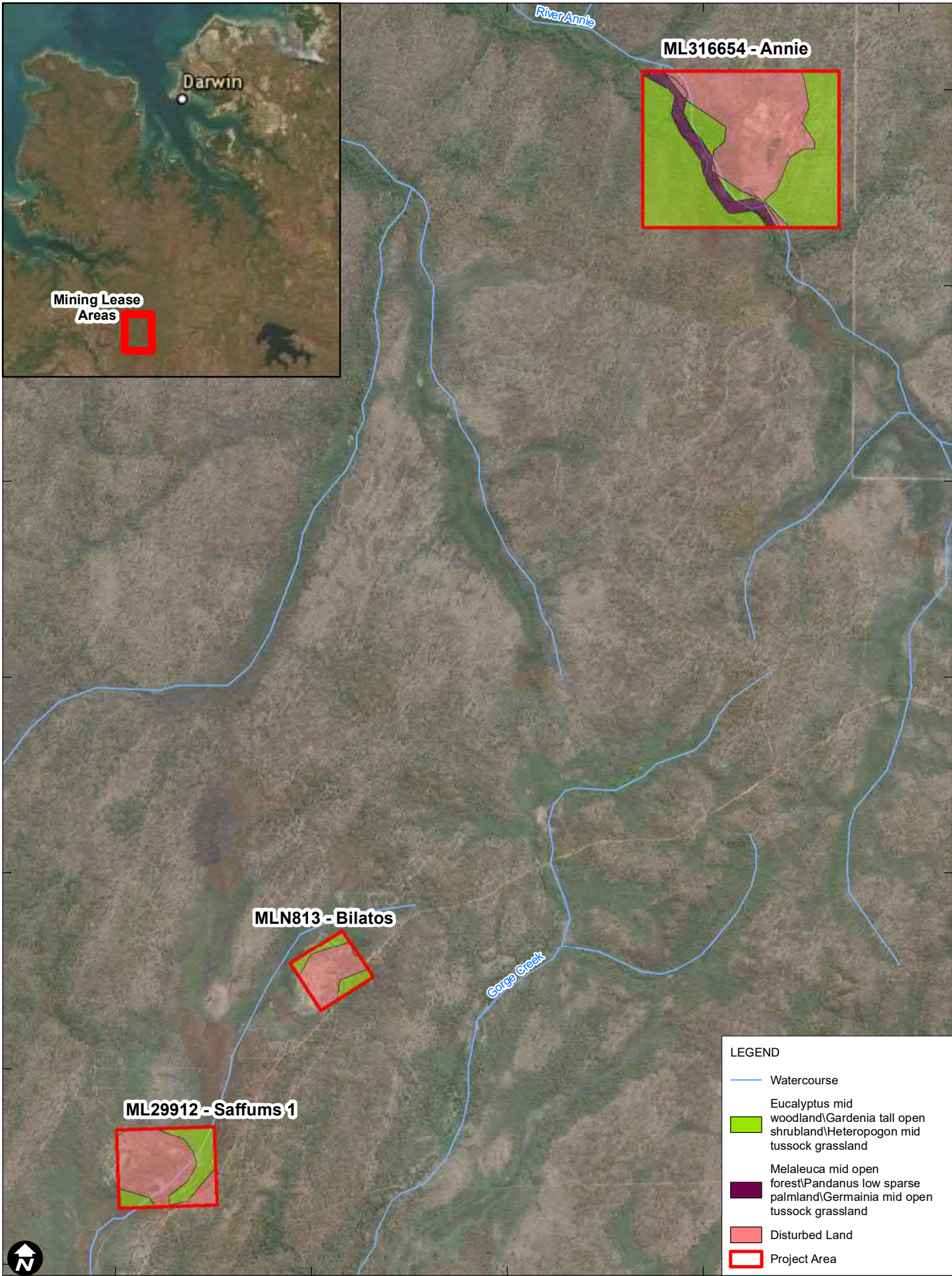
690000

691000

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693000

694000



8583000
8582000
8581000
8580000
8579000
8578000

Mining Lease Areas

Darwin

ML316654 - Annie






MLN813 - Bilatos

ML29912 - Saffums 1

River Annie

Gorge Creek

LEGEND

-  Watercourse
-  Eucalyptus mid woodland/Gardenia tall open shrubland/Heteropogon mid tussock grassland
-  Melaleuca mid open forest/Pandanus low sparse palmland/Germania mid open tussock grassland
-  Disturbed Land
-  Project Area



0 0.5 1 km

Scale: 1:25,000 at A4
Coordinate System: GDA 1994 MGA Zone 52

Date Drawn: 30-Jun-2021
Project Number: 680.30068



Data Source:
ESRI Basemaps

**ANNIE PROJECT AREA
DISTURBANCE FOOTPRINT**

FIGURE 2

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2 Survey Methodology

2.1 Disturbance Survey Methodology

Prior to conducting field inspections of the exploration sites within the Leviathan and Annie project areas, SLR conducted a review of the most current and publicly available aerial imagery (Nearmap 2005). The disturbed areas identified in the aerial images were recorded and then targeted during the field inspection to ground truth the nature and extent of disturbance noted.

The seven exploration sites located within the Leviathan and Annie project areas were inspected over a four-day period between 25 and 28 May 2021. During the field inspections, locations of disturbed areas including mining pits, dams, waste rock dumps, former test drill pits, access roads and abandoned mining equipment were georeferenced, and photographs were taken.

The exploration sites within the Annie project area were relatively accessible by road as the sites had been subject to prior mining land use. However, there was limited vehicle access to two of the exploration sites within the Leviathan project area - Bilatos and Angers, and therefore these sites were accessed by foot.

2.2 Weeds Survey Methodology

The seven exploration sites located within the Leviathan and Annie project areas were inspected over a four-day period between 25 and 28 May 2021. During the field inspections, the locations and relative density of weed species identified within the exploration sites were recorded. The weed species surveys were predominately focused on highly disturbed areas and other areas of the leases that could be safely accessed.

Weed species identified during the survey were recorded according to the NT Government's (NTG's) Northern Territory Weed Data Collection Manual (NTG 2015). The locations of the individual species were recorded with the following information.

- Location of identified weed species name and size of the weed patch (5, 20, 50 or 100 m).
- Relative density of the weed species identified including:
 - Absent, no weed of this species in this area
 - <1 %, very few, not many weeds
 - 1-10%, more than one or two isolated plants but not a lot
 - 10-50%, A lot, up to half the area covered, and
 - >50%, dominant cover is weed, more than half covered.

The details of weed species that were noted in the field but could not be immediately identified in the field by the surveyor were recorded and photographed and subsequently identified by SLR's suitably qualified senior ecologists.

3 Results

3.1 Leviathan Project Area

The Leviathan project area consists of the Leviathan mining lease MLN1148 and Angers mining lease ML29985.

The underlying landform of the Leviathan project area has been described as “Steep rocky hills, frequent rock outcrops, shallow sandy loams, loams with high gravel content” (SLR 2021a). The broadscale vegetation previously identified in the Leviathan project area consists of Eucalyptus mid woodland/Gardenia, tall open shrubland/Heteropogon mid tussock grassland with a road running through MLN1148 (SLR 2021a).

Figure 1 illustrates the location of the mining leases within the Leviathan project area, associated exploration sites and vegetation types.

3.1.1 MLN1148 - Leviathan

The Leviathan mining lease MLN1148 comprises of the Leviathan, Centurion and Northern Reward exploration sites. Field inspections of these exploration sites were conducted on 27 May 2021.

Leviathan Creek and associated tributaries traverses across the western portion of the Leviathan mining lease MLN1148, which enters the lease from in the northwest corner and exits at the southwest corner.

Site specific details of the disturbed land areas and weeds identified within the exploration sites associated with the Leviathan mining lease MLN1148, are provided in following sections.

3.1.1.1 Disturbance

The Leviathan exploration site is accessed via Fog Bay Road that traverses the northwest corner of the Leviathan mining lease MLN1148. A field inspection of the Leviathan exploration site was completed on 27 May 2021. Evidence of historical open cut mining was noted during the field inspection and included remnants of shallow pits, test trenches, shafts and scattered abandoned mining equipment in the northwest portion of the exploration site. Several waste rock dumps were also identified in the northwest corner. The Fog Bay Road bypass and associated stormwater drains were also identified during the field inspection. The remainder of the Leviathan exploration site did not appear to be disturbed by mining activities.

The Centurion exploration site is located further south on the Leviathan mining lease MLN1148, approximately 400 m south from Fog Bay Road. A field inspection of the Centurion exploration site was completed on 27 May 2021. At the time of the field inspection, the site was not accessible by vehicle and as such, the Centurion exploration site was found to be largely undisturbed. There were no historical mining pits identified at the site, however a shallow sump and a few test drill sites were noted.

The Northern Reward exploration site is located further south on the Leviathan mining lease MLN1148, approximately 700 m south from Fog Bay Road. A field inspection of the Northern Reward exploration site was completed on 27 May 2021. At the time of the field inspection, the site was not accessible by vehicle and as such, the Northern Reward exploration site was found to be largely undisturbed except for a few shallow former mining pits/shafts that were identified across the site.

The extent of disturbance noted during the field inspections of the three exploration sites are shown in Figure 1. Table 2 provides photographs of the types of disturbance encountered during the field inspections. Additional photographs of the disturbed areas are included in Appendix A (MLN1148).

Table 2 Examples of Disturbed Areas within the Leviathan Mining Lease MLN1148

Leviathan, Centurion, Northern Reward Exploration Sites	
	
<p>Photograph 1: Represents abandoned mining equipment recorded at the Leviathan exploration site</p>	<p>Photograph 2: Represents a former mining related disturbance at the Leviathan exploration site</p>
	
<p>Photograph 3: Represents a former test drill site at the Centurion exploration site</p>	<p>Photograph 4: Represents a narrow shaft at the Northern Reward exploration site</p>

3.1.1.2 Weeds

Weeds classified under the NTG’s Weed Management Act 2001 (WM Act) are to be managed in accordance with this Act. All owners, managers and occupiers of land, and all other land users in the NT must comply with the WM Act. Once the weed is declared in accordance with Section 7 of the WM Act, there is a requirement for all land holders, land managers and land users to comply with the declaration classification.

Weeds are classified according to the risk of harm they could cause and how difficult they are to control. There are three main categories of weeds defined in the NT under WM Act and are as follows.

- Class A – to be eradicated.
- Class B – Growth and spread to be controlled.
- Class C – Not to be introduced into the NT.

Note that all Class A and Class B weed species are also considered to be Class C and therefore should not be introduced into the NT. Where a statutory management plan is available, it is an offence not to comply.

Details of the declared weeds identified within the Leviathan mining lease MLN1148 are summarised in Table 3.

Table 3 Summary of weeds within the Leviathan Mining Lease MLN1148

Weed species	Biological Name	Class	WoNS
Leviathan – MLN1148			
Gamba grass	Andropogon gayanus	B	Yes
Mission grass (perennial)	Cenchrus polystachios	B	No
Hyptis	Hyptis suaveolens	B	No
Spiney Emex	Emex australis	B	No

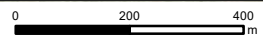
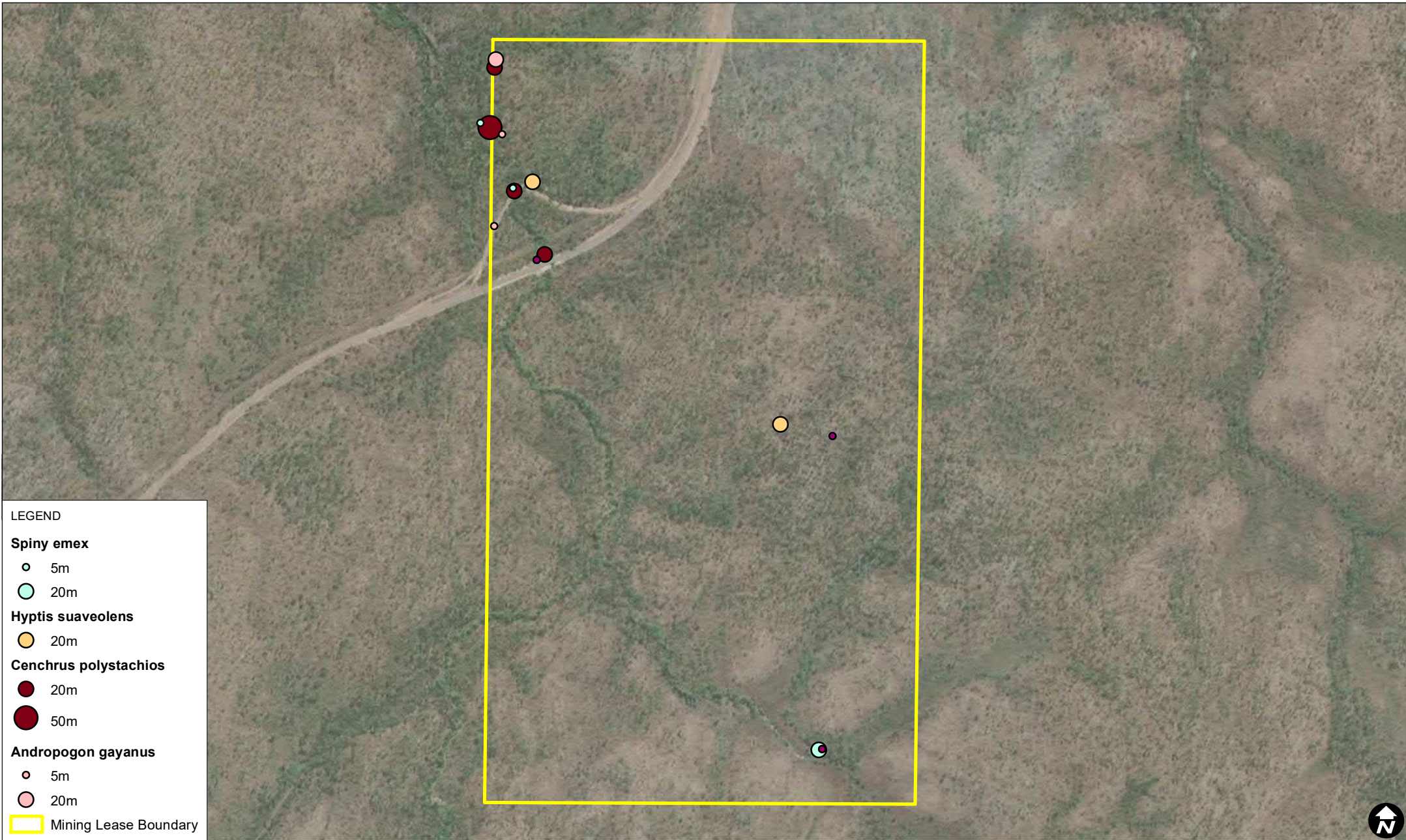
WoNS –Weed of National Significance

No Class A weeds were recorded within the Leviathan survey area; however, although Gamba grass (*Andropogon gayanus*) is classified as a Class B weed species in the Darwin region, elsewhere in the NT it is listed as a Class A weed species.

A total of four (4) Class B weed species were recorded within the survey area during the field inspection conducted on 27 May 2021, after the 2020-2021 wet season. Prior to the survey, a fire had occurred within the Leviathan exploration site and only those that were visible at the time of the field inspection were recorded.

The distribution of all weeds presented in Table 3 are mapped in Figure 3 with different types of weed species and associated density categories indicated by different colours and sizing, respectively.

Only one Weed of National Significant (WoNS) was recorded within the MLN1148 survey area. Gamba grass (*Andropogon gayanus*) is listed both as a Class B weed species and a WoNS. Gamba grass was mainly recorded in the northwest corner of the Leviathan exploration site, where the site was previously disturbed as a result of former exploration and resource extraction activities. Other weeds including perennial Mission grass (*Cenchrus polystachios*), Hyptis (*Hyptis suaveolens*), and Spiny Emex (*Emex australis*) were also recorded at smaller densities within the disturbed areas.



Scale: 1:13,250 at A4
 Coordinate System: GDA 1994 MGA Zone 52

Date Drawn: 14-Jul-2021
 Project Number: 680.30085



Data Source:
 ESRI Basemaps

**Core Lithium Weed Survey
 Leviathan (MLN1148)**

FIGURE 3

3.1.2 ML29985 - Angers

The Leviathan project area also includes the Angers mining lease ML29985. Field inspection of the exploration site within the Angers mining lease ML29985, was conducted on 28 May 2021.

The broadscale vegetation previously identified in this area consists of Eucalyptus mid woodland/Gardenia, tall open shrubland/Heteropogon mid tussock grassland (SLR, 2021a).

Figure 1 illustrates the vegetation types and location of the Angers mining lease ML29985 within the Leviathan project area.

The Leviathan Creek enters the Angers mining lease ML29985 from the western boundary, where it branches into two streams, one branch crossing the eastern boundary of the site, the other crossing near the site's south - eastern corner.

Site specific details of the disturbed land areas and weeds identified within the Angers mining lease ML29985, are provided in following sections.

3.1.2.1 Disturbance

It was noted during the inspection that the Angers mining lease ML29985 was largely undisturbed, although evidence associated with open cut mining were noted in the lease's northeast corner.

Several historical open cut mine sites including former shallow trenches/shafts, waste rock dumps and abandoned mining equipment were identified in the northeast corner of the lease area.

It should be noted that access to the southwest area of the Angers mining lease ML29985 could not be safely obtained and therefore was not inspected as part of this field program.

The extent of disturbances noted during the field inspection are shown in Figure 1. Table 4 provides photographs of the types of disturbance encountered during the field inspection. Additional photographs of the disturbed areas are included in Appendix B (ML29985).

Table 4 Examples of Disturbed Areas within the Angers Mining Lease ML29985

Angers Exploration Site	
	
<p>Photograph 5: Represents a former mining related disturbance at the Angers exploration site</p>	<p>Photograph 6: Represents a former mining cut face at the Angers exploration site</p>

3.1.2.2 Weeds

Details of the declared weeds identified within the Angers mining lease ML29985 are summarised in the Table 5.

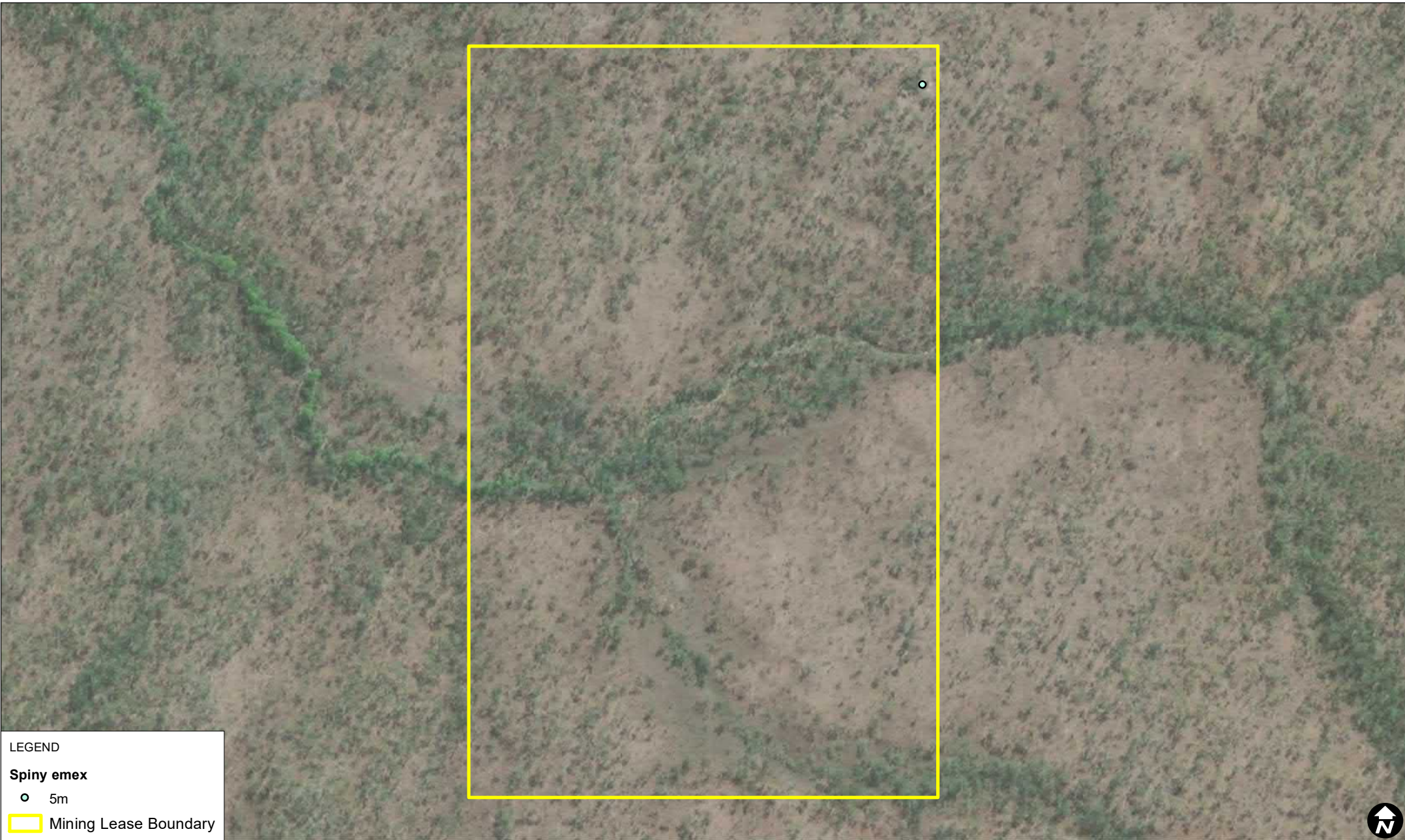
Table 5 Summary of the Weeds within the Angers Mining Lease ML29985

Weed species	Biological Name	Weed Class	WoNS
Angers – ML29985			
Spiny emex	Spiny australis	B	No

No Class A or WoNS classified weeds were recorded within the Angers survey area.

Only one (1) Class B weed species was recorded within the survey area. Spiny emex (*Emex australis*) was identified in the northeast corner of the Angers survey area, where the land was previously disturbed as a result of former exploration and resource extraction activities.

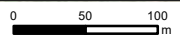
The distribution of all weeds presented in Table 5 are mapped in Figure 4 with different types of weed species and associated density categories indicated by different colours and sizing, respectively.



LEGEND

Spiny emex

- 5m
- ▭ Mining Lease Boundary



Scale: 1:5,250 at A4
Coordinate System: GDA 1994 MGA Zone 52

Date Drawn: 30-Jun-2021
Project Number: 680.30085



Data Source:
ESRI Basemaps

**Core Lithium Weed Survey
Angers (ML29985)**

FIGURE 4

3.2 Annie Project Area

The Annie project area consists of the Bilatos mining lease MLN813, Saffums 1 mining lease ML29912 and Annie mining lease ML31654.

The Annie project area is located within the Bynoe Harbour area.

The underlying landform of mining leases MLN813 (Bilatos) and ML29912 (Saffums 1) has been described as “Steep rocky hills, frequent rock outcrops, shallow sandy loams with high gravel content”. The landform underlying mining lease ML31654 (Annie) has been described as “Steep rocky hills, frequent rock outcrops, shallow sandy loams, loams with high gravel content, open forest, riparian/springs” (SLR 2021b).

The broadscale vegetation previously identified in the Annie project area consists of Eucalyptus mid woodland/Gardenia, tall open shrubland/Heteropogon mid tussock grassland. The Annie mining lease ML31654 also contains Melaleuca mid open forest/Pandanus low sparse palmland/Germainia mid open tussock grassland (SLR 2021b).

Figure 2 illustrates the location of the mining leases within the Annie project area, associated exploration sites and vegetation types.

3.2.1 MLN813 – Bilatos

The Bilatos mining lease MLN813 is located approximately 4.7 km southwest of Annie River. A field inspection of this mining lease was conducted on 26 May 2021.

A low-lying swampy area was identified to the north of the lease area.

Site specific details of the disturbed land areas and weeds identified within the exploration sites associated with the Bilatos mining lease MLN813, are provided in following sections.

3.2.1.1 Disturbance

A field inspection of the Bilatos mining lease MLN813 was conducted on 26 May 2021. The field inspection confirmed that the majority of the lease area had been disturbed by former exploration and resource extraction activities. An unsealed road traverses the mining lease area from northeast to southeast.

Two ponds were identified during the field inspection. One pond is in the centre of the mining lease area and the second is in the northern portion of the survey area. Both ponds are now water filled and likely to be associated with former resource extraction activities conducted within the lease. A number of test drill sites and waste rock dumps were also noted across the survey area.

The extent of disturbances noted during the field inspection are shown in Figure 2. Table 6 provides photographs of the types of disturbances encountered during the field inspection. Additional photographs of the disturbed areas are included in Appendix C (MLN813).

Table 6 Examples of Disturbed Areas within the Bilatos Mining Lease MLN813

Bilatos Exploration Site	
	
<p>Photograph 7: Pond located in the centre of the mining lease area</p>	<p>Photograph 8: Represents a test drill site located in the northern part of the mining lease area</p>
	
<p>Photograph 9: Represents abandoned mining equipment within the mining lease area</p>	<p>Photograph 10: Second pond located within the Bilatos mining lease area</p>

3.2.1.2 Weeds

Details of the declared weeds identified within the Bilatos mining lease MLN813 are summarised in Table 7.

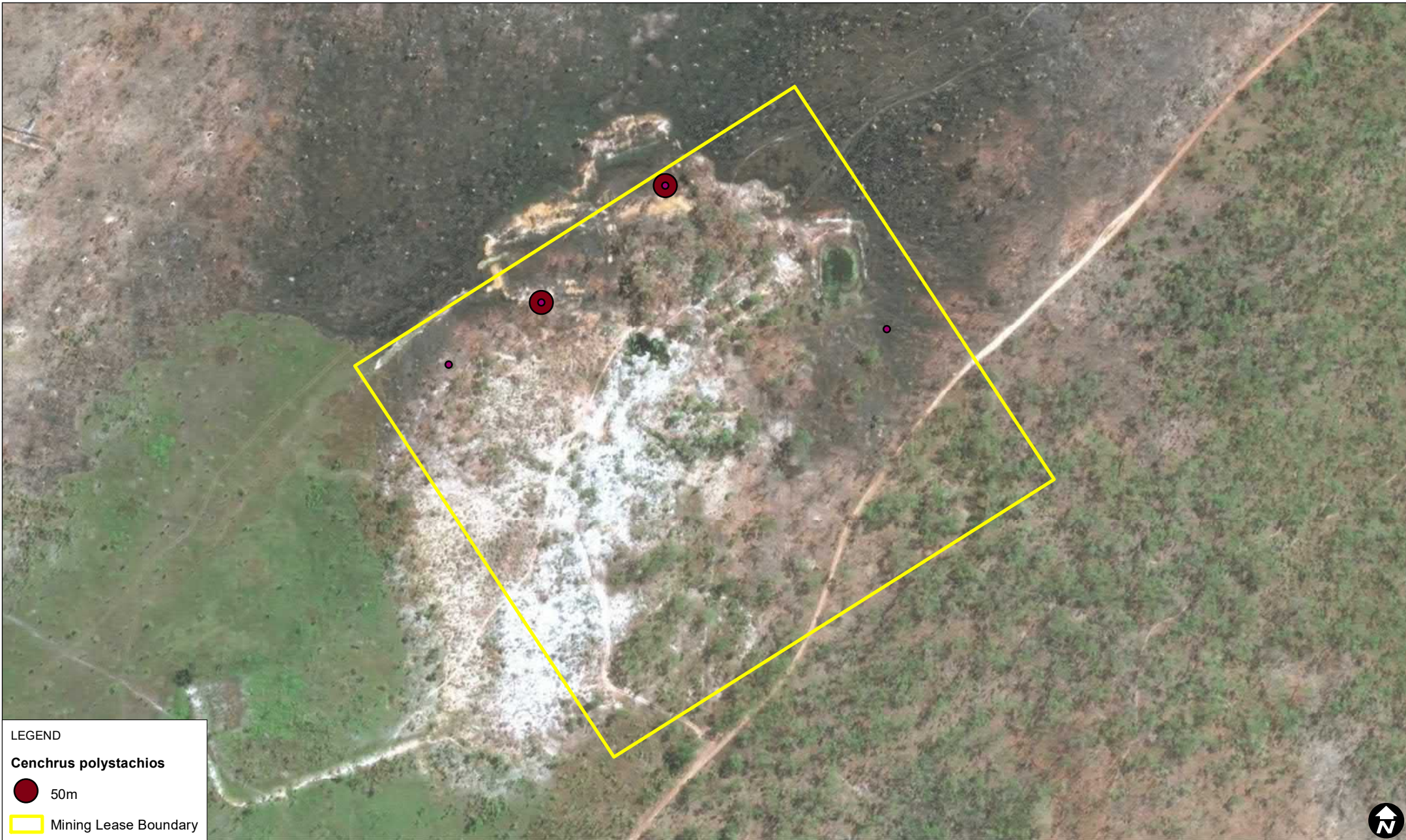
Table 7 Summary of the Weeds within Bilatos Mining Lease MLN813

Weed species	Biological Name	Weed Class	WoNS
Bilatos - MLN813			
Mission grass, Perennial	Cenchrus polystachios	B	No

No Class A or WoNS classified weeds were recorded within the Bilatos survey area.

Only one (1) Class B weed species was recorded within the survey area. The perennial Mission grass (*Cenchrus polystachios*) was identified in the northern and western portions of the Bilatos survey area, where the site was previously disturbed as a result of former exploration and resource extraction activities, including waste rock dumps.

The distribution of all weeds presented in Table 7 are mapped in Figure 5 with different types of weed species and associated density categories indicated by different colours and sizing, respectively.

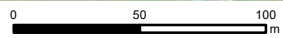


LEGEND

Cenchrus polystachios

● 50m

▭ Mining Lease Boundary



Scale: 1:3,000 at A4
 Coordinate System: GDA 1994 MGA Zone 52

Date Drawn: 01-Jul-2021
 Project Number: 680.30085



Data Source:
 ESRI Basemaps

**Core Lithium Weed Survey
 Bilatos (MLN813)**

FIGURE 5

3.2.2 ML29912 – Saffums 1

The Saffums 1 mining lease ML29912 is located approximately 3.5 km southwest of Annie River. A field inspection of this mining lease was conducted on 25 May 2021.

Site specific details of the disturbed land areas and weeds identified within the exploration sites associated with the Saffums 1 mining lease ML28812, are provided in following sections.

3.2.2.1 Disturbance

A field inspection of the Saffums 1 mining lease ML29912 was conducted on 25 May 2021. The field inspection confirmed that the majority of the lease area had been disturbed due to former exploration and resource extraction activities. An unsealed track traverse through the mining lease from south to west.

Two water bodies/ponds in the western and southern portions of the mining lease were identified during the field inspection and are likely to be the result of former extraction activities. Waste rock dumps were identified in the western, northern and south-eastern portions of the lease area.

A shed and abandoned mining equipment were identified in the northwest corner of the lease area.

The extent of disturbances noted during the field inspections are shown in Figure 2. Table 8 provides photographs of the types of disturbance encountered during the field inspection. Additional photographs of the disturbed areas are included in Appendix D (ML29912).

Table 8 Examples of Disturbed Areas within the Saffums 1 Mining Lease ML29912

Saffums 1 Exploration Site	
	
Photograph 11: Represents abandoned mining equipment at the Saffums 1 mining lease	Photograph 12: Example of a former mining pit at the Saffums 1 mining lease

3.2.2.2 Weeds

Details of the declared weeds identified within the Saffums 1 mining lease ML29912 are summarised in Table 9.

Table 9 Summary of weeds within Saffums 1 Mining Lease ML29912

Weed species	Biological Name	Weed class	WoNS
Saffums 1 - ML29912			
Mission grass, perennial	Cenchrus. polystachios	B	No
Gamba grass	Andropogon gayanus	B	Yes

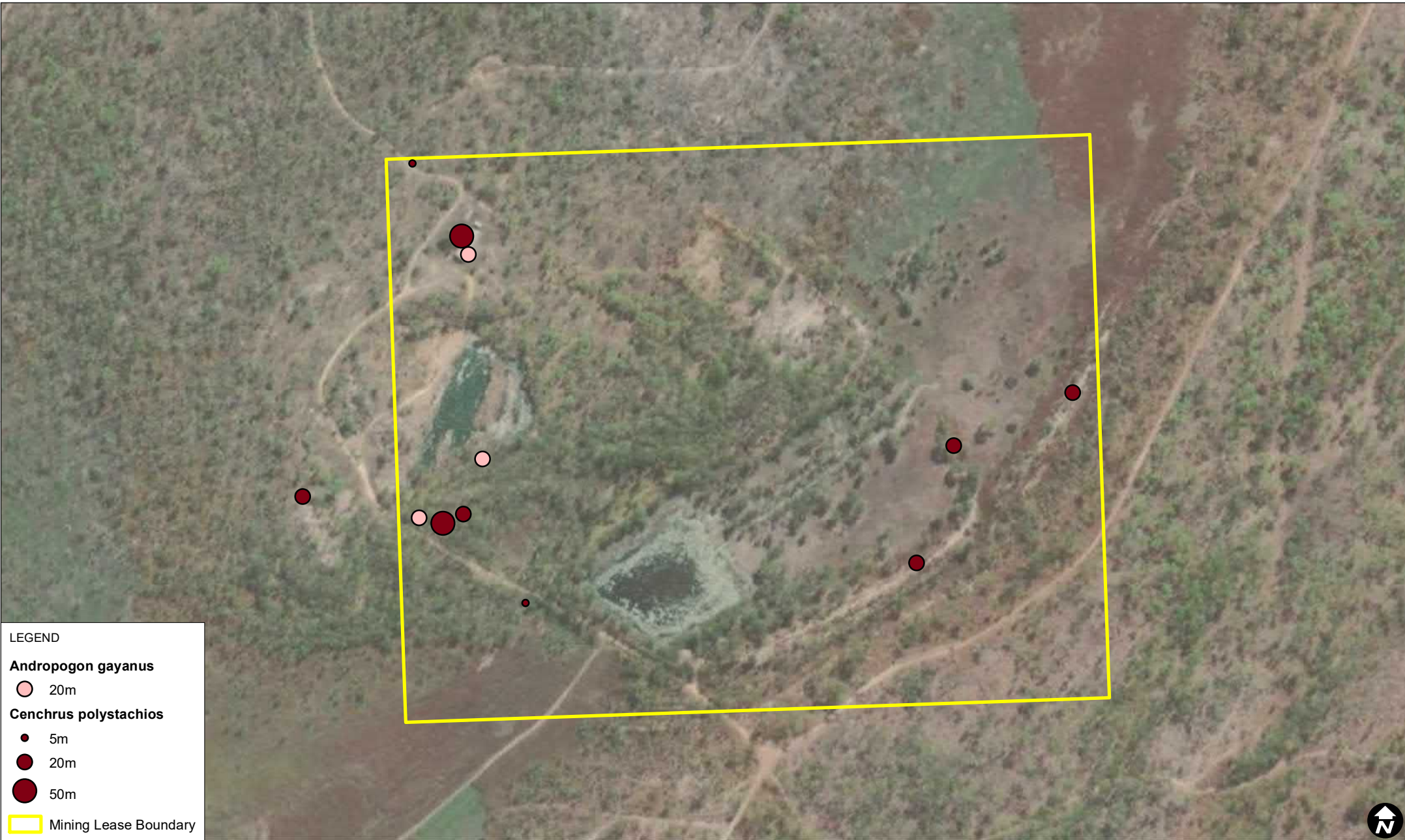
No Class A weeds were recorded within the Saffums 1 survey area; however, although Gamba grass (*Andropogon gayanus*) is classified as a Class B weed species in the Darwin region, elsewhere in the NT it is listed as a Class A weed species.

A total of two (2) Class B weed species (Gamba grass and Mission grass) were recorded within the Saffums 1 survey area during the field inspection conducted on 25 May 2021.

Low to medium densities (5 m to 50 m) of Mission grass (*Cenchrus polystachios*) were recorded in the eastern and western portions of the survey area, respectively.

The distribution of all weeds presented in Table 9 are mapped in Figure 6 with different types of weed species and associated density categories indicated by different colours and sizing, respectively.

Only one WoNS was recorded within the ML29912 survey area. Gamba grass (*Andropogon gayanus*) is listed both as a Class B weed species and a WoNS. Gamba grass was mainly recorded in the northwest corner and western portion of the survey area, where the site was previously disturbed as a result of former exploration and resource extraction activities.



Data Source:
ESRI Basemaps

**Core Lithium Weed Survey
Saffums 1 (ML29912)**

FIGURE 6

H:\Projects-SLR\680-DRW\680-DRW\680.30082.00000 Core Lithium Weeds and disturbance ins\06 SLR Data\01 CADGIS\GIS\SLR68030082_ML29912_01.mxd

3.2.3 ML31654 – Annie

The Annie River traverses through the Annie mining lease ML31654 in a southwest to northeast direction. A field inspection of this mining lease was conducted on 26 May 2021.

Site specific details of the disturbed land areas and weeds identified within the exploration sites associated with the Annie mining lease ML31654, are provided in following sections.

3.2.3.1 Disturbance



A field inspection of the Annie mining lease ML31654 was conducted on 26 May 2021. The field inspection confirmed that at least 50% of the lease area had been disturbed due to former exploration and resource extraction activities.

Two large water filled former mining pits/dams were identified within the mining lease area – one in the centre of the lease area, the second in the southern portion of the site (north of Annie River). Several waste rock dumps and mining face walls were also identified across the lease area. Large, abandoned mining equipment including a crusher, oil storage tank, steel drums and several tracks were also noted during the field inspection.

The extent of disturbance noted during the field inspections of the three exploration sites are shown in Figure 2. Table 10 provides photographs of the types of disturbance encountered during the field inspection. Additional photographs of the disturbed areas are included in Appendix E (ML31654).

Note that the southwest corner of the Annie mining lease area could not be safely accessed and therefore was not surveyed during the field inspection program.

Table 10 Examples of Disturbed Areas within Annie Mining Lease ML31654

Annie Exploration Site	
	
Photograph 13: Represents one of the two water filled mine pits/dams within the Annie mining lease	Photograph 14: Represents a waste rock dump within the Annie mining lease

3.2.3.2 Weeds

Details of the declared weeds identified within the Annie mining lease ML31654 are summarised in Table 11

Table 11 Summary of weeds within Annie Mining Lease ML31654

Weed species	Biological Name	Weed class	WoNS
Annie - ML31654			
Mission Grass, Perennial	Cenchrus polystachios	B	No
Gamba grass	Andropogon gayanus	B	Yes

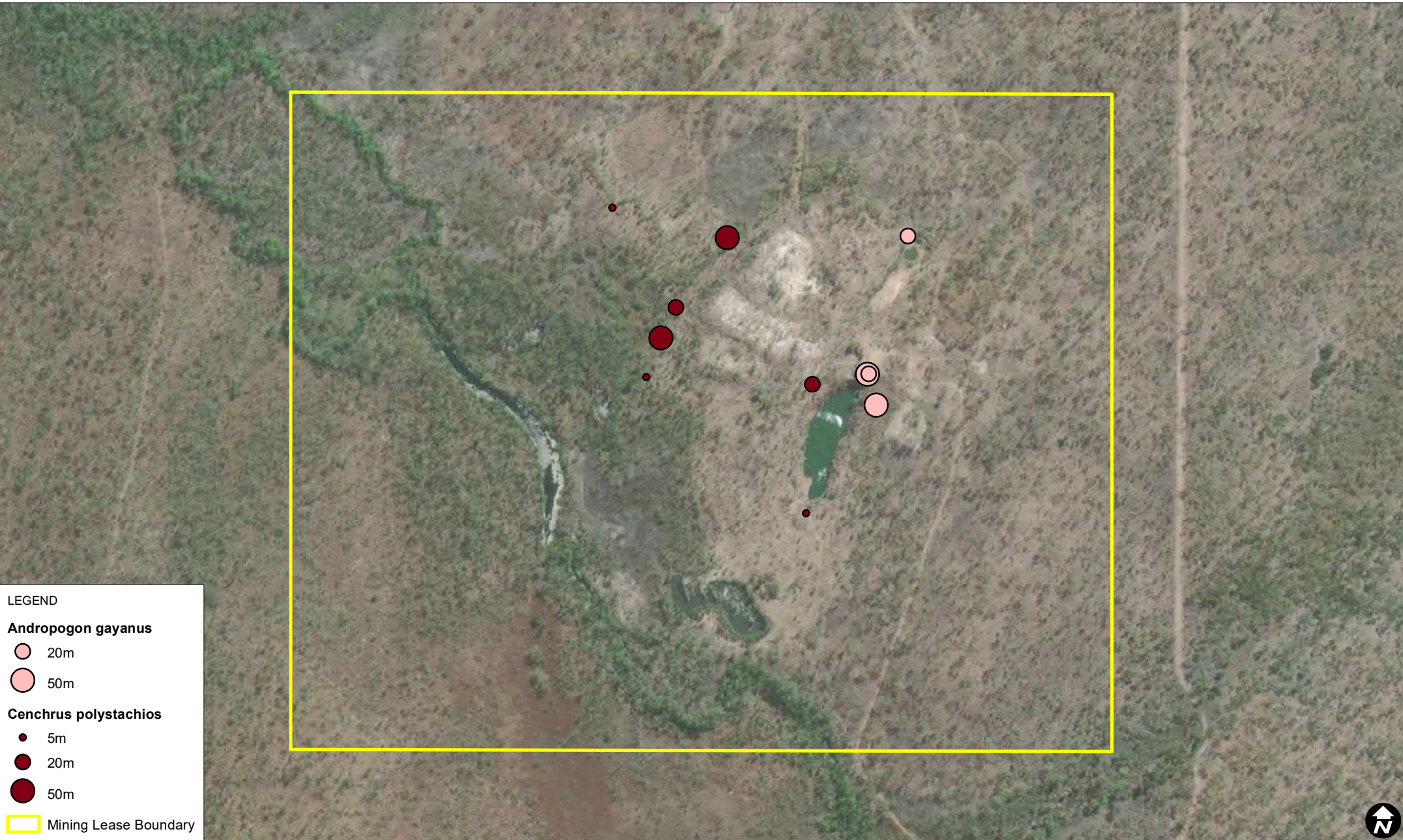
No Class A weeds were recorded within Annie survey area; however, although gamba grass (*Andropogon gayanus*) is classified as a Class B weed species in the Darwin region, elsewhere in the NT it is listed as a Class A weed species.

A total of two (2) Class B weed species (Gamba grass and Mission grass) were recorded within the Annie survey area during the field inspection conducted on 26 May 2021.

Two areas of medium densities (20 m and 50 m) of Gamba grass (*Andropogon gayanus*) were identified near the large water filled former mining pit/dam (centre) and in the northern portion of the survey areas. Two areas of medium densities (20 m and 50 m) of Mission grass (*Cenchrus polystachios*) were also identified in the centre and northern portion of the survey area. Both weed species were identified within areas that were previously disturbed as a result of former exploration and resource extraction activities.

The distribution of all weeds presented in Table 11 are mapped in Figure 7 with different types of weed species and associated density categories indicated by different colours and sizing, respectively.

Only one WoNS was recorded within the ML31654 survey area. Gamba grass (*Andropogon gayanus*) is listed both as a Class B weed species and a WoNS.



LEGEND

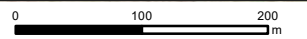
Andropogon gayanus

- 20m
- 50m

Cenchrus polystachios

- 5m
- 20m
- 50m

Mining Lease Boundary



Scale: 1:6,000 at A4
 Coordinate System: GDA 1994 MGA Zone 52

Date Drawn: 30-Jun-2021
 Project Number: 680.30085



H:\Projects-SLR\680-DRW\680-DRW\680.30082\00000 Core Lithium Weeds and disturbance ins\06 SLR Data\01 CAD\GIS\GIS\SLR68030082_ML31654_01.mxd

4 Summary

In general, the Leviathan and Annie project areas have been subjected to historical land uses (i.e. land clearing, mining activities and exploration activities) and consists of predominantly native vegetation with patches of introduced weed species.

The three mining leases (ML813, ML29912 and ML31654) located within the Annie Project Area were found to be largely disturbed as a result of former exploration and resource extraction activities. Disturbances to a lesser degree were also recorded in mining leases MLN1148 and ML29985 associated with the Leviathan project area. Disturbances identified were largely due to former mining activities conducted within these areas.

Four (4) declared weed species (*Andropogon gayanus*, *Cenchrus polystachios*, *Hyptis suaveolens*, and *Spiny australis*) were recorded within the project area(s) during the field inspection program. The majority of the declared weed species were restricted to the disturbed areas associated with former mining activities and along the road verges within the mining leases. Land disturbances including mining related land uses, are key factors in facilitating weed invasion within the project areas.

The survey identified one noxious weed (Gamba grass (*Andropogon gayanus*)), which has a high predicted threat level, based on its level impact, invasiveness, and rate of dispersal within the project areas. The control and management of key weed species is considered a high priority for any works conducted within the project areas.

5 References

Nearmap 2005. Nearmap Australia Pty Ltd. 1 January 2005. Fog Bay Road, Northern Territory, Australia. Accessed: 21 May 2021. <http://maps.au.nearmap.com/>

NTG 2015. Weed Management Branch, Northern Territory Government, (2015) Northern Territory Weed Data Collection Manual - Northern Territory Government of Australia, Darwin.

SLR 2021a. SLR Consulting Australia, (2021a), Terrestrial flora and fauna desktop assessment: Leviathan exploration area: MLN1148 and ML29985. Reference: 680.30068.R02-v2.0, April 2021.

SLR 2021b. SLR Consulting Australia, (2020b), Terrestrial flora and fauna desktop assessment: Annie exploration area: MLN813, ML29912, ML31654. Reference: 680.30068.R01-v2.0, April 2021.

APPENDIX A

Photographs – Leviathan (MLN1148)

Disturbed areas at the Leviathan Mining Lease MLN1148 (Leviathan, Centurion and Northern Reward exploration sites)



Photograph 1: Represents burnt grass to the north-western corner of the Leviathan site includes waste rock dumps.



Photograph 2: Represents the burnt area at the northern part of the Leviathan exploration site.



Photograph 3: Represents previous exploration site at the Leviathan exploration site



Photographs 4: Represents the waste rocks at the northern part of the Leviathan exploration site.

Disturbed areas at the Leviathan Mining Lease MLN1148 (Leviathan, Centurion and Northern Reward exploration sites)



Photograph 5: Represents abandoned mining equipment at the Leviathan site.



Photograph 6: Represents previous open cut mining pit and waste rocks dump.



Photograph 7: Represents previous mining pit at the Leviathan exploration site.



Photograph 8: Represents previous mining pit and waste rocks dump.

Disturbed areas at the Leviathan Mining Lease MLN1148 (Leviathan, Centurion and Northern Reward exploration sites)



Photograph 9: Represents abandoned mining equipment at the Leviathan exploration site



Photograph 10: Represents abandoned mining equipment at the Leviathan exploration site.



Photograph 11: Represents the waste rocks dump at the Leviathan exploration site



Photograph 12: Represents the waste rocks dump at the Leviathan exploration site

Disturbed areas at the Leviathan Mining Lease MLN1148 (Leviathan, Centurion and Northern Reward exploration sites)



Photograph 13: Represents waste rocks dump at the Leviathan exploration site.



Photograph 14: Represents previous mining site at the Leviathan exploration site.

Disturbed area at the Centurion exploration site



Photograph 15: Represents a sump at the Centurion exploration site



Photograph 16 : Represents a test drill site at the Centurion exploration site

Disturbed areas at the Leviathan Mining Lease MLN1148 (Leviathan, Centurion and Northern Reward exploration sites)



Photograph 17: Represents a shaft at the Northern Reward exploration site



Photograph 18: Represents an exploration site at the Northern Reward exploration site

APPENDIX B

Photographs – Angers (ML29985)



Photograph 1: Represents remnant of mining tools located to the northeast of the exploration site.



Photograph 2: Represents historical mine site located in the northeast of the exploration site



Photograph 3: Represents historical mine shaft site located in the northeast part of the exploration site



Photograph 4: Represents historical mine site located in the northern part of site



Photograph 5: Represents historical mine site (mining face) located to the northeast corner of the exploration site



Photograph 6: Represents historical mine site located to the northeast corner of the exploration site



Photograph 7: Represents represents previous exploration site at Angers



Photograph 8: Represents previous exploration site at Angers

APPENDIX C

Photographs – Bilatos (MLN813)

Disturbed area at the Bilatos Mining Lease – MLN813



Photograph 1: Represents abandoned mining equipment.



Photograph 2: Represents a disturbed area located slightly centre of the site



Photograph 3: Represents a submersed car in the water body



Photograph 4: Represents a water body located to the north of the exploration site.



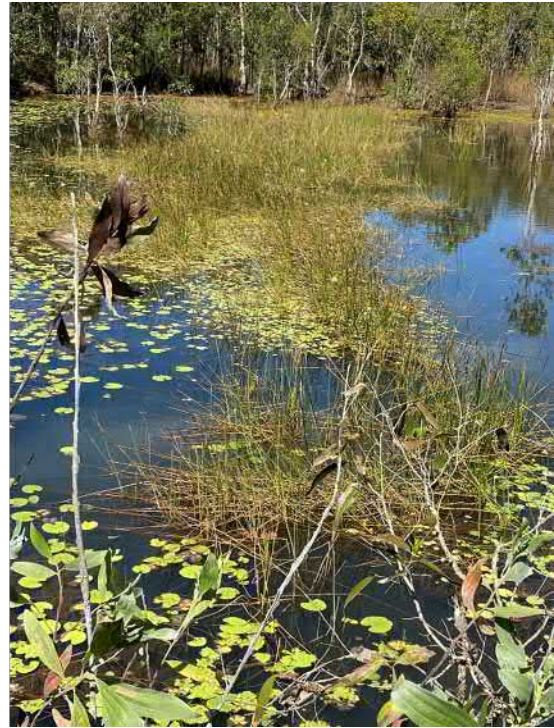
Photograph 5: Represents a waste rock dump located to the north of the exploration site

APPENDIX D

Photographs – Saffums 1 (ML29912)



Photograph 1: Represents previous test drilling site at the Saffums 1 exploration site



Photograph 2: Represents a dam located to the west of the exploration site



Photograph 3: Represents the concrete platform to the west of the exploration site



Photograph 4: Represents a dam located to the south of the exploration site



Photograph 5: Represents abandoned mining equipment



Photograph 6: Represents an abandoned mining equipment

APPENDIX E

Photographs – Annie (ML31654)

Disturbed areas within the Annie Mining Lease – ML31654



Photograph 1: Represents waste rock dump and abandoned mining equipment located at the northern part of the exploration site.



Photograph 2: Represents abandoned historical mining equipment and a fuel storage tank located at in the north of the site



Photograph 3: Represents a waste rock stockpile to the north of the exploration site



Photograph 4: Rusted and damaged steel drum.



Photographs 5: Represents abandoned mining equipment and plant



Photograph 6: Represents waste rock stockpiles



Photograph 7: Represents a water body in the southern part of the site



Photograph 8: Represents historical mining plant



Photograph 9: Represents a high ground access road to the north of the site

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