

# Flora and fauna



**ERA**

## The study concluded that there is a low risk of habitat degradation in the near vicinity of the Project and surrounding areas.

Many studies of the terrestrial and aquatic environments on the Ranger Project Area and surrounding Kakadu National Park have informed baseline conditions and the influence of threatening processes, including uranium mining, on the biological environment.

ERA engaged a consultant (Eco Logical Australia) to conduct a study on the potential impact of the Project on flora and fauna. The study included a survey across a 220 hectare area, incorporating Magela Creek and the associated riverine vegetation corridor, Georgetown Billabong, and the transition between riverine and woodland vegetation. A targeted wetland survey was conducted at Retention Pond 1 (RP1) outside the primary survey area, as it could host migratory species that have a larger spatial resource range.

The study concluded that there is a low risk of habitat degradation in the near vicinity of the Project and surrounding areas. Removing less than 1 hectare of disturbed habitat directly adjacent to the mine site is unlikely to reduce the area or quality of habitat for threatened and migratory species, or impact on fauna populations as a whole.

### Flora

The vegetation in the survey area is comprised of five main groups or communities - shrubland, grassland, woodland, riparian and billabong fringe - and is indicative of those that occur in the surrounding Kakadu.

There were no Commonwealth or Northern Territory listed plant species or threatened ecological communities assessed as likely to occur in the vicinity of the Project. It is highly unlikely that there are threatened flora communities on the Ranger Project Area, given that none have been found in numerous surveys over the past 20 years.

The terrestrial vegetation communities adjacent to the Project have been heavily impacted by past land use practices.

These include: clearing, fire management, land application (water disposal), and naturally occurring events such as late dry season fires, flooding and storms/cyclones, and impacts due to feral pigs and weeds.

It is unlikely that the Project will result in significant potential downstream impacts from clearing, due to the distance of the proposed development from water bodies and the Magela Creek and the very small scale of clearing associated with the Project.

### Fauna

The survey area represented a range of habitats, including eucalypt woodland, riparian woodland, Magela Creek, and Georgetown Billabong.

Various techniques, such as trapping and placement of motion sensitive cameras were used for the fauna survey over a 40 day period recording at least 127 species (8 native amphibians, 79 birds, 17 native mammals, 20 reptiles, 3 introduced species). A significant impact assessment was conducted on 12 threatened and 14 migratory EPBC-listed species, including those identified within the survey area. The assessment concluded that all indicators of potential significant impact, such as fragmentation of an important population or adverse effects on a critical habitat, were unlikely.

The Project does not present risks from invasive fauna. Feral animals are well established in Kakadu; there are no natural or artificial barriers that restrict their access; and, there are no areas on the Ranger Project Area that can be considered free of feral animals or where feral animals could be eradicated.

### Environmental radiation assessment

In addition to the field survey, an ERICA assessment was undertaken. ERICA is a software tool that quantitatively assesses the radiation risk to both aquatic and terrestrial flora and fauna, based on key parameters such as body size and weight, habitat, transfer pathways, etc. The pathways for exposure were via controlled release of treated water to Magela Creek and dust deposition onto local soils. The



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results of the assessment showed that the radiation risk to aquatic and terrestrial plants and animals as a result of the cumulative operations at Ranger mine is not significant.

### Traffic impact assessment

Potential risks to threatened and migratory species along the main arterial corridors to and from the Ranger mine were considered during the separate traffic impact assessment. The study identified locations of greater environmental sensitivity, analysed crash statistics and considered scenarios relating to all major processing consumables. The study concluded that the Project will not materially alter the existing transport risk profile.

Extensive preventative and mitigation strategies are currently in place around the transport of hazardous and dangerous goods and light vehicle travel to and from the Ranger mine.

### Additional controls

Despite the low potential for impacts to habitat, flora or fauna, several controls have been incorporated in the Project design:

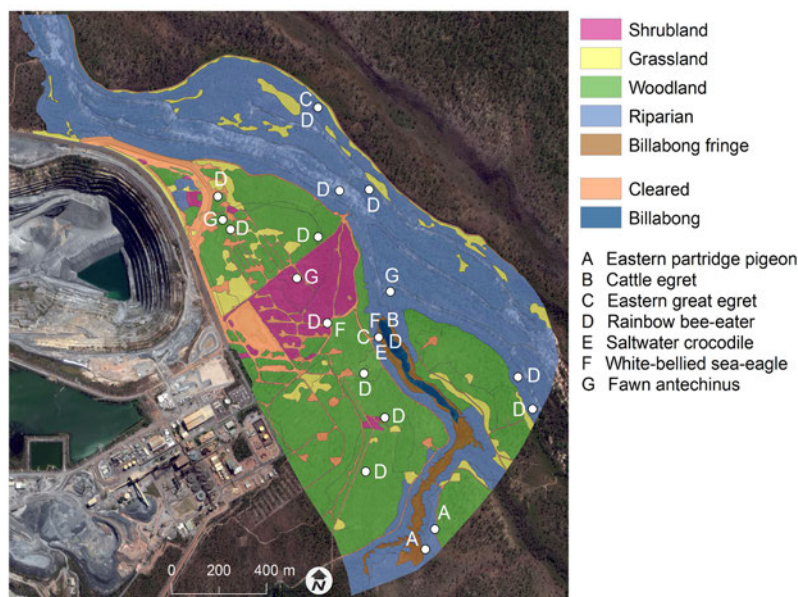
- Infrastructure, including vent shafts located predominantly

within the existing operational footprint

- dust mitigation measures and active rehabilitation of disturbed areas
- noise attenuation technology
- directional lighting.

## Fast Facts

- At least 127 species were recorded during a field survey in the vicinity of the Project.
- A significant impact assessment by the independent consultant concluded that all indicators of significant impact were unlikely
- Impacts to threatened and migratory species from transport, radiation and key threatening processes such as land clearing, weeds, etc, is considered low to unlikely.
- There are no threatened floristic species or communities known to occur on the RPA.



## Further reading:

Refer to Chapter 9 and Chapter 12 of the *ERA Ranger 3 Deeps Draft Environmental Impact Statement*.