

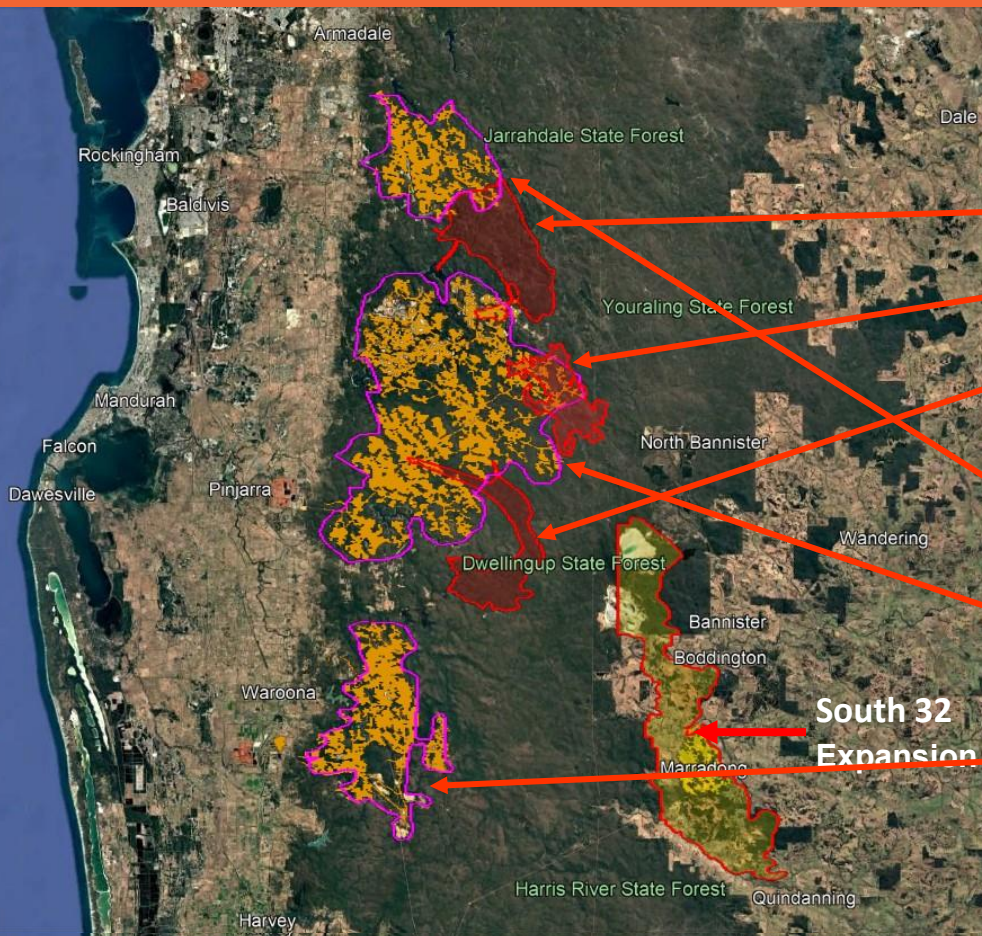
An aerial photograph of a large reservoir, likely a dammed river, surrounded by dense green forest and rolling hills. The water is a deep blue color. A concrete dam structure is visible in the lower center of the image. The text "Water & Economic Impacts" is overlaid in large white font across the upper half of the image.

Water & Economic Impacts

Jeff Bremer

Alcoa's proposal and previous mining

Jeff Bremer



Proposed Clearing 2025

Mining Region	Proposed Clearing (ha)	Impacted Area (ha)	% of Impact area
Myara North	3,219	10,705	30%
O'Neil Expans	1,062	5,571	19%
Holyoake	3,219	7,624	42%
Huntly	13,788	39,047	35%
Willowdale	846	2,137	40%
PJ Refinery	1,396	3,241	43%
Subtotal	23,530	68,325	34%

Infill Mining *

Proposed + Historical Clearing

Mining Region	Forest Cleared (ha)	Impacted Area (ha)	% of Impact area
Jarrahdale	4,030	12,133	33%
Huntly	22,478	66,621	33%
Willowdale	9,186	27,149	44%
Grand Total	35,694	105,903	35%

GRAND TOTAL

CLEARING	IMPACTED	%
360 km ²	1,060 km ²	35

*Infill mining was not plotted due to lack of time, Data is based on ERDs for EPA Assessments 2253 and 2385 released in June 2025

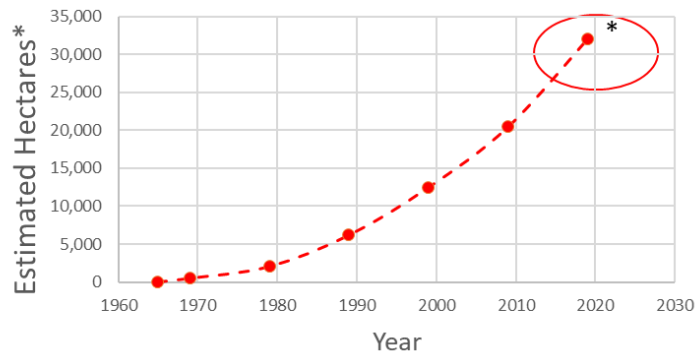


What it looks like on the ground: massive clearing and stranded habitats
Stranded habitat tree 2021 isolated in a 200 hectare clearing near Jarrahdale/Karnet Prison Farm.

Accelerating Loss of Forest (1965 ~2020)

4

Cumulative Forest Clearing By Alcoa & South 32

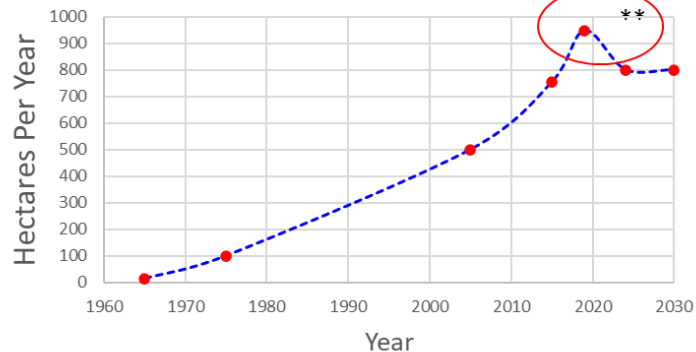


"It is anticipated that the total clearing for the first year would be in the order of 30 acres; and for sub-subsequent years, and so long as the company was on an output of 550,000 tons per annum, 25 acres." <25 acres = 10 hectares>

Sir Charles Court, Deputy Premier WA 1961



Forest Clearing per annum by Alcoa



A Warning on the Jarrah Forests

Consequently, when an area of jarrah forest is properly cleared, it is lost beyond recall, on any economic basis. There is no road back. Further alienation of jarrah forest should therefore not be lightly undertaken without the fullest consideration of all that such an irretraceable step involves. Attempts to grow jarrah forests in other countries have failed miserably. It remains an uniquely West Australian Forest.

A. C. Harris -Conservator of Forests - Forest Dept. Annual Report 1959

Table 1 Alumina Production and Water Consumption in the the State of WA

	ALUMINA PRODUCTION			WATER CONSUMPTION (MINING + REFINERIES)		
	South32 ¹	Alcoa ²	State of WA ³	South32 ⁴	ALCOA ⁵	State of WA
Financial Year	Annual Alumina Production (Mt)	Annual Alumina Production (Mt)	Annual Alumina Production (Mt)	Annual Water Usage (GL)	Annual Water Usage (GL)	Annual Water Usage (GL)
FYE 2024	3.8	8.6	12.4	14.6	33.4	48.0
FYE 2023	3.8	9.2	13.0	10.5*	35.6	46.2

- In 2023~2024 the Alcoa metric for water usage from BOTH mining refinery and operations was 3.87 tonnes of water/ tonne of Alumina
- *Anomalous Figure in South 32's 2023 sustainability report. To include mining it should be more like 14.9 GL

Footnotes.

- 1 Worsely Data from South 32 Quarterly Report. <https://www.south32.net/investors/financial-operational-results>
- 2 Calculated as the difference between State Production (from DEMIRS) and output by South 32. Alcoa do not appear to be publishing their production figure
- 3 State of WA Alumina Production from DEMIRS <https://www.dmp.wa.gov.au/Documents/Investors/202324MajorCommoditiesResourceDataFile.xlsx>
- 4 South32 Sustainability Databooks For years 2023 and 2024, found here: <https://www.south32.net/investors/financial-operational-results>
- 5 Alcoa 2023 Sustainability Report <https://www.alcoa.com/sustainability/pdf/2023-Sustainability-Report.pdf>

Alcoa 2023-Sustainability Databook <https://www.alcoa.com/sustainability/pdf/2023-Sustainability-Data-Book.xlsx>



Water Usage in FY2024 by Mining (dust suppression) and Refining	Usage Per Year (Gigalitres)
Alcoa – 3 refineries + Mine Sites	33.4
Worsley Alumina + Mine Sites	14.6
Total	48.0

Source: Alcoa Sustainability report 2023 + DEMIRS quarterly Alumina Production, South32 2024 Sustainability Databook

Alcoa and South 32's Water Consumption is Equal to the Contents of Perth's Biggest Dam!

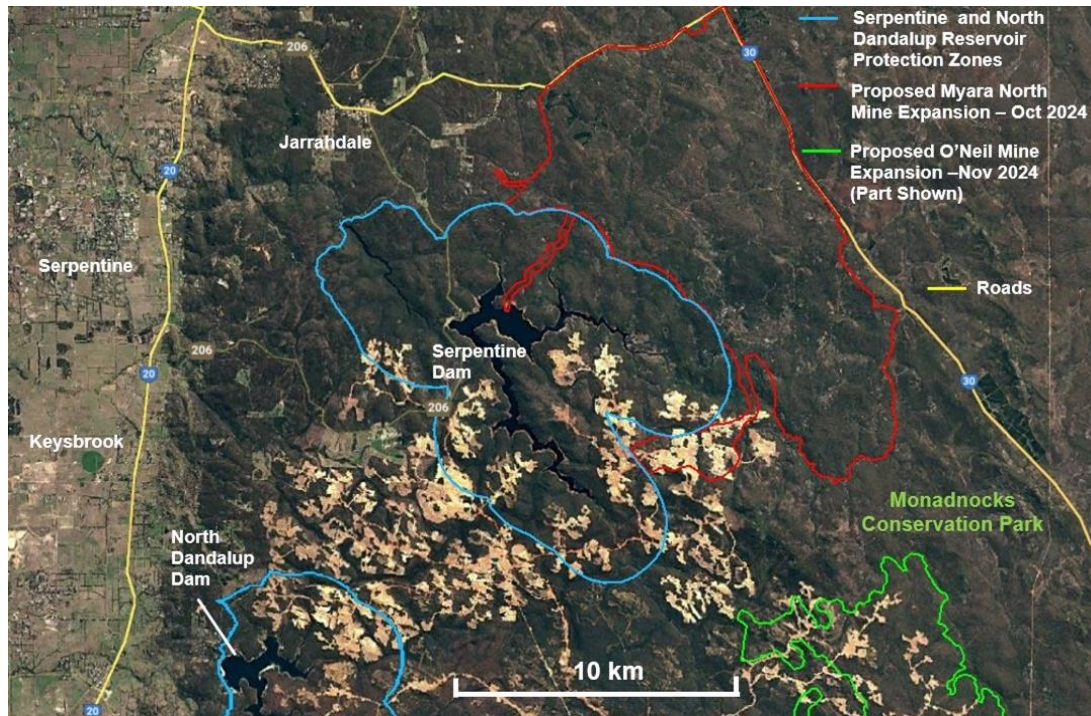


Image: #MilesTweediePhotography

- These figures are not made public and had to be calculated and extracted at great cost in time and effort.
- Based on the 2024 Figures 48 GL is all the water in Serpentine Dam today (35% of capacity on Feb 2025) Max winter capacity is approx. 50 GL
- Approximate economic* value of that water to taxpayers is \$96 million ~ \$148 million per annum.

**Desalinated water is the differential cost of lost water in the drinking water supply and costed at \$2.0~ \$3.00 per kilolitre"*

Mining within the Reservoir Protection Zones (RPZs) Jeff Bremer



WATER CORPORATION ANALYSIS

- No more than 30% mining in catchments and subcatchments
- No mining in areas of >16% slope
- No mining inside of the RPZ.
- 2m separation of pit floor from groundwater

OUTCOMES

- 60% of subcatchments mined >30%
- 30% of catchment has mining in areas of >16% slope
- Mining in RPZ. is/was extensive
- 80% of drainage failures associated with shallow groundwater

WHY?

SILT RUNOFF IN EXTREME WEATHER EVENTS IS A THREAT TO PERTH'S DRINKING WATER

TWO REPORTS from DWER and Water Corporation – 2021 ~2023 – But Revealed under FOI in May and June 2024



Overview
The following preliminary feedback is provided to the Department of Jobs, Tourism, in preparation for the Mine Management Program Liaison Group (MMPLG) meeting scheduled 9 October 2023. This preliminary assessment is provided as the basis for further discussion within the MMPLG and between the DWER, DJTSL and Alcoa. It comprises feedback with reference to:

- The parameters outlined in the Minister for State Development's letter to Mr Michael Gollischewski (Alcoa of Australia) dated 21 September 2022 (60-50475) (under the headings: Constraints and Risk-based Management Approach; MMP Governance Framework and Content); and
- Draft MMP 2023-2027 - Preliminary Feedback provided by DWER in an email from Simon Taylor to Steve Dawson and James Milne, sent Thursday, 22 December 2022 12:25PM and 22 February, 2023 5:13PM (DWER Preliminary Feedback).

Please note the figures presented in this feedback are based on preliminary analysis of the data submitted as part of the MMP, which is difficult to interpret and may not be accurate. DWER encourage clearer articulation of spatial information, including shape files, to be incorporated into the next revision of this MMP.

DWER Feedback to MMPLG – 6 October 2023
As a member of the MMPLG, DWER does not endorse the current draft MMP in its entirety for the reasons outlined below:

- the draft MMP lacks the clarity and coherence necessary to provide an appropriately detailed understanding of where and when mining and associated activities (including rehabilitation) are being proposed;
 - there remains fundamental information gaps in the current draft which preclude accurate determination as to whether the MMP adequately protects public drinking water sources (both during and post-mining);
 - a) accurate detailed assessment of the significance of impacts (including cumulative impacts) of mining activity on native flora and fauna; and
 - b) appropriate assessment of the expected efficacy of mitigation and management measures.
- Anding the above, the apparent scale and location of proposed mining and cumulative impacts combined with the fundamental information gaps and lack of clarity and coherence of the current draft MMP mean that, from a precautionary perspective, there is likely a high level of risk to public water sources and native flora and fauna.

1 of 54

Catchment Risk Assessment Alcoa 2023 – 2027

Environmental assessment under MS 728 informing the environmental management of Alcoa's 2023 – 2027 MMP.

DWER

- “there is likely a high level of risk to public drinking water sources and native flora and fauna”

WATER CORPORATION

Dozens of key recommendations but lets look at just two.

- “Probability of contamination of the reservoirs is considered certain.”
- “estimated cost of treatment for all dams where mining and/or exploration is intended is in the order of \$3.25 Billion”.

Reference [Water Corporation Catchment Risk Assessment Alcoa 2023-2027 | DocumentCloud](#)

endforestmining.org.au

**END
FOREST
MINING**
Forever



RESPONSE FROM THE WA GOVT / CABINET

- Issues Alcoa an exemption order in Dec 2023 to continue mining until 2027
- Disbands the Mining Management Programs Liaison Group (MMPLG) as it will not approve the mining management plan when water corporation objects
- Forms a new committee the Bauxite Strategic Executive Committee (BSEC).
- Water Corporation refuses to participate on BSEC as it conflicts with its charter to protect the water supply

RESPONSE FROM ALCOA



- *"And to demonstrate our confidence we've provided a \$100 million guarantee"*
- **This is only 3% of the possible \$3.25 billion estimated cost.**

ALCOA LOVES THE "FACTS"*

- We employ 4,500 people
- We spent \$2 billion with 1,000 WA suppliers
- We pay close to \$300 million in Taxes and Royalties
- Add to that more than \$5.3 million invested in community in WA

"Why? Because this is our home. We're here for the economy, the communities and the future we share. "

**END
FOREST
MINING**
Forever

Does Alcoa contribute to our economy? We're here with the facts.

It's a critical question, so we're here with the facts.

We continue to build on over 60 years of economic value creation, employment and community support across Australia. And our impact goes far beyond the numbers.

Across Australia, we directly employ almost 4,600 people, with around 4,000 in Western Australia. These are long-term, locally-based jobs with wages, benefits and career opportunities that help families thrive and keep regional towns strong.

In 2024, we spent more than \$2 billion with 1,000 WA-based suppliers. Supporting local industries, growing regional capability and helping build a stronger, more resilient economy.

We paid close to \$300 million in Australian taxes and royalties. And 71% of the Alcoa Australia revenue stayed right here in Australia.

Add to that more than \$5.3 million invested through community contributions within WA and it's clear – Alcoa isn't just part of WA's economy, we're invested in its growth and prosperity.

Why?

Because this is our home. We're here for the economy, the communities and the future we share. And that's the facts.

alcoa.com/australia



Factoid
/faktɔɪd/

Noun

an item of unreliable information that is reported and repeated so often that it becomes accepted as fact.

Alcoa's economic contribution (2023/2024)

Jeff Bremer

	Contribution to WA Govt Revenue \$billion	Export/GDP Earnings \$billion	% of WA Royalties	%Total WA govt revenue	% of WA Workforce	% of Australia's GDP	Estimated All Taxes and royalties (\$billion)
Iron Ore WA	\$10.91	\$136.10	76.34%	40.11%	4.1%	5.85%	43*
WA Small Business Sector	??	\$50.10	0.00%	??	32.0%	2.15%	10**
Alcoa Alumina WA	\$0.118	\$4.59	0.56%	0.43%	0.3%	0.20%	0.154

- **Iron ore provides 100x Alcoa's revenue contribution to WA Govt Revenue**
- Small business has 10x greater GDP contribution than Alcoa
- Iron Ore is 40% of WA Govt revenue, Alcoa is 0.43%
- **Alcoa employs 0.3% of WA's Workforce Small business employs 32%**
- Iron Ore contributes to 76% of all royalties in WA , Alcoa contributes < 0.6%
- Iron Ore is 5.9% of Australia's GDP, WA Small Business is 2.2%, Alcoa is 0.2%

* *Financial Review The Australian companies paying the most – and least – tax, 1, Nov 2024*

** *Unknown at this stage – but 99% of the \$50 billion earnings will stay in WA*

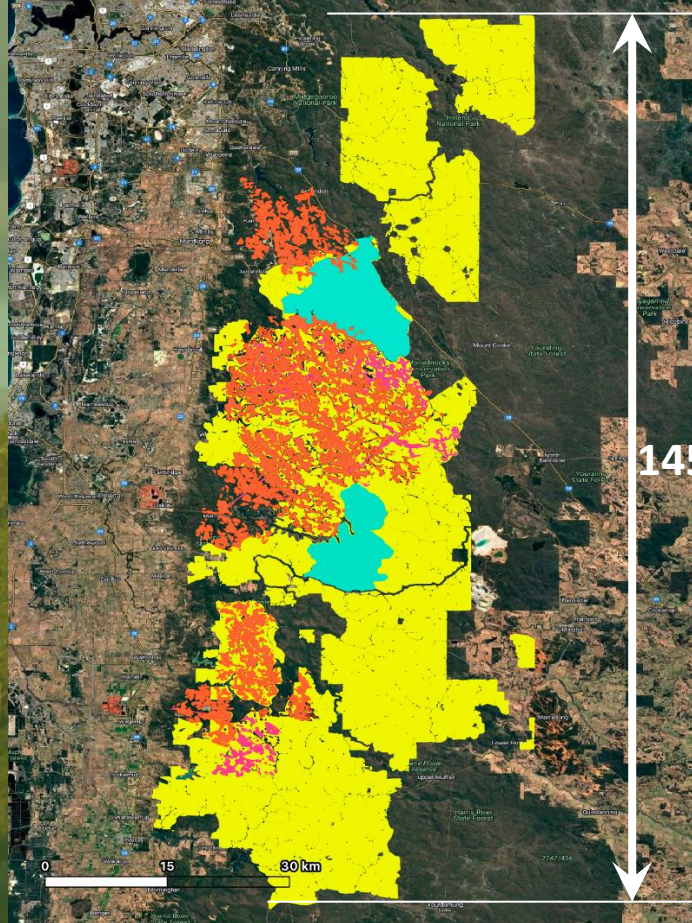
*** *Report by Alcoa of Australia to ASIC FYW 2023/24*

**END
FOREST
MINING**
Forever

Alumina is a weak contributor to the State and National Economy with miniscule employment and revenue contributions compared to small business and Iron Ore

Alcoa's footprint is massive — their return to WA is negligible

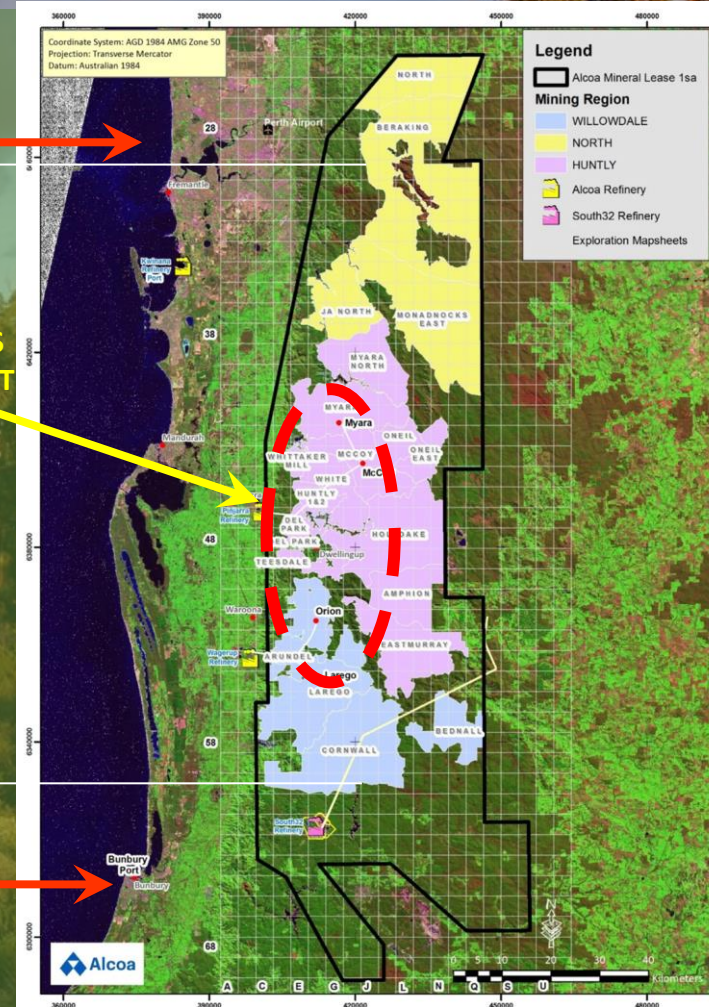
“WE’RE HERE FOR THE THE FUTURE WE SHARE”



PERTH

ALCOA'S
OPERATIONS
FOR THE LAST
60 YEARS

BUNBURY



Alcoa's – Longterm Mineral exploration Plan

- Exploration (drilling approved)

IS IT TIME FOR ALCOA OPERATIONS TO EXPAND & PHASE OUT?

- Alcoa still operates under a 1961 “startup” Act — **with no end date**
- Multiple exemptions from environmental law, sweetheart handouts on royalties etc
- The cumulative impact of current and future clearing will be 360 km² with a projected impact of 1,060 km² if the ERDs are approved
- **Perth’s water supply is at real risk** — \$3.25B potential treatment cost
- Alcoas revenue contribution is miniscule. WA takes the damage, Alcoa takes the profit
- It is time for:
 - ✓ A halt to expansion.
 - ✓ An independent closure plan.
 - ✓ A proper economic and ecological cost analysis.