Want to know more:

- Go to endforestmining.org.au and follow the links to information
- WA Today Alcoa Investigation page: <u>https://www.watoday.com.au/topic/alcoa-investigation-6fut</u>
- Dr Jack Bradshaw, Forester: <u>https://www.youtube.com/watch?v=_iq9h7dyPng</u>

Facts at a Glance (with supporting evidence)

- Largest mine in any 36 global biodiversity hotspots
 - Dixon, K W. and T. Campbell. (2023). "A New Gold Standard in Mine Site Restoration to Drive Effective Restoration Outcomes." In *Ecological Restoration*, edited by Singarayer Florentine, Paul Gibson-Roy, Kingsley W Dixon, and Linda Broadhurst, 399–433. Cham: Springer International Publishing. <u>https://doi.org/10.1007/978-3-031-25412-3 11</u>.
 - Data from:
 - Myers, Norman, Cristina Mittermeier, Russell Mittermeier, Gustavo Fonseca, and Jennifer Kent. "Biodiversity Hotspots for Conservation Priorities." *Nature* 403 (2000): 853–58.
 - Maus, Victor, Stefan Giljum, Jakob Gutschlhofer, Dieison M. da Silva, Michael Probst, Sidnei L.B. Gass, Sebastian Luckeneder, Mirko Lieber, and Ian McCallum. "A Global-Scale Data Set of Mining Areas." *Scientific Data* 7, no. 1 (2020): 1–13. <u>https://doi.org/10.1038/s41597-020-00624-w</u>.
- World's third largest mine of all resource types
 - Maus, Victor, Stefan Giljum, Jakob Gutschlhofer, Dieison M. da Silva, Michael Probst, Sidnei L.B. Gass, Sebastian Luckeneder, Mirko Lieber, and Ian McCallum. "A Global-Scale Data Set of Mining Areas." *Scientific Data* 7, no. 1 (2020): 1–13. <u>https://doi.org/10.1038/s41597-020-00624-w</u>.
- 60 years of operation under a State Agreement Act that provides access to public lands from Collie to Mundaring (links to Pete)
 - <u>https://www.watoday.com.au/environment/sustainability/alcoa-must-stop-</u> <u>spinning-the-facts-and-start-fixing-our-forests-20230313-p5crmc.html</u>
- 280 square km cleared with estimated 910 square km impacted (link to Bremer site and exact location)
 - <u>https://jarrahdaleforestprotectors.org/maps/</u>
 - <u>https://jarrahdaleforestprotectors.org/wp-content/uploads/2023/02/Impact-of-mining-NJF.png</u>
- More than 800 of plant species in the lease area with direct impact on >400 species; with estimates of up to 1,400 species in proposed expansion areas including potentially over 40 rare species with a moderate to high likelihood of occurrence (link to DMP site details)
 - <u>https://www.dmp.wa.gov.au/Environment/Notifications-of-Native-4945.aspx</u>. (REF 10267/10
- No areas handed back to the WA Government as restored to a level equivalent to reinstating the ecological values of the original forest (Pete Milne article).
 - <u>https://www.watoday.com.au/environment/sustainability/alcoa-in-wa-60-years-28-000-hectares-of-forest-cleared-zero-rehabilitation-completed-20230307-p5cq4j.html</u>

- Loss of ecological values (Standish et al, 2021; 2023; Campbell et al 2023)
 - Standish, Rachel, Aaron Gove, Andrew Grigg, and Matthew Daws. "Beyond Species Richness and Community Composition: Using Plant Functional Diversity to Measure Restoration Success in Jarrah Forest." *Applied Vegetation Science* 24, no. 3 (July 1, 2021): e12607. <u>https://doi.org/10.1111/AVSC.12607</u>.
- Weeds are widespread and 25 times more common in rehabilitated areas than native forest
 - Smith, Martin A., William A. Loneragan, Carl D. Grant, and John M. Koch. "Effect of Fire on the Topsoil Seed Banks of Rehabilitated Bauxite Mine Sites in the Jarrah Forest of Western Australia." *Ecological Management & Restoration* 1, no. 1 (April 1, 2000): 50–60. <u>https://doi.org/10.1046/J.1442-8903.2000.00008.X</u>.
- Old growth ecosystem features missing (grasstrees, Macrozamia cycads 100-200 year old specimens are cleared but not reinstated; mature trees are absent from mine rehabilitated areas; resprouting and rhizomatous plants including native rushes and sedges (Restionaceae and Cyperaceae) plus resprouting species (native blueberry family – Ericaceae; Dlleniaceae etc.) absent or low levels compared to native forest.
 - Koch, John M. "Mining and Ecological Restoration in the Jarrah Forest of Western Australia." *Mining in Ecologically Sensitive Landscapes*, 2015, 111–40.
 - Daws, Matthew I., and John M. Koch. "Long-Term Restoration Success of Re-Sprouter Understorey Species Is Facilitated by Protection from Herbivory and a Reduction in Competition." *Plant Ecology* 216, no. 4 (2015): 565–76.
- No wildlife is translocated from the clearing footprint including native mammals and reptiles. Evidence: no operational activities listed for routine translocation actions
- Recovery of wildlife into rehabilitated areas is poor for entire groups of fauna with little evidence of residency
 - Craig, Michael D., Giles E. St J. Hardy, Joseph B. Fontaine, Mark J. Garkakalis, Andrew H. Grigg, Carl D. Grant, Patricia A. Fleming, and Richard J. Hobbs. "Identifying Unidirectional and Dynamic Habitat Filters to Faunal Recolonisation in Restored Mine-Pits." *Journal of Applied Ecology* 49, no. 4 (2012): 919–28.
 - Majer, Jonathan D., Brian Heterick, Thomas Gohr, Elliot Hughes, Lewis Mounsher, and Andrew Grigg. "Is Thirty-Seven Years Sufficient for Full Return of the Ant Biota Following Restoration?" *Ecological Processes* 2, no. 1 (2013): 1–12. <u>https://doi.org/10.1186/2192-1709-2-19</u>.
- Habitat features in the native forest (logs, coarse woody debris) is over 100 times lower in the rehabilitated areas
 - Williams, Matthew R., and K. Faunt. "Factors Affecting the Abundance of Hollows in Logs in Jarrah Forest of South-Western Australia." *Forest Ecology and Management* 95, no. 2 (July 31, 1997): 153–60. <u>https://doi.org/10.1016/S0378-1127(97)00015-7</u>.
 - Craig, Michael D., Andrew H. Grigg, Richard J. Hobbs, and Giles E. St. J. Hardy. "Does Coarse Woody Debris Density and Volume Influence the Terrestrial Vertebrate Community in Restored Bauxite Mines?" *Forest Ecology and Management* 318 (April 15, 2014): 142–50. <u>https://doi.org/10.1016/j.foreco.2014.01.011</u>.