GOLDFIELDS REGION
REGIONAL CONSERVATION PLAN

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**

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Cover:
Golden bandicoot (*Isoodon auratus*) at Matuwa Kurrara Kurrara. *Photo – Taylor Frahamer.*
Woodlands in the Helena and Aurora Ranges. *Photo - Taylor Frahamer.*

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1 Introduction

Each of the nine Parks and Wildlife Service regions identified and prioritised conservation actions through structured decision-support processes undertaken between 2021 and 2023. Information about how the plans were developed is outlined in the *Regional conservation planning approach,* which should be read in conjunction with this plan.

2 Regional context

The Goldfields Region covers an area of 84.2 million hectares, or just over a third of the State, and extends across eight Interim Biogeographic Regions of Australia (IBRA) from the eastern edge of the wheatbelt east to the State border. The climate is arid to semi-arid, with hot summers and mild winters. Rainfall is highly variable, ranging from 300mm in the southwest to 150mm over the Nullarbor, to highly sporadic rainfall events relating to cyclonic rainfall patterns in the north. The region encompasses an extremely variable landscape in both geology and landform resulting in land systems that are often associated with unique vegetation assemblages, threatened and Priority species and significant cultural heritage values throughout.

The Nullarbor partially falls within the southeast borders of the region. It is the largest semi-arid karst system in the southern hemisphere, well known for its massive expanse completely devoid of trees but also gaining national and international recognition due to its unusual cave ecosystems and the endemic subterranean fauna and fossils within.

The Coolgardie bioregion to the south encompasses a large portion of the Great Western Woodlands, which are also recognised as an internationally significant area of great biological richness. These woodlands are the largest remaining temperate woodland in the world, containing 20 per cent of Australia's known flora and a diverse range of animals. In recognition of this area's significance and the threats it faced, the department developed and released the *Biodiversity and Cultural Conservation Strategy for the Great Western Woodlands* (Department of Environment and Conservation 2010), which has since provided an overarching framework to guide management actions and land use planning decisions and will be used to complement this plan. This bioregion is also home to the Rowles Lagoon system, which is listed in the Directory of Important Wetlands in Australia (DCCEEW 2024), due to its importance as a semi-permanent freshwater wetland in a region where most wetlands are saline to hypersaline and contain water only for short periods. The Rowles Lagoon system is the largest natural freshwater wetland in the Coolgardie bioregion with records of 41 species of waterbirds, including eight protected by international treaty.

The Banded Iron Formation ranges of the Yilgarn Craton are isolated ancient ranges scattered across the Coolgardie, Murchison and Gascoyne bioregions, in the western half of the region. Each range tends to be biologically distinct, often containing high levels of endemicity in flora, fauna and associated ecological communities. Large salt-lake systems (including ancient paleo-drainage systems) also occur predominantly throughout the Coolgardie and Murchison bioregions, many of which are highly important as sporadic breeding and feeding grounds for migratory bird species. Stygofauna and troglofauna sampling within the subterranean systems and calcrete aquifers, particularly throughout the Murchison area, has demonstrated high levels of speciation and endemicity.

Similar salt lakes and subterranean aquatic systems also occur through parts of the desert bioregions. The Little Sandy Desert, Gibson Desert and Great Sandy Desert, located in the northern parts of the region, are characterised by very hot temperatures and highly variable, low, summer-dominant rainfall. Hummock grasslands with scattered eucalyptus and acacia shrubland cover the landscape of sand-dune systems, sand plains, sandstone mesas and rocky plains. Creeklines fringed with river red gums can be found within the Little Sandy

Desert, whereas drainage lines within the Gibson Desert have long been buried in sand. Extensive chains of salt lakes associated with ancient subterranean river systems are present throughout the Great Sandy Desert. The Great Victoria Desert, which covers much of the central eastern portion of the region adjoining the Nullarbor, is the largest of Australia's deserts. It is an active sand-ridge desert, consisting of many dunefields, playa lakes and lunettes, with very few creeks and rocky outcrops. Much of the desert is covered by open woodlands with a grass understorey. The bioregion has recorded an exceptionally high diversity of reptiles with 95 species recorded, four of which are of conservation significance.

The Central Ranges in the north-east of the region are geologically diverse and include volcanic and quartzite-derived ranges, providing suitable habitat for a range of threatened and Priority flora and fauna species, particularly mammals.

Overall, the region is botanically rich with over 4000 plant species recorded and nearly 450 of these are recognised as either Priority or threatened species. These numbers are likely to change with survey effort and taxonomic revision. It is particularly rich in flora throughout the Coolgardie bioregion, which covers the interzone between mulga country, spinifex country and eucalypt environments where groups such as the Proteaceae, Eucalypts, Acacias and Eremophilas show high levels of diversity and endemism.

More than 3300 fauna species are known from the Goldfields Region, including over 700 vertebrate taxa and over 90 species that are conservation significant. The Goldfields Region has an array of highly adapted arid zone fauna, especially reptiles, in which richness exceeds all other desert regions in the world.

As of 1 December 2025, three joint management arrangements are in place: the Gibson Desert Nature Reserve Compensation Settlement Agreement (Pila Nature Reserve); the Whole of Government Indigenous Land Use Agreement (ILUA) signed with the Tjiwarl Traditional Owners for the joint vesting and management of the existing of Wanjarri Nature Reserve and proposed Wanjarri National Park; and the Matuwa Kurrara Kurrara National Park and Ngamurra (formerly Lake Carnegie) Nature Reserve ILUA. A fourth ILUA has been signed and is awaiting registration for the creation and joint management of the Marlinyu Ghoorlie conservation estate (Helena and Aurora Ranges and Die Hardy Range).

Joint management arrangements will continue to support integration of Traditional Owner participation and knowledge into reserve management.

Many of the land systems described above are represented within the Goldfields Region's widely distributed reserve system. These reserves are large enough to undertake meaningful landscape-scale management actions that benefit multiple species and conserve or restore ecosystem structure and function. The major threatening processes to biodiversity across the Goldfields Region include inappropriate fire regimes, introduced species, habitat loss, degradation and fragmentation, resource and land development, impacts of unregulated recreational activities, changes to natural hydrological regimes, and climate change.

The Goldfields Region will continue to work with joint management partners, other sections of the department and external bodies to effectively manage threatening processes and conserve and restore biodiversity and Aboriginal cultural heritage values within the reserve system and address critical knowledge gaps of threatened and Priority species.

An overview of the Goldfields Region is provided in Table 1 and Figure 1.

Table 1 Overview of the conservation assets of the Goldfields Region (December 2025).

Region	Goldfields		
Interim Biogeographic Regionalisation of Australia (IBRA) regions	Central Ranges sub-region (CER01), Coolgardie sub-regions (COO02, COO03), Gascoyne sub-regions (GAS02, GAS03), Gibson Desert sub-regions (GID01, GID02), Great Sandy Desert sub-region (GSD02), Great Victoria Desert sub-regions (GVD01, GVD02, GVD03, GVD04), Little Sandy Desert sub region (LSD02), Nullarbor sub-regions (NUL01, NUL02) and Yalgoo sub region (YAL02).		
Landscape description	The variability in both geology and landform has given rise to a rich diversity in landscape and vegetation assemblages, including the Nullarbor Karst System, the Banded Iron Formation Ranges, salt lake systems and subterranean systems.		
Department-managed land	**Tenure classification**	**No.**	**Area (ha)**
	Legislated lands and waters		
	National park	6	1,022,027
	Conservation park	6	183,984
	Nature reserve	23	6,269,661
	Section 5(1)(g) reserve	7	75,445
	Section 5(1)(h) reserve	4	6104
	State forest	1	782
	Timber reserve	4	28,392
	Total	**51**	**7,586,395**
	Department interest in lands and waters		
	Unallocated Crown land - department interest	27	1,245,872
	Total	**27**	**1,245,872**
	Total area of all lands and waters encompassed by the region (and portion managed by the department)		**84,255,189 (9%)**
Remnant vegetation	Approximately 99.9% of the total area of land encompassed by the region includes remnant vegetation, with approximately 10.5% of this remnant vegetation occurring on department-managed land.		
Threatened[1] and Priority[2] fauna species	Extinct (1), critically endangered (3), endangered (5), vulnerable (10), conservation dependent (0), migratory (18), other specially protected (1), Priority 1 (6), Priority 2 (6), Priority 3 (5), Priority 4 (15)		
Threatened and Priority flora species	Extinct (0), critically endangered (1), endangered (5), vulnerable (10), Priority 1 (155), Priority 2 (56), Priority 3 (155), Priority 4 (27)		
Threatened and Priority ecological communities	Collapsed (0), critically endangered (0), endangered (0), vulnerable (1), Priority 1 (54), Priority 2 (0), Priority 3 (8), Priority 4 (1)		
Wetlands	Wetlands of International Importance under the Ramsar Convention(0), Wetlands of National Importance (12)		

[1] Threatened species and ecological communities listed under the *Biodiversity Conservation Act 2016* (BC Act).
[2] Priority species and ecological community lists are maintained by the department; Priority is not a listing category under the BC Act.

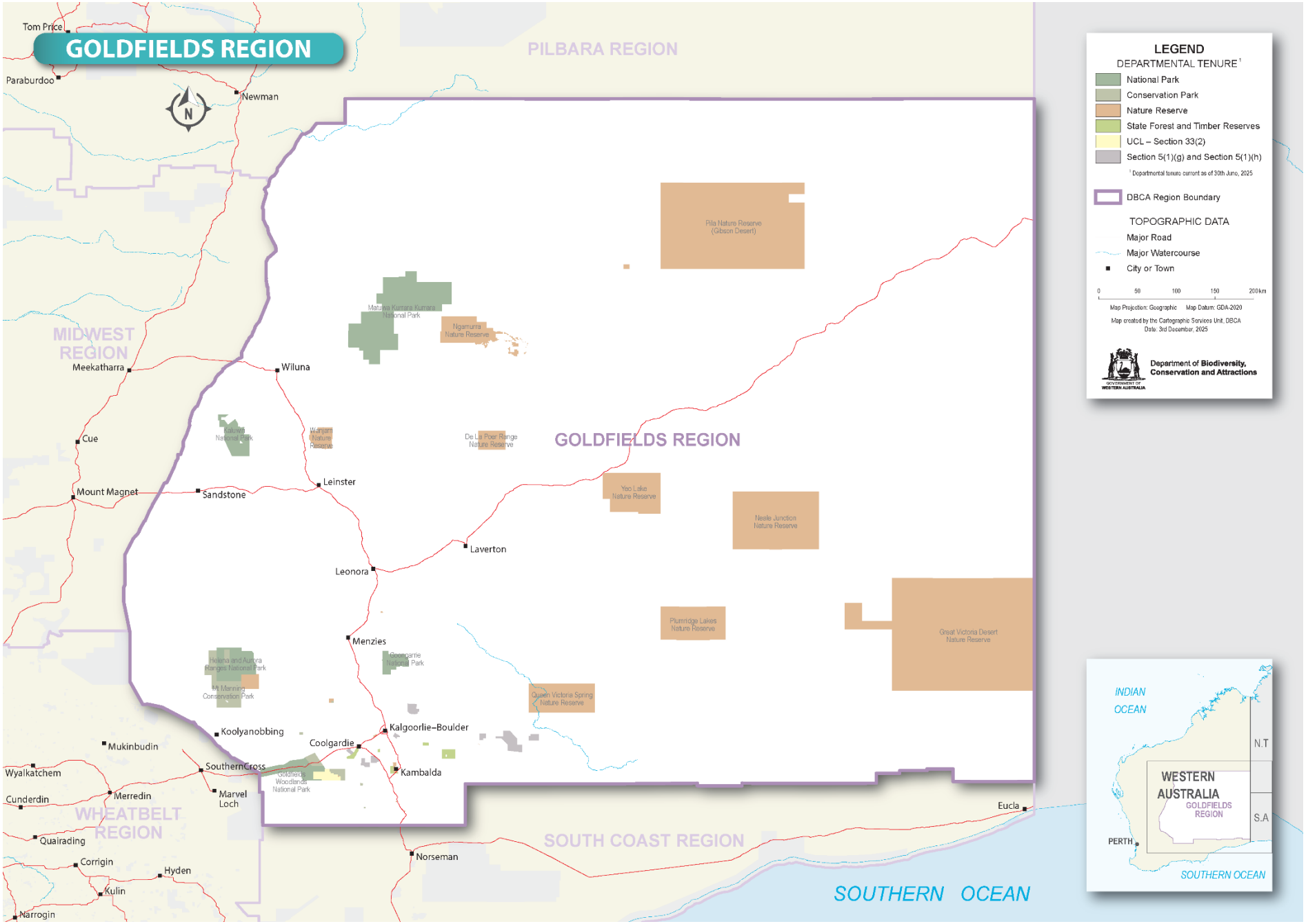

Figure 1 Goldfields Region department-managed land and waters (December 2025).

3 Identification of priority reserves and landscapes

To determine priorities for landscape-scale threat mitigation, the Goldfields Region applied the following approach to identifying priority reserves and landscapes when undertaking the Landscape action prioritisation process, in accordance with the *Regional conservation planning approach*.

3.1.1 Identification of priority landscapes

The Goldfields Region is defined by eight IBRA regions. Priority landscapes were defined by grouping IBRA regions with similar biodiversity values, major threatening processes and management needs. The priority landscapes are the Central Deserts, Gascoyne Reserves, Murchison Reserves, Northern Yilgarn Management Area, Coolgardie/Murchison Transition Zone and Great Western Woodland Reserves. Given the vast area and the widely dispersed department-managed land across the Goldfields Region, it was appropriate to assess and develop management actions addressing the threats associated with the priority landscape at the individual reserve level.

3.1.2 Categorisation of land into management units

Reserves and lands of interest that could be effectively managed as one entity, referred to as a management unit, were grouped together. This resulted in 60 individual management units to assess and prioritise.

3.1.3 Identify priority management units

To identify management units of highest priority to focus resources and effort, a spatial prioritisation assessment of known conservation and cultural values was undertaken. This entailed a geographic information system (GIS)-based analysis of corporate datasets to determine the relative value of each management unit. The assessment considered representativeness, diversity and rarity of land systems, species and vegetation types, threatening processes, cultural heritage values, joint management arrangements and tenure security. Assumptions of cultural significance were made based on corporate datasets and knowledge shared through current relationships. Through this assessment, 19 priority reserves were identified.

The Goldfields Region's priority management units are listed in Appendix 1.

4 Regional conservation actions

The conservation actions identified and prioritised through the regional conservation planning process are organised into the following sections:

1) Highest priority actions assessed through the prioritisation processes (as described in the *Regional conservation planning approach*) are outlined in section 5.

   These actions will be implemented by regional staff as the highest priority, focused on those actions that are on, or benefit, department-managed land[3,4] and/or involve addressing key information requirements for the management of threatened and Priority species and ecological communities both on and off department-managed land[5].

2) Actions identified through the regional conservation planning process that are not the highest priority are outlined in section 6.

   These actions will be considered in works programming as opportunities arise. They include:

   a) Actions to be led by the region that went through the benefit-cost analysis (for Landscape and Targeted actions) and the risk assessment and value of information analysis process (for Learn actions) and were assessed to not be in the highest priority category.

   b) Actions with a benefit-cost score of zero[6] or less were excluded from prioritisation category allocation, as they have been estimated to deliver no value or may be detrimental based on the information available during the regional conservation planning process. These actions are included for regions to consider should prioritisation process factors change over time (for example new information that improves feasibility or certainty).

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[3] **Department-managed land** includes lands and waters managed under the Parks and Wildlife Service's legislation (the *Conservation and Land Management Act 1984* and *Swan and Canning Rivers Management Act 2006*). It also applies to 1) those lands for which the department under a Memorandum of Understanding (MOU) with the Department of Planning, Lands and Heritage, manages pest animals, weeds and fire on unallocated Crown land (UCL) and unmanaged reserves (UMR) outside the metropolitan area, regional centres and townsites (2004), where resources are available and subject to native title considerations; and 2) Crown lands where the department has a management interest (for example UCL lands that were purchased or identified with the aim of adding them to the formal conservation estate but remain under the management of the *Land Administration Act 1997*).

[4] Actions off, but that will benefit, department-managed land were assessed through the Landscape and Targeted action prioritisation processes. These include actions that:

- are on lands adjacent to department-managed land (for example neighbouring properties, buffers)
- are undertaken in partnership with joint management partners (including potential joint management partners) off department-managed land (relationship building)
- incorporate multiple tenure types, including department-managed land.

[5] Learn actions undertaken by regions on non-department-managed land were included in the Learn action prioritisation process, even if they may not directly benefit department-managed land. This is because information about threatened and Priority species and communities is essential to inform their status, and subsequent management actions either on department-managed land or for the department to encourage actions on other lands.

[6] Zero was defined as 0.0000000001.

c) *Landscape and Targeted actions identified through the action development processes that are off, and do not directly benefit, department-managed land, and/or that rely on third parties for implementation where all costs are not incurred by the region.

   These were not assessed through the prioritisation processes. This is because the primary focus of regions is to implement actions on, or that benefit the lands for which they have a management responsibility, and/or because the benefit-cost analysis could not be accurately applied due to cost and feasibility uncertainty (as these were outside the region's control). These actions include liaison and advocacy, land acquisition and transfer, and education and awareness.

d) *Proposed/new translocation and germplasm collection and storage actions.

   These actions were considered through the Targeted action screening and action development processes but were not included in the regional conservation prioritisation processes, as these actions are dependent on approval processes and considerations at a state-wide level led by other areas of the department.

An asterisk (*) denotes the action types that have not been through the regional conservation planning prioritisation processes.

3) Learn actions that were beyond the region's capacity and/or expertise to address are outlined in section 7.

   The region will pursue collaboration opportunities to address these information requirements as they arise with other business areas of the department and/or external parties.

Conservation actions to be led by the region have been assigned to the relevant overarching biodiversity conservation strategy as outlined in the department's Biodiversity Conservation Framework. Multiple other business areas of the department contribute to achieving these overarching strategies. Therefore, the region may not deliver actions aligned to all the overarching strategies, and regional conservation plans do not reflect all the conservation activities implemented by other business areas of the department.

Many actions identified through the regional conservation planning process align with multiple overarching strategies, therefore they were assigned based on the nature of the action (what the action is focused on doing) rather than the objective (what the action is focused on achieving).

Action numbers
The action number in square brackets is a unique code for specific actions that may be grouped in a summarised format in this plan. The action number can be used to reference the detailed information documented through the prioritisation process for that action within the supporting datasets. The letters of the action number denote the prioritisation process (LA = Landscape action, LE = Learn action and TA = Targeted action). For Learn and Targeted actions, letters also denote the threatened or Priority biodiversity asset type (EC = ecological community, FA = fauna and FL = flora). The numbers are random (they do not relate to their priority).

5 Highest priority actions assessed through prioritisation processes

LANDSCAPES

- Manage recreational activities through maintaining and formalising access tracks and camping sites, and close undesignated tracks at Mount Manning Conservation Park [LA-016].

FAUNA

- Conduct surveys of night parrot (*Pezoporus occidentalis*) to increase knowledge of absence/presence [LE-FA-001].
- Map critical habitat of night parrot (*Pezoporus occidentalis*) at Matuwa Kurrara Kurrara National Park and Ngamurra (formerly Lake Carnegie) Nature Reserve to plan survey effort and prescribed burn programs [LE-FA-002].

FLORA

- Monitor populations of threatened and Priority flora including:
  - *Bossiaea laxa* [LE-FL-012]
  - *Caesia rigidifolia* [LE-FL-015]
  - *Eremophila aureivisca* [LE-FL-024]
  - *Eremophila mirabilis* [LE-FL-029]
  - all known *Gastrolobium graniticum* populations [LE-FL-034]
  - *Lepidosperma lyonsii* (population 4) [LE-FL-043]
  - *Stenanthemum mediale* [LE-FL-055]
  - *Tecticornia flabelliformis* [LE-FL-061].
- Determine threats to:
  - *Grevillea phillipsiana* populations [LE-FL-064]
  - *Tecticornia flabelliformis* [LE-FL-062].
- Survey granite outcrops for additional *Bossiaea laxa* populations [LE-FL-011].

- Implement an adaptive management program that trials the introduction of fire to *Gastrolobium graniticum* Population 7 which occurs in Cave Hill Conservation Park [TA-FL-224].
- Implement an adaptive management trial testing the impacts of fire and fuel modification on *Melichrus* sp. Coolgardie (K.R. Newbey 8698) populations at Mount Walton and Dedari. Apply findings to the management of fire and disturbance of all known populations [LE-FL-063].
- Review flora species listed in the Threatened and Priority Flora Database (TPFL) and/or Western Australian Herbarium records without an assigned 'TPFL population number' at the time of the flora screening process, to determine survey, monitoring or other actions required.

ENVIRONMENTAL IMPACT ASSESSMENT AND ADVICE

- Monitor *Lepidosperma lyonsii* (populations 1, 2 and 3) on Jaurdi ex-pastoral lease to inform input into environmental impact assessment processes [LE-FL-044].

FIRE REGIMES

- Implement a prescribed burn program to create a spatial and temporal mosaic of fuel ages to minimise the impact of large bushfires. Program planning includes mapping and protecting ecologically important old spinifex communities at:
  - Great Victoria Desert Nature Reserve [LA-013]
  - Kurrara Kurrara area of Matuwa Kurrara Kurrara National Park [LA-017]
  - Pila Nature Reserve [LA-051].
- Undertake prescribed burning adjacent to greater bilby (*Macrostis lagotis*) colonies to prevent large-scale bushfires impacting on known populations [TA-FA-387].

PEST ANIMALS

- Maintain boundary fences and manage large feral herbivore incursions onto the Matuwa area of Matuwa Kurrara Kurrara National Park [LA-032].

WEEDS

- Implement weed management program at Wanjarri Nature Reserve [LA-068].

6 Actions identified through the regional conservation planning process that are not the highest priority

FAUNA

**Liaison actions*

- Liaise with Traditional Owners to investigate opportunities to protect Lake Disappointment dragon (*Ctenophorus nguyarna*) [TA-FA-171] and Lake Disappointment gecko (*Diplodactylus fulleri*) [TA-FA-172] in the Goldfields and Pilbara regions.

FLORA

**Liaison actions*

- Manage recreational activities at Mount Manning Conservation Park to minimise disturbance to threatened flora including:
  - *Acacia shapelleae* populations [TA-FL-582]
  - *Chamelaucium* sp. Koolyanobbing populations [TA-FL-578]
  - *Lepidosperma bungalbin* populations [TA-FL-159]
  - *Tetratheca aphylla* subsp. *aphylla* populations [TA-FL-581].

LANDSCAPES

- Map, upgrade and maintain strategic management of tracks, including track rationalisation where required at Diemals ex-pastoral lease [LA-009].

FAUNA

- Identify areas of old spinifex habitat across the known distribution of sandhill grasswren (*Amytornis oweni oweni*) in collaboration with landholders and Traditional Owners. Identify appropriate fire regimes to maintain habitat [LE-FA-006].
- Undertake surveys to identify great desert skink, Tjakura (*Liopholis kintorei*) populations within Pila Nature Reserve, and implement a monitoring program and traditional fire management [LE-FA-004].

- Survey for arid bronze azure butterfly (*Ogyris subterrestris petrina*) at locations with historical sightings and identified areas of potential habitat [LE-FA-007].

FLORA

- Survey for new *Gastrolobium graniticum* populations [LE-FL-035].
- Monitor *Leucopogon spectabilis* (populations 1F, 3A and 4) to determine status [LE-FL-047].
- Study *Tetratheca aphylla* subsp. *aphylla* recruitment *in situ* [LE-FL-057].
- Monitor all known *Thryptomene wittweri* populations to determine status [LE-FL-058] and threats [LE-FL-059].
- Monitor populations of threatened and Priority flora including:
    - *Acacia adinophylla* (population 2) [LE-FL-001]
    - *Acacia epedunculata* [LE-FL-002]
    - *Alyxia tetanifolia* [LE-FL-003]
    - *Baeckea* sp. Sandstone [LE-FL-005]
    - *Banksia lullfitzii* [LE-FL-007]
    - *Bossiaea* sp. Jackson Range [LE-FL-013]
    - *Calytrix warburtonensis* [LE-FL-017]
    - *Cyathostemon verrucosus* [LE-FL-020]
    - *Dampiera atriplicina* [LE-FL-021]
    - *Eremophila anomala* [LE-FL-023]
    - all known *Eremophila decussata* populations [LE-FL-066]
    - *Eremophila dendritica* [LE-FL-027]
    - all known *Eremophila undulata* populations [LE-FL-067]
    - *Grevillea phillipsiana* [LE-FL-036]
    - *Hakea rigida* [LE-FL-038]
    - *Lepidium merrallii* [LE-FL-040]
    - *Lepidosperma bungalbin* (population 7) [LE-FL-042]
    - *Lepidosperma* sp. Pigeon Rocks [LE-FL-045]
    - *Mirbelia ferricola* [LE-FL-048]
    - *Prostanthera splendens* [LE-FL-051]
    - *Ptilotus luteolus* [LE-FL-053]
    - *Stenanthemum patens* [LE-FL-056]
    - *Verticordia elizabethiae* [LE-FL-060].
- Survey for additional populations of threatened and Priority flora including:
    - *Baeckea* sp. Sandstone [LE-FL-006]
    - *Banksia lullfitzii* [LE-FL-009]
    - *Calytrix warburtonensis* [LE-FL-018]
    - *Cyathostemon divaricatus* [LE-FL-019]
    - *Eremophila aureivisca* [LE-FL-025]
    - *Euryomyrtus recurva* [LE-FL-032]
    - *Eutaxia actinophylla* [LE-FL-033]
    - *Ptilotus tetrandrus* [LE-FL-054].

- Determine threats for Priority flora including:
  - *Alyxia tetanifolia* [LE-FL-004]
  - *Banksia lullfitzii* [LE-FL-008]
  - *Dampiera atriplicina* [LE-FL-022]
  - *Eremophila anomala* [LE-FL-065]
  - *Eremophila decussata* [LE-FL-026]
  - *Eremophila dendritica* [LE-FL-028]
  - *Eremophila mirabilis* [LE-FL-030]
  - *Eremophila undulata* [LE-FL-031]
  - *Hakea rigida* [LE-FL-039]
  - *Lepidium merrallii* [LE-FL-041]
  - *Lepidosperma* sp. Pigeon Rocks [LE-FL-046]
  - *Apatelantha insignis* [LE-FL-050]
  - *Prostanthera splendens* [LE-FL-052].

ALTERED HYDROLOGY

- Develop and implement an erosion management plan at:
  - Clear and Muddy Lakes Nature Reserve and Rowles Lagoon Conservation Park [LA-002].
  - Wanjarri Nature Reserve [LA-072].

ENVIRONMENTAL IMPACT ASSESSMENT AND ADVICE

**Liaison actions*

- Contribute to the environmental impact assessment process to minimise the impact of resource and land development on Lake Disappointment dragon (*Ctenophorus nguyarna*) [TA-FA-458] and Lake Disappointment gecko (*Diplodactylus fulleri*) [TA-FA-209] in the Goldfields and Pilbara regions.

FIRE REGIMES

- Implement a prescribed burn program to create a spatial and temporal mosaic of fuel ages to minimise the impact of large bushfires. Program planning includes mapping and protecting ecologically important old spinifex and fire sensitive mulga at:
  - Wanjarri Nature Reserve [LA-070]
  - Yeo Lake Nature Reserve [LA-075].
- Undertake targeted ongoing liaison and input into the Burn Options Program and prescribed fire planning processes to achieve a spatial and temporal mosaic of fuel ages to minimise the impact of large bushfires at the following reserves. Program planning includes mapping and protecting ecologically important old spinifex.

    - De La Poer Range Nature Reserve [LA-005]
    - Matuwa area of Matuwa Kurrara Kurrara National Park [LA-035]
    - Neale Junction Nature Reserve [LA-046]
    - Plumridge Lake Nature Reserve [LA-058]
    - Queen Victoria Spring Nature Reserve [LA-063].
- Identify areas of old spinifex at Ngamurra (formerly Lake Carnegie) Nature Reserve through mapping and utilise information to inform prescribed burn programs. Prescribed burn programs to be aimed at creating mosaic pattern to minimise risk to old spinifex and exclude naturally protected old spinifex [LA-026].

PEST ANIMALS

- Undertake ongoing maintenance of exclusion fence at Matuwa area of Matuwa Kurrara Kurrara National Park. Monitor and respond to feral cat incursions [LA-040].
- Implement feral cat management on the Matuwa area of Matuwa Kurrara Kurrara National Park [LA-034] and Kurrara Kurrara area of Matuwa Kurrara Kurrara National Park by extending the current Matuwa management programs [LA-020] to sustain low cat numbers.
- Implement feral cat management program at Wanjarri Nature Reserve [LA-071].
- Implement introduced predator program across Mount Manning reserves, Diemals ex-pastoral lease and Jaurdi ex-pastoral lease [LA-044].
- Exclude cattle from Credo ex-pastoral lease [LA-003] and Lake Mason ex-pastoral lease [LA-030] by facilitating a mustering program undertaken by external parties. Continue management of artificial water points within management unit.
- Exclude cattle from the Clear and Muddy Lakes Nature Reserve and Rowles Lagoon Conservation Park area by facilitating a mustering program undertaken by external parties and upgrading and maintaining the reserve boundary fence [LA-001].
- Complete and maintain boundary fence and manage large feral herbivore incursions at Wanjarri Nature Reserve via mustering cattle to neighbouring pastoral leases and camel control [LA-069].
- Implement a camel control program at Pila Nature Reserve [LA-056].
- Implement large feral herbivore management program at Kurrara Kurrara area of Matuwa Kurrara Kurrara National Park via mustering cattle, closing water points and camel control [LA-023].
- Implement a camel control program at:
    - Great Victoria Desert Nature Reserve [LA-015]
    - Matuwa Kurrara Kurrara National Park and Ngamurra (formerly Lake Carnegie) Nature Reserve [LA-042]
    - Neale Junction Nature Reserve [LA-050]
    - Plumridge Lake Nature Reserve [LA-062]
    - Queen Victoria Spring Nature Reserve [LA-067]
    - Yeo Lake Nature Reserve [LA-079].

WEEDS

- Implement weed control program at Matuwa area of Matuwa Kurrara Kurrara National Park targeting cactus species within 1km radius of the homestead [LA-039].

FAUNA

- Support Traditional Owners in the technical aspects of prescribed burning adjacent to great desert skink, Tjakura (*Liopholis kintorei*) colonies in the Pilbara, Kimberley and Goldfields regions to prevent large-scale bushfires impacting on known populations [TA-FA-400].

**Liaison actions*

- Liaise with Bush Heritage Australia and Traditional Owners about how and where greater bilby, Ninu (*Macrotis lagotis*) are monitored. Utilise data to inform strategic management actions [LE-FA-005].
- Liaise with local council, ranger groups and Traditional Owners in Warakurna regarding the implementation of feral cat and fox control and monitoring for central Australian rock-wallaby, Warru (*Petrogale lateralis centralis*) [TA-FA-254].
- Liaise with the Ngaangatjarra Traditional Owners regarding the implementation of feral predator management and subsequent monitoring for central Australian rock-wallaby, Warru (*Petrogale lateralis centralis*) conservation at Townsend Range [TA-FA-137].
- Liaise with the Great Victoria Desert Biodiversity Trust to address information gaps for sandhill dunnart (*Sminthopsis psammophila*) such as through the mapping of critical habitat [LE-FA-003].
- Liaise with stakeholders such as community birdwatching groups and Traditional Owners to access and collate survey data and occurrence records of Priority fauna species including:
  - sandhill grasswren (*Amytornis oweni oweni*) [LE-FA-010]
  - grey falcon (*Falco hypoleucos*) [LE-FA-011]
  - princess parrot (*Polytelis alexandrae*) [LE-FA-008]
  - masked owl (*Tyto novaehollandiae novaehollandiae*) [LE-FA-009].

FLORA

**Liaison actions*

- Liaise with industry regarding access to mining tenements and/or monitoring data for Priority flora including:
  - *Apatelantha insignis* [LE-FL-049]

- *Beyeria lapidicola* [LE-FL-010]
- *Caesia rigidifolia* [LE-FL-014]
- *Calytrix viscida* [LE-FL-016]
- *Haegiela tatei* [LE-FL-037].

LANDSCAPES

- Liaise with neighbouring pastoralists to muster cattle from Ngamurra (formerly Lake Carnegie) Nature Reserve [LA-028].

7 Learn action collaboration opportunities

FAUNA

Mammals

- Develop habitat mapping for all threatened and Priority fauna species to guide survey effort, highlight under-surveyed species and inform environmental impact assessment.
- Survey known populations of crest-tailed mulgara, Minyiminyi (*Dasycercus cristicauda*) to quantify abundance and habitat use. Develop habitat mapping to guide further survey programmes, determine threats and inform advice provision for environmental impact assessment.
- Implement a consistent monitoring program across the whole of the State to determine distribution and population trends of chuditch (*Dasyurus geoffroii*) at a species level.
- Implement a consistent monitoring program across the whole of the State to determine the distribution and population trends of northern quoll (*Dasyurus hallucatus*) at a species level. Liaise with Traditional Owners regarding the development and implementation of the monitoring program.
- Survey for the presence/absence of a northern quoll (*Dasyurus hallucatus*) population north of Wiluna.
- Survey known populations of marsupial mole (*Notoryctes* sp.) to quantify the abundance and habitat use. Develop habitat mapping to guide further survey programmes, determine threats and inform advice provision for environmental impact assessment.
- Survey known populations of central long-eared bat (*Nyctophilus major tor*) to quantify the abundance and habitat use. Develop habitat mapping to guide further survey programmes, determine threats and inform advice provision for environmental impact assessment.
- Implement a monitoring program targeting the Townsend Range population of central Australian rock-wallaby (*Petrogale lateralis centralis*) to determine the impact that lack of introduced predator control had on population status.
- Survey known populations of plains rat, Palyoora (*Pseudomys australis*) and western mouse (*Pseudomys occidentalis*) to quantify abundance and habitat use. Develop habitat mapping to guide further survey programmes, determine threats and inform advice provision for environmental impact assessment.

- Explore survey methods to improve detection rates of sandhill dunnart (*Sminthopsis psammophila*).
- Undertake genetic studies of sandhill dunnart (*Sminthopsis psammophila*) populations in Western Australia. Compare results to South Australian populations to understand any genetic variability of the species and to identify potential genetic bottlenecks.

Birds

- Monitor the interactions and movement patterns between the coastal and inland populations of hooded plover (*Thinornis cucullatus*) to determine population extents and habitat protection priorities.
- Survey areas of potential habitat for occurrences of hooded plover (*Thinornis cucullatus*) including resurveying Lake Walton.
- Investigate the effectiveness of different feral predator control regimes on the persistence and recovery of malleefowl (*Leipoa ocellata*) populations.
- Survey known populations of naretha blue bonnet (*Northiella narethae*) to quantify the abundance and habitat use. Develop habitat mapping to guide further survey programmes, determine threats and inform advice provision for environmental impact assessment.
- Survey areas of potential habitat for migratory bird species, including blue-billed duck (*Oxyura australis*), following significant rainfall events. Record occurrences, map important habitat and document threats to inform adaptive management and environmental impact advice provision.
- Identify suitable night parrot (*Pezoporus occidentalis*) habitat across its range to support improved input into environmental impact assessment and land use planning and to guide survey requirements for proponents.

Reptiles

- Survey known populations of buff snouted blind snake (Lake Throssell, *Anilios margaretae*) to quantify the abundance and habitat use. Develop habitat mapping to guide further survey programmes, determine threats and inform advice provision for environmental impact assessment.
- Implement a monitoring plan to better understand the distribution and status of woma python (Southwest subpopulation, *Aspidites ramsayi*) populations and based on findings, implement feral cat control to reduce the impact of feral predators on the species.
- Increase survey effort to quantify the abundance and habitat use of Lake Disappointment dragon (*Ctenophorus nguyarna*) and Lake Disappointment gecko (*Diplodactylus fulleri*).
- Survey known populations of Kenneally's gecko (Lake Buchanan, *Diplodactylus kenneallyi*), unpatterned robust slider (Robertson Range, *Lerista macropisthopus remota*) and dotty-tailed robust slider (Great Victoria Desert, *Lerista puncticauda*) to quantify the abundance and habitat use. Develop habitat mapping to guide further

survey programmes, determine threats and inform advice provision for environmental impact assessment.

- Liaise with Traditional Owners regarding the conservation of great desert skink, Tjakura (*Liopholis kintorei*) and the sharing of knowledge regarding population dynamics and species management.

Invertebrates

- Determine presence and potential threats to Talyuberlup pygmy trapdoor spider (*Bertmainius monachus*) populations in the Goldfields Region.
- Survey known populations of fairy shrimp (*Branchinella basispina, Branchinella denticulata* and *Branchinella simplex*) to quantify the abundance and habitat use. Develop habitat mapping to guide further survey programmes, determine threats and inform advice provision for environmental impact assessment.
- Informed by the latest research, trial methods of identifying and mapping ant (*Froggatella kirbii*) populations likely to utilised by inland hairstreak or desert blue butterfly (*Jalmenus aridus*). Target identified areas for butterfly surveys by appropriately qualified and experienced specialists and incorporate knowledge into environmental impact advice provision.
- Develop, in consultation with experts, survey methodology for application by departmental staff to investigate the full distribution of the trapdoor spider nigrum–group (*Idiosoma* sp.) and Moriarty's trapdoor spider (*Kwonkan moriartii*). Investigate DNA techniques for non-destructive burrow sampling, for example swabbing silk or eDNA of soil. Monitor and determine threats.
- Survey known populations of Poseidon slater (*Paraplatyarthrus subterraneus*) to quantify the abundance and habitat use. Develop habitat mapping to guide further survey programmes, determine threats and inform advice provision for environmental impact assessment.

FLORA

- Monitor and investigate the genetics of all populations of *Atriplex yeelirrie*.
- Investigate the taxonomy of *Goodenia lyrata* to determine differences from *Goodenia modesta*.
- Investigate the genetics and describe the *Goodenia nuda* population found west of Wiluna.
- Review the taxonomy of *Olearia mucronata* and investigate potential genetic differences between Goldfields and Pilbara populations.
- Monitor populations of *Ricinocarpos brevis* to determine potential decline.
- Investigate the genetics of *Tecticornia* sp. Lake Way to determine whether it is a different species to *Tecticornia pruinosa.*
- Monitor all populations of *Tetratheca erubescens*, *Tetratheca harperi* and *Tetratheca paynterae* subsp. *paynterae*.

ECOLOGICAL COMMUNITIES

- Improve mapping of the boundaries of the banded iron formation Priority Ecological Communities and measure cumulative impacts, prioritising those containing the highest conservation values and under the greatest perceived level of threat. This information will inform environmental impact assessment advice provision and assessments of conservation status. Develop and implement a method to monitor the condition of the vegetation communities.
- Improve mapping of calcrete, determine hydrological characteristics and survey subterranean fauna communities of calcrete groundwater assemblage type ecological communities, prioritising those subject to the greatest perceived level of threat to inform environmental impact assessment advice. Develop and implement a method to monitor the health of subterranean communities.
- Update description and mapping for the Emu Land System and Cundlegum Land System ecological communities. Develop and implement a method to monitor the condition of vegetation and determine threats. Prioritise occurrences according to the greatest perceived level of threat. This will inform adaptive management and assist in providing environmental impact assessment advice.
- Improve mapping and monitor the condition of the Yellow sandplain vegetation of the Great Victoria Desert with diverse vertebrate fauna and Ponton Land System ecological communities. This will inform adaptive management and assist in providing environmental impact assessment advice.

8 References

Department of Climate Change, Energy, the Environment and Water 2024. *Directory of Important Wetlands*. Available online at https://www.dcceew.gov.au/water/wetlands/australian-wetlands-database.

Department of Environment and Conservation 2010. *Biodiversity and Cultural Conservation Strategy for the Great Western Woodlands.* Kensington, Western Australia.

Appendix 1: Priority management units identified through the prioritisation process for landscape scale threat mitigation actions for priority reserves and landscapes

Table 2 Goldfields Region priority management units.

Priority management unit	IBRA region/s	Priority landscape	Land system or habitat type
Clear and Muddy Lakes Nature Reserve and Rowles Lagoon Conservation Park	Coolgardie	Coolgardie/Murchison Transition Zone	Freshwater wetlands
Credo ex-pastoral lease	Coolgardie, Murchison	Coolgardie/Murchison Transition Zone	Eucalypt woodlands, nationally important wetland catchment
Coonana Timber Reserve	Coolgardie	Eastern Timber Reserves	Eucalypt woodlands
De La Poer Range Nature Reserve	Murchison, Great Victoria Desert	Central Deserts	Sand dune system, spinifex hammock, mulga woodlands
Diemals ex-pastoral lease	Coolgardie	Northern Yilgarn Management Area	Banded iron formation (BIF), eucalypt woodlands
Goongarrie National Park, Goongarrie ex-pastoral lease	Murchison	Cooglardie/Murchison Transition Zone	Eucalypt woodlands, mulga woodlands
Great Victoria Desert Nature Reserve	Great Victoria Desert, Nullarbor	Central Deserts	Sand dune systems, spinifex hummock, marble gum woodland
Jaurdi ex-pastoral lease	Coolgardie	Northern Yilgarn Management Area	Eucalypt woodlands, BIF, sandplain
Matuwa Kurrara Kurrara National Park	Gascoyne	Gascoyne Reserves	Succulent steppe, mulga woodlands, spinifex hummock
Ngamurra (formerly Lake Carnegie) Nature Reserve	Murchison, Gascoyne	Gascoyne Reserves	Large salt lake with multiple smaller lakes and clay pans, small sandhills with spinifex, rocky mulga, breakaways

Priority management unit	IBRA region/s	Priority landscape	Land system or habitat type
Lake Mason ex-pastoral lease	Murchison	Murchison Reserves	Diverse land systems including salt lake system, breakaway systems (greenstone and granite), mulga woodland, spinifex
Mount Manning Conservation Park and Helena and Aurora National Park (R36208, R53855)	Coolgardie, Murchison	Northern Yilgarn Management Area	Eucalypt woodlands, BIF
Neale Junction Nature Reserve	Great Victoria Desert	Central Deserts	Sand dune systems, spinifex hummock, marble gum woodland
Pila Nature Reserve	Gibson Desert	Central Deserts	Sand dune systems, spinifex hummock, clay pans, rock holes/rocky outcrops
Plumridge Lakes Nature Reserve	Great Victoria Desert	Central Deserts	Sand dune systems, spinifex hummock, salt lakes
Queen Victoria Springs Nature Reserve	Murchison, Great Victoria Desert, Coolgardie	Central Deserts	Eucalypt woodland, sand dune systems, spinifex hummock, mulga woodlands
Wanjarri Nature Reserve	Murchison	Murchison Reserves	Spinifex grasslands with mulga complexes; undulating sandplains with sand dunes, breakaways and low granite hills
Yeo Lake Nature Reserve	Great Victoria Desert	Central Deserts	Salt lake, sand dune systems, spinifex hummock, breakaways, eucalypt/marble gum woodland, mulga woodlands

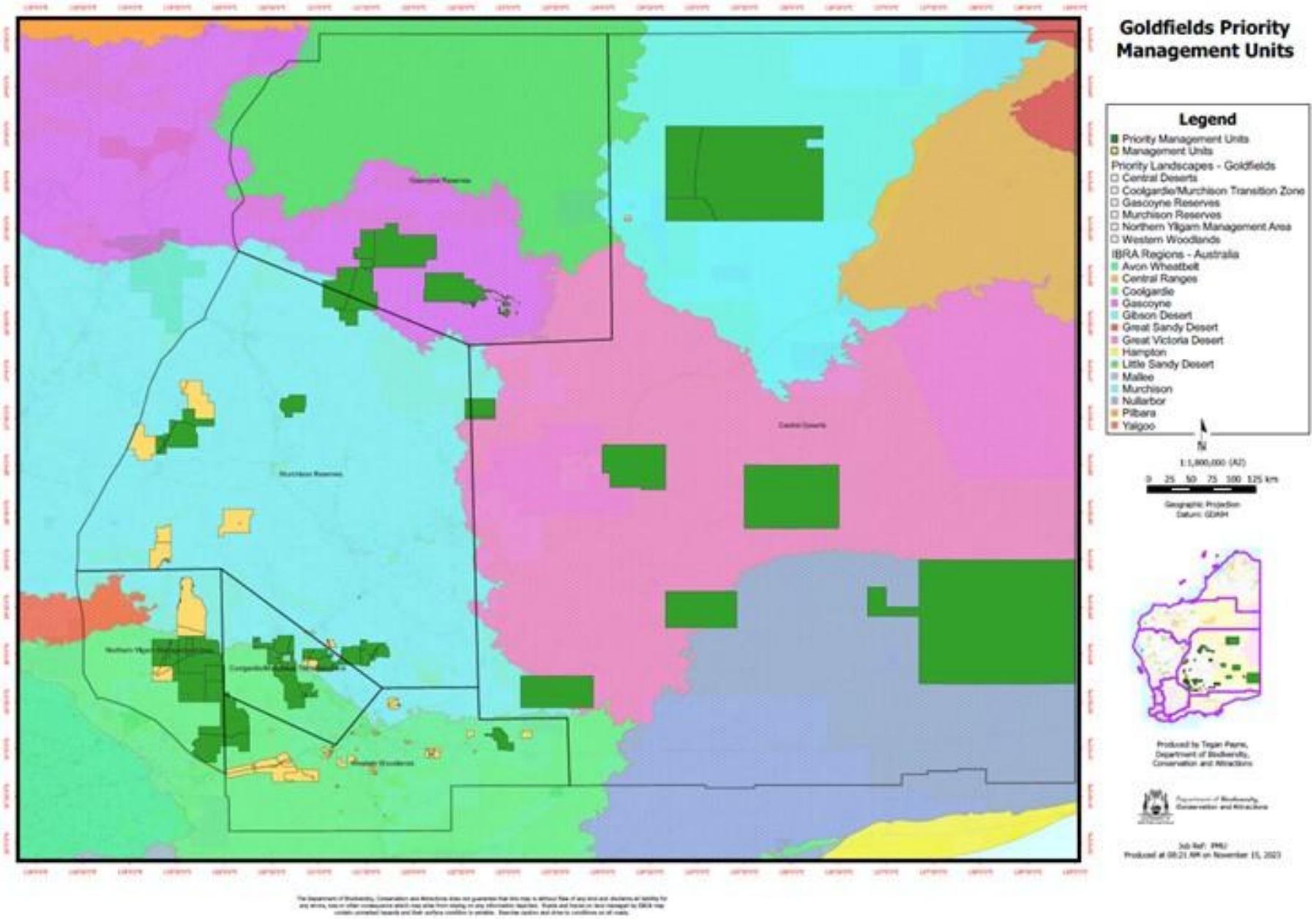

Figure 2 Bioregions and priority landscapes in the Goldfields Region (2023).

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**

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