

RTA Weipa Pty Ltd

Amrun Project Pre-disturbance Program Annual Report

August 2017

RioTinto



**A report prepared in accordance with requirements of the Amrun
Project EPBC Act Approval 2010/5642 and Terrestrial Management
Plan.**

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1 INTRODUCTION

This report provides the survey methodology and survey data for the Amrun (formerly South of Embley Project) Project Pre-disturbance Program. The requirements for the Pre-disturbance Program are specified by Condition 22 to 24 of the South of Embley Bauxite Mine and Port Development approval (EPBC2010/5642), issued under the *Environmental Protection and Biodiversity Conservation Act 1999*. The Pre-disturbance Program is presented in Section 5.3 of the Terrestrial Management Plan – South of Embley Project. The Pre-disturbance Program has been implemented in accordance the conditions and Terrestrial Management Plan.

This first annual report on implementation of the Pre-disturbance Program is produced to align with the annual reporting requirements for survey methodology and data in accordance with Condition 57 of the EPBC 2010/5642 approval. This report presents survey observations and management actions where applicable for the target Pre-disturbance Program species between 12 May 2016 (Commencement the Action) and 12 May 2017.

The information from this annual report will be used to inform the next revision of the Terrestrial Management Plan which will be submitted to the Minister within 60 days of the first anniversary of operations commencing in accordance with EPBC 2010/5642 Condition 30. Operations have not yet commenced.

2 METHODOLOGY

2.1. Pre-disturbance Program

Condition 22 of the EPBC 2010/5642 approval sets out a Pre-Disturbance Program to be implemented prior to the clearing of any vegetation. Pre-disturbance surveys will be conducted to:

- determine the presence of any active or potentially active Red Goshawk and/or Masked Owl nests prior to clearing any vegetation. Surveying will be undertaken:
 - Red Goshawk – in areas located within one (1) kilometre of permanent water supporting riparian gallery forest or Paperback wetland; seasonally inundated coastal wetlands and seasonal water courses supporting riparian gallery forest, or an estuary; and,
 - Masked Owl – in areas within 200 metres of permanent water supporting riparian gallery forest of paperbark wetland, seasonally inundated Paperbark wetlands, seasonal watercourses supporting riparian gallery forest or an estuary.
- surveys will involve walkthroughs of those areas to be cleared, prior to clearing;
- any observations of nests that may be used by Red Goshawks and/or Masked Owls will be recorded and further assessment undertaken to determine whether the nest is being actively used;
- if an active nest is identified, avoidance, mitigation or management measures will be implemented and a 200m buffer will be established around the nest trees. The nest tree and buffer zone will not be cleared or disturbed until the end of the breeding season (being until fledglings no longer use the nest). Nesting periods are as follows:

- Red Goshawk - courtship starts as early as April and young do not leave their natal territories until as late as the end of December. Breeding occurs generally in the spring with eggs laid between May and October;
- Masked Owl - probably breeds between March and October but may breed when conditions are favourable, which can be any time of the year. It is thought that the female occupies the nest for up to 10 weeks before laying. The incubation period is generally 33–35 days, but could be as much as 42 days. The fledging period is 10–12 weeks.
- if a potential Red Goshawk and/or Masked Owl nest is located but is not actively being utilised, the tree may be felled immediately to encourage any future nesting pairs to establish a nest outside of the disturbance area.

During Construction, survey findings are communicated to the Site Construction Manager.

In addition to the Pre-Disturbance Program under Condition 22, pre-disturbance surveys for Eastern Osprey, White-bellied Sea-eagle and Rainbow Bee-eater will be undertaken within potential nesting riparian forest habitat within Dam C and at infrastructure crossings of riparian forest. Any active nests identified will be buffered until the end of the breeding season for the species in question (see Tables 17 and 18). The protocol for surveys conducted under the Pre-Disturbance Program shall be prepared by an experienced environmental professional with knowledge of the identification of the Red Goshawk, Masked Owl, Eastern Osprey, White-bellied Sea-eagle and Rainbow Bee-eater and their nests.

2.2. Target Fauna Survey Methods

The survey methodology implemented during the reporting period for each of the target fauna species are presented in Table 1 below. The survey methods were implemented within areas to be cleared, prior to clearing. The following parameters are to be recorded for each observation where relevant and possible, however in many instances some of this data (e.g. age class, habitat type) are indeterminable or not applicable for bird observations:

- Species name (common and scientific),
- time and day of survey,
- GPS location,
- number of individuals located,
- age class (if known),
- habitat type, and
- EPBC Act listing status.

Table 1 Pre-disturbance Program target fauna species survey methods

Species	Red Goshawk (<i>Erythrotriorchis radiatus</i>) Eastern Osprey (<i>Pandion cristatus</i>) White-Bellied Sea-eagle (<i>Haliaeetus leucogaster</i>)	Masked Owl (<i>Tyto novaehollandiae kimberli</i>)	Rainbow Bee-Eater (<i>Merops ornatus</i>)
Method	Systematic traverses, no more than 100m apart, to detect nests within 1km of permanent	Systematic traverses, no more than 100m apart, to detect nests within 1km of permanent	Conduct meandering traverses along creek banks and any other

<p>water supporting the following:</p> <ul style="list-style-type: none"> • riparian gallery forest or paperbark wetland; • seasonally inundated coastal wetlands; • seasonal watercourses supporting riparian gallery forest; or • estuary. <p>15 minute bird observation points (preferably in the morning or if not then late afternoon) at a density of 1 per 25ha with focus on detecting active or calling individuals</p> <p>Undertake targeted follow up observations at identified potential nests if needed to confirm ownership or occurrence of breeding activity.</p>	<p>water supporting the following:</p> <ul style="list-style-type: none"> • riparian gallery forest or paperbark wetland; • seasonally inundated coastal wetlands; • seasonal watercourses supporting riparian gallery forest; or • estuary. <p>Call playback surveys at a density of 1 per 25ha within waterway habitats and the adjacent 200m area.</p> <p>Undertake targeted follow up observations at identified potential nests if needed to confirm ownership or occurrence of breeding activity</p>	<p>vertical earthen cuttings or banks.</p> <p>During traverses visually scan for small holes in banks and for groups of Rainbow Bee-eater individuals.</p> <p>Undertake targeted follow up observations at identified potential nesting holes if needed to confirm occurrence of breeding activity.</p> <p>Incidental observations</p>
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3 SURVEY RESULTS

Surveys were conducted across approximately 1,476ha during the reporting period which includes all of the vegetation specified within the survey methodology Table 1. The results of all surveys were communicated to the Amrun Environmental team, the relevant Construction Superintendent and the Amrun Construction Manager.

All observations of target fauna species recorded during the Pre-disturbance Program surveys are presented below in Table 2. The Rainbow Bee-eater and White-Bellied Sea-eagle were listed migratory species when the Terrestrial Management Plan was first prepared. The White-bellied Sea-eagle was removed from the EPBC Act migratory species list in June 2015. The Rainbow Bee-Eater was removed from the EPBC Act migratory species list in April 2016. Surveys for these species have continued in accordance with the commitments within the Terrestrial Management Plan. In addition to survey results below a Red Goshawk was sighted flying overhead on Aurukun Road by a Project ecologist whilst commuting to the Project Area.

Table 2 Pre-disturbance Program target fauna species observations

Common Name	Full Name	Latin	Date	Time	Easting (m)	Northing (m)	Habitat	EPBC Status	Act	Active Nest	Buffer Established	Notes / Comments
Rainbow Bee-eater	<i>Merops ornatus</i>		5/04/2016	12:46	596652	8590573	<i>Eucalyptus tetrodonta</i> open forest adjacent to Hey River	Not Listed		No	Not applicable - No active nest	Five individuals observed
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>		5/04/2016	12:46	596652	8590573	<i>Eucalyptus tetrodonta</i> open forest adjacent to Hey River	Not Listed		No	Not applicable - No active nest	One individual observed
Rainbow Bee-eater	<i>Merops ornatus</i>		18/05/2016		590286	8677111	North bank of Winda Winda Creek	Not Listed		No	Not applicable - No active nest	Two individuals observed
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>		31/05/2016		596867	8590587	vine forest/ <i>E. tetrodonta</i> ecotone	Not Listed		Yes	Yes – nest buffer established	WBSE active nest – one juvenile recorded begging calling to adult attending nest. Nest at 28m in 30m high <i>Eucalyptus tetrodonta</i> tree overlooking water. Tree diameter 100cm, Nest central in main trunk. Periodic monitoring of WBSE and nest established to confirm when fledgling has left the nest.
Rainbow Bee-eater	<i>Merops ornatus</i>		1/06/2016	7:30	596382	8590352	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>		1/06/2016	7:30	596382	8590352	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	
Rainbow Bee-eater	<i>Merops ornatus</i>		2/06/2016	7:30	595831	8588072	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	
Rainbow Bee-eater	<i>Merops ornatus</i>		2/06/2016	8:30	595328	8583654	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	
Eastern Osprey	<i>Pandion haliaetus</i>		4/06/2016	7:20	596330	8590440	<i>Eucalyptus tetrodonta</i> open forest	Migratory		No	Not applicable - No active nest	1 individual flying/vocalising near potential raptor nest. Time-lapse camera's set-up to monitor nest. Recorded 1 Osprey and one Grey Goshawk, both flying near nest. No birds were seen actively using the nest.
Eastern Osprey	<i>Pandion haliaetus</i>		24/06/2016		596327	8590439	<i>Eucalyptus tetrodonta</i> open forest	Migratory		No	Not applicable - No active nest	At 26m high nest in 32m high <i>Corymbia nesophila</i> tree. Tree diameter 70cm. Central nest off main trunk; Nest not active.
Eastern Osprey	<i>Pandion haliaetus</i>		24/06/2016		586027	8588576	<i>Eucalyptus tetrodonta</i> open forest	Migratory		No	Not applicable - No active nest	In isolated stag tree 20m high in cleared open area
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>		24/06/2016		596864	8590588		Not Listed		No	Not applicable - No active nest	Incidental observation. Adult WBSE near active nest observed on 31/5/2016.
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>		6/02/2017	6:53	597024	8590783	Ecotonal habitat of <i>Eucalyptus tetradonta</i> , mangrove and melaleucas below, with vine forest close by.	Not Listed		No	Not applicable - No active nest	Incidental observation. One bird observed perched on a tree in the canopy and took flight during observation along the shoreline.
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>		20/02/2017		596924	8590610	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	
Rainbow Bee-eater	<i>Merops ornatus</i>		10/03/2017		574891	8564059	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	One individual observed
Rainbow Bee-eater	<i>Merops ornatus</i>		4/04/2017	7:17	575067	8566667	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	One individual observed
Rainbow Bee-eater	<i>Merops ornatus</i>		4/04/2017	8:06	574612	8563899	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	One individual observed
Rainbow Bee-eater	<i>Merops ornatus</i>		5/04/2017	7:15	574933	8563570	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	One individual observed
Rainbow Bee-eater	<i>Merops ornatus</i>		5/04/2017	7:40	575688	8563572	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	One individual observed
Red Goshawk	<i>Erythrorhynchus radiatus</i>		5/04/2017		575761	8563657	<i>Eucalyptus tetrodonta</i> open forest	Vulnerable		No	Not applicable - No active nest	Incidental observation. Not confirmed but most likely. Flew overhead.
Eastern Osprey	<i>Pandion haliaetus</i>		6/04/2017	7:27	567273	8567669	<i>Eucalyptus tetrodonta</i> open forest	Migratory		Yes	Yes – nest buffer established	Two adults observed on active nest 20m high in a dead 24m high tree. Tree diameter 60cm. Nest cameras established to monitor birds and nesting activity.
Rainbow Bee-eater	<i>Merops ornatus</i>		7/04/2017	7:50	568251	8567860	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	One individual observed
Rainbow Bee-eater	<i>Merops ornatus</i>		21/04/2017	10:30	575148	8562687	<i>Eucalyptus tetrodonta</i> open forest	Not Listed		No	Not applicable - No active nest	
Eastern Osprey	<i>Pandion haliaetus</i>		22/04/2017		567096	8567957	<i>Eucalyptus tetrodonta</i> open forest	Migratory		No	Not applicable - No active nest	One individual observed

APPENDIX A: EPBC 2010/5642 RELEVANT CONDITIONS

22. Prior to any clearing of vegetation (including for Preliminary Works), surveying must be undertaken to ascertain whether active, or potentially active, nests for the Red Goshawk (*Erythrotriorchis radiates*) and/or Masked Owl (*Tyto novaehollandiae kimberli*) are present in the area to be cleared. Surveying must be undertaken for the:
 - a. Red Goshawk – in areas located within one (1) kilometre of permanent water supporting riparian gallery forest or Paperback wetland; seasonally inundated coastal wetlands and seasonal water courses supporting riparian gallery forest, or an estuary; and,
 - b. Masked Owl - in areas within 200 metres of permanent water supporting riparian gallery forest of paperbark wetland, seasonally inundated Paperbark wetlands, seasonal watercourses supporting riparian gallery forest or an estuary.
23. The Pre-disturbance Program must include avoidance, mitigation or management measures (and may include measures in the Final Environmental Impact Statement) if active, or potentially active, nests for the Red Goshawk or Masked Owl are found during surveying, including a 200 metre buffer zone around nest trees. The nest tree and buffer zone cannot be cleared or disturbed until the end of the breeding season (being until fledglings no longer use the nest for habitat).
24. Information obtained during the Pre-disturbance Program must be used to inform the Terrestrial Management Plan at condition 25.
57. Every 12 months after the commencement of the action, unless otherwise agreed to in writing by the Minister, the approval holder must publish on their website, for the duration of the project (including decommissioning), all the survey methodology, reports and related analysis of survey data for current program/s, plants, strategies or other conditions specified in this approval for each individual matter of national environmental significance. The department must be notified within ten (10) business days of publication.