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Manel Samarakoon
Assistant Director, Approvals Monitoring North Section
Environment Assessment and Compliance Division
Department of Environment
GPO Box 787
CANBERRA ACT 2601

2 January 2015

Dear Ms Samarakoon,

Re: South of Embley Project (EPBC 2010/5642) – Terrestrial Management Plan

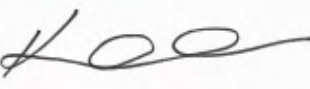
Condition 29 of EPBC approval 2010/5642 requires RTA Weipa to submit for approval a Terrestrial Management Plan for the South of Embley Project.

Please find enclosed the Terrestrial Management Plan, together with a copy of the independent peer review prepared by the approved reviewer, Dr David Dique, in accordance with Condition 60. The changes made by RTA Weipa in response to the peer review are set out in the table attached to this letter.

I seek approval of the Terrestrial Management Plan.

Please contact Alan Irving on 07 3625 4147 or alan.irving@riotinto.com if you have any queries regarding the plan.

Yours sincerely

p.p. 

David Yeoman
General Manager – South of Embley Project

cc. Julia Wilkins, Manager Government Relations Queensland, Rio Tinto Services

Independent peer review of South of Embley Project Terrestrial Management Plan

Review criteria - Independent peer review comment	RTA Response
Criteria 1.1: <i>(The TMP) effectively defines negative impacts associated with the construction and operation of the South of Embley Project on the Red Goshawk (Erythrotriochis radiates); Masked Owl (Tyto novaehollandiae kimberli); Bare-rumped Sheathtail Bat (Saccolaimus saccolaimus nudicluniatus); listed migratory bird species (as defined under the approval) and listed flora species (as defined under the approval).</i>	
Although potential impacts to the Bare-rumped Sheathtail Bat and listed migratory birds are listed within actions plans of Section 6, for completeness it is recommended that a summary table for the Bare-rumped Sheathtail Bat and listed migratory birds are also included Section 4.	A summary table for migratory birds has been added to Section 4. Section 5.10 notes that a targeted broad spectrum acoustic survey the Bare-rumped Sheathtail Bat was conducted in accordance with Condition 31(a) of the EPBC approval and there was no indication that the species was present. It is therefore not considered necessary to include a summary table for this species in Section 4. Section 5.10.3 states that should the Bare-rumped Sheathtail Bat be identified in the SoE Project area, adaptive management measures to avoid and mitigate impacts from the SoE Project will be incorporated in this management plan within 6 months of identification of the species in accordance with Condition 31(d) of the EPBC 2010/5642 approval.
Note also the title of the tables should include "Summary of Potential Impacts and Management Measures for...."	Titles of Summary tables have been changed as suggested.
Paragraph 3 of Section 4 is somewhat contradictory to the inclusion of impacts and mitigation measures for migratory avian species in Section 6. Consider deleting this paragraph.	<p>The last sentence of paragraph 3 of Section 4 has been reworded as follows:</p> <p>The Commonwealth EIS (RTA 2013) determined that there will be only negligible impacts on migratory avian species as a result of the SoE Project and therefore no specific mitigation targeted at migratory avian species is warranted. <i>However, the generic avoidance, mitigation and management</i></p>

Review criteria - Independent peer review comment	RTA Response
	<i>measures detailed in Section 5, aimed at mitigating the potential impacts on terrestrial species, will also reduce impacts on migratory avian species.</i>
Criteria 1.2: <i>(The TMP) effectively demonstrates how negative impacts on the above species will be avoided, adaptively management and mitigated.</i>	
No recommendations	Not applicable
Criteria 1.3: <i>(The TMP) incorporates avoidance and mitigation measures for water related impacts including, but not limited to, erosion, construction and operation of the dam; stormwater runoff, flood events, hydrocarbon spills, sewage, crude or process water, runoff from ore stockpiles, and downstream impacts on watercourses, streams and marine environment (including estuaries).</i>	
<p>Specific to the items listed as water management measures (Section 5.7) in the TMP, it is recognised that disturbed areas will be rehabilitated to a stable landform. For this item (dot point 7) it is recommended that a time frame for rehabilitation (i.e. how long following disturbance) be cited and that rehabilitation will be undertaken in accordance with the Rehabilitation Strategy described in Section 5.11 of the TMP.</p>	<p>The 7th dot point in Section 5.7 has been amended to specify the rehabilitation time frame as follows:</p> <p><i>areas disturbed by mining activities and infrastructure will be rehabilitated to a stable landform with a self-sustaining vegetation cover as outlined in the Rehabilitation Strategy. Rehabilitation works will commence within 2 years following completion of mining and will assist in the management of erosion;</i></p>
Criteria 1.4: <i>(The TMP) incorporates avoidance and mitigation measures for pests and weed management, dust management and fire management.</i>	
<p>While it is acknowledged that a detailed plan is being developed for weeds it may be appropriate to include some additional detail in the TMP regarding control measures and management triggers, or attachment of the Weed Management Program that contains this detail. The TMP includes reference to weed spread avoidance measures, monitoring and surveys, reporting and data management however it should also include reference to corrective actions to be implemented (i.e. eradication or containment) and in what instance (i.e. for which weed categories rather than for "any" weeds).</p>	<p>Section 5.5 has been amended to state that the top priority weed species are Gamba Grass, Leucaena, Para Grass and Neem and that any occurrence of these species in a prevention or eradication zone (as identified in the RTAW Weed Management Plan) would trigger a weed report including GPS coordinates, and treatment at the earliest possible opportunity (recognising that herbicide treatment windows are weather dependent).</p>

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<p>In addition to the dust management measures listed in Section 5.8 the implementation of vehicle speed limits in areas sensitive to dust (e.g. directly adjacent to buffer zones) may be appropriate to reduce the extent of dust plumes and a component of monitoring should be incorporated to provide opportunity for adaptive management in the event potential impacts are recognised (e.g. via visual inspection by environmental officer).</p>	<p>Vehicle speed restrictions have been added to Section 5.8, and the following paragraph added:</p> <p><i>In addition to the above measures, adaptive management will be used to control specific dust issues as they arise. For example, where particularly dusty conditions exist in areas of high sensitivity, speed restrictions or road closures may be considered when roads are not currently being treated by water trucks.</i></p>
<p>Criteria 1.5: <i>(The TMP) provides for the implementation of buffer zones from mining areas (as per EPBC Approval Condition 21) to mitigate impacts on the Red Goshawk, Masked Owl, listed flora species and listed migratory species.</i></p>	
<p>Vegetation buffer zones do not correspond with the vegetation units to be buffered in the <i>SOE Environmental Buffer System</i>. Add a statement that provides a of sensitive vegetation types and how the environmental feature is defined to demonstrate how the Regional Ecosystems listed in Table 7 will be protected by the vegetation buffer zones.</p>	<p>The environmental buffer system is to be implemented to prevent mining from adversely affecting sensitive vegetation. Section 5.2 has been revised to make it clear that Table 7 simply defines sensitive vegetation that may be present in the Project area and is not an inventory of Regional Ecosystem types that will ultimately be present in the buffer system. The broad vegetation categories listed (riparian, wetlands, estuarine, etc) comprise multiple combinations of Regional Ecosystem types and are not easily transferred into a simple table illustrating the relationship between Regional Ecosystem types and these descriptive vegetation categories.</p>
<p>Criteria 1.6: <i>(The TMP) includes the measures identified in the Environmental Management Plan Outlines at Appendix 5-A (Threatened Flora Species); Appendix 6-C (Threatened fauna species); Appendix 8-A (Avian Migratory Species); and, Appendix 16-B (Water Monitoring and Management Conditions) in the Final Environment Impact Statement for the South of Embley Project dated March 2013.</i></p>	
<p>It is recommended that reference to the mapping system of the SoE Environmental Buffer System described above is included in Section 5.2 of the TMP. Similarly, resolution regarding the surface water monitoring parameters and minimum sampling locations should be reached and corrected in Section</p>	<p>Section 5.2 has been revised to outline mapping of environmental buffers in the site GIS and use of the mapped buffers when assessing ground disturbance permits.</p>

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5.7 of the TMP if necessary.	Section 5.7 has been revised to indicate the Receiving Environment Monitoring Plan will include surface water monitoring parameters and minimum sampling locations.
<i>Spathoglottis plicata</i> and the Northern Quoll are not required to be addressed in the TMP as part of the condition however management plan outlines are included in the relevant EIS appendices for these species. For completeness, a cross reference to these species and the management measures of the EIS appendices should be provided in the end of Section 4.	Section 4 has been amended to state that management measures for flora and fauna species not covered by Condition 25 of the EPBC Act approvals are presented in Appendix 5A and 6C of the EIS (RTA 2013).
It is recommended that reference to a Water Management Plan to be developed is included in the TMP in Section 5.7.	Section 5.7 has been amended to state that <i>"a water Management Plan will be developed in accordance with the Environmental Authority"</i>
Criteria 1.7: <i>(The TMP) include adaptive management strategies that will benefit the Red Goshawk, Masked Owl, Bare-rumped Sheathail Bat, listed migratory bird species and listed flora species.</i>	
No recommendations	Not applicable
Criteria 1.8: <i>(The TMP) identifies and addresses effective management strategies to mitigate each potential impact, desired outcomes, benchmarks, readily measureable performance indicators and goals, timeframes for reporting and implementation, corrective actions and contingency measures, and, specify the person/roles with responsibility for implementing actions.</i>	
Section 5 Re Management for each impact: <ul style="list-style-type: none"> <i>Siting of Infrastructure</i> is an avoidance measure identified to minimise impact on terrestrial species by siting facilities in areas with less sensitive habitat. 'Less sensitive habitat' is not a defined term within the TMP. Define which vegetation units will be avoided, or which habitat areas will be categorised as 'less sensitive'. Recommend that a map is included in the TMP to depict these areas. 	Section 5.1 has been amended to substitute reference to Darwin Stringybark woodland instead of "less sensitive habitat": <i>"Project planning for infrastructure will aim to minimise impact on terrestrial species by siting facilities in areas of Darwin Stringybark woodland where possible."</i> The infrastructure which affects non-Darwin Stringybark habitats comprises Dam C and various road and conveyor crossings of riparian zones. The

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	relevant infrastructure and relevant riparian zones are depicted in Figures 2 and 3 (which show potential habitat for listed orchid species, which in turn overlap with relevant riparian zones).
<p>Re Desired outcomes</p> <ul style="list-style-type: none"> Regarding the buffer system measure there is reference to 'areas defined in the EIS' relating to habitat. Quantify the area listed in the EIS and where possible include a map for reference. An outcome related to maintaining a network of habitat should also be included. Include reference to how categorised weed species will be addressed in Section 5.5 of the TMP (see similar recommendation in Criteria 1.4). Desired outcomes of water management measures should also relate to meeting discharge criteria and exceedances of trigger levels. 	<ul style="list-style-type: none"> Tables 10 and 11 have been amended to drop references to "areas identified in the EIS" and replace them with references to Figure 5 and 6 respectively in the Terrestrial Management Plan. Reference to maintaining a network of habitat has been added to Tables 10 and 11. Section 5.5 has been amended (see response to Criteria 1.4 above). "Compliance with Qld EA requirements" is already an outcome under water management measures.
<p>Re Benchmarks</p> <ul style="list-style-type: none"> It is recommended that the benchmark also cite appropriate mapping layers (e.g. Red Goshawk suitability habitat mapping, other habitat/vegetation mapping where appropriate). Similarly, (see Criteria 1.6 recommendation) the benchmark listed does not provide information to allow for the buffer system to 'maintain a network' of habitat. It is recommended that the habitat and vegetation mapping is also listed as a baseline dataset for this measure. There is no reference to what the current fire frequency is in the area. It is recommended that reference is made to where this information is located, or how it will be obtained (i.e. will it be defined in the Fire Management Plan). 	<ul style="list-style-type: none"> Habitat suitability mapping has been added to "benchmark/baseline" column in Tables 10 to 15. The key benchmark is the set-back distances in Condition 21 of the EPBC Act approval. The network of undisturbed habitat is a consequence on this. Section 5.2 has been amended to elaborate on the environmental buffers, specifically that <i>"The resultant buffer system creates a protected network of undisturbed habitat following the drainage lines and adjacent land."</i> Habitat suitability mapping has been added to "benchmark/baseline" column in Tables 10 to 15. Text has been amended to note that fire frequency information will be obtained from the North Australian Fire Information website.

Review criteria - Independent peer review comment	RTA Response
<ul style="list-style-type: none"> • The benchmark for rehabilitation for the Red Goshawk, Masked Owl and other bird groups cites '<i>any known benchmarks associated with re-colonisation of prey fauna....</i>' This language appears ambiguous. It is recommended that the known information is presented or referenced such that the performance indicator can be measured. • Noting that site specific water quality triggers will be developed it is recommended that this is included as a benchmark for management. • It is recommended that the benchmark/baseline for management of orchid translocation relates to the current known locations of the orchids and also references a link to the outcomes of any pre-disturbance survey. 	<ul style="list-style-type: none"> • The text in Tables 10 and 11 has been amended to state "<i>Information from monitoring of existing mining operations concerning the re-colonisation of prey fauna in rehabilitation will be outlined in the Rehabilitation Strategy.</i>" • Text has been amended to specifically include water quality triggers as a benchmark. • Tables 13 and 14 have been amended to make reference under benchmark/baseline to known locations of orchids from surveys.
<p>Re Measurable performance indicators and goals</p> <p>It is recommended that the performance indicators and goals relate directly to the benchmark information source to allow for analysis of breaches. For the recommendations made above, an amendment to performance indicators may be required.</p> <p>In addition peer review highlighted that a performance indicator for feral pig management cites '<i>damage to riparian and wetland areas for feral pigs</i>' as an indicator. It is recommended that monitoring and/or establishment of a baseline for this aspect is included in Section 5.6 of the TMP such that this is a measureable item.</p>	<p>Performance indicators have been amended to match benchmarks where necessary.</p> <p>Section 5.6 has been amended to elaborate that the reduction in feral pig damage is expected to be concentrated along the coastline and hinterland riparian and wetland areas closest to turtle nesting beaches. To avoid potential inconsistency between the Feral Pig Management Offset Strategy (the details of which is still under development) and the Terrestrial Management Plan, it is considered more appropriate to include monitoring associated with the feral pig control in the Strategy.</p>
<p>Re Timeframes</p> <p>It is recommended that a timeframe is determined for the Bat Research Program if possible.</p>	<p>Table 12 has been amended to include a timeframe of "before the start of bauxite production".</p>

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<p>Re Responsibility</p> <p>It is recommended that a responsibility is assigned where corrective action cites a breach to be investigated. That is, a role should be assigned to undertaking the investigation and subsequent development of mitigation to be implemented. Similarly, the responsibility for undertaking the pre-disturbance survey program is not identified.</p>	<p>Tables have been amended to state the Manager Health, Safety & Environment is responsible for investigations. The responsible person for ensuring pre-disturbance surveys are carried out is already cited (the Environmental Specialist).</p>
<p>Criteria 1.9: <i>(The TMP) is consistent with relevant management measures contained in relevant threat abatement plans published by the Department of Environment.</i></p>	
<p>A component of the Threat Abatement Plan for Predation, Habitat Degradation, Competition and Disease Transmission by Feral Pigs relates to increasing awareness about the damage that feral pigs can cause. It is recommended that this is re-iterated in the TMP as it relates to the training initiatives already described in Section 8 of the TMP.</p>	<p>Training to raise awareness about the damage caused by feral pigs has been added to Section 5.6.</p>
<p>Criteria 1.10: <i>(The TMP) details Traditional Owner employment opportunities, and mechanisms for reporting the number of local indigenous person/s actually employed in the implementation of the Terrestrial Management Plan (as per EPBC Approval Condition 42).</i></p>	
<p>It is recommended that a recording mechanism is included in Section 8 of the TMP to support the existing commitment for quarterly reporting of the RTA obligation.</p>	<p>Section 8 has been amended to state that, as a part of the reporting obligations under the Indigenous Land Use Agreement, quarterly review reports are provided to the WCCCA on RTAW's Indigenous employment and training obligations. This report shall include the number of Indigenous employment opportunities taken up under Land and Sea Management Programmes.</p>
<p>Criteria 1.11: <i>(The TMP) is informed by the most current versions of the Water Quality Management Strategy, Australian and New Zealand Guidelines for Fresh and Marine Water Quality.</i></p>	
<p>In Section 5.7, provide a statement that the EA requirement links to the ANZECC guideline to demonstrate that water quality management objectives have been considered.</p>	<p>A statement has been added to Section 5.7 to indicate that the Environmental Authority requirements are informed by the ANZECC guideline (thereby demonstrating that water quality management</p>

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	objectives have been considered).
Criteria 1.12: <i>(The TMP) adequately identifies publication requirements as per EPBC approval condition 59.</i>	
No recommendations	Not applicable