

# WA Bauxite Rehabilitation Overview

## Rehabilitation

**Huntly Mine**

06 March 2017



# Visit Agenda

13:00 – 13:05	Arrive at Myara Mine
13:05 – 13:30	WA Mining Rehabilitation Overview presentation
13:30 – 14:05	Tour active mining operations
14:05 – 14:45	Site visit: Rehabilitation (4 & 7 years)
14:45 – 15:30	Site visit: Huntly Lookout (mature rehabilitation)
15:30	Tour Complete





Fall from Height  
Confined Space  
Electric Shock  
**Mobile Equipment**  
Crane / Lifting  
Uncontrolled Release of Energy

**Haul Trucks**

## Critical Risks 6 + 1



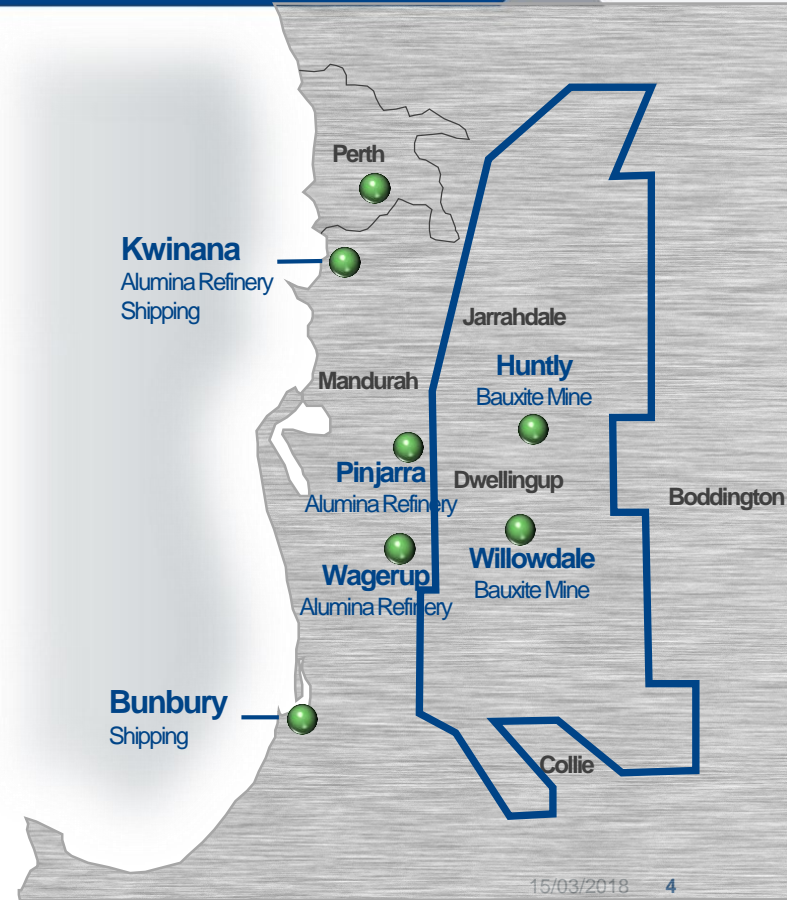
- PPE required
- Know the Muster Point
- Stay close and together!



# World class integrated mining and refining system underpinned by a secure mineral lease



- **Three alumina refineries:** Kwinana, Pinjarra and Wagerup
- **Two dedicated port facilities:** Kwinana and Bunbury
- **Two bauxite mines:** Huntly, 2nd largest bauxite mine in the world, 26 million tonnes a year; and Willowdale 10.2 million tonnes a year
- Mineral Lease of 7,129 km<sup>2</sup> granted under State Agreement. Less than 10% of lease planned to be mined
- Exclusive rights to mine bauxite 1961-2045, with option to extend
- Access to bauxite contingent on preserving and restoring recreation, water catchment, timber resource and conservation land-use values
- To the end of 2016; 24,556ha cleared for mining, 18,927ha of which is under rehabilitation with ~14,500 ready for handback



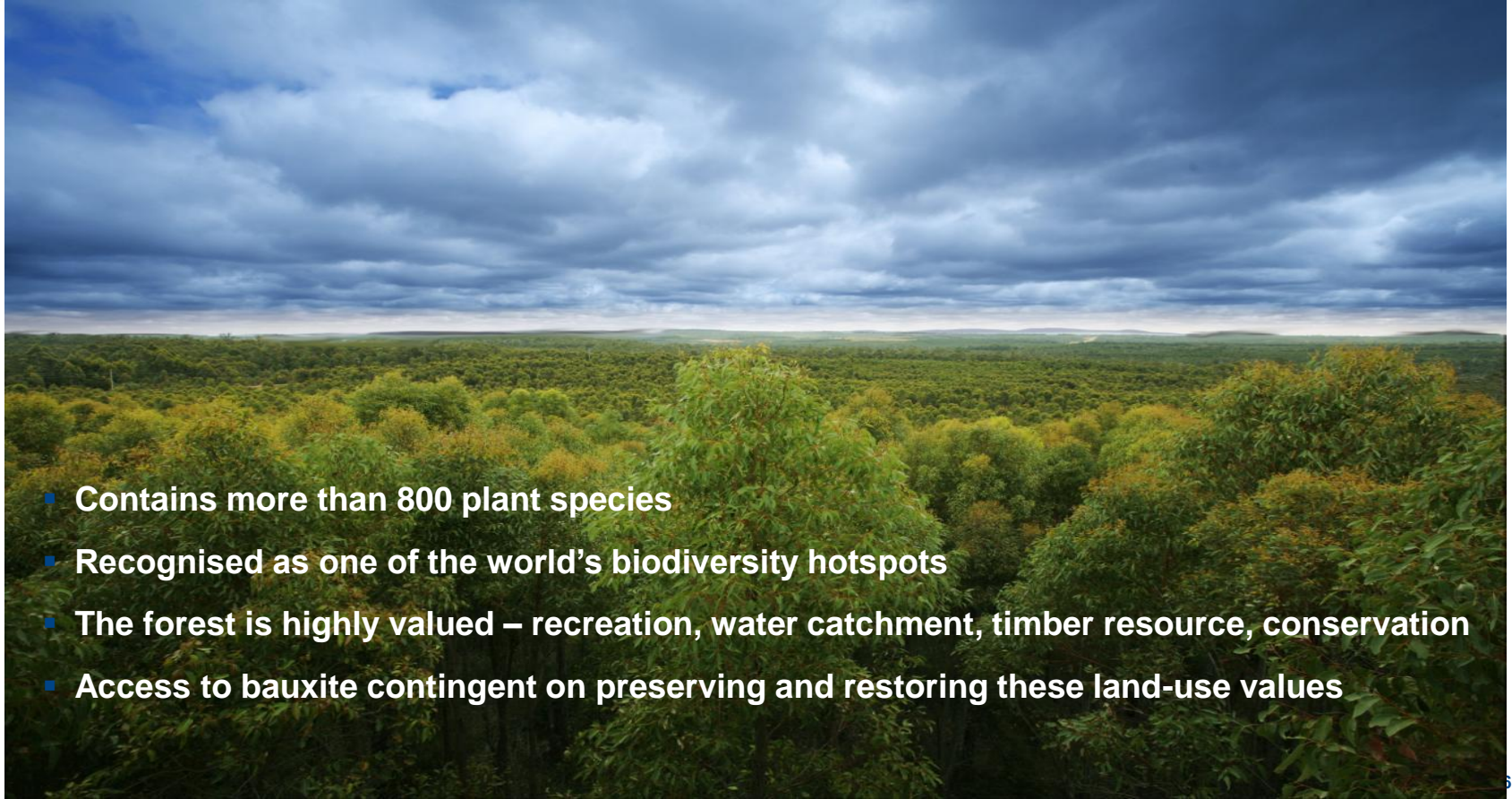
# Huntly Bauxite Mine: the second largest bauxite mine in the world



## Overview

- Established in 1976 (Jarrahdale 1963 – 1998)
- Produces around 26 million tonnes per year
- Bauxite via overland conveying system to Pinjarra Refinery
- Bauxite via overland conveying system and rail to Kwinana Refinery
- Current crusher location at Myara – east of North Dandalup
- Approximately 600 employees and over 100 contractors
- Recognised work leader in mine site rehabilitation

# Privileged to mine in the world's only natural jarrah forest



- **Contains more than 800 plant species**
- **Recognised as one of the world's biodiversity hotspots**
- **The forest is highly valued – recreation, water catchment, timber resource, conservation**
- **Access to bauxite contingent on preserving and restoring these land-use values**

## Stage 1: Development

- Dieback Mapping
- Drilling
- Pre-Mining Surveys
  - European Heritage
  - Aboriginal Heritage
  - Fauna
  - Flora
- Logging & Clearing – Forest Products Commission
- Wood Waste



## Stage 2: Pre-mining



Top soil/Overburden



Ripping



SOBR



Blasting

## Stage 3: Load and haul



## Stage 4: Crushing, conveying and refining



# Rehabilitation process

Landscaping



Pre-ripping



Soil Return



Contour Ripping



Planting

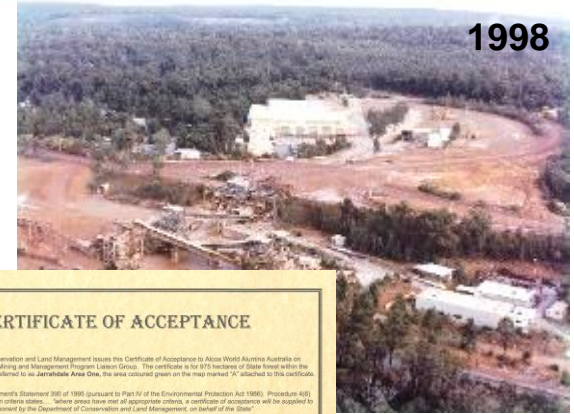


Fertilising

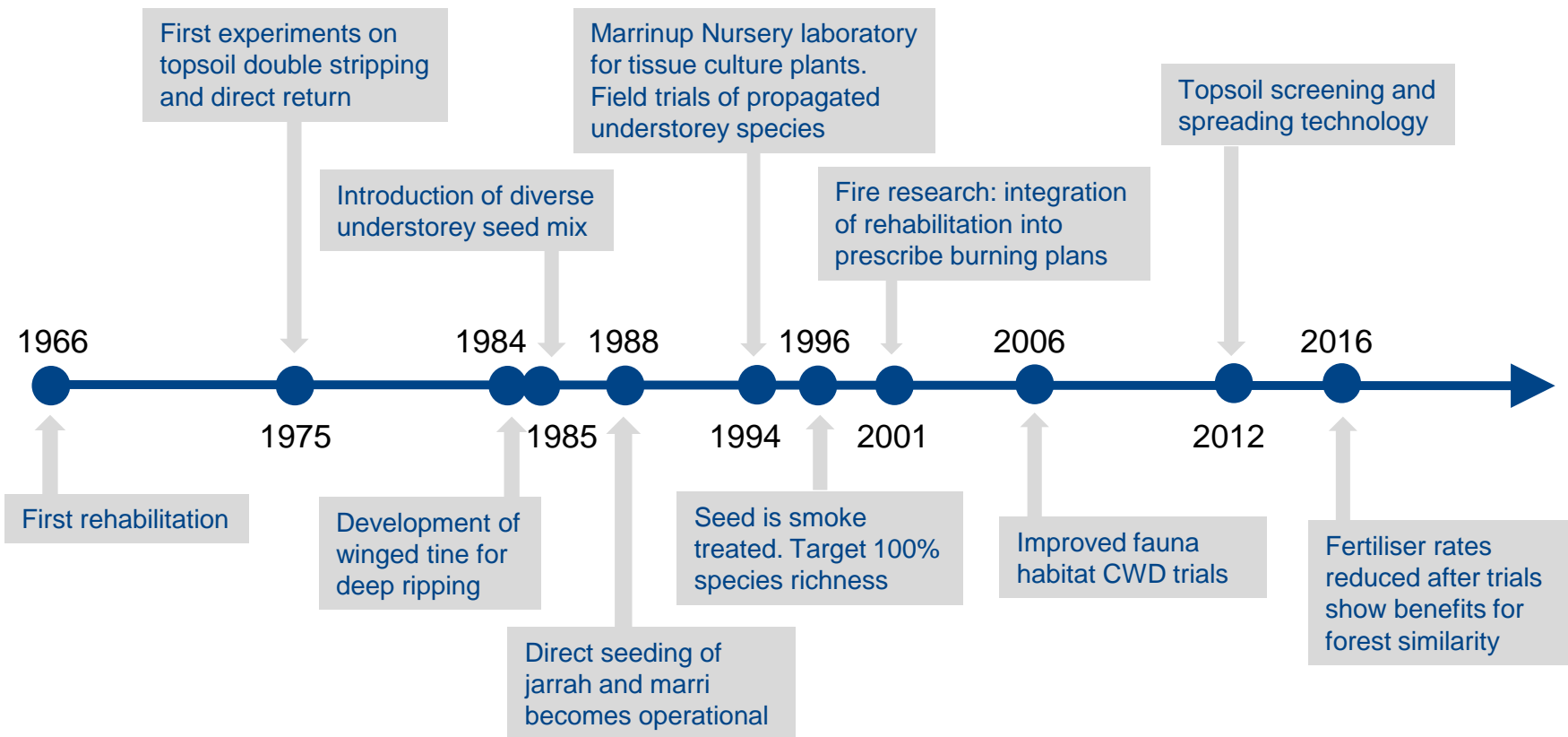


# Completion criteria and mine closure

- **1996** First completion criteria for 'post-1988' rehabilitation developed
- **2001** Jarrahdale Mine decommissioned and rehabilitated
- **2002** Completion criteria for 'pre-1988' rehabilitation approved
- **2005** First Certificate of Acceptance for 975ha of rehabilitation at Closed Jarrahdale Mine issued
- **2007** 2<sup>nd</sup> revision of 'post-1988' rehabilitation completion criteria
- **2015** 3<sup>rd</sup> revision of 'post-1988' rehabilitation completion criteria
- **2016** Current program of rehabilitation sign-off commenced

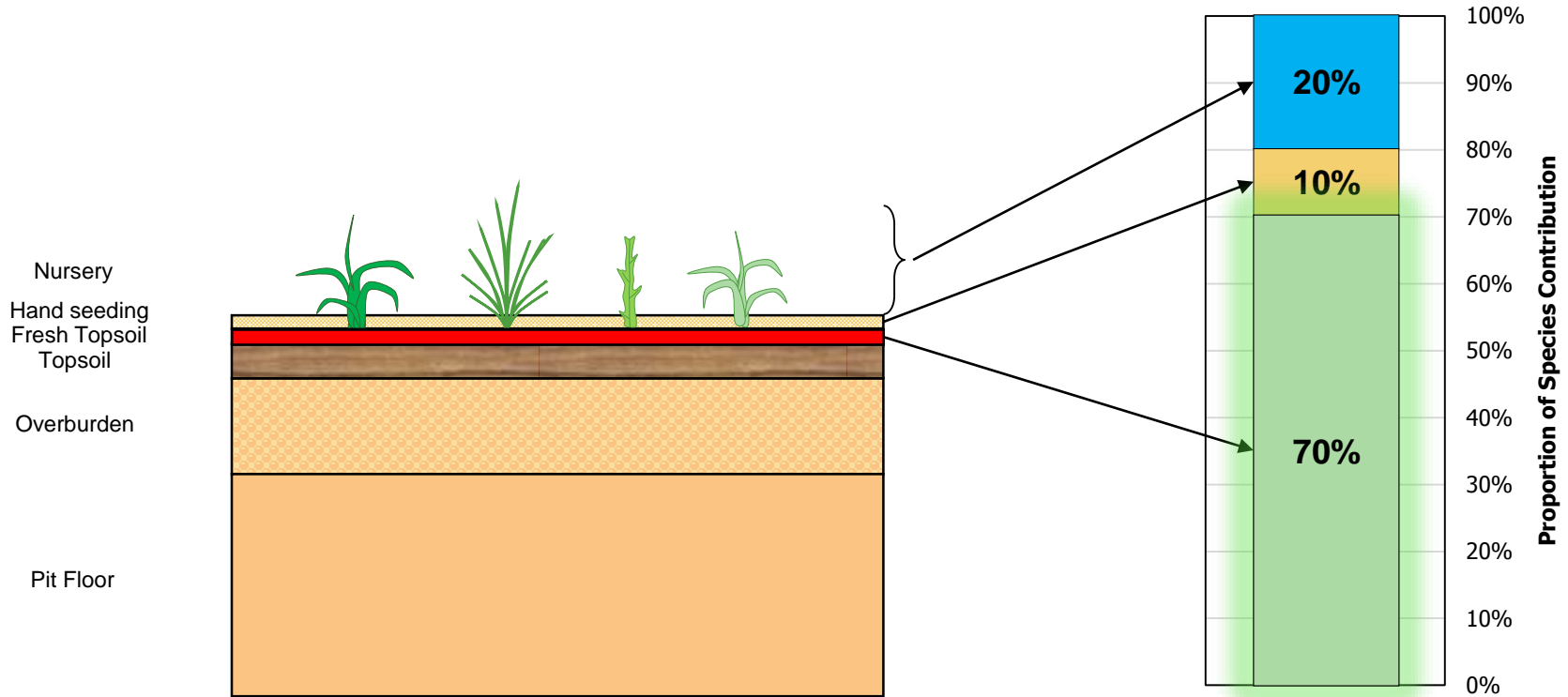


# Research has been integral to improving rehabilitation



# Species Contribution Breakdown

## THE FRESH TOPSOIL REPRESENTS THE GREATEST CONTRIBUTION



1984



2016

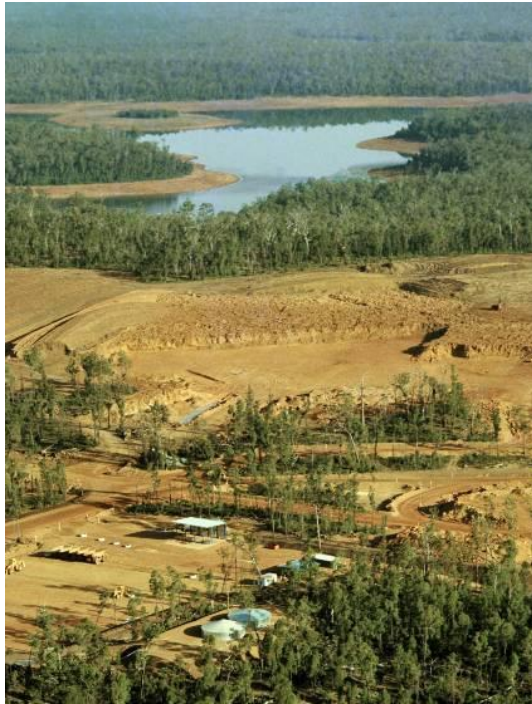


# Returning a self-sustaining jarrah forest ecosystem to enhance or maintain water, timber, recreation & conservation values

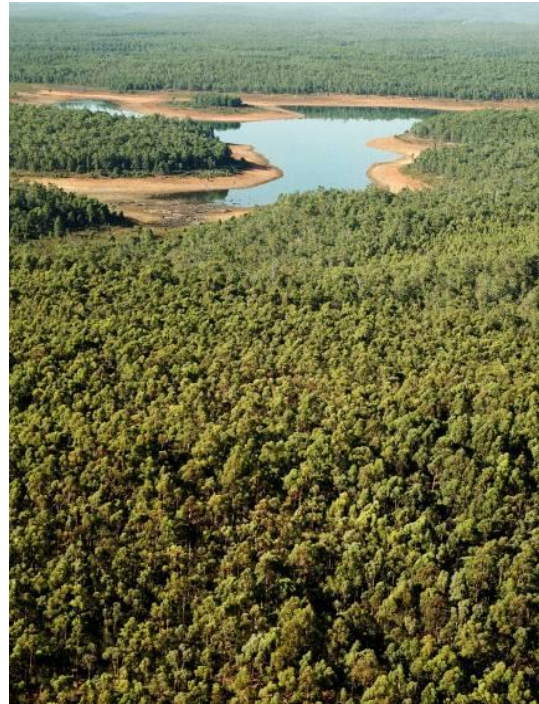


Achieved 100% plant species richness in rehabilitated areas and 100% marsupial, 89% reptile, 90% bird return rates

Del Park 1980



Del Park 2001



Del Park 2017

