

**Response to submission comments
Dunmore Lakes Sand Project
Modification 2**

Prepared for Client Dunmore Sand & Soil Pty Ltd | 21 June 2019



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Glossary and list of abbreviations

Term or abbreviation	Definition
BAM	Biodiversity Assessment Methodology
BDAR	Biodiversity Development Assessment Report
BAM Calculator	Biodiversity Credit Calculator
BC Act	Biodiversity Conservation Act 2016 (NSW)
BOS	NSW Biodiversity Offsets Scheme
CEEC	Critically Endangered Ecological Community
DP&E	NSW Department of Planning and Environment
DNG	Derived Native Grassland
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
FM Act	Fisheries Management Act 1994
FFMP	Flora and Fauna Management Plan
ha	Hectare/s
IBRA	Interim Biogeographic Regionalisation for Australia
MNES	Matters of National Environmental Significance (from the Commonwealth Environment Protection and Biodiversity Conservation Act 1999).
m	Metre/s
m ²	Metres square
OEH	Office of Environment and Heritage (formerly DECCW, DECC, DEC)
PCT	Plant Community Type

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1. Introduction

1.1 Purpose of this report

This report addresses comments relating to terrestrial biodiversity from the NSW Planning and Environment (DPE), other agencies and members of the public in response to the public exhibition of the Environmental Assessment (EA) for Dunmore Lakes Sand Extraction Project – Modification 2.

Additional field survey at the proposal site was undertaken in response to submissions, with methodology and results provided in Section 3 of this report. It is noted that the OEH has recommended that an offset plan be prepared for the project; the proponent has requested that the preparation of the plan for the project be commenced, and will be circulated for comment subsequent to approval of the modification proposal.

2. Response to submissions

The DPE received 148 submissions from the general public and expert advice from eleven government agencies, Kiama Municipal Council and Shellharbour City Council.

Selected comments from government agencies and other parties relating to terrestrial biodiversity have been considered below. Many of the community submissions in relation to biodiversity were extracts from the submission made by Kiama Council, and provided commentary on the general ecological values in the area. Where there was consistency between agency comments and community comment, the latter have not been addressed separately to avoid duplication.

It is noted that OEH has not raised any concerns as to the methodology or the findings of the original report, and only sought further consideration as to the options available in relation to offsets, and recognises that an offset strategy must be in place prior to impact occurring.

It should be recognised that offsetting is only required for the proposed impact relating to Stage 5B; no offsets are required for Stage 5A or other project components. Boral therefore considers that satisfaction of the offset requirement should be stipulated as prior to clearing of the Stage 5B area rather than at project commencement. As the commencement of works for Stage 5B is some years off, a sufficient period of time will then be available post-approval for further detailed surveys to be conducted and land/offset negotiations made, if appropriate, to allow for a detailed offset strategy to be prepared.

Table 1: Summary of submissions and Niche response

Party	Submission issue	Response
Biodiversity impacts		
DPE	Please provide a Biodiversity Offset Strategy, prepared following consultation with OEH, which confirms if payment into the Biodiversity Conservation Fund is proposed.	It should be noted that it is not a requirement of the Biodiversity Assessment Method (OEH 2017) to outline what strategy would be used to satisfy the offset obligation for the project; however OEH has made this recommendation.
OEH	We recommend the proponent prepare a biodiversity offset strategy for submission at an early stage prior to determination of the modification. The strategy should outline how residual impacts will be offset in accordance with the Biodiversity Conservation Regulation 2017 and supporting guidance, including confirmation of whether payment into the Biodiversity Conservation Fund is proposed.	Boral confirms that its initial preference is for the Bangalay Sand Forest ecosystem credit offset obligation to be met through payment into the Biodiversity Conservation Fund. Verification of vegetation communities within the areas immediately surrounding Stage 5B, including the property at 79 Fig Hill Lane, has been conducted by Niche and EMM, confirming that the required area and type of vegetation for offsets is present over several separate landholdings.
OEH	We recommend that conditions of consent be imposed requiring retirement of the requisite ecosystem and species credits as outlined in the BDAR, to be secured prior to the impact occurring. Further advice on wording of conditions can be provided at a later stage in the project assessment.	However, the following timing and potential economic constraints do not enable commitment, to the establishment of a local offset site at this time: Consultation and agreement with DPE Division of Resource and Geoscience (DRG)) would be required as per their correspondence stating

Party	Submission issue	Response
		<i>"should any biodiversity offset measures become necessary, the Division requests early consultation to ensure there is no consequent reduction in access to prospective land for mineral exploration, or potential for sterilisation of mineral or extractive resources.";</i> • A process of negotiation would need to take place with relevant land owners, and the site values within the offset areas confirmed via further extensive surveys; • Establishment of a Stewardship Agreement would be required along with an agreed credit price. This process is projected to take approximately one year. There is no guarantee that a reasonable credit price can be negotiated at this stage. If local offsets are feasible, both economically and according to agreements made with DRG, and the respective landowners of the sites, Boral would select this option for the offset strategy; noting there may still be a necessity to pay into the fund should insufficient credits be available at those sites. If Boral must commit to a specific offset strategy at this time, then that strategy would be to meet the required offset obligation by payment into the NSW BCT biodiversity conservation fund.
Shellharbour City Council	The BDAR is also lacking Plant Community Type (PCT) vegetation mapping and assessment across each lot. This is required in order to assess the potential indirect impacts to adjacent vegetation and understand the value of the area potentially impacted in the context of the surrounding vegetation.	See Figure 9 of revised BDAR.
Shellharbour City Council	A site visit conducted on 17/05/19 identified 3 additional hollow bearing trees and 1 large stag that has not been identified in the BDAR. This was during a brief walk over part of the site and compared against mapping from the BDAR. Based on these findings, it is likely that more hollow bearing trees are located within the Stage 5B area and have not been accounted for in the BDAR. Further assessment is required and the BDAR numbers should be recalculated based on the updated data. The BDAR currently identifies 11 hollow bearing trees and 1 hollow stag	See updated Figure 8 and section 3.2 below.

Party	Submission issue	Response
	within vegetation proposed to be removed in the Stage 5B area.	
Kiama Council	There is strong anecdotal evidence that the White-bellied Sea Eagle observed to frequent the area adjacent to the site, does nest in the vegetation directly adjacent to the proposed 5B extraction area. This has not been identified through the current assessment, nor adequately dealt with in terms of the potential impact of the operation on the nesting site.	Surveys completed at the site, and its immediate surrounds, have not located any nest on the land and it is therefore considered highly unlikely that the White-Bellied Sea Eagle is using the site to nest. It is not disputed that the species could use the site, noting it has been observed flying at the edge of the site (though not nesting). See section 3.1. for updated survey details and mitigation measures.
Roads and Maritime Services (property)	The modification application does not acknowledge this valid development consent for a dwelling on the adjoining RMS land. Therefore, nor does it consider or attempt to mitigate the proposal's likely significant environmental, amenity and economic impacts on residential occupants and the land's biodiversity qualities. Until the proposal's potential impacts on 79 Fig Hill Lane Dunmore are identified, assessed and mitigated RMS Property objects to approval of the modification application.	Vegetation presently within the proposed 5B site provides limited buffering capacity to compensate for edge effect currently experienced by vegetation within the adjoining RMS land, due to a lack of canopy, midstorey and understorey vegetative cover. As such, the adjacent areas of RMS land have a relatively dense cover of <i>Lantana camara</i> and other weed species. Section 3.1.2 of the project BDAR, submitted as part of the EIS for the project, specifies mitigation measures relating to weed management on adjacent land: <i>"Existing protocols for monitoring of weeds and their management would be incorporated into the FFMP, with relevant practices adopted within vegetated areas adjacent to Area 5B. The purpose would be to ensure no increased weed incursions arise as a result of the modification occurring within adjacent vegetation. As the adjacent area to the west presently has a high density of weeds, this would likely result in overall weed reduction."</i>
DPI - Fisheries	As was identified in the EA there is potential for sediment laden floodwaters to impact on adjacent sensitive receiving aquatic habitats and waterways. We note that the proposed extraction areas will be located more than 100mm from adjacent sensitive key fish habitats; that the proponent has committed to expand the current surface water quality monitoring to include the new areas and plans; and the proponent plans to construct earth 'flood bunds' designed to contain floodwaters up to the 1% AEP.	The recommendation to increase the height of the bund has been accepted and incorporated into the project design.
Community comments	Concerns regarding White-bellied Sea Eagle habitat.	The BDAR recognises the presence of the species within the area. See response above and section 3.1 below.
	The BDAR states that no threatened flora will be impacted by the sand mining (p iv Niche	While it is not clearly understood whether this comment concerns consistency of language

Party	Submission issue	Response
	report App F) and yet 2 paragraphs earlier (piii Niche report App F) the report states that Endangered Ecological Community, being Bangalay sand forest in good to moderate condition will be removed. These statements are not compatible.	around condition of vegetation or threat status, it is noted that the use of the term 'threatened flora' within the report refers to individual species of plants listed as threatened under relevant legislation. Threatened communities are characteristic collections of plants and animals within the landscape, within which listed threatened flora may or may not occur. No threatened flora occur within the site including within areas of threatened communities.
Community comments	It is highly likely that many species may have been missed because of the short duration on the species survey.	The intention of the BDAR was not to catalogue each species present within the site, and it is not disputed that additional species are likely to occur within the site, in addition to those recorded. <u>The selected methods meet the requirements of the NSW Biodiversity Assessment Method.</u> There is a focus on identifying potentially occurring threatened species in order to address relevant legislation. A list of potentially occurring threatened species has been provided within the BDAR including those that were assumed present rather than detected during survey.
Community comments	Stage 5b is within the catchment area of the Minnamurra River and it associated coastal wetlands and class 1 (major) Key Fish Habitats; I feel as if this project will affect the fishing and surfing of this river and beach as it is a fragile ecosystem not to mention the tourism it brings to the area; I am worried about the effects it will have on local wildlife, marine life and habitats.	The predominant risk to aquatic habitats from the project are from water and sediment interaction between the project area and sensitive marine habitats. These risk and nature of these impacts along with measures to mitigate these risks have been assessed within the project's surface water and groundwater reports. Section 3.2.6 of the BDAR considers the findings of the abovementioned reports and the application to the Coastal Wetland SEPP. It is noted that the DPI Fisheries response to submissions recommended that the height of the proposed bund around the dredge ponds be raised to include 100mm of freeboard. This recommendation has been accepted and incorporated into the project design. DPI had no further recommendations and there was no objections regarding impacts to fish habitat given the suggested controls.

3. Additional survey and offsetting information

3.1 White-bellied Sea Eagle

Members of the public have raised their concern regarding these species nesting in close proximity to the impact area. In addition to surveys described within the BDAR, targeted White-Bellied Sea Eagle (WBSE) fauna survey was undertaken on the 28th of May and 31st of May 2019 in addition to the original survey effort described within the BDAR.

The summary of the surveys completed to date are as follows:

- 24 April 2018;
- 3 May 2018;
- 10 May 2018;
- 14-18 January 2019;
- 28 May 2019; and
- 31 May 2019.

During all of the survey events listed above, no WBSE nests were observed in or around the extraction area of 5B (i.e. within 50 m). The original survey was conducted within the described breeding time for the species (July to December). No nests were detected within the impact area at any time. WBSE nests are conspicuous and it is highly likely they would have been observed during survey if present within or directly adjacent to the proposed development site. Even outside of the breeding season a nest should be conspicuous providing a good view of the tree canopy is available (which was considered the case within the proposed site). It is therefore considered unlikely that any nesting of WBSE has recently occurred within the development area and immediate surrounds.

The WBSE prefers to nest close to large water-bodies which are the main sources of foraging habitat. Breeding habitat of the White-bellied Sea-eagle consists of mature tall open forest, tall woodland and swamp sclerophyll forest close to foraging habitat (OEH 2016). The White-bellied Sea-Eagle shows high fidelity to successful nesting trees and is very selective about nest site location, generally preferring sites near water with low disturbance (OEH 2016).

Nests are usually within sight of water, re-used and enlarged each year until they reach over 2 m in diameter (Morcombe and Stewart 2014). Nest trees are usually emergent, typically eucalypts and often have emergent dead branches (OEH 2016). Often a pair will use several nests randomly in rotation (Morcombe and Stewart 2014).

A pair of White-bellied Sea Eagles were observed and heard during both recent survey days in 2019, south of the 5B site, on adjoining land, in close proximity to the Minnamurra River. The birds were observed flying from riparian vegetation east of the site (approximately 200m) and roosting in Bangalay forest approximately 220 m south of the site (see Figure 10 of BDAR). Additional survey and mitigation measures are proposed for the species within section 3.3.

3.2 Hollow-bearing trees

There is no specific requirement to map hollow bearing trees under the BAM, however the hollow mapping was provided to assist in contextualising the overall impacts from the development. The number of hollows surveyed within BAM plots, which determine vegetation condition and offsetting requirements has been checked and confirmed as correct.

An error in merging two separate data sets post field work resulted in the number of hollows within the development area being under-reported; however this has not affected the offset requirement which remains correct. Hollow bearing trees have therefore been re-mapped, with the total number of hollow bearing trees identified being 38, and 4 hollow-bearing stags. In total, 100 hollows were observed within the identified hollow bearing trees.

BAM plots are used to generate offset requirements, however the number of hollows does not contribute to the overall vegetation integrity score – thus the error in hollow reporting did not influence the calculated offset requirement for ecosystem credits. Whilst hollow reporting was in error, the density of hollows was correctly described in various sections of the report:

Large remnant eucalypts still occur scattered throughout this community and provide a large amount of hollow resources for fauna; and

While much of the understorey and midstorey components have been removed some large remnant Bangalay (Eucalyptus botryoides) still remain and contain a large number of hollows.

The recalculation and mapping of hollows did increase the offset requirement for the two owl species assumed present within the site as per Table 1 below.

Table 2: Updated species credit offset requirement for forest owls

Species Credit Species	Original		Updated	
	Cleared habitat area	Credit requirement	Cleared habitat area	Credit requirement
Masked Owl	2.23	30	4.53	71
Barking Owl	2.23	30	4.53	71

3.3 Additional survey and mitigation measures

Given concerns regarding the occurrence and nesting of White-bellied Sea Eagle nesting within the 5B part of the site, (the latter which has been demonstrated as unlikely), additional measures are proposed to limit the potential impacts to breeding during the year/breeding season within which clearing is to occur. The 5B site will be surveyed prior to any tree clearing, to confirm the species is not actively breeding within, or immediately adjacent to (within 50 m) the site. Clearing of trees within the 5B site will take place outside of the WBSE breeding season if the species is recorded as nesting within the site prior to clearing (July to December).

In addition, further survey will be performed to more clearly demonstrate the suite of birds and mammals using hollow trees within the site as habitat prior to determination of the project. Survey will consist of diurnal/dusk hollow observations and targeted survey for forest owls. The results of the survey will be provided within an updated version of the BDAR. Any offset requirements will be adjusted according to survey results.

3.4 Vegetation and offset strategy

Additional vegetation surveys were undertaken to inform the Biodiversity Offset Strategy. A comprehensive assessment will be undertaken at a later stage if a local Biodiversity Stewardship Site is to be established. The vegetation mapping confirmed the presence of additional areas of Bangalay Sand Forest adjacent to

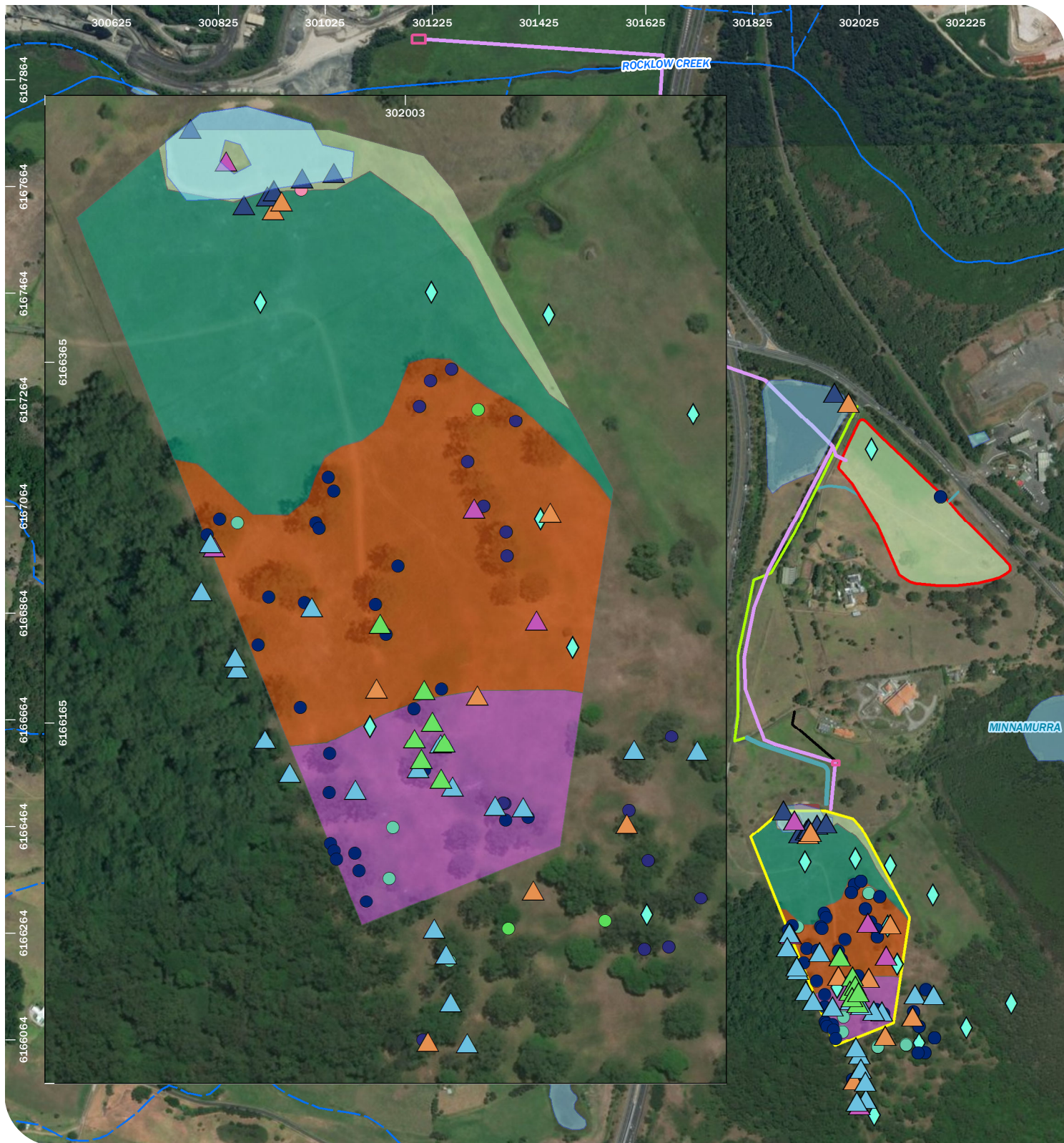
the proposed site on multiple properties. These areas were generally in better condition than areas within the proposal site, having better structural integrity and higher species richness of plants. There would be a potential for a gain in condition within the areas surveyed via weed management (e.g. Lantana, Cape Ivy and Asparagus Fern) and potentially feral animal management. Areas surveyed contained a similarly high density of hollow bearing Bangalay trees compared with the moderate and good condition parts of the site. Any local offset arrangements would be subject to further consultation with the resource regulator and respective landowners.

References

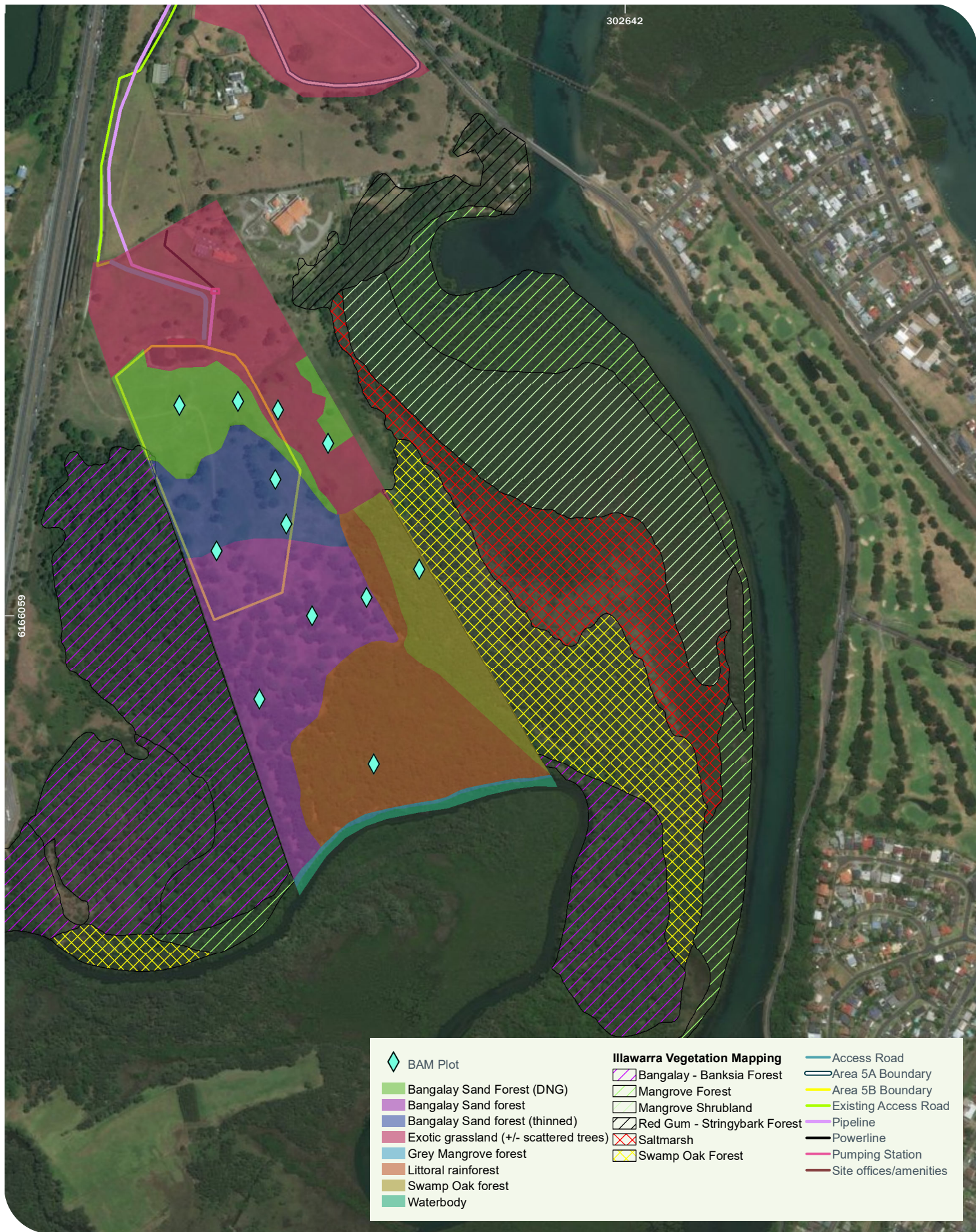
Morcombe and Stewart (2014). The Morcombe & Stewart Guide to Birds of Australia.

OEH (2016). White-bellied sea-eagle (*Haliaeetus leucogaster*) - vulnerable species listing. NSW Office of Environment and Heritage.

Updated Figures (BDAR)



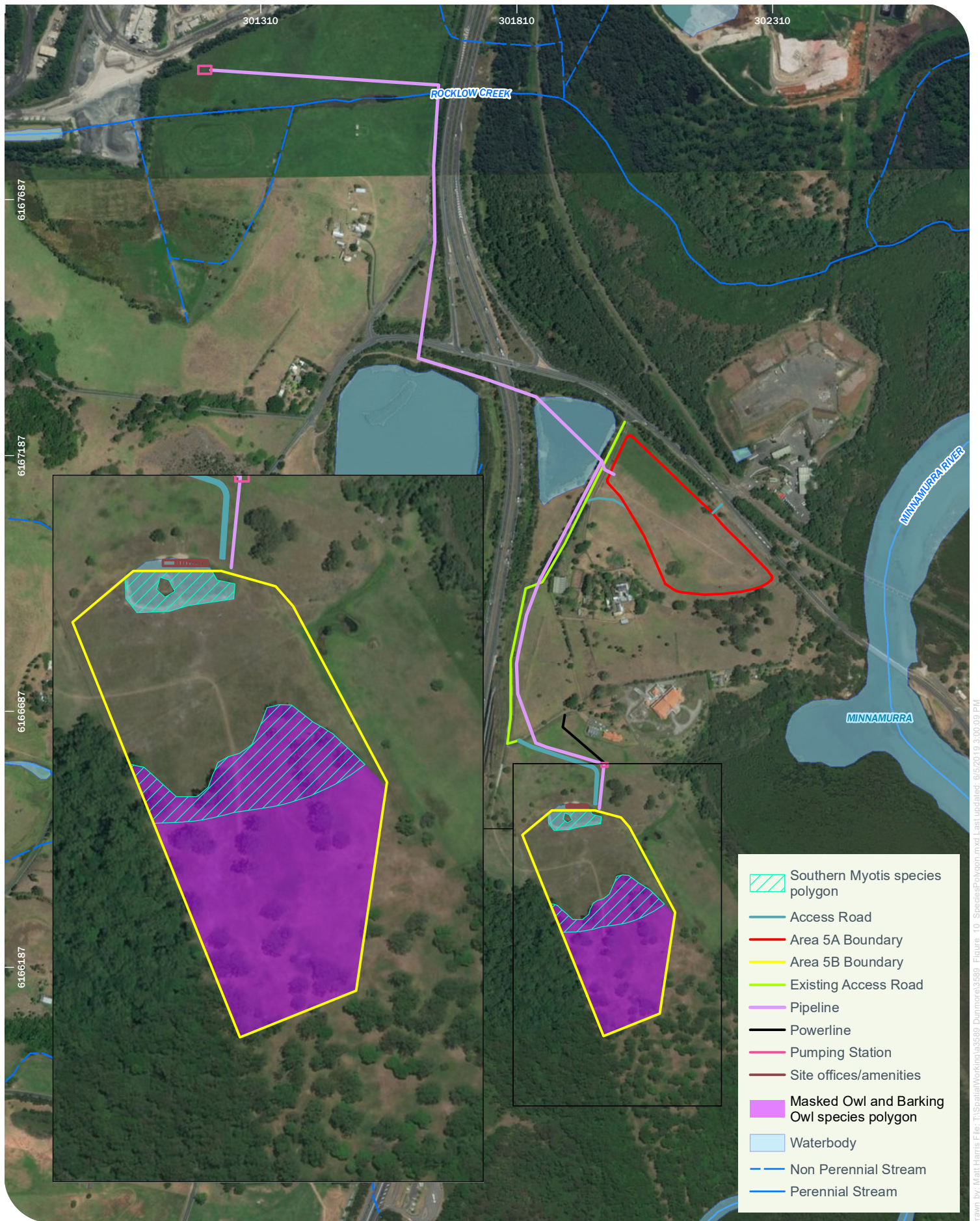
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|------------------------|---------------------|---|----------------------|------------------------|
| Bird survey | Dam | Bangalay sand forest – good condition | Area 5A Boundary | Pumping Station |
| Echolocation recording | Hollow-bearing stag | Bangalay sand forest – moderate condition | Area 5B Boundary | Site offices/amenities |
| Elliot trap | Hollow-bearing tree | Bangalay sand forest – poor condition (DNG) | Existing Access Road | Waterbody |
| Frog survey | BAM Plot | Exotic grassland | Pipeline | Non Perennial Stream |
| Remote Camera | | Access Road | Powerline | Perennial Stream |



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