

Worsley Mine Development

CONTINUING OPERATIONS

The **objective** for this component of the environmental review is to **protect terrestrial fauna** so that **biological diversity** and **ecological integrity** are **maintained**.

Within this assessment terrestrial fauna includes animals living on land or using land for all or part of their lives and includes vertebrate and invertebrate groups.



INTRODUCTION

South32 Worsley Alumina is an integrated bauxite mining and alumina refining operation in the South West of Western Australia with a proud track record spanning more than 35 years.

The Worsley Mine Development is the next phase of bauxite mining, providing access to future reserves and resources to sustain production at our Worsley Alumina refinery near Collie.

The project is a key enabler for Worsley Alumina to continue to deliver benefits to the Peel and South West regions, and Western Australia more broadly, for many years to come.

The project is currently subject to a State and Commonwealth environmental approvals process, with a comprehensive environmental review undertaken and an eight-week public review period.

BACKGROUND

At a landscape level, all of the fauna habitats of native and remnant vegetation are utilised by fauna where resources are available and therefore are of relatively high value and of importance to fauna, including conservation significant species (BIOSTAT, 2020). Rehabilitated lands within the collective WMDE and BTC (approximately 3,180 ha or approximately 11%) also provide a suitable foraging resource for numerous species.

Corridors and remnant vegetation are recognised as critical components for fauna in fragmented landscapes as they allow species diversity and ecosystem functioning to be maintained (Thompson, Rayfield, and Gonzalez 2017).

Connectivity of habitats within a landscape reduces the risk of genetic and physical isolation of habitats and fauna populations by providing opportunities for species movements and dispersal (BIOSTAT, 2020). Habitat linkages can also enhance the suitability of food and shelter resources by increasing available habitat area for fauna.

Habitats that form broader corridor systems, including high quality remnants, can reduce predation resulting from edge effects or the lack of suitable ground-cover and understorey vegetation within a particular remnant (BIOSTAT, 2020). The extent and quality of remnants and corridors is known to influence the conservation values of a landscape.

There is evidence of habitat use by 14 conservation significant fauna species surrounding existing active operations associated with the Worsley Alumina Project (which includes Black Cockatoos (Baudins, Red Tailed Black & Carnaby's), Peregrine Falcon, Blue-billed Duck, Woylie, Chuditch, Western False Pipistrelle, Rakali, Quenda, Western Brush Wallaby, Red Tailed Phascogale, Brush-tailed Phascogale, Western Ringtail Possum, Quokka, Numbat and Dell's Skink).

The persistence of conservation significant fauna in the highly modified environments occurring in the PAA and surrounds (mining and agriculture) suggests a level of adaptability to these conditions and landscapes (BIOSTAT, 2020). Species in the area have adapted to the fragmented environment and have been recorded in systematic surveys and opportunistically over the years.

POTENTIAL IMPACTS

Potential impacts to terrestrial fauna from activities associated with the project include:

- Habitat loss through vegetation clearing;
- Further fragmentation of habitat in the local area through partial or complete clearing and associated habitat loss of isolated remnant bands or patches;
- Injury, mortality or displacement of fauna from construction and operations (including vehicle strikes);
- Secondary impacts from dust, noise and vibration during construction and operations;
- Increased competition or predation by introduced (feral) species; and
- Cumulative impacts in relation to the direct loss and fragmentation of habitat for fauna

MITIGATION

Comprehensive procedures regarding vegetation clearing and associated habitat loss and fragmentation, and fauna management have been in place and implemented at the existing Worsley Alumina mining operation for many years.

These procedures will continue to be implemented for the project. As with flora and vegetation, Worsley Alumina proposes to manage and mitigate potential impacts to terrestrial fauna through the implementation of its Biodiversity and Forest Management Plan (BFMP). The BFMP outlines strategies and procedures that are implemented to minimise potential impacts and includes avoidance of areas of potential high conservation value, ecological linkages/corridors, feral and invasive species management, and rehabilitation. The BFMP been developed in consultation with, and reviewed by, the Department of Biodiversity Conservation and Attractions (DBCA) as part of the DBCA/Worsley Working Arrangements. The Protected Areas Plan and Threatened Fauna Pre-Clearance Survey and Management Procedure will also be implemented to mitigate impacts to nesting, roosting, denning and breeding habitat for Threatened fauna species prior to development activity . Furthermore, the Protection Commitment Areas will be protected in line with the Protected Areas Plan.

To protect conservation significant fauna, Worsley Alumina have committed to a number of avoidance measures. These include but are not limited to not clearing no more than 2,631 ha of the 4,385 ha of Woylie habitat identified within the PAA as outlined in the Protected Areas Plan; clearing no more than 449 ha of the 690.9 ha of Red-Tailed Phascogale habitat identified within the PAA as outlined in the Protected Areas Plan; pre-clearance surveys for potential Black Cockatoo habitat trees will occur prior to clearing; no more than 10% of the inferred breeding hollows will be removed; and confirmed Peregrine Falcon nesting sites will be avoided.

The continued implementation of progressive rehabilitation of disturbance areas to re-establish fauna habitat, feral species management and management of ecological linkages/corridors will assist in minimising impacts from further clearing that is associated with the project.

Where significant residual impacts (SRI) as a result of the project are expected to occur for specific Matters of National Environmental Significance (MNES) terrestrial fauna species, offsets will be implemented in accordance with Commonwealth and WA Offset Guidelines. Worsley Alumina will also continue to offset habitat loss through progressive rehabilitation of State Forest and private land disturbed by mining activities.

PREDICTED OUTCOME

With the exception of habitat loss, residual impacts to fauna are considered to be broadly comparable to those associated with existing operating conditions.

Management and monitoring measures are well practiced, understood and considered to be environmentally acceptable. Targeted management measures, such as those within the Protected Areas Procedure and Threatened Species Management Plan will assist in managing potential impacts. Worsley Alumina has proposed a significant offset package to mitigate the SRI associated with the Revised Proposal (see separate fact sheet on Biodiversity Offsets). After the mitigation hierarchy has been applied, including avoidance and minimisation of direct impacts to key fauna and fauna habitat values, progressive rehabilitation and offsets, the project can be managed to meet the EPA's objective for Terrestrial Fauna.

More detailed information is provided in Section 5.3 of the Environmental Review Document.