Huntly mine transition and Pinjarra refinery production increase



Environmental assessment



Alcoa has been operating in Western Australia since 1963. Our Huntly and Willowdale mines send mined bauxite to our Pinjarra and Wagerup refineries where it's refined into alumina, the material used to make aluminium.

Aluminium plays a key role in decarbonisation. It's found in solar panels, wind turbines, electric vehicles, medical equipment and more. We continue to rely on it every day.

The assessment

We are seeking approval to transition Huntly Bauxite Mine to new operating areas and increase alumina production at Pinjarra Alumina Refinery by 5%. This requires assessment by the Environmental Protection Authority (EPA) and approval by the State and Commonwealth Governments to ensure it meets environmental standards and minimises impacts to the environment, cultural values and local communities.

Transitioning to new mine regions is essential for the continued operation of the Huntly mine and Pinjarra refinery. This project will protect thousands of ongoing local jobs, helping sustain the regional economy.

Alcoa has operated in and around drinking water catchment areas for more than 60 years and is committed to maintaining our record of no impacts to drinking water supply. We've coupled our long-term experience with extensive studies on water quality and flow to manage our potential impacts.

EPA environmental objective aims to

maintain natural water flow patterns and protect the quality of groundwater and surface water to ensure ecosystems remain healthy and water resources are preserved.

Key terms

Inland waters – include all water found on land, including rivers, lakes, streams, wetlands, groundwater, and reservoirs.

Public Drinking Water Source Areas (PDWSAs) – The catchments of dams and reservoirs that provide drinking water to cities and towns. They are carefully managed to ensure the safe supply of drinking water.

Reservoir Protection Zones (RPZs) – Designated areas within PDSWAs surrounding drinking water reservoirs to control access and protect water quality.

Dryland Salinity – Dissolved salt that has been brought to the surface by rising groundwater.

Proposed activities

Alcoa's proposed activities that could impact inland waters include:

Clearing native vegetation.

Mining bauxite ore and constructing supporting infrastructure.

The application of fertilisers as part of rehabilitation within Public Drinking Water Source Areas (PDWSAs).

Operating and maintaining heavy equipment and vehicles.

Using water for construction, mining, and refining processes.

Managing waste, contaminants, and chemical products.

Human presence within the Reservoir Protection Zones.

Potential impacts

Mining activities have the potential to impact inland waters in the following ways:

Changes to the quality and quantity of surface water and groundwater.

Disrupting natural groundwater and surface water flow.

Increased flow of saline groundwater into local water systems.

Increasing sediment levels in surface water from erosion.

Contaminating water through spills, hazardous materials and disturbance of naturally acidic soils.

Disruptions to public drinking water supply if quality or availability is impacted.

Managing impacts

We manage potential impacts on inland waters through the application of the mitigation hierarchy – avoidance, minimisation and rehabilitation.

🐼 Avoid

- No clearing or mining in:
 - steep areas in PDWSAs.
 - the Serpentine Pipehead Dam's Catchment.
- No mining within:
 - Reservoir Protection Zones.
 - 100m of mapped stream zone vegetation.
- Protect drinking water quality by managing salinity and turbidity levels in streams that flow to drinking water reservoirs.
- No construction compounds, wastewater treatment plants, fuel farms, or waste disposal within RPZs.
- Groundwater protection measures:
 - No mining in areas where dryland salinity or waterlogging cannot be adequately managed.
 - Conduct groundwater monitoring before mining to assess risks before clearing.
 - Design mine pits to remain at least 2 metres above the predicted groundwater table to protect groundwater quality and flow.

Minimise

Avoid disturbing swamps and stream zones, wherever possible.

- Construct river crossings during dry periods to reduce river flow impacts, with installation of drainage sumps to contain 1-in-100-year, 7-day rainfall events.
- Restrict hydrocarbon transport to 15,000L at Serpentine and South Dandalup River crossings, with signage and a 30 km/h speed limit in place.
- Store fuel and hazardous materials in approved containers within containment areas to prevent spills to the environment.
- Install drainage controls before mining, including haul road sumps for 1-in-100-year, 72 hour rainfall events.
- Implement response plans, with trained staff to manage spills and extreme weather events.

Rehabilitate

Alcoa continues to focus on high-quality rehabilitation. An independent review of our rehabilitation conducted in 2023 concluded that our rehabilitation practices "remain as sophisticated and comprehensive as for any mining operations globally".

Managing rehabilitation to protect inland waters includes:

- A focus on restoring high-risk areas first, such as areas within RPZs, steep slopes and areas with salinity risks, to prevent erosion and protect water quality.
- Shaping pit slopes and breaking up compacted ground to manage water runoff and reduce erosion.

How Alcoa monitors potential impacts

Water monitoring – Over 60 monitors in waterways located across Huntly and Willowdale mines measuring salinity and turbidity levels in surface water. Alcoa also monitors groundwater levels and quality through an extensive groundwater bore network.

Clearing limits/extent – Clearing reconciliation conducted to ensure our clearing complies with our commitments.



Stay informed. Scan the QR code using your phone camera, visit our website www.alcoa.com/australia or contact us via alcoaofaustralia@alcoa.com or (08) 9316 5817.

This information is available in other languages upon request.