Anglo American
Moranbah North – Grosvenor Rail Relocation

EPBC Act

Significant Impact Assessment

February 2023

ADAPTIVE STRATEGIES

DOCUMENT TRACKING

PREPARED BY:	Tom Kaveney (Adaptive Strategies)
VERSION:	RevC
DATE:	22 February 2023

INTRODUCTION

Anglo Coal (Moranbah North Management) Pty Limited operates, on behalf of the Moranbah North Coal Joint Venture, two underground metallurgical coal mines north of the Moranbah township in central Queensland – Moranbah North Mine and Grosvenor Mine (together referred to as the MG Complex).

To enable the progression of mining at the MG Complex, an existing rail line known as the North Goonyella Branch line, (owned and operated by Aurizon) and a water pipeline known as the Braeside Pipeline (owned and operated by the BHP Mitsubishi Alliance (BMA)) will be relocated (the Project).

Commonwealth legislation is relevant to the project if there is the potential for significant impacts to Matters of National Environmental Significance.

The purpose of this document is to provide an assessment of the potential for significant impacts to MNES from the proposed rail and pipeline re-alignment. The results of this assessment will determine whether a referral under the *Environment Protection and Biodiversity Conservation Act 1999* is required.

PROJECT DESCRIPTION

The Project involves the relocation of the existing rail line and pipeline along an easement that is approximately 13 km in length. The easement will be approximately 60 metres wide. The rail line is multi-user infrastructure and while utilised by Anglo American's mining operations, it also services other mining operations in the region. Underground mining beneath the rail line is not permitted by the rail asset owner (Aurizon) so the rail line must be relocated before extraction of the underlying coal resource.

An existing pipeline will also be co-located inside the 60 m easement for most of the length. The pipeline will diverge from the rail easement at the northern end, at which point the pipeline easement will be 20m wide.

The proposed preferred alignment of the rail and pipeline are shown in Figure 1.

Figure 1: Proposed rail re-alignment (proposed)

LEGISLATIVE BACKGROUND

EPBC Act

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) establishes a requirement for Australian Government environmental assessment and approval of actions that are likely to have a significant impact on matters of national environmental significance (**MNES**).

There are nine MNES listed under the EPBC Act, these are:

a. World heritage properties

b. National heritage places

c. Wetlands of international importance (often called 'Ramsar' wetlands)

d. Nationally threatened species and ecological communities

e. Migratory species

f. Commonwealth marine areas

g. Great Barrier Reef Marine Park

h. Nuclear actions (including uranium mining)

i. Water resources, in relation to coal seam gas development and large coal mining development.

Actions that may have a significant impact on one or more MNES should be referred under the EPBC Act. The EPBC Act approval process requires proponents to voluntarily refer projects that may have a significant impact on MNES.

ASSESSMENT METHODOLOGY

Available information

The following information has been used to make this assessment:

- ACARP (2011) *Assessment of Seasonal Habitat Characteristics as Predictors of Habitat Suitability for the Threatened Ornamental Snake*
- Ecoserve (2007) *Flora and Fauna Baseline Surveys for the Moranbah North Coal Leases*
- Unwelt (2020) *Moranbah North Mine Surface Infrastructure Area Assessment*
- EcoSM (2021) *Grosvenor Mine Intermediate Disturbance Area MNES Assessment*
- Kleinfelder (2023) *MG Complex Rail and Powerline Realignment Ecological Values Assessment*
- Queensland Regional Ecosystem mapping (Version 12.2)
- EPBC Act Protected Matters Search Tool (DCCEEW 2022; online)

Matters of National Environmental Significance

Field survey has confirmed the potential presence of a number of MNES within the project area or immediate vicinity.

This includes two threatened ecological communities:

1. Brigalow (*Acacia harpophylla* dominant and co-dominant) threatened ecological community (Brigalow TEC)
2. Poplar Box Grassy Woodland on Alluvial Plains (Poplar Box TEC)

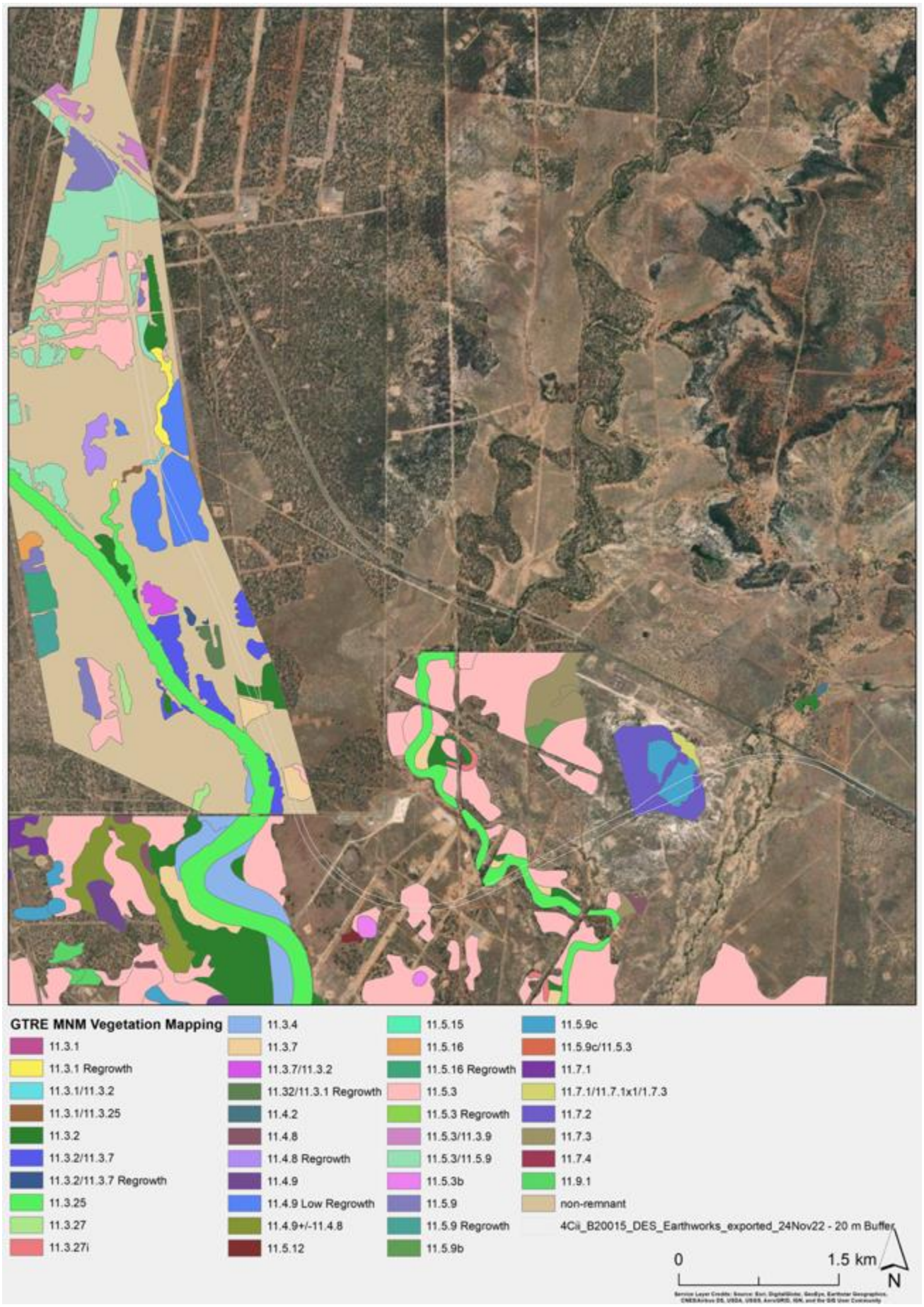
And five species and/or suitable habitat:

1. Greater Glider (*Petauroides volans*) – endangered
2. Koala (*Phascolarctos cinereus*) - endangered
3. Squatter pigeon (southern) (*Geophaps scripta scripta*) – vulnerable
4. Australian painted snipe (*Rostratula australis*) – endangered
5. Ornamental Snake (*Denisonia maculata*) – vulnerable

Figure 2 shows the vegetation types confirmed to be present in the project area. A summary of the potential impact of the Project on the above protected matters is provided in the following sections of this report, with the detailed analysis against the official criteria provided in Appendix 1.

Other MNES identified in the EPBC Act Protected Matters Search Tool report are not considered likely to be present due to a lack of suitable habitat within the project area. Refer Appendix 2.

Figure 2: Field verified Vegetation communities (Qld Regional Ecosystems classification)



POTENTIAL IMPACTS

Based on the proposed 60 m wide easement and current vegetation and habitat mapping data, the following impacts to MNES are predicted:

MNES	Clearing of field verified vegetation (ha)
Brigalow TEC	0.22
Poplar Box TEC	0
Greater Glider Habitat	14.85
Koala Habitat	19.04
Squatter Pigeon Habitat	26.45
Ornamental Snake Habitat	8.31
Painted Snipe Habitat	0.22

For this assessment, all activities such as tracks, laydown/equipment areas, site offices etc. are all assumed to be located within the 60 m easement or located in cleared areas that do not contain MNES habitat values. Indirect impacts from disturbance of watercourses, dust, noise and traffic movements are expected to be manageable using appropriate best practice methods and controls.

SIGNIFICANCE OF IMPACTS

The significance of potential impacts takes into account the type of TEC/species and the form of the impacts. A summary of the findings is provided below. The detailed assessment against the Government's significant impact criteria is provided in Appendix 1 for those species and TECs with direct impacts.

Brigalow TEC (Figure 3)

The clearing of a small area (0.22 ha) of Brigalow TEC ensures impacts to this MNES will not be significant.

Poplar Box TEC

The absence of any clearing of Poplar box TEC ensures impacts to this MNES will not be significant.

Greater glider (Figure 4)

Greater glider habitat in the project area is severely limited in extent due to the absence of suitable hollows. Mature trees are in low densities due to a history of clearing to accommodate cattle grazing. An area of 14.85 ha of low to moderate condition habitat will be cleared. Impacts are likely to be significant.

Koala (Figure 5)

Koala habitat in the project area is low to moderate in condition, however, evidence of Koala presence has been recorded. In total an area of 19.04 ha of Koala habitat will be disturbed. These impacts are likely to be significant. In addition operational impacts from train movement could cause mortalities in local Koala population. This may require mitigation. Noting that the existing rail line is nearby and the scale or intensity of current impacts is unlikely to increase.

Squatter pigeon (Figure 6)

Squatter pigeon inhabit open woodlands and cleared areas with native grasses and shrubs within 3km of permanent water. Areas within the project area have been mapped as habitat for the species and it is known to occur on site. A total of 26.45 ha of potential habitat will be disturbed. Impacts are unlikely to be significant when viewed at a population level; the species is highly widespread and relatively abundant in the broader region. Much of the area disturbed within the rail corridor is likely to continue to provide habitat values and further cleared areas may in fact be preferable for this species, when compared with what is there currently.

Ornamental Snake (Figure 7)

Ornamental snake habitat in the project area is limited and in poor condition due to previous disturbance and cattle grazing. Evidence of the species presence has not been recorded within the project area, however, the species was recorded on the Moranbah Nth mine site in 2011 (ACARP 2011). Key impacts occur from disturbance to gilgai areas and water holding depressions in cracking soils. Impacts to 8.31 ha of potential habitat may be significant.

Australian painted snipe (Figure 8)

This species is highly mobile and moves around the broader landscape searching for suitable habitat areas. It prefers the edges of wetlands, permanent or ephemeral, with tall grasses for cover. Impacts to 0.22 ha will not be significant.

CONCLUSION

Based on the above, significant impacts to one or more Matters of National Environmental Significance within the project area are considered likely.

APPENDIX 1

ASSESSMENT AGAINST SIGNIFICANT IMPACT CRITERIA – THREATENED ECOLOGICAL COMMUNITY (TEC)

TEC
TEC: Brigalow (*Acacia harpophylla* dominant and co-dominant)

Significant Impact Criteria (Will the action…)	Significant Impacts (Yes/No)	Response to Criteria
Reduce the extent of an ecological community	No	0.22 ha of TEC will be directly cleared. This represents just a minor fraction of the TEC extent in the region. The location is already highly fragmented by existing infrastructure and farming activities.
Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines	No	0.22 ha of TEC will be directly cleared. This represents just a minor fraction of the TEC extent in the region. The patch to be impacted is already small and isolated.
Adversely affect habitat critical to the survival of an ecological community	No	0.22 ha of TEC will be directly cleared. This represents just a minor fraction of the TEC extent in the region. The location is already highly fragmented by existing infrastructure and farming activities. The patch to be impacted is already small and isolated. Areas affected are not considered critical to the survival of the TEC.
Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	No	0.22 ha of TEC will be directly cleared. This represents just a minor fraction of the TEC extent in the region. The location is already highly fragmented by existing infrastructure.
Cause a substantial change in the species composition of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning	No	The location is already highly fragmented by existing infrastructure and farming activities. The single patch to be impacted is small and relatively isolated. It does not play a critical role in supporting the broader TEC in the landscape.
Cause a substantial reduction in the quality or integrity of an ecological community, including, but not limited to:	No	0.22 ha of TEC will be directly cleared. This represents just a minor fraction of the TEC extent in the region.

- **assisting invasive species, that are harmful to the listed ecological community, to become established**	No	Clearing will be undertaken under a site Permit to Disturb which will include conditions around pest and weed control.
- **causing mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit growth**	No	Clearing will be undertaken under a site Permit to Disturb, which will include conditions around use of herbicides and other chemicals.
interfere with the recovery of an ecological community	No	The total area to be disturbed is 0.22 ha, this represents just a minor fraction of the TEC extent in the region the impacts of this are therefore very localised.

ASSESSMENT AGAINST SIGNIFICANT IMPACT CRITERIA –ENDANGERED SPECIES

Species	
Scientific Name: *Phascolarctos cinereus*	**Common Name: Koala**

Significant Impact Criteria (Will the action…)	Likely Significant Impacts (Yes/No)	Response to Criteria
Lead to a long-term decrease in the size of a population	Yes	Approx. 19.04 ha of Koala habitat is expected to be directly impacted. This figure represents a likely upper limit. Prior to the up listing of the Koala to endangered, published EPBC Act advice and precedents indicate that significant impacts can be expected to occur at between 5 and 20 hectares or greater. Since listing to endangered updated advice has not yet been published, however, for Koalas in central Queensland where population numbers are relatively stable in comparison to other parts of its range these values are unlikely to have shifted dramatically. An impact of 19.04 ha is likely to be significant. The removal of habitat at this scale may reduce the local population by a small number. In addition an easement of 60 m wide with rail infrastructure through it could also fragment the population or isolate areas of habitat previously utilised. As the proposed action is the construction of a rail corridor (replacing an existing rail alignment) there is the possibility of a disconnection of habitat and animal mortality from train strike. The frequency and intensity of rail movements will not alter from the current situation and fauna strike rates are expected to remain low.
Reduce the area of occupancy of the species	Yes	The total area to be disturbed is approx. 19.04 ha, while this represents just a minor fraction of the species occupied habitat it could reduce local population presence in the immediate vicinity.
Fragment an existing population into two or more populations	Yes	The total area to be disturbed is approx. 19.04 ha and is in the form of a 60 m wide rail corridor. While the surrounding area and habitat is already fragmented with other rail, roads and mine infrastructure, a further fragmentation could lead to alienation of some small habitat areas.
Adversely affect habitat critical to the survival of the species	No	Preferred Koala habitat in inland central Queensland is primarily along water courses where soil and therefore leaf moisture content is highest. The areas to be impacted are mostly open woodland areas with only minor ephemeral drainage lines. The habitat is not considered critical to the

		survival of the species and represents a very small proportion of habitat in the region.
Disrupt the breeding cycle of a population	No	The total area to be disturbed is 19.04 ha, this represents just a minor fraction of the species occupied habitat in the region the impacts of this are therefore very localised and are not expected to significantly impact the breeding cycle of the regional population. The proposed works and operation will not significantly change the threats currently present to the population (i.e. existing rail and vehicle movements, operating mines, dogs, fragmented landscape). This ability to cross rail lines does place Koalas at risk of train strike and in some cases (particular in high density urban areas) this can be a series threat to local populations. In this case the intensity and frequency of trains will not alter.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	No	The total area to be disturbed is 19.04 ha, this represents just a minor fraction of the species occupied habitat in the region the impacts of this are therefore very localised. The habitat is not considered critical to the survival of the species and represents a very small proportion of habitat in the region.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	No	Clearing will be undertaken under a site Permit to Disturb which will include conditions around pest and weed control.
Introduce disease that may cause the species to decline	No	Clearing will be undertaken under a site Permit to Disturb, which will include conditions around vehicle movements and wash-down. It is unlikely that the project will provide a vector for the spread or introduction of Chlamydia or Koala Retrovirus.
Interfere with the recovery of the species	No	The total area to be disturbed is 19.04 ha, this represents just a minor fraction of the species occupied habitat in the region the impacts of this are therefore very localised. The habitat is not considered critical to the survival of the species and represents a very small proportion of habitat in the region. These direct impacts are not considered likely to interfere with the recovery of the species.

Species	
Scientific Name: *Rostratula australis*	**Common Name: Australian painted snipe**

Significant Impact Criteria (Will the action…)	Likely Significant Impacts (Yes/No)	Response to Criteria
Lead to a long-term decrease in the size of a population	No	An impact of 0.22 ha is not likely to be significant. The species is highly mobile and utilises a range of habitats throughout its natural range.
Reduce the area of occupancy of the species	No	The total area to be disturbed is 0.22 ha, this represents just a tiny fraction of the species' occupied habitat and will not affect overall species occupancy in the local or regional context.
Fragment an existing population into two or more populations	No	The total area to be disturbed is 0.22 ha. This will not affect the local or regional population.
Adversely affect habitat critical to the survival of the species	No	The habitat is not considered critical to the survival of the species and represents a very small proportion of habitat in the region.
Disrupt the breeding cycle of a population	No	The total area to be disturbed is 0.22 ha. This will not affect the local or regional breeding population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	No	The total area to be disturbed is 0.22 ha, this represents just a minor fraction of the species occupied habitat in the region the impacts of this are therefore very localised. The habitat is not considered critical to the survival of the species and represents a very small proportion of habitat in the region.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	No	Clearing will be undertaken under a site Permit to Disturb which will include conditions around pest and weed control.
Introduce disease that may cause the species to decline	No	Clearing will be undertaken under a site Permit to Disturb, which will include conditions around vehicle movements and wash-down. It is unlikely that the project will provide a vector for the spread or introduction of disease.
Interfere with the recovery of the species	No	The total area to be disturbed is 0.22 ha. This will not affect the recovery of the species in any way.

Species	
Scientific Name: *Petauroides volans*	**Common Name: Greater glider**

Significant Impact Criteria (Will the action…)	Likely Significant Impacts (Yes/No)	Response to Criteria
Lead to a long-term decrease in the size of a population	Yes	An impact of 14.85 ha may be viewed as significant. The removal of habitat at this scale is not likely to affect the species as a whole but may reduce the local population.
Reduce the area of occupancy of the species	Yes	The total area to be disturbed is 14.85 ha, this represents just a minor fraction of the species occupied habitat. It may reduce local population presence in the immediate vicinity.
Fragment an existing population into two or more populations	No	The total area to be disturbed is 14.85 ha. The surrounding area and habitat is already fragmented with other rail, roads, farming and mine infrastructure, and further fragmentation is unlikely to result in significant changes to the populations in the local area.
Adversely affect habitat critical to the survival of the species	No	Preferred glider habitat in inland central Queensland is primarily along watercourses where moisture provides better conditions for foraging as well as for large tree growth providing denning hollows and better food resources. The areas to be impacted are mostly open woodland areas with only minor ephemeral drainage lines. The habitat is not considered critical to the survival of the species and represents a very small proportion of habitat in the region.
Disrupt the breeding cycle of a population	No	The total area to be disturbed is 14.85 ha, this represents just a minor fraction of the species occupied habitat in the region the impacts of this are therefore very localised and are not expected to significantly impact the breeding cycle of the regional population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	No	The total area to be disturbed is 14.85 ha, this represents just a minor fraction of the species occupied habitat in the region and the impacts of this are therefore very localised and unlikely to result in a long-term impact to a population. The habitat is not considered critical to the survival of the species.

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	No	Clearing will be undertaken under a site Permit to Disturb which will include conditions around pest and weed control.
Introduce disease that may cause the species to decline	No	Clearing will be undertaken under a site Permit to Disturb, which will include conditions around vehicle movements and wash-down. It is unlikely that the project will provide a vector for the spread or introduction of disease.
Interfere with the recovery of the species	No	The total area to be disturbed is 14.85 ha, this represents just a minor fraction of the species occupied habitat in the region the impacts of this are therefore very localised. The habitat is not considered critical to the survival of the species and represents a very small proportion of habitat in the region. These direct impacts are not considered likely to interfere with the recovery of the species.

ASSESSMENT AGAINST SIGNIFICANT IMPACT CRITERIA – VULNERABLE

Species	
Scientific Name: *Geophaps scripta scripta*	**Common Name: Squatter Pigeon**

Significant Impact Criteria (Will the action…)	Significant Impacts (Yes/No)	Response to Criteria (provide specific details against each criteria)
Lead to a long-term decrease in the size of an important population of a species	No	No identified important population of Squatter Pigeon is present in the Project Area. Squatter Pigeon occur at relatively low densities in remnant vegetation throughout the region. It is unlikely that the Project will lead to a long term decrease in the size of an important population of species. The species is widespread and occurs in a range of suitable habitats across the region. An impact of 26.45 ha is not seen as significant at a population level.
Reduce the area of occupancy of an important population	No	No known important population of Squatter Pigeon are present in the Project Area. Squatter Pigeon occur at relatively low densities in remnant vegetation throughout the region.
Fragment an existing important population into two or more populations	No	No important population of Squatter Pigeon are present in the Project Area. Squatter Pigeon occur at relatively low densities in remnant vegetation throughout the region. The species is mobile and will be able to move across and along the rail corridor.
Adversely affect habitat critical to the survival of the species	No	While 26.45 ha of habitat will be impacted by the project this is not likely to affect the short or longer-term survival of the species.
Disrupt the breeding cycle of an important population	No	No important population of Squatter Pigeon are present in the Project Area. Squatter Pigeon occur at relatively low densities in remnant vegetation throughout the region. The species is mobile and will be able to move across and along the rail easement.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	No	The habitat is not consider critical to the survival of the species and represents a very small proportion of habitat in the region. These direct impacts are not considered likely to lead to a significant species reduction in available habitat.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	No	Clearing will be undertaken under a site Permit to Disturb which will include conditions around pest and weed control.
Introduce disease that may cause the species to decline	No	Clearing will be undertaken under a site Permit to Disturb which will include conditions around pest and weed control. It is unlikely that the project will provide a vector for the spread or introduction of disease.
Interfere substantially with the recovery of the species	No	Clearing is on the edge of an already cleared area and therefore is unlikely to interfere with the recovery of species.

Species	
Scientific Name: *Denisonia maculata*	**Common Name: Ornamental snake**

Significant Impact Criteria (Will the action…)	Likely Significant Impacts (Yes/No)	Response to Criteria
Lead to a long-term decrease in the size of a population	Yes	An impact of 8.31 ha may be significant and potentially cause a reduction in the local population of this species.
Reduce the area of occupancy of the species	Yes	The total area to be disturbed is 8.31 ha, this represents just a minor fraction of the species occupied habitat in the region. However, at a local scale this may reduce the species presence in the immediate vicinity.
Fragment an existing population into two or more populations	No	The total area to be disturbed is 8.31 ha and is in the form of a 60 m wide rail corridor. The surrounding area and habitat is already fragmented with other rail, roads and mine infrastructure. A further fragmentation of a very limited area of habitat is unlikely to be significant.
Adversely affect habitat critical to the survival of the species	No	Preferred Ornamental snake habitat in inland central Queensland is primarily along watercourses, gilgai and in water depressions in cracking soils. The areas to be impacted are mostly open woodland areas with some possible gilgai and cracking soil areas. The limited extent of habitat impacted is unlikely to be critical to the survival of the species.
Disrupt the breeding cycle of a population	No	The total area to be disturbed is 8.31 ha, this represents just a minor fraction of the species occupied habitat in the region. The impacts of this are therefore very localised and are not expected to significantly impact the breeding cycle of the regional population.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	No	The total area to be disturbed is 8.31 ha, this represents just a minor fraction of the species occupied habitat in the region the impacts of this are therefore very localised. The habitat is not considered critical to the survival of the species and represents a very small proportion of habitat in the region.
Result in invasive species that are harmful to a critically endangered or endangered species becoming	No	Clearing will be undertaken under a site Permit to Disturb which will include conditions around pest and weed control.

established in the endangered or critically endangered species' habitat		
Introduce disease that may cause the species to decline	No	Clearing will be undertaken under a site Permit to Disturb, which will include conditions around vehicle movements and wash-down. It is unlikely that the project will provide a vector for the spread or introduction of disease.
Interfere with the recovery of the species	No	The total area to be disturbed is 8.31 ha, this represents just a minor fraction of the species occupied habitat in the region. The impacts of this are therefore very localised.

Figure 3: Brigalow TEC impacted areas

Figure 4: Greater glider impacted habitat

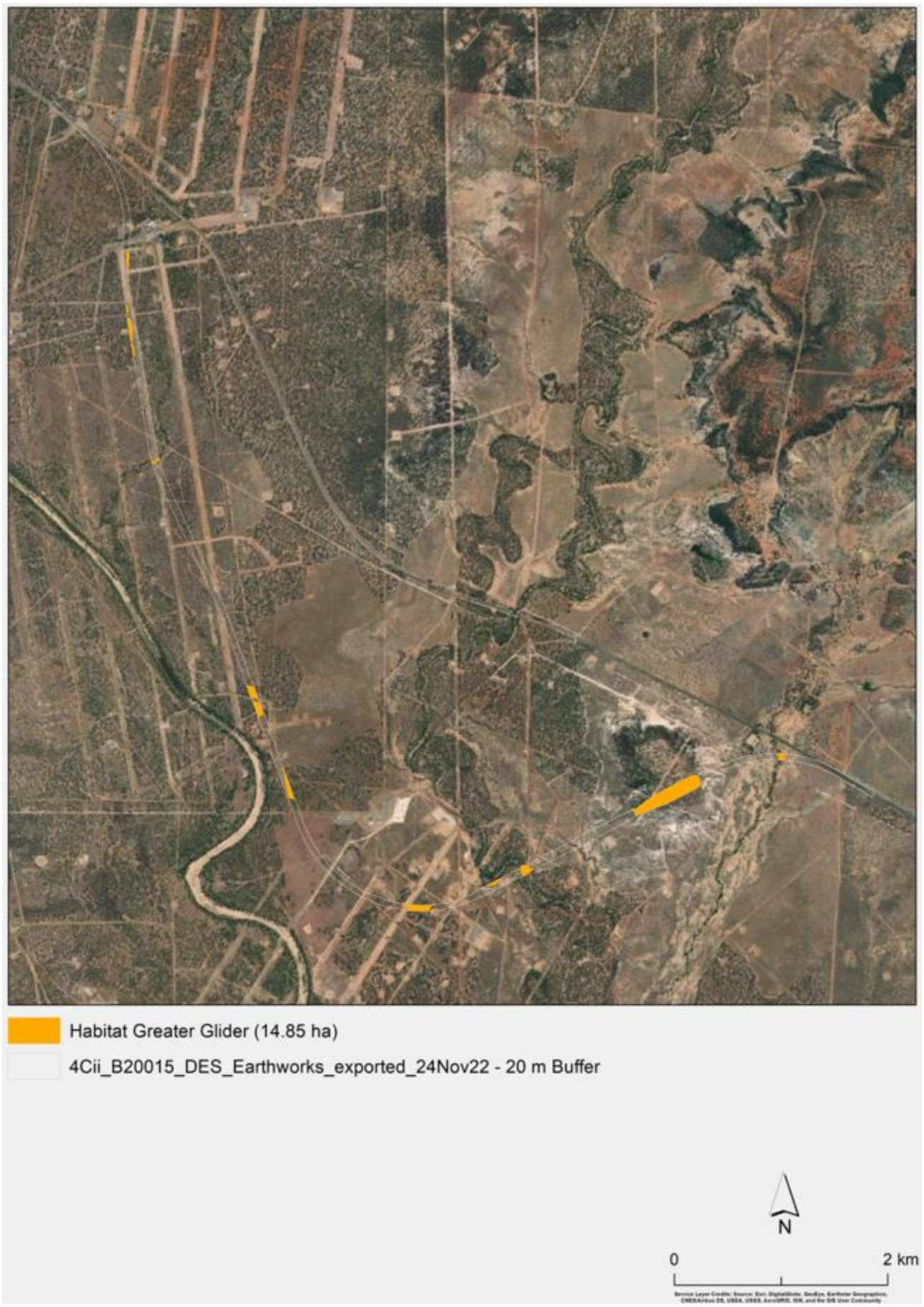


Figure 5: Koala impacted habitat

Figure 6: Squatter pigeon impacted habitat

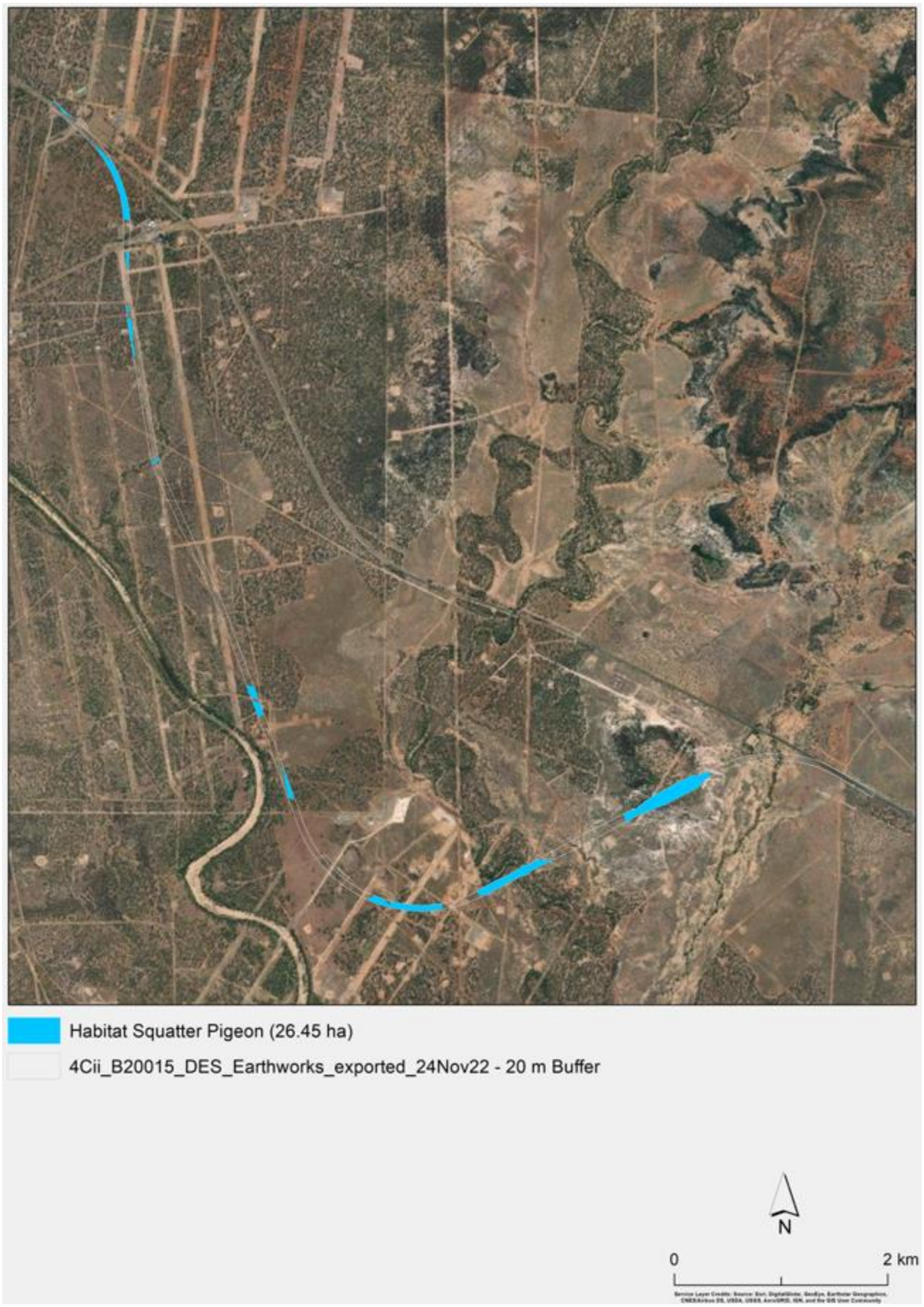


Figure 7: Ornamental snake impacted habitat

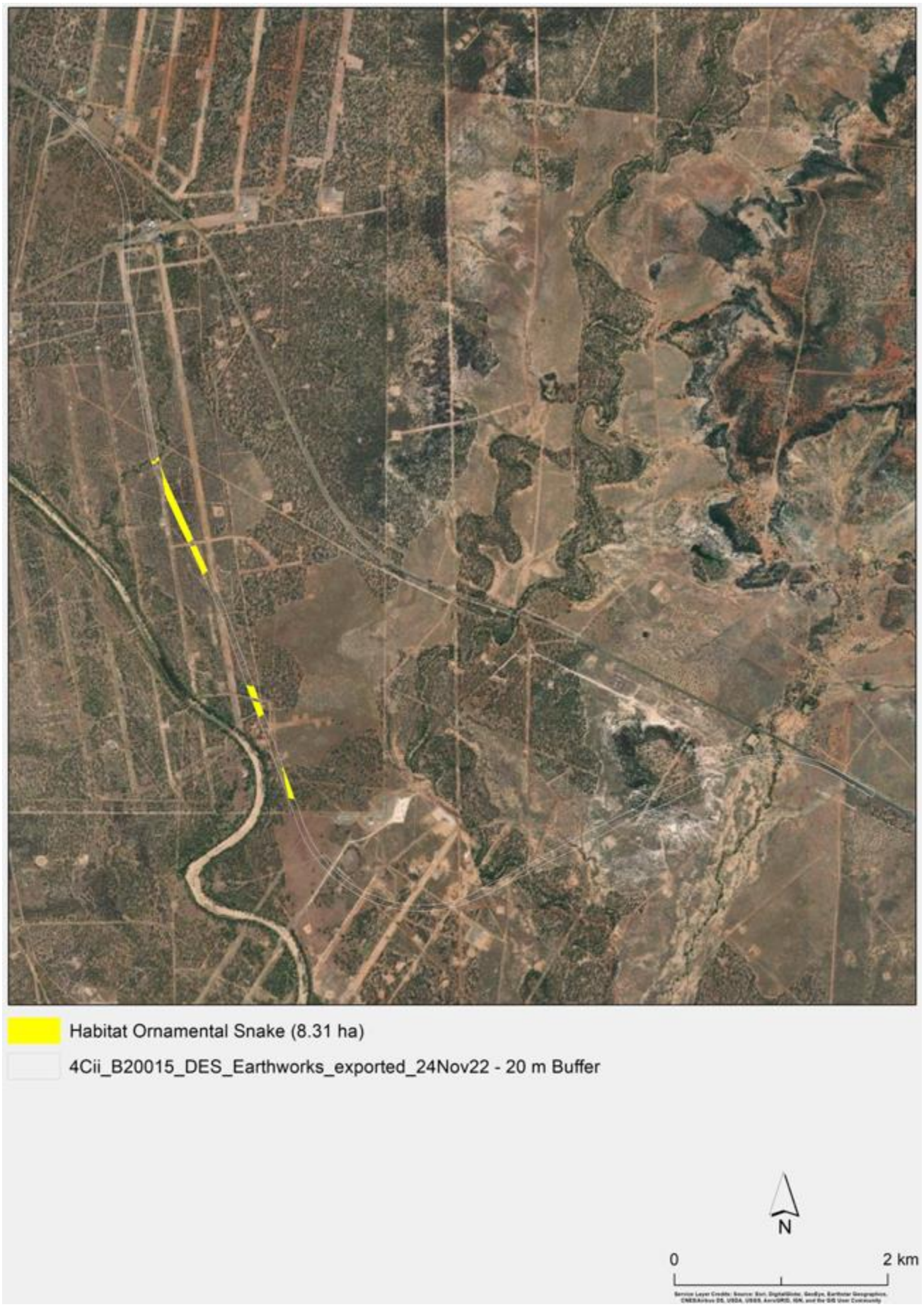


Figure 8: Australian Painted snipe impacted habitat

Appendix 2: Protected Matters Search

Report generated: 22 December 2022

Matters of National Environment Significance	Count
World Heritage Properties	0
National Heritage Places	0
Wetlands of International Importance (Ramsar Wetlands)	0
Great Barrier Reef Marine Park	0
Commonwealth Marine Area	0
Listed Threatened Ecological Communities	3
Listed Threatened Species	21
Listed Migratory Species	8

Threatened Ecological Communities

	Community Name	Threatened Category	Likelihood of Significant Impact	Comment
	Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered	Yes	See assessment
	Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Possible	See assessment
	Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin	Endangered	No – TEC not recorded in project area	

Threatened Species

Scientific Name	Common Name	Threatened Category	Significant Impact	Comment
Elseya albagula	Southern Snapping Turtle, White-throated Snapping Turtle	Critically Endangered	No	Species has not been recorded in the vicinity of the project
Calidris ferruginea	Curlew Sandpiper	Critically Endangered	No	Species has not been recorded in the vicinity of the project
Dichanthium queenslandicum	King Blue-grass	Endangered	No	Species has not been recorded in the vicinity of the project
Lerista allanae	Allan's Lerista, Retro Slider	Endangered	No	Species has not been recorded in the vicinity of the project

Rostratula australis	Australian Painted Snipe	Endangered	No - limited extent within the project area	See assessment
Neochmia ruficauda ruficauda	Star Finch (eastern), Star Finch (southern)	Endangered	No	Species has not been recorded in the vicinity of the project
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Endangered	Yes	See assessment
Petauroides volans	Greater Glider (southern and central)	Endangered	No - limited extent within the project area	See assessment
Poephila cincta cincta	Southern Black-throated Finch	Endangered	No	Species has not been recorded in the vicinity of the project
Dasyurus hallucatus	Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu]	Vulnerable	No	Species has not been recorded in the vicinity of the project
Eucalyptus raveretiana	Black Ironbox	Vulnerable	No	Species has not been recorded in the vicinity of the project
Geophaps scripta scripta	Squatter Pigeon (southern)	Vulnerable	No - limited extent within the project area	See assessment
Erythrotriorchis radiatus	Red Goshawk	Vulnerable	No	Species has not been recorded in the vicinity of the project

Furina dunmalli	Dunmall's Snake	Vulnerable	No	Species has not been recorded in the vicinity of the project
Falco hypoleucos	Grey Falcon	Vulnerable	No	Species has not been recorded in the vicinity of the project
Macroderma gigas	Ghost Bat	Vulnerable	No	Species has not been recorded in the vicinity of the project
Nyctophilus corbeni	Corben's Long-eared Bat, South-eastern Long-eared Bat	Vulnerable	No	Species has not been recorded in the vicinity of the project
Rheodytes leukops	Fitzroy River Turtle	Vulnerable	No	Species has not been recorded in the vicinity of the project
Samadera bidwillii	Quassia	Vulnerable	No	Species has not been recorded in the vicinity of the project
Egernia rugosa	Yakka Skink	Vulnerable	No	Species has not been recorded in the vicinity of the project
Denisonia maculata	Ornamental Snake	Vulnerable	Yes	See assessment

Migratory Species

Scientific Name	Common Name	Class	Significant Impact	Comment
Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo	Migratory	No - not recorded in project area	Species has not been recorded in the vicinity of the project
Apus pacificus	Fork-tailed Swift	Migratory	No - not recorded in project area	An important population of this species is unlikely to occur in the project area
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	Migratory	No - not recorded in project area	Habitat for the species has not been recorded in the vicinity of the project
Motacilla flava	Yellow Wagtail	Migratory	No - not recorded in project area	Habitat for the species has not been recorded in the vicinity of the project
Actitis hypoleucos	Common Sandpiper	Migratory	No - not recorded in project area	Habitat for the species has not been recorded in the vicinity of the project
Calidris ferruginea	Curlew Sandpiper	Migratory	No - not recorded in project area	Habitat for the species has not been recorded in the vicinity of the project
Calidris acuminata	Sharp-tailed Sandpiper	Migratory	No - not recorded in project area	Habitat for the species has not been recorded

				in the vicinity of the project
Calidris melanotos	Pectoral Sandpiper	Migratory	No - not recorded in project area	Habitat for the species has not been recorded in the vicinity of the project