

**Attachment 3: 10 Clearing Principles Report**

## Native Vegetation Clearing Permit – 10 Clearing Principles Assessment

### Galah Rail Siding

April 2023

Hamersley Iron Pty Limited

152-158 St Georges Terrace

Perth 6000

#### Restrictions on use

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#### Document Status

Rev	Author	Reviewer/s	Date	Approved for issue	
				Distributed to	Date
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# Executive Summary

The Proposal was assessed against the 10 Clearing Principles as defined in Schedule 5 (Principles for Clearing Native Vegetation) of the *Environmental Protection Act 1986*.

Based on specialist assessment of the proposal and discussion below, it is deemed that

- Principles (C), (D), (E), (F), (J) are not at variance;
- Principles (A), (B), (G), (H) are not likely to be at variance; and
- Principle (H) is at variance.

Principle H states: *Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.*

The Proposal falls within Millstream Chichester National Park (MCNP). At this location the only way to access the rail alignment to undertake the proposed works from the Manuwarra Red Dog Highway is through the MCNP. The proposal area has been refined to include only areas that are necessary for essential works to be completed. The majority of the Proposal area has previously been cleared and is considered to be in Poor, Degraded or Completely Degraded vegetation condition and runs along existing rail corridor infrastructure. It is considered unlikely the proposal will have a significant impact on the conservation area.

## 1. **Statement Addressing the 10 Clearing Principles**

Rio Tinto is proposing to complete rail maintenance works and associated construction activities at Galah rail sidings on the Tom Price West Mainline, Chainage approximately 83.5 and 85 km mark (the **Proposal**, Figure 1). The proposal is located within Millstream Chichester National Park (MCNP) in the Pilbara and comprises 0.79 ha of native vegetation and cleared tracks. At this location (Chainage 83.5-85 km), the only way to access the rail alignment for these essential works from the Manuwarra Red Dog Highway is through the MCNP.

A reconnaissance and targeted flora survey was carried out at Galah Rail Sidings in 2022 (ELA, 2023; Figure 1). This survey covered 11 ha and included the current proposal area (Figure 1). The proposal area has since been refined to include only areas that are necessary for essential works to be completed. The majority (0.51 ha, 65%) of the proposal area has been previously cleared and 0.13 ha (16.12%) remains cleared for tracks (ELA, 2023).

An assessment of the proposal on the biological values of the Galah Rail Sidings proposal area against the ten clearing principles under Schedule 5 of the EP Act is provided below.

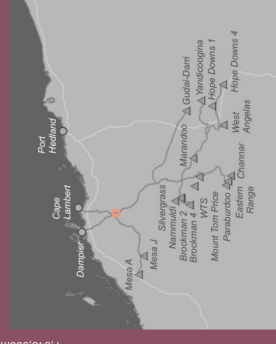


**Legend**

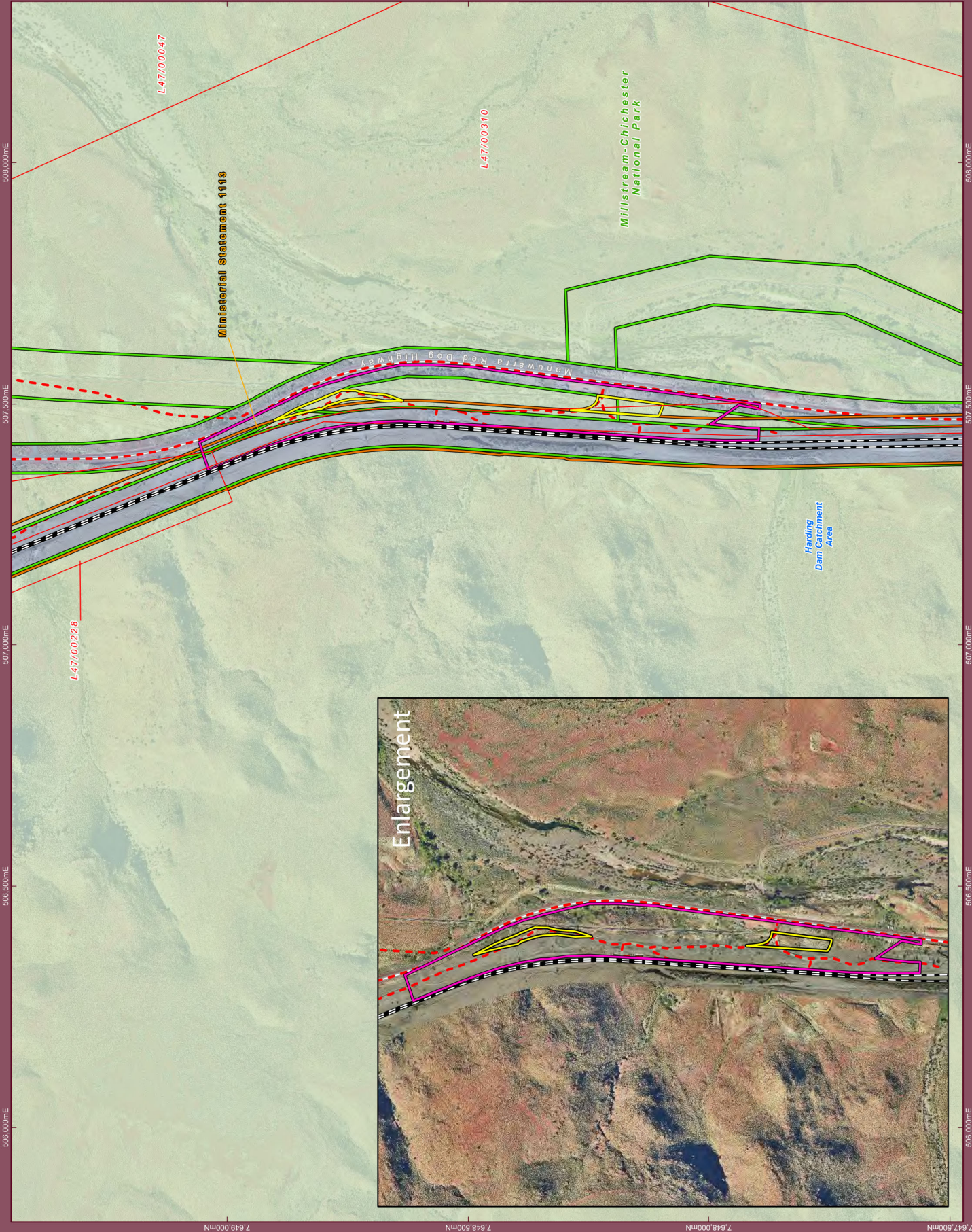
- Proposed NVCP Application Area
- NVCP Survey Boundary
- Ministerial Statement 1113
- MRWA Road Reserve
- Rio Tinto Live Mining Act Tenure
- Millstream-Chichester National Park
- Harding Dam Catchment Area
- Rio Tinto Railway
- Major Road
- Track

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 Date: April 2023



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Scale: 1:7,500 @A3

0 50 100 150 200 Metres

N

Figure 1: Proposed NVCP Application Area



## A) Comprises high level of biological diversity

*Native vegetation should not be cleared if it comprises a high level of biological diversity.*

The Pilbara is one of Australia's 15 National Biodiversity Hotspots (Department of the Environment and Energy, DotEE 2020a) and is a secondary centre of endemism and species richness for *Acacia*, *Triodia*, *Corymbia* and *Sida* in Western Australia (Maslin 2001, Kendrick 2001 and Maslin and van Leeuwen 2008). The Proposal area is located in the Chichester sub-region of the Pilbara and is described as: 'Undulating Archaean granite and basalt plains include significant areas of basaltic ranges. Plains support a shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* (formerly *Triodia pungens*) hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur on ranges' (Kendrick & McKenzie 2001). Known special values of the Chichester sub-region include rare features such as the Ripon Hills sinkhole, Meentheena Carbonate stromatolite fossils (also stromatolite fossils at North Pole and elsewhere), geological complexity of the Marble Bar – Nullagine mineral province and high species and ecosystem diversity in 'Hummock grassland reptile and small mammal communities' and 'Cracking clay communities of the Chichester Range and Mungarooona Range' (Kendrick & McKenzie 2001).

A total of 113 taxa (109 native and four introduced species) representing 32 families and 74 genera were identified across the Study area (ELA, 2023) and the species occurring within the proposal area would comprise a subset of this.

No conservation significant flora have been recorded within the proposal area, and none were considered 'likely to occur'. Once Priority three species, *Eragrostis crateriformis* was considered to have 'potential to occur' within drainage vegetation of the Study area (ELA, 2023). The Proposal area has since been refined and is considered to no longer considered to contain vegetation that could support *Eragrostis crateriformis*. All priority species identified in the likelihood of occurrence table are considered as 'Unlikely to occur' or 'Does not Occur' within the Proposal due to survey effort, lack of suitable habitat for these species and age/proximity to previous records.

Four vegetation units were described from the study area (ELA, 2023), two of these are present in the proposal area:

- *Acacia coriacea* subsp. *pendens*, *A. trachycarpa* and *A. pyrifolia* sparse shrubland over \**Cenchrus ciliaris*, *Triodia wiseana* and *T. epactia* hummock grassland to open hummock grassland on slopes rises and plains. This unit covers 0.56 ha (70.20%) of the proposal area and was considered to be in Poor to Degraded Vegetation Condition.
- *Corymbia hamersleyana* isolated trees over *Triodia wiseana*, *T. epactia* and \**Cenchrus ciliaris* open hummock grassland on rocky basaltic slopes and rises covers 0.11 ha (13.68%) of the proposal area and was considered to be in Degraded Vegetation Condition.

Based on the ELA 2023 vegetation mapping, a further 0.13 ha (16.12 %) of the proposal area has been cleared for tracks and roads.

None of the vegetation units occurring within the proposal area are listed as TECs under either the EPBC Act or under the State listing maintained by DBCA. None of the units represent PECs under the State listing maintained by DBCA.

Two of three broad fauna habitats recorded within the survey area (ELA, 2023) are present within the proposal area, Low hills and Slopes (0.66 ha, 83.88%) and Disturbed (0.13 ha, 16.12%). Neither of these two fauna habitats are considered to be restricted at a local or regional level. Low hills and

Slopes are considered to be of low fauna habitat value while Disturbed areas are considered to be of Null fauna habitat value.

No Threatened fauna species listed under the EPBC Act or the BC Act, nor Priority listed species by DBCA were recorded within the proposal area. One fauna species listed under the EPBC Act (Grey Falcon (VU), foraging habitat), and one priority fauna species (Lined soil-crevice skink (P4), preferred habitat) were considered to have 'Potential to occur' within the Proposal area. Potential habitat for these species is alongside existing infrastructure (Rail access road, RTIO Rail, Manuwarra Red Dog Highway) areas and would not provide high value habitat for the species, if they did utilise the area.

The remaining 32 significant fauna species were considered as unlikely to occur within the proposal area due to lack of suitable habitat for these species, adequacy of survey effort undertaken and proximity to previous records.

The Proposal is **not likely to be at variance** to this Principle.

## **B) Potential impact to any significant habitat for fauna indigenous to Western Australia**

*Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.*

Two broad fauna habitats were identified within the proposal area. The most widespread fauna habitat was Low Hills and Slopes which occurred across 83.88% of the proposal area. These fauna habitats are not considered to be restricted at a local or regional level.

No Threatened fauna species listed under the EPBC Act or the BC Act, nor Priority listed species by DBCA were recorded within the proposal area (ELA, 2023).

Two of the 34 conservation significant species assessed in the desktop assessment were considered to have Potential to occur within the proposal area (ELA, 2023):

- Grey Falcon (*Falco hypoleucos*, VU);
- Lined soil-crevice skink (*Notoscincus butleri*, P4).

*Falco hypoleucos* is broad ranging and has been observed hunting in similar habitat to the Low Hills and Slopes and Major Drainage habitats, so while potential hunting habitat exists within the proposal area, the areas surrounding the proposal area have larger extents of similar habitat meaning the small extent within the proposal area should not be considered significant or necessary habitat.

*Notoscincus butleri* inhabits grassland and/or Acacia shrublands on plains and is widespread throughout the Pilbara. This habitat is represented in the proposal area by Low Hills and Slopes; however, the relatively small extent and recent disturbance indicates the potential habitat within the proposal area compared to the whole Pilbara is neither necessary or significant habitat for the species.

The proposal is **not likely to be at variance** with this Principle.

### **C) Potential impact to any rare flora**

*Native vegetation should not be cleared if it includes, or is necessary for the continued existence of rare flora.*

No threatened flora listed under the EPBC Act or BC Act were recorded within the proposal area, and based on the results of the desktop assessment, none are considered likely to occur.

No conservation significant flora have been recorded within the proposal area and based on the results of the desktop assessment, none are considered likely to occur within the Proposal.

The proposal is **not at variance** with this Principle.

### **D) Presence of any threatened ecological communities**

*Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of a threatened ecological community (TEC).*

No Threatened ecological communities listed under the EPBC Act or the BC Act occur, or have the potential to occur, within or adjacent to the Proposal.

Two Vegetation communities were recorded within the proposal area and none of these were considered to be similar to any Threatened or Priority ecological community (ELA, 2023). The buffer for the nearest known Priority ecological community is approximately 8 km to the south of the Proposal.

The Proposal is **not at variance** to this Principle.

### **E) Significance as a remnant of native vegetation in the area that has been extensively cleared**

*Native vegetation should not be cleared if it is significant as remnant vegetation in an area that has been extensively cleared*

The proposal area occurs within the Chichester subregion of the Pilbara bioregion and within the pre-European vegetation association Chichester Plateau 587 Shepherd et al. (2002). This vegetation association has 99.99% of its total pre-European extent remaining within the Pilbara bioregion (Government of Western Australia 2019).

The vegetation types identified within the proposal area is not considered remnant and is not within an extensively cleared landscape.

The Proposal is **not at variance** to this Principle.

### **F) Impact on any watercourse and / or wetlands**

*Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.*

Harding River, a major creekline, runs parallel to the Proposal. This creekline does not intersect the Proposal. However, two vegetation communities from the study area were considered to be associated with this creekline and have now been removed from the Proposal.

The Proposal is **not at variance** to this Principle.



## **G) Potential to cause appreciable land degradation**

*Native vegetation should not be cleared if the clearing of vegetation is likely to cause appreciable land degradation.*

The Rocklea Land System is generally not prone to degradation and the system is not susceptible to erosion (van Vreeswyk et al. 2004). Clearing of intact vegetation may exacerbate the spread of weeds through the area, Strict weed hygiene measures should be implemented to ensure that the weeds present within the proposal area are not transferred to areas beyond, and that new species are not introduced.

The Proposal is **not likely to be at variance** to this Principle.

## **H) Potential to impact on the environmental values of adjacent or nearby conservation areas**

*Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.*

The Proposal falls within Millstream Chichester National Park (MCNP). At this location the only way to access the rail alignment to undertake the proposed works from the Manuwarra Red Dog Highway is through the MCNP. The proposal area has been refined to include only areas that are necessary for essential works to be completed. The majority of the Proposal area has previously been cleared and is considered to be in Poor, Degraded or Completely Degraded vegetation condition (ELA, 2023) and runs along existing rail corridor infrastructure. It is considered unlikely the proposal will have a significant impact on the conservation area.

The Proposal is **at variance** with this Principle.

## **I) Potential deterioration in the quality of surface or underground water**

*Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.*

The proposal area is located within the Harding Dam catchment and in particular the Upstream Cooya Pooya River sub-catchment (DWER 2018). The Harding River runs parallel to the Proposal, approximately 200 m to the east. Neither the Harding River nor any tributaries intersect the Proposal.

The entire proposal area lies within the Priority 1 Harding Dam Public Drinking Water Source Protection Area (DWER 2022). This comprises a surface water resource that is replenished by irregular flows within the drinking water source protection area. In Priority 1 areas the objective is risk avoidance to protect water quality, and public health, and land use intensification is not recommended to avoid increased contamination risks. Possible contamination risks for the Harding Dam catchment may come from diesel spillage on the railway lines that traverse the catchment and sedimentation due to high runoff from hills within the catchment (Waters and Rivers Commission 1999).

The proposal area is located between the Tom Price Mainline and the Manuwarra Red Dog Highway, clearing is unlikely to further change to the flow of water in the area. This combined with the relatively small scale of the clearing required and no clearing of riparian vegetation suggests there is no reason to expect that the quality of surface or underground water in the area would be affected due to the proposal.

The Proposal is **not likely to be at variance** to this Principle.

**J) Potential of clearing to cause, or exacerbate, the incidence or intensity of flooding**

*Native vegetation should not be cleared if the clearing of vegetation is likely to cause, or exacerbate, the incidence of flooding.*

Following cyclonic activity, localised natural flooding events may occur in the Pilbara region. The amount of vegetation clearing proposed would not be expected to exacerbate either the frequency or the intensity of flooding through these areas.

The Proposal is **not at variance** with this Principle.

## 2. References:

Biota Environmental Sciences (Biota). 2010a. *A Vegetation and Flora Survey of the Rio Tinto Rail Duplication – Emu Siding to Rosella Siding Development Areas*. Unpublished report prepared for Rio Tinto Iron Ore, May 2010.

Commonwealth of Australia. 2001-2005. *National Objectives and Targets for Biodiversity Conservation*. Natural Heritage Trust and Biodiversity Policy Branch, Canberra.

Department of Biodiversity, Conservation and Attractions (DBCA). 2019. *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report)*. Current as of April 2019.

Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2023. *Australia's bioregions (IBRA)*. Accessed: <https://www.dcceew.gov.au/environment/land/nrs/science/ibra>

Department of the Environment and Energy (DotEE) (2020), Australia's bioregions (IBRA). Available: <http://www.environment.gov.au/land/nrs/science/ibra>.

Department of Primary Industries and Regional Development (DPIRD). 2019a. *Pre-European Vegetation (DPIRD-006)*. Available from: <https://catalogue.data.wa.gov.au/dataset/pre-european-dpird-006>.

Department of Water and Environmental Regulation (DWER). 2018b. *Hydrography, Linear (Hierarchy) (DWER-031)*. Available from: <https://catalogue.data.wa.gov.au/dataset/hydrography-linear-hierarchy>.

Department of Water and Environmental Regulation (DWER). 2022. *Public Drinking Water Source Areas (DWER-033)*. Available from: <https://catalogue.data.wa.gov.au/dataset/public-drinking-water-source-areas>

Eco Logical Australia 2023. *Galah Rail Siding reconnaissance and targeted flora survey*. Unpublished report prepared for Rio Tinto. [RTIO-0983630].

Kendrick, P. (2001) Pilbara 3 (PIL3 - Hamersley subregion). In: J. May and N. McKenzie (eds) *A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002*. Department of Conservation and Land Management, Kensington, Western Australia, pp 568-580.

Maslin, B.R. (2001), *WATTLE: Acacias of Australia*. CSIRO Publishing, Canberra.

Maslin, B.R. and van Leeuwen, S. (2008), 'New taxa of Acacia (Leguminosae: Mimosoideae) and notes on other species from the Pilbara and adjacent desert regions of Western Australia', *Nuytsia*, 18, pp. 139-188.

Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2002), *Native vegetation in Western Australia – extent, type and status*. Resource Management Technical Report No. 249. Department of Agriculture, Western Australia.

Western Australian Herbarium (WAH) (2023). *FloraBase—the Western Australian Flora*. Department of Biodiversity, Conservations and Attractions. <http://florabase.dpaw.wa.gov.au>.

Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. 2004. *An inventory and condition survey of the Pilbara region, Western Australia*. Tech. Bull. 92. Department of Agriculture, South Perth, WA.

Waters and Rivers Commission. 1999. *Harding Dam water source protection plan – West Pilbara water supply scheme*. Water Resource Protection Series. Waters and Rivers Commission Report WRP15. Waters and Rivers Commission, East Perth, WA.