



Appeals Convenor
Environmental Protection Act 1986

**REPORT TO THE
MINISTER FOR ENVIRONMENT**

**APPEAL IN OBJECTION TO THE CONTENT OF, AND RECOMMENDATIONS IN,
AN ENVIRONMENTAL PROTECTION AUTHORITY REPORT**

**ELIWANA RAILWAY PROJECT
(EPA REPORT 1633)**

PROPONENT: FORTESCUE METALS GROUP LIMITED

Appeal Number 026 of 2019

July 2019

Appeal Summary

This report relates to an appeal lodged in objection to the contents of, and recommendations in, Report 1633 of the Environmental Protection Authority (EPA) in respect to Fortescue Metals Group Limited's (the proponent) Eliwana Railway Project.

In its assessment of the proposal, the EPA took into account the impacts to its key environmental factors, the proponent's proposed mitigation measures, the relevant principles of the *Environmental Protection Act 1986*, and the extent to which the impacts to the key environmental factors are manageable. The EPA concluded that the proposal is environmentally acceptable and can be implemented subject to its recommended conditions, including an offset.

The appellant raised concerns in relation to the impact of clearing of native vegetation generally, impacts to the *Themeda grasslands on cracking clays* threatened ecological community (TEC), priority flora, conservation significant fauna and social surroundings (including culturally significant sites). The appellant disagreed with the EPA's recommendation that the proposal could be implemented and was of the view that an offset was not appropriate for this proposal.

Based on the information obtained during the investigation, it is considered that the EPA had appropriate consideration of the potential environmental impacts resulting from the Eliwana Railway Project, as raised by the appellant. It was also found that the EPA's conclusion that the proposal could be implemented to meet the EPA's environmental objectives, subject to conditions, is supported by the available evidence.

It was noted, however, that the conditions recommended by the EPA in respect to priority flora do not reference indirect impacts, which is inconsistent with the content of the EPA's report. This omission is recommended to be rectified through the appeal decision.

Recommendation

For the reasons set out in this report, and in accordance with the EPA's advice, it is recommended that the appeal be allowed to the extent that condition 8-1(1) is amended to reference indirect impacts to the priority flora species listed in that condition.

It is otherwise recommended that the appeal be dismissed.

INTRODUCTION

This report relates to an appeal lodged by The Wilderness Society Western Australia in objection to the report and recommendations of the Environmental Protection Authority (EPA) for Fortescue Metals Group Limited's (the proponent) Eliwana Railway Project (Report 1633).

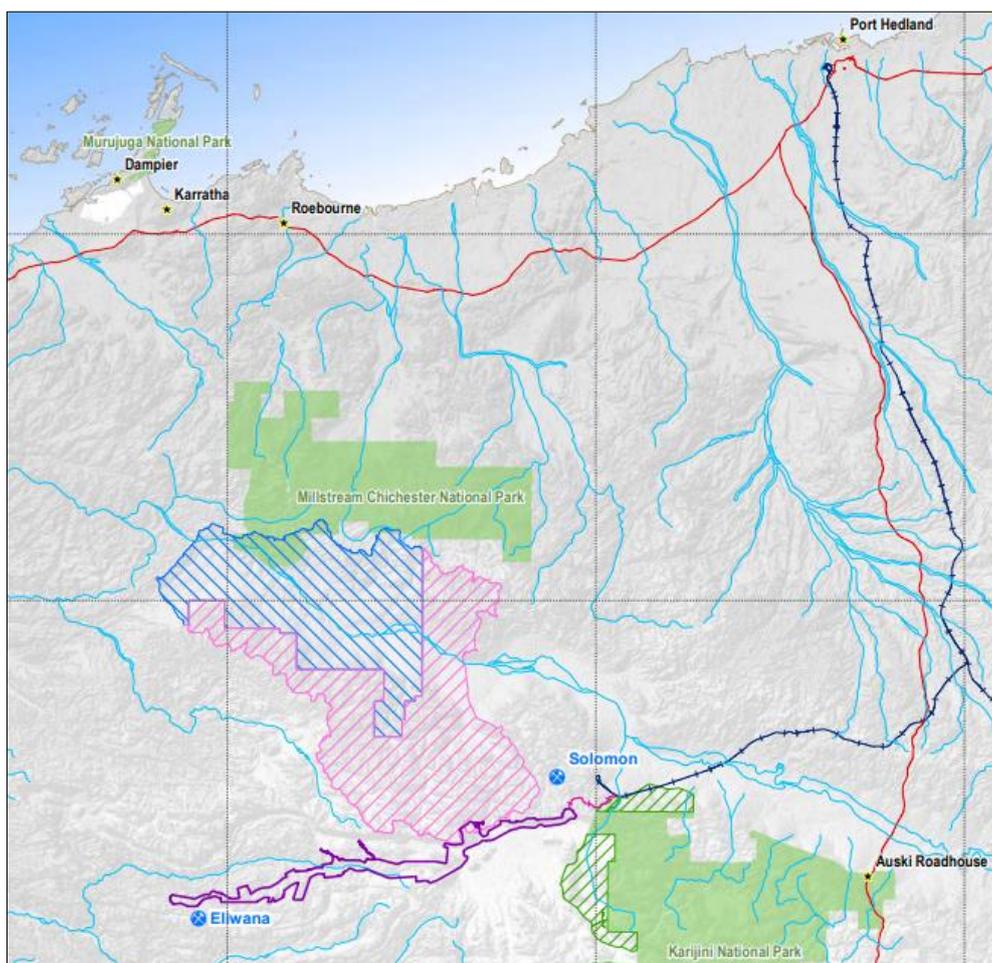
The proposal includes the clearing of up to 3,690 hectares (ha) of native vegetation within a defined Railway Development Envelope (RDE) of 38,199 ha.¹

The proposal includes the construction of a 120 kilometre railway line linking the proponent's existing Solomon Mine with the proposed Eliwana Iron Ore Mine², located approximately 90 kilometres west of Tom Price. The eastern section of the proposed Eliwana RDE is located adjacent to Karijini National Park.

The proposal also includes associated railway embankments, maintenance and access tracks, power and communications corridor, bridges and overpasses to cross existing Rio Tinto Railway and conveyor infrastructure, gas and water pipelines and temporary construction infrastructure including construction camps, borrow areas, ballast quarries and laydown areas.

Figure 1 – Proposal location (within purple line)

(Source: FMG (2018))

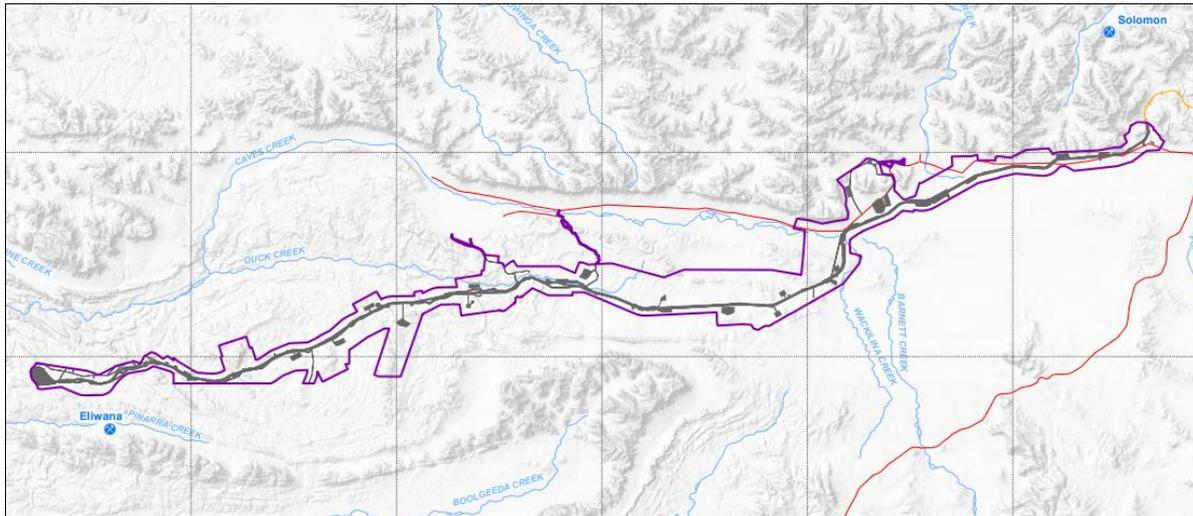


¹ EPA, Report 1633, April 2019.

² EPA Report 1641 Eliwana Iron Ore Mine Project was released on 24 June 2019.

Figure 2 – Proposal footprint (indicative footprint in grey)

(Source: FMG (2018))



This document is the Appeals Convenor's formal report to the Minister for Environment under section 109(3) of the *Environmental Protection Act 1986* (EP Act).

OVERVIEW OF APPEAL PROCESS

In accordance with section 106 of the EP Act, a report was obtained from the EPA in relation to the issues raised in the appeal. The proponent was also given the opportunity to address the matters raised in the appeal.

During the appeal investigation the Appeals Convenor consulted the appellant and the proponent in relation to issues raised in the appeal.

Both the appellant and the proponent requested a copy of the EPA's report on the appeal.

The environmental appeals process is a merits-based process. For appeals in relation to an EPA report and recommendations, the Appeals Convenor normally considers the environmental merits of the assessment by the EPA, based on objectives as set by the EPA as well as other environmental factors. The appeals process considers environmental significance, relevance of factors, additional information not considered by the EPA, technical errors and attainment of policy objectives. Where the development has been the subject of previous EPA assessments, those assessments and any subsequent Ministerial appeal decisions also need to be taken into account.

OUTCOME SOUGHT BY APPELLANT

Broadly, the appellant is seeking for the Minister to remit the proposal to the EPA for further research and investigation into flora in the Pilbara region, and in particular into the Priority 3 species *Triodia basitricha* and conservation significant fauna (including the night parrot and the northern quoll).

The appellant is also seeking that an alternative solution be investigated as offsets are not applicable to this proposal and that the proposal be amended to avoid impacts to social surroundings.

GROUNDS OF APPEAL

The grounds of appeal have been summarised as following:

1. Flora and vegetation
2. Terrestrial fauna
3. Social surroundings

GROUND 1: FLORA AND VEGETATION

The appellant submitted that the native vegetation clearing contemplated for the proposal is unacceptable given the following:

- the clearing of up to 40 ha of the *Themeda grasslands on cracking clays* threatened ecological community (TEC) represents a 0.84% loss of the known extent of this vegetation community
- the linear nature of the railway will result in fragmentation of vegetation
- impacts to priority flora (indirect) in particular *Triodia basitricha*.

Consideration

This ground of appeal is considered to raise the following:

1. The flora and vegetation values of the RDE
2. The level of impact to those values by the implementation of the proposal
3. The availability and acceptability of mechanisms to address the identified impacts.

These issues will be addressed in turn.

Flora and vegetation values of the RDE

The EPA identified Flora and Vegetation as a key environmental factor due to direct and indirect impacts from the implementation of the proposal. The EPA's environmental objective for this factor is 'to protect flora and vegetation so that biological diversity and ecological integrity are maintained'.

In its assessment the EPA relied on various flora and vegetation surveys relevant to the RDE. The EPA noted in Report 1633, that the surveys were generally in accordance with its *Technical Guidance – Flora and vegetation surveys for environmental impact assessment* (EPA 2014), however uncertainty in relation to the targeted survey methodology was identified by the EPA. Notwithstanding this uncertainty, the EPA considered that due to the linear nature of the development and the flexibility in the final alignment, the surveys were adequate to inform its assessment.

The surveys indicated the following flora and vegetation values in the RDE:

- the vegetation in the RDE is almost entirely in 'good to excellent' condition
- a total of 24 priority flora species were recorded within the RDE, including four priority 1, three priority 2, fifteen priority 3 species and two priority 4 species
- one TEC, the *Themeda grasslands on cracking clays*, occurs at the eastern end of the project area
- one priority 1 ecological community (PEC) *Brockman Iron cracking clay community*
- the potentially regionally significant vegetation community GsTAK
- sheet flow dependant banded mulga woodland vegetation, which plays an important functional role in arid areas
- several groundwater dependent and potentially groundwater dependent vegetation types have been recorded in the drainage network.

The appellant did not challenge the above characterisation of the environmental values of the area subject to the proposal.

Impacts to flora and vegetation

In relation to direct impacts, the EPA noted that the proposal involves the clearing of up to 3,690 ha of native vegetation within the RDE which is almost entirely in good to excellent condition.

Indirect impacts to flora and vegetation identified by the EPA included changes to surface water flows, groundwater drawdown, fragmentation, and increased weed diversity and extent.

The EPA also identified direct and indirect impacts to a number of specific flora and vegetation values identified in the previous section, being:

- *Themeda grasslands on cracking clays* TEC – direct disturbance of up to 40 ha of the TEC represents a loss of 0.84% of the known extent of this community which, while the EPA considered was unlikely to change its conservation status, does represent a significant residual impact. The EPA also noted that indirect impacts through fragmentation, weed introduction and changes to surface water flows may also impact the community.
- Brockman Iron cracking clay communities PEC – direct impacts up to 1.37 ha of the PEC representing 0.011% of the known extent of this vegetation community. The EPA was of the view that this magnitude of disturbance would not result in a change to the conservation status of the PEC.
- Sheetflow dependent, groundwater dependent and potentially groundwater dependent vegetation – the EPA considered that the direct impact of up to 116 ha of mulga woodland vegetation is unlikely to have a significant impact given that this vegetation type is extensive and relatively common. The proposal will result in a direct disturbance of 60.23 ha of groundwater dependent or potentially groundwater dependent vegetation, however the EPA noted that there will be no more than 6% loss of any vegetation type with the exception of EvAcVfDICf, representing a loss of 20%. This vegetation type is considered to be equivalent to another vegetation type outside of the RDE and the combined loss would be 4%.
- Priority flora species – eleven priority flora would be directly impacted by the clearing, however none of these are expected to be impacted by more than 6% of the known individuals. The EPA considered that this level of direct disturbance is unlikely to represent a significant regional impact to any of these species.
- Cumulative impacts to *Triodia basitricha* – the EPA identified potential cumulative impacts *T. basitricha* (priority 3 flora species) and noted that while the impact as a result of this proposal would be only 1.7% of known individuals, the potential cumulative impacts to the three FMG projects to this species could be 70% of known individuals.

The appellant raised general concern that the impact of the proposal on the above values were unacceptable. These concerns are considered in the next section in the context of the EPA's conclusions that the measures applied by way of avoidance, minimisation, mitigation and offset support the recommendation that the proposal be implemented.

Measures to address impacts

Themeda grasslands on cracking clays TEC

By this element of the appeal, the appellant claimed that the level of impact to this TEC was unacceptable. No detail was provided by the appellant as to why it considered the identified impact to be unacceptable.

As noted above, the direct impact to the TEC from the implementation of the proposal is 40 ha, or 0.84% of the known extent. In addition, there are indirect impacts from changes to surface water flows, fragmentation and weed incursion.

The EPA accepted, on the advice of the Department of Biodiversity, Conservation and Attractions (DBCA), that the direct impacts were significant, and ought be minimised and avoided. To this end, the EPA applied the following conditions to the proposal which it has advised are sufficient to ensure impacts to the TEC are not unacceptable:

- Condition 1: spatial extent of disturbance within the TEC limited to 40 ha specified in the schedule to the recommended conditions.
- Condition 7: prohibition on construction of borrow pits in the TEC (and neighbouring PEC).
- Condition 9: requirement for the proponent to manage the implementation of the proposal to avoid where possible, and minimise direct and indirect impacts to the TEC.
- Condition 12: management of surface water flows, with express limitation on subjecting more than 12 ha of the TEC to a reduction in surface water flows.
- Condition 15: requiring the preparation and implementation of a Closure and Rehabilitation Plan.
- Condition 16: requiring the provision of an offset by payment of \$1611 per hectare (indexed) to counterbalance the significant residual impact of clearing of up to 40 ha of the TEC.

In order to meet the EPA's environmental objective for flora and vegetation, the Flora and Vegetation Monitoring and Management Plan required by condition 9-2 is to be prepared in consultation with DBCA. The plan must include provisions to address impacts vegetation including changes to surface water and groundwater flows, fragmentation and weeds.

The appellant submitted that the above plan should be more detailed and include specific outcomes to be achieved. It is understood that the proponent submitted a vegetation management and monitoring plan to the EPA through the assessment process, which is intended as a precursor to a final plan required by condition 9, if the proposal is approved. This plan includes a series of environmental management objectives consistent with the environmental objectives set by the EPA to mitigate environmental impacts caused by the implementation of the project. The plan includes the identification of direct and indirect impacts on conservation significant flora and vegetation (including priority flora), establishes management strategies to minimise the potential impacts and develop a health monitoring program to detect impacts and apply corrective actions, if required.³

If an agreement or decision is made under section 45 of the EP Act to allow the proposal to be implemented, conditions 6 and 9 require the proponent to prepare and submit a Flora and Vegetation Monitoring and Management Plan to the requirements of the Chief Executive Officer (CEO) [of the Department of Water and Environmental Regulation (DWER)] in consultation with DBCA. Once the CEO has given notice to the proponent that the plan satisfies the requirements set in the condition 6-2 and meets the objective in condition 9-1, the proponent is required to implement the plan in accordance with condition 6-8.

In relation to the EPA's recommendation that an offset be applied to address significant residual impacts to the TEC (among other environmental values), the appellant stated that this was not appropriate as there is a lack of a comprehensive, adequate and representative (CAR) reserve system in the Pilbara and that the environmental and cultural values of the region are irreplaceable. The appellant also cited papers questioning the efficacy of offsets generally, including where significant time lags occur between impact occurring and offset taking effect. In determining the appropriate offset, the EPA considered the proponent's application of the mitigation hierarchy, including measures to avoid, minimise and rehabilitate. The EPA assessed mitigation measures under each relevant environmental factor and considered that there would be a significant residual environmental impacts from the proposal including up to 40 ha of the TEC.

³ FMG, Eliwana Mine and Railway Vegetation Health Monitoring and Management Plan, January 2019, page 15.

As stated in Report 1633, the EPA recommended a higher rate of offset contributions be applied for the clearing of native vegetation with additional environmental values, such as the TEC. This rate is a payment of \$1,611 (indexed) for each hectare of the TEC cleared by the implementation of the proposal. The funds are intended to be deposited to the Pilbara Environmental Offsets Fund, which was established by Government as a strategic conservation initiative to address cumulative environmental impacts in the Pilbara region through a coordinated approach at a landscape scale. The fund is administered by DWER.

In response to this element of the appeal, the EPA advised that:

... in establishing the Fund, the WA government ... committed to ensuring that the offsets implemented via the Fund will:

- be relevant and proportional to the values being impacted (Principle 3);
- use sound knowledge and ensure the offsets counter balance the significant residual impacts and deliver long term environmental benefits (Principle 4); and
- be adaptive and be evaluated to ensure that they achieve the outcomes required (Principle 5).

In its 2014 advice to government on cumulative environmental impacts of development in the Pilbara region, the EPA acknowledged that:

... only six per cent of the Pilbara IBRA region is held in the formal reserve system, well below the 17 per cent recognised internationally for biodiversity protection. The conservation reserves are not proportionally distributed among the four subregions. By far the most threatened and least protected is the Fortescue subregion, with only 0.55 per cent currently reserved for conservation. The Chichester and Roebourne subregions are marginally better represented with 3.95 and 3.45 per cent respectively, and the Hamersley subregion has 12.88 per cent protected for conservation.⁴

Noting that the direct impact to the TEC assessed by the EPA is 40 ha (less than 1% of the extent of the TEC), and noting the conditions recommended by the EPA to minimise direct and indirect impacts, including the offset, it is considered that the EPA's assessment was justified. While the EPA did not specifically respond to the appellant's concerns about the effect of time lags between ground disturbing activity taking place and offsets taking effect, the issue is recognised as a valid consideration in the application of offsets.⁵ In this regard, it is expected that the identification of initiatives from funds paid into the Pilbara Environmental Offsets Fund will take into account time lags as part of the decision-making process under that scheme.

Priority flora species

The appellant submitted that direct and indirect impacts to priority flora are not acceptable. The appellant was of the view that the existence of the eleven priority flora species likely to be directly impacted by the proposed clearing being located outside of the RDE does not render them unworthy of protection within the RDE and that further research and survey work is required to determine the correct status and value of flora in the area.

As noted above, the EPA acknowledged there is uncertainty associated with the targeted survey methodology used to assess the potential impacts to priority flora. To address this, the EPA recommended that the proponent be required to conduct staged, targeted surveys for priority 1 and priority 2 flora as construction for the rail line progresses, and to take action to protect this flora from direct and indirect impacts where practicable.⁶

In response to the appeal, the EPA specifically advised that the implication by the appellant that all priority flora within the development area would be removed is incorrect:

⁴ EPA, Cumulative environmental impacts of development in the Pilbara region, August 2014, page 10.

⁵ Government of WA, WA Environmental Offsets Guidelines, August 2014, pages 18-19.

⁶ EPA, Report 1633, April 2019, page 20.

The EPA has complied with established guidance in determining whether the impacts to Priority Flora species would be significant, and has recommended condition 9 (Flora and vegetation management Plan) to ensure that species in the development area which are not directly impacted will be protected from indirect impacts.⁷

Condition 8-1 and 8-2 recommended by the EPA requires the proponent to submit a Priority Flora Supplementary Targeted Survey and Action Plan that meets the objective of avoiding (where possible) and minimising direct impacts to eight identified priority flora species. Like other plans recommended by the EPA, the proponent is required to submit the plan prior to commencement of ground disturbing activities, and to implement it once it has received notice from the CEO [of DWER] that it meets all relevant requirements (see conditions 6-3 and 6-8).

While the Report 1633 states that it recommended conditions relating to both direct and indirect impacts to priority flora, condition 8-1 only identifies direct impacts.

Through the appeal investigation, the proponent was asked why condition 8-1 should not be amended to include indirect impacts to priority flora. In response, it advised that it:

... does not accept that there are any risks of indirect impact on priority flora...

Indirect impacts such as fragmentation, dust deposition, altered fire regimes or altered surface or ground water regimes, are potential impacts that will extended past the rail construction phase and for the life of the rail operations.

Those potential indirect impacts with the ongoing potential to impact on significant vegetation species or communities are already conditioned elsewhere including [in the] Flora and Vegetation Monitoring and Management Plan ... Groundwater Management Plan [and] Surface Water Management Plan.⁸

The proponent additionally noted that the balance of condition 8 references construction related impacts, which it submitted affirms that the focus of the condition was on direct, rather than indirect, impacts.⁹

In relation to the proponent's submission that indirect impacts to priority flora are the subject of regulation in the Flora and Vegetation Monitoring and Management Plan, condition 9-1 relevantly states:

9-1 The proponent must manage the implementation of the proposal during all phases of the proposal to meet the following environmental objectives:

- (1) Avoid where possible, and minimise direct and indirect impacts to
 - (a) Themeda Grasslands on Cracking Clays TEC;
 - (b) Brockman Iron Cracking Clays PEC;
- (2) Prevent the introduction and spread of weed species as a result of the proposal.

Condition 9-2 requires the proponent to prepare and submit Flora and Vegetation Monitoring and Management Plan to meet the above objectives.

The proponent was asked to advise why condition 9-1 should not be amended to include specific reference to the priority flora species, to ensure indirect impacts are managed under the Flora and Vegetation Monitoring and Management Plan as contemplated by the EPA. In response, the proponent advised that it had previously advised the EPA that priority flora should not be listed in condition 9-1, as this would duplicate the specific requirements of condition 8.¹⁰

Further advice was sought from EPA Services to clarify the intent of the conditions as they relate to indirect impacts to priority flora. In response, EPA Services advised that condition 8

⁷ EPA, Response to Appeals 026/19, 12 June 2019, page 5.

⁸ FMG, email to Office of the Appeals Convenor, 11 July 2019.

⁹ Ibid.

¹⁰ FMG, email to Office of the Appeals Convenor, 11 July 2019.

was intended to reference indirect impacts.¹¹ In light of this advice, it is considered appropriate for condition 8-1(1) to be amended to include reference to indirect impacts to the listed priority flora in condition 8-1(1).

Aside from this amendment, and noting the EPA's advice that no more than 6% of any individuals of the identified priority flora species is expected to be impacted by the implementation of the proposal, it is considered that the EPA's assessment in respect to these species was justified.

Triodia basitricha

In addition to the general concerns about priority flora considered above, the appellant raised concern about cumulative impacts to the priority 3 species *T. basitricha* and the importance of this species to the night parrot for food and shelter.

The EPA noted in Report 1633 that the cumulative impact assessment found that the implementation of the proposal would reduce *T. basitricha* by 1.7% of known individuals, however cumulative impacts of the three Fortescue projects could be up to 70% of known individuals.

Based on information in the Response to Public Submissions, two populations of *T. basitricha* will be impacted by the Eliwana Railway project, one population will be impacted by the proposed Eliwana Iron Ore Mine, and four populations have been impacted by the Solomon Mine site, resulting in a total of seven populations being impacted by Fortescue projects.

In response to submissions, the proponent advised that the species is known to be found in two bioregions (Pilbara and Gascoyne) over an area of 28,347 square kilometres. It was on this basis that the proponent was of the view that there is unlikely to be a risk to the conservation of this species as a result of the three proposals, and that the inference that cumulative impact will be 70% of known individuals is overstated.¹²

Given the significance of the identified cumulative impacts, Report 1633 states:

The EPA has recommended that impacts to *T. basitricha* be minimised for this proposal through inclusion in the Flora and [V]egetation Monitoring and Management Plan required by recommended condition 9.¹³

As noted in the previous section, condition 9 makes no reference to priority flora, including *T. basitricha*. The proponent submitted that there is no need to include specific reference to the species in condition 9, as there are only two populations identified within the RDE, and works can be designed to avoid direct impact in accordance with condition 8.¹⁴

Taking into account the information provided above, it is considered that the EPA took into account cumulative impacts to *T. basitricha* as part of its assessment, and noting that this project is expected to impact 1.7% of known individuals, the EPA's conclusion that the project will not significantly impact this species is justified. Notwithstanding this finding, and consistent with the findings in the previous section, condition 8-1(1) is recommended to be amended to include indirect impacts to the priority flora species listed in that condition, which includes *T. basitricha*.

¹¹ EPA Services, email to Office of the Appeals Convenor, 16 July 2019.

¹² EPA, Report 1641, June 2019, page 24.

¹³ EPA, Report 1633, page 19.

¹⁴ FMG, Email to Office of the Appeals Convenor, 11 July 2019.

Clearing of vegetation generally

The appellant raised general concern about the impact of clearing 3,690 ha of native vegetation for the proposal, particularly in relation to cumulative impacts and the suitability of the proposed offset.

The EPA considered the impacts associated with the proposed clearing in the context of the specific values identified above. In relation to the clearing generally, the EPA stated:

In accordance with the WA Government Offsets Policy and Guidelines, the EPA considers that clearing of native vegetation in good to excellent condition represents a significant residual impact and has therefore recommended an offset condition (condition 16) to counterbalance this clearing.¹⁵

As noted above, almost the entirety (95%¹⁶) of the area proposed to be cleared is in good to excellent condition, and will therefore be subject to the EPA's recommended offset. Condition 16-3 specifies that the contribution rates for impact on 'good to excellent' quality vegetation is \$805 per hectare (indexed).

The appellant's concerns in relation to offsets is considered above in respect to the TEC.

Conclusion

For the reasons set out above, and the advice of the EPA, it is considered that the EPA adequately considered and assessed potential impacts of the clearing on flora and vegetation.

It is recommended, however, that this ground of appeal is allowed to the extent that condition 8-1(1) is amended to include reference to indirect impacts to the listed priority flora species. This is consistent with the EPA's report, and with the EPA's response to the appeal, and will ensure that indirect impacts to priority flora are avoided, where possible, and minimised otherwise.

GROUND 2: TERRESTRIAL FAUNA

By this ground of appeal, the appellant raised a number of issues with the EPA's assessment of impacts to terrestrial fauna, and to the EPA's conclusions on the acceptability of the proposal.

In relation to the night parrot, the appellant submitted that very little is known about the species' habitat, with only three nests having been found. The appellant submitted that because of this uncertainty, there is insufficient information to conclude that the implementation of the proposal will not impact the species. The appellant requested that further investigations be undertaken to confirm whether the species exists within the RDE before approval is given.

The appellant also noted that the Pilbara population of the northern quoll is important in the survival of the species in northern Australia, as it is the only population not threatened by cane toad. It submitted that further works were required to define the impact of the proposal on the species, and the value of the Pilbara population more generally.

In addition to specific concerns about the above two species, the appellant also raised general concern that the clearing of good quality native vegetation associated with the proposal would result in unacceptable habitat loss for conservation significant species, including the Pilbara olive python, the Pilbara leaf-nosed bat and the ghost bat.

¹⁵ EPA Report 1633, April 2019, page 17.

¹⁶ FMG, ERD, August 2018, Table 66.

Consideration

This section first sets out the appellant's specific concerns with respect to the night parrot and northern quoll, and then impacts to habitat generally, including the acceptability of the proposed offset recommended by the EPA.

Night parrot

The night parrot¹⁷ was raised as a Matter of National Environmental Significance (MNES) by the Commonwealth Department of the Environment and Energy and included in the EPA's assessment of the proposal as an 'accredited assessment' under Part IV of the EP Act.¹⁸

In Report 1633, the EPA acknowledged that no targeted survey for the night parrot has been undertaken for the proposal, however the proponent noted that surveys undertaken in 2011 and 2012 did not locate suitable habitat for the species.

The EPA, noting that no individuals of night parrot have been recorded and no areas of suitable habitat were identified within the RDE, the occurrence of this species within the RDE is unlikely and therefore the impact of the proposal to this species is also considered unlikely.

The appellant disputed the EPA's conclusion, noting that it is uncertain what habitat is suitable for the night parrot, and on this basis, it cannot be concluded that the night parrot does not exist in the RDE.

Based on Queensland records, as reported in the ERD, the known habitat for the night parrot comprises areas of dense long-unburnt spinifex that form large hummocks.

While large areas of spinifex grasslands occur within the RDE, it was noted in the ERD and in the proponent's response to the appeal that the fire history in the area has resulted in few areas of spinifex that are large and dense enough to form suitable nesting and roosting habitat for the night parrot. It was also reported in the ERD that a mosaic of fire ages is required for this species to move between areas of dense spinifex.¹⁹

In response to the appeal, the EPA advised that it considered that the potential for the night parrot to utilise any habitat type within the RDE is acceptably low. It was on this basis that the EPA considered it unlikely that the proposal would have an impact on the species.

In its response to the appeal, the EPA stated that it did not consider that further survey work for the night parrot, prior to the proposal approval, would result in any improved or different outcomes for the species.

From the foregoing, the EPA has judged that on the basis of the available information, there is a low likelihood of the night parrot being present in the RDE, and that as a result, no additional investigative work of the kind contemplated by the appellant was required. Given this, and noting the EPA's judgment that the level of impact to the species is acceptably low, the EPA's conclusions are considered to be justified.

¹⁷The night parrot (*Pezoporus occidentalis*) is listed as 'critically endangered' under the BC Act and 'endangered' EPBC Act.

¹⁸ The Eliwana Railway Project was considered to be a 'controlled action' under the EPBC Act and afforded an accredited assessment under Part IV of the EP Act.
<http://epbcnotices.environment.gov.au/entity/annotation/875d5b83-9fc5-e711-b4e8-005056ba00a8/a71d58ad-4cba-48b6-8dab-f3091fc31cd5?t=1562045751749>

¹⁹ FMG, ERD, August 2018, para 5.3.5.2.

Northern quoll

The ERD states:

The Northern Quoll (*Dasyurus hallucatus*) is listed as Endangered under the EPBC Act. Although the species once occurred across Northern Australia, it is now restricted to the Pilbara and Kimberley regions of Western Australia and a few discrete populations in the Northern Territory and Queensland...²⁰

The EPA noted that of up to 360 ha of suitable denning (i.e. nesting) and foraging habitat, including five hectares of gorges and gullies denning habitat was identified within the RDE. The EPA concluded that no more than 6% of its extent within the RDE would be cleared by the proposal.

The EPA acknowledged that the significance of the Pilbara population of the northern quoll, however considered that there is little risk to the Pilbara population as a result of the proposal given that no individuals were identified during the survey despite a significant survey effort on behalf of the proponent. It is noted in this regard that the survey effort comprised 4,606 Elliot night traps, 534 cage night traps and 14,520 motion camera hours.²¹ The EPA in Report 1633 noted that its assessment for fauna was based on surveys and studies conducted by the proponent and met the requirements of the EPA guidance for this factor.

Specifically in response to the appeal, the EPA stated that it:

... considered the potential for direct and indirect impacts to the Northern Quoll, and has recommended conditions to minimise indirect impacts that may occur in the event that transient individuals enter the area. The EPA considers that the risk to the Northern Quoll population as a result of this proposal is low, and that further studies prior to the approval of this project would not result in improved or different outcomes for this species.²²

In relation to indirect impacts, the EPA noted that this species had been recorded near the Solomon mine and that suitable denning and foraging habitat of up to 360 ha was identified within the RDE. The EPA concluded that any individuals found in the area are likely to be transient and seasonal and that impacts to habitat are unlikely to be significant, beyond the significant residual impacts inherent in the clearing of habitat for significant species.

The conditions recommended by the EPA include a requirement for the proponent to offset the identified transient habitat found within the RDE, being \$805 (indexed) per hectare for clearing of this habitat (condition 16-3). Condition 10 also requires the proponent to avoid (where possible) and minimise direct and indirect impacts to significant fauna and their habitat, including habitat for northern quoll.

Habitat values generally

The appellant raised general concern that the clearing associated with the proposal would result in habitat loss for conservation-significant species, including the Pilbara olive python and northern quoll; as well as loss of foraging and dispersal habitat for the Pilbara leaf-nosed bat and ghost bat.

The impacts to the fauna values in the RDE identified by the EPA include:

- disturbance of up to 0.3 ha of critical gorges and gullies habitat and impact to foraging and dispersal habitat for the Pilbara leaf-nosed bat and the ghost bat
- indirect impacts to transient Pilbara olive python individuals such as vehicle strike and increase in feral animals
- clearing of 360 ha of suitable denning and foraging habitat for the northern quoll occur within the RDE, including 5 ha of gorges and gullies denning habitat.

²⁰ FMG, ERD, August 2018, para 5.3.4.

²¹ FMG, ERD, August 2018, page 317.

²² EPA, Response to Appeals 026/19, 12 June 2019, page 4.

In relation to the Pilbara leaf-nosed bat and the ghost bat, the EPA found that although these species have been recorded in the RDE, it is likely that the occurrences are due to foraging. In the absence of calling activity, the EPA concluded that it is unlikely that these bat species are using the RDE for diurnal roosting and therefore concluded that the foraging habitat is unlikely to be critical. The EPA noted that 0.3 ha of five hectares identified gorges and gullies in the RDE, which are considered to be critical habitat for both bat species, are likely to be disturbed by the proposal. The EPA concluded that:

....impacts to habitat for these two bat species is unlikely to be significant beyond the significant residual impact inherent in clearing of habitat, and particularly critical habitat (gorges and gullies), for significant species.

In relation to the Pilbara olive python and the northern quoll, despite neither of these species being recorded during the surveys, the EPA noted their occurrence in areas near the RDE and that suitable habitat for both species occurs within the RDE.

In relation to the Pilbara olive python, noting that approximately 94% of the mapped habitat for this species in the RDE would not be disturbed, the EPA considered that impacts to the species' habitat associated with this proposal are unlikely to be significant, beyond the significant residual impact inherent in clearing of habitat for significant species.

To address the identified impacts to habitat, the EPA recommended the following conditions be applied if the proposal is approved:

- Condition 10: preparation and implementation of a Significant Fauna Management Plan to avoid and minimise direct and indirect impacts to significant fauna and their habitat, including but not limited to, the Pilbara olive python, northern quoll, Pilbara leaf-nosed bat and ghost bat
- Condition 16(1): implementation of an offset by payment of \$805 per hectare of 'good to excellent' condition including habitat for native vegetation habitat for the Pilbara olive python, northern quoll, Pilbara leaf-nosed bat and ghost bat
- Condition 16(2): implementation of an offset by payment of \$1,611 per hectare of critical habitat (gorges and gullies) for the Pilbara leaf-nosed bat and the ghost bat.

In relation to the appellant's concern raised for the detailed monitoring and management plans (including exact targets to be met and methodology) to be developed before the project is approved, it is noted that in accordance with condition 6-2, the monitoring and management plan must specify the environmental objectives to be achieved, management actions, measurable management targets, monitoring to ensure effectiveness and compliance reporting. Condition 6-3 provides that the CEO determines if the plans satisfy the requirements set out in condition 6-2.

Conclusion

Taking the above information into account, it is considered that the EPA adequately assessed impacts to terrestrial fauna, including the night parrot and the northern quoll, and its conclusions were thereby justified. It is recommended therefore that this ground of appeal be dismissed.

GROUND 3: SOCIAL SURROUNDINGS

The appellant noted that the RDE traverses two Native Title Determinant Sites – the Puutu Kuntj Kurrama and Pinikura (PKKP) lands and the Eastern Guruma lands.

The appellant was of the view that the social impacts are not acceptable with regard to the distance between the railway and three significant sites, namely, the Nharraminju Wuntu Rock Art Precinct, the Kumpanha Dancing Grounds and the Hamersley Station Homestead.

Furthermore the appellant raised concerns that potential changes to the fire regime and native vegetation clearing could impact on Aboriginal heritage. The appellant submitted that fire has the potential to destroy rock art and alter the landscape, and changes to culturally significant flora and fauna through clearing (and poor rehabilitation outcomes) will impact on traditional activities in the area.

The appellant sought for the railway alignment to be moved further from the heritage sites and that access to the site is minimally impacted.

Consideration

The EPA identified social surroundings as a key environmental factor for the proposal. The EPA's environmental objective for this factor is 'to protect social surroundings from significant harm'.

In its assessment, the EPA noted that it had regard to the *Statement of Environmental Principles, Factors and Objectives* (EPA 2016), with particular regard to the *Principle of Intergeneration Equity and the Environmental Factor Guideline - Social Surroundings* (EPA 2016).

In Report 1633, the EPA identified sensitive receptors likely to be physically impacted by the proposal. These include the three sites raised by the appellant, access to lands to undertake traditional activities, surface and groundwater flows to water resources known to have Aboriginal heritage values, and culturally significant flora and fauna.

In response to the appeal, the EPA advised that it conducted extensive consultation with the Eastern Guruma and PKKP peoples throughout the assessment of the proposal. The EPA advised that the EPA Chairman hosted a meeting with representatives of the Eastern Guruma people and the proponent which specifically addressed the proximity of the rail line to the three sites referred to in this ground of appeal, all of which occur within the Eastern Guruma native title determination area.

The proponent advised that during the assessment, it altered the railway alignment to eliminate direct impacts to the Nharraminju Rock Art Complex and the Kumpanha Dancing Grounds, and minimise indirect impacts to the Hamersley Station homestead. The proponent also advised that the alignment was constrained by a number of factors including existing Rio Tinto State Agreement areas and Rio Tinto infrastructure. Other factors limiting the alignment included engineering and design, topographical, geotechnical and environmental and heritage sites. The proponent advised that it considered the combination of these factors to determine the suitability of the alignment for the railway.

The EPA considered that the proposal could be managed to meet its objectives for social surroundings at the three sites provided that there is ongoing consultation with the Eastern Guruma people and that the rail alignment is constructed in accordance with the proposal.

To this end, the EPA recommended condition 13 which is directed at the avoidance of significant heritage sites and specifies that:

- the centre line of the rail line must be located at least 375 metres from the boundary of the Nharraminju Rock Art Complex
- the centre line of the rail line must be located at least 100 m from the boundary of the Kumpanha Dancing Grounds
- the centre line of the rail line bridge crossing the Rio Tinto owned railway must be located at least 2,100 m from the Hamersley Station homestead.

Recommended condition 14 additionally provides for the preparation and implementation of a Social, Cultural and Heritage Management Plan. The condition specifies that the management plan must be developed in consultation with the Native Title Holders, and includes the following environmental objective:

- (1) Minimise direct and indirect impacts to social, cultural and heritage values within and surrounding the Rail Development Envelope, including from, but not limited to:
 - (a) Disturbance of the ground that may impact cultural associations and heritage;
 - (b) Potential loss of access to areas to undertake traditional activities;
 - (c) indirect impacts, including visual, noise, dust and vibration impacts to social and cultural places and activities, including the three sites specified in condition 13-1;
 - (d) impacts to culturally significance flora and fauna; and
 - (e) changes to water regimes of water resources known to have Aboriginal heritage values.

The EPA advised that both the Eastern Guruma and the PKKP people expressed their support for the proposed conditions as they relate to social surroundings, and in particular the conditions regarding the distance of the rail from the three significant sites.

In relation to fire risk, the EPA advised that this issue was not raised by either of the Native Title holder groups in their submissions on the proposal, or in any consultation subsequently conducted with these groups. While the EPA did not consider this aspect in its assessment, it noted that the Social, Cultural and Heritage Management Plan (required by recommended condition 14) would require the proponent to develop management actions to manage indirect impacts to heritage in consultation with relevant Native Title holders. The EPA considered that this would include the management of fire regimes, if relevant.

In regard to the appellant's concerns around changes to flora and fauna populations post rehabilitation, the EPA noted that the rehabilitation of impacts associated with mine sites is significantly different to that of a railway the subject of this appeal. The EPA in its assessment considered that the construction and operation of the railway is unlikely to result in changes to flora and fauna populations that would significantly impact on traditional activities, provided that recommended condition 14 is implemented, which would ensure that culturally significant flora and fauna are managed and loss of access to areas where traditional activities are undertaken is minimised.

The proponent advised that as a consequence to consultation with the Eastern Guruma people (through its incorporated body Wintawari Guruma Aboriginal Corporation (WGAC)) a binding agreement is in place between the proponent and the WGAC in relation to the rail alignment. As a part of the agreement, the proponent has also committed to monitor for indirect impacts to Aboriginal cultural and heritage sites through the Social, Cultural and Heritage Management Plan which will be drafted in consultation with WGAC.

The proponent advised that it also works closely with the PKKP people to where possible avoid and minimise impacts to heritage sites.

Conclusion

Having regard to the consultation undertaken for the proposal for the purposes of the assessment, it is considered that the EPA had appropriate regard to the issues raised by the appellant in relation to Aboriginal culture and heritage.

Noting the recommended conditions requiring the preparation of the Social, Cultural and Heritage Management Plan which is to be developed and implemented in consultation with the Native Title groups, the EPA's recommendation that the proposal could be managed to meet the EPA's objectives is supported. It is therefore recommended that this ground of appeal be dismissed.

CONCLUSION AND RECOMMENDATIONS

Based on the information obtained during the investigation, it is considered that the EPA had appropriate consideration of the potential environmental impacts resulting from the Eliwana Railway Project, as raised by the appellant. It was also found that the EPA's conclusion that the proposal could be implemented to meet the EPA's environmental objectives, subject to conditions, is supported by the available evidence.

However, for the reasons set out in this report, it is recommended that should it be determined that the proposal be implemented that the appeal be allowed to the extent that condition 8-1(1) is amended to include reference to indirect impacts to the priority flora listed in that condition. This is consistent with the EPA's report, and with the EPA's response to the appeal, and will ensure that indirect impacts to priority flora are avoided, where possible, and otherwise minimised.

It is otherwise recommended that the appeal be dismissed.

Following determination of the appeal, the decision as to whether the proposal can be implemented, and the precise wording of the conditions which apply to any such implementation, is made under section 45 of the EP Act.

Jean-Pierre Clement
A/APPEALS CONVENOR

Investigating Officer:
Tonya Carter, Senior Appeals Officer