

# Submission on Bobs Farm Sand Mine Project SSD-6395 - Biodiversity

David C. Paull (MResSc)

**ethical ecology**

0455634160

[www.ethicalecology.com](http://www.ethicalecology.com)

29 January 2019

## Summary

The following are issues which the proponent has not addressed adequately:

- The assessment of impact and the survey for the New Holland Mouse undertaken by the consultants Wildthing must be questioned.
- The assessment of impact on groundwater dependent ecosystems has not used the appropriate guidelines. The *Aquifer Interference Policy* should not be used to determine risk to GDEs. The proponent has not considered impact of changed horizontal flows on neighbouring GDEs and has not followed the requirements for assessment as laid out in the SEARs.
- The issue of significant loss of hollows in the study area has been poorly dealt with when considering 'significance of impact' under the *Environmental Planning and Assessment Act 1979*.
- There has been a poor assessment of impact on habitat connectivity by the consultants and no acknowledgement that the project will result in the effective loss of connectivity width by 99%. A 15m wide roadside buffer may not be sufficient to allow the movement of sensitive species, such as the koala, through the locality.
- The primary limitation of the biodiversity assessment provided in the EIS is the failure to identify the biodiversity credit values of the offset areas proposed. The proponent has failed to describe the feasibility of the offsets proposed, the types of agreements proposed and the actual areas involved with the 'Nerong offset'. This is a significant failure to adhere to the requirements identified in the SEARs.

## Background

The SEARs were issued for this project in 2018. State that for Biodiversity matters the proponent must provide:

- Accurate predictions of any vegetation clearing on site; - a detailed assessment of the potential biodiversity impacts, paying particular attention to threatened species, populations and ecological communities and groundwater dependent ecosystems and having regard to the relevant policies and guidelines listed in Attachment 1; and -
- an offset strategy (depending on the outcomes of the assessment of biodiversity impacts) to ensure the development maintains or improves the biodiversity values of the region in the medium to long term, including evidence that the appropriate type and quantum of offsets will be available.

Direct impacts include the loss of 36.9 ha of remnant terrestrial vegetation.

The proponent has also identified the following potential indirect impacts; • Increased spread of noxious weeds; • Increased spread of pest fauna species; • Edge effects; • Impact on Groundwater Dependent Ecosystems (GDE's) through changes to groundwater levels; • Increase in noise from machinery; • Increase in artificial lighting.

### **New Holland Mouse**

The proponent states that, *"Pseudomys novaehollandiae was not recorded during all surveys undertaken within the study area. However, records of P. novaehollandiae are known from the nearby Worimi Conservation Lands (Ecotone, 2008). This species has also been recorded from Salt Ash (Umwelt, 2009) and Tomago (Wildthing Environmental Consultants, 2018). The absence of this species during trapping may be due to the lack of preferred habitat in the form of open sandy heath. The proposal is unlikely to decrease the size of an important population of this species."*

This contradicts earlier assessment in the report that habitat at the site is suitable for this species (with a 'moderate-high' suitability, Table 10) and other studies which confirm the habitat present at the site is in fact suitable. The proponent conducted small Elliott trapping surveys which are generally used to detect this Commonwealth-listed species and did not catch any New Holland Mice, though claimed to catch a House Mouse. This is unusual in that only one House Mouse was caught, typically if House Mice are present, then they are in reasonable numbers. Catching only one raises questions about the identity of the mouse, as New Holland Mice occur at much lower densities and do not 'irrupt'. An issue here is the expertise of the consultants conducting this survey and the ability to determine the difference between the two species, must be brought into question.

### **EECs/GDEs**

There will be direct and indirect impacts upon two endangered ecosystems listed in NSW. These are also known types which support groundwater dependent ecosystems which are exclusively reliant on groundwater:

- Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions - Broad-leaved Paperbark - Swamp Oak - Saw Sedge swamp forest on coastal lowlands of the Central Coast and Lower North Coast (total impact of 1.15ha)
- Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions - Coastal freshwater lagoons of the Sydney Basin Bioregion and South-East Corner Bioregion (total impact of 0.32ha).

### *Key Issues*

The proponent states that one community, Smooth-barked Apple - Blackbutt - Old Man Banksia woodland ... contains species which obtain groundwater in the capillary fringe; occurs within the proposed mining footprint. However, this has not been taken into account in the EIS.

The proponent states that, *"The areas of Swamp Sclerophyll Forest and Freshwater Wetland are located outside the proposed mining footprint and will have a buffer of at least 15m."*

This makes little sense as these patches of swamp and wetland lie partially within the development footprint, how a 15 buffer means anything. In fact, the indirect and drawdown impacts will on these communities will be most acute.

The proponent states that the proposed sand mine will require excavation below the groundwater level. They state that an assessment undertaken for the proponent (Martens 2015) found drawdown of the permanent groundwater system is modelled to be a maximum of approximately 0.07 m. They state that

*“based on the NSW Aquifer Interference Policy (Department of Primary Industries Office of Water, 2012) and the post Water Sharing Plan the local groundwater natural level range is of the order of 3 m (or more). The adopted permissible drawdown at a 40 m buffer from the GDEs is 0.30 m (i.e. 10% x 3.00). This drawdown threshold is met for vegetation communities exclusively reliant on groundwater. Consequently, based on modelling results, the proposed development does not exceed the drawdown impact criterion set out in the NSW Aquifer Interference Policy (NOW, 2012).”*

The ‘Risk Assessment Guidelines for Groundwater Dependent Ecosystems’ is the most appropriate methodology required to assess potential impacts on GDEs from mining activities and not the Aquifer Interference Policy which is assessment of risk to water-users. The proponent has failed to undertake a transparent assessment risk assessment to locally occurring GDEs that includes drawdown impacts but also any impact on the intensity and magnitude of horizontal flows. In this case the proponent has failed to meet the requirements as laid out in the SEARs.

### **Hollow bearing trees**

Approximately 877 hollow-bearing trees will be removed because of the Project. This highlights the habitat value of the area to be cleared being essentially old-growth coastal forest. While current Offset Policy in NSW does not require that hollows be replaced like for like, the loss of this many large trees may adversely affect the survival of some populations of hollow dependent fauna, such as the Squirrel Glider and Powerful Owl, both detected at the site by the proponent and independent investigations. This issue has been poorly dealt with when considering ‘significance of impact’ under the *Environmental Planning and Assessment Act 1979*.

### **Connectivity**

The proponent admits in their EIS that the study area, *“forms part of a significant ecological corridor that runs down the coast from the Tomago Sandbeds in the south along the Stockton Bight to the Tomaree Peninsula in the north.”*

This corridor is identified in the Lower Hunter Regional Strategy, allowing the movement and dispersal of biodiversity within the region, including species such as the Koala. The Lower Hunter and Central Coast Regional Biodiversity Conservation Strategy (House, 2003) also identifies the Coastal Sand Apple – Blackbutt Forest occurring along the Stockton Bight dune system as a ‘regionally significant habitat linkage’. The Hunter Regional Plan 2036 also shows the site to occur within a Biodiversity Corridor.

Despite all this concurrence among planning bodies, the NSW OEH has not identified this area as being part of a significant corridor to inform their biometric assessment methodologies (State Significant Biodiversity Link or Regionally Significant Biodiversity Link). In fact, in the 10 years since the commencement of the Biobanking Assessment Methodology in 2008, there have been none identified in NSW. The only corridors which have any statutory consideration are those associate

with streams. OEH however do identify this area as being 'Key Habitat' (NPWS 2002) but this also does not have any statutory meaning.

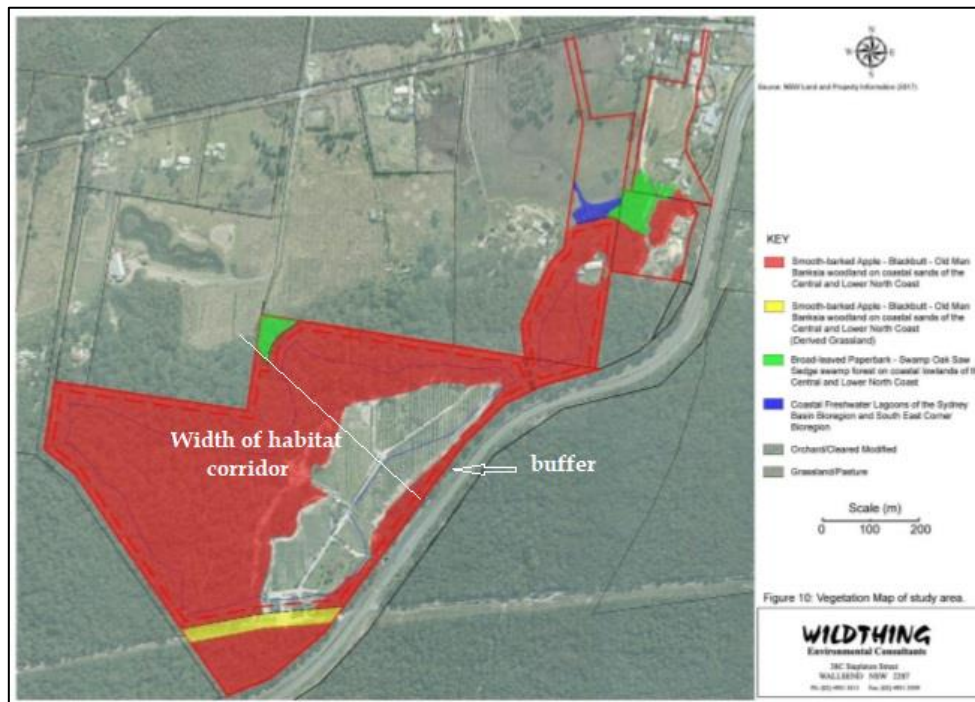


Figure 1. Location of habitat corridor and development area

The proponent claims that the section of the corridor where the study area is located is approximately 1.5km wide and that the proposal will result in the reduction in the width of the corridor on the western side of the dual carriage way of Nelson Bay Road by approximately 540m at its widest point. However, this width counts sections on both sides of the Nelson Bay Road dual carriageway which is itself a significant barrier to fauna

The proponent states;

*"Taking into consideration the presence of the dual carriage way the proposal will result in a reduction in the width of connectivity to the east of the study area to open forest areas within Lot 10 and the adjoining crown reserve (Lot 7374). A 15m vegetated buffer zone around the proposal together with adjoining habitat within the road reserve along Nelson Bay Road (varying between 10m & 15m) will still provide connectivity to these areas of habitat."*

If the loss of connectivity of the proposal is looked at objectively, and taking into consideration the highway barrier, the proposal will remove an important piece of local and regional connectivity by approximately 99%. A 15 m wide buffer along the road cannot be considered to optimal conditions for a wildlife corridor. This level of impact is highly significant at both regional perspective for the connectivity of habitat for fauna dispersal and the maintenance of genetic diversity in populations.

The proponent has failed to take into consideration an accurate understanding of the nature of the impact of the proposal on local and regional connectivity.

## Offset strategy

The proponent has specified a range of mitigation measures to minimise the impact of the loss of habitat, including;

- Provision of compensatory habitat (Offsetting) using the Biobanking Assessment Methodology, this is key to demonstrate that an improvement or a maintenance of biodiversity values has occurred.
- Protection of remaining habitat/vegetation in the project area;

However, the proponent has failed to provide the necessary details of offset strategy to meet the requirements of the FBA methodology and those specified in the SEARs. The proponent was required to provide:

*“Details of the biodiversity offsets to compensate for significant residual impacts required to offset the development in accordance with the Framework for Biodiversity Assessment (FBA) (OEI 2014).”*

The following credit liabilities were identified as requiring retirement according to the methodology.

- HU860 – Smooth-barked Apple - Blackbutt - Old Man Banksia woodland on coastal sands of the Central and Lower North Coast (35.41 ha impacted generating 1681 ecosystem credits)
- HU938 - Broad-leaved Paperbark - Swamp Oak - Saw Sedge swamp forest on coastal lowlands of the Central Coast and Lower North Coast (1.15 ha impacted generating 8.17 ecosystem credits)
- HU533 - Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion (impacting 0.32 ha generating 1.31 ecosystem credits).

The proponent has provided the following details of the offsets proposed for the project:

*“The Biodiversity Offset Strategy proposes to utilise three parcels of land.*

- *Part Lot 254 DP 753204 (forms part of the proposed Bobs Farm Sand Mine study area)*
- *Part Lot 255 DP 753204 (Adjoins the proposed Bobs Farm Sand Mine study area)*
- *Lot 32 DP 880637 (Two sites within lot) This parcel of land is situated at Nerong.”*

The proponent states:

*“The first two adjoin the proposed Bobs Farm Sand mine proposal. Part Lot 254 (2.33ha) also occurs within the same lot as the majority of the sand mine development and is separated from the proposal by an electricity easement which is approximately 25m wide. Part Lot 255 DP 753204 (10.55ha) occurs to the west of Part Lot 254 and is separated by a 20m unformed road. The offset area within Part Lot 255 consists of two sections of land (1.11ha & 7.06ha) separated by the 25m electrical easement. Although the landowner owns the land within the electrical easement, easements are excluded from Biobank sites due to the fact that the landowner has no control over their management (easement is managed by Ausgrid).”*

The total of area of these offsets amounts to 12.88 ha, but no details are provided on the amount of credits this has generated to offset the credit liability. For the Nerong offset, the proponent states:

*“The proposed Nerong offset sites were located approximately 2.5km to the south-east of the settlement of Nerong. The site was composed of two parcels of land within the 905ha Lot 32 DP 880637. Both proposed offset areas border Myall Lakes National Park.”*

No areas for the parcels are provided and no accounting of how the offset liability has been retired.

Offset strategies need to demonstrate how credits will be retired, and feasibility of dedicating the land to conservation outcomes. None of this information has been provided. As far as the FBA Methodology is concerned, the proponent has failed to demonstrate that the impacts of the project can be offset and how these offsets meet the requirements.

Under these circumstances, Secretary of Planning would have no alternative but to ask these be provided prior to any further assessment of the project.

## References

---

House, S. (2003) 'Lower Hunter and Central Coast Regional Biodiversity Conservation Strategy, Technical Report, Digital Aerial Photo Interpretation and Updated Extant Map, May 2003. Lower Hunter and Central Coast Regional Environmental Management Strategy, Callaghan.

Martens (2015). Groundwater Management Plan – proposed sand mine 3631, 3679 & 3721 Nelson Bay Rd and 774 Marsh Road, Bobs Farm, NSW. Ammos Resource Management Pty Ltd. April 2015.

NPWS (2002) Lower Hunter Conservation – Draft Issues Paper. NSW National Parks and Wildlife Service, Northern Directorate.

WILDTHING Environmental Consultants (2018). BIODIVERSITY ASSESSMENT REPORT for a proposed Sand Mine Lot 10 DP 1071458, Lot 51 DP 1015671, Lot 245 DP 753204, Nelson Bay Road BOBS FARM NSW.