Performance Assessment -

## Karijini National Park Management Plan 1999 – 2009





Conservation Commission of Western Australia



#### **Conservation Commission of Western Australia - Function**

Conservation Commission of Western Australia (Conservation Commission) performance assessments are undertaken primarily to fulfil the functions described in section 19 (g) of the *Conservation and Land Management Act 1984*. That is to assess and audit the performance of the Department of Parks and Wildlife and the Forest Products Commission in carrying out and complying with management plans. The assessments also help inform the Conservation Commission's policy development function and its responsibility to advise the Minister for Environment on conservation and management of biodiversity components throughout the state.

The performance assessment was undertaken in accordance with the Conservation Commission policy and guidelines for the performance assessment of conservation reserve and forest management plans and biodiversity management in WA.

This document is available on the Conservation Commission's website <u>www.conservation.wa.gov.au.</u>

This report has been prepared by the Conservation Commission of Western Australia.

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The recommended reference for this report is:

Conservation Commission of Western Australia 2014, *Performance Assessment – Karijini National Park Management Plan 1999-2009*, Conservation Commission of Western Australia, Kensington.

The use of Department of Parks and Wildlife data for the production of this report is acknowledged.

### **Executive Summary**

The Karijini National Park Management Plan 1999-2009 (the Management Plan, Plan), recognises the significant landscape, cultural, conservation and recreation values of the Park and was prepared to plan for future needs and to ensure the Park's values are protected and maintained. The Management Plan was designed for joint management of the National Park, inclusive of traditional owner groups and with community participation.

Through this performance assessment process the Conservation Commission of Western Australia (Conservation Commission) has sought to identify the extent to which the Management Plan priority objectives and strategies have been achieved.

It is important to note that the first finding, that there is no evidence the Department of Parks and Wildlife (the department) developed the five-year implementation plan<sup>1</sup>, as required by the Management Plan, has had a significant impact on the delivery of outcomes envisaged in the Plan.

The Management Plan under review highlights the interdependency of plan strategies and the impact of that interdependency on proposed planning outcomes. A primary strategy of the Management Plan provides that the Karijini Park Council and Karijini National Park Advisory Committee consider priorities for management strategies to assist the department in the development of a five-year implementation plan. The fiveyear implementation plan was intended to assist in prioritising management activities. As a result, without the benefit of the proposed planning instrument, it is evident that management of the Park has been reactive and the prioritisation for resource allocation unclear.

As has occurred in other planning areas, such as Purnululu National Park, when a Park Council or other key group ceases to function effectively, subsidiary strategies are impacted and may lead to planned outcomes not being implemented in the manner envisaged for the park, or failing to be implemented at all.

The Conservation Commission supports the joint management objectives detailed in Policy Statement No 87 (Department of Parks and Wildlife 2013), noting their intended application to lands and waters within and outside the conservation estate vested in the Conservation Commission. The Conservation Commission particularly notes clause 5.2 of Policy Statement No 87:

<sup>&</sup>lt;sup>1</sup> Karijini National Park Management Plan B.12 **Plan Implementation** Strategy 1: "The Karijini Park Council and the Karijini National Park Advisory Council will consider priorities for management strategies and assist CALM (*now Department of Parks and Wildlife*) in developing a five-year implementation plan".

"The shared understanding of the department and other parties of resource availability is an important consideration in establishing realistic expectations arising from the department's initiative in joint management."

In light of the findings in this performance assessment, the Conservation Commission encourages continuing recognition of the effectiveness of formal and informal joint management arrangements in the support of the delivery of management plan outcomes. However, the importance of managing expectations and avoidance of creating critical dependencies that may impact on the delivery of planning outcomes is recognised.

Visitors to Karijini National Park currently exceed 200,000 per year. These numbers far exceed those anticipated in the Management Plan, and are acknowledged when considering the demands on resources. The Conservation Commission congratulates the department on its management of recreation in the Park and its successful use of volunteers as a support base in day-to-day roles.

However, increasing visitor numbers to the Park and the associated management needs is clearly drawing heavily on allocated resources. The Conservation Commission observed that few biodiversity and fire related strategies listed in the Management Plan have been completed. In addition, knowledge of the status of much of the Park's flora and fauna and the impact of pressures such as feral animals and mining on these values is incomplete.

Key findings (not in order of importance) from the assessment are listed below. Potential management issues have also been identified and are discussed in the report. There are no key findings from the emerging issues section of the report but this discussion has been included to highlight potential future management considerations.

Due to changes in context since the Management Plan was prepared and the potential acquisition of large areas of ex-pastoral additions and management agreement areas (involving varying degrees of cooperative management with mining companies) after 1 July 2015, many of the objectives and strategies of the current plan require updating. During the performance assessment department staff advised that, from an operational perspective, the development of a new management plan for the Park would be beneficial for future management.

The Conservation Commission believes that the original Management Plan was well conceived and contains excellent, relevant detail as the basis for a new management plan. However the Conservation Commission considers that priority areas for management need to be readdressed in light of changes in the operating environment.

## Key Findings

#### Finding 1

The Karijini Park Council and Karijini National Park Advisory Committee did not consider priorities for management strategies nor assist the department in developing a five-year implementation plan.

#### Finding 2

Broader community participation in the Management Plan's implementation was limited due to the National Park Advisory Committee not being active.

#### Finding 3

The department has effectively facilitated volunteer participation to assist in the day to day running of the Ranger Station and other aspects of park management, supporting delivery of services but not necessarily the implementation of the Management Plan.

#### Finding 4

A lack of accurate employment data means it has not been possible to determine whether the staff to visitor ratio has been maintained or improved over the life of the Management Plan.

#### Finding 5

Opportunities for Aboriginal employment have been achieved over the life of the Management Plan, although there was no evidence that additional categories of employment had been trialled. Aboriginal staff turnover has been high.

#### Finding 6

The Karijini Visitor Centre provides visitors with information to enhance their safety, understanding, appreciation and enjoyment of the natural and cultural values of the Park.

#### Finding 7

The Department has delivered signage that promotes safety and visitor responsibility and has an ongoing program to upgrade walk tracks, look outs and emergency procedures.

#### **Key finding 8**

A fire operations plan for the Park was not made available during the assessment.

#### Key Finding 9

There was no evidence provided to show that burning was being used as a management tool to enhance habitat diversity.

#### Finding 10

There was no evidence of the establishment or maintenance of a systematic feral animal control program or history of control measures. A register of exotic animals in the Park has not been established and maintained.

#### Finding 11

Impacts from mining adjacent to the Park are evident within the Park.

#### Finding 12

A minority of Park visitors do not comply with existing regulations and use the Park in ways that are unsafe, conflict with other users, cause damage to infrastructure and exhibit behaviours that are incompatible with conservation objectives.

#### Finding 13

Signage installed by agencies other than the land manager was observed on Conservation Commission vested land which was not consistent with the objectives of the Management Plan.

#### Finding 14

Unauthorised campers were observed during the site visit as well as some of the impacts of unregulated camping such as rubbish, damage to vegetation, erosion and fire wood collection.

#### Finding 15

A comprehensive inventory of the Park's natural resources based on surveys was not available during the assessment.

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## 1 Background

In accordance with Section 55 of the *Conservation and Land Management Act 1984* (the Act), the term of a management plan shall not exceed 10 years. However, a plan which would otherwise expire shall, unless it is revoked, remain in force until a new plan is approved.

The Karijini National Park Management Plan 1999-2009 is the current planning document for the Karijini National Park.

Karijini National Park was entered into the Register of the National Estate (RNE), prior to the closure of the RNE in 2007, with the following description<sup>2</sup>:

#### Name of Place

Karijini National Park 010129 5/08/204/0003/01

#### Location/Boundaries

The Park extends across the range from Wittenoom in the north, to Turee Creek in the south, and from Tom Price in the west to Mt Meharry and Dales Gorge in the east.

606 597 ha, 120 km east of Tom Price.

#### **Title Information**

Reserve A30082, Vested National Parks and Nature Conservation Authority (Conservation Commission of Western Australia).

#### Statement of Significance

The Hamersley area contains extensive areas of pre-Cambrian formations and is part of one of the world's oldest land surfaces. The geology of the region also contains features related to the Permian ice ages.

The region contains large areas of wilderness and intact ecosystems, including distinct gorge systems within surrounding arid plains. Significant Aboriginal sites exist within the area, and include rare depictions of extinct species.

The Hamersley Ranges are also significant scientific study areas in the fields of archaeology, geology and ecology.

<sup>&</sup>lt;sup>2</sup> Karijini National Park Management Plan 1999-2009 Appendix 3, p64 (adapted from Australian Heritage Commission 1992).

There is a wide diversity of landforms in the region which support a number of different vegetation communities, including important mulga woodland formations. Diversity of birdlife is also a significant feature, with over 120 species recorded.

The landforms and vegetation of the area are representative of the region, and include arid plains, escarpment, ridge and gorge formations.

The spectacular gorges, waterfalls and general landforms of the area give the region high aesthetic value, which is further enhanced by the seasonal proliferation of wildflowers. These features are major factors in the high recreational significance of the area.

#### Description

Large belt of elevated country between Fortescue and Ashburton Rivers. Erosion has formed a rugged landscape in the north. A long unbroken wall (Hamersley Scarp) occurs in the south. The central region is a high basin cut by intermittent streams, forming scenic gorges and waterfalls. Vegetation includes open woodland, northern mulga, and interesting plant communities on top of the mountains and the gorges.

#### Condition

Integrity altered by cattle grazing, iron ore mining.

## 2 Assessment objectives, scope and criteria

#### 2.1 Assessment objectives

The objective of the assessment is to determine the extent to which key strategies of the Management Plan have been implemented and how successful these have been in meeting the key objectives of the Plan. The assessment also discusses emerging management issues.

#### 2.2 Scope and description of work

The focus of the assessment is on the Karijini National Park Management Plan area. There is some discussion on land use adjacent to the Park, which has the potential to impact on the Park.

The assessment was undertaken in 2014.

#### 2.3 Assessment criteria

In the absence of performance indicators and measures in the Management Plan, the assessment of the extent to which strategies have been implemented has been based on the completion of a management plan strategy table by department staff, followed by discussion and observations made on site.

The report focuses on the key issues identified in the Management Plan and the key challenges identified by the department during the Performance Assessment.

## **3** Findings

#### 3.1 Plan Implementation

#### **Objective**

The objective is to implement strategies for management on a priority basis.

#### Strategy B.12.1.1

The Karijini Park Council and the Karijini National Park Advisory Committee will consider priorities for management strategies and assist CALM in developing a five-year implementation plan.

During the performance assessment process, department staff advised that the Karijini Park Council (KPC) and the Karijini National Park Advisory Committee (KNPAC) had not functioned consistently over the life of the plan. It is understood by the Conservation Commission that the KPC met regularly and functioned well as an advisory body during the early years of the plan.

Despite this understanding, there is no evidence to substantiate that Strategy B.12.1.1, was progressed. Consequently, strategies B.12.1.2 and B.12.1.3, which relate to an annual review of the implementation plan by the KPC and KNPAC, preparation of an annual report by department regional staff, and annual monitoring by the vesting authority, have also not been achieved. Further, the extent to which all Aboriginal groups with traditional ownership were represented in the two bodies is unclear.

The five-year implementation plan was intended to bridge the gap between coordinated park planning and the operational focus of Park staff. The site visit by Conservation Commission audit staff indicated that operations were being prioritised reactively, in response to emerging pressures and based on the experience of department staff.

The Conservation Commission saw no evidence of a coordinated implementation program with input from traditional owners and the community as outlined in the Management Plan.

#### **Key Finding 1**

The Karijini Park Council and Karijini National Park Advisory Committee did not consider priorities for management strategies nor assist the department in developing a five-year implementation plan.

#### Key Finding 2

Broader community participation in the Management Plan's implementation was limited due to the National Park Advisory Committee not being active.

#### **Objective**

## The objective is to enable the public to participate in implementing the Karijini National Park management plan.

#### Strategy B.12.2.5

## Encourage community involvement in implementation of the plan by initiating and supporting volunteer activities.

It was evident from the site visit that a steady stream of volunteers contributes to the day to day management of the Park, freeing up department staff to undertake core work. The Conservation Commission commends the department's initiative in securing this input into Park management.

The Conservation Commission was advised that while volunteer support is invaluable, the amount of ranger time required for the day to day management and support of this resource should not be under-estimated.

#### **Key Finding 3**

The department has effectively facilitated volunteer participation to assist in the day to day running of the Ranger Station and other aspects of park management, supporting delivery of services but not necessarily the implementation of the Management Plan.

3.2 Staffing

#### **Objective**

## Ensure that sufficient numbers of adequately trained staff are appointed to implement the plan.

#### Strategy B.10.1.2

# Seek to increase staffing levels in the Park in response to increasing management demands. Consider recruitment upon the basis of maintaining, or improving, the present staff to visitor ratio for the Park.

In 1999, the year the Management Plan was approved, annual visitors to the Park numbered approximately 25,000. Annual visitor numbers have now increased to over 200,000 (2013-2014) and can be expected to continue to increase. While the Conservation Commission was advised that staffing levels have also increased over the life of the plan, conclusive data to support an assertion that the ratio of staff to visitors has been maintained or improved was not available. Indications from department staff are that current Park management demands exceed the capacity of current resources to implement the objectives of the Management Plan.

During the site visit, department staff advised that managing Park visitors and visitor facilities, including emergency situations such as road accidents and rescues in gorges, takes up a considerable amount of staff time. As such, Conservation Commission audit staff were advised that the capacity to undertake biodiversity related work such as fire management, weed and pest management and flora and fauna monitoring is limited.

The audit team noted that there has been a recent expansion of camp ground facilities at Dales Gorge, designed to cater for the overflow of campers in peak season. It is apparent that these facilities have helped to reduce camper impacts, including damage to vegetation from overflow camping experienced in previous seasons. There have also been recent upgrades to facilities at Hamersley Gorge and Fortescue Falls day use areas.

The Conservation Commission commends the department on the development of visitor facilities and acknowledges their contribution towards protecting the natural environment. Department staff noted, however, that without changes to resource allocation, ongoing management of new facilities will impact on the department's capacity to service existing Park facilities. Concern over a potential dilution of management effectiveness with proposed future tenure acquisitions was also expressed (see Potential management issues, Section 4 p 35).



Figure 1: Past, present and projected visitor numbers, Karijini National Park.

\*Visitor information and statistics (VISTAT)

#### Key Finding 4

A lack of accurate employment data means it is not possible to determine whether the staff to visitor ratio has been maintained or improved over the life of the plan.

#### **Objective**

*Provide opportunities for Aboriginal people to be employed in the Park wherever possible.* 

#### Strategy B.10.1.4

#### The Karijini Park Council will investigate additional categories of employment for Aboriginal people including consultancies and other forms of full-time, seasonal, or part-time employment.

Aboriginal staff have consistently been employed in park management over the life of the Management Plan in both the visitor centre and the Park (Appendix 1).

It was noted that while Aboriginal employment has been consistent, the department advised there had been a high turnover of staff which has led to issues with continuity of management and training.

The Management Plan provided for the KPC to investigate additional categories of employment. The inconsistent functioning of the KPC over the life of the Management Plan may have impacted on the delivery of this strategy.

The Conservation Commission acknowledges the effort made by the department in relation to this strategy and notes the implementation of a daily commute program from Tom Price which, it was advised, did not ultimately maintain adequate staff numbers.

#### Key Finding 5

Opportunities for Aboriginal employment have been achieved over the life of the Management Plan, although there was no evidence that additional categories of employment had been trialled. Aboriginal staff turnover has been high.

#### 3.3 Information, Education and Interpretation

#### **Objective**

The objective is to provide visitors with information which will enhance their safety, understanding, appreciation and enjoyment of the natural and cultural values of the Park and region.

Strategy B.7.6.8

Make provision for a Karijini Visitor Centre which will provide essential Park information, interpretive displays and exhibits addressing the Park's natural, historical and Aboriginal cultural heritage and other Park values, and a suitable commercial outlet. The Karijini Visitor Centre provides state-of-the-art-facilities and interpretive displays outlining the natural, historical and Aboriginal cultural values of the Park. The visitor centre has been carefully designed to blend into and complement the natural landscape.

The objective in relation to provision of information, education and interpretation has been achieved largely through the establishment of the Visitor Centre.

The department advised that operating the centre is resource demanding.



Figure 2: Karijini Visitor Centre, off Banjima Road

#### Key Finding 6

The Karijini Visitor Centre provides visitors with information to enhance their safety, understanding, appreciation and enjoyment of the natural and cultural values of the Park.

**Objectives** 

Plan and provide for the safety of Park visitors and Park residents.

Provide procedures for responding to emergencies which may occur in, or threaten, the Park.

#### Strategy B.9.1.1

Highlight the risks associated with recreation near the gorges and emphasise visitor responsibilities in relation to personal safety. Install and maintain signs at points of known hazards.

#### Strategy B.91.4

Upgrade Park facilities particularly walk tracks and lookouts.



Figure 3: Signage indicating appropriate preparation and emergency procedures, Karijini National Park

Conservation Commission audit staff were provided the opportunity to view a range of roads, tracks and lookouts during the site visit. Roads in the northern section of the Park lead to a series of designated lookouts and tracks into the gorges. Comprehensive signage was present at all major recreation points indicating the dangers of the landscape. This included information for visitors about the risks associated with visiting the gorges and how to avoid them. Examples include loose surfaces, rock falls, fatigue, hypothermia, heat stroke, flash floods and slippery surfaces.

A classification of trails is provided to help visitors make judgements against their own capabilities. These trails were mapped at each recreation site visited during the audit. Audit staff observed emergency response procedures and facilities in place at the main recreation sites visited.

Trails are colour-coded and reflectors are placed on rocks to guide hikers. Safety information is also presented at the base of gorges that includes warnings against climbing and diving from rock ledges into pools. Some sections at the base of the gorges are blocked where there are potentially dangerous drop-offs. The department advised that platforms and stable walkways have been built at major lookouts to reduce the risk of visitors slipping or falling and examples of these were observed by audit staff during the site visit.



Figure 4: Trail classification maps with colour coded trail classifications and routes, Weano Gorge



Figure 5: Hand rail walk-bridge over narrow steep sided path, Oxer Lookout

The Conservation Commission recognises that there are inherent risks associated with the Park's sheer and dynamic landscape and it is virtually impossible to eliminate all of these risks. It is also recognised that there is a strong desire to preserve the aesthetic values of the natural landscape with any construction works and the audit team observed a number of examples where this had been successfully achieved. There was evidence of ongoing maintenance works and improvements undertaken by the department in priority areas.

The Conservation Commission was advised that through the Local Emergency Management Committee, Pilbara Region and Park staff had established an effective working relationship to improve emergency responses to a range of incidents. Department of Fire and Emergency Services has established a specific emergency radio channel that is linked via two repeaters back to Tom Price, allowing emergency crews to talk directly to Park staff attending to an incident.

Two emergency radios have been placed at the most used recreation sites within the Park. An Emergency Management Response Plan has been implemented and priority rescue points have been upgraded to support incident teams.

#### Key Finding 7

The Department has delivered signage that promotes safety and visitor responsibility and has an ongoing program to upgrade walk tracks, look outs and emergency procedures.



Figure 6: Gorge risk signage at the base of the gorge adjacent to walk trail, Weano Gorge.

#### 3.4 Fire

#### **Objectives**

*Protect community and environmental resources and values within the Park from damage or destruction by wildfire.* 

Use fire as a management tool to enhance habitat diversity and other land management objectives.

#### Strategy B.3.6.1

#### Prepare a fire operations plan based on the principles of Wildfire Threat Analysis and advice of the Karijini Aboriginal Heritage Committee which will:

- *i. give priority to the protection of community environmental and cultural values;*
- *ii.* reflect spatial differences in fire ecology and be compatible with conservation objectives;
- *iii.* delineate 'no-planned-burn' areas on the basis of vegetation type, other values or research requirements and their ability to be protected from wildfires;
- *iv. identify suitable fuel reduced buffers to protect designated areas, and for development of fire management cells within which wildfires are to be contained;*
- *v. include prescriptions to burn within buffers for vegetation management burns;*
- vi. where appropriate ensure burning prescriptions within the Park take account of Aboriginal priorities and relevant fire impacts research;
- vii. where they are known incorporate the principles and practice of Aboriginal traditional burning regimes;
- viii. include prescribed burning for habitat modification for fauna;
- *ix. determine suitable seasonal (weather and fuel) conditions (based on previous research) for aerial burning;*
- *x. evaluate the effectiveness of prescribed burning operations to meet environmental and fire suppression objectives.*

#### Strategy B.3.6.9

Aim to establish and maintain a mosaic of vegetation at various stages of succession in the Park.

#### Strategy B.3.6.10

Protect long unburnt stands of different vegetation types to act as a reference point for fire research.



Figure 7: Fire scars along a range in the background of image; this fire a result of lightning.

There was no evidence provided that fire was being used as a management tool to enhance habitat diversity or that suitable fuel reduced buffers had been designated to protect against wildfires. There was clear evidence that large and recent bushfires had occurred in the Park. It was not clear what impacts these bushfires have had or were having on the environmental resources of the Park.

Bushfires have resulted in some damage to infrastructure and forced the temporary closure of recreation sites within the Park.

**Key finding 8** – A fire operations plan for the park was not made available during the assessment.

**Key Finding 9** - There was no evidence provided to show that burning was being used as a management tool to enhance habitat diversity.

3.5 Fauna

**Objectives** 

The objectives are to:

Conserve native fauna populations.

*Provide special protection to rare, threatened and restricted species of fauna and their habitats.* 

Control and, if possible, eradicate feral animal populations within the Park.

*Reverse the decline of critical weight range mammals.* 

*Strategy B.3.5.6.1* 

Formulate a feral animal control program to systematically control or eradicate feral animals according to established priorities.

*Strategy B.3.5.6.2* 

# Maintain a register of all exotic animals in the Park. The register is to include details of distribution, relevant biological information, and a history of control measures.

The Visitor Centre provides information that feral animal control is undertaken within the Park. In discussion, department and Rio Tinto employees advised that there are feral cats in the Park, trapped consistently on the Marandoo lease area. Feral cattle were observed on the site visit to Minthicoondunna Spring (Minthi Spring). Minthi Spring had been largely disturbed by cattle trampling, which evidenced it was being used as a watering hole. Fencing to protect the spring from cattle had been knocked over. Although planned aerial shoots have been conducted in the Park and adjacent unallocated Crown land over the life of the Management Plan, there was no evidence of a scheduled control program. Department staff advised that feral animal control was undertaken opportunistically subject to budgets, staff availability and seasonal limitations associated with weather.

It was noted that optimum timing for feral animal control, during the dry months, coincided with the highest visitation period where staffs' time is focussed on managing visitor issues and recreational areas.



Figure 8: A herd of feral cattle, Minthi Springs, Karijini National Park

#### Key Finding 10

There was no evidence of the establishment or maintenance of a systematic feral animal control program or history of control measures. A register of exotic animals in the Park has not been established and maintained.

#### 3.6 Mining and Marandoo

#### **Objective**

The objective is to protect the Park from the impacts of exploration and mining.

**Objective (Marandoo) Environmental Assessment and Monitoring** 

The objective is to minimise the impacts mining and infrastructure developments associated with Marandoo have on the Park.

#### Strategy B.6.3.1

Work in association with Hamersley Iron in accordance with the Statement of Mutual Understanding (Appendix 5 to the Plan) to ensure there are minimal impacts on the Park from mining and infrastructure. The Ministerial conditions attached to Government approval of the project will need to be referred to (Appendix 6 to the Plan).

#### Strategy B.6.3.2

#### Monitor the impacts of mining and associated activities on the Park. CALM will refer results and implications of monitoring to the Karijini Park Council and the Karijini National Park Advisory Committee.

Karijini National Park and surrounding land contains significant deposits of iron ore. The Park is almost completely surrounded by unallocated crown land and pastoral stations with live and pending mining tenements (see Figure 19). There are also live and pending mining tenements within the Park. The remaining areas of the Park form one of the largest consolidated areas of conservation lands without mining tenements within the Pilbara 3 (PIL3 – Hamersley biogeographic subregion).

Some parcels of land have been excised from the Park to allow for mineral extraction such as the Marandoo Mine Site at the base of Mt Bruce. There have also been some additions to the Park since 1990, consistent with the applicable Government policies at the time of the excisions. Karijini Drive serves as an important travel route for mining vehicles. Iron ore is mined open cut and has the potential to visually impact on the Park's geological and landscape features.

Minthi Spring is an important Aboriginal site of permanent water flow and a meeting place for traditional law. The dewatering of the Marandoo mine site, at the base of Mount Bruce, to allow for the extraction of iron ore below the water table, has resulted in Minthi Spring drying up. It was expected that the dewatering would impact on the Spring at some point through the cone of depression extending beneath the spring at some point during the mine's life, but the draw-down occurred more quickly than anticipated.

Appendix 6 to the Management Plan was amended to allow for the revision of the Ministerial conditions to allow for dewatering below the water table as part of the Marandoo Iron Ore project 'Phase 2'. Rio Tinto Iron Ore is responsible under these Ministerial Conditions to monitor and mitigate any impacts dewatering may have on the Park's values. Rio Tinto Iron Ore is artificially feeding Minthi Spring with water drawn from the original aquifer and piped from a tank to the site of the spring.



Figure 9: Bore, pump and water tank successfully created to artificially supply water to Minthi Springs



Figure 10: Evidence of water piped to Minthi Spring from the Marandoo ground water aquifer

Rio Tinto is also required (Ministerial Condition 833) to monitor any changes in health of the stream vegetation of the riparian zones around Minthi Spring and the health of the Coolibah-Lignum Flats Priority Ecological Community\* (PEC). Reports to date indicate that there have been no observable negative impacts to the vegetation as a result of water draw-down despite predictions of a 2.5m - 4m cone of depression around the edge of the PEC, over the life of the mine.



Figure 11: Coolibah-Lignum Flats, Priority Ecological Community

<sup>\*</sup> Possible threatened ecological communities that do not meet survey criteria or that are not adequately defined are added to the Priority Ecological Community List under priorities 1, 2 and 3. These three categories are ranked in order of priority for survey and/or definition of the community, and evaluation of conservation status, so that consideration can be given to their declaration as threatened ecological communities. Ecological communities that are adequately known, and are rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

Rio Tinto employees advised there is uncertainty associated with the extent to which the deep water aquifer under the mine will recharge given the amount of draw-down over the life of the Plan. The Conservation Commission is concerned with the ongoing management of Minthi Spring and the Coolibah Lignum Flats PEC following the decommissioning of the Marandoo Mine Site although it is understood Rio Tinto has undertaken and reported on detailed investigations of the hydrology of the PEC, with results indicating that this areas is fed by soil water stored in confined layers below the surface following major rainfall events, rather than groundwater. A decommissioning project is required to be produced by the proponent to manage the final rehabilitation of the site. It is unknown how long it will take for the aquifer to recharge or if it will fully recharge to the extent that Minthi springs will begin to flow naturally.

While a range of monitoring activities have been undertaken, it is unclear whether the results and implications have been collated for reference by any party in the absence of the KPC and KNPAC.

#### Key Finding 11

Impacts from mining adjacent to the Park are evident within the Park.

#### 3.7 Management for public use

#### **Objective**

The objective is to provide a basis for the regulation of activities within defined zones, so that the human uses of the Park do not conflict with each other and are compatible with conservation objectives.

#### Strategy B.7.7.1

#### Require visitors to Karijini National Park to comply with existing regulations.

Department staff have noted anecdotally that many (not all) of the incidents involving people being seriously hurt have been linked to risk-taking behaviour by people. The behaviour of this minority group of Park users was described by department staff as a drain on the department's resources, as managing it is difficult in such an expansive park. Examples of behaviour include jumping off high rock ledges into shallow rock pools, climbing on unstable surfaces and steep cliff faces, and drinking alcohol from glass bottles while on walk trails. A finding related to anti-social and dangerous behaviour was included in a previous performance assessment – Parks of the Perth Hills Performance Assessment. This assessment found similar management issues facing the department in managing Serpentine Falls.



Figure 12: A man jumped from a height of 45 metres above the popular Circular Pool and was successfully rescued with help from emergency services and department staff

The department has been proactive in engaging mining companies to self-regulate the behaviour of their employees. This was reported to have been successful. Conservation Commission staff were informed by the department that much of the antisocial behaviour was linked to a minority of two user groups - backpackers and contractors to mining companies that are not bound by company regulations.

# SES save day after gorge fall

A 22-year-old woman was lucky to escape serious injury after falling 4m down Weano Gorge at Karijini National Park last weekend.

Volunteer State Emergency Services personnel performed a 65m vertical rescue to reach the woman who was suspected to have spinal injuries.

Local St John Ambulance officers and a community paramedic provided care to the casualty while the delicate 3.5 hour rescue operation took place.

Tom Price SES unit manager Jo Heptinstall said the rescue was the 14th call-out and second vertical rescue SES had completed at Karijini National Park this year.

She said SES call-outs to the national park had reduced in recent times due to improvements to gorge infrastructure.

The woman was transported to Tom Price hospital with non-life-threatening injuries and has since been released.

St John Paraburdoo and Tom Price relief community paramedic Patrick O'Dal said the successful outcome in difficult circumstances was a testament to the training of emergency and rescue volunteers.

"It was particularly pleasing to see a new group of volunteers from the St John Paraburdoo sub branch working alongside our Tom Price volunteer in undertaking a delicate rescue with such skill and professionalism," he said.

Figure 13: Article taken from the North West Telegraph gives an indication of the complexity and resources required to undertake rescue operations identifying 14 call-outs from January 2014-September 2014

#### **Key Finding 12**

A minority of Park visitors do not comply with existing regulations and use the Park in ways that are unsafe, conflict with other users, cause damage to infrastructure and exhibit behaviours that are incompatible with conservation objectives.

#### 3.8 Camping and campfires

#### **Objectives**

#### Encourage appropriate recreational use of the Park.

Provide facilities and services to increase visitor awareness and enjoyment of the natural and cultural values of the Park.

#### *Strategy B.7.3.3.2*

#### Fires in designated camping areas in the northern portion of the Park will only be permitted where there is a resident caretaker/manager at the campground and where firewood is supplied and then only in designated fireplaces.

Hamersley Gorge is situated in the northwest section of the Park and is over a one hour drive from Park Headquarters. Facilities have recently been upgraded to include a day use area with parking, shelter, toilets and a wi-fi hotspot. There are no designated camping areas or a permanent ranger based at this site. Department staff advised during the Conservation Commission's site visit that this area was difficult to monitor and regulate due to its distance from the rest of the Park's key sites. Conservation Commission staff saw evidence of unauthorised camping, such as discarded toilet paper and evidence of camp fires adjacent to the free wi-fi hotspot.

Conservation Commission audit staff also noted that non-departmental signage did not make it clear that camping and lighting fires is not authorised in this section of the Park without ranger approval. Department staff advised that some visitors to the Park arrive under-prepared and under-funded and end up camping in unauthorised areas, not paying the appropriate fees. There is concern that locations that provide free wi-fi such as Hamersley Gorge day use area will become well known through social media and unauthorised camping will become a growing problem for the department. The associated lighting of camp fires increases the fire risk to infrastructure and biodiversity values in a remote part of the Park. The Conservation Commission is concerned these behaviours will pose a risk to Park values.



Figure 14: Signage at the recently established Hamersley Gorge day use facilities.

The Conservation Commission is encouraged to see facility upgrades to attract people and to make the visitor experience more enjoyable, in line with the department's 'Parks for People' policy. However, the Conservation Commission notes the additional ongoing resources required to manage these so as to protect natural and cultural values.



Figure 15: New signage which is not consistent with the regulations of the Management Plan

#### **Key Finding 13**

Signage installed by agencies other than the land manager was observed on Conservation Commission vested land which was not consistent with the objectives of the Management Plan.



Figure 16: Free Wi-fi and shelter with evidence of unauthorised campfire in the foreground

#### **Key Finding 14**

Unauthorised campers were observed during the site visit as well as some of the impacts of unregulated camping such as rubbish, damage to vegetation, erosion and fire wood collection.

#### 3.9 Research and monitoring

#### **Objective**

The objective is to compile an inventory of the Park's natural and cultural resources.

#### Strategies B.11.1.2

# Survey the status of the Park's plants and animals (including invertebrates), in order to acquire baseline information on appropriate segments of the plants and animals which will provide a basis for monitoring programs

The response to the assessment table sent to the department's regional staff to complete prior to the site visit indicated that very few of the strategies relating to research and monitoring of flora and fauna had been attempted. There have been some isolated research projects but no comprehensive baseline data on the plants and animals of the Park has been collected.

The Conservation Commission considers this baseline research as vital to prioritising management of the Park's natural values. Given the changes in context with increased visitor numbers and potential ex-pastoral additions to the National Park, the Conservation Commission notes that to facilitate research and monitoring, additional resources may be required to achieve the diverse objectives of the Park's future management.



Figure 17: Mound of pebbles, evidence of pebble mound mouse activity, Karijini National Park.

#### **Key Finding 15**

A comprehensive inventory of the Park's natural resources based on survey was not available during the assessment.

## 4 Potential management issues

#### 4.1 Ex-pastoral leases

Ex-pastoral leases refer to those pastoral stations across the rangelands where leases will expire in mid-2015. There are a number of such stations surrounding Karijini National Park. In August 2014, a report published by the Environmental Protection Authority (EPA) 'Cumulative environmental impacts of development in the Pilbara region' recommended:

"That the proposed 2015 pastoral lease exclusion areas within the Pilbara, identified for management by the Department of Parks and Wildlife, be afforded the highest possible level of conservation tenure".<sup>3</sup>

The reason for this recommendation was to "increase the formal reserve system and enhance the long term protection of biodiversity in the Pilbara"<sup>4</sup>. "*This has the potential to significantly increase the quantity of DPaW managed land in the Fortescue sub-IBRA region from under one per cent up to ten per cent*"<sup>5</sup>.

The existing Management Plan area is approximately 627,000 hectares. Ex pastoral lease additions could amount to up to 369,000 hectares (Table 1), potentially increasing the size of the park to 996,000 hectares. In its report, however, the EPA notes its understanding that "it is unlikely that many of the proposed pastoral exclusion areas will be afforded Class A status"<sup>6</sup>. In addition, reforms to pastoral land tenure have been proposed via amendments to the *Land Administration Act 1997* (LAA) to provide an alternative option to the existing tenure of pastoral leases. The proposed option, known as a "rangelands lease" will allow for multiple uses, including conservation. This will enable management of part or whole leases for conservation, consistent with agreed conservation objectives.<sup>7</sup>

The Conservation Commission is aware that pastoral lease exclusion areas shown in Figure 19 have been subject to grazing at various intensities over the last century. Furthermore, some of these pastoral stations have mine sites that are still active.

The status of the natural values of the additions would need to be assessed along with those legacy management issues associated with grazing and mining activity. The capacity of the Region to manage any additions to the Park would need to be considered in any future management planning for the Park.

<sup>&</sup>lt;sup>3</sup> Cumulative environmental impacts of development in the Pilbara Region – Advice of the Environmental Protection Authority to the Minister for Environment under Section 16(e) of the *Environmental Protection Act 1986.* August 2014 page 4

<sup>&</sup>lt;sup>4</sup> Ibid. page 4

<sup>&</sup>lt;sup>5</sup> Ibid. page 27

<sup>&</sup>lt;sup>6</sup> Ibid. page 28

<sup>&</sup>lt;sup>7</sup> Ibid. page 28

STATION	HECTARES
ex Hamersley Station Total	67097
ex Hillside Station Total	33921
ex Juna Downs Station Total	77075
ex Marillana Station Total	74600
ex Mulga Downs Station Total	42388
ex Rocklea Station Total	45036
ex Roy Hill Station Total	28907
Total	369023

Table 1. Potential additions to the conservation estate July 1 2015.



Figure 18: 2015 exclusions proposed to be vested with the highest possible level of conservation tenure as recommended by the EPA



Figure 19: Active iron ore mine footprint within Ex Mulga Downs station, proposed to be vested in the conservation estate after midyear 2015.

#### 4.2 Hamersley Agricultural Project

The Hamersley Agricultural Project (HAP) was initiated as a way to use the excess water from dewatering of the Marandoo Mine below the water table. Irrigation pivots have been created and these pivots have been planted with Rhodes Grass (*Chloris gayana*) for the cultivation of stock feed.

Conditions have been attached to cropping of exotic pastures. However, the Conservation Commission is concerned that stochastic events, such as severe wind and flooding associated with cyclones, may make controlling Rhodes grass difficult if it were to enter the Park's permanent water ways. Department staff advised during the site visit that some small patches of Rhodes grass had established outside the pivots, but these had subsequently been eradicated.

It was also reported that some sections of the fodder crops were able to seed before harvest which, if correct, would not be in compliance with environmental conditions set by the Minister for Environment. During opportunistic and informal monitoring of the local environment by the department in the vicinity of the HAP project, some Rhodes grass was found in drainage lines downstream of the operation where excess water from the mine is intermittently pumped. There is also some concern that transport of cropped grass will take place along Karijini Drive, through the centre of the Park.

There have been no reports of Rhodes grass establishing within the Park to date, however managing this and other introduced cropping species should be considered in a future management plan for the Park.



Figure 20: Overview of Hamersley Agricultural Project



Figure 21: Stockpile of large bails of Rhodes grass adjacent to irrigated pivot and Karijini Drive.

The Conservation Commission would like to acknowledge that the proponent of the HAP project has set up some trial pivots to irrigate native species and looks forward to the outcome of these trials.

## **5** Assessment conclusions

There has been a significant change in context with the Park recording far greater visitor numbers since the Management Plan was endorsed in 1999. The current staffing and resourcing structure is spread thinly across the Park and resources are focussed on visitor management. As a result, key strategies related to biodiversity values have not been achieved.

The potential addition of large areas of ex-pastoral lease with legacy issues as a result of grazing and mining pose a potential further significant change in context for future management of the Park. The emergence of agricultural projects and further draw down of water in and adjacent to the Park could also pose future management concerns.

The department's Pilbara regional staff advised that from their perspective the development of a new plan for the area is a priority. As a result of the findings of this performance assessment, The Conservation Commission supports this view.

The goals and objectives of the current Management Plan were well conceived at the time of publication but given the changes in context and priorities, objectives and strategies need to be reassessed. The plan will continue to provide some management direction until it is replaced.

#### Appendix 1 No of Indigenous Staff employed at Karijini National Park

#### <u>Past Staff</u>

#### Park Rangers

1987 - 2009(22 years)1987 - 1997(10 years)2005 - 2009(4 years)

#### Assistant Ranger

1998 – 2012 (14 Years)

#### **Ranger Trainee**

2005 - 2006 (12 months)

#### **Visitor Centre Staff**

1994 – 1998 (4 years) 1996 – 2005 (9 years) (3 years) 2002 – 2005 2004 - 2006 (2 years) 2004 - 2008 (4 years) 3 x 2005 – 2006 (1 year) (4 years) 2005 – 2009 (1 year) 2007 – 2008 3 x 2008 - 2009 (1 year) (1 year) 2009 - 2010 (4 years) 2009 -2013 (2 years) 2010 - 2012 2 x 2013 – 2014 (1 year)

#### Current Staff to 2014

Assistant Park Ranger

2010 – 4 years

#### Visitor Centre Staff

1996 – 18 years 2009 – 5 years 2009 – 5 years 2013 – 1 year

#### Appendix 2 Department responses to key findings



Government of Western Australia Department of Parks and Wildlife 
 Your ref:
 CON2014/024-1

 Our ref:
 CEO1215/15

 Enquiries:
 Laurina Bullen

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 9219 8787

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 Laurina.Bullen@dpaw.we.gov.au

Ms Carol Shannon Director Conservation Commission of Western Australia Block 11, 17 Dick Perry Avenue KENSINGTON WA 6151

RECEIVED 1 4 AUG 2015 CONSERVATION COMMISSION OF WA

Dear Ms Shannon

Thank you for your letter dated 16 June 2015 regarding the performance assessment of the implementation of the Karijini National Park Management Plan.

Please find attached the department's response to the findings of the draft performance assessment for inclusion in the final report.

If you require further information on this matter, please contact the department's Senior Planning Officer, Ms Laurina Bullen on 9219 8787 or laurina.bullen@dpaw.wa.gov.au.

Yours sincerely

Jim Sharp

DIRECTOR GENERAL

12 August 2015

Att

Office of the Director General Locked Bag 104, Bentley Delivery Centre, Western Australia, 6983 Phone: (08) 9219 9900 Fax: 9219 9967 www.dpaw.wa.gov.au

Find	ling	Response
1.	The Karijini Park Council and Karijini National Park Advisory Committee did not consider priorities for management strategies nor assist the department in developing a five- year implementation plan.	Noted. Priority was given to the establishment of the Park Council to facilitate traditional owner participation in planning for and management of the park. As the Advisory Committee was considered a duplication of the role of the Park Council, it was not constituted. The Karijini Park Council has been ineffective since at least 2008. Meetings held in September 2008 and June 2012, failed to attract adequate representation from the three relevant language groups of the area. Inadequate representation has drawn the relevance of this council into question and efforts at reinstating the council have since been unsuccessful.
2.	Broader community participation in the Management Plan's implementation was limited due to the National Park Advisory Committee not being active.	Noted. District staff have regular ongoing contact with traditional owners and commercial tour operators in the management of the park. A Visitor Risk Management Workshop was held on 21 August 2013 to gain broader community participation in addressing visitor risk management. A traditional owner and a range of ecotourism operators attended.
3.	The department has effectively facilitated volunteer participation to assist in the day to day running of the Ranger Station and other aspects of park management, supporting delivery of services but not necessarily the implementation of the Management Plan.	Noted. Participation of volunteers in park management has focused on the involvement of campground hosts to manage overnight camp sites and facility maintenance. Some volunteers have progressed to either permanent or seasonal rangers with the Department. Conservation volunteers have been active during the life of the plan, completing projects in both Nature Conservation and Parks and Visitor Services programs, consistent with the Management Plan.
4.	A lack of accurate employment data means it has not been possible to determine whether the staff to visitor ratio has been maintained or improved over the life of the Management Plan.	Noted. Data from 2000 through to 2015 reveals that numbers of rangers employed in the park have remained almost static, with the addition of 1 seasonal ranger in 2015. However, the Karijini Visitor Centre (KVC) now has a staffing complement of 5 persons (3.2 FTEs) who work at the KVC only. During the period 2000-2015, park visitor numbers have grown from approximately 24,500 in 2000 to 207,400 in 2014. Even when including KVC staff, general personnel growth has not kept pace with visitor numbers (approximate ratios were 1:4,900 in 2000 compared with 1:25,925 in 2014), although the presence of campground hosts and the developments by the private lessee associated with the Karijini Eco Retreat have improved the capacity for visitor management and provision of visitor services.
5.	Opportunities for Aboriginal employment have been achieved over the life of the Management Plan, although	Agreed. Since the early 1990s, Aboriginal training programs have been run with varying degrees of success under the Department's MATES program.
	there was no evidence that additional categories of employment had been trialled.	The Karijini Visitor Centre has been the most successful and consistent area of Aboriginal employment in the park since 1990.

Aboriginal staff turnover has been high.	The Karijini Eco Retreat was built and is owned by a local Aboriginal corporation and aims to employ local Aboriginal people. Unfortunately, the success of this employment initiative has been limited due to the relative isolation of the operation from the nearest town, Tom Price.
<ol> <li>The Karijini Visitor Centre provides visitors with information to enhance their safety, understanding, appreciation and enjoyment of the natural and cultural values of the Park.</li> </ol>	Agreed. The Karijini Visitor Centre is a focal point for the delivery of safety messages and general park information to users of the national park, and is well patronised by park visitors.
7. The Department has delivered signage that promotes safety and visitor responsibility and has an ongoing program to upgrade walk tracks, lookouts and emergency procedures.	Agreed. A walk trail classification system has been implemented, which categorises each trail in the park from Class 1 to 5. The system is colour-coded and provides a clear description of each class, including level of difficulty and degree of preparedness required for each class of trail. Other sections of the park, including the gorges which are not classified, can only be entered via permit or with a licensed operator. Emergency radios are located at Dales and Weano recreation areas. Most signage and interpretation has been upgraded to Parks and Wildlife standards, in particular hazard warning signs. A range of lookouts, ladders and platforms have been constructed or upgraded to improve visitor safety.
8. A fire operations plan for the Park was not made available during the assessment.	Noted. Fire management in the national park is guided by the Pilbara Region Fire Management Plan and there is no fire operations plan at park level.
<ol> <li>There was no evidence provided to show that burning was being used as a management tool to enhance habitat diversity.</li> </ol>	Agreed. Prescribed burns have been executed with the purpose of reducing bushfire risk to human life and property. The parameters of ecologically-appropriate fire regimes for the national park have not yet been identified so prescribed burns aimed at maintaining biodiversity have therefore not yet been implemented.
<ol> <li>There was no evidence of the establishment or maintenance of a systematic feral animal control program or history of control measures. A register of exotic animals in the Park has not been established and maintained.</li> </ol>	Noted. Feral herbivore control and management of straying cattle has been conducted on an as-needs basis. One aerial feral herbivore shoot was conducted in 2010 and an aerial muster (by pastoralist) was carried out in the same year to remove straying cattle from the park. Records of these control actions are held centrally in the region rather than on a park register. A database including records of distribution, densities and control effort will be developed. However it is queried whether a register of occurrence of feral animals is of great value, because the species present in the park are well known, e.g. cattle, cats and wild dogs.

11. Impacts from mining adjacent to the Park are evident within the Park.	Noted. Impacts of mine dewatering at Marandoo Mine on the Mt Bruce Coolibah Woodlands and Mindthi Springs are being closely monitored.
12. A minority of Park visitors do not comply with existing regulations and use the Park in ways that are unsafe, conflict with other users, cause damage to infrastructure and exhibit behaviours that are incompatible with conservation objectives.	Agreed. Inappropriate behaviour, which is often linked to alcohol consumption, is observed in the park, despite ongoing dissemination of safety messages through personal interactions, media and signage, as well as regular ranger patrols and joint compliance operations with the Western Australia Police. The department also works with local mining companies on education and park pass programs for their employees which are aimed at encouraging appropriate behaviour in the park. A recent trend of poor behavior by back-packers has been observed, involving general non-compliance, such as avoidance of fee payments, illegal camping and entry into areas of prohibited access. Social media and blog sites are being used more regularly to promote such illegal activities. Park staff communicate with volunteers and visitors to ensure visitors receive safety information and to discourage this behaviour.
13. Signage installed by agencies other than the land manager was observed on Conservation Commission vested land which was not consistent with the objectives of the Management Plan.	Noted. Parks and Wildlife will liaise with Main Roads WA to change the message on the sign. The sign referred to was installed by Main Roads WA (with Parks and Wildlife Pilbara Region approval) at a day use site near Hamersley Gorge. The sign carries a message around the making of fires in appropriate places, as part of the "Leave No Trace" principles. It is noted that this sign could impart a "mixed message" implying that campfires are allowed at that place, which would be contrary to park regulations.
14. Unauthorised campers were observed during the site visit as well as some of the impacts of unregulated camping such as rubbish, damage to vegetation, erosion and fire wood collection.	Agreed. Due to the large size of the national park, with limited staff to patrol all areas, unauthorised camping with associated illegal activities does occur. Education and compliance activities by park staff have reduced these illegal activities to manageable levels.
	Expansions to Dales campground and the addition of the Karijini Eco Retreat have provided visitors with a range of camping options. Development of day-use facilities, signage and interpretation, walk trails and sealing of priority roads has reduced impacts on vegetation, erosion and fire wood collection. The introduction of rubbish trailers in strategic locations for general visitor use, in conjunction with the "Leave No Trace" message, have reduced litter and vastly improved rubbish management.
15. A comprehensive inventory of the Park's natural resources based on surveys was not available during the assessment.	Noted. Although numerous surveys have been conducted by the Department, academia and consultants, not all data is centrally stored. However, NatureMap and FloraBase are databases that have considerable data for the park and are easily accessible depositories for storing the relevant data.



Department of Biodiversity, **Conservation and Attractions** Office of the Director General

CON2013/033 Your ref: CEO2147/17 Our ref: Enquiries: Arvid Hogstrom Phone: 08 9947 8003 arvid.hogstrom@dbca.wa.gov.au Email:

Mr Roland Mau A/Director **Conservation and Parks Commission** 17 Dick Perry Avenue **KENSINGTON WA 6151** 



1 6 AUG 2017

CONSERVATION AND PARKS COMMISSION

Dear Mr Mau

#### MANAGEMENT PLAN **REVIEW OF FINDINGS - KARIJINI NATIONAL** PARK PERFORMANCE ASSESSMENT

Thank you for your letter dated 26 July 2017 regarding an update on the progress of specific management actions raised in the Conservation and Parks Commission's Periodic Assessment Program of the Karijini National Park Management Plan 1999 - 2009.

The Department of Biodiversity, Conservation and Attractions provides advice below on the progress of the requested key findings.

#### Kev finding 8 – Fire Management

Fire management in Karijini National Park is guided by the Pilbara Region Fire Management Plan which is currently under revision. There is no fire operations plan in place at park level. A prescribed burn plan (PIL\_021 Karijini National Park) has been endorsed and approved until 30 September 2017.

#### Key finding 9 – Fire Management

Prescribed burning was implemented in the early dry season during 2016 and 2017 to reduce the size and impact of large scale bushfires in the park. A total treatment area of 170,221 hectares was implemented with about 20 per cent of this area being burnt. Burning aims at protecting people, infrastructure and to create a mosaic of different vegetation ages to enhance habitat diversity. Such burning activities reduce the size and impact of bushfires, protecting the park's biodiversity, recreational and cultural values.

#### Key finding 10 – Feral Animal Control

Over the past two years, aerial shoots of feral herbivores including cattle, horses, donkeys and camels have been undertaken. This control measure will continue where surveys indicate presence of enough animals to make an aerial shoot exercise cost effective.

Ground and aerial musters of cattle by neighbouring pastoralists have occurred over the past years further reducing numbers. Additionally, in conjunction with adjoining pastoralists, three watering







17 Dick Perry Avenue, Kensington WA 6151 Post: Locked Bag 104, Bentley DC WA 6983 Phone: (08) 9219 9000 www.dbca.wa.gov.au points have been installed on the Hamersley ex-pastoral land which has reduced the incentive for cattle to be attracted to the park boundary. The vertebrate pest animal species are well known to staff.

#### Key finding 11 - Impacts of Mining

Impacts of mine dewatering at Marandoo Mine on Mt Bruce coolabah woodlands and Minthi Springs continue to be closely monitored.

#### Key finding 12 - Visitor Management

Over the past two seasons, national park staff have adjusted patrol patterns to focus on high visitor locations. While effective in reducing inappropriate behaviour, this control measure is resource intensive and needs to be balanced in terms of staff availability and other park priorities on a daily basis.

The relationship with nearby mining companies has improved with staff and mine managers working collaboratively to address previous poor behavioral patterns. A downturn within the resource industry has also contributed to the improved situation. The Pilbara Region will continue to develop relationships as mining expansions continue with two approvals to expand existing mines on the eastern side of the park in place. These expansions may lead to an increased number of construction contractors, previously known for the inappropriate behaviour.

Monitoring activities by ranger staff indicates a decrease in visitors acknowledging safety signs and an increased occurrence of incidents along the difficult walk trail classes (4&5). Modern safety messages through social media channels and applications can target a wider population of visitors. Due to the isolated nature of Karijini National Park there is limited mobile data coverage in the park. The Government has rolled out an isolated Optus tower program, however, these towers provide a range of only 2km.

A joint project with the Pilbara Development Commission to promote a higher level of tourism attractions for the Pilbara Region will encompass upgrading of walkways, lookouts and sealed gravel roads over the next five to 10 years. While the facilities will have a positive impact, particularly the sealing of gravel roads, any infrastructure upgrades should result in a rise in visitor numbers and, as a result, consideration will need to be given to ensure staff and resources are adequate to manage the increase in visitation as well as meeting nature conservation priorities. Perhaps the greatest challenge for the Pilbara Region is establishing a strategy with sufficient staff coverage that will maintain a high level of service whilst managing issues for a growing number of visitors as the tourism sector for the Pilbara Region develops. The McGowan Labor Government's Aboriginal Ranger Program may offer opportunities to address some of these issues, however, a long-term strategy needs to be investigated and implemented.

#### Key finding 14 – Visitor Management

Night patrols is one method that is being used as a control measure to reduce unauthorised camping activities. The senior ranger operates a split roster system when feasible to facilitate an early morning and afternoon/evening ranger presence within the park. Many of the night patrols are achieved by ranger staff going beyond the call of duty to mitigate the number of unauthorised campers and the impact their activities have on the local vegetation.

The region is currently planning for an additional campground to cater for increased visitor and camper numbers. The proposed campground will also become part of the department's online campground booking system that will formalise advance camping arrangements. It is expected that greater capacity and affordable camping options within the park will reduce unauthorised camping significantly.

#### Key finding 15 – Biodiversity Monitoring

NatureMap and FloraBase are databases that have considerable data for Karijini National Park and are easily accessible repositories for storing relevant data. Any new survey data from internal and external sources is included in these databases.

Should you require any further clarification, please contact Mr Arvid Hogstrom, A/Regional Manager on 9947 8000 or email <u>arvid.hogstrom@dbca.wa.gov.au</u>.

Yours sincerely

rverb

Mark Webb INTERIM DIRECTOR GENERAL

14 August 2017