NORTHERN TERRITORY GOVERNMENT
Department of
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Our ref: DEPWS2021/0127
Your ref:

Kylie Fitzpatrick
Department of Environment, Parks and Water Security
GPO Box 3675
Darwin NT 0801, Darwin

Dear Ms Fitzpatrick

Re: Winchelsea Island Manganese Mine Project - Notice of Significant Variation

The Department of Environment, Parks and Water Security (DEPWS) has assessed the information contained in the above notice of significant variation and provides the following comments:

Flora and Fauna Division
Terrestrial Ecosystems
Based on a search of DEPWS databases within a 10km radius of the application area, expert knowledge of species' habitat requirements, and information about habitats occurring within the application areas, the following threatened species may occur within or immediately adjacent to the proposal.

Common Name	Scientific Name	TPWC Act	EPBC Act
Northern Quoll	*Dasyurus hallucatus*	Critically Endangered	Endangered
Masked Owl	*Tyto novaehollandiae kimberli*	Vulnerable	Vulnerable
Ghost Bat	*Macroderma gigas*		Vulnerable
Brush-tailed Rabbit-rat	*Conilurus penicillatus*	Endangered	Vulnerable
Northern Hopping Mouse	*Notomys aquilo*	Vulnerable	Vulnerable

TPWC Act-*Territory Parks and Wildlife Conservation Act 1976*
EPBC Act-*Environment Protection and Biodiversity Conservation Act 1999*

Northern Quoll: Winchelsea Island supports an important sub-population of Northern Quolls, due to the absence of Cane Toads and the additional security provided through being an uninhabited island. Surveys have detected the species throughout the proposal footprint, with all areas of the island likely to provide suitable habitat. The proposal would result in a net loss of ~380ha of habitat on Winchelsea Island. This is approximately 22% of the potential habitat available to the species on Winchelsea, noting that the species is also abundant over very large areas of the adjacent Groote Eylandt. Approximately 1,320ha of habitat will remain undisturbed adjacent to the proposal footprint and outside of the mining tenement. Retained habitat includes areas of sandstone outcropping, which typically provides important denning habitat.

While the varied proposal will still result in a net loss of quoll habitat, the Flora and Fauna Division considers that sufficient high quality habitat will be retained to maintain the viability of the sub-population on Winchelsea Island. Additionally, given the total habitat extent in the Groote archipelago, direct impacts from the proposed development would not constitute a significant impact on the species.

Cane Toads (*Rhinella marina*) are the biggest threat to the Northern Quoll in this context and the varied proposed activities still provide a possible vector for their spread and introduction to Winchelsea Island. This could potentially occur through the movement of vehicles and equipment during all stages of the proposal. The variation has correctly identified feral animals and invasive flora as a risk, but does not propose any specific quarantine measures to manage the risk. In the absence of a comprehensive and effective quarantine plan, the risks to Northern Quoll from Cane Toads remain high.

Ghost Bat: The presence of Ghost Bats on Winchelsea Island is currently uncertain. They were not detected during baseline surveys using Anabat detectors. However, surveys using Anabat detectors are not reliable for this species and the consultant's report states that there remains a high likelihood that the species is present. Roosting habitat (particularly caves and sinkholes) are important for the survival of Ghost Bats. Sandstone outcropping occurs across large areas of Winchelsea Island and this habitat may contain suitable roosting habitat for the species. The proponent has avoided areas of sandstone outcropping, and risks to any Ghost Bats occurring on the Island were considered low during exploration activities. Mining activities proposed in the variation may result in additional impacts from vibration and noise on roosts adjacent to the proposal, should they be present. Any potential risks to Ghost Bats may be managed if surveys using appropriate survey techniques clarify habitat use and roost locations on Winchelsea Island (or confirm that the species is absent).

Masked Owl: Surveys have confirmed the presence of the species on Winchelsea Island at two locations. The variation includes estimates that the Island supports five to seven pairs based on the area of available habitat and unpublished home range estimates. The estimates suggest that the disturbance footprint (~380ha) would remove ~75% of the territory for a single pair of northern masked owls (Barden et al, *in prep*). Whilst this may reduce the number of pairs of Masked Owls Winchelsea Island can support, the risk to the species is not likely to be significant, as individuals on Winchelsea Island are likely to be part of the larger Groote Eylandt population.

Brush-tailed Rabbit-rats: There are a small number of records of this species from Groote Eylandt. Results from fauna surveys on Groote Eylandt suggests that the species is patchily distributed and probably occurs at low abundance. Brush-tailed Rabbit-rats were not detected during targeted surveys within the proposal area on Winchelsea Island. These surveys appear to be adequate to detect the species, although the variation states that the likelihood of occurrence of this species is still considered high. Further targeted surveys may resolve this uncertainty.

Northern Hopping Mouse: Groote Eylandt is the stronghold for this species, and targeted surveys were undertaken prior to exploration works on Winchelsea Island. The surveys appear adequate and did not detect the species within the proposal area. Based on the results of the surveys and the absence of suitable habitat (compared to habitat characteristics where the majority of recent records are known from Groote Eylandt), the Flora and Fauna Division considers that the risk to this species is low.

Threatened Marine and Migratory Fauna

The project site is close to mangrove and other littoral communities and the marine environment. A search of DEPWS databases within 20km of the site, expert knowledge of species' habitat requirements, and information about habitats occurring within the site, indicates the following threatened and migratory species may occur within marine waters, mangrove vegetation and mudflats adjacent to the site.

Common Name	Scientific Name	TPWC Act	EPBC Act	Migratory
Greater Sand Plover	*Charadrius leschenaultia*	Vulnerable	Vulnerable	Migratory
Lesser Sand Plover	*Charadrius mongolus*	Vulnerable	Endangered	Migratory
Curlew Sandpiper	*Calidris ferruginea*	Vulnerable	Critically Endangered	Migratory
Far Eastern Curlew	*Numenius madagascariensis*	Vulnerable	Critically Endangered	Migratory
Green Turtle	*Chelonia mydas*		Vulnerable	Migratory
Flatback Turtle	*Natator depressus*		Vulnerable	Migratory
Hawksbill Turtle	*Eretmochelys imbricata*	Vulnerable	Vulnerable	Migratory
Spinner Dolphin	*Stenella longirostris*			Migratory
Indo-Pacific Bottlenose Dolphin	*Tursiops aduncus*			Migratory
Australian Snubfin Dolphin	*Orcaella heinsoni*			Migratory
Dugong	*Dugong dugon*			Migratory

Migratory and Marine Megafauna: Marine megafauna are known to occur in Bardalumba Bay and the waters surrounding Winchelsea Island. Interactions with marine megafauna are possible during the extension of the barge landing facility as well as during vessel operations. The main risk to marine biota is likely to be from impacts to habitat from spillage into the marine environment at the barge facility and offshore transhipment site. Spillage could potentially increase turbidity and thus reduce the light availability for seagrass or smother biota living on the seafloor.

Extension of the barge landing facility is expected to alter the local hydrology along the south-western part of Winchelsea Island. This may result in changes to benthic habitats which provide foraging habitat for marine turtles and dugongs, although the significance of this area to these species is currently unknown. To understand the potential impacts, the Flora and Fauna Division recommends that a sediment transport model and hydrodynamic modelling are undertaken to predict the extent of potential impacts to benthic habitats.

Migratory shorebirds: Individual migratory shorebirds have been recorded using foraging habitat around the barge landing facility. However, the habitats adjacent to the proposal and barge landing are unlikely to support significant aggregations of these threatened and/or migratory species. The Division considers that the proposal poses a low risk to these species.

Recommendation

The Flora and Fauna Division has identified several information gaps in the varied proposal. As such, the potential for the proposal to significantly impact the NT EPA's Environmental Factors – Terrestrial Ecosystems/Aquatic Ecosystems cannot be fully assessed. Some additional on-ground investigations for several threatened species are recommended and would inform a comprehensive assessment of the potential impacts of the proposal, as well as appropriate mitigation and/or management measures.

Water Resources Division

Section of Referral	Theme or issue	Comment
Section 3.6.2	Water Requirements	• The project will require water for extraction (drilling), processing of the ore and domestic use. The proponent states that the water requirements are under development but an estimated 300ML will be required for

		initial stages of the project. The referral does not confirm where this water will come from, but identifies a bore field on Winchelsea Island that may be suitable. Alternatively the referral discusses potentially sourcing the water from bore fields located on Groote Eylandt.
Section 5.3.1	Surface Water	• The proponent notes that there are several streams that drain from the centre of the lease to the coast. Some of these form significant flow paths, with one western flowing river varying in width from 100m-600m. Conversely, rivers that flow to the north/east are characterised by narrower, more well-defined channels. The proponent notes that during flood events project operations are likely to be impacted.
	Additional Comment	• The proponent will require either a groundwater extraction licence or a surface water extraction licence, or possibly both, depending on the water sources proposed for use. It is recommended that the proponent develop a site water balance, broken down into anticipated annual requirements and a total volumetric amount for the life of the mine, including construction and rehabilitation. There is no detailed information regarding the proposed waterway crossings for the roads, pipeline or proposed dam(s). Under the *Water Act 1992* these may require a Permit to interfere with a waterway. Without additional information the Water Licensing and Regulation Branch is not able to provide comment on the likelihood of a significant impact on the environment, nor whether the NT EPA's environmental factors and objectives (specifically hydrological processes and inland water environmental quality) will be met.
	General comments	• No significant changes to groundwater source and volume have been proposed under the updated Referral Document for Winchelsea Island Manganese Mine Project (7 May 2021). Previous comments regarding groundwater use made on the original referral remain valid. • Flood assessment for the original project scope was considered sufficient and suitable; the proposed downscaling of the project requires no additional consideration of flood risk. • The proposal is not within a water control district and subsequently there is no water allocation plan for the locality. Taking water for this project should be guided by the NT Water Allocation Planning Framework (NT WAPF). The proposal is within the Top End climatic zone. In the absence of a water allocation plan the NT WAPF provides contingent allocations for surface water, no more than 20% of instantaneous flow can be taken and no more than 20% of annual recharge can be taken for groundwater providing the taking this water does not impact on key environmental and cultural values associated with the water resource. The proponent does not identify the source of water or water requirements of the project.

Should you have any further queries regarding these comments, please contact Maria Wauchope by email maria.wauchope@nt.gov.au or phone (08) 8999 3692.

Yours sincerely

Luis Da Rocha
Executive Director, Rangelands

1 July 2021