Jimblebar Optimisation Project

Existing environment/ Impact	Mitigation			Significant Residual Impact	Offset Calculation Methodology				
	Avoid and minimise	Rehabilitation type	Likely Rehab Success		Type	Risk	Likely offset success	Time Lag	Offset Quantification
Flora and Vegetation									
Clearing of up to 2,000 hectares of native vegetation in the Pilbara IBRA Region Up to 2,000 hectares of 'Good' to 'Excellent' vegetation will be cleared for new Overburden Storage Areas (OSAs) and expansions to existing OSAs, and other infrastructure, including haul roads. Approximately 400 hectares of the 2,000 hectatres is proposed for the surplus water infrastructure (construction and operation of a proposed Managed Aquifer Recharge system in the Caramulla Valley and a proposed creek discharge location within Caramulla Creek).	The amount of clearing originally required for the proposed four southern OSAs and expansions to OSAs within the Existing Project was reduced by reviewing the current mine pit backfill schedule. Clearing for OSAs will be minimised through the progressive backfilling of depleted pits within the approved Jimblebar Iron Ore Mine. BHP modified the proposed Development Envelope to avoid 23 locations of the Priority 1 species Eremophila capricornica , which has been recorded in the north-eastern part of the Development Envelope where the managed aquifer recharge (MAR) injection borefield will be located. This reduced the potential direct impact to this species from 29% to up to 14%, assuming disturbance occurs anywhere within the proposed Development Envelope and all records are impacted. BHP will design the MAR infrastructure to avoid, where practicable, all known records of this species within the proposed Development Envelope (22 known locations).	BHP undertakes Site specific rehabilitation approach with disturbed areas progressively rehabilitated in accordance with the Jimblebar Mine Closure Plan.	<u>Can the environmental values be rehabilitated/Evidence?</u> Yes, the environmental values can be rehabilitated. Jimblebar is an operating mine and BHP has rehabilitated available areas. BHP provides evidence on rehabilitation of avialable areas at its mines sites in its Annual Environmental Reports. BHP is also in the process of developing a rehabilitation report for its Pilbara mining operations, for future Derived Proposal applications in accordance with Ministerial Statement 1105, which will provide detail on rehabilitation success against completion criteria. <u>Operator experience in undertaking rehabilitation?</u> BHP started rehabilitation at its WA Iron Ore operations in the Pilbara in the 1990s. From the early 2000s onwards, BHP made landform improvements, including integrating OSAs into the landscape, altering slopes to minimise erosion and use of covers to prevent acid and gas hazards. From 2015 onwards, BHP made revegetation improvements including understanding of seed biology and improvements in collection, dormancy breaking, and seeding methods. <u>What is the type of vegetation being rehabilitated?</u> Detailed vegetation association mapping was completed for the proposed Development Envelope, with 58 vegetation associations mapped. Of these vegetation associations, 33 occur within the Indicative Footprint of which six represent over 70% of the Indicative Footprint. The remaining associations contribute less than 4% each of the Indicative Footprint. The main vegetation associations are: Acacia High Open Shrubland and Acacia Low Woodland; Triodia Open Hummock Grassland and Triodia Hummock Grassland. <u>Time lag?</u> BHP's review of rehabilitiation indicates that it will usually take 15-20 years after an area is rehabilitated before it can be assessed against completion criteria. This will depend on climatic conditions when rehabilitation commenced and during the rehabilitation period. <u>Credibility of the rehabilitation proposed (evidence of demonstrated success)</u> As discussed above, BHP has experience in rehabilitation and has made improvements in rehabilitation practices. BHP considers that the rehabilitation proposed in the Jimblebar Mine Closure Plan is credible and the current Annual Environmental Reports provide evidence of rehabilitation success. Further detail on rehabilitation success will be provided in future Derived Proposal rehabilitation reports	<u>Extent</u> Up to 2,000 hectares <u>Quality</u> Most of the remaining vegetation in the proposed Development Envelope is in Good to Excellent condition (89% within the Indicative Footprint). <u>Conservation Significance</u> Nil <u>Land Tenure</u> Unallocated crown land or pastoral <u>Time Scale</u> 15-20 years post closure, for areas able to be rehabilitated. Applying the Residual Impact Significance Model in the WA Offsets Guidelines, significant residual impacts require an offset where the cumulative impact is already at a critical level. Therefore, an offset is required for the cumulative clearing of native vegetation in the Pilbara (IBRA) region.	Monetary contribution to the Pilbara Environmental Offsets Fund (PEOF)	Low. The WA Government will make decisions on specific offsets projects proposed through the PEOF, focusing on on-ground projects. The operation of the fund will use relevant environmental information and knowledge from the WA and Commonwealth governments, natural resource management groups, Traditional Owners, conservation groups, industry and the research sector.	BHP will contribute funding to the PEOF. The PEOF allows for multiple offset payments to be combined to deliver larger conservation projects or expand successful initiatives in the region to maximise the value of financial offsets. This approach enables strategic landscape scale projects with much greater environmental benefits to be implemented, rather than multiple smaller activities.	N/A	$805 AUD (excluding GST) per hectare of 'Good' to 'Excellent' condition native vegetation cleared within the Hamersley IBRA subregion. $1,611 AUD (excluding GST) per hectare of 'Good' to 'Excellent' condition vegetation cleared within the Fortescue IBRA subregion.