



Environmental Research Scientist, Dr Felipe Saavedra, inspects a jarrah tree in a recently rehabilitated area.

## Research drives Alcoa's rehabilitation success

### Alcoa's rehabilitation of Western Australia's jarrah forest after bauxite mining has been described as some of the best work of its kind in the world.

An independent peer review by globally renowned environmental consultant Stantec found that Alcoa's minesite rehabilitation, together with its substantial program of related research, is "as sophisticated and comprehensive as for any mining operation globally".

While welcoming the assessment, Alcoa Australia President Elsabe Muller said the bauxite miner and alumina and aluminium producer would never rest on its laurels and placed a strong focus on continuous improvement, particularly when it came to rehabilitation.

There is renewed interest in Alcoa's minesite rehabilitation as part of the WA

Environmental Protection Authority's assessment of the company's current and future bauxite mining and refining plans in WA. The public has until August 21, 2025 to review and comment on the plans.

Ms Muller welcomed the EPA assessment and public review process, saying Alcoa was proud of its track record in WA and remained committed to evolving with environmental and societal needs and expectations.

Alcoa has been operating in WA since 1963, mining bauxite in the state's Peel and Upper South West regions, then turning that ore into alumina at its nearby refineries. The alumina is then shipped elsewhere in Australia and globally to be smelted into aluminium.

The company's WA operations produced about 45 per cent of Australia's alumina

last year, while its Portland Aluminium Smelter in Victoria produced 19 per cent of the nation's aluminium.

Alcoa is a major player in the south of WA, directly employing about 4000 people. Last year the company invested about \$2 billion with 1000 WA businesses and \$5.3 million in local community projects.

Transitioning to new mine regions will enable Alcoa's WA operations to continue contributing to the state and nation.

It is also important in helping keep pace with rising demand for aluminium.

Due to its strong, lightweight and durable properties, aluminium is used in all manner of things, from buildings and vehicles, to food and drink packaging, and electrical and medical equipment. The second-most widely used metal in the world, which is 100 per cent recyclable, is firmly embedded in everyday life.

In addition, aluminium is playing a major role in the green energy future as a key ingredient in solar panels, wind turbines, electric vehicles, batteries, and electrical transmission systems and power plants.

Put all this together and it is not surprising that global consumption of aluminium has nearly tripled since 2001 and is expected to almost double again by 2050.

Meeting this demand through responsible and sustainable production is one of the sector's biggest challenges and a key reason why Alcoa believes it continues to have an important role to play.

"For more than six decades, our Australian operations have been helping meet aluminium demand in a responsible way and we know we can continue to do that, particularly when it comes to rehabilitation," Ms Muller said.

"Over that time, we have cleared about two per cent of WA's Northern Jarrah Forest avoiding old growth forest and areas of high conservation value. All areas cleared for mining have been previously disturbed for logging. We have rehabilitated about 75 per cent of the areas we have cleared, with these at different stages of maturity and forest restoration.

"Shaped by a clear commitment that our presence in the forest is temporary, we work to return fully functioning and self-sustaining forest, and repeated studies have confirmed that is exactly what we've achieved and continue to achieve.

"We were the first miner to successfully hand back a significant parcel of rehabilitated land, and to be listed on the United Nations Global 500 Roll of Honour for rehabilitation excellence.

"In addition to successfully returning a rich and diverse mix of native plant species including jarrah and marri trees, peer reviewed research has shown that 100 per cent of mammals and about 90 per cent



Alcoa's Australia President Elsabe Muller.

of birds and reptiles can be found in 15 to 20-year-old rehabilitated forest.

"But we're not stopping there. We are accelerating and effectively doubling our rate of rehabilitation from about 500 hectares per year to 1000 hectares per year by 2027.

"We have also stepped up our already impressive record of conducting and supporting research through our Forest Research Centre."

A highly experienced technical advisory committee, taking in experts from several fields and organisations, has been appointed to guide Alcoa's Forest Research Centre, which was launched last year.

A total of 20 internal research projects are already underway and about 20 additional projects are in the final planning stages with collaborative researchers including various Australian and international universities, the CSIRO, Traditional Owners and numerous other research institutions.

Alcoa Research Manager Dr Lucy Commander said research projects already in progress focused on three of the centre's core pillars being fauna, flora and rehabilitation. Projects across the remaining two pillars – water stewardship and First Nations two-way science – are currently being finalised.

"We are working with some of the most experienced researchers and research organisations in the world, all focused on understanding how to continuously improve and adapt the ways we manage forest health and conduct mine rehabilitation into the future," Dr Commander said.



Part of the rehabilitation program involves collecting, treating and spreading seeds from a broad range of Northern Jarrah Forest native species.