MIDWEST REGION
REGIONAL CONSERVATION PLAN

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**

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Northern Queen of Sheba (*Thelymitra pilcherrima* Jeanes) in Badgingarra National Park. *Photo – Fred and Jean Hort*
Spinifex grasslands and mulga woodlands in Barnabinmah Conservation Park. *Photo – Samille Mitchell, DBCA*

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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 Midwest Region covers nine arid and semi-arid Interim Biogeographic Regionalisation of Australia (IBRA) sub-regions, five Mediterranean IBRA sub-regions and four Integrated Marine and Coastal Regionalisation of Australia (IMCRA) regions. The region stretches 830km north to south and 720km east to west equating to 14 per cent of the land area of Western Australia.

The region includes approximately 2914km of coastline (including islands) with diverse marine habitats and a rich marine biodiversity including the hypersaline environments and seagrass meadows of Shark Bay, the archipelago of the Houtman Abrolhos, and the islands and limestone reef systems of the Turquoise Coast. The region is responsible for the management of significant marine biodiversity and seascapes in the Shark Bay marine reserves and Jurien Bay Marine Park (together a total of 1,000,860 hectares).

Most islands within State waters along the Turquoise Coast, in the Houtman Abrolhos archipelago and in the Shark Bay area are nature reserves or national parks protecting important habitat for seabirds and threatened fauna including a suite of mammals restricted to Bernier and Dorre islands, loggerhead turtle (*Caretta caretta*), Australian sea lion (*Neophoca cinerea*), dibbler (*Parantechinus apicalis*) and Abrolhos painted button-quail (*Turnix varius scintillans*).

The variability in both geology and landform of the Midwest Region has given rise to a rich diversity in landscape and vegetation assemblages and this is further influenced by climatic differences across the region (significant latitudinal and longitudinal distances) (Beard et al. 2000).

Internationally, the high species diversity, high levels of endemism and high levels of threat to the values in the Avon Wheatbelt and Geraldton Sandplains IBRA sub-regions has led to the South West Botanical Province being recognised as one of only 36 global biodiversity hotspots (Myers et al. 2000, Conservation International 2023). The Shark Bay World Heritage site is one of the only sites across the world to be listed for five natural values and one of only three World Heritage sites in Western Australia.

Biodiversity values in the Midwest Region are subject to threatening processes including inappropriate fire regimes, interaction of fire with invasive weeds, habitat destruction by introduced animals, introduced predators, introduction and spread of weeds, resource and land development, altered hydrology, salinisation, a fragmented conservation system, Phytophthora dieback and climate change. The extent of these impacts and underlying biodiversity values remain poorly understood.

Nationally, the biodiversity values and threats in the region has resulted in the recognition of four biodiversity hotspots (Department of Environment and Conservation 2006):

1. The **Mount Lesueur-Eneabba hotspot** supports many distinct, species-rich and endemic communities. There are more than 250 indigenous plant species, many living in the heaths and scrub-heaths. Lesueur National Park boasts an exceptionally diverse

range of flora, with more than 900 species comprising approximately 10 per cent of the State's known flora.

2. The **Geraldton to Shark Bay sand plains hotspot** contains extensive heaths and scrub-heaths. Sandplains are most extensive in the north, where the area overlaps the edges of the Carnarvon Basin hotspot. The sand plains are home to a diverse range of endemic plants and many reptiles, including several endemic small skinks. The Shark Bay area includes the transition zone from the South West Botanical Province dominated by eucalyptus species to the Eremaean Botanical Province dominated by acacia species (more than 280 plant species reach the limit of their range in this area).
3. The **Carnarvon Basin hotspot** is relatively flat and dominated by hummock grasslands, acacia shrublands and woodlands. Sea turtles breed in the reserves of the Shark Bay World Heritage area. Seabirds and endangered mammals no longer found on the mainland use this area as a refuge from threats such as introduced predators.
4. The **Central and Eastern Avon Wheatbelt hotspot** includes woodlands containing many of Western Australia's threatened plants and birds. The area is particularly rich in endemic plants—grevilleas, hakeas, eucalypts, acacias, *Eriostemon* spp. and the Asteracea family—and invertebrates, particularly ground-dwelling spiders.

The southwestern area of the region is extensively cleared, resulting in a higher number of threatened flora and ecological communities as well as smaller reserves in the Avon Wheatbelt, Swan Coastal and Jarrah Forest IBRA regions. In the Lesueur Sandplains IBRA sub-region GS3 (the western part of the Turquoise Coast District), clearing has been less extensive and as a result there are significant areas of remnant vegetation with greater connectivity. The level of clearing and natural endemicity in the region has contributed to the Midwest Region recording approximately 120 threatened and 900 Priority flora.

Fifteen wetlands in the Midwest Region are listed in the *Directory of Important Wetlands of Australia* but little is known about most wetland environments across the region, especially in the rangelands where episodic and semi-permanent freshwater wetlands across an otherwise arid environment are extremely important refugia for a variety of organisms. Primary saline drainage systems and lakes predominate in the eastern portion of the wheatbelt areas of the region. These are part of the ancient Yilgarn craton and where there is significant salt stored in the soil profile. Calcrete ecological communities are common in the rangelands of the Midwest Region and the fauna associated with them show high levels of short-range endemism. Significant karst areas with associated biodiversity values are found in the western part of the Turquoise Coast District.

As of 1 December 2025, eight joint management arrangements are in place including Yingarrda, Jidi Jidi, Malgana, Burringurrah and Minangu (Wajarri Yamatji Indigenous Land Use Agreement), Nanda, Badimia and Yamatji Nation.

Through the South West Native Title Settlement, the department has entered into Co-operative Management Agreements (CMAs) with the six Noongar Native Title Agreement groups. The Settlement enables Noongar people to have a voice in how *Conservation and Land Management Act 1984* (CALM Act) lands and waters in the south-west are managed. For the Midwest Region, a CMA is in place between the department and the Yued Aboriginal Corporation (YAC). As of 1 December 2025, the Midwest Region has no formal or informal joint management arrangements with YAC, but these arrangements are expected to be developed in the future.

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

The Badimia lands were vested in December 2021 and fully assessed as part of this plan. Yinggarda, Wajarri Yamatji, Jidi Jidi, Mulgana and Nanda lands were not jointly managed at the time of the prioritisation process and were therefore not fully assessed, particularly as some values were not present on lands managed under the provisions of the CALM Act that are to become part of the jointly managed reserves.

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

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

Region	Midwest		
Interim Biogeographic Regionalisation of Australia (IBRA) regions	Avon Wheatbelt sub-regions (AVW01), Carnarvon sub-regions (CAR01, CAR02), Gascoyne sub-regions (GAS01, GAS02, GAS03), Geraldton Sandplains sub-regions (GES01, GES02), Jarrah Forest sub-region (JAF01), Murchison sub-regions (MUR01, MUR02), Swan Coastal Plain sub-regions (SWA01, SWA02) and Yalgoo sub-regions (YAL01, YAL02).		
Integrated Marine and Coastal Regionalisation of Australia (IMCRA) regions	Ningaloo, Zuytdorp, Shark Bay, Central West Coast, Abrolhos Islands.		
Landscape description	Large variations in geology, landform and climatic conditions gives rise to diverse landscapes and vegetation assemblages. The region includes dense coastal heaths, sandplains and areas of arid shrublands. The Shark Bay area includes the transition zone from the South West Botanical Province dominated by eucalyptus species to the Eremaean Botanical Province dominated by acacia species. It hosts diverse marine habitats including the southern portion of Ningaloo Reef, the hypersaline environments and seagrass meadows of Shark Bay, the archipelago of the Houtman Abrolhos, and the islands and limestone reef systems of the Turquoise Coast.		
Department-managed land	**Tenure classification**	**No.**	**Area (ha)**
	Legislated lands and waters		
	National park	25	2,367,598
	Conservation park	17	394,557
	Nature reserve	157	978,698
	Section 5(1)(g) reserve	4	64,990
	Section 5(1)(h) reserve	26	670
	Timber reserve	2	26,277
	Marine nature reserve	1	114,540
	Marine park	2	794,463
	Section 34A freehold	1	1549
	Crown freehold – department-managed	1	4
	Total	**236**	**4,743,345**
	Department interest in lands and waters		
	Crown freehold - department interest	22	15,385
	Unallocated Crown land - department interest	47	1,376,946
	Total	**69**	**1,392,332**
	Total area of all lands and waters encompassed by the region (and portion managed by the department)		**37,871,765 (12%)**
Remnant vegetation	Approximately 90.6% of the total area of land encompassed by the region includes remnant vegetation, with approximately 16.1% of this remnant vegetation occurring on department-managed land.		
Threatened[1] and Priority[2] fauna species	Extinct (11), critically endangered (8), endangered (21), vulnerable (36), migratory (67), conservation dependent (4), other specially protected (2), Priority 1 (11), Priority 2 (5), Priority 3 (15), Priority 4 (24)		
Threatened and Priority flora species	Extinct (0), Critically endangered (47), endangered (41), vulnerable (29), Priority 1 (251), Priority 2 (228), Priority 3 (336), Priority 4 (87)		
Threatened and Priority ecological communities	Collapsed (3), critically endangered (10), endangered (0), vulnerable (1), Priority 1 (72), Priority 2 (1), Priority 3 (30), Priority 4 (9)		
Wetlands	Wetlands of International Importance under the Ramsar Convention (0), Wetlands of National Importance (15)		

[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.

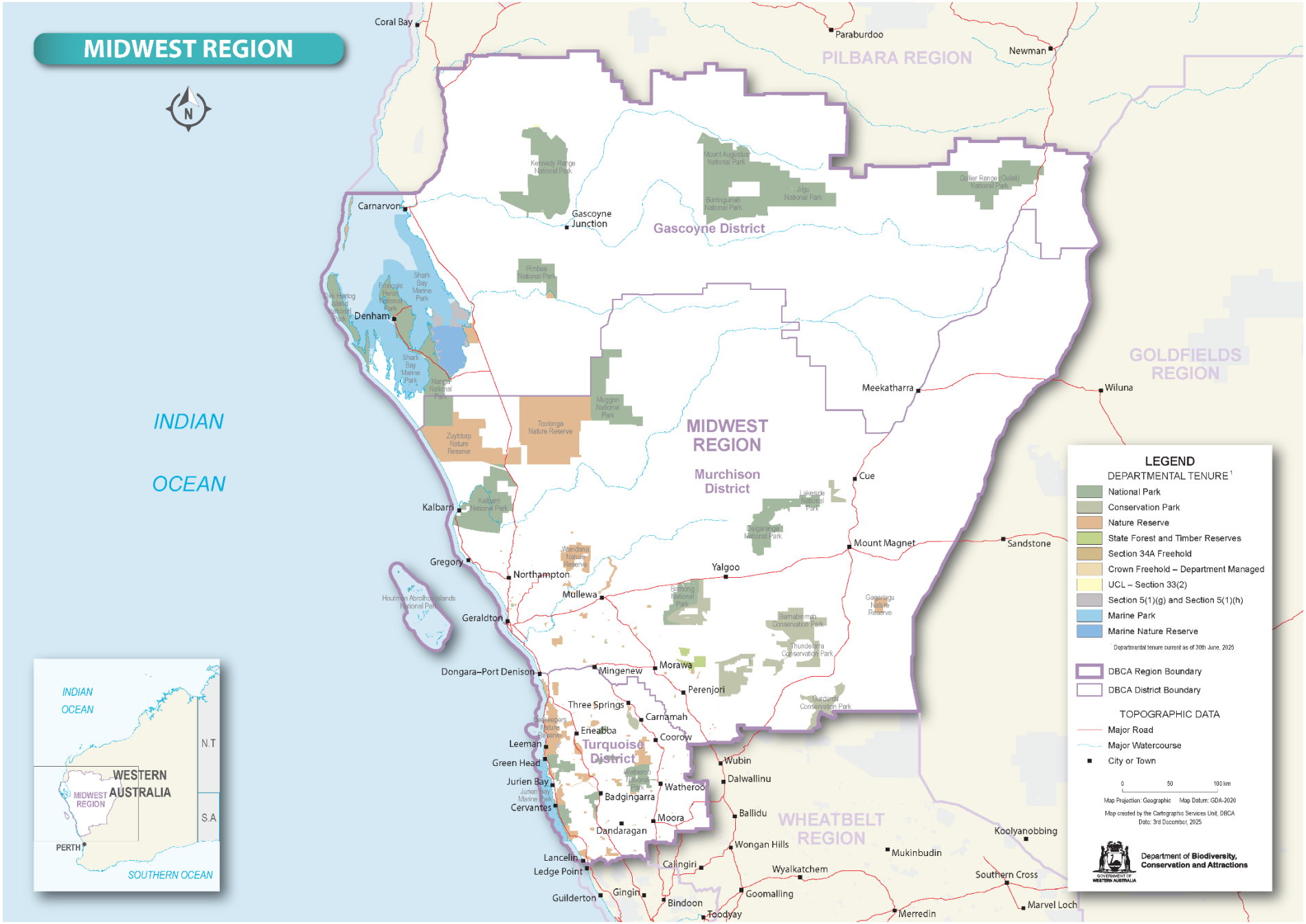

Figure 1 Midwest Region department-managed land and waters (December 2025).

3 Identification of priority reserves and landscapes

To determine priorities for landscape-scale threat mitigation, the Midwest 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 Midwest Region is defined by IBRA Avon Wheatbelt sub-regions (AVW01), Carnarvon sub-regions (CAR01, CAR02), Gascoyne sub-regions (GAS01, GAS02, GAS03), Geraldton Sandplains sub-regions (GES01, GES02), Jarrah Forest sub-region (JAF01), Murchison sub-regions (MUR01, MUR02), Swan Coastal Plain sub-regions (SWA01, SWA02) and Yalgoo sub-regions (YAL01, YAL02).

The region delineated the landscape based on these IBRA sub-regions considering biodiversity values, major threatening processes and management actions. The resulting bioregions reflected the impacts of intensive agriculture and aligned with historical regional conservation and fire management planning considerations.

3.1.2 Categorisation of land into management units

Management units were defined based on proximity of department-managed land to one another, similarity of values and similarity of threatening processes. The Midwest Region identified 237 management units. Management units that could be effectively managed as one entity were grouped.

3.1.3 Identify priority management units

To identify management units of highest priority to focus resources and effort, the region applied a basic geographic information system (GIS) analysis using corporate datasets to determine the relative value of each management unit in relation to representativeness of vegetation, diversity and rarity. For the agricultural zone, the Midwest Region also reviewed the outputs of the Hidden Treasures conservation planning process (Richardson et al. 2005; Department of Environment and Conservation 2008). The Hidden Treasures prioritisation process was a collaborative project with the Northern Agricultural Catchments Council and used Beard's Vegetation Associations as a surrogate for ecosystem diversity to identify priority vegetation types for conservation and the most significant occurrences of those associations in the landscape.

The list of priority management units was further refined following a review by regional conservation staff. Landscape connectivity, representativeness of vegetation, threatening processes and values were considered. Through this assessment, the Midwest Region identified 29 priority reserves and landscapes.

The Midwest 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

FAUNA

- In the Houtman Abrolhos Islands National Park, identify important habitat for migratory shorebirds including red knot (*Calidris cantus*) [TA-FA-054], great knot (*Calidris tenuirostris*) [TA-FA-226] and far eastern curlew (*Numenius madagascariensis*) [TA-FA-231] to inform appropriate management of visitor access.

LANDSCAPES

- Maintain and improve restrictions on visitation to the extent of bacterial mats around the Sedimentary Reserves in Shark Bay [LA-175].

FAUNA

- Implement a consistent statewide monitoring program to determine distribution and population trends of chuditch (*Dasyurus geoffroii*) at a species level [LE-FA-013].
- Develop a post-2030 monitoring program plan for Bernier and Dorre Island populations of rufous hare-wallaby (*Lagorchestes hirsutus bernieri*) [LE-FA-003], boodie (*Bettongia lesueur lesueur*) [LE-FA-012] and banded hare-wallaby (*Lagostrophus fasciatus fasciatus*) [LE-FA-004].
- Continue monitoring of Australian sea lion (*Neophoca cinerea*) pup numbers on the Turquoise Coast Island Nature Reserves [LE-FA-005].
- Expand the monitoring program for Australian sea lion (*Neophoca cinerea*) to determine abundance, breeding sites, breeding cycle timing and investigate the impact of increased visitation and marine interaction activities on breeding and haul out locations/populations [LE-FA-002].
- Undertake surveys in the Easter and Pelsaert groups of the Houtman Abrolhos Islands National Park to determine the breeding season of Australian sea lion (*Neophoca cinerea*) [LE-FA-041].

- On Pelsaert Island, Houtman Abrolhos Islands National Park (the only breeding site of this species in the archipelago), monitor the common noddy (*Anous stolidus*) nesting colony and visitor usage to determine if visitation is impacting on seabird nesting success [LE-FA-006].
- Manage visitor access to mangroves utilised for nesting by Australian lesser noddy (*Anous tenuirostris melanops*) on Wooded, Morley and Pelsaert Islands in the Houtman Abrolhos Islands National Park [TA-FA-185].
- Consider the introduction of an E-class licence system to suitable commercial tour operators to conduct tours providing visitors with opportunities to view Australian lesser noddy (*Anous tenuirostris melanops*) during breeding season and utilise closed area notice to limit other visitation to the area [TA-FA-198].
- Undertake research into the most appropriate monitoring techniques for Abrolhos painted button-quail (*Turnix varius scintillans*) for application to ensure there is sufficient capacity to monitor the population trajectory [LE-FA-014].
- Continue monitoring of the Wooded, Morley and Pelsaert Island seabird colonies and visitation to determine if different exposure to visitation results in a change in breeding success [LE-FA-001].
- Determine the extent of destroyed exfoliated sheets of granite on Yinnietharra Station and where necessary replace with an artificial substrate to provide suitable habitat for Yinnietharra rock-dragon (*Ctenophorus yinnietharra*) [TA-FA-173].
- Undertake monitoring of known populations of Dandaragan Plateau shield-backed trapdoor spider (*Idiosoma dandaragan*) to determine their trajectory [LE-FA-010].
- Search for additional populations of Dandaragan Plateau shield-backed trapdoor spider (*Idiosoma dandaragan*) [LE-FA-011].
- Survey Gutharuka townsite reserve to confirm that the Gutha Pintharuka shield-backed trapdoor spider (*Idiosoma gutharuka*) population is extant [LE-FA-009].

FLORA

- Investigate which populations consist of predominantly senescing plants to determine where fire should be implemented to stimulate *Acacia cochlocarpa* subsp. *cochlocarpa* recruitment [LE-FL-148].
- Implement an adaptive fire management program in population 1 (Canna) to determine appropriate disturbance cycle to ensure persistence of *Androclava adenothalia* in the environment. Follow up with a feral goat control program to limit grazing and disturbance [TA-FL-175].
- Implement an adaptive fire management program to develop a suitable disturbance regime that trials ripping and a larger prescribed burn in areas where there are known plant deaths, to sustain the declining *Androcalva bivillosa* population 8 where rehabilitation has occurred [TA-FL-396].
- Induce recruitment at *Daviesia bursarioides* population 6 at Sweetman Nature Reserve using prescribed burning in summer or early autumn. Supplement with seed prior to disturbance [TA-FL-420].

- Introduce disturbance by ripping a one hectare area in relatively intact vegetation around population 2 of *Eremophila rostrata* subsp. *rostrata* to promote regeneration. Undertake weed monitoring as required [TA-FL-423].
- Continue to restock two translocation sites of *Eremophila rostrata* subsp. *trifida* at Bowgada Nature Reserve (no population number assigned) and West Perenjori Nature Reserve (population 4). Maintain and upgrade fencing and watering systems as required and liaise with local bush fire brigade regarding filling water tank [TA-FL-162].
- Survey *Glyceria drummondii* population 2 to inform liaison needs with the local government authority (LGA) regarding road maintenance activities [LE-FL-016].
- Undertake a small-scale prescribed burn for recruitment purposes in less than half of population 1 of *Grevillea batrachioides* in conditions of light winds in Mount Lesueur National Park. Exclude translocated population 2 from prescribed burns [TA-FL-433].
- Restock *Grevillea bracteosa* subsp. *howatharra* population 1C and 1D within fenced areas at Northern Gully [TA-FL-435].
- Supplement translocated *Grevillea bracteosa* subsp. *howatharra* population 4 at Moresby Range Conservation Park to increase population size [TA-FL-434].
- Investigate options to utilise areas of the railway reserve alongside the track as recovery sites for *Hemiandra gardneri* populations 3 and 4 given the plant is small and maintenance is limited [LE-FL-022].
- Investigate the length of *Leucopogon* sp. Badgingarra persistence post-fire and determine an appropriate fire regime [LE-FL-151].
- Investigate the impact of boring insects on *Patersonia spirifolia* seeds [LE-FL-005].
- Monitor recruitment of *Stylidium wilroyense* following burns to inform burn regimes at Wilroy Nature Reserve [LE-FL-150].
- Monitor:
    - all known *Baeckea* sp. Western Australia populations to determine status and check that declared rare flora (DRF) markers are in place [LE-FL-004]
    - all known *Chorizema humile* populations and assess the impact of herbivore (kangaroos and stock) grazing [LE-FL-020]
    - *Darwinia masonii* translocations and provide feedback on future translocations to rock dump piles particularly in relation to length of time of watering seedlings and location of translocations [LE-FL-006]
    - population 4 of *Dasymalla axillaris* post-fire [LE-FL-149]
    - roadside *Daviesia bursarioides* populations to determine if there has been any recruitment since last survey [LE-FL-015]
    - *Grevillea bracteosa* subsp. *bracteosa* populations to determine current threatening processes [LE-FL-012]
    - all known *Jacksonia pungens* populations to determine status [LE-FL-013]
    - all known *Micromyrtus ninghanensis* populations to determine status [LE-FL-010]
    - all known *Thomasia* x *formosa* populations to assess status and current threatening processes [LE-FL-021]
    - all known *Thryptomene duplicata* populations to assess status and current threatening processes [LE-FL-026].

- Survey:
  - more broadly for additional *Eremophila grandiflora* populations [LE-FL-028]
  - for additional *Eremophila subangustifolia* populations [LE-FL-011]
  - to find populations of *Grevillea phanerophlebia* that do not have either *Grevillea amplexens* or *Grevillea biturnata* to confirm that hybridisation is not occurring [LE-FL-025]
  - for additional *Ptilotus tetrandrus* populations around areas of known populations and in areas with suitable habitat [LE-FL-018]
  - for *Stylidium xanthopis* populations near Canna and determine status [LE-FL-023].
- 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.

ECOLOGICAL COMMUNITIES

- Monitor groundwater and survey for the influence that changing levels are having on the composition of the Assemblages of organic mound springs of the Three Springs area ecological community and compare across sites within and outside of the drawdown cone [LE-EC-003].
- Survey occurrences JB01, JB02 and JB03 of the Assemblages of organic mound springs of the Three Springs area ecological community and assess the extent of damage caused by the recent fire to inform if the occurrences are extant and identify any required management [LE-EC-004].
- Monitor vegetation condition change of the Coomberdale chert system ecological community and investigate correlation with impacts of grazing and mining [LE-EC-002].
- Map vegetation and nominate priority one flora components of the Koolanooka System for threatened flora listing [LE-EC-001].
- Implement a prescribed burn in a small portion of occurrence M1A of the Plant assemblages of the Billeranga System at Mount Nunn Nature Reserve to monitor the regeneration of vegetation after fire events. Follow up with grazing and weed control as required and continue to assess the regeneration and condition of vegetation throughout implementation of threat controls [TA-EC-145].
- Survey Mooka Spring, Watermelon Creek, Birdrong Spring and unnamed spring to improve the description of the Springs of the Western Kennedy Ranges (Mooka) Priority Ecological Community. Assess vegetation condition and identify threats to advise future management actions [LE-EC-005].

ALTERED HYDROLOGY

- Implement an adaptive management program that trials watering seed set over a six-week period during active growing and flowering (likely July to August) to build emergents and encourage recruitment in *Pterostylis sinuata* populations 1, 4 and 5 [TA-FL-460].

DISEASE

- Design and implement a dieback management program to limit the spread of Phytophthora dieback at Badgingarra National Park by ensuring vehicle hygiene, closing tracks, and limiting access to infected areas and areas sensitive to infection [LA-028].
- Undertake Phytophthora dieback mapping in the vicinity of *Patersonia spirifolia* populations and manage to ensure there is no introduction to critical habitat causing decline in habitat health. Collaborate with infrastructure managers where appropriate [LE-FL-002].

ENVIRONMENTAL IMPACT ASSESSMENT AND ADVICE

- Consolidate data from the Department of Mining, Petroleum and Exploration and proponents monitoring *Acacia diallaga* populations to determine current mining impacts and evaluate IUCN threat status [LE-FL-003].
- Monitor all known *Acacia* sp. Jack Hills populations and evaluate current mining threat [LE-FL-007].
- Assess the impacts from mining and other threatening processes and liaise with industry to implement management as required for *Anigozanthos viridis* subsp. *terraspectans* populations [LE-FL-008].
- Liaise with industry regarding proposals and additional survey for *Eremophila olfieldii* subsp. *papula* [LE-FL-027].
- Assess the impacts to *Macarthuria keigheryi* populations from resource development and other threatening processes and liaise with industry to implement management as required [LE-FL-017].

FIRE REGIMES

- Develop a mosaic of fuel ages that reduces the likelihood of large bushfire and takes into account appropriate fire return intervals, consistent with the Midwest Region Fuel Management Plan, for the following reserves and landscapes:
  - Kalbarri National Park [LA-102]
  - larger reserves of the agricultural zone [LA-021]
  - Lesueur Coomallo landscape [LA-133]

  - Namming Reserves [LA-157]
  - South Eneabba Nature Reserve [LA-180]
  - Wandana Nature Reserve [LA-200]
  - Watheroo - Pinjaregga landscape [LA-209, LA-210]
  - Wilson - Wotto landscape [LA-220].
- Implement autumn prescribed burns to achieve an appropriate fire age mosaic for population 4 of *Dasymalla axillaris* in Caron Nature Reserve [TA-FL-204].
- Implement a prescribed burn regime in South Eneabba Nature Reserve that reduces fire frequency at occurrences Rocky1 and Rocky2 of the Ferricrete floristic community (Rocky Springs type) [TA-EC-127].
- Implement fire management strategies that seek to minimise fire impacts to the Wotto Nature Reserve occurrence Wotto1 of the Ferricrete floristic community (Rocky Springs type). Monitor areas that are naturally vegetating and underake active management including regular reserve inspections, appropriate signage and weed control as required [TA-EC-128].

PEST ANIMALS

- Plan and implement a reinvigorated and expanded fauna restoration program in Kalbarri National Park with a focus on an integrated program of feral cat and fox, as well as wild dog control to improve population size of native species including black-flanked rock-wallaby (*Petrogale lateralis lateralis*), chuditch (*Dasyurus geoffroii*) and malleefowl (*Leipoa ocellata*) [LA-101].
- To prevent incursions of introduced predators into the Peron Peninsula, maintain and improve Tallifer Isthmus barrier fence infrastructure and improve deterrents and monitoring at weak points of the barrier fence. Continue to use remote camera monitoring across Peron Peninsula to detect incursions. Continue to ground bait for foxes when an incursion is detected [LA-090].
- Undertake feral cat control in Francois Peron National Park and surrounding unallocated Crown land (UCL). Plan and implement a rabbit control program to improve cat control effectiveness [LA-089].
- Implement a targeted introduced predator control program where monitoring has identified the presence of foxes and feral cats within the gorge system of Kalbarri National Park to reduce the impact of introduced predators on black-flanked rock-wallaby (*Petrogale lateralis lateralis*). Monitor the wallaby post-control implementation and apply learnings to an adaptive management trial to confirm the most appropriate operational prescription for introduced predator management in Kalbarri National Park [TA-FA-141, TA-FA-151].
- Plan and implement a feral goat control program in:
  - Beekeepers Nature Reserve [LA-041]
  - Lesueur Coomallo landscape [LA-131]
  - Southern Coastal reserves [LA-188]
  - Watheroo – Pinjaregga landscape [LA-207].

- Plan and implement a feral goat control program to eradicate feral goats from Francois Peron National Park and adjacent UCL [LA-093].
- Plan and implement a feral goat exclusion fencing program for Kalbarri National Park boundaries that are the key points for feral goat incursions [LA-103].
- Implement a feral goat control program in Kalbarri National Park to reduce grazing competition for black-flanked rock-wallaby (*Petrogale lateralis lateralis*) [TA-FA-124].
- Investigate the impact of feral goats on *Hybanthus cymulous* and utilise findings to liaise with land managers to undertake feral goat control [LE-FL-019].
- Plan and implement control programs for feral goats and feral pigs at Kalbarri National Park boundaries targeting high conservation value areas [LA-105, LA-106].
- Design and implement a feral pig control program to minimise impacts on high value areas at:
    - Badgingarra National Park. [LA-029]
    - larger reserves of the agricultural zone [LA-020]
    - Lesueur Coomallo landscape [LA-132]
    - Namming Reserves [LA-156]
    - wetlands of the agricultural zone [LA-009]
    - Wilson – Wotto landscape [LA-219].
- Implement a feral pig control program in Lesueur National Park to protect the Lesueur-Coomallo floristic community D1 from trampling, grazing and potential Phytophthora dieback spread [TA-EC-139].
- Plan and implement a rabbit control program in Kalbarri National Park along with exclusion fencing of specific flora populations (including translocation sites) [LA-107].
- Plan and implement a rabbit control program on larger reserves of the agricultural zone [LA-022] and wetlands of the agricultural zone along with fencing of specific populations/translocation sites [LA-010].
- Implement a monitoring program to quantify grazing pressure on *Lechenaultia chlorantha* populations from rabbits, kangaroos and feral goats during dry years using camera traps [LE-FL-009].
- Implement the Transforming Wulybidi (Peron Penninsula) reconstruction project through to stages 2 and 3, with the aim of reconstructing the fauna assemblage by reintroducing up to ten species of native mammal to Francios Peron National Park. The three stages of the project each have multiple phases, including introduced predator and herbivore eradication, fauna reintroductions, and monitoring, to be achieved before progressing to the next stages. This will involve the consolidation of a single fenced area and, control and eradication of goats [LA-092], rabbits and feral cats [LA-091] commencing in stage 1 of the project, at Middle Camp (Lagoon Point) where additional independent but connected fenced areas of the northern peninsula will be established and maintained.
- Implement a permanent camera and chew card biosecurity monitoring and rapid response program on the Houtman Abrolhos Islands National Park to detect and eradicate invasive species including mice and rats that will impact Abrolhos painted

button-quail (*Turnix varius scintillans*). This will include eradication of house mice on North Island [TA-FA-190].

- Design and implement a biosecurity surveillance program in the Murchison River and eradicate exotic fish species if identified, where feasible. Undertake suitable control actions where eradication is not feasible [LA-104].
- Implement a cormorant management program to reduce their impact on the mangrove habitat at Wooded Island utilised by Australian lesser noddy (*Anous tenuirostris melanops*) [TA-FA-068].
- Implement a reactive silver gull management program informed by a monitoring program to protect Australian lesser noddy (*Anous tenuirostris melanops*) eggs and chicks on Pelsaert Island and the Easter Group Islands of the Houtman Abrolhos Islands National Park [TA-FA-070].

WEEDS

- Maintain and expand the *Verbesina* control programs in South Peron to prevent introduction into Francois Peron National Park [LA-088].
- Eradicate *Lycium ferocissimum* and *Verbesina encelioides* from Houtman Abrolhos Islands National Park to prevent degradation of nesting and roosting habitat of Australian lesser noddy (*Anous tenuirostris melanops*) [TA-FA-069].
- Quantify the impact of weeds on *Caladenia hoffmanii* and determine how to undertake weed management at the Oakajee site without impacting the species [LE-FL-024].
- Revisit *Haloragis platycarpa* populations post weed control to determine effect of slashing, in particular whether squashed plants have rebounded and whether the cut grass has smothered them [LE-FL-001].

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

FAUNA

- Develop and implement a biosecurity program on Bernier and Dorre Islands Nature Reserve to prevent, detect and control invasive species that will directly (foxes, cats, dogs) or indirectly (rats, mice, weeds including *Cenchrus ciliaris* and *Verbesina encelioides*) impact boodie (*Bettongia lesueur lesueur*) [TA-FA-130, TA-FA-249], rufous hare-wallaby (*Lagorchestes hirsutus bernieri*) [TA-FA-115, TA-FA-250], banded hare-wallaby (*Lagostrophus fasciatus fasciatus*) [TA-FA-246, TA-FA-251], western barred bandicoot (*Perameles bougainville*) [TA-FA-247, TA-FA-252] and Shark Bay mouse, Djoongari (*Pseudomys fieldi*) [TA-FA-248, TA-FA-253].

- Maintain restricted access classifications and enforce legislative protection of Bernier and Dorre Islands Nature Reserve (high natural value islands including relictual populations of threatened mammal species). Maintain no commercial operations or promotion of increased human activity-induced disturbance supported with increased surveillance and enforcement to manage human usage [LA-056].
- Implement seasonal closures to protect foraging and breeding areas of dugong (*Dugong dugon*) in areas of high visitation across the species range including Roebuck Bay and Shark Bay in the Kimberley and Midwest regions [TA-FA-163].
- Declare mangrove breeding areas and other sites likely to be impacted by visitation as temporary control areas during pupping season for Australian sea lion (*Neophoca cinerea*) at the Houtman Abrolhos Islands National Park. Accompany with education, compliance and enforcement campaign. Monitor the effectiveness of this action to inform further management [TA-FA-159].
- In collaboration with the Department of Primary Industries and Regional Development (DPIRD), implement a biosecurity monitoring program on the Houtman Abrolhos Islands National Park that comprises of appropriate quarantine conditions, surveillance for new infestations of weeds and pest fauna (such as cats and rats), and eradication action for detected invasive species to reduce their impact on tammar wallaby (*Notamacropus eugenii derbianus*) [TA-FA-258].
- Construct a boardwalk on Pelsaert Island in the Houtman Abrolhos Islands National Park to ensure visitors do not traverse through the extent of the common noddy (*Anous stolidus*) nesting colony [TA-FA-039].
- Manage visitor activities on the Houtman Abrolhos Islands National Park to prevent collapsing of wedge-tailed shearwater (*Ardenna pacifica*) burrows by restricting access to sites through signage and fencing [TA-FA-080].
- Close key sites to vehicle traffic in Francois Peron National Park and Shark Bay marine reserves using temporary control areas to protect red knot (*Calidris canutus*) [TA-FA-055].
- In the Houtman Abrolhos Islands National Park, identify important habitat for migratory shorebirds including curlew sandpiper (*Calidris ferruginea*) [TA-FA-224], greater sand plover (*Charadrius leschenaultia*) [TA-FA-227], lesser sand plover [*Charadrius mongolus*) [TA-FA-228] and bar-tailed godwit (*Limosa lapponica*) [TA-FA-229] to inform appropriate management of visitor access.
- Ensure new commercial activities are appropriately assessed to ensure the likelihood of biosecurity breaches and impacts to brush bronzewing (Abrolhos subpopulation, *Phaps elegans*) [TA-FA-048] and Abrolhos painted button-quail (*Turnix varius scintillans*) [TA-FA-050] do not increase significantly on North, East Wallabi and West Wallabi islands.
- Undertake a survey for Mount Lesueur shield-backed trapdoor spider (*Idiosoma gardneri*) prior to recreational development at Lesueur National Park, Coomallo Nature Reserve and the surrounding areas of vegetation [LE-FA-039].

FLORA

- Survey *Leucopogon foliosus* distribution on the firebreak in Badgingarra National Park and surrounding area and reroute the firebreak if the species is not widespread [LE-FL-014].

ECOLOGICAL COMMUNITIES

- Construct a railing on the boardwalk to prevent damage from inappropriate visitor access to the Stromatolite community of stratified hypersaline coastal lake (Lake Thetis) [TA-EC-151].

LANDSCAPES

- Undertake reserve checks and re-surveying of boundaries where required to determine extent of degradation to vegetation on larger reserves of the agricultural zone [LA-026].
- Ensure that visitor use sites and activities are appropriately planned and managed within the Beekeepers landscape [LA-052].
- Increase biosecurity surveillance on Bernier and Dorre Islands Nature Reserve to protect threatened mammal species, implementing eradication of exotic species if identified. Also enforce restrictions to recreation and camping (prohibition) and increase community awareness about the reason for restrictions [LA-059, LA-060, LA-061, LA-063, LA-064].
- Increase biosecurity surveillance on Dirk Hartog Island National Park to detect incursions and implement eradication of exotic species to protect and minimise impacts to re-introduced and re-established populations of threatened species [LA-068, LA-070, LA-075].
- Manage access of vehicles and people, provide education about the need to drive appropriately, and install mitigation devices to protect suitable coastal vegetation on Dirk Hartog Island National Park [LA-073].
- Implement a community education program to encourage users to not dump rubbish and undertake cleanups of beach areas on Dirk Hartog Island National Park [LA-074].
- Increase surveillance of camping sites to ensure campfires are contained and apply fire exclusion periods as required in Dirk Hartog Island National Park [LA-069].
- Investigate the potential acquisition of remnant vegetation and/or revegetate connective corridors to improve landscape connectivity and vegetation health in the Eastern Agricultural landscape [LA-085].
- Develop an appropriate framework to manage visitor impacts in the Houtman Abrolhos Islands National Park. Implement a monitoring plan to detect change and respond with appropriate management measures for visitation [LA-002, LA-005, LA-007].
- Ensure any visitor facilities in the Houtman Abrolhos Islands National Park have lighting sympathetic to night flying species of seabirds and educate other users of the importance of appropriate lighting [LA-008].

- Ensure that visitor use sites and activities are appropriately planned and managed in the Lesueur Coomallo landscape [LA-137].
- Mitigate climate change impacts by ensuring vegetation condition and health is maintained through monitoring, research and reduction of threats such as inappropriate fire, weeds, grazing and disease in the Lesueur Coomallo landscape [LA-136].
- Develop visitor plans for Moresby Range Conservation Park so facilities are located within already cleared areas, to minimise clearing of existing vegetation [LA-143].
- Revegetate cleared land to buffer native vegetation and protect threatened flora populations in the Moresby Ranges [LA-140, LA-141] and provide additional feeding habitat for the Chapman Valley population of Carnaby's black cockatoo (*Zanda latirostris*) [TA-FA-041].
- Revegetate cleared land to buffer native vegetation across the rangelands [LA-166].
- Ensure that visitor use sites and activities are appropriately planned and managed in the Southern Coastal reserves [LA-196].
- Monitor and support research to identify changes and potential management options in the Southern Coastal reserves [LA-194] and Turquoise Coast islands [LA-199].
- Increase public education including interpretation options and investigate other management actions including exclusion areas (for example Australian sea lion (*Neophoca cinerea*) breeding sites) on the Turquoise Coast islands [LA-198].
- Monitor and support research to identify changes in the Watheroo - Pinjaregga landscape and potential management options [LA-216].
- Investigate the potential acquisition of remnant vegetation and/or revegetate connective corridors in the Wilson - Wotto landscape to improve landscape connectivity and vegetation health [LA-222].
- Maintain signage, remove dumped rubbish and undertake education to prevent unauthorised activities in the:
    - Beekeepers landscape [LA-049]
    - Namming Reserves [LA-161]
    - Southern Coastal reserves [LA-193]
    - Eastern Agricultural landscape [LA-087].

**Land acquisition and transfer actions*

- Investigate the potential acquisition of land to expand Cairn Hill Nature Reserve to the north that contains *Acacia aristulata* population 2 [TA-FL-385], *Synaphea quartzitica* population 1 [TA-FL-475] and occurrence CH02 of the vegetation alliances on ridges and slopes of the chert hills of the Coomberdale Floristic Region [TA-EC-153]. Remove dumped rubbish and manage access by erecting fencing that will exclude dirt bikes, and implement rabbit control. Design and implement a rehabilitation plan at the quarry that will introduce recalcitrant plants to act as a core buffer to the community.
- Investigate the potential acquisition of Murchison House Station and undertake a goat control program to reduce grazing pressure on *Hypocalymma longifolium* population 1

[TA-FL-445] and incorporate nesting hollows for Carnaby's black cockatoo (*Zanda latirostris*) [TA-FA-214].

FAUNA

- Continue implementing monitoring programs for the translocated populations of greater stick-nest rat (*Leporillus conditor*) at Dirk Hartog Island and Lagoon Point and the source population at Salutation Island [LE-FA-036].
- Within the fenced area at Lagoon Point, monitor the interactions between reptiles and greater stick-nest rat (*Leporillis conditor*) to identify the level of reptile predation [LE-FA-051].
- Continue to undertake monitoring to determine the state of recruitment of translocated populations of greater bilby (*Macrotis lagotis*) on Peron Peninsula [LE-FA-043].
- Develop and implement a monitoring program on East and West Wallabi islands to determine the status and trends of tammar wallaby (*Notamacropus eugenii derbianus*) and determine if there are impacts from visitation or climate change [LE-FA-037, LE-FA-049].
- Undertake a survey of remnant vegetation in the Northampton block where populations of tammar wallaby (*Notamacropus eugenii derbianus*) were known to occur in the 1990s to identify presence/absence [LE-FA-082].
- Monitor the population and distribution of black-flanked rock-wallaby (*Petrogale lateralis lateralis*) in the gorge of Kalbarri National Park to determine the success of the supplementation contribution to the recovery of the species [LE-FA-048].
- Develop a monitoring program plan for Bernier and Dorre Island populations of western barred bandicoot (*Perameles bougainville*) [LE-FA-021] and Shark Bay mouse, Djoongari (*Pseudomys fieldi*) following handover of the project to the region from the Dirk Hartog Island National Park Ecological Restoration Project team [LE-FA-025].
- Continue monitoring programs for Shark Bay mouse, Djoongari (*Pseudomys fieldi*) translocated populations at Dirk Hartog Island, Lagoon Point, Bernier Island and source populations at North West Island [LE-FA-044].
- Determine the role that rabbits have in causing habitat changes that influence the trajectory of thick-billed grasswren (*Amytornis textilis textilis*) [LE-FA-077].
- Survey and monitor islands within the Jurien Bay Marine Park that contain potential habitat for common noddy (*Anous stolidus*) to identify new breeding sites to inform management measures [LE-FA-057].

- Manage visitor access during the critical nesting period of common noddy (*Anous stolidus*) in late spring/summer on Pelsaert Island in the Houtman Abrolhos Islands National Park [TA-FA-200].
- Continue to monitor Australian lesser noddy (*Anous tenuirostris melanops*) and include in routine surveys to assess changes to population ranges [LE-FA-022].
- Install a hide at Morley Island to enable opportunities for recreational visitors to view Australian lesser noddy (*Anous tenuirostris melanops*) without impacting breeding success [TA-FA-196].
- Undertake monitoring of malleefowl (*Leipoa ocellata*) using cameras and monitor mounds in Kalbarri National Park as part of the national adaptive management program [LE-FA-020].
- Undertake LIDAR surveys of potential habitat for new mounds of malleefowl (*Leipoa ocellata*). Survey for and monitor mounds across the Gascoyne District, particularly at Peron Peninsula and across the Turquoise Coast District, particularly Pinjarrega Nature Reserve, Beekeepers Nature Reserve and Watheroo National Park and integrate into fire management for autumn prescribed burning and excluding spring fire prescriptions [LE-FA-071].
- Map the known nesting locations of eastern osprey (*Pandion cristatus*) in the Houtman Abrolhos Islands National Park for inclusion into land use application processes [LE-FA-055].
- Map current nesting sites of eastern osprey (*Pandion cristatus*) and ensure data is added to the corporate dataset [LE-FA-065].
- Develop a survey plan for night parrot (*Pezoporus occidentalis*) in potential old spinifex habitat at Kennedy Range National Park plateau and determine other areas with suitable habitat to undertake surveys [LE-FA-080].
- Undertake a population monitoring program to determine the trajectory of the population and how the main populations of brush bronzewing (Abrolhos subpopulation, *Phaps elegans*) interact [LE-FA-062].
- Install signage and fencing and/or have seasonal beach closures to control visitor access (vehicles, dogs) at key defendable breeding sites for fairy tern (*Sternula nereis nereis*) in their breeding season across the Midwest, Pilbara, South West, Swan and Warren regions [TA-FA-223].
- Evaluate the need for and implement appropriate techniques to create new breeding sites for fairy tern (*Sternula nereis nereis*) where deemed necessary to maintain viable breeding sites [TA-FA-346].
- Ensure sightings of hooded plover (*Thinornis cucullatus*) are recorded and reported in the region [LE-FA-076].
- Undertake monitoring of Carnaby's black cockatoo (*Zanda latirostris*) at Chapman Valley to determine the movements of this population and its relation to other populations [LE-FA-053].

- Undertake a survey of Carnaby's black cockatoo (*Zanda latirostris*) that nest on the Murchison River combined with a population study to determine the movements of this population and its relation to other populations [LE-FA-046].
- Assess the risk of competition for Carnaby's black cockatoo (*Zanda latirostris*) nesting hollows posed by feral bees and corellas along the Murchison River [LE-FA-018].
- Undertake nesting hollow repair at known breeding sites for Carnaby's black cockatoo (*Zanda latirostris*) and supplement hollow availability by installing and maintaining artificial nest hollows across the Midwest, South Coast, Swan, Warren and Wheatbelt regions [TA-FA-351].
- Undertake combined monitoring of sea temperatures and loggerhead sea turtle (*Caretta caretta*) abundance and distribution to inform management actions [LE-FA-035].
- Investigate the impacts of light pollution (from vessels) to loggerhead sea turtle (*Caretta caretta*) hatchlings at Turtle Bay (Shark Bay Marine Park/Dirk Hartog Island National Park) and determine appropriate mitigation strategies [LE-FA-073].
- Develop and implement a monitoring program (such as cameras in burrows) to determine population trends and trajectories, distribution and threats to Yinnietharra rock-dragon (*Ctenophorus yinnietharra*) [LE-FA-027].
- Implement a monitoring program for Lancelin Island skink (*Ctenotus lancelini*) with defined time intervals for surveying [LE-FA-019].
- Implement a monitoring program to determine the population status and trajectory of Hamelin Pool ctenotus (*Ctenotus zastictus*) including investigating the impact of fire [LE-FA-063].
- Develop survey methodology for application by departmental staff and consultants for common slender bluetongue (*Cyclodomorphus branchialis*) to facilitate appropriate input to environmental impact assessments [LE-FA-068].
- Implement a monitoring program to determine population trends and trajectories across their range for:
    - western spiny-tailed skink (*Egernia stokesii badia*) [LE-FA-060, LE-FA-064]
    - western spiny-tailed skink (*Egernia stokesii stokesii*) [LE-FA-045]
    - stripe-sided robust slider (*Lerista axillaris*) [LE-FA-079]
    - Jurien Bay skink (*Liopholis pulchra longicauda*) [LE-FA-070]
    - western bearded dragon (*Pogona minor minima*) [LE-FA-069].
- Implement an education campaign focusing on the appropriate movement of commercial and private vessels to minimise impacts to whale shark (*Rhincodon typus*) across the Midwest Region [TA-FA-161].
- Monitor whale shark (*Rhincodon typus*) at Shark Bay and other known aggregation sites outside Ningaloo Reef [LE-FA-078].
- In consultation with experts, develop survey methodology for application by departmental staff to investigate the full distribution of the trapdoor spider nigrum–group (*Idiosoma* spp.). Investigate DNA techniques for non-destructive burrow sampling, for example swabbing silk or eDNA of soil [LE-FA-007, LE-FA-008, LE-FA-015, LE-FA-016, LE-FA-023, LE-FA-024, LE-FA-032, LE-FA-033, LE-FA-034, LE-FA-084].

- Determine the likely impact of increased recreational activity including off track driving and camping on northern shield-backed trapdoor spider (*Idiosoma clypeatum*) [LE-FA-072] and ornate shield-backed trapdoor spider (*Idiosoma formosum*) [LE-FA-058].
- Evaluate the threats that altered hydrology and vegetation clearing have on the conservation status of Dandaragan Plateau shield-backed trapdoor spider (*Idiosoma dandaragan*) [LE-FA-047].
- Survey for additional Mount Lesueur shield-backed trapdoor spider (*Idiosoma gardneri*) populations [LE-FA-030].

**Liaison actions*

- Liaise with commercial tourism operators to ensure an understanding of and compliance with interaction guidelines, to minimise any potential impacts on Australian sea lion (*Neophoca cinerea*) [TA-FA-155].
- Implement and publicise enforcement programs to counter illegal taking of Carnaby's black cockatoo (*Zanda latirostris*) through shooting throughout its range (South Coast, South West, Swan, Warren and Wheatbelt regions) [TA-FA-350].

**Proposed/new translocations*

- Implement the Reinvigorating Peron Peninsula Fauna Recovery and the Kalbarri National Park Fauna Recovery plans.

FLORA

- Identify a suitable *Acacia aprica* population to undertake adaptive management disturbance trials including a high intensity prescribed burn to induce recruitment [LE-FL-158].
- Implement an adaptive management program to determine an appropriate fire regime for *Acacia cummingiana* and to investigate other methods of disturbance [LE-FL-163].
- Implement an adaptive fire management trial to determine suitable fire interval for *Acacia forrestiana* for populations in Lesueur National Park (portion of populations 3 and 10), using medium to high intensity fire in small areas [TA-FL-387].
- Investigate *Acacia nodiflora* distribution [LE-FL-077].
- Implement an adaptive fire management trial to determine a suitable fire interval for *Acacia retrorsa* population at Lesueur National Park, using medium to high intensity fire in small areas [TA-FL-603].
- Implement an adaptive fire management program at population 1A of *Andersonia gracilis* in Wongonderrah Nature Reserve to establish an appropriate fire regime [TA-FL-172].
- Determine and implement an appropriate fire regime for *Banksia catoglypta* particularly in Lesueur National Park and Alexander Morrison National Park [LE-FL-160].
- Determine the response of *Caladenia barbarella* to fire [LE-FL-157].

- Implement a prescribed burn at population 12 of *Caladenia drakeoides* in Capamauro Nature Reserve to stimulate recruitment [TA-FL-189].
- Conduct more extensive survey along Murchison River to build a more comprehensive dataset including recording new populations and determining current extent of *Caladenia wanosa* [LE-FL-040].
- Implement an adaptive fire management program trialling moderate to high intensity fire in small patches in Burma Road Nature Reserve containing *Conostylis dielsii* subsp. *teres* populations 3, 6, 7 and 8, inclusive of herbivore control (rabbits and kangaroos) and weed management [TA-FL-411].
- Implement an adaptive fire management program trialling moderate to high intensity fire in small patches in Burma Road Nature Reserve containing a portion of *Conostylis micrantha* (populations 7, 9, 10 and 11) [TA-FL-415].
- Implement an adaptive management trial to determine the most suitable fire regime for *Darwinia chapmaniana* by carrying out a small-scale prescribed burn at a portion of the populations in Pinjarrega Nature Reserve (populations 1B, 1C, 1E, 2A and 3). Exclude remaining *Darwinia chapmaniana* populations in Pinjarrega Nature Reserve from prescribed burning until fire response is determined and a suitable fire regime can be implemented [TA-FL-417].
- Undertake an adaptive management trial to introduce supplementary *Daviesia bursarioides* seed to existing population 6B to build a seed bank and subsequently introduce fire or mechanical disturbance. Utilise findings to determine and implement an appropriate disturbance regime to balance the seed/growing phases [LE-FL-162].
- Monitor all known *Daviesia dielsii* populations to identify a suitable population to implement a regeneration trial that utilises fire and mechanical disturbance [LE-FL-156].
- To better understand extent, numbers and threats, train Aboriginal ranger groups to undertake survey, monitoring and collections of *Eremophila buirchelli* [LE-FL-062] and *Eremophila compacta* subsp. Kennedy Range (B. Buirchell BB 107) [LE-FL-063].
- Undertake a prescribed burn to population 16 in the Midwest Region and population 23 in the Wheatbelt Region of *Eremophila viscida* to stimulate recruitment at extinct sites. Follow up with herbivore and weed control as required [TA-FL-165].
- Supplement translocated *Eucalyptus cuprea* population at North Moresby Range Conservation Park with approximately 200 plants to increase population size [TA-FL-416].
- Investigate the insect species targeting *Eucalpytus impensa* and explore options to reduce impact [LE-FL-116].
- Determine Phytophthora dieback susceptibility and map location of disease in proximity to *Eucalyptus subarea* populations [LE-FL-084].
- Undertake drone survey of Coomallo Nature Reserve to identify additional *Eucalyptus suberea* populations and determine current distribution [LE-FL-096].

- Investigate the potential *Gastrolobium appressum* occurrence at Watheroo National Park for populations post-burn and monitor for Phytophthora dieback as impacts appear [LE-FL-139].
- Implement an adaptive fire management trial to determine suitable fire interval for *Geleznowia amabilis* by prescribed burning a portion of populations in Kalbarri National Park at Red Bluff and Meanarra Hill during autumn, and exclude grazers (rabbits and feral goats) from the populations [TA-FL-608].
- Implement an adaptive fire management program in South Eneabba Nature Reserve to determine an appropriate fire regime that promotes recruitment in senescent *Grevillea althoferorum* subsp. *althoferorum* population 3 and two other populations [TA-FL-432].
- Undertake an assessment to determine the most suitable population of *Grevillea christineae* for an adaptive fire management trial based on factors such as land tenure, remnant size and habitat condition. Trial prescribed burning and mechanical disturbance to stimulate recruitment. Follow up with herbivore, stray sheep and weed management as required [LE-FL-153].
- Implement an adaptive fire management trial to determine suitable fire interval for *Grevillea delta* for the population in Lesueur National Park, using medium to high intensity fire in small areas. Implement feral pig control and exclusion via fencing [TA-FL-607].
- Undertake small-scale prescribed burns adjacent to translocated *Grevillea humifusa* populations in Coomallo Nature Reserve (population 4) and Hill River and induce recruitment of soil stored seed from those populations [TA-FL-438].
- Identify the insect sap sucker that is affecting populations 1,2,3,4 and 7 of *Grevillea murex* and investigate control methods [LE-FL-053].
- Monitor *Lasiopetalum decoratum* populations post-fire and utilise findings to determine appropriate fire regime [LE-FL-154].
- Implement an adaptive fire management program trialling moderate to high intensity fire in small patches in Burma Road Nature Reserve containing *Lechenaultia longiloba* populations A and B, inclusive of herbivore control (rabbits and kangaroos) and weed management [TA-FL-602].
- Implement a prescribed burn through three unassigned populations of *Lyginia excelsa* in Badgingarra National Park that are senescing [TA-FL-605].
- Implement a prescribed burn through *Patersonia spirifolia* populations 1 and 5 in and around Badgingarra National Park that are senescing [TA-FL-457].
- Augment translocated population *Schoenia filifolia* subsp. *subulifolia* Coalseam Conservation Park with seed from the seed orchard to build mature individuals within the population [TA-FL-465].
- Implement an adaptive management trial to determine suitable fire interval for *Stylidium strigosum* populations on Lesueur National Park, using medium to high intensity fire in small areas [TA-FL-609].

- Implement a watering trial at Wilroy Nature Reserve to determine the impacts of a drying climate on *Stylidium wilroyense* and to inform watering requirements [LE-FL-034].
- Implement an adaptive management program to determine suitable fire regimes utilising extant and extinct *Styphelia obtecta* populations [LE-FL-152].
- Monitor:
  - all known *Acacia anarthros* populations to determine status [LE-FL-145]
  - all known *Acacia burrowsiana* populations to determine status [LE-FL-044]
  - all known *Acacia filifolia* populations to determine status [LE-FL-147]
  - all known *Acacia formidabilis* populations to determine status [LE-FL-114]
  - *Alyxia tetanifolia* populations to determine current threatening processes [LE-FL-141]
  - *Banksia dallanneyi* subsp. *pollosta* populations and assess the threats to inform management requirements [LE-FL-104]
  - *Beaufortia eriocephala* populations post-fire [LE-FL-097]
  - *Beyeria lapidicola* populations to determine threatening processes [LE-FL-056]
  - all known *Bossiaea* sp. Jackson Range populations to determine status [LE-FL-105]
  - *Caladenia barbarella* populations 12 and 13 to determine status [LE-FL-102]
  - all known *Chamelaucium* sp. Warriedar populations to assess status and current threatening processes [LE-FL-099]
  - all known *Conospermum densiflorum* subsp. *unicephalatum* populations to determine status [LE-FL-075]
  - all known *Conostylis pauciflora* subsp. *euryrhipis* populations [LE-FL-143]
  - *Darwinia acerosa* populations to inform management requirements [LE-FL-120]
  - all known *Darwinia chapmaniana* populations to determine issues associated with changed hydrology [LE-FL-089]
  - all known *Drosera bulbosa* subsp. *coronata* populations and assess status [LE-FL-038]
  - *Eremophila rigida* to determine species extent and population numbers [LE-FL-111]
  - *Eremophila vernicosa* populations and investigate their response to rainfall events [LE-FL-159]
  - *Eremophila viscida* populations and investigate their response to rainfall events [LE-FL-161]
  - all known *Eucalyptus crispata* populations to determine status and potential management actions [LE-FL-100]
  - the recovery of *Eucalyptus cuprea* that fell over during cyclone Seroja [LE-FL-071]
  - *Eucalyptus pruiniramis* populations to determine current threatening processes [LE-FL-083]
  - *Eucalyptus* x *carnabyi* populations to determine current threatening processes [LE-FL-138]
  - *Eucalyptus macrocarpa* x *pyriformis* populations to determine current threatening processes [LE-FL-130]
  - all known *Eucalyptus rhodantha* var. x *petiolaris* populations to determine if species is reproducing and to inform management requirements [LE-FL-119]
  - *Fitzwillia axilliflora* populations to determine current threatening processes [LE-FL-126]

- *Frankenia conferta* populations to determine current threatening processes [LE-FL-106]
- *Frankenia glomerata* populations to determine current threatening processes [LE-FL-142]
- all known *Gastrolobium rotundifolium* populations [LE-FL-115]
- *Goodenia arthrotricha* populations to determine current threatening processes [LE-FL-068]
- *Grevillea althoferorum* subsp. *althoferorum* population in South Eneabba Nature Reserve to determine extent [LE-FL-042]
- *Grevillea kirkalocka* and undertake training of Badimia rangers to facilitate survey and understanding of threatening processes [LE-FL-030]
- *Grevillea saccata* populations to determine current threatening processes [LE-FL-124]
- all known *Guichenotia quasicalva* populations to assess status and current threatening processes [LE-FL-095]
- all known *Gymnanthera cunninghamii* populations to assess status and current threatening processes [LE-FL-128]
- all known *Haemodorum loratum* populations to determine management requirements [LE-FL-123]
- *Haloragis platycarpa* population 2 to inform management requirements, particularly the need for disturbance to stimulate recruitment [LE-FL-036]
- all known *Hemiandra* sp. Watheroo (S. Hancocks 4) populations to assess status and current threatening processes [LE-FL-146]
- all known *Hibbertia leptotheca* populations to assess status and current threatening processes [LE-FL-135]
- all known *Hypocalymma gardneri* populations to assess status and current threatening processes [LE-FL-122]
- all known *Hypocalymma tetrapterum* populations to assess status and current threatening processes [LE-FL-125]
- all known *Lasiopetalum rupicola* populations to assess status and current threatening processes [LE-FL-031]
- all known *Lechenaultia galactites* populations to determine status and current threatening processes [LE-FL-121]
- *Lepidium merrallii* populations and assess threats in collaboration with Badimia rangers [LE-FL-091]
- all known *Leptospermum exsertum* populations to assess status and current threatening processes [LE-FL-041]
- *Minuria tridens* populations and liaise with the herbarium regarding specimens given the disjunct populations [LE-FL-074]
- all known *Owenia acidula* populations to assess status and current threatening processes [LE-FL-140]
- all *Paracaleana dixonii* populations post-fire [LE-FL-155]
- all known *Persoonia pungens* populations to assess status and current threatening processes [LE-FL-132]
- all known *Persoonia rudis* populations to assess status and current threatening processes [LE-FL-136]

    - existing *Ptilotus mitchelli* populations and assess status [LE-FL-033]
    - *Schoenia fillifolia* subsp. *subulifolia* population 3 in Yandanooka to determine extent [LE-FL-043]
    - all known *Scholtzia* sp. Geraldton populations to assess status and current threatening processes [LE-FL-107]
    - all known *Scholtzia longipedata* subsp. *procera* populations to assess status and current threatening processes [LE-FL-117]
    - all known *Scholtzia thinicola* populations to assess status and current threatening processes [LE-FL-050]
    - all known *Spirogardnera rubescens* populations to determine population size and distribution [LE-FL-069]
    - all known *Stylidium pendulum* populations to determine extent and current threatening processes and revise listing where appropriate [LE-FL-054]
    - all known *Stylidium pseudocaespitosum* populations to determine extent [LE-FL-061]
    - all known *Stylidium torticarpum* populations to determine extent, inform management and reassess listing of the species [LE-FL-129]
    - *Thyptomene wittweri* populations on Mount Augustus with Aboriginal rangers to determine extent and condition and assist with ranger skill development. [LE-FL-076].
- Survey:
    - population 1 of *Chamelaucium* sp. Bunjil (M.E. Ballingall 1970) to determine current threats [LE-FL-070]
    - *Eremophila sargentii* populations and reassess threats, and apply findings to inform management requirements [LE-FL-098].
- Survey for additional:
    - *Acacia recurvata* populations [LE-FL-045]
    - suitable habitat for *Andersonia gracilis* populations [LE-FL-079]
    - *Beaufortia eriocephala* populations [LE-FL-035]
    - populations of *Caladenia bigeminata* on private properties [LE-FL-088]
    - *Caladenia pluvialis* populations [LE-FL-039]
    - C*onospermum densiflorum* subsp. *unicephalatum* populations [LE-FL-087]
    - *Conostylis pauciflora* subsp. *euryrhipis* populations [LE-FL-144]
    - *Eremophila lanata* populations [LE-FL-057]
    - *Eremophila margarethae* subsp. straight sepals populations [LE-FL-066]
    - *Eremophila occidens* populations in areas of suitable habitat [LE-FL-058]
    - *Eremophila rigida* populations [LE-FL-112]
    - *Eucalyptus crispata* populations in Boothendarra Nature Reserve [LE-FL-049]
    - *Eucalyptus johnsonia* populations off the edge of Brand Highway to determine if distribution is larger than previously thought [LE-FL-082]
    - *Eucalyptus jutsonii* subsp. *kobela* populations to determine species extent and utilise findings to inform further management and translocation requirements [LE-FL-072]
    - *Euryomyrtus recurva* populations [LE-FL-131]

- *Gastrolobium hamulosum* populations in Watheroo National Park based on records in surrounding areas [LE-FL-103]
- *Glyceria drummondii* populations [LE-FL-073]
- *Gnephosis cassiniana* populations [LE-FL-134]
- *Hypocalymma tenuatum* populations in the area between Lesueur National Park and Hi Valee [LE-FL-078]
- *Lechenaultia chlorantha* populations in suitable habitat across Kalbarri National Park [LE-FL-032]
- *Lepidium merrallii* populations in collaboration with Badimia rangers [LE-FL-092]
- *Platysace ramosissima* populations [LE-FL-137]
- *Ptilotus andersonii* populations [LE-FL-037]
- *Ptychosema pusillum* populations [LE-FL-060]
- *Thelymitra stellata* populations [LE-FL-055]
- *Verticordia huegelii* var. *tridens* populations [LE-FL-110]
- *Verticordia venusta* populations [LE-FL-133].

ECOLOGICAL COMMUNITIES

- Complete Threatened Ecological Community (TEC) report forms for unrecorded occurrences of Banksia dominated woodlands of the Swan Coastal Plain [LE-EC-013].
- Undertake hydrological monitoring through bores for salinisation and other water quality parameters in the north of the Bentonite Lakes to understand if hydrological regimes are stabilising or improving and their impacts on the Bentonite Lakes [LE-EC-008].
- Survey Herbaceous plant assemblages on bentonite lakes as originally described by Griffin and Associates (1991) ecological community occurrence Bent38 and remap the occurrence to inform if management is required or if it no longer meets listing [LE-EC-012].
- Rehabilitate the Mount Karara/Mungada 19 occurrence of the Blue Hills (Mount Karara/Mungada Ridge/Blue Hills) vegetation complexes (banded ironstone formation) by infill planting, direct seeding and implementing earth works such as erosion mitigation where necessary [TA-EC-122].
- Compile data and evaluate the fire response of the Eucalypt woodlands of WA Wheatbelt community to determine the outcome of past fire events and determine whether burning is appropriate [LE-EC-020].
- Resurvey quadrats in the Ferricrete floristic community to inform condition [LE-EC-006].
- Survey and monitor the Inering System (plant assemblages that vary across the landscape centred on the Inering Hills) to understand status, previous decline and impacts from grazing and climate change [LE-EC-010].
- Liaise with landholders and traditional owners to determine suitable fire regimes for surrounding landscapes to protect the Cattle Pool [LE-EC-016], Mibbey Pool [LE-EC-017] and Yinnetharra Pool [LE-EC-018] invertebrate assemblages from frequent fire.
- Determine an appropriate fire regime and apply findings to a fire management plan for Lesueur-Coomallo Floristic Community D1 as originally described by Griffin and Hopkins (1990) (1990) [LE-EC-021], Lesueur-Coomallo Floristic Community DFGH [LE-EC-022],

Lesueur-Coomallo M2 [LE-EC-023] and *Petrophile chrysantha* low heath on Lesueur dissected uplands (Gp200-170) communities [LE-EC-024].

- Work with Yamatji Traditional Owners to implement feral goat control on UCL at Karara Rangeland Park (ex Warriedar and ex Lochada) for occurrence MNJR03 of the Minjar and Chulaar Hills vegetation complexes (banded ironstone formation) [TA-EC-142].
- Work with the Yinggarda Traditional Owners and rangers to:
  - remove the cattle troughs at the Birdrong Spring occurrence of the Springs of the Western Kennedy Ranges (Mooka) community [TA-EC-150]
  - map and control *Phoenix dactylifera* and other weeds as required at the Mooka Spring occurrence of the Springs of the Western Kennedy Ranges (Mooka) community [TA-EC-147]
  - implement a feral goat control program at the Mooka Spring occurrence of the Springs of the Western Kennedy Ranges (Mooka) community and construct and maintain a fence to exclude straying stock from the occurrence [TA-EC-148].
- Undertake condition surveys and identify threats at occurrence Moonagin7/8. Link the survey results to GIS vegetation analysis and compositional change models across all occurrences of the Moonagin System [LE-EC-011].
- Undertake a condition survey at all occurrences of Plant assemblages of the Billeranga System as originally described in Beard (1976) to inform condition, cause of decline and management needs [LE-EC-009].

LANDSCAPES

- Undertake effective management of the apiary industry in:
  - Beekeepers landscape [LA-051]
  - Southern Coastal reserves [LA-195]
  - South Eneabba Nature Reserve [LA-186].

ALTERED HYDROLOGY

- Engage a hydrological consultant and undertake landscape restoration works following Ecological Management Understanding principles:
  - around wetlands of the agricultural zone [LA-017]
  - to restore ecosystem health in Barnarbinmah Conservation Park [LA-037]
  - to reduce the extent and intensity of degradation of vegetation associations on Karara Rangeland Park [LA-123]
  - across the rangelands and undertake a monitoring program in wetlands [LA-172, LA-173].

DISEASE

- Manage access of vehicles and people, educate visitors and install mitigation devices to reduce spread of *Phytophthora* species, and undertake regular survey to determine location/boundaries of disease infestation, in the following:
  - Lesueur Coomallo landscape [LA-134]
  - Namming Reserves [LA-159]
  - South Eneabba Nature Reserve [LA-183]
  - Southern Coastal reserves [LA-189].
- Develop and implement a plant disease surveillance and monitoring schedule in the:
  - larger reserves of the agricultural zone [LA-027]
  - East Yuna landscape [LA-080]
  - Kalbarri National Park [LA-111]
  - Moresby Ranges [LA-147].
- Develop and implement a plant disease surveillance and monitoring schedule around wetlands of the agricultural zone [LA-019].
- On Beekeepers Nature Reserve, manage access of vehicles and people, educate visitors and install mitigation devices to reduce Phytophthora dieback. Regularly survey to determine location of disease infestation [LA-046].
- Develop and implement a plant disease surveillance and monitoring schedule for Wandana Nature Reserve [LA-206].
- Implement strict Phytophthora dieback controls to prevent the spread of disease and reduction in quality of key habitat for Mount Lesueur shield-backed trapdoor spider (*Idiosoma gardneri*) [TA-FA-021].
- Continue to undertake Phytophthora dieback interpretation and mapping surveys at a regular interval to protect Mount Lesueur shield-backed trapdoor spider (*Idiosoma gardneri*) habitat [LE-FA-059].
- Monitor for dieback symptoms and sample *Eremophila glabra* subsp. *chlorella* as required [LE-FL-090].
- Survey for *Phytophthora* species to determine which species is causing disease and impacting *Eucalpytus impensa* and liaise with land managers and infrastructure owners to prevent spread to uninfested sites [LE-FL-113]
- Map Phytophthora dieback locations in the vicinity of *Eucalyptus x balanites* populations and determine level of threat from road maintenance activities [LE-FL-059].
- Undertake Phytophthora dieback mapping in the vicinity of *Thelymitra pulcherrima* populations to ensure there is no introduction to critical habitat causing decline in habitat health [LE-FL-085].

ENVIRONMENTAL IMPACT ASSESSMENT AND ADVICE

- At the Houtman Abrolhos Islands National Park, ensure impacts from development on high value vegetation assets, such as mangroves, are avoided or mitigated through appropriate measures when reviewing development applications [LA-004].

- Liaise with industry to obtain *Eremophila* sp. Meekathara monitoring data [LE-FL-064].
- Review industry flora survey reports and assess threats to *Meionectes tenuifolia* populations [LE-FL-094].
- Monitor the Koolanooka Hills population of *Melaleuca barlowii* to inform environmental impact assessment input and further management requirements [LE-FL-109].
- Liaise with industry to survey for *Ptychosema pusillum* and ensure they are aware of their requirements to avoid areas where the plant occurs during drilling and other disturbance operations [LE-FL-093].
- Monitor *Stylidium scintillans* populations across exploration areas and assess regeneration. Utilise findings to inform how the species responds to disturbance and determine the impact of mining exploration [LE-FL-051].
- Evaluate erosion issues and undertake a hydrological assessment to determine any adverse ecological impacts to Mooka Spring [LE-EC-007].

**Liaison actions*

- Ensure effective input into regulatory processes (environmental impact assessment and land use planning) and rehabilitation and offset requirements and responsibilities within:
  - Beekeepers landscape [LA-044, LA-048]
  - Namming Reserves [LA-163]
  - Southern Coastal reserves [LA-192]
  - South Eneabba Nature Reserve [LA-185]
  - Watheroo - Pinjaregga landscape [LA-213, LA-218].
- Continue liaison with relevant stakeholders about their obligations under any approval and the *Biodiversity Conservation Act 2016* regarding management practices that may impact on the freshwater spring in Beharra Springs Nature Reserve [LA-055].
- Ensure effective input into industry regulation and land use planning regulatory processes in South Eneabba Nature Reserve [LA-181].
- Increase the level of input into industry regulation and land use planning regulatory processes in the Wilson - Wotto landscape [LA-221].

FIRE REGIMES

- Implement appropriate fire management regimes:
  - around wetlands within priority reserves or landscapes of the agricultural zone providing for species-specific parameters for species identified as high priority [LA-011]
  - for species-specific parameters in the Burringurrah landscape [LA-151]
  - based on species-specific parameters to improve regeneration in the East Yuna landscapes [LA-076]
  - that caters for species-specific parameters around known fauna sites in Karara Block [LA-115]
  - that caters for species-specific parameters in Kennedy Range National Park [LA-124]

    - that caters for species-specific parameters of high priority species in the Moresby Ranges [LA-139].

- Develop a mosaic of fuel ages that reduces the likelihood of large bushfire and takes into account appropriate fire return intervals, consistent with the Midwest Region Fuel Management Plan, for the following reserves and landscapes:
    - Badgingarra National Park [LA-030]
    - Barnarbinmah Conservation Park [LA-033]
    - Beekeepers landscape [LA-045]
    - Burma Road Nature Reserve [LA-065]
    - Eastern Agricultural landscape [LA-086]
    - Karara Rangeland Park [LA-118]
    - across the rangelands [LA-168]
    - Southern Coastal reserves [LA-190]
    - Watheroo - Pinjaregga landscape [LA-211].
- Undertake fire mitigation on Peron Peninsula to prevent large scale fires and their impact on thick-billed grasswren (*Amytornis textilis textilis*) [TA-FA-045].
- Implement a fine scale fire mosaic in Kalbarri National Park to improve malleefowl (*Leipoa ocellata*) access to appropriate age class vegetation [TA-FA-051].
- Consider the requirements in prescribed burn planning of Carnaby's black cockatoo (*Zanda latirostris*) where nesting is known to occur or where wandoo is present across the Midwest Region including Coomallo Nature Reserve and Watheroo National Park [TA-FA-043].
- Implement fire management strategies that seek to minimise impacts from fire on likely habitat for the following species and locations until an appropriate fire regime is described:
    - Dandaragan Plateau shield-backed trapdoor spider (*Idiosoma dandaragan*) at Watheroo National Park [TA-FA-018].
    - Mount Lesueur shield-backed trapdoor spider (*Idiosoma gardneri*) in Lesueur National Park and Coomallo Nature Reserve [TA-FA-020].
    - Gutha Pintharuka shield-backed trapdoor spider (*Idiosoma gutharuka*) in small nature reserves within 50km of Gutha including Mount Mulgine in the Karara Rangeland Park [TA-FA-024].
- Implement fire management strategies that seek to minimise impacts from fire on:
    - *Caladenia wanosa* populations in Kalbarri National Park (populations 3, 4, 5, 8, 9, 10, 12, 21 and 23) between May and November [TA-FL-407].
    - *Drakaea concolor* populations in Kalbarri National Park (populations 1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 15, 17 and 18) between May and November [TA-FL-421].
    - population 5B of *Eremophila glabra* subsp. *chlorella* in South Eneabba Nature Reserve until signs of senescence and a suitable fire interval is determined. Apply finding from surveys at the Eneabba population for regeneration post-fire and apply findings to implement a trial to investigate a suitable fire interval [TA-FL-161].
    - red sandstone breakaway from prescribed burn areas in Kalbarri National Park to protect the habitat and populations of *Lechenaultia chlorantha* (populations 1, 2A and 4) from fire, until the fire response for this species is better known [TA-FL-449].

- Implement fire management strategies that seek to minimise impacts from prescribed burning within lateritic mesa tops and slopes where all known *Thelymitra pulcherrima* populations (populations 1, 2, 3, 4, 5, 6, 7 and 8) are found during the growth phase to avoid impacting individuals. Undertake prescribed burning in other habitats to protect the populations from frequent fire [TA-FL-476].
- Implement fire management strategies that seek to minimise impacts from fire on all *Thelymitra stellata* populations during autumn prescribed burns in the Midwest and Swan regions [TA-FL-154].
- Implement fire management strategies that involves prescribed burning vegetation adjacent to the Junga Dam and Z Bend occurrences of the Kalbarri ironstone community to reduce the threat of frequent bushfire and lengthen the fire interval within the community [TA-EC-135].

PEST ANIMALS

- Undertake fox and feral cat across the rangelands, including Karara Rangeland Park [LA-116] supported by regular ground baiting [LA-167].
- Implement stage 1 the Transforming Wulybidi (Peron Penninsula) reconstruction project targeting control and eradication of feral cats [LA-098] and the eradication of feral goats [LA-094] in Francois Peron National Park. Continue feral animal control throughout the implementation of stages 2 and 3 of the project if required, as informed by monitoring.
- Implement targeted introduced predator control programs in:
  - Badgingarra National Park [LA-032]
  - Beekeepers landscape [LA-050]
  - Burringurrah landscape [LA-154]
  - Kennedy Range National Park [LA-129]
  - Lesueur Coomallo landscape [LA-138]
  - Namming Reserves [LA-162]
  - Watheroo - Pinjaregga landscape [LA-217].
- Implement a feral cat control program in Kalbarri National Park to reduce the impact of feral cats on chuditch *(Dasyurus geoffroii)* [TA-FA-149] and tammar wallaby (*Notamacropus eugenii derbianus*) [TA-FA-150]. Apply learnings to an adaptive management trial to confirm the most appropriate operational prescription for feral cat control in Kalbarri National Park.
- Continue regular monitoring, including the use of remote cameras, and maintenance of the Shell Beach introduced predator barrier fence infrastructure across the Peron Peninsula isthmus, and maintain introduced predator control programs along this fence. Undertake incursion monitoring programs incorporating remote sensor camera network across the peninsula, track and scat monitoring, and operational reports for the protection of translocated populations of greater bilby (*Macrotis lagotis*) [TA-FA-408].
- In the Peron Peninsula area north of the barrier fence where introduced predators are reduced, undertake feral goat control to improve habitat for malleefowl (*Leipoa ocellata*) on Peron Peninsula [TA-FA-053].

- Implement a control program for wild dogs and feral herbivores (including feral goats and feral pigs) across Beekeepers Nature Reserve, Pinjarrega Nature Reserve and Watheroo National Park to protect malleefowl (*Leipoa ocellata*) [TA-FA-052].
- Implement introduced predator control programs for rats, foxes and feral cats to protect key breeding sites for fairy tern (*Sternula nereis neris*) including on department-managed land or in liaison with LGAs across the Midwest, South West and Swan regions [TA-FA-071].
- Implement a monitoring plan to determine woma python (Southwest subpopulation, *Aspidites ramsayi*) populations. Based on findings, implement feral cat control to reduce the impact of introduced predators on the species [LE-FA-017].
- Plan and implement feral goat control programs in:
    - Barnarbinmah Conservation Park [LA-035]
    - Beharra Springs Nature Reserve [LA-053]
    - Burringurrah landscape [LA-152]
    - Kennedy Range National Park [LA-125, LA-128]
    - Namming Reserves [LA-158]
    - South Eneabba Nature Reserve [LA-182]
    - Southern Beekeepers Nature Reserve [LA-187].
- Undertake surveys and implement feral goat control as required on Karara Rangeland Park. Ensure Barnarbinmah goat exclusion fence is maintained [LA-034].
- Continue to implement a feral goat control program across the Peron Peninsula to reduce the impact of grazing on greater bilby (*Macrotis lagotis*) [TA-FA-263].
- Eradicate feral goats from Peron Peninsula to reduce the impact of grazing on western grasswren (*Amytornis textilis textilis*) [TA-FA-044].
- Implement feral goat control programs within approximately 300,000 hectares of known malleefowl (*Leipoa ocellata*) habitat within the conservation estate across the Midwest Region, with a focus on Kalbarri National Park [TA-FA-046].
- Implement a feral goat control program at Watheroo National Park in conjunction with neighbours to minimise the impact of grazing and trampling on key Dandaragan Plateau shield-backed trapdoor spider (*Idiosoma dandaragan*) [TA-FA-019] and Mount Lesueur shield-backed trapdoor spider (*Idiosoma gardneri*) [TA-FA-023] habitat.
- Implement a feral goat control program in Watheroo National Park to reduce grazing pressure on *Acacia aristulata* population 4 [TA-FL-386].
- Implement a feral pig and feral goat control program in Beekeepers Nature Reserve targeting *Acacia vittata* populations 1A, 1B, 3 and 5 [TA-FL-394].
- Implement a feral goat control program at Capamauro Nature Reserve to prevent disturbance to population 12 of *Caladenia drakeoides.* Consult with adjacent neighbours to encourage also undertaking feral goat control on their property [TA-FL-190].
- Implement feral goat control program to reduce grazing of *Darwinia chapmaniana* seedlings in Pinjarrega Nature Reserve populations 1B, 1C, 1E, 2A and 3 [TA-FL-418].

- Coordinate feral goat control by trapping and removal in Canna Nature Reserve with adjoining neighbours to limit grazing and disturbance to adjacent population 5 of *Gyrostemon reticulatus* [TA-FL-207].
- Exclude grazers (for example goats, rabbits and macropods) from the populations of *Lechenaultia chlorantha* at Red Bluff (1B) and the unassigned population (in breakaway in the south east) to determine the impacts on population numbers [TA-FL-454].
- Implement a targeted feral goat control program at Mount Singleton to maintain low goat numbers and reduce grazing pressure on *Micromyrtus ninghanensis* population 1 [TA-FL-455].
- Implement a feral goat control program across the Herbaceous plant assemblages on bentonite lakes community targeting occurrences within the Pinjarrega and Watheroo Nature reserves (Bent16, Bent 18Q6, Bent19, Bent20, Bent21, Bent22, Bent23, Bent24, Bent25, Bent26, Bent27, Bent28, Bent29, Bent34, Bent35, Bent36, Bent37, Bent38, Bent39, Bent40) [TA-EC-131].
- Implement targeted feral pig control programs to minimise impacts on high value areas in:
    - Beekeepers Nature Reserve [LA-042]
    - Burma Road Nature Reserve [LA-066]
    - Beharra Springs Nature Reserve [LA-054]
    - Moresby Ranges [LA-149]
    - Wandana Nature Reserve [LA-201, LA-205].
- Design and implement a feral pig control program to minimise impacts on threatened flora in the East Yuna, McGuaran, Bindoo and Indarra landscape [LA-077].
- Implement a feral pig control program at Lesueur National Park to minimise the impact of digging and predation on Mount Lesueur shield-backed trapdoor spider (*Idiosoma gardneri*) [TA-FA-022].
- Install fencing to exclude feral pigs from Junga Dam in Kalbarri National Park to protect population 7 of *Caladenia barbarella* and undertake feral pig control the surrounding area [TA-FL-398].
- Implement a feral pig control program around Badgingarra National Park for three unassigned populations of *Lyginia excelsa* to reduce disturbance and grazing [TA-FL-604].
- Implement a feral pig control program around Badgingarra National Park to protect *Patersonia spirifolia* populations 1 and 5 to reduce disturbance and eating of rhizome [TA-FL-456].
- Continue implementing a control program targeting feral pigs and rabbits in Burma Road Nature Reserve containing *Conostylis dielsii* subsp. *teres* populations 3, 6, 7 and 8 [TA-FL-412].
- Implement a control program targeting feral pigs and rabbits in Burma Road Nature Reserve containing *Conostylis micrantha* populations 7, 9, 10 and 11, including herbivore control (rabbits and kangaroos) and weed management [TA-FL-414].

- Continue implementing a control program targeting feral pigs and rabbits in Burma Road Nature Reserve containing *Lechenaultia longiloba* populations [TA-FL-601].
- Implement a feral pig control program in Bunney Road Nature Reserve and adjacent tenure (R12705) to reduce the impact of feral pigs on the 10 occurrences of the Assemblages of organic mound springs of the Three Springs area within the reserve (JB01, JB02, JB03, JB04, JB06, JB13, JB29, FloodedSedge, DenseSedges, 6) and the eight occurrences within 1km of the reserve (JB05, JB12, JB17, JB19, JB32, JB37, MSTS07a, MSTS10) [TA-EC-120].
- Implement a feral pig control program in Lesueur National Park to protect the following communities from trampling, grazing and potential dieback spread:
    - *Petrophile chrysantha* low heath on Lesueur dissected uplands community [TA-EC-143]
    - Lesueur-Coomallo floristic community DFGH [TA-EC-140]
    - M2:186, M2:194 and M1M2 occurrences of the Lesueur-Coomallo M2 community [TA-EC-141].
- Implement a feral pig control program in Wilson Nature Reserve to reduce the impact of feral pigs on one occurrence of the Assemblages of organic mound springs of the Three Springs area within the reserve (MSTS15a) and four occurrences within 1km of the reserve (MSTS (Yan02), MSTS14, Yan03, Yan04) [TA-EC-121].
- Plan and implement a rabbit control program along with fencing of specific high value flora populations/translocation sites in:
    - Barnarbinmah Conservation Park [LA-036]
    - Burma Road Nature Reserve [LA-067]
    - East Yuna landscape [LA-079]
    - Karara Rangeland Park [LA-119, LA-122]
    - Moresby Ranges [LA-145, LA-142]
    - across the rangelands [LA-169, LA-170]
    - South Eneabba Nature Reserve [LA-184]
    - Wandana Nature Reserve [LA-203, LA-202].
- Implement rabbit control within acacia shrublands in Francois Peron National Park [LA-096].
- Implement stages 1-3 of the Transforming Wulybidi (Peron Penninsula) reconstruction project by targeting the control and eradication of rabbits in Francois Peron National Park. Continue rabbit control throughout the implementation of stages 2 and 3 of the project if required, as informed by monitoring [LA-095, LA-097].
- Design and implement direct access and indirect control program for cattle around springs in the Burringurrah landscape [LA-150].
- Implement a large feral herbivore control program in the Burringurrah landscape as appropriate [LA-155].
- Plan and implement a large feral herbivore control program in Barnarbinmah Conservation Park [LA-039] and Karara Rangeland Park [LA-120].

- Plan and implement a large feral herbivore control program in Beekeepers Nature Reserve [LA-043].
- Plan and implement a feral herbivore control program on Karara Rangeland Park with neighbours that targets areas of high incursion by feral herbivores and areas of high conservation values [LA-117].
- Plan and implement a feral herbivore control program as appropriate in Kennedy Range National Park (LA-130].
- Design and implement a program to protect springs from large feral herbivores by fencing immediately around the springs to control access, and an indirect control program (fencing boundaries and removing waters) on Kennedy Range National Park and surrounding jointly managed land [LA-126].
- Plan a boundary fencing program with neighbours that targets areas of high incursion by feral herbivores and implement as resources allow across the rangelands reserves [LA-164].
- Implement a large feral herbivore control program to reduce impacts across the rangelands reserves [LA-165].
- Fence the Mooka Spring occurrence of the Springs of the Western Kennedy Ranges (Mooka) ecological community including buffering surrounding vegetation to prevent access by straying stock [TA-EC-146].
- Remove the concrete block at occurrence 'unnamed spring' of the Springs of the Western Kennedy Ranges (Mooka) ecological community and rehabilitate the site through fencing to reduce ungulate grazing. Implement weed control where reduced grazing pressure allows weeds to damage the viability of native species to regenerate [TA-EC-149].
- Determine the impact of stock and feral herbivores on northern shield-backed trapdoor spider (*Idiosoma clypeatum*) [LE-FA-028], ornate shield-backed trapdoor spider (*Idiosoma formosum*) [LE-FA-029] and Carnarvon shield-backed trapdoor spider (*Idiosoma incomptum*) [LE-FA-031] in areas that are intensively grazed compared to areas that experience straying stock and feral herbivore grazing at Karara Rangeland Park.
- Install fencing and/or signage of known threatened flora populations and translocations in the Moresby Ranges to prevent impacts from kangaroos and rabbits and inadvertent damage [LA-148].
- Implement a rabbit control program at East Yuna Nature Reserve to reduce grazing pressure and monitor population response to inform further rabbit management for:
    - population 2 of *Caladenia pluvialis* [TA-FL-406]
    - population 14 of *Caladenia wanosa* [TA-FL-408].
- Implement a control program for rabbits and feral pigs at East Yuna Nature Reserve to reduce grazing pressure on the population of *Caladenia longicauda* subsp. *minima* [TA-FL-606].

- Construct a fence to exclude herbivores from the single known *Leucopogon stokesii* population near Dalgooka Hill for stock (sheep) and rabbits [TA-FL-452].
- Construct fencing accompanied by signage to protect occurrence BNR01 of the Claypans with medium dense shrublands of *Melaleuca lateritia* over herbs from rabbits and remove rabbits from inside the fenced area as required in Bashford Nature Reserve [TA-EC-123].
- Determine the extent to which *Eucalpytus impensa* seedlings are grazed by native herbivores to inform fencing requirements [LE-FL-108].
- Survey recorded locations and nearby habitat for *Styphelia obtecta* to determine status. If any plants are found, protect from prescribed burning and grazing impacts. Search extinct population sites post burn to locate any recruits and protect from grazing [LE-FL-118].
- Monitor:
    - all known *Baeckea* sp. Billeranga Hills to assess the impacts of grazing [LE-FL-052]
    - all known *Darwinia polychroma* populations to determine current level of threat from rabbit grazing [LE-FL-047]
    - the impacts of caterpillars nesting in *Eucalyptus cuprea* foliage to inform required management interventions including controlling caterpillars and removal and burning of infected branches [LE-FL-101].
- Survey the Woolgorong Station *Eremophila mirabilis* populations and investigate the impact from feral herbivores to inform further management requirements [LE-FL-048].
- Implement a permanent camera and chew card biosecurity monitoring and rapid response program in the Houtman Abrolhos Islands National Park to detect and eradicate invasive species including mice and rats that will impact the following species:
    - Australian lesser noddy (*Anous tenuirostris melanops*) [TA-FA-191]
    - brush bronzewing (Abrolhos subpopulation, *Phaps elegans*) [TA-FA-189] and western bearded dragon (*Pogona minor minima*) [TA-FA-455]. This will include eradication of house mice on North Island.
    - western spiny-tailed skink (*Egernia stokesii stokesii*) [TA-FA-454].
- Undertake intensive baiting to remove house mice from North Island to facilitate reintroduction of the Abrolhos painted button-quail (*Turnix varius scintillans*) and establish monitoring on East and West Wallabi islands [LA-003].
- Develop and implement a biosecurity monitoring program for wedge-tailed shearwater (*Ardenna pacifica*) on West Wallabi and Pelsaert Islands, with a focus on rodent control if detected using chew cards and permanent camera monitoring. Implement biosecurity protocols for visitors, including fishing and commercial tourism activities, in the program [TA-FA-092].
- Develop and implement a biosecurity monitoring and rapid response program on islands in Jurien Bay to detect and eradicate invasive species including mice and rats that impact Jurien Bay skink (*Liopholis pulchra longicauda*). Includes eradication of existing house mice on Whitlock and Boullanger islands [TA-FA-456].

- Conduct goldfish management where surveys of pest species distribution across golden gudgeon (*Hypseleotris aurea*) habitat have indicated a threat to populations in the Murchison and Gascoyne rivers [TA-FA-085].
- Undertake a responsive silver gull management program informed by a monitoring program to protect common noddy (*Anous stolidus*) on Pelsaert Island in the Houtman Abrolhos Islands National Park and potentially Lancelin Island [TA-FA-067].
- Control corellas that occupy known Carnaby's black cockatoo (*Zanda latirostris*) nesting hollows at Coomallo Nature Reserve and through liaison with adjacent landholders [TA-FA-038].
- Develop and implement a mitigation strategy to reduce the impact of reintroduced mammal species on loggerhead sea turtle (*Caretta caretta*) nests and hatchlings in the Shark Bay Marine Park and Dirk Hartog Island National Park [LE-FA-038].

WEEDS

- Design and implement an integrated weed management program targeting environmental weed species as/where appropriate within:
  - larger reserves of the agricultural zone [LA-024]
  - wetlands of the Agricultural landscape [LA-015]
  - Badgingarra National Park [LA-031]
  - Barnarbinmah Conservation Park [LA-040]
  - Beekeepers landscape [LA-047]
  - Burringurrah landscape [LA-153]
  - East Yuna, Mcguaran, Bindoo and Indarra landscape [LA-081]
  - Houtman Abrolhos Islands National Park [LA-001]
  - Kalbarri National Park [LA-110]
  - Karara Rangeland Park [LA-121]
  - Kennedy Range National Park [LA-127]
  - Moresby Ranges [LA-146]
  - Namming Reserves [LA-160]
  - Southern Coastal reserves [LA-191]
  - Turquoise Coast [LA-197]
  - Wandana Nature Reserve [LA-204]
  - Watheroo - Pinjaregga landscape [LA-215].
- Implement weed control program targeting agricultural weed species in:
  - open shrubland and woodland vegetation and within complex braided drainage systems in the Eastern Agricultural landscape [LA-084]
  - the Wilson-Wotto landscape [LA-223].
- Design and implement a biosecurity surveillance program and eradicate priority exotic species if identified in permanent wetlands or water holes in priority reserves or landscapes of Midwest Region [LA-016].
- Implement a targeted weed control program for buffel grass within coastal shrubland of Bernier and Dorre Islands Nature Reserve. Increase surveillance and monitoring frequency post-rain events to improve eradication outcomes [LA-058].

- Continue to implement surveillance, monitoring and control programs for environmental weed species on Dirk Hartog Island National Park [LA-071, LA-072].
- Continue to implement an integrated weed management program where appropriate in Francois Peron National Park [LA-100].
- Undertake weed control in the Lesueur Coomallo landscape [LA-135].
- Eradicate *Lycium ferocissimum* and *Verbesina encelioides* from Houtman Abrolhos Islands National Park and Jurien Bay Marine Park to prevent degradation of nesting and roosting habitat of common noddy (*Anous stolidus*) [TA-FA-066].
- Eradicate *Lycium ferocissimum* and *Verbesina encelioides* from the Houtman Abrolhos Islands National Park to prevent degradation of nesting and roosting habitat for wedge-tailed shearwater (*Ardenna pacifica*) [TA-FA-079].
- Determine the impact of weeds such as Paterson's curse and ruby dock on habitat quality for northern shield-backed trapdoor spider (*Idiosoma clypeatum*) [LE-FA-054] and ornate shield-backed trapdoor spider (*Idiosoma formosum*) [LE-FA-040].
- Determine the impact of weeds and feral animals to known locations *of* Gutha Pintharuka shield-backed trapdoor spider (*Idiosoma gutharuka*) habitat and undertake control as required [LE-FA-042].
- Implement an adaptive management program trialling grass and broadleaf weed control on *Caladenia bryceana* subsp. *cracens* eastern end of the Von Bibra population on the southern boundary of Kalbarri National Park. Fence the area to exclude feral goats [TA-FL-403].
- Introduce biological control for Paterson's curse in Oakajee Nature Reserve containing *Caladenia hoffmanii* populations 5A, 8A, 8B and an unassigned population. [TA-FL-404].
- Implement a weed control program targeting *Mesembryanthemum crystallinum* at Pallotine Nature Reserve (R 51564) containing *Chamelaucium repens* populations and implement feral goat control where feral goat grazing is detected [TA-FL-409].
- Determine the appropriate weed control method or selective herbicide targeting *Gorteria personata* particularly at *Wurmbea tubulosa* populations in Mingenew (jam woodland) [LE-FL-065].
- Implement a weed control program targeting grasses within fenced area of population 5 of *Pterostylis sinuata* [TA-FL-458].
- Implement an adaptive management program in areas of Coalseam Conservation Park containing the translocated population 1 *Schoenia filifolia* subsp. *subulifolia* population. Trial a range of weed control techniques that protect plants while minimising off-target impacts. Also implement weed control at population 1 and unassigned populations [TA-FL-466].
- Introduce biological control for Paterson's curse in Coalseam Conservation Park to protect the translocated *Schoenia filifolia* subsp. *subulifolia* populations [TA-FL-469].

- Implement biological control for weeds targeting *Echium plantagineum* at Coalseam Conservation Park to reduce the impact of weeds on occurrence Coalseam01 of the Eucalypt woodlands of the Western Australian Wheatbelt [TA-EC-124].
- Map weeds at occurrence WhtWld84484 of the Eucalypt woodlands of the Western Australian Wheatbelt encompassed in Barrabarra Nature Reserve and implement subsequent control of *Mesembryanthemum crystallinum*, as well as Brassicaceae and grass species from neighbouring properties [TA-EC-126].

FLORA

**Proposed germplasm collection and storage priorities*

- Collect *Acacia unguicula* seed and translocate to other mountain peaks if additional survey confirms that the species is restricted to Mount Singleton.
- Collect seed from *Acacia vittata* populations.
- Collect seed from *Banksia fuscobractea* populations and translocate.
- Collect seed from *Banksia serratuloides* subsp. *perissa* populations.
- Collect seed, plant material and fungi from *Caladenia barbarella* populations.
- Collect seed and plant material from *Caladenia bigeminata* populations.
- Collect seed from *Caladenia bryceana* subsp. *cracens* populations.
- Collect *Caladenia wanosa* seed and fungal material as an insurance policy for the threat posed by a drying climate.
- Collect *Chorizema humile* seed to ensure translocations can proceed.
- Collect seed from *Eremophila scaberula* populations and translocate.
- Collect seed from *Eremophila subangustifolia* populations.
- Collect *Eucalyptus crucis* subsp. *praecipua* seed if there is not already viable seed in storage available to restock the population.
- Collect more *Eucalyptus cuprea* seed for availability in translocations.
- Collect *Eucalyptus dolorosa* seed, test viability and translocate after identifying appropriate sites such as Yandin Nature Reserve.
- Collect *Eucalyptus suberea* seed and test viability.
- Collect seed from *Grevillea althoferorum* subsp. *althoferorum* populations.
- Collect seed from *Grevillea batrachioides* populations and undertake additional translocations.

- Collect seed from *Grevillea bracteosa* subsp. *howatharra* populations.
- Collect *Grevillea calliantha* seed and translocate to suitable habitat.
- Collect seed from *Grevillea fililoba* populations.
- Collect *Grevillea murex* seed and translocate.
- Collect seed from *Gyrostemon reticulatus* populations.
- Confirm that *Hypocalymma longifolium* seed collection has been undertaken.
- Acquire *Lechenaultia chlorantha* seed for storage.
- Investigate *Lechenaultia chlorantha* pollination, seed production and viability to inform management and acquire seed for storage.
- Collect seed from *Leucopogon ntitidus* populations.
- Collect *Leucopogon stokesii* seed and undertake seed viability analysis to establish an insurance and consider translocating.
- Collect seed from *Ptilotus chortophytus* populations for translocations.
- Collect *Stylidium amabile* seed for storage and assess seed soil viability to inform translocations and further management.

FAUNA

- Liaise with stakeholders, such as community birdwatching groups, to access and consolidate thick-billed grasswren (*Amytornis textilis textilis*) survey data and occurrence records [LE-FA-083].
- Engage with the WA Seabird Conservation Network regarding feral management on the mainland and engage in any other preparation necessary to anticipate the southward movement of common noddy (*Anous stolidus*) [LE-FA-081].
- Collaborate with BirdLife Australia to improve data flow regarding surveying and monitoring work on red knot (*Calidris canutus*) [LE-FA-067] and hooded plover (*Thinornis cucullatus*) [LE-FA-066].
- Liaise with stakeholders in the Gascoyne District to access and consolidate malleefowl (*Leipoa ocellata*) survey data [LE-FA-075].
- Engage with stakeholders to establish a monitoring system for Australian painted snipe (*Rostratula australis*) in the claypans areas around Carnarvon where the construction of levees may have an impact [LE-FA-074].
- Liaise with stakeholders to access and consolidate Hamelin Pool ctenotus (*Ctenotus zastictus*) survey data [LE-FA-050].

*Education and awareness

- Implement an education program targeting primary producers to promote awareness of the impacts of illegal shooting to Carnaby's black cockatoo (*Zanda latirostris*) across its range in the Midwest, South Coast, South West, Swan, Warren and Wheatbelt regions [TA-FA-325].
- Implement an education campaign in collaboration with BirdLife Australia and the community in Chapman Valley and Kalbarri in relation to Carnaby's black cockatoo (*Zanda latirostris*) to reduce vegetation clearing, increase food plantings and increase reporting of sightings [TA-FA-040].
- Work with Wheatbelt Natural Resource Management [TA-FA-178] and the Northern Agricultural Catchment Council [TA-FA-452] to develop information products to engage landholders to retain fallen timber habitat for western spiny-tailed skink (*Egernia stokesii badia*) in woodland remnants across the Midwest and Wheatbelt regions.

FLORA

- Liaise with Adopt an Orchid:
  - to seek information to help determine status of *Caladenia bigeminata* [LE-FL-046]
  - regarding *Caladenia cristata* monitoring and threat assessment [LE-FL-080]
  - regarding *Caladenia drakeoides* monitoring and threat assessment [LE-FL-081]
  - to gather information relevant to *Caladenia pluvialis* population status [LE-FL-029].
- Liaise with stakeholders and private property owners to develop a coordinated approach to the management of reserves containing *Caladenia bryceana* subsp. *cracens* populations including access to populations and monitoring information [LE-FL-086].
- Liaise with stakeholders regarding coordinated management and access to *Caladenia wanosa* populations and information [LE-FL-067].
- Liaise with the relevant station owner to monitor *Eremophila anomala* populations [LE-FL-127].
- Liaise with industry stakeholders to survey the *Haegiela tatei* population and assess its importance in being the northern most population [LE-FL-164].
- Implement an adaptive fire management program that trials disturbance techniques using fire and machinery at *Hemiandra gardneri* at population 1, 4A and 4B [TA-FL-442].
- Organise a local media release to educate orchid enthusiasts in the Mogumber area of the Swan Region and throughout the Midwest Region to minimise vegetation trampling when visiting populations of *Thelymitra apiculata* [TA-FL-153].

*Liaison actions

- Liaise with the Pindiddy Aboriginal Corporation, Australian Wildlife Conservancy and Bush Heritage Australia to manage all populations (1, 2, 6, 7, 8, 9 and 10) of *Acacia imitans* including goat monitoring and goat control if required to mitigate grazing impacts [TA-FL-334].
- Liaise with private landholders to maintain and extend current fencing where required around *Acacia nodiflora* population 1 in the Billeranga System to exclude feral grazers (rabbits, cattle and goats). Assess population regeneration to inform further management [TA-FL-389].

- Liaise with Pindiddy Aboriginal Corporation to implement a targeted goat control program and define areas available for recreation including camping to reduce visitor impacts on *Acacia unguicula* population 1 at the summit of Mount Singleton [TA-FL-391, TA-FL-393].
- Implement an adaptive management program that trials fire (moderate to high intensity) and mechanical forms of disturbance targeting *Acacia vassalii* population 5C on Jock Well Nature Reserve to stimulate recruitment. Follow up with rabbit control through fencing at population 5C and implement grassy weed control as required at 5C and, through liaison with the LGA, at population 5A [TA-FL-270].
- Map Phytophthora dieback around all populations of *Andersonia gracilis* and liaise with land managers to implement appropriate hygiene management to limit the spread [TA-FL-171].
- Liaise with Main Roads and the LGA regarding road maintenance to ensure clearing and other activities do not impact *Androcalva bivillosa* populations 1, 2, 3, 4, 6 and 7 [TA-FL-395].
- Liaise with the LGA to exclude clearing activities along the verge of Binnue Road West where all known populations of *Baeckea sp.* Western Australia are located [TA-FL-397].
- Exclude prescribed fire from populations of *Caladenia barbarella* during non-dormant period on conservation estate (populations 3 and 7) and liaise with Bush Heritage Australia to encourage a consistent fire management approach (populations 4A, 4B, 5, 6, 8, 9, 10A, 10B, 11 and 14) [TA-FL-399].
- Liaise with the LGA and private property owner to implement a feral pig baiting program targeting all known *Caladenia bigeminata* populations (1 and 2) [TA-FL-401].
- Liaise with private property owners supporting populations 1, 2A, 2B, 7, 11, 17, 18A and 18B of *Caladenia drakeoides* to erect fencing to exclude grazing from livestock and goats [TA-FL-188].
- Liaise with the LGA to reduce the impact of road maintenance clearing on *Caladenia hoffmanii* populations 1B and 1F along the roadside near Howatharra Nature Reserve [TA-FL-405].
- In collaboration with the private property owners and LGAs, reconstruct *Chorizema humile* habitat inclusive of grassy weed removal using grass specific spray and exclusion of herbivores through the construction of fences at populations 2, 3, 4 and 5 [TA-FL-218].
- Liaise with the LGA to reconstruct *Chorizema humile* habitat inclusive of weed and grazing control, and implement disturbance at a scale dependent on informed data from a current site assessment in Shire Reserve R 23442 containing population 8 [TA-FL-219].
- Liaise with the LGA to minimise disturbance to *Conostylis micrantha* populations 1, 2, 5 and 6 on roadsides during road maintenance activities [TA-FL-413].
- Liaise with the Pindiddy Aboriginal Corporation, Australian Wildlife Conservancy and Bush Heritage Australia to manage all populations of *Darwinia masonii* inclusive of goat monitoring and goat control if required to mitigate grazing impacts [TA-FL-337].
- Liaise with the LGA and rail operator to fence the Midland Road populations 1 and 2 of *Darwinia polychroma* to reduce grazing impact from rabbits [TA-FL-419].
- Liaise with Main Roads, rail operator and LGAs to prevent disturbance from road maintenance or clearing in the vicinity of roadside populations of *Dasymalla axillaris* in the Midwest and Wheatbelt regions [TA-FL-203].

- Liaise with the LGA to maintain existing infrastructure (for example trails, barriers and signage) and increase patrols to exclude visitor disturbance to vegetation in the habitat of *Eremophila brevifolia* population 1A and 1B in Chapman River Regional Park [TA-FL-160].
- Liaise with landholders to exclude rabbit grazing from populations of *Eremophila koobabbiensis* through an adaptive management program to trial disturbance to regenerate senescing populations [TA-FL-610].
- Liaise with the property owners to fence population 1 of *Eremophila vernicosa* to exclude grazers [TA-FL-164].
- Liaise with the LGA to prevent damage to roadside *Eucalyptus crispata* population 5 during road maintenance activities [TA-FL-425].
- Liaise with the Pindiddy Aboriginal Corporation, Australian Wildlife Conservancy and Bush Heritage Australia to manage all populations (populations 1 and 2) of *Eucalyptus crucis* subsp. *praecipua* inclusive of goat monitoring and goat control if required to mitigate grazing impacts [TA-FL-447].
- Liaise with landholders to fence the remainder of *Eucalyptus cuprea* populations 1C, 7B, 7C, 11, 12 and 13 in paddocks. Plant suitable habitat species (approximately one hectare) around populations [TA-FL-427].
- Liaise with private property owner to manage access to sites where cattle are grazing by fencing population 7 of *Eucalyptus leprophloia* [TA-FL-429].
- Liaise with private property owners and infrastructure managers in Three Springs (populations 1, 2, 12 and 15), Moora (populations 3, 4, 5, 6, 7, 8, 9, 10, 11, 13B, 13C and 14) and Coorow (population 16) areas to support conservation of *Eucalyptus rhodantha* var. *rhodantha* [TA-FL-430].
- Liaise with the landholder regarding management and protection from grazing of the *Glyceria drummondii* Yandanooka population (population 4) with fencing [TA-FL-545].
- Install and maintain road markers and continue to liaise with LGAs whose lands support populations 2, 3A, 3B, 3C, 4, 6A, 7 & 8 of *Grevillea christineae* about weed control and appropriate methods of road maintenance to avoid disturbance [TA-FL-242].
- Install and maintain road markers and continue to liaise with the LGA whose land supports population 11 of *Grevillea drummondii* to implement weed control and appropriate methods of road maintenance to avoid disturbance [TA-FL-244].
- Liaise with landholder to fence *Grevillea fililoba* population 4A to avoid disturbance from gravel extraction and grazing [TA-FL-437].
- Liaise with the LGA to encourage either sealing Cantabilling Road or utilising dust suppression techniques to reduce the impact of gravel dust on roadside *Grevillea humifusa* populations 1A and 1B [TA-FL-439].
- Maintain flora markers and liaise with LGAs to prevent disturbance to populations 3, 4A, 5, 6, 7, 9 and 10 of *Grevillea murex* during any road and track maintenance [TA-FL-440].

- Liaise with Main Roads and private property owners to protect *Gyrostemon reticulatus* seed bank and any regeneration from extinct sites at populations 1, 2A, 2B, 4 and 6 by fencing around dead plants to exclude stock and installing signage to notify people of the sensitivity of habitat [TA-FL-208].
- Liaise with the rail operator to implement appropriate weed control for population 2 of *Haloragis platycarpa* including *Erharta calycina*, *Hyparrhenia hirta*, *Lolium rigidum* and *Pennisetum setaceum* [TA-FL-229].
- Liaise with the landholder and assist in implementing a feral pig baiting program at population 1 of *Hemigenia pimeleifolia* [TA-FL-443].
- Liaise with the LGA in relation to road maintenance and clearing to minimise disturbance to *Hemigenia pimeleifolia* population 1 [TA-FL-444].
- Liaise with the Pinddiddy Aboriginal Corporation, Australian Wildlife Conservancy and Bush Heritage Australia to manage all populations (populations 1, 2, 3, 4, 5, 6, 7, 8, 10 and 11) of *Hybanthus cymulosus* inclusive of goat monitoring and goat control if required to mitigate grazing impacts [TA-FL-388].
- Liaise with pastoral lease owners to reduce grazing pressure through the construction of fencing using alternative techniques to traditional fencing such as electric fencing at *Hypocalymma longifolium* population 1 [TA-FL-446].
- Implement an adaptive management program in liaison with rail operator to determine an appropriate fire regime at *Jacksonia pungens* population 3C in the rail reserve. Apply findings to other populations [TA-FL-225].
- In liaison with the private property owner, construct a fence around *Leucopogon nitidus* population 1 to exclude herbivores including sheep, kangaroos and rabbits. Maintain and repair the fence as necessary and implement the most suitable method of rabbit control as informed by monitoring of grazing impacts [TA-FL-450].
- Liaise with the adjoining landholder to support conservation measures for the only known *Leucopogon stokesii* population [TA-FL-451].
- Liaise with the Pinddiddy Aboriginal Corporation, Australian Wildlife Conservancy and Bush Heritage Australia to manage the Mount Singleton population of *Micromyrtus mucronulata* (population 1) inclusive of goat control to mitigate grazing impacts informed by goat monitoring [TA-FL-184].
- Liaise with station owner to define areas available for recreation including camping to reduce visitor impacts on *Micromyrtus ninghanensis* population 1 [TA-FL-453].
- Liaise with the LGA in relation to road maintenance and clearing to minimise disturbance to *Pterostylis sinuata* populations 1A, 2 and 6A on roadsides [TA-FL-461].
- Liaise with the LGA and adjoining private landholder to allow the diversion of water through rock placement and sandbags to control the erosion of *Pterostylis sinuata* population 7A [TA-FL-462].
- Liaise with the LGA and private property owner to control feral pigs and rabbits [TA-FL-463] and implement a weed control program targeting *Mesembryanthemum crystallinum* [TA-FL-464] at *Ptilotus chortophytus* population 2.

- Liaise with private property landholders to minimise the impact of farming activities on *Schoenia filifolia* subsp. *subulifolia* populations 1, 2, 3 and 4 [TA-FL-467].
- Liaise with private property landholders to implement measures to protect *Schoenia fillifolia* subsp. *subulifolia* populations 1 [TA-FL-468].
- Liaise with rail operator and Main Roads to avoid disturbing all *Stylidium amabile* populations (populations 1 and 2) in rail reserves and roadsides during road maintenance, including avoiding clearing the plants and their habitat and not approving the use of herbicide for vegetation control [TA-FL-470].
- Based on results from previous prescribed burn trials, liaise with rail operator and Main Roads to implement a burning regime to encourage *Stylidium amabile* recruitment within the fenced areas for all populations (populations 1 and 2) and trial the placement of seeds followed with a burn and follow up with supplementary watering [TA-FL-471].
- Informed by monitoring of Phytophthora dieback, liaise with land managers and infrastructure owners to prevent spread to uninfested sites of *Styphelia obtecta*. Liaise with the LGA to prevent Phytophthora dieback infestations encroaching on populations 1A, 1B and 1C on Brand Highway adjacent to the gas extraction area north of Eneabba townsite. Liaise with the LGA and industry to prevent any infestation encroaching on populations 3A, 3B, 3D, 3E and 3G on Brand Highway in the rocky springs vicinity [TA-FL-473].
- Liaise with the LGA and fence to exclude grazers, particularly rabbits, and undertake grassy weed control using selective herbicides at *Verticordia albida* population 1A [TA-FL-478].

ECOLOGICAL COMMUNITIES

**Liaison actions*

- Work with Burringurrah Traditional Owners to establish new fencing, walk trails and toilet blocks to direct visitor interactions and prevent degradation at the Invertebrate assemblages of Cattle Pool [TA-EC-132].
- Liaise with the station owner to construct a fence around Mibbley Pool to exclude stock from water holes and instead pump water out to troughs to protect the Invertebrate assemblages of Mibbley pool. Patrol the fence for incursions [TA-EC-133].
- Liaise as required to construct a fence around Yinnetharra Cattle Pool to exclude stock from water holes and instead pump water out to troughs to protect the Invertebrate assemblages of Yinnetharra Cattle Pool. Patrol the fence for incursions [TA-EC-134].
- Liaise with the LGA to map dieback and place signage on the dieback front of the Lesueur-Coomallo floristic community A1-2 (Banovitch Road) including TEC/DRF marker posts [TA-EC-138].
- Liaise with private landholders to maintain current fencing and construct fencing where required around occurrences Campbell1, M2A and RCM_Transect07_end of the Plant assemblages of the Billeranga System to exclude feral grazers (rabbits, cattle and goats) [TA-EC-144].

- Liaise with the LGA and Department of Water and Environmental Regulation to fence the boundary of occurrence Chert6 of the vegetation alliances on ridges and slopes of the chert hills of the Coomberdale Floristic Region where it adjoins unvegetated areas to exclude stock and other feral herbivores. Patrol for incursions and implement subsequent weed control in response to reduced grazing pressure [TA-EC-154].

LANDSCAPES

- Liaise with upstream neighbouring landowners around wetlands of the agricultural zone and implement a monitoring program of water in the wetlands [LA-013].

7 Learn action collaboration opportunities

FAUNA

Mammals

- Determine through genetic monitoring whether additional translocations of chuditch (*Dasyurus geoffroii*) to Kalbarri National Park are required to maintain the most northern extent of the population.
- Investigate genetic analysis of translocated groups and if required supplement genetics from South Australia for translocated populations of greater stick-nest rat (*Leporillus conditor*).
- Continue genetic monitoring of black-flanked rock-wallaby (*Petrogale lateralis lateralis*) in Kalbarri National Park to maximise the retention of unique Kalbarri genes and determine if further translocations from other populations are required.
- Undertake genetic assessments of Shark Bay mouse, Djoongari (*Pseudomys fieldi*) populations five years post-translocation.

Birds

- Determine the role of North Island (Houtman Abrolhos Islands National Park) regarding Australian lesser noddy (*Anous tenuirostris melanops*) night roosts to inform management requirements.
- Investigate the effectiveness of different feral predator control regimes on the persistence and recovery of malleefowl (*Leipoa ocellata*) populations.
- Engage with experts and BirdLife Australia to identify nesting sites of southern giant petrel (*Macronectes giganteus*) and the associated threats in these locations to advise management.
- 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.
- When monitoring fairy tern (*Sternula nereis nereis*) populations, expand capacity to include research surrounding the interactions between the tern's and trophic cascades and how to respond adaptively to their impacts.

- Establish efficient and effective information sharing pathways across the regions for fairy tern (*Sternula nereis nereis*).
- Review the requirements for breeding birds and support the regular banding of fairy tern (*Sternula nereis nereis*) at each breeding site to monitor movement and dispersal of individuals between populations and sites.
- 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.
- Undertake research into the genetics and movements between populations of Abrolhos painted button-quail (*Turnix varius scintillans*) to determine whether management needs to be on an individual island or meta population scale.
- Survey potential Carnaby's black cockatoo (*Zanda latirostris*) habitat occupied by feral bees and determine, through liaison with the apiary industry, where the use of fiprinol to control feral bees is appropriate.
- Consolidate information available on feeding, roosting and nesting habitat of Carnaby's black cockatoo (*Zanda latirostris*) to improve input into environmental impact assessment and land use planning processes and to develop a better understanding of distribution, habitat use, tenure distribution (including area/proportion of habitat in secure reserves) and movement patterns between regions. Work collaboratively to map critical breeding/feeding/roosting habitats to understand where conservation efforts should be focused.
- Establish a species-wide population estimate for Carnaby's black cockatoo (*Zanda latirostris*).
- Develop a cross regional monitoring protocol to track and monitor the movements of Carnaby's black cockatoo (*Zanda latirostris*) using the most appropriate technology.
- Create a spatially explicit model to identify risk to life and property adjacent to Wandoo woodland habitat of Carnaby's black cockatoo (*Zanda latirostris*) and input into the prescribed burning program.

Reptiles

- Undertake monitoring for woma python (Southwest subpopulation, *Aspidites ramsayi*) at Shark Bay and undertake a taxonomic review to determine whether this population should be included in the southwest or arid zone population.
- Undertake a taxonomic review to determine the uniqueness of the Jurien Bay skink (*Liopholis pulchra longicauda*) subspecies.

Invertebrates

- Determine an appropriate fire management regime to protect trapdoor spider species (*Idiosoma arenaceum, Idiosoma clypeatum, Idiosoma dandaragan, Idiosoma formosum, Idiosoma gardneri, Idiosoma gutharuka, Idiosoma incomptum, Idiosoma kopejtkaorum, Idiosoma kwongan* and *Idiosoma nigrum*) habitat through matching up male spider

records for each species with local rainfall records to determine what time in late autumn to winter they move above ground.

- Research to identify a habitat surrogate for trapdoor spider species (*Idiosoma arenaceum, Idiosoma clypeatum, Idiosoma dandaragan, Idiosoma formosum, Idiosoma gardneri, Idiosoma gutharuka, Idiosoma incomptum, Idiosoma kopejtkaorum, Idiosoma kwongan* and *Idiosoma nigrum*) in kwongan versus woodland versus shrubland habitat.
- Undertake a targeted survey of short-tongued bee (*Neopasiphae simplicior*) where historical occurrence records exist and in areas of potential habitat.

Marine[7]

- Develop and implement a triage system to direct where and when management actions need to occur based on a centralised database for reporting adverse incidents for marine turtles and mammals (for example marine debris, vessel strikes, deaths, strandings).
- Establish monitoring systems to investigate habitat use and the impacts from vessel strike, seismic activity and marine debris on blue whale (*Balaenoptera musculus*).
- Undertake population trend analysis for all whale species including blue whale (*Balaenoptera musculus*), southern right whale (*Eubalaena australis*) and humpback whale (*Megaptera novaeangliae*) to determine a trajectory of recovery.
- Target research towards understanding the influence climate change has on dugong (*Dugong dugon*).
- Develop a standardised monitoring program to identify breeding habitat and range extensions of southern right whale (*Eubalaena australis*).
- Monitor humpback whale (*Megaptera novaeangliae*) abundance, distribution and patterns of habitat use to quantify the impact of nature-based tourism.
- Implement formal and informal monitoring programs for commercial operations focusing on Australian sea lion (*Neophoca cinerea*) interactions.
- Liaise with and work alongside the Rottnest Island Authority and tour operators to manage grey nurse shark (*Carcharias taurus*) and create a photo database for conservation to gain a broader understanding of the species. Survey for the impact of human disturbance on the sharks and establish an industry wide code of conduct for interactions with the sharks.
- Liaise with DPIRD to address knowledge gaps within DBCA databases and to be involved in the management of great white shark (*Carcharodon carcharias*).

FLORA

- Determine seed viability at translocated *Acacia aprica* populations to gauge whether translocations were successful.

[7] The ‘marine’ grouping includes marine mammals, marine reptiles and marine fish, including sharks and rays.

- Investigate the biology of *Acacia unguicula* further (including seed bank longevity, why so restricted).
- Determine an appropriate fire regime for *Acacia vittata* given the clonal nature of the species and ensure fire exclusion in the interim.
- Investigate *Andersonia gracilis* soil seed bank dynamics.
- Research *Andersonia gracilis* population genetic structure to identify genetically important populations.
- Determine biology of *Banksia fuscobractea* (for example seed viability) to facilitate further management actions.
- Investigate the seed viability of *Beaufortia eriocephala.*
- Resolve taxonomy and genetics of disjunct northern populations including an inclusive Herbarium collection review for all populations of *Chamelaucium* sp. Wongan Hills (B.H. Smith 1140).
- Investigate the genetics of separate *Chorizema humile* clusters and apply findings to inform translocations.
- Assess the taxonomy and genetics of disjunct *Diuris drummondii* population 39 in collaboration with Adopt an Orchid.
- Investigate differences in pollinator species for northern and southern *Drakaea elastica* populations.
- Investigate the disjunct *Eremophila mirabilis* populations and review the taxonomy of the species.
- Investigate the response of *Eremophila occidens* to disturbance.
- Trial *Eremophila subangustifolia* propagation techniques.
- Determine the most genetically valuable *Eucalyptus absita* populations.
- Investigate recruitment biology of *Eucalyptus crucis* subsp. *praecipua* to understand why there has been no recruitment in the populations.
- Investigate *Eucalptus dolorosa* genetics to determine the number of individuals and whether the species is a hybrid.
- Investigate *Eucalpytus impensa* genetics to identify the most valuable populations and undertake an adaptive management trial of cross pollination targeting these populations.
- Determine and implement appropriate fire regimes targeting *Eucalpytus impensa, Eucalyptus lateritica, Eucalyptus leprophloia* and *Eucalyptus suberea.*
- Undertake genetic analysis of *Eucalyptus lateritica* to determine the relationship to other species such as *Eucalyptus todtiana* that may be related and investigate the separation between the northern and southern population clusters.
- Undertake *Eucalyptus lateritica* seed viability testing.

- Undertake genetic analysis of *Eucalyptus leprophloia* to determine the relationship to other species such as *Eucalyptus todtiana* that may be related and investigate the separation between the northern and southern population clusters.
- Undertake *Eucalyptus leprophloia* seed viability testing and determine if seed collections adequately sample the spread of populations.
- Collect *Eucalyptus suberea* seed and test viability.
- Undertake further research to determine interaction between clonal and non-clonal *Grevillea althoferorum* subsp. *althoferorum* populations.
- Determine the extent of *Grevillea phanerophlebia* genetic pollution due to cross-pollination with other grevillea species.
- Investigate the taxonomy of *Guichenotia impudica.*
- Research the dormancy mechanism for *Gyrostemon reticulatus* seed from seed orchards in the Midwest Region.
- Determine genetic relationship between *Hemigenia pimeleifolia* populations and describe as necessary.
- Investigate the taxonomy of disjunct *Hemiandra* sp. Watheroo (S. Hancocks 4) populations.
- Monitor disjunct *Homalocalyx chapmanii* populations at Binnu and Three Springs and conduct genetic testing.
- Conduct a taxonomic review of Midwest Region specimen of *Lawrencia* sp. Anna Plains (N.T. Burbidge 1433).
- Investigate *Lechenaultia chlorantha* pollination, seed production and viability to inform management and acquire seed for storage.
- Monitor existing *Lechenaultia chlorantha* populations to determine species longevity and the underground storage extent for individuals.
- Investigate *Lepidosperma gibsonii* genetics.
- Assess the viability of *Leucopogon nitidus* seed.
- Investigate the biology and ecology of *Ptychosema pusillum* further to determine important populations and possibilities for management.
- Investigate whether the correct pollinators for *Stylidium wilroyense* are present at Wilroy Nature Reserve.
- Determine the length of *Stylidium wilroyense* seed viability.
- Monitor the northern and southern *Stylidium wilroyense* populations and investigate their genetics to determine if the two populations are distinct and to inform the reassessment of the listing of the species. Utilise findings to inform translocation requirements and prescribed burn regimes. Externally fund genetic work.
- Investigate pollination dynamics and techniques to increase *Thelymitra apiculata* seed output.

- Investigate fire response of *Thelymitra apiculata*.
- Investigate the lifecycle of wasp species that pollinate *Thelymitra pulcherrima* to determine when they are vulnerable to burning and avoid prescribed burning during that period.
- Artificially pollinate *Thelymitra pulcherrima* to determine whether the reduction in thynnid wasp numbers is a limiting factor. Monitor effectiveness through the installation of cameras on flowering plants to determine presence.
- Investigate options to breed thynnid wasps and release to promote *Thelymitra pulcherrima* pollination.
- Research fire ecology of *Thelymitra stellata*.
- Investigate opportunities to relocate the *Trithuria australis* population in the Midwest Region and to resolve the taxonomy of the species compared to the other populations.

ECOLOGICAL COMMUNITIES

- Contribute to environmental impact assessment processes to ensure potential impacts on groundwater from resource and land development at Doolgunna1 occurrence of Doolgunna calcrete groundwater assemblage on Gascoyne paleodrainage on Doolgunna Station ecological community are identified and mitigated.
- Correlate compositional monitoring data of the stromatolites with ground water hydrology monitoring (using the bore field) for the Stromatolite community of stratified hypersaline coastal lake (Thetis-microbialite) community.
- Survey for introduced fish (black bream, mosquito fish and yellow-tailed grunter) at the Thetis-microbialite community, monitor their feeding habits on the stromatolites, their impacts on native fish and if the natural harshness of the lake is a limiting factor to population growth.
- Undertake genetic studies in the northern portion of the range of Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain.
- Assess all occurrences of the following communities against the description in conservation advice to verify TEC occurrence and assess condition, threats and map boundary, if possible:
    - Banksia dominated woodlands of the Swan Coastal Plain
    - Eucalypt woodlands of the Western Australian Wheatbelt
    - Subtropical and Temperate Coastal Saltmarsh
    - Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain.

8 References

Beard JS, Chapman AR and Gioia P 2000. Species richness and endemism in the Western Australian flora. *Journal of Biogeography* 27: 1257-1268.

Conservation International 2023 *Biodiversity Hotspots.* Viewed online 14 November 2023, https://www.conservation.org/priorities/biodiversity-hotspots.

Department of Environment and Conservation 2006. *Biodiversity hotspot: Geraldton to Shark Bay sandplains*. Department of Environment and Conservation, Kensington Western Australia.

Department of Environment and Conservation 2008. *Native Vegetation Management Plan, Northern Agricultural Region*. Department of Environment and Conservation, Geraldton Western Australia.

Myers N, Mittermeier RA, Mittermeier CG, da Fonseca GAB, and Kent J 2000. Biodiversity hotspots for conservation priorities. *Nature* 403: 853–858.

Richardson J, Langley MA, Meissner R and Hopkins AJM 2005. *Biodiversity assessment and vegetation mapping of the northern agricultural region, Western Australia*. Department of Conservation and Land Management, 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 Midwest Region priority management units.

Priority reserve or landscape	Component management units	IBRA/IMCRA sub-region/s
Abrolhos Islands	Houtman Abrolhos Islands National Park	Abrolhos Islands/South-west Marine Region
Agricultural - wetlands	Beetalyinna Nature Reserve, R23990, Utcha Well Nature Reserve, Weirmonger Nature Reserve	Geraldton Hills
Badgingarra National Park		Lesueur Sandplain
Beekeepers	1168/385 Government Well, Beekeepers Nature Reserve, Lake Logue Nature Reserve, R11883, Arro Nature Reserve, R46982, R46983, R46984, Stockyard Gully Reserve	Lesueur Sandplain
Dirk Hartog Island National Park		North-west Marine Region
Eastern Agricultural	2666/411 Kayanaba, 2734/359 Capynana Spring, Carot Well Nature Reserve, Gunyidi Nature Reserve, Jam Hill Nature Reserve, Jocks Well Nature Reserve, Long Pool Nature Reserve, Manaling Nature Reserve, Marchagee Nature Reserve, Martinjinni Nature Reserve, Merewana Nature Reserve, Namban Nature Reserve. R21175 Buntine-Marchagee East, R26575 Gunyidi Siding, R28669 Buntine-Marchagee West, R45337 Bulbarnet, R47694 Cairn Hill	Dandaragan Plateau, Lesueur Sandplain, Merredin
Francois Peron National Park		Wooramel
Kalbarri National Park		Geraldton Hills
Lesueur-Coomallo	2709/953 Karda, Coomallo Nature Reserve, Drovers Cove National Park, Lesueur National Park, E29901 Coomallo rest area, R35593, R35594, R38501, R42030, R51272 Cockies Dam	Lesueur Sandplain

Priority reserve or landscape	Component management units	IBRA/IMCRA sub-region/s
Namming	1582/131 Winooka, 1857/524 2697/768 Guraga, 2806/581 Sappers, 2810/83 Imbat Swamp, 2922/325 Bashford Freehold, Bashford Nature Reserve, Eneminga Nature Reserve, Namming Nature Reserve, South Mimegarra Nature Reserve	Perth
South Eneabba	South Eneabba Nature Reserve	Lesueur Sandplain
Southern coastal reserves	Hill River Nature Reserve, Nambung National Park, R33287 Southern Beekeepers Nature Reserve, R34039, Southern Beekeepers Nature Reserve, Wanagarren Nature Reserve	Perth
Watheroo-Pinjarrega	Capamauro Nature Reserve, Lot 10333 Bakers, Pinjarrega Nature Reserve, R42209, R44081 Namban West, Watheroo National Park	Dandaragan Plateau, Lesueur Sandplain
Wilson-Wotto	2647/953 Bunney Road, Depot Hill Nature Reserve, Dookanooka Nature Reserve, R12705 Nebru/Bunney Road, R48098 Donkey Springs, Tathra National Park, White Gums Nature Reserve, Wilson Nature Reserve, Wotto Nature Reserve	Lesueur Sandplain
Toolonga Nature Reserve		Edel, Wooramel

Department of **Biodiversity, Conservation and Attractions**

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