A Constraints Planning Assessment for Commonwealth *Environment Protection and Biodiversity Conservation* Act 1999 Matters (Threatened Species) on Lot 66 SP164474, Mission Beach

Natural Resource Assessments
ENVIRONMENTAL CONSULTANTS

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	This report presents the results of a constraints analysis (Flora and Fauna) of Lot 66 on SP164474 Mission Beach.

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1. Introduction

On 26 March 2008, Wolter Rowland Town Planning Group Pty Ltd (Wolter Rowland), acting on behalf of Willmatt Holdings Pty Ltd (the proponent), submitted a Referral (EPBC 2008/4257) to the Minister for the Environment, Heritage and the Arts (the Minister) for assessment under the Commonwealth *Environment Protection and Biodiversity Conservation* Act 1999 (EPBC Act). The proposed action described in the Referral was to subdivide the largely uncleared Lot 66 on SP164474 (24.46 ha) into forty residential lots. The proposed works were to include vegetation clearing, earthworks and the construction of new access roads and supporting infrastructure. The proposed Lot reconfiguration and preliminary development concept plan is provided in **Appendix A.** On 21 July 2008 the Minister notified the proponent that the proposed action was unacceptable due to potential threats to listed threatened species and communities. The basis for the decision was described in the Statement of Reasons dated 21 July 2008. In summary, the Minister concluded that several EPBC Act listed fauna and flora, including the Endangered Southern Cassowary (*Casuarius casuarius johnsonii*), were likely to occur in the vicinity of the Lot, and the proposed action would have unacceptable impacts on the Southern Cassowary. On 30 July 2008 the development proposal was withdrawn by the proponent.

The proponent is in the process of revising the proposed action (development plan). To assist with this process NRA Environmental Consultants (NRA) was contracted by Willmatt Holdings to collect information on threatened EPBC Act species within the Lot to support the design process. The scope of the assessment was to concentrate on issues associated with threatened plants and the Southern Cassowary (Cassowary). The agreed scope of works as detailed in NRA's proposal (dated 9 December 2008) is described below.

- Determine through field inspection the potential presence of threatened species listed under the EPBC Act with special attention to the Southern Cassowary and threatened plants.
- Identify important habitats and habitat features for identified threatened (EPBC Act) species with special attention to the Southern Cassowary and threatened plants.
- Report on the findings of the assessment in an opportunities/constraints format to support the development design process and preparation of a Referral (EPBC Act).
- Presentation of report findings (including meeting with Wolter Rowland and Willmatt Holdings).

2. Approach

2.1 Desktop Assessment

Desktop assessments involved database searches and reviews of relevant literature. Database searches were undertaken within a 10 × 10 km grid search centred on the study area (17.8436° S to 17.9339° S and 146.0242° E to 146.1179° E). The following databases were consulted.

- Department of Environment, Water, Heritage and the Arts (DEWHA) EPBC Act Protected Matters Search Tool
- Queensland Herbarium's HERBRECS database
- QPWS Wildlife Online database
- EPA regional ecosystem (RE) mapping
- Geoscience Australia geology mapping.

While a variety of literature was consulted during the preparation of this report the key documents were:

- NRA Environmental Consultants 2006. The Southern Cassowary (*Casuarius casuarius johnsonii*), review of Ecology, Values and Threats in the Wet Tropics Bioregion, Queensland. Report to the Department of Environment and Heritage, March 2006.
- Biotropica Australia Pty Ltd. 2008. Wongaling Creek Habitat Linkages. Report to Terrain NRM, June 2008.
- Latch, P. 2007. *National recovery plan for the southern cassowary Casuarius casuarius johnsonii.* Report to Department of the Environment, Water, Heritage and the Arts, Canberra. Environmental Protection Agency.
- EPBC Act Referral (EPBC 2008/4257). Reconfiguring of a Lot – one Lot into 40 (including six group title Lots plus common property, road and open space), Rockingham Close, Wongaling Beach, Queensland. 26 March 2008.
- Statement of Reasons – Residential Development, Rockingham Close, Wongaling Beach, Queensland (EPBC 2008/4257). Signed by Minister for the Environment, Heritage and the Arts (Peter Garrett), 21 July 2008.
- Sattler, P.S. and Williams, R.D. (eds) 1999. *The conservation status of Queensland's Bioregional ecosystems.* Environmental Protection Agency, Brisbane.

2.2 Field Assessment

2.2.1 Flora

A field flora assessment was conducted on 5 February 2009 by Stuart Worboys (consulting botanist). The survey was conducted after several days of heavy rain, which impeded access to some low-lying parts of the Lot.

RE mapping was verified at ten sites within the Lot comprising three tertiary and seven quaternary level assessments in accordance with Queensland Herbarium methodologies (Neldner *et al.* 2005). This formal assessment was enhanced by multiple general observations throughout the survey area. Data recorded at each tertiary site included:

- date and precise location (with reference to handheld GPS)
- soils observations

- ground-layer, mid-stratum and (where possible) canopy species composition and abundance
- structural characteristics
- condition and disturbance of existing vegetation communities (including distribution of weed species)
- photographs of the community.

Data recorded at each quaternary site was sufficient to identify the RE, and at minimum included collection of the following data:

- date and precise location (with reference to handheld GPS)
- ground-layer, mid-stratum and canopy species composition and abundance
- structural characteristics.

Specific effort was also devoted to searching for threatened plant species and their habitat as well as recording information on water courses, weeds and vegetation/habitat condition.

2.2.2 Fauna

A field fauna assessment was conducted by Peter Buosi (NRA) on 23 January, and 13 and 16 February 2009. The assessment involved targeted searches for threatened fauna and their habitat with specific effort devoted to the Cassowary. The principal survey task involved searching for Cassowary sign (scats, foot prints, sightings and vocalisations) along tracks within and immediately adjacent to the Lot and along Rockingham Close (shown on **Figure 1**). Searches were also made within areas of intact forest but such forays were usually short due to the very low number of sign encountered in such areas. Remote cameras (heat and movement sensors) were also deployed (13 to 16 February 2009) and general information on habitat condition and connectivity collected.

2.3 Analysis: Likelihood of Occurrence Assessments

A greater survey effort over different seasons and longer temporal and spatial scales is required to determine the presence of some threatened flora and fauna potentially occurring within the Lot. To help address this situation database searches, literature reviews and expert opinion were used in addition to field observations to determine the likelihood of threatened species occurring within the Lot. The criteria applied to this assessment are shown in **Table 1.**

Table 1: Criteria for species likelihood to occur in the Lot

Likelihood	Definition
Low	Either habitat does not exist for the species or the species no longer occurs in local area. Records from database searches may be historical, invalid or based on predictive habitat modelling.
Moderate	While habitat exists for the species it is either marginal, isolated and/or limited in extent. The species is known from the region as a result of recent database records and could potentially occur.
High	Recent information indicates the species is known to occur in the study area or nearby connected habitats and core habitat exists for the species.
Present	The species was recorded in the Lot during field surveys for the project.

3. Results

3.1 Overview

The Lot is a largely uncleared allotment located within the Innisfail Province of the Wet Tropics bioregion (Sattler and Williams 1999) approximately 500 m north of the Wongaling Beach Local Business District. The Lot is bisected by Rockingham Close with a few unsealed internal tracks located in the western portion of the site (**Figure 1**).

The Lot adjoins Tam O'Shanter National Park (part of the Wet Tropics World Heritage Area) to the west with residential areas (variable density) largely occupying areas to the north, south and east (**Figure 1**). Remnant forest of variable extent and integrity borders the northern, western and southern boundaries. Remnant forest along the eastern boundary is limited to a narrow (approximately 100 m wide) band of vegetation that is cut by the Tully-Mission Beach Road (**Figure 1**).

The Lot rises to approximately 80 m at its highest point in the west, dropping to <5 m adjacent to Tully-Mission Beach Road in the east. Slopes are relatively steep in the western half of the site (20-30%) grading to gentle and flat in the east (<5%). While drainage lines in the upper section (above Rockingham Close) of the Lot are probably seasonal, downstream sections may hold water well into the dry season. The north-eastern portion of the site (near to Tully-Mission Beach Road) probably maintains permanent water throughout most years.

Geological mapping (1:250 000, DME 1998) shows the western section of the Lot underlain by granites of Mesozoic age (Ogm: white to pale grey, medium to coarse-grained, moderately to highly porphytitic, biotite granite; minor fine-grained, biotite granite (mainly as dykes; with enclaves up to ~3 m), with intermixed Tertiary laterites (Tpf: Ferruginous laterite, ferricrete, minor bauxite). Quaternary alluvial deposits (Qa: Clay, mud, silt, sand, gravel, local coarse cobble and boulder deposits; mainly alluvial and minor colluvial deposits) are mapped over the eastern section of the allotment. These geological units correspond with Sattler and Williams' (1999) land zones 12 and 3 respectively (land zone identification is contained in the RE code, for example 7.12.1b + 7.3.10b, which are shown on **Figure 2** and discussed later in the report).

3.2 Flora

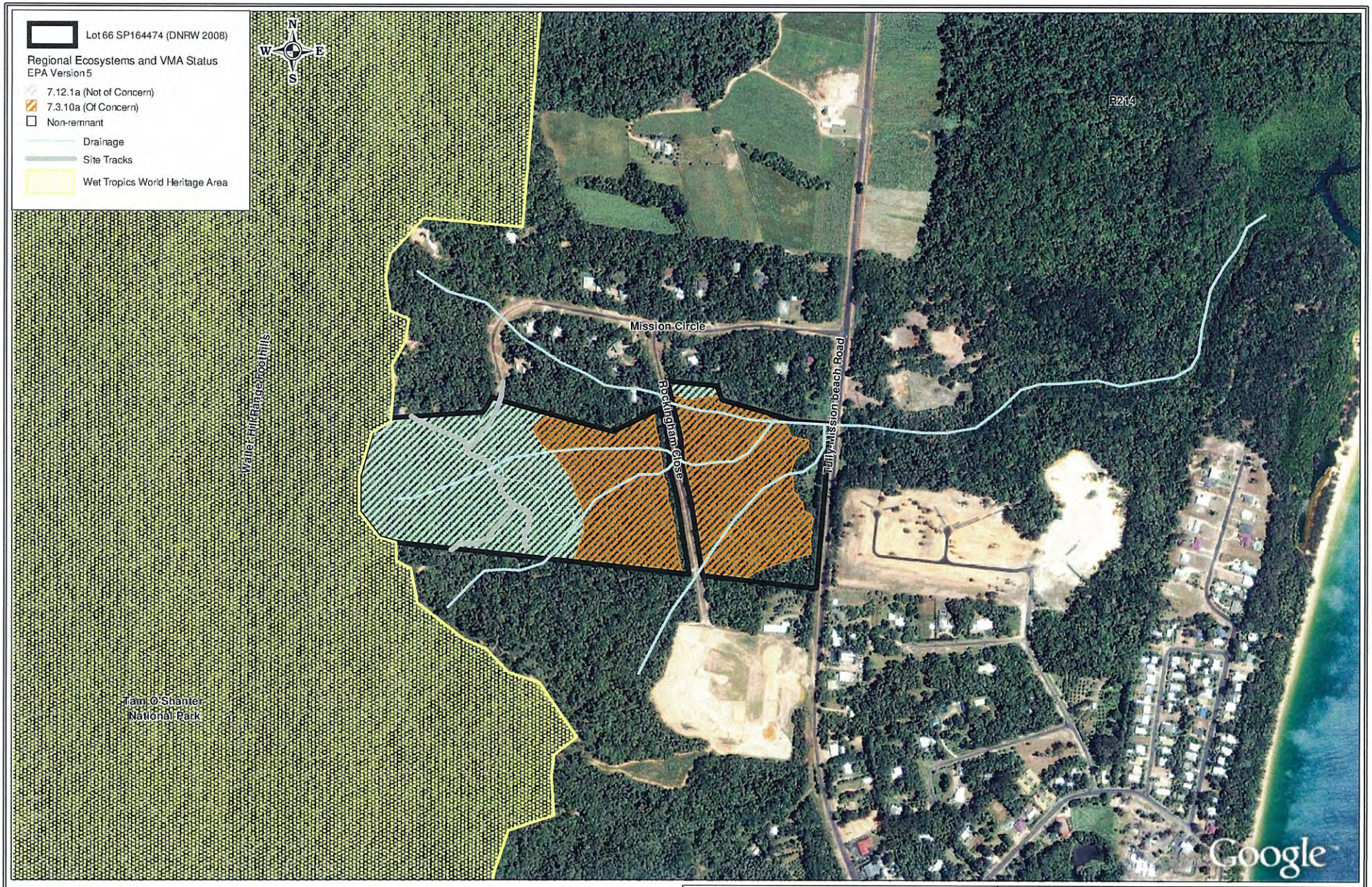
3.2.1 Introduction

Botanical names follow Bostock & Holland (2007) unless otherwise stated. Weed species are identified by an *.

3.2.2 Vegetation Communities / Regional Ecosystems / Ecological Communities

Description of Vegetation Communities

The Regional Ecosystems (REs) mapped by the Queensland Herbarium are vegetation communities which are consistently associated with a particular combination of geology, landform and soil (Sattler & Williams 1999). Each RE is defined by a three digit code (*eg* 7.12.1), where the first digit indicates the bioregion, the second digit indicates the land zone (*ie* geology, land form and soil), and the third indicates the vegetation association. A suffix added to the third digit indicates a distinctive vegetation community within the RE, or a proposed new RE (Neldner *et al.* 2005).



PROJECT: Rockingham Close Cassowary and Flora Assessment
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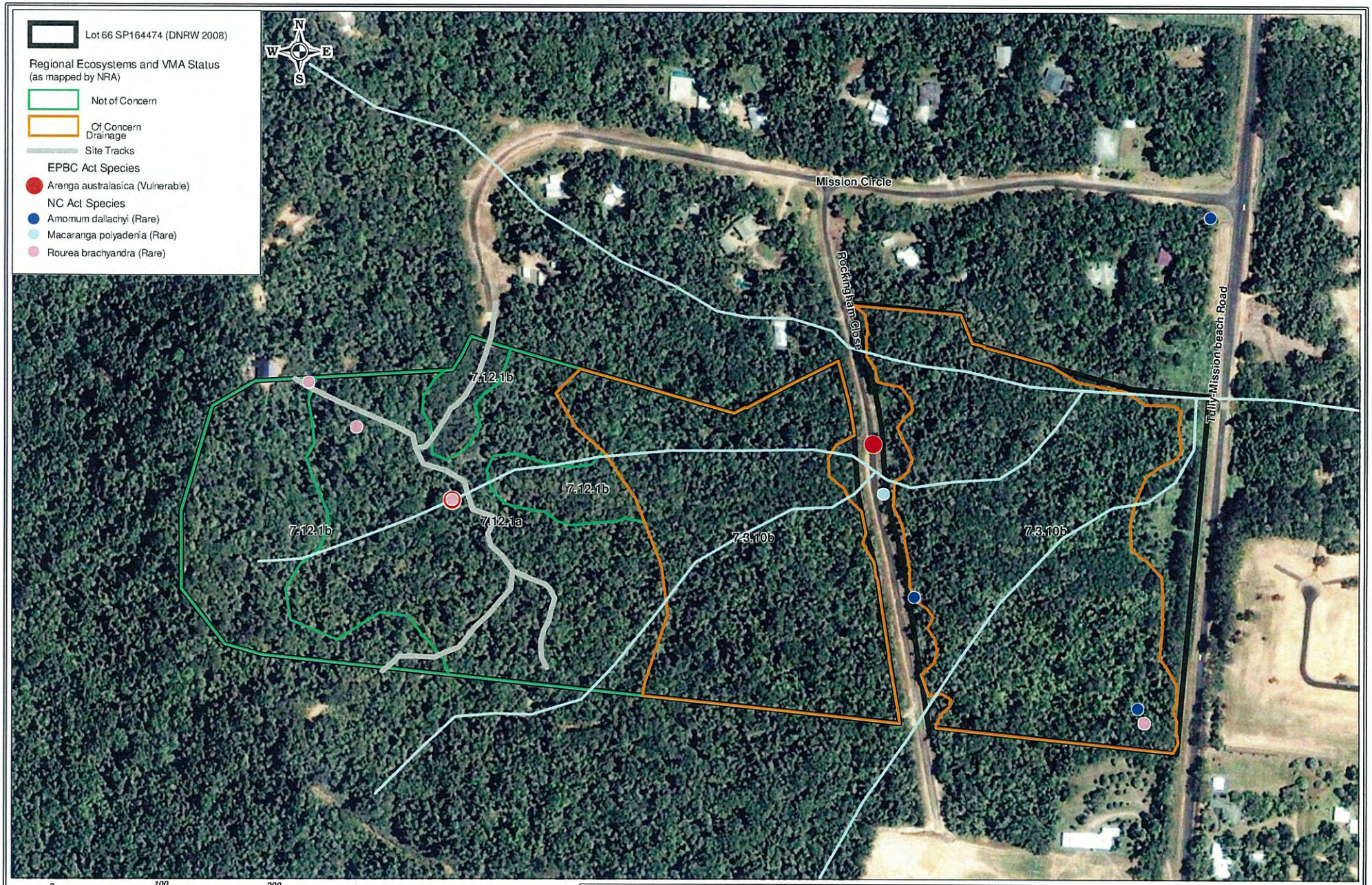
Figure 1

Recommended print size: A3



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