

To: eia NTEPA

Subject: RE: Invite to comment - GEMCO J Quarry Haul Road Realignment Project Referral

Date: Mon 7/12/2020 3:49 PM

Attachments: one attachment

Please find attached DEPWS letter relating to the J Quarry Haul Road Realignment Project.

Rangelands Division

Department of Environment, Parks and Water Security

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

Flora and Fauna Division

Based on a search of DEPWS flora and fauna databases within 10km of the project area, expert knowledge of species' habitat requirements, and information about habitats occurring within the area, the following threatened species may occur within or near the project area:

Common Name	Scientific Name	TPWC Act	EPBC Act
Masked Owl (northern mainland)	<i>Tyto novaehollandiae kimberli</i>	Vulnerable	Vulnerable
Mertens' Water Monitor	<i>Varanus mertensi</i>	Vulnerable	Not listed
Brush-tailed Rabbit-rat	<i>Conilurus penicillatus</i>	Endangered	Vulnerable
Northern Hopping-mouse	<i>Notomys aquilo</i>	Vulnerable	Vulnerable
Northern Quoll	<i>Dasyurus hallucatus</i>	Critically Endangered	Endangered
Ghost Bat	<i>Macroderma gigas</i>	Vulnerable	

TPWC Act - Territory Parks and Wildlife Conservation Act 1976

EPBC Act - Environment Protection and Biodiversity Conservation Act 1999.

Masked Owl (northern mainland):

Recent surveys of the area identified this species within 1.5km of the proposal footprint. Habitat surveys within the proposal area identified 52 large trees that may be suitable for use by Masked Owls. The highest concentration of trees is associated with the Emerald River and Emerald River southern tributary. The Flora and Fauna Division acknowledges that the proposal will result in a net decrease in the area of suitable habitat, but acknowledges that extensive areas of potential habitat remain intact in the region. While the risks are low, the proponent should consider avoiding clearing large trees, particularly those with hollows that are suitable for use by Masked Owls.

The referral identifies that the haul road may be in use up to 24 hours per day, seven days a week with lighting installed on the bridge and the realigned public access track. Lighting can have a substantial impact on a range of fauna species and groups, particularly nocturnal foragers such as the Masked Owl. To reduce risks to the Masked Owl and other nocturnal species, the Division recommends that the proponent design the lighting in these areas to be in accordance with the 'best practice lighting design' principles in the Australian Government's 'National Light Pollution Guidelines for Wildlife including Marine Turtles, Seabirds and Migratory Shorebirds' to minimise the impact of their lighting on nocturnal wildlife. This document is available from the Department of the Environment and Energy website at:

<https://www.environment.gov.au/biodiversity/publications/national-light-pollution-guidelines-wildlife>.

Northern Hopping-mouse:

The Division notes that there is potential for this species to occur within the project footprint and immediate surrounds, given that there are records of the species less than 1km of the footprint. The proponent's willingness to undertake a targeted survey for the species, at the request of the Flora and Fauna Division, is acknowledged. Based on the information provided the risks are likely to be low.

Brush-tailed Rabbit-rat:

This species has been recorded within 2km of the proposal area with suitable habitat likely to be present. Results from fauna surveys in the project area and elsewhere on Groote Eylandt suggests the Brush-tailed Rabbit-rat is patchily distributed and probably in low abundance. Based on the relatively small area of habitat impacted and the proposed mitigation measures there appears to be a low risk of significant impact to this species.

Ghost Bat:

Surveys have identified recent records of this species within 2km of the proposal area and there is a high likelihood that the species also uses the proposal footprint for foraging. Clearing and construction of the proposed haul road is expected to remove suitable foraging habitat for the species, however the area of habitat is relatively small compared to the available habitat locally and within Groote Eylandt.

The referral identifies a 'chain wire mesh fence' that is proposed to be installed on both sides of the haul road from the light vehicle access tunnel and extend 100m to the north and south of the haul road. The use of barbed wire with fences is a threat to Ghost Bats resulting in injuries and entanglement. To avoid this risk, the Division recommends that the length of the fencing be the absolute minimum required to prevent public access. The use of barbed wire should also be avoided where possible.

Northern Quoll:

The Flora and Fauna Division note that there is high likelihood for this species to use the habitat within the project footprint for foraging and breeding. As such, the proposal will lead to a net decrease in the amount of suitable habitat available to this species. While the proposal will result in a net decrease in habitat, this species is relatively common and widely distributed on Groote Eylandt. The risks from the proposal are likely to be low.

Mertens' Water Monitor:

Suitable habitat for this species is associated with the Emerald River and the southern tributary of the Emerald River. The Division agrees with the proponent's assessment that the proposal is unlikely to result in significant impacts on this species. The main threat to Mertens' Water Monitor is from poisoning by cane toads which are not established on Groote Eylandt.

Significant or Sensitive Vegetation Types:

The project area is dominated by laterite woodland and forest habitats (*Eucalyptus miniata*, *E. tetradonta* and melaleuca species); however, a diverse variety of native plants and vegetation communities is known to occur in these areas. The alignment does cross the Emerald River and Emerald River south tributary which are known to have riparian vegetation. Riparian vegetation is a significant and sensitive vegetation type in the Northern Territory and impacts should be avoided where possible. Where the alignment crosses riparian waterways, the Division recommends that disturbance of riparian vegetation be reduced to the absolute minimum necessary.

The proponent identifies that runoff from the haul road will be captured by drains that will direct drainage to sediment ponds, and that water from the sediment ponds 'will discharge to surrounding vegetation'. The Flora and Fauna Division notes that certain vegetation species and communities can be sensitive to water dynamics, including changes in the volume and timing of water. The Division recommends that the proponent be aware of this as a potential impact on vegetation, and consider managing the volumes, timing, and water quality involved in such discharges such that impact on vegetation is minimised.

Aquatic ecosystems

The proponent has identified the potential presence of Largetooth Sawfish in the southern tributary. It is also possible that the species occurs in certain areas of the Emerald River. Any impacts would come from interrupting the species' migration, from changes in water quality due to increased sediment loads, and from increasing fishing pressure due to improved access. The proponent has identified that construction will be undertaken predominantly in the dry season. The Flora and Fauna Division support the timing, as this will decrease impacts on this species' migration. The proponent should also instate a ban for fishing from the proposed bridge or culvert for GEMCO contractors / staff. These measures are likely to ameliorate any impacts. Overall, the Flora and Fauna Division agree that the risks from the proposal on this species are likely to be low.

Recommendations:

The Flora and Fauna Division considers that significant biodiversity values associated with the Northern Territory Environment Protection Authority's (NT EPA) environmental factor – Terrestrial Ecosystems are likely to occur within the proposal area. Overall, the risks to these values from the proposal are considered low. These risks can be further reduced by minimising the total amount of clearing, adhering to the proponent's commitment to avoid sensitive vegetation, and adopting the specific recommendations provided in the relevant sections above. The Flora and Fauna Division also consider that the risks to the values associated with Aquatic Ecosystems (Freshwater Sawfish) are likely to be low.

Water Resources Division

In accordance with an exemption made in NT Government *Gazette* S35 of 30 June 1992, works related to road drainage works or the construction of culverts and bridges do not require a permit to interfere with a waterway.

The proposed crossing type for the Emerald Creek crossing is a bridge as this will reduce the potential for changes to the geomorphic and hydraulic processes. Erosion and sediment control measures will be required during the construction phase to mitigate impact. The proposal also describes ongoing scour and erosion controls to mitigate impacts from the crossings. The waterway crossings for the southern tributary of Emerald Creek are proposed to be box culverts with rock rip rap scour and erosion controls. Box culverts are preferred to pipe culverts as they have less impact on the flow regime.

The proposal indicates that the projected water requirements are minimal, with water to be supplied via water cart. It should be noted that the proponent holds surface water extraction licence 9291005 with maximum entitlement of 2,585ML p.a. from the Angurugu Creek; with 845ML p.a. allocated for the beneficial use of mining activity. The definition of 'mining activity' in the *Water Act 1992* includes ancillary activities.

It should be noted that the site is within the Groote Eylandt Area beneficial use declaration to sustain its aquatic ecosystem. All work must ensure that water quality is maintained to support aquatic ecosystems. Accordingly, it is recommended that should an environmental approval be issued that it includes conditions regarding erosion and sediment control plans (for the construction phase) and a vegetation management plan (to manage removal and rehabilitation of riparian vegetation).

The proposal includes a thorough assessment of the hydraulic impacts of stream/floodplain crossing designs in the Hydrology and Hydraulics Assessment Report. This has correctly identified the need for appropriate mitigation measures to limit impacts on fish passage (section 6.4.3 in the Aquatic Ecology Report); however, further information should be provided as these mitigation measures are not specified. Page 63 of the Aquatic Ecology Report states 'Detailed design of the culverts will be conducted prior to construction which will take into account best practice fish passage requirements'.

Environmental Regulation Division

- Does the Environmental Regulation Division consider the proposal has the potential to cause material or serious environmental harm for purposes of the *Waste Management and Pollution Control Act 1998* (WMPC Act)?

From the information provided in the proposal, it is considered the proposed activities are unlikely to cause material or serious environmental harm for the purposes of the WMPC Act.

- Are the relevant Northern Territory Environment Protection Authority (NT EPA) environmental factors that could potentially be significantly impacted, and the specific potential significant impact/s, identified and addressed in the referral?

The Division considers that the waterways and the surrounding terrestrial environments have the potential to be impacted, should the proponent fail to comply with their general environmental duty.

The proponent is required to comply at all times with the WMPC Act, including the general environmental duty under section 12 of the Act. Guidelines to assist proponents to avoid environmental impacts are available on the NT EPA website at:

<https://ntepa.nt.gov.au/publications-and-advice/environmental-management>.

Pollution of Emerald River and the southern tributary could be prevented through the development and implementation of appropriate management plans, including a construction environmental management plan, erosion and sediment control plan, and the implementation of existing management processes including dust management, waste management and potential acid sulfate soil management. The proponent should prepare any environmental management plans for the proposed activities in accordance with the NT EPA Guideline for the Preparation of an Environmental Management Plan 2015, available at: <https://ntepa.nt.gov.au/waste-pollution/guidelines/guidelines>.

- Does the Environmental Regulation Division consider the referral has adequately addressed its concerns or issues? Are there any management conditions (relating to certain aspects of the proposal) suggested including in an environmental approval (if approved)?

The Division considers the proposed management and mitigation strategies outlined in the document adequately address any issues. No specific management conditions are suggested.

Rangelands Division

Weed Management Branch

The referral document has adequately addressed requirements under the *Weeds Management Act 2001*.