

# Parks of the Perth Hills Performance Assessment



Conservation Commission of Western Australia  
Conservation Reserve Management Plan Performance Assessment  
CRMPPA 01/10



Conservation Commission  
of Western Australia



# Commission function

Conservation Commission performance assessments are undertaken primarily to fulfil the functions described in section 19(1)(g) of the *Conservation and Land Management Act 1984*. That is to “assess and audit the performance of the Department and the Forest Products Commission in carrying out and complying with the management plans”. Performance assessments also help inform the Conservation Commission’s policy development function and its responsibility to advise the Minister on conservation and management of biodiversity components throughout the state.

The use of Department of Environment and Conservation (DEC) data for the production of maps in this report is acknowledged.

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Conservation Commission of Western Australia 2012, *Parks of the Perth Hills Performance Assessment*, Conservation Commission of Western Australia, Crawley.

Photos – Conservation Commission

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# Executive summary

The parks and reserves of the Perth Hills contain iconic landscapes with diverse biological, historical and social values. This assessment report details the significant biodiversity, landscape and catchment values of the conservation reserves in the area, the threats to these values in the context of a rapidly growing metropolis, and an evaluation of the management response to these threats.

The scope of the assessment focused on both multiple reserves (to assist in planning for proposed multiple reserve management plans) and selected individual reserves (where individual reserve management plans exist).

Initially, a general qualitative analysis of the area was undertaken through a self-assessment questionnaire which was completed by Department of Environment and Conservation (DEC) Perth Hills District staff. The questionnaire included an overall judgement of the reserve management standard for the conservation of the principal values, with the respondents indicating:

- One per cent of the total area assessed recorded a 'very good' management standard, indicating that plans for managing identified threats and monitoring programs are in place and key issues are being addressed.
- Forty five per cent of the total area assessed recorded a 'good' management standard, with threatening processes identified and values effectively managed.
- Fifty four per cent of the total area assessed recorded a 'fair' management standard, indicating that threatening processes are poorly identified and resource degradation is occurring but retrievable.
- No parks or reserves recorded a 'poor' management standard, where threatening processes that are not managed are leading to permanent resource degradation.
- Within nature reserves, 78 per cent of the total area returned a 'good' management standard, with threatening processes identified and values effectively managed.
- Within national parks, 76 per cent of the total area returned a 'fair' rating for management standard, where threatening processes are poorly identified; resource degradation is occurring but retrievable.

The overall questionnaire responses were evaluated in relation to principal values and the most common themes were identified. The highest-priority values were:

- biodiversity
- landscape and geological features
- ecosystem services (water catchment).

Responses were evaluated in relation to high-impact threatening processes. The most common themes identified were:

- uncontrolled access
- weeds.

These themes provided the basis for case studies within John Forrest National Park (JFNP) and Serpentine National Park (SNP) which were assessed against existing area management plans and provided extra detail and verification of the qualitative analysis. Overall the case studies revealed there had been management achievements in:

- adapting to the changing context of recreational users of the parks and reserves of the Perth Hills where the number of park users has increased dramatically and the range of activities has broadened over the life of the management plans. DEC staff has done exceptionally well to maintain a 'fair' to 'good' overall standard of park management given these changing requirements and lack of resources. No parks or reserves were recorded as having a 'poor' management standard
- ongoing management of the parks' key recreation sites through access control and signage in the context of dangerous and offensive behaviour from a growing minority of park patrons
- successful closure of public access areas such as Gooralong campground where the location, facilities, behaviour of patrons, and general safety concerns were incompatible with the intended recreational use of the park.

However, this assessment also highlights findings for which a response from the managing agency is required. Management responses were requested for the following findings:

*Findings relating to 'Case study one: uncontrolled access'*

*Finding 1      The extent to which dieback has been successfully managed cannot be readily determined as no dieback mapping has been undertaken during the life of the plans as required by existing management plans.*

*Finding 2      There is no evidence of seasonal access restrictions to minimise the risk of spreading dieback disease being implemented in the parks as required by existing management plans.*

*Finding 3      Public access is not being confined to developed roads as required by the existing management plan. Unauthorised access is occurring in the northern section of JFNP leading to unauthorised firewood collection and rubbish dumping.*

*Finding 4      Cycling within JFNP is permitted on designated tracks only as required by existing management plan. Evidence of unauthorised mountain bike tracks was observed in JFNP.*

*Finding 5:      The break-up of large rural plots adjoining the park into subdivisions is adversely impacting on park values where existing management plans require the department to liaise with neighbours to encourage land uses that do not adversely affect the park values.*

*Findings relating to 'Case study two: weeds'*

*Finding 6      No documented five-year weed management program has been implemented within either park as required by existing management plans.*

<i>Finding 7</i>	<i>It is not clear how priorities for managing weeds in the parks are determined. There is no weed management plan as required by existing management plans and in CALM Policy Statement No.14. – Weeds on CALM Land. There was no operational control system for recording data as required by CALM Policy Statement No.14.</i>
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A lack of availability of records to demonstrate management effectiveness—for example in relation to managing the spread of dieback and monitoring the condition of the habitat in JFNP and SNP—has been reported upon in this assessment and in previous assessments undertaken by the Conservation Commission.

The Commission hopes the Parks of the Perth Hills Performance Assessment will assist managers in their work, improve management planning practice and management outcomes, and help inform policy decisions that will benefit the environment.



# Introduction

## Reporting on the management of protected areas

Conservation Commission performance assessment reports have regard to the International Union for Conservation of Nature (IUCN) and the World Commission on Protected Areas (WCPA) framework for reporting on the management of protected areas. The WCPA framework is presented in Figure 1 below.

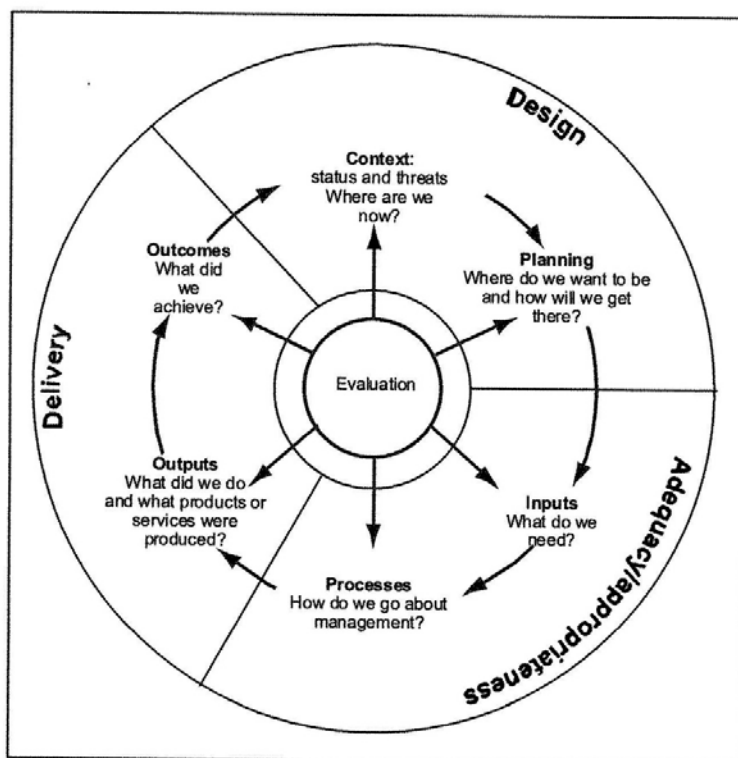


Figure 1: Management cycle for protected areas (Hockings et al. 2000)

## Scope

The parks and reserves of the Perth Hills includes 121 national parks, conservation parks, regional parks, nature reserves, 5(1)(g) reserves, timber reserves and miscellaneous reserves located in the Perth Hills District.

Management plans exist for John Forrest National Park (JFNP), Serpentine National Park (SNP), Lane Poole Reserve, Mooradung Nature Reserve, and Nature Reserves of the Shires of York and Northam. The remaining parks and reserves, with no specific management plans, are managed using the *Forest Management Plan 2004–2013*. Other management documents, such as interim management guidelines and threatened species recovery plans, also apply to the parks of the Perth Hills. National parks, nature reserves, conservation parks, CALM Act sections 5(1)(g) or 5(1)(h) reserves categories of tenure were included within the assessment.

The scope of this performance assessment follows on from the *Parks of the Albany Coast* pilot study. This approach was developed to account for the shift in management planning from individual reserve management plans to area management plans for multiple reserves. The Parks of the Perth Hills performance assessment process is discussed below and in detail in the Parks of the Perth Hills: Performance Assessment Plan (Appendix 3).

### **Assessment process**

The methodology for this assessment involved a three-stage process. Firstly, a self-assessment questionnaire developed by the Conservation Commission audit staff was provided to DEC Swan Regional staff and Regional Park branch staff to complete. The self-assessment was designed to return broad information on the management of parks and reserves across the Perth Hills management area and provide the Conservation Commission with areas to focus more detailed case studies. The focus of the questionnaire was on identifying priority reserve values and key threats to those values.

The second stage of study involved an analysis of the trends and results from the self-assessment questionnaire. Results from the qualitative analysis questionnaire were tabulated for trend analysis using a geographic information system to allow spatial representation of the information gathered. Through this process the following case studies were identified: **(1) uncontrolled access** and **(2) weeds** for both JFNP and SNP.

The third stage of the process involved interviews with DEC regional staff, records checking and site visits to the parks to allow for evidence-based reporting against strategies and actions of the relevant management plans.

This report presents the general values of (and threats to) the parks and reserves of the Perth Hills, with a more detailed analysis of selected themes using two case studies. Details and results of management implementation are included where these were available, with an emphasis on evidence-based reporting. Where a response from the managing agency is required, a finding has been included in the relevant section of the report.

DEC has provided a response to the findings which is included in this report (Appendix 4). The Conservation Commission recognises that significant work has been undertaken by DEC in relation to the findings since the initial assessment. The Conservation Commission commends these initiatives and this progress will be reviewed as per previous performance assessment reports approximately 12 months following publication.

## Part A – Self-assessment questionnaire

### Results

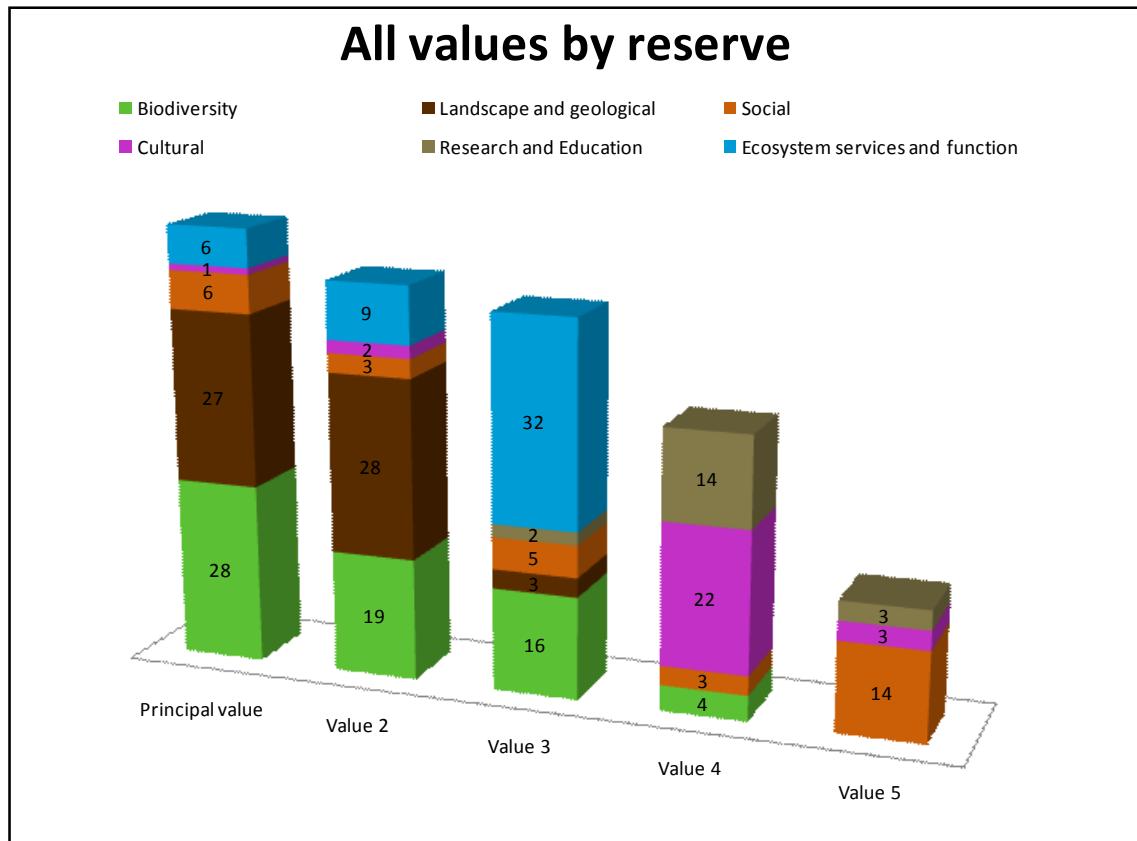
Using the self-assessment questionnaire, information was collected on different levels within the indicative list of parks and reserves in the Perth Hills. Information collected related to the principal values of the parks and reserves, the threats to them and the overall standard of park or reserve management. A copy of the self-assessment questionnaire can be found in Appendix 3: Parks of the Perth Hills: Performance assessment plan. The results are reported below.

#### **Values of the parks of the Perth Hills**

In the self-assessment questionnaire, respondents from DEC listed the principal reserve values in order of importance for each reserve they were involved in managing.

The values were: biodiversity, landscape and geological, social, cultural, research and education, and ecosystem services and function. The results are represented diagrammatically in Figure 2 and geographically in Appendix 1: Map 1.

Results of the self-assessment questionnaire have identified biodiversity, landscape and geological and ecosystem services as the most important values within the district.



*Figure 2: Representation of priority reserve values for parks and reserves of the Perth Hills*

Landscape and geological values featured prominently in the survey and represents those parks and reserves with deeply incised granite valleys, rock pools and rocky outcrops that contain unique biota and provide ancient and attractive vistas for visitors.

Ecosystem services and function was recorded as the most important value for the larger parks and reserves to the east that fall within Perth's major water supply catchments of Mundaring and Serpentine. The majority of high biodiversity values were drawn from smaller nature reserves in the northern and eastern parts of the planning area, and the larger Monadhocks and Lupton conservation parks. Figure 4 and Appendix 1: Map 1 show the six reserves which recorded ecosystem services and function as the most important value which represents 59 per cent of the total area of parks and reserves recorded. The 28 smaller reserves with biodiversity as the most important value represented 25 percent of the area, while the 27 parks and reserves with landscape and geological as the most important value represented only 9 percent of the total area.

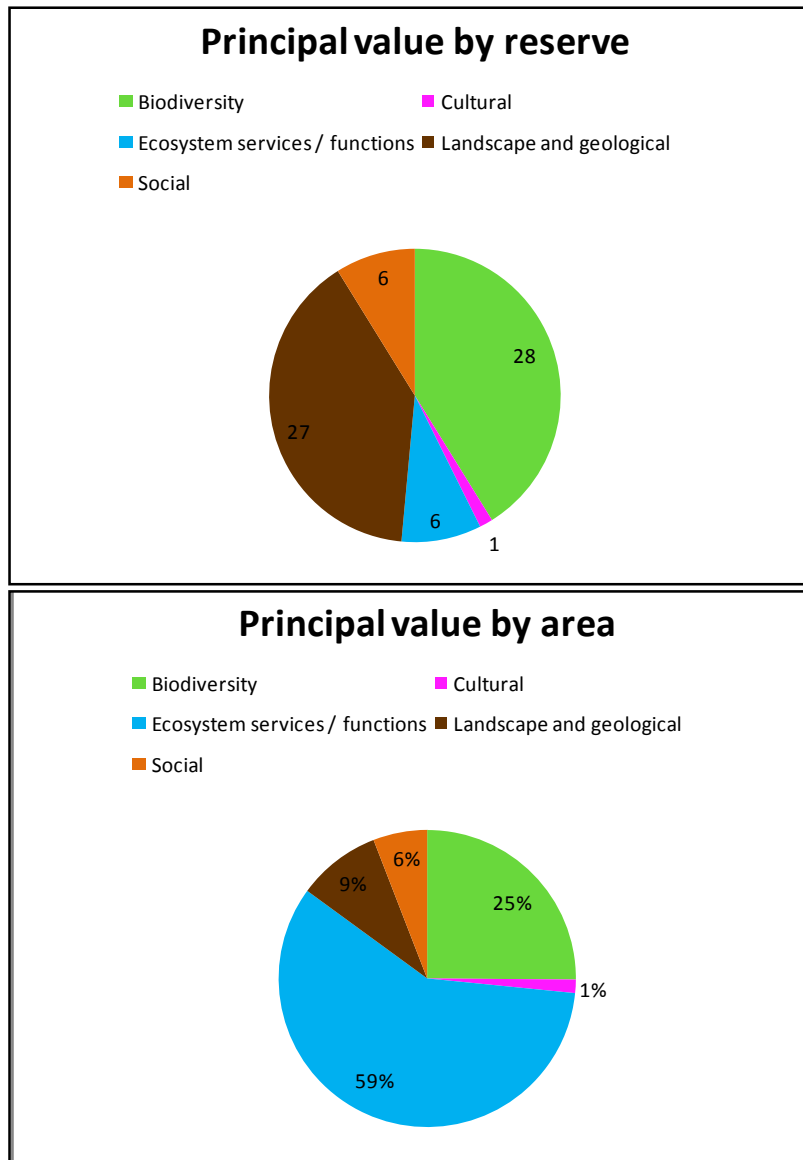


Figure 3: Principal value by reserve and by area

Both JFNP and SNP recorded social as the priority value. These national parks are located along the Darling Scarp and are the closest accessible recreational areas for people travelling from the greater Perth metropolitan area.

### Threatening processes and impacts

Respondents of the self-assessment questionnaire were asked to identify and rate the impact and extent of relevant threatening processes to each reserve/park's principle values.

Respondents selected one or more threats from a list and rated the impact and extent of that threat. Respondents also identified the confidence of the source of information, whether the threat was an historical threat to the reservation/park area and if it was a potential threat to park and reserve values. For more detail on the performance assessment questionnaire, refer to Appendix 3 – Parks of the Perth Hills: Performance Assessment Plan.

Certain threats were consistently recorded as high-to-severe impact and/or widespread extent. These are discussed as follows.

### *Uncontrolled access*

Uncontrolled access was recorded as widespread throughout the Perth Hills planning area with high-to-severe impact in some of the larger parks and reserves and those close to the metropolitan area. The parks and reserves to the east face the issue of unauthorised four-wheel driving and motorbike use. See Appendix 1 – Map 2 for a geographical representation of the impact and extent of uncontrolled access across parks and reserves of the Perth Hills.

Anecdotal evidence indicates that increased GPS technology and access to forest tracks layers has enabled a greater ability of drivers to navigate forest tracks and to plot 4x4 courses for future use. The larger number of offroad vehicles, caused by their affordability, is contributing to greater uncontrolled access in the parks and reserves in the Perth Hills planning area.

The impact of uncontrolled access by reserve number shows the majority of parks and reserves have mild-to-moderate impacts. The actual area of these parks and reserves shows that large areas are suffering high-to-severe impacts as represented in Figure 4 below.

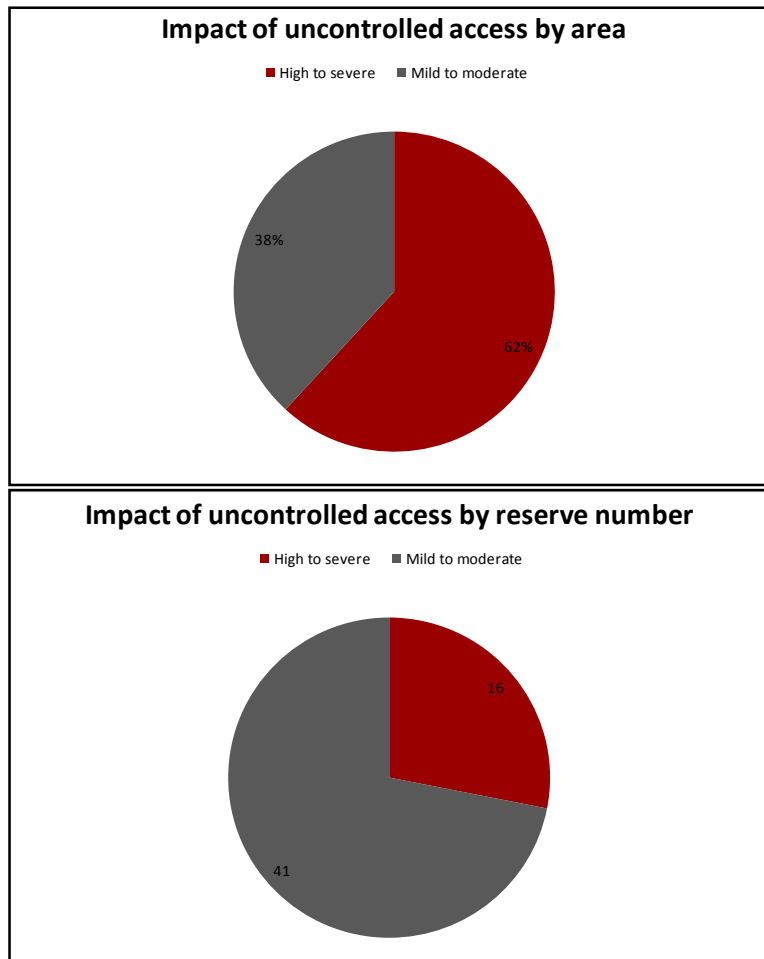


Figure 4: Relative impact of uncontrolled access by reserve number and by area impacted

Figure 5 shows a typical uncontrolled access around the side of a DEC-gated track where a chainsaw has been used to cut logs that were strategically placed to prevent access. Chains were used to drag the logs away, creating an uncontrolled access route to the left of the gate.





*Figure 5: Typical bypass of DEC-gated track*

Uncontrolled access was also recorded as high to severe in many of the parks and reserves that fall within major Perth public drinking water source areas or catchments. Many of the parks and reserves in the Perth Hills fall within gazetted catchments and must be compatible with water quality objectives set by the Water Corporation according to the SNP Management Plan. While the Conservation Commission supports multiple recreational activities within national parks (provided impacts on the natural environment are minimal), the level of uncontrolled access and subsequent erosion—particularly within the larger national parks Helena (122 square kilometres) and Wandoo (464 square kilometres)—has the potential to impact on water quality within the catchments. Access management in these areas needs to be a priority for future management planning to help protect public drinking water catchments.

#### *Erosion and catchment management*

Erosion was recorded as high to severe in many of the parks and reserves that fall within major Perth drinking water catchment areas. Erosion due to vehicle and motorbike tracks and the subsequent surface water run-off following rain events can lead to turbidity, which can in turn affect drinking water quality. The length of the park boundaries that fall within drinking water catchment areas provide logistical difficulties in preventing unauthorised access and enforcement.

Figure 6 below shows the results of unauthorised access into SNP. This type of activity is typical of many parks and reserves within the Perth Hills including water catchment areas. Fragile lateritic topsoil has been damaged due to multiple track formation and widening of the initial incursion. Gully erosion has resulted, which leads to further widening as vehicles try to navigate the steep slope and ruts. This type of uncontrolled access track and eroded gullies also pose a risk for spreading weeds and disease within the parks and reserves.



*Figure 6: Gully erosion caused by unauthorised access into SNP*

### *Weeds*

Weeds were recorded as having mild-to-moderate impact throughout most of the parks and reserves in the planning area. High-to-severe impact of weeds was recorded for parks and reserves with high visitation close to the rural urban fringe. See Appendix 1 – Map 3 for a geographical representation of the impact weeds are having in the parks and reserves of the Perth Hills. Case studies revealed a strong correlation between the presence of weeds with tracks, stream zones and non-forest areas. Major weed species observed were: watsonia, blackberry, cotton bush, stinkwort, castor oil and arum lily.



*Figure 7: Stinkwort infestation adjacent to access route*

## Overall management standards

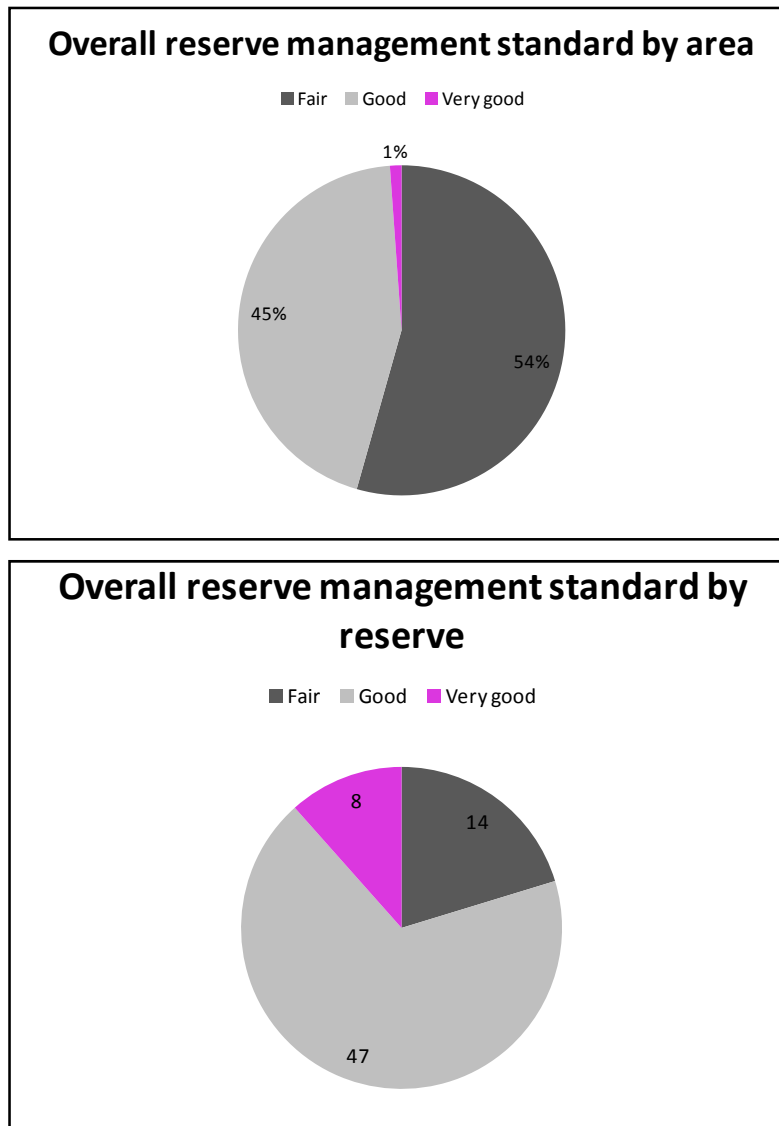
The self-assessment questionnaire included an overall judgement on reserve management standard for the conservation of principal values, with the following options:

*Table 1: Overall management standards (from questionnaire)*

Very good	e.g. plans for managing identified threats in place; monitoring programs in place and key issues are being addressed.
Good	e.g. threatening processes identified and values effectively managed.
Fair	e.g. threatening processes are poorly identified; resource degradation is occurring but retrievable.
Poor	e.g. threatening processes that are not managed are leading to permanent resource degradation.
Comments – as provided by respondents	

No parks or reserves recorded a ‘poor’ overall management standard. This is a commendable achievement given the increasing demands placed on staff, difficulties in allocating resources given shifting recreational pursuits and user behaviour. Figure 8 below shows the breakdown of park and reserve management standard by reserve number and by the area those parks and reserves represent. The parks and reserves that recorded a ‘fair’ management standard (where

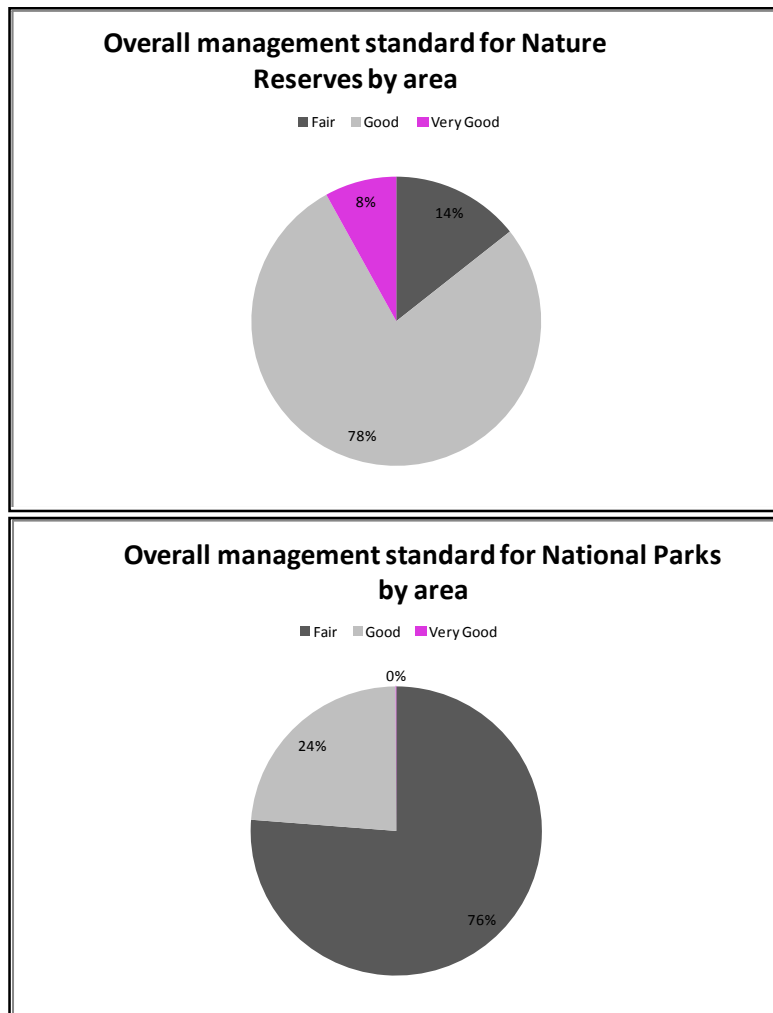
threatening processes are poorly identified and resource degradation is occurring but retrievable) account for a majority of the area of the Perth Hills zone (54 per cent).



*Figure 8: Overall reserve management standard of the conservation of principle values by reserve and by the area that represents*

There is a strong correlation between areas with high-to-severe uncontrolled access, high-to-severe weed impact and a 'fair' overall management standard. These areas are mostly the larger national parks within drinking water catchment areas and the highly visted national parks

along the scarp. The problems associated with managing people in national parks as opposed to nature reserves is represented in Figure 9 below. The survey results show the District is more effectively managing nature reserves than national parks.



*Figure 9: Overall reserve management standard of the conservation of principle values by tenure and the area that represents*

### General discussion of reserve management

There has been a significant change in the context of recreational use within the parks and reserves of the Perth Hills since the development of the JFNP and SNP management plans. Off-road vehicle access has increased dramatically and this includes mountain biking,

motorbikes and four-wheel-drive access. A rapid change of visitor use is occurring at the urban interface, and the context for managing this use has developed beyond the detail of existing management plans. These activities are further spreading disease and weeds, causing erosion and negatively impacting on the principle values of parks and reserves across the district.

## Part B – Case studies – John Forrest and Serpentine national parks

### Introduction

As discussed above, the second stage of the study involved an analysis of the trends and results from Part A, the self-assessment questionnaire. To this end, the following case studies were identified: **(1) uncontrolled access** and **(2) weeds** for both JFNP and SNP.

SNP is located on the edge of the Darling Scarp, 49 kilometres south-east of the centre of Perth and 28 kilometres inland from the coast at Rockingham. The park covers an area of 4,362.6 hectares (see Figure 10: Locality map).

JFNP is located on the edge of the Darling Scarp, adjacent to the Great Eastern Highway, 25 kilometres from the centre of Perth. JFNP covers an area of 3,844 hectares (see Figure 10: Locality map). Both parks are vested in the Conservation Commission, managed by DEC and are within DEC's Swan Region and Perth Hills District.



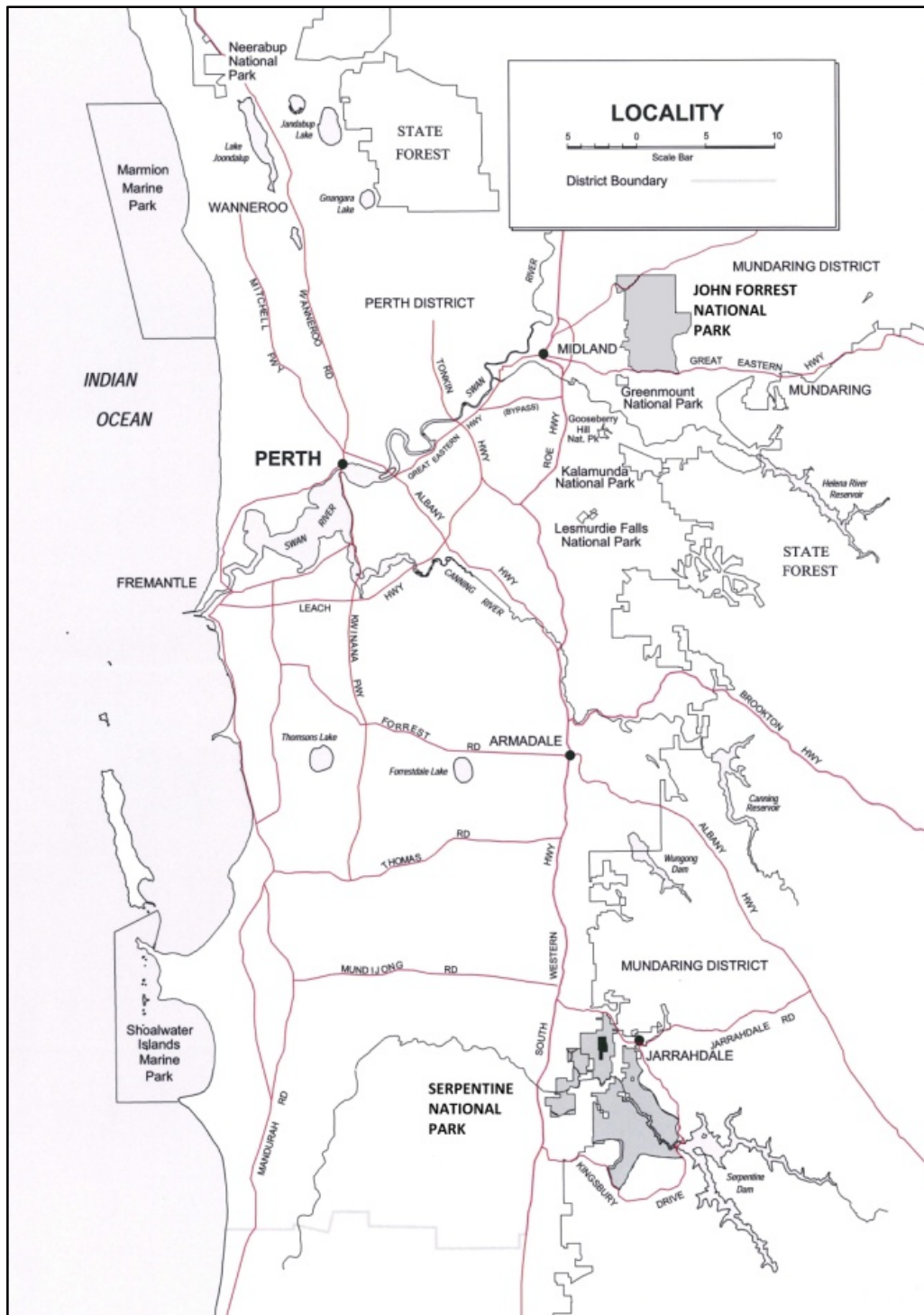


Figure 10: Locality map (adapted from DEC, Serpentine National Park Management Plan 2000–2009, CALM, Perth WA, Fig. 1)



The location of the parks near a large and growing population creates both opportunities and threats for managers. Opportunities relate to meeting people's needs for recreation in a bushland setting and increasing their awareness and knowledge of the parks. Threats relate to shifting types of recreation and user behaviour. Threats identified in the management plans relate to protecting the parks' values from the impacts of increasing numbers of people using and living near the parks.

The parks' values include:

- proximity to the Perth metropolitan area
- large areas of natural bushland
- panoramic vistas over the Swan Coastal Plain and towards Perth
- the grandeur of deeply incised rivers and valleys
- diverse landforms and vegetation types encompassing rugged scarp and valley landforms, forests, granite outcrops and open woodlands
- presence of water through the landscape as a recreational and conservation resource
- a range of nature-based recreation opportunities provided in the parks. These include sightseeing, bushwalking, camping and nature study
- a rich historical importance
- being home to one of the few natural camping areas north of the Murray River (SNP).

## **Management plans**

The objectives of the *John Forrest National Park Management Plan 1994–2004* and the *Serpentine National Park Management Plan 2000–2009* are to provide for public recreation as long as it is consistent with retaining the park's conservation and other values. The parks are managed according to priorities developed for the implementation of the management plans. The findings included in this performance assessment relate to high-priority actions from the management plans.

## **Major achievements**

Major achievements during the life of the JFNP management plan include the creation of the Eagle View Walk Trail, the upgrade of the parks public roads and the parking area at National Park Pool. Other achievements include the 450-metre accessible-for-all trail, an \$80,000

upgrade and refit of the Margaret Forrest Centre and the installation of a new bridge at National Park Falls. The creation of the official mountain bike park, the 'Goat Farm', on DEC-managed land adjacent to JFNP has provided an alternative option for mountain biker users.

Major achievements during the life of the SNP management plan include the construction of an accessible-to-all pathway and lookout at Serpentine Falls and the re-turf and upgrade of the picnic area and barbecues. Other achievements include; the installation of security cameras at the park entrance, working with volunteers and the Department of Justice in weed management, the upgrade of a significant bridge crossing over Gooralong Brook and the closure of Gooralong Park.

Gooralong Park is located in the northern section of SNP within the Bells Pine Plantation, and was on Department of Water freehold lands, close to Jarrahdale. Gooralong Park was a recreation site catering for day-use visitors and overnight camping. The site was used by large numbers of people, particularly on weekends and school holidays. The main camping area at Gooralong was upgraded in 1990. However, since 1990 the camp sites have been vandalised and degraded, and are currently in poor condition.

The Gooralong camping and recreation site was closed in September 2005. This was a joint decision by the Water Corporation and the Department of Conservation and Land Management (CALM) (now DEC). The reasons for the closure of Gooralong included safety concerns due to a deteriorating Bell pine plantation, a poor standard of facilities compared to modern standards, issues related to the conflicting usages of the site (such as motorcycling, camping, walking, dog walking etc) and unsociable behaviour of some visitors associated with excessive alcohol consumption.

With the evolving demand for sustainable facilities and an encroaching urban interface taking time and funds, the above achievements in JFNP and SNP are commended.

## Case study one: uncontrolled access

### Dieback mapping

Section 14 of the *Serpentine National Park 2000–2009 Management Plan* (SNP management plan) and Section 7.4 of the *John Forrest National Park 1994–2004 Management Plan* (JFNP management plan) have the same two objectives relating to disease:

- *Minimise the spread of dieback and other plant diseases.*
- *Rehabilitate areas affected by dieback and other plant diseases.*

The objectives are to be achieved in part through the following high-priority strategies:

From the SNP management plan:

*14.3 Complete dieback disease survey and mapping of the Park.*

From the JFNP management plan:

*7.4.1 Implement CALM's Policy Statement No. 3 (Phytophthora dieback) in all aspects of disease management in the Park.*

*7.4.4 Survey the incidence of plant diseases in the Park's northern extension.*

Dieback disease, associated with *Phytophthora cinnamomi*, has been in both parks for many years having been introduced and spread by machinery used in logging operations and in constructing roads, and presumably during the use of tracks by vehicles, horses and walkers. In addition, it has spread downhill from infected areas high in the landscape.

### *Dieback in Serpentine National Park*

The area between Serpentine River East and Kingsbury Drive was mapped and demarcated for disease symptoms in 1992 within the park. Some 62 per cent of the area was infected by *Phytophthora* and impact was generally high (see Figure 11). In October 1992, 400 hectares of the Gooralong Block was field demarcated and mapped by a consultant interpreter. Some 35 per cent was infested and impact was generally moderate to high (see Figure 11). The remainder of the park and adjoining State forest had dieback maps produced in the 1970s. The 1970s information cannot be relied upon for the effective management of dieback.

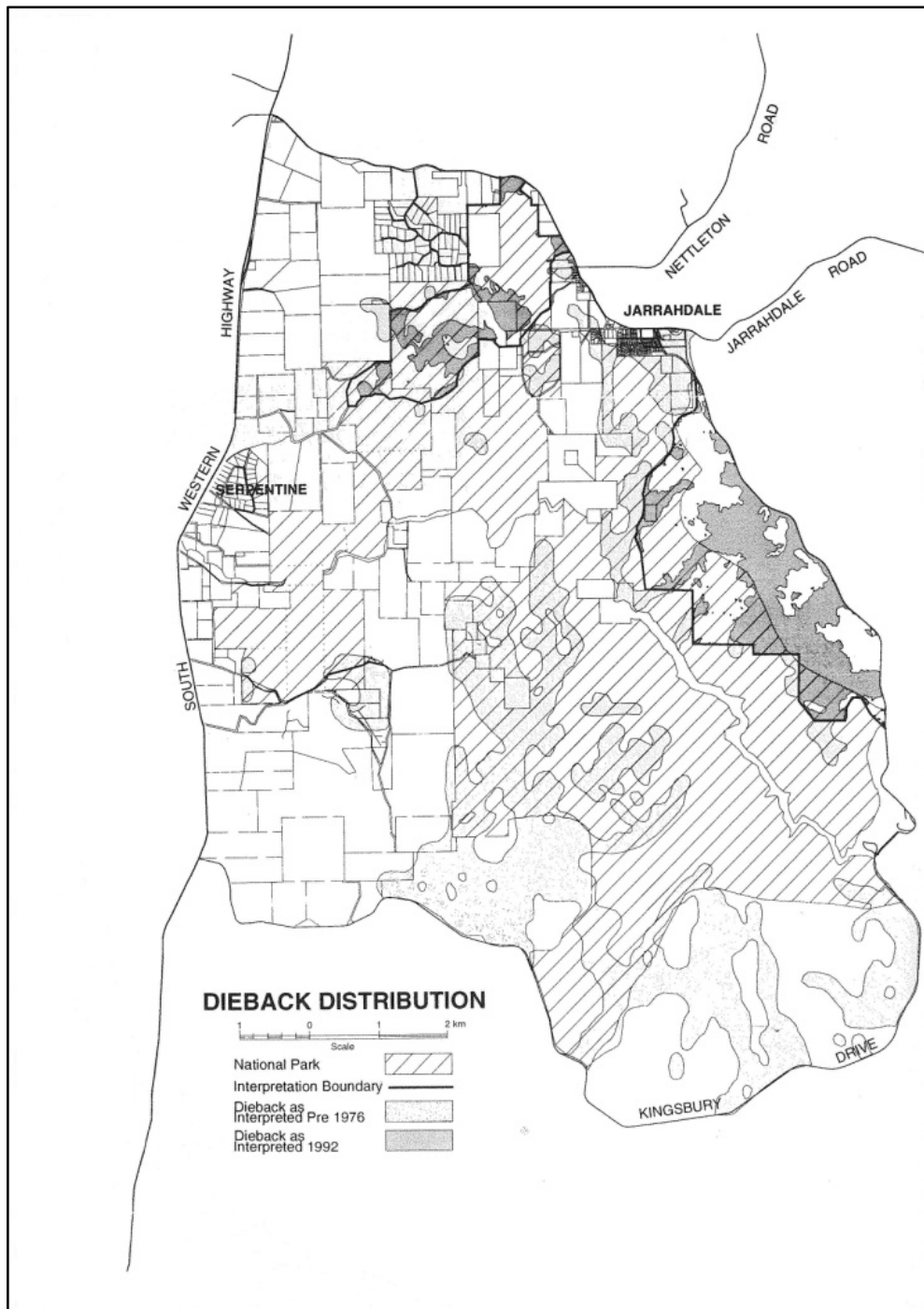


Figure 11: Dieback distribution in SNP (DEC, Serpentine National Park Management Plan 2000–2009, CALM, Perth WA Fig. 8)

Recovery actions that refer to dieback management are also required in the wing-fruited lasiopetalum (*Lasiopetalum pterocarpum*) interim recovery plan for protection against habitat

degradation. The species is known from a single population in SNP. The extent to which dieback is impacting on this species and other plant communities is unknown, as no dieback mapping has been undertaken in the park since 1992.

### *Dieback in John Forrest National Park*

Dieback, principally *Phytophthora cinnamomi*, has been in JFNP for about 70 years. About 70 per cent of the jarrah forest in the park was mapped as infested by the disease, where the impact was highly variable (Figure 12).

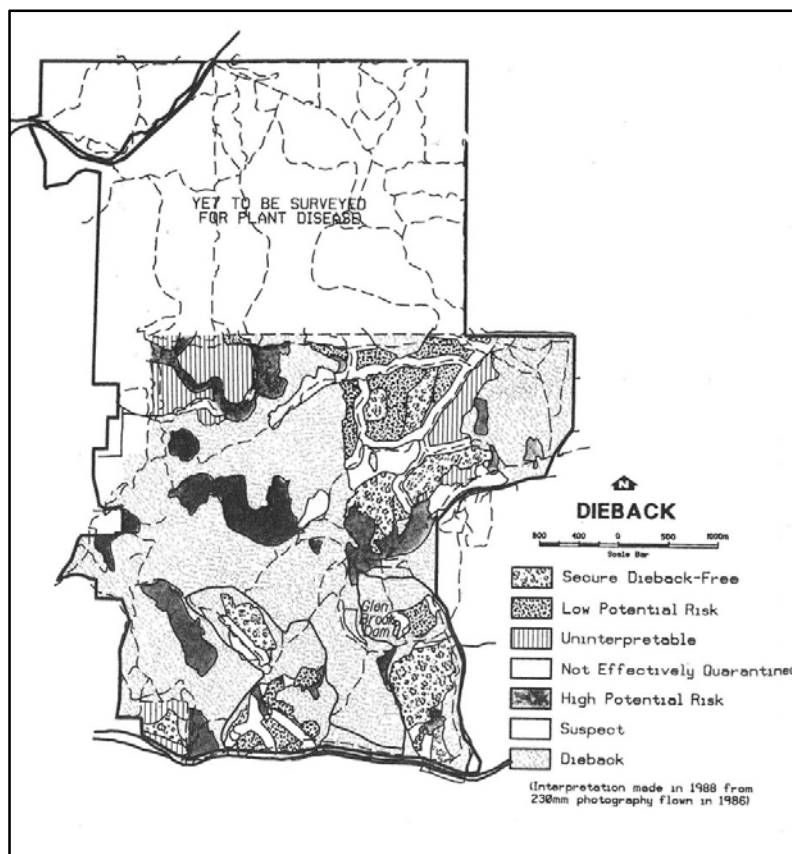


Figure 12: JFNP Dieback Distribution (DEC, John Forrest National Park Management Plan 1994–2004, CALM, Perth WA, Map 7)

The JFNP management plan zoning scheme set aside much of the ‘yet to be surveyed’ area shown in Figure 12 as ‘special conservation’ and ‘natural environment zones’ for the purpose of

protecting natural features and plant communities and minimising degradation due to fire and dieback. The extent to which this strategy has been achieved is unknown, as no evidence of dieback mapping during the life of the management plans could be provided for the park.

Uncontrolled access has also been identified as a threat to the park. Original mapping indicates *Phytophthora* infections in JFNP are strongly linked to roads and tracks. It is important to identify those tracks which pose a high risk to help manage recreational use. The extent to which dieback has spread along these tracks is unknown. Recovery actions including dieback management are also required in the Carnaby's black cockatoo recovery plan for the retention of feeding habitat.

*Finding 1      The extent to which dieback has been successfully managed cannot be readily determined because no dieback mapping has been undertaken during the life of the plans as required by existing management plans.*

## **Access and seasonal closures for dieback**

The management plan objectives for disease in both parks is:

- *Minimise the spread of dieback and other plant diseases*
- *Rehabilitate areas affected by dieback and other plant diseases*

These objectives are to be achieved in part through the following high-priority strategies:

From the JFNP management plan:

*7.4.2 Prohibit vehicles and horses from moving off formed tracks that pass through *Phytophthora* dieback free areas. Require walkers to stay on formed tracks in disease affected areas especially during high risk times of the year.*

From the SNP management plan:

*21.9 Develop and maintain all access to a standard that will minimise the risk of spreading dieback disease. Develop new access routes as low in the topography where practical. Implement seasonal access restrictions in the park.*

### *Access to Serpentine National Park*

The major access route to SNP from Perth is by the South West Highway. The park itself is accessed via four secondary roads and a number of management tracks from the South West Highway and the 'Jarrahdale Scenic Drive', which follows Jarrahdale Road and Kingsbury Drive. Access tracks within the park were constructed in association with timber harvesting; others were developed for park management purposes. Although the standard of roads varies, most roads are open to the public and trafficable by two-wheel drive vehicles. Access is required for management activities such as fire control, maintenance of recreation areas, feral animal control and weed control and research.

No evidence of seasonal closures relating to minimising the spread of *Phytophthora dieback* disease from human vectors was found for SNP.

### *Access to John Forrest National Park*

Management access tracks in JFNP are used for fire control, maintenance of recreation areas, feral animal and weed control and research. Management of access has been based around signage, blocking and rehabilitation of unauthorised tracks to stop ongoing use and general information for park users as seen below.

Information about public vehicle access published in the JFNP Park Guide in December 2010 says:

*Public vehicle access is only on the sealed roads leading off Great Eastern Highway. By staying on these roads you will be making an important contribution towards stopping the spread of dieback disease. Normal road rules apply. Mountain bikes may only be ridden on approved management tracks – they cannot be ridden on walk trails, including the Eagle View Walk Trail.*

All other tracks in JFNP were available to walkers and some designated tracks to horse riders all year round, with no seasonal closures. In response to the changing needs of cyclists during the life of the JFNP management plan, mountain bike trails have been designated, but with no seasonal closures.

<i>Finding 2</i>	<i>There is no evidence of seasonal access restrictions to minimise the risk of spreading dieback disease being implemented in the parks as required by existing management plans.</i>
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### **Unauthorised vehicle access, firewood collection and rubbish dumping**

'Section 12.0 – Access' of the *JFNP 1994–2004 Management Plan* has the following as one of four objectives:

1. *Control vehicle and pedestrian access within the park to protect conservation and recreation values.*

To be achieved through the following high-priority objectives:

- 12.1 *Confine public vehicle access to developed roads.*

The only public vehicle access within JFNP is along Park Road, a scenic drive approximately 10.4 kilometres in length. The scenic drive is mainly used by visitors driving to the main facility area and by drivers detouring off Great Eastern Highway. The park does have an additional road network required for park management purposes.

Evidence of unauthorised activity, particularly in the northern section of the park, can readily be seen in JFNP. Rubbish dumping adjacent to Redhill Waste Management Facility is occurring, most likely by people not wishing to pay fees. Evidence of the dumping of burnt-out vehicles in the northern natural environmental zone of the park was observed during a site visit (see Figure 13).





*Figure 13: Dumping of burnt-out vehicle in the northern natural environment zone of the park.  
Unauthorised access from northern perimeter of the park.*

Evidence of firewood cutting was also observed during a site visit. Well defined tracks have been created as people push further into the park in search of firewood (see Figure 14).



*Figure 14: Well-defined track from years of unauthorised firewood cutting, with stumps of felled trees visible on the edge of the track*

A large habitat tree killed by ringbarking the tree using a chainsaw can be seen in Figure 15. The cutting and felling of such trees threatens valuable habitat in a forest that has been heavily cut over.



*Figure 15: Large habitat tree killed by ringbarking from a chainsaw. Result of unauthorised access and indiscriminate firewood collection within the park.*

<b>Finding 3</b>	<i>Public access is not being confined to developed roads as required by the existing management plan. Unauthorised access is occurring in the northern section of JFNP leading to unauthorised firewood collection and rubbish dumping.</i>
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## **Access and cycling**

‘Section 14.7 – Cycling’ of the JFNP management plan has the following objective:

- *Ensure that cycling in the Park is enjoyable, safe and does not negatively impact on the Park's environment.*

This objective is to be achieved in part through the following high-priority strategy:

*14.7.1 Permit cycling on designated tracks only*

Over the life of the management plan, there have been changes to the requirements of cyclists. When the management plan was written, comparatively few cyclists used the park. The areas used by cyclists at that time included the scenic drive, the rail formation and some management tracks. In recent times cycling, or mountain biking, has become extremely popular, resulting in many variations of the sport. Once considered to be a single discipline, mountain biking is now split into six disciplines, each requiring different types and standards of trails. Mountain biking disciplines include cross country, downhill, freeride, endurance, extreme and winter mountain biking.

Some park users have sought and created new non-sanctioned trails in the park to meet the wishes of the different disciplines of mountain biking (see Figure 16). Unauthorised tracks and trail technical features have been constructed in areas of high conservation values and/or are inconsistent with the management plans for the national park. Trails and structures found by DEC in these areas have been and will continue to be removed.



*Figure 16: Trail as a result of cross-country mountain bike discipline*



*Figure 17: Result of downhill mountain bike trail typical of the extreme downhill discipline*

DEC has worked in partnership with the mountain biking community and mountain biking groups, such as the International Mountain Bike Association (IMBA), to develop guidelines for the construction of mountain bike trails on DEC-managed lands. This partnership has also resulted in the development of the Goat Farm Mountain Bike Park, a purpose-built mountain biking facility created as an alternative to using JFNP. Located on DEC-managed land just a few kilometres from the park, the biking facility caters for all levels of riders and all disciplines of riding. This initiative has had a positive result in reducing the environmental impacts in JFNP resulting from non-sanctioned mountain biking in the park.

The context of managing access to JFNP has changed over the life of the plan, with the emergence of different disciplines of mountain biking requiring a different approach to managing this recreation. Despite the best efforts of DEC staff to maintain signage and rehabilitate tracks, unauthorised cycling still occurs in the park.



*Finding 4: Cycling within JFNP is permitted on designated tracks only as required by the existing management plan. Evidence of unauthorised mountain bike tracks was observed in JFNP.*

## **Urbanisation and adjacent land use**

‘Section 3.0 – Land Tenure’ of the JFNP management plan and ‘Section 5 – Land tenure and Park boundaries’ of the SNP management plan have the following objectives:

From the JFNP management plan:

1. *Protect the Park’s high conservation values*
3. *Encourage complementary management of the Park and adjoining private properties*

From the SNP management plan:

1. *Minimise the impact of adjoining land uses on the Park*

To meet the objectives in part both parks have the same high-priority strategy:

- *Liaise with relevant authorities, departments and land owners to encourage land uses on adjoining land that do not adversely affect Park values*

### *Land use adjacent to John Forrest National Park*

Residential land in the suburb of Swan View is located close to the south-western corner of the park. Residences directly adjoin the western boundary of the park. Residential land is also located to the south of the park on the southern side of Great Eastern Highway. Larger lot residential development occurs adjacent to the eastern boundary of the park in the suburb of Hovea extending to near the northern boundary.

The Redhill Waste Management Facility adjoins the north-eastern corner of the park. The site is managed by the Eastern Metropolitan Regional Council. Household and light-industrial refuse are deposited at the site.

### *Proposed land use*

A proposal existed to develop Lot 81, which adjoined the northern and eastern boundaries of the park, for residential allotments ranging in size from 4 hectares adjacent to the park to 2 hectares elsewhere in the subdivision. In 2012 this subdivision, Parkerville Highlands (see Figure 18), has occurred with approximately 50 per cent of available residential allotments built on. New residential and special residential subdivisions were seen on the western boundary of the park.



*Figure 18: Parkerville Highlands, an example of new subdivisions adjacent to park boundaries*

A site visit revealed evidence of damaged and cut fencing from private lots and mountain bike and walk tracks leading from those incursions. Infestations of weeds were also evident on private land adjoining the park (see Figures 19 & 20).



*Figure 19: Infestation of stinkwort on private land directly adjacent to JFNP*



*Figure 20: Walk, mountain bike and motorbike trail leading from private property into JFNP*

Interviews with Perth Hills District staff revealed that urbanisation around the park boundaries has resulted in issues relating to uncontrolled access, dogs and cats in the park.

Communication with neighbours over park issues is difficult. The context for managing access has changed and education has become increasingly difficult due to the number of different and occasional residents. Liaison with neighbours over park management issues is therefore reactive rather than proactive.

<p><i>Finding 5: The break-up of large rural plots adjoining the park into subdivisions is adversely impacting on park values where existing management plans require the department to liaise with neighbours to encourage land uses that do not adversely affect the park values.</i></p>
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## Case study two: weeds

### Weed management program

'Section 7.7 – Weeds' of the JFNP management plan and 'Section 16 – Weeds' of the SNP management plan have the following objectives:

From the JFNP management plan:

1. *Control weeds causing major conservation problems*
2. *Minimise the adverse effects on the environment associated with control measures*
3. *Provide the public with interpretive opportunities to understand issues relating to weed presence and control*
4. *Liaise with local government, other authorities, adjacent landowners and residents to promote the control of weeds on land adjoining or in the vicinity of the Park.*

From the SNP management plan:

1. *Control or contain weeds that have the potential to cause major conservation problems*
2. *Minimise any adverse effects that control measures may have on the Park.*
3. *Liaise with Local Government, other authorities, adjacent landowners and residents to coordinate the control and spread of weeds in the vicinity of the Park.*
4. *Gradually replace introduced planted species with local plant species*

To be achieved in part through the following high-priority strategies:

From the JFNP management plan:

- 7.7.1 Prepare and initiate a five-year weed management program in accordance with CALM Policy Statement No. 14 (Weeds on CALM Land). Update the program annually seeking specialist advice as required.*

From the SNP management plan:

- 16.1 Prepare and initiate a five-year weed management program. Give priority to control of the following:*
- *invasive bulbous plants (such as watsonia),*

- *blackberry,*
- *castor oil plant,*
- *cotton bush,*
- *arum lily,*
- *woody weeds*

The JFNP management plan strategy 7.7.1 refers to preparing and initiating the five-year weed management program in accordance with *Policy Statement No. 14 – Weeds on CALM Land*. In this policy statement the department to continue to attempt the vigorous control of declared weeds on CALM/DEC land including using the following strategy:

*Each District or Region shall survey weed infestations on CALM lands. The information will be recorded on an operation control system appropriate to both the CALM and Agriculture Protection Board (APB).*

*Each District or Region will prepare and maintain a weed control management plan.*

The wing-fruited lasiopetalum (*Lasiopetalum pterocarpum* ms) was listed in 1998 as critically endangered declared rare flora *Wildlife Conservation Act 1950*. The species is known from a single population in SNP. In the *Wing-fruited lasiopetalum (Lasiopetalum pterocarpum)* interim recovery plan 2003–2008, weed competition is a major threat to the only wild population of the species. The competition exists from blackberry (*Rubis* aff. *selmeri*), watsonia (*Watsonia meriana*) and gladioli (*Gladiolus undulates*). Cottonbush (*Gomphocarpus* sp.) appears to be an emerging threat. Weeds suppress early plant growth by competing for soil moisture, nutrients and light. The wing fruited lasiopetalum is pictured in Figure 21.



Figure 19: Wing-fruited lasiopetalum (*Lasiopetalum pterocarpum*).

*Photos – AP Brown and JA Cochrane.*

It is acknowledged that DEC has inherited some of the weed problems from previous landowners, previous land uses and neighbouring land users.

Weeds are addressed according to an annual weed program in both parks. The program is based around a range of funding resources and therefore fluctuates from year to year. Volunteers and other external parties are sometimes used for operational weed control. Most of the spraying and slashing is done selectively, with the focus on isolated outbreaks rather than large or heavily infested areas. There was no evidence of liaison with neighbours in relation to weed control.

The extent to which weeds have been successfully managed with the parks is difficult to determine as the department was unable to provide any evidence of a five-year weed management plan or an operational control system for recording information for either JFNP or SNP.

<p><i>Finding 6:</i></p>	<p><i>No documented five-year weed management program has been implemented within either park as required by existing management plans.</i></p>
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## Weed management priorities

The objectives for weeds in the JFNP and SNP management plans are referred to above, at the beginning of case study two. The objectives are to be achieved in part by the following high-priority strategies:

From the JFNP management plan:

*7.7.2 Give priority to control of watsonia species and weeds that are encroaching rare and priority flora*

From the SNP management plan:

*16.1 Prepare and initiate a five-year weed management program. Give priority to control of the following:*

- *invasive bulbous plants (such as watsonia),*
- *blackberry,*
- *castor oil plant,*
- *cotton bush,*
- *arum lily,*
- *woody weeds*

The SNP management plan states:

*...some measures to control watsonia have already been instigated at the Falls, but the control of all watsonia species must be a priority to limit further spread.*

In the interim recovery plan for the declared rare flora wing-fruited lasiopetalum (see figure 21), weed competition is said to be a major threat to the only wild population of the species located in SNP. The competition exists from watsonia (*Watsonia meriana*) and other weed species.

A map of spraying to control outbreaks of weeds, cotton bush and blackberry in SNP was provided by DEC. No map for weed control was provided for JFNP. During a site visit evidence of weed spraying/slashing was observed in the parks as shown in Figure 22 (successful spraying of stinkwort) and in Figure 23 (successful slashing of castor oil).



*Figure 22: Successful spraying of stinkwort adjacent to multiple-use heritage trail – JFNP*



*Figure 23: Successful slashing of castor oil plants on the steep slope to the left of Heritage Trail in JFNP*

Dense populations of watsonia and blackberry are present in highly visited areas of the parks and impact on visual amenity for park users (see Figure 24).





*Figure 24: Blackberry adjacent to public access walkway and swimming hole at Serpentine Falls*

The priority for managing watsonia in the parks appears to have changed with evidence of weed spraying focused on stinkwort and cotton bush. In the SNP management plan controlling watsonia and blackberry is limited due to terrain, steep rocky outcrops and densely vegetated streams.

While there was visual evidence of weed control for stinkwort, castor oil and cotton bush, DEC provided no evidence for the control of the priority weed watsonia.

*Finding 7: It is not clear how priorities for managing weeds in the parks are determined. There is no weed management plan as required by existing management plans and in CALM Policy Statement No.14. – Weeds on CALM Land. There was no operational control system for recording data as required by CALM Policy Statement No.14.*

## General observations of park management

Over the life of the JFNP and SNP management plans, there has been a change in the context of recreational use in the parks. The number of visitors in the parks has increased. This has given rise to new challenges and opportunities for the management of the parks. The development of a purpose-built mountain biking park, the Goat Farm, as an alternative to uncontrolled access of mountain bikes within JFNP is a good example of meeting these changing needs.

Work is prioritised in accordance with funding allocation. Priority work tends to be in the high-use public areas, providing quality facilities and experiences for the public. Rangers and staff focus their time on coordinating and doing upgrades, maintenance and cleaning of facilities, public education and relations, and maintaining a presence in JFNP and SNP. The majority of park managers' time is spent managing recreation and user behaviour, particularly in relation to risk-management issues.

Uncontrolled access is impacting on the values of the parks. The impact of uncontrolled access is high to severe in JFNP and mild to moderate in SNP, where DEC do have a physical presence. Uncontrolled access in parks and reserves further east in the water catchment areas, where DEC does not have the same presence, is high to severe.

Being close to the rural urban fringe, both parks are experiencing high to severe impacts from weeds. The impacts are associated with tracks, stream zones, non-forest areas and high visitation rates. There is no five-year weed management plan. There is evidence of weed control for isolated weed outbreaks in both parks. The extent to which weeds can be effectively managed dependent on resource allocation. Valuable contributions to weed management are made by community volunteer groups and prisoner community work programs.

The management of threatened ecological communities (TECs), including flora and fauna, must be considered in the context of the parks and reserves of the Perth Hills or regional management planning, not just for individual management plans. For example, scarp darwinia (*Darwinia apiculata*) was listed as declared rare flora in 1987 and currently known from only three populations in the Swan Region. Scarp darwinia is found in two Perth Hills parks,

Conservation Park 24657 (12 hectares) and Nature Reserve 23076 (22 hectares). Both are close to JFNP but are not included in the management plan.



*Figure 25:* Scarp darwinia (*Darwinia apiculata*). *Photos – JL Robson.*

There is a lack of available records to demonstrate management effectiveness. It is difficult to assess how effective DEC have been at implementing the management plan strategies for disease and weeds due to no available records of dieback mapping, limited weed control maps and no five-year weed management plan. The lack of available records to demonstrate management effectiveness has been reported upon in previous assessments undertaken by the Conservation Commission.



# Conclusion

The self-assessment questionnaire included an overall judgement on the reserve management for the conservation of the principal values:

- Eight reserves equating to one per cent of the total area assessed recorded a 'very good' management standard, indicating that plans for managing identified threats and monitoring programs are in place and key issues are being addressed.
- Forty five per cent of the total area assessed recorded a 'good' management standard, with threatening processes identified and values effectively managed.
- Fifty four per cent of the total area assessed recorded a 'fair' management standard, indicating that threatening processes are poorly identified and resource degradation is occurring but retrievable.
- No parks or reserves recorded a 'poor' management standard, where threatening processes that are not managed are leading to permanent resource degradation.
- Within nature reserves, 78 per cent of the total area returned a 'good' management standard, with threatening processes identified and values effectively managed.
- Within national parks, 76 per cent of the total area returned a 'fair' rating for management standard, where threatening processes are poorly identified; resource degradation is occurring but retrievable.

The overall questionnaire responses were evaluated in relation to principal values and the highest-priority values derived were:

- biodiversity
- landscape and geological features
- ecosystem services (water catchment).

Responses were evaluated in relation to high-impact threatening processes and the most common themes derived were:

- uncontrolled access
- weeds.

These themes provided the basis for case studies within JFNP and SNP which were assessed against existing area management plans and provided extra detail and verification of the

qualitative analysis. Overall the case studies revealed there had been management achievements in:

- adapting to the changing context of recreational users of the parks and reserves of the Perth Hills where the number of park users has increased dramatically and the range of activities has broadened over the life of the management plans. DEC staff have done exceptionally well to maintain a 'fair' to 'good' overall standard of park management given these changing requirements and lack of resources. No parks or reserves were recorded as having a 'poor' management standard
- ongoing management of the parks' key recreation sites through access control and signage in the context of dangerous and offensive behaviour from a growing minority of park patrons
- successful closure of public access areas such as Gooralong campground where the location, facilities, behaviour of patrons, and general safety concerns were incompatible with the intended recreational use of the park.

# Findings

The following findings were made after interviews with DEC Perth Hills District staff, records checking and site visits to SNP and JFNP for evidence-based reporting against strategies and actions from the management plans.

## *Findings relating to 'Case study 1: Uncontrolled access'*

<i>Finding 1</i>	<i>The extent to which dieback has been successfully managed cannot be readily determined as no dieback mapping has been undertaken during the life of the plans as required by existing management plans.</i>
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<i>Finding 2</i>	<i>There is no evidence of seasonal access restrictions to minimise the risk of spreading dieback disease being implemented in the parks as required by existing management plans.</i>
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<i>Finding 3</i>	<i>Public access is not being confined to developed roads as required by the existing management plan. Unauthorised access is occurring in the northern section of JFNP leading to unauthorised firewood collection and rubbish dumping.</i>
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<i>Finding 4</i>	<i>Cycling within JFNP is permitted on designated tracks only as required by existing management plan. Evidence of unauthorised mountain bike tracks was observed in JFNP.</i>
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<i>Finding 5:</i>	<i>The break-up of large rural plots adjoining the park into subdivisions is impacting on park values where existing management plans required the department to liaise with neighbours to encourage land uses that do not adversely affect the park values.</i>
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*Findings relating to 'Case study two: Weeds'*

<i>Finding 6</i>	<i>No documented five-year weed management program has been implemented within either park as required by existing management plans.</i>
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<i>Finding 7</i>	<i>It is not clear how priorities for managing weeds in the parks are determined. There is no weed management plan as required by existing management plans and CALM Policy Statement No.14. – Weeds on CALM Land. There was no operational control system for recording data as required by CALM Policy Statement No.14.</i>
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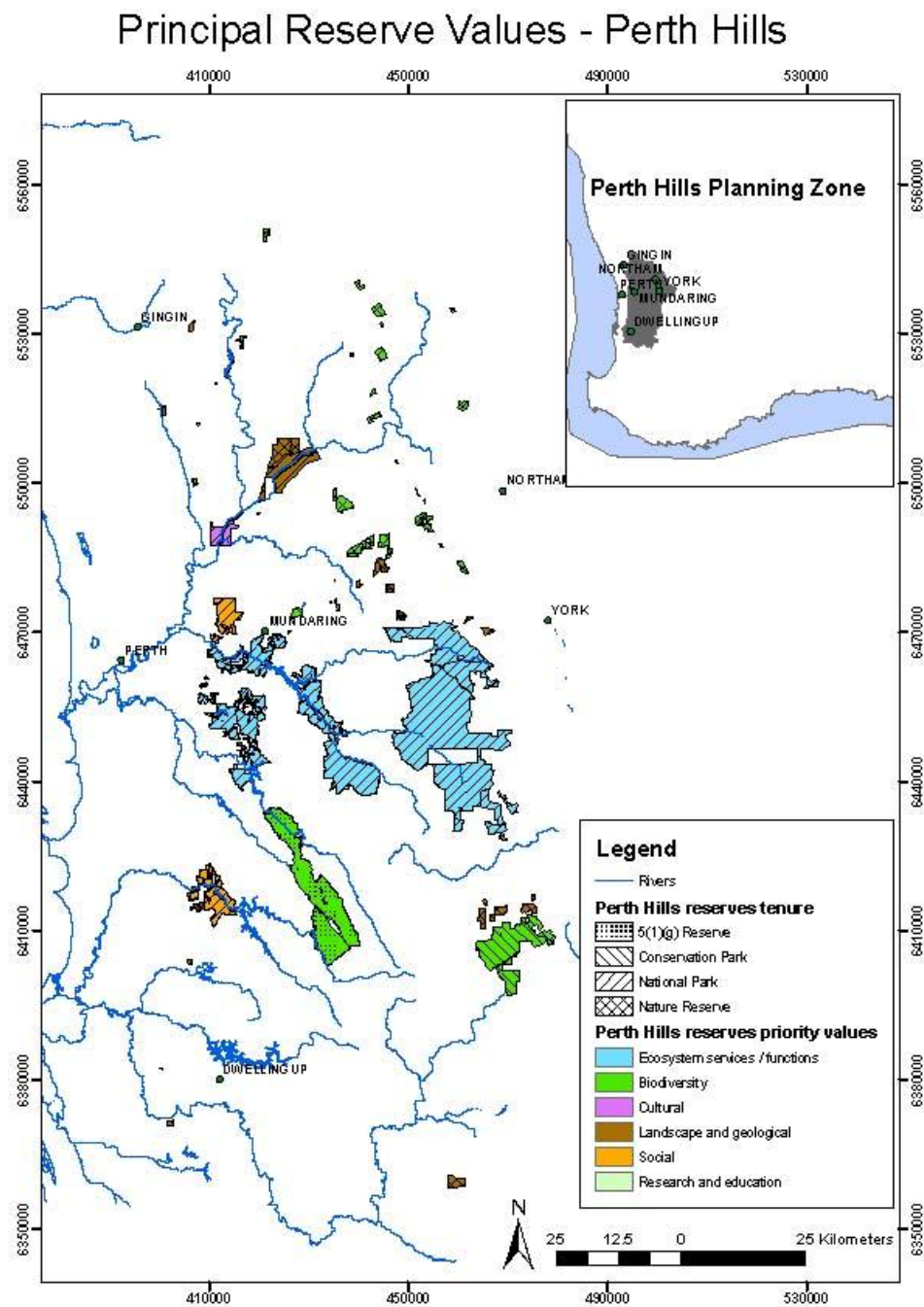
A lack of availability of records to demonstrate management effectiveness—for example in relation to managing the spread of dieback and monitoring the condition of the habitat in JFNP and SNP—has been reported upon in this assessment and in previous assessments undertaken by the Conservation Commission.

The Commission hopes the Parks of the Perth Hills Performance Assessment will assist managers in their work, improve management planning practice and management outcomes, and help inform policy decisions that will benefit the environment.

# Appendices

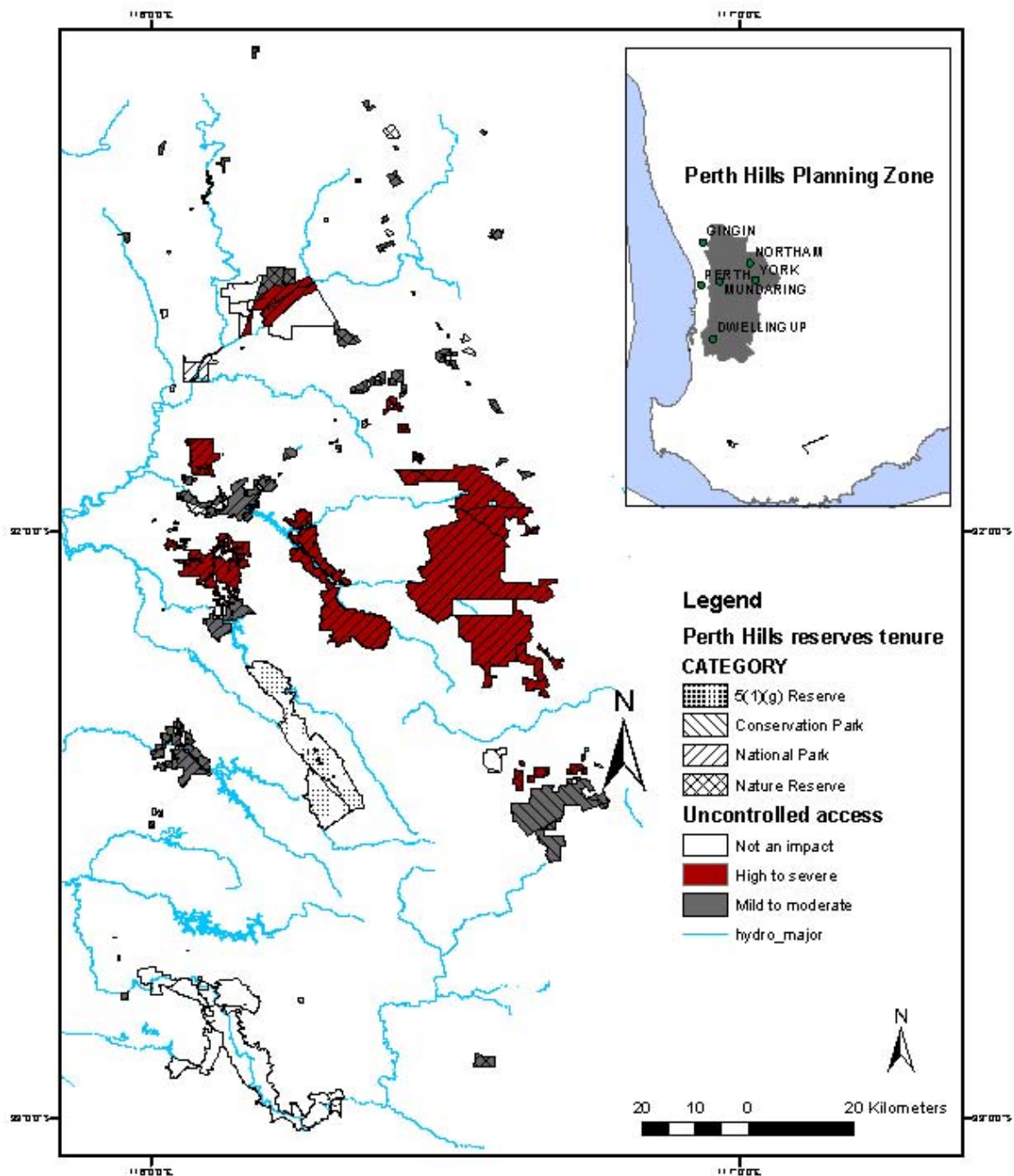
## Appendix 1 – Maps

Map 1: Geographic representation of principal values across Perth Hills planning zone

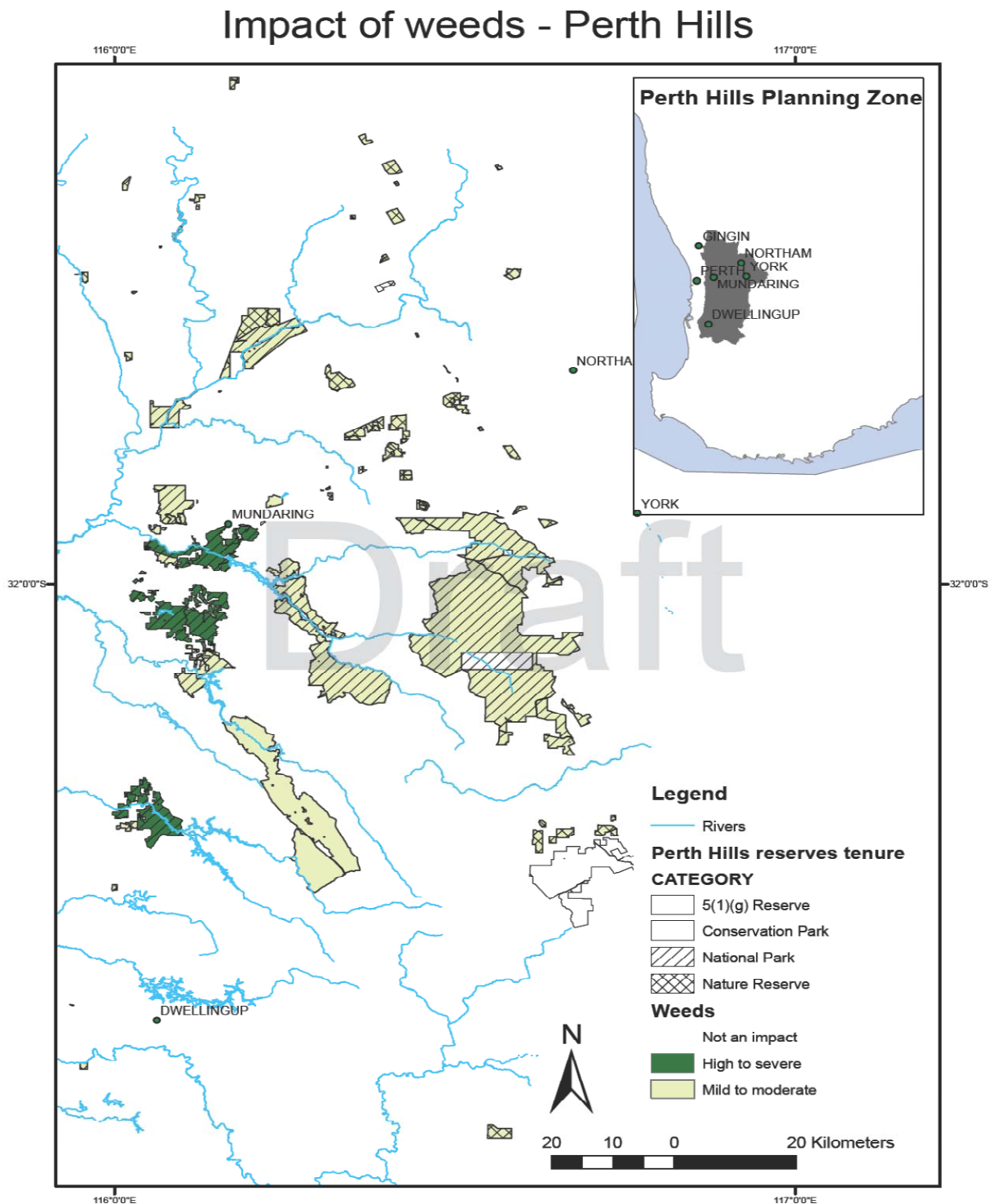


Map 2: Impact and extent of uncontrolled access across reserves of the Perth Hills

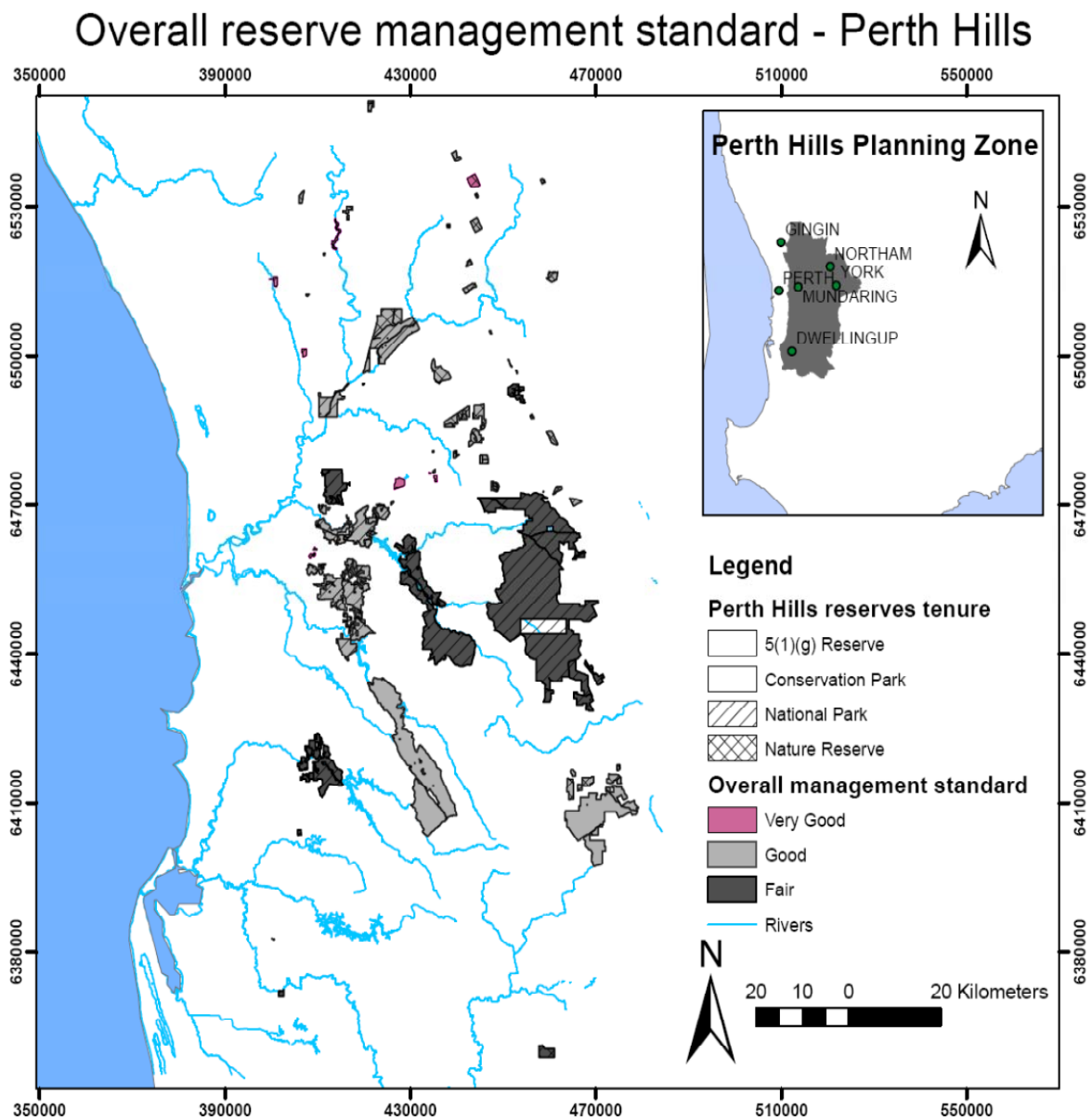
## Impact of uncontrolled access - Perth Hills



Map 3: Impact of weeds – Perth Hills



Map 4: Overall reserve management standard for the conservation of principle values





## Appendix 2 – Summary of findings

SNP – SNP Management Plan 2000–2009

JFNP – JFNP Management Plan 1994–2004

Management element	Serpentine National Park	John Forrest National Park	Criteria assessed
<b>Context</b>	<b>Finding 5</b>  The break-up of large rural plots adjoining the park into subdivisions is impacting on park values where existing management plans require the department to liaise with neighbours to encourage land uses that do not adversely affect the park values.	<b>Finding 5</b>  The break-up of large rural plots adjoining the park into subdivisions is impacting on park values where existing management plans require the department to liaise with neighbours to encourage land uses that do not adversely affect the park values.	<b>Finding 5</b>  <i>SNP Section 5.5 and JFNP Section 3.1 “Liaise with relevant authorities, departments and land owners to encourage land uses on adjoining land that do not adversely affect Park values”</i>
<b>Planning</b>	<b>Finding 1</b>  The extent to which dieback has been successfully managed cannot	<b>Finding 1</b>  The extent to which dieback has been successfully managed cannot	<b>Finding 1</b>  <i>SNP Section 14.3 “Complete dieback disease survey and mapping</i>

	be readily determined as no dieback mapping has been undertaken during the life of the plans as required by existing management plans	be readily determined as no dieback mapping has been undertaken during the life of the plans as required by existing management plans	<p><i>of the Park” (SNP) and</i></p> <p><i>JFNP Section 7.4.1 ”Implement CALM’s Policy Statement No.3 (Phytophthora dieback) in all aspects of disease management in the Park (JFNP)” and</i></p> <p><i>JFNP Section 7.7.4 “Survey the incidence of plant diseases in the Park’s northern extension”</i></p>
<b>Inputs</b>		<p><b>Finding 3</b></p> <p>Public access is not being confined to developed roads as required by the existing management plan. Unauthorised access is occurring in the northern section of JFNP leading to unauthorised firewood collection and rubbish dumping</p>	<p><b>Finding 3</b></p> <p><i>JFNP Section 14.7.1 “Confine public vehicle access to developed roads”</i></p>
<b>Management</b>	<b>Finding 2</b>	<b>Finding 6</b>	<b>Finding 2</b>

<p><b>systems</b></p>	<p>There is no evidence of seasonal access restrictions to minimise the spread of dieback disease being implemented in the parks as required by existing management plans</p> <p><b>Finding 6</b></p> <p>No documented 5 year weed management program has been implemented within either park as required by existing management plans</p> <p><b>Finding 7</b></p> <p>It is not clear how priorities for managing weeds in the parks are determined. There is no weed management plan as required by existing management plans and CALM Policy Statement No.14. – Weeds on CALM Land. There was no operational control system for recording data as required by CALM Policy Statement No.14.</p>	<p>No documented 5 year weed management program has been implemented within either park as required by existing management plans</p> <p><b>Finding 7</b></p> <p>It is not clear how priorities for managing weeds in the parks are determined. There is no weed management plan as required by the existing management plans and CALM Policy Statement No.14. – Weeds on CALM Land. There was no operational control system for recording data as required by CALM Policy Statement No.14.</p>	<p><i>JFNP Section 7.4.2 “Prohibit vehicles and horses from moving off formed tracks that pass through <i>Phytophthora</i> dieback free areas. Require walkers to stay on formed tracks in disease affected areas especially during high risk times of the year” and</i></p> <p><i>SNP Section 21.9 “Develop and maintain all access to a standard that will minimise the risk of spreading dieback disease. Develop new access routes as low in the topography were practical. Implement seasonal access restrictions in the park”</i></p> <p><b>Finding 6</b></p> <p><i>JFNP Section 7.7.1 “Prepare and initiate a five-year weed management program in accordance with CALM policy statement No.14 (Weeds on CALM Land). Update the program annually seeking specialist</i></p>
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			<p><i>advice as required” and</i></p> <p><i>SNP Section 16.1 “Prepare and initiate a five-year weed management program. Give priority to control of the following: Invasive bulbous plants (Watsonia); blackberry; castor oil plant; cotton bush; arum lily; woody weeds”</i></p> <p><b>Finding 7</b></p> <p><i>JFNP Section 7.7.2 “Give priority to watsonia species and weeds that are encroaching rare and priority flora” and</i></p> <p><i>SNP Section 16.1 “Prepare and initiate a five-year weed management program. Give priority to control of the following: Invasive bulbous plants (Watsonia); blackberry; castor oil plant; cotton bush; arum lily; woody weeds”</i></p>
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<b>Outputs</b>	No findings	No findings	
<b>Outcomes</b>		<b>Finding 4</b>  Cycling within JFNP is permitted on designated tracks only as required by the existing management plan. Evidence of unauthorised mountain bike tracks was observed in JFNP.	<b>Finding 4</b>  <i>JFNP Section 14.7.1 "Permit cycling on designated tracks only"</i>

## Appendix 3 – Parks of the Perth Hills: Performance assessment plan

### Overview

#### Purpose of Assessment Plan

The Assessment Plan is the management document used to initiate and develop the self-assessment process. It is maintained and utilised by the Conservation Commission to ensure the delivery of project outputs and the realisation of project outcomes.

#### Assessment Title

Parks of the Perth Hills Performance Assessment

#### Initiation & Background

Performance assessments under the World Commission on Protected Areas (WCPA) framework have become the standard for reporting management effectiveness in the majority of Australian State jurisdictions. In Western Australia, the Conservation Commission also applies this framework for reporting management effectiveness. Historically this has only been done for individual reserve management plans, usually at the conclusion of the ten year life of the plan. This process only enabled a small percentage and area of vested lands to be assessed annually.

In 2009 the Conservation Commission initiated the Albany Parks Performance Assessment. This served as a pilot study to test a new, self-assessment style questionnaire to report on multiple reserves as well as individual management plans. The self-assessment process was designed to capture the knowledge and experience of DEC staff to identify key values and threats and highlight key management issues for parks and reserves. The Albany Parks Performance Assessment Report has been completed. The department has subsequently endorsed this process “The adoption of a sub-regional approach and use of pilot studies to emphasize management issues and outcomes is fully supported”.

The Parks of the Perth Hills Performance Assessment has been selected as an appropriate area to roll out the next performance assessment. It has been selected because:

- it includes parks and reserves that are a priority for the development of management plans;
- a large number of parks and reserves can be assessed; and
- it is an area subject to growing population pressures.

## **Objectives and Scope**

### **Objectives**

Through self-assessment process report on the management standards of parks and reserves within the proposed Avon and Monadhocks planning regions and to assist in future planning by identifying priorities for future management.

### **Outcomes**

The outcomes for the self assessment are:

- continuous improvement in management effectiveness for parks and reserves vested in the Conservation Commission;
- potentially less duplication of reporting requirements by the DEC regions and better ownership of the assessment process by the regions and DEC in general;
- better align the assessment process with the proposed changes to management planning for conservation reserves e.g. planning by logical area groupings;
- more coverage of performance assessments leading to a broader understanding of management effectiveness in the reserve system including early 'flagging' of broad issues;
- the development of assessment tools, techniques, processes and other needs for assessments of this type;

- build capacity to undertake a 'state of the parks' style assessment in Western Australia; and
- greater understanding of the management issues of the Parks of the Perth Hills region.

### **Outputs**

The following outputs are to be delivered by the project:

- a database linked to GIS applications to house the results of the self-assessment questionnaire;
- an analysis report based upon the information returned through the survey questionnaire; and
- map detailing the planning area with associated reserve list.

### **Scope of work and timeline**

The questionnaire aims to collect information on different levels within the indicative list of parks and reserves within the Perth Hills as shown in Appendix 2. The timeline for completing the performance assessment is included in Table 1. This may be subject to change depending on DEC work priorities.



**Table 1**

<b>Part of the Assessment</b>	<b>Responsibility</b>	<b>Timeline</b>
<i>Float proposal and seek initial input from DEC Planning Unit, District and Regional Staff.</i>	<i>Environmental Auditor in consultation with DEC</i>	<i>November 2010</i>
<i>Decide on scope of self-assessment questionnaire and geographical boundaries</i>	<i>Environmental Auditor in consultation with DEC</i>	<i>December 2010</i>
<i>Develop list of Reserves to be assessed</i>	<i>Environmental Auditor in consultation with DEC</i>	<i>December 2010</i>
<i>Refine self-assessment questionnaire from Albany Parks Pilot Study</i>	<i>Environmental Auditor in consultation with DEC</i>	<i>December 2010</i>
<i>Formal notification to DEC to begin performance assessment process.</i>	<i>Environmental Auditor and Director of the Conservation Commission</i>	<i>December 2010</i>
<i>Fill out survey questionnaire</i>	<i>DEC Swan Regional staff , Regional Park staff, under guidance from and Environmental Auditor</i>	<i>January-February-March 2010</i>
<i>Scope of evidence based reporting checks</i>	<i>Environmental Auditor</i>	<i>January 2010</i>
<i>Create database to house results of self-assessment survey questionnaire</i>	<i>Environmental Auditor</i>	<i>March 2010</i>
<i>Undertake case studies and interviews</i>	<i>Environmental Auditor</i>	<i>March 2010</i>
<i>Develop report based on questionnaire responses</i>	<i>Environmental Auditor</i>	<i>April 2010</i>
<i>Produce final report with results of survey</i>	<i>Environmental Auditor</i>	<i>May-June 2011</i>
<i>Feed information back through DEC Planning Unit to assist in planning process</i>	<i>Environmental Auditor</i>	<i>As Required</i>

### **Document List**

- Letter of intention to proceed with Perth Hills PA to be sent to DEC
- Project Plan
- Map and list of parks and reserves
- Survey Questionnaire

### **DEC Staff Involvement**

The Conservation Commission will formally notify the Department of the intention to begin the performance assessment process. General input, completion of the self-assessment questionnaire, interviews and field checks will require input or assistance from a range of positions within the department:

- Regional Manager, Swan Region
- District Manager, Perth Hills District
- Branch Manager, Regional Parks Branch
- Manager, Planning Unit
- Senior Rangers
- Nature Conservation Co-ordinator, Perth Hills District
- Parks and Visitor Services Co-ordinator, Perth Hills District
- Other staff from Science Division, Parks and Visitor Services Division, Nature Conservation Division may also be involved during the course of the assessment.

### **Case Study**

The results from the questionnaire will be utilised to undertake more detailed case-studies to emphasis management issues and outcomes. These are intended to be based on areas in the planning zone with current management plans e.g. JFNP management Plan and SNP Management Plan.

Reserve name:

Reserve number:

Area:

## **Part A: Identifying this reserve's values**

Please list principal reserve values in order of importance, using the information provided in Table 2 below and provide a level significance for each value.

**Table 1: Principle reserve values**

Value	Significance category (International, National/State, Regional/Local)
e.g. enter 'Biodiversity' as the principle reserve value from Table 2 below (and circle one or more sub-categories such as 'Ecosystem level')	e.g. 'Regional/Local' (see Appendix-Table 3 for guidance on significance level)
1.	
2.	
3.	
4.	
5.	

**Table 2: Ecological, socio-economic and cultural values associated with reserve management**

Ecological	Socio-economic and cultural
<b>Ecosystem services / functions</b> <ul style="list-style-type: none"><li>Catchment management and water supply</li><li>Soil conservation</li><li>Climate and disaster mitigation</li><li>Clean air/pollution mitigation</li></ul>	<b>Cultural</b> <ul style="list-style-type: none"><li>Spiritual – e.g. sacred sites</li><li>Indigenous heritage</li><li>Historical</li><li>Aesthetic/artistic</li></ul>
<b>Biodiversity</b> <ul style="list-style-type: none"><li>Ecosystem level</li><li>Species level (rare and threatened, indicator species, popular species, economically or socially important species etc)</li><li>Local population level</li><li>Genetic level</li></ul>	<b>Social</b> <ul style="list-style-type: none"><li>Recreation</li><li>Green space</li><li>Scenic</li><li>Wilderness</li></ul>

	•
<i>Landscape and geological</i> <ul style="list-style-type: none"> <li>Evidence of formation and ongoing geological processes</li> <li>Fossils</li> <li>Special geological formations and landscape features</li> <li>Water bodies and wetlands</li> <li>Comprehensiveness Adequate Reserve (CAR) System</li> </ul>	<i>Economic</i> <ul style="list-style-type: none"> <li>Tourism</li> <li>Adjacent land values</li> <li>Sustainable resource harvesting</li> </ul>
	<i>Research and education</i> <ul style="list-style-type: none"> <li>Benchmark sites</li> <li>Research</li> <li>Formal education</li> <li>Interpretation</li> </ul>

## Part B (1): Identifying this reserve's threats

Please tick the relevant threatening processes to this reserve's principle values (the values as listed in Part A of the questionnaire above).

Pressures (threatening processes to this reserve's principle values)		Significance to this reserve's principle values (as listed above)  (see Appendix-Table 3 for guidance on impact categories)  (see Appendix-Table 5 for guidance on extent categories)				Confidence of source of information on pressures (High, Medium, Low, No data) (see Appendix Table 4 for guidance on confidence level)	Historical threat – this threat was pre-existing prior to the reservation of this area	Not currently a threat but a potential (future) threat to the reserve's values
		Impact		Extent				
		Mild to moderate	High to severe	Localised/ Scattered	Widespread/ Throughout			
<input type="checkbox"/>	Animal pests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Weeds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Disease (Pathogens)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Changed fire regimes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

<input type="checkbox"/>	<i>Erosion</i>							
<input type="checkbox"/>	<i>Reserve</i> <i>size/shape/locality</i>							
	<i>Off-reserve activities</i>							
	<i>Changed hydrology</i> <i>(salinity or other change)</i>							
	<i>Changed water quality</i>							
	<i>Resource extraction</i>							
	<i>Uncontrolled access</i>							
	<i>Visitor impacts</i>							
	<i>Climate Change</i>							
<input type="checkbox"/>	<i>Other:</i>							

## **PART C: Overall reserve management standard for the conservation of principle values**

*Please provide an overall rating for the management of the reserves principle values*

Poor	<input type="checkbox"/>	<i>E.g. threatening processes that are not managed are leading to permanent resource degradation.</i>
Fair	<input type="checkbox"/>	<i>E.g. threatening processes are poorly identified; resource degradation is occurring but retrievable.</i>
Good	<input type="checkbox"/>	<i>E.g. threatening processes identified and values effectively managed.</i>
Very Good	<input type="checkbox"/>	<i>E.g. plans for managing identified threats in place; monitoring programs in place and key issues are being addressed.</i>
Comments		

## **Appendices**

**Table 3: Description of the level of impact categories**

<b>Impact of the threat</b>	<b>Description of category</b>
Severe	<i>The threat will lead to loss of reserve value(s) in the foreseeable future if it continues to operate at current levels</i>
High	<i>The threat will lead to a significant reduction of reserve values(s) if it continues to operate at current levels.</i>
Moderate	<i>The threat is having a detectable impact on reserve values(s) but damage is not considered significant.</i>
Mild	<i>The threat is having minor or barely detectable impact on reserve value(s).</i>

**Table 4: Description of the confidence categories for reserve values**

<b>Confidence</b>	<b>Description of category</b>
High	<i>Comprehensive, credible, recent, reserve wide information - preferably documented.</i>

<i>Moderate</i>	<i>Some inadequacies in coverage, currency or credibility of data, information may not be fully documented.</i>
<i>Low</i>	<i>Limited or out of date documentation, unreliable information, incomplete coverage of reserve, or other inadequacies in the information base.</i>

**Table 5: Description of the extent categories**

<b>Extent of the threat</b>	<b>Description of category</b>
<i>Throughout</i>	<i>The impact is occurring in 50% or more of reserve area/cultural place/site/object.</i>
<i>Widespread</i>	<i>The impact is occurring in more than 15% but less than 50% of reserve area/cultural place/site/object.</i>
<i>Scattered</i>	<i>The impact is occurring in between 5 and 15% of reserve area/cultural place/site/object.</i>
<i>Localised</i>	<i>The impact is occurring is less than 5% of reserve area/cultural place/site/object.</i>

**Table 6: Description of the significance categories for reserve values**

<b>Significance category</b>	<b>Description of category</b>
<i>International</i>	<i>The value is protected under an international agreements. For example, is it listed on: Ramsar Convention of Wetlands of International Importance (Ramsar), CAMBA, JAMBA, Convention on Migratory Shorebirds (CMS), CITES, is on the IUCN red list or is World heritage listed. To help with this, a good link is: <a href="http://www.environment.gov.au/biodiversity/international/index.html">http://www.environment.gov.au/biodiversity/international/index.html</a></i>
<i>National/State</i>	<i>The value is protected under Federal or State legislation or the reserve contains a population of flora or fauna that is significant at the national or state level. The reserve may make a significant contribution to national or state employment or be a major tourist destination for WA or interstate visitors. The reserve may contain a site of geological significance or it may be listed on the WA heritage register or have a declared Aboriginal place .</i>
<i>Regional/Local</i>	<i>The reserve contains a population of flora or fauna that is significant at the regional or local level. The reserve</i>

	<i>may make a significant contribution to regional or local employment or it may be a tourist destination for regional visitors</i>
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Ms Carol Shannon  
Director  
Conservation Commission of Western Australia  
Locked Bag 104  
BENTLEY DELIVERY CENTRE WA 6983

Dear Ms Shannon

I refer to your letter dated 20 December 2012 regarding the performance assessment of the parks of the Perth Hills. The adoption of a sub-regional approach, the use of pilot studies, and the self assessment process, which included local staff, has been welcomed by the Department of Environment and Conservation (DEC).

The department provides the following responses to the key findings.

#### Finding 1

*The extent to which dieback has been successfully managed cannot be readily determined as no dieback mapping has been undertaken during the life of the plans as required by existing management plans.*

Management of dieback is a high priority for DEC. Mapping of dieback occurs on a regular basis on DEC-managed lands and is focused on projects where soil disturbance is occurring. In 2008, DEC conducted a review of dieback in the Perth Hills which highlighted heavy infestation and few areas requiring further assessment. DEC will work with Natural Resource Management groups to confirm the status of these areas and if large disease free localities are identified then their management will be prioritised.

DEC has recently assisted the Water Corporation and organisations such as Holcim Australia, which is involved in quarrying, to manage dieback including mapping for hygiene planning. The Dieback Working Group and DEC have provided significant support to the local governments of Mundaring, Kalamunda, Gosnells and Armadale to undertake mapping and improve management of dieback in their reserves. DEC has also provided these local governments, with dieback management advice, treatment gear and training.

#### Finding 2

*There is no evidence of seasonal access restrictions to minimise the risk of spreading dieback disease being implemented in the parks as required by existing management plans.*

Vehicular access to John Forrest National Park is restricted to sealed access roads. All unsealed management access including unformed tracks in the northern portion of the park are gated and access is restricted to dry soil conditions.

Restricting access by walkers, cyclists, trail bike riders and horse riders is often difficult. Visitor statistics indicate that John Forrest and Serpentine national parks are very popular in the cooler wetter months. Current resources have been focussed on developing and maintaining trails that are appropriate for use in all weather conditions and present a low dieback risk.

### Finding 3

*Public access is not being confined to developed roads as required by the existing management plan. Unauthorised access is occurring in the northern section of JFNP leading to unauthorised firewood collection and rubbish dumping.*

Since the initial assessment, DEC has worked closely with neighbouring landholders to develop an access plan for the northern section of John Forrest National Park. This plan includes the installation of additional reinforced gates, physical closure of tracks, additional signage and the rehabilitation of unused tracks. DEC has identified resources to implement the plan, with additional gates already constructed.

### Finding 4

*Cycling within JFNP is permitted on designated tracks only as required by existing management plan. Evidence of unauthorised mountain bike tracks was observed in JFNP.*

The creation and use of unauthorised mountain bike tracks is occurring and the use of natural areas by cyclists is an increasing recreational trend. DEC continues to work in partnership with the mountain biking community to develop suitable areas for the various mountain bike disciplines. This partnership has resulted in the development of specific mountain bike facilities on DEC-managed lands at the Goat Farm (adjacent to Greenmount National Park) and the Kalamunda Mountain Bike Circuit.

DEC recently commissioned the State Mountain Bike Strategy in partnership with the Department of Sport and Recreation, WA Mountain Bike Association and Westcycle. It is anticipated that the strategy will provide direction on suitable riding areas on DEC-managed lands and rider education.

DEC will continue to close and rehabilitate unauthorised bike trails in John Forrest National Park. DEC is also preparing a recreation master plan for the park that will address the change in use and visitor requirements that have occurred since the preparation of the current management plan. Formalising some trails and the development of purpose built facilities in nearby areas will assist in addressing this issue.

### Finding 5

*The break-up of large rural plots adjoining the park into subdivisions is impacting on park values where existing management plans required the department to liaise with neighbours to encourage land uses that do not adversely affect the park values.*

The Western Australian Planning Commission (WAPC) is responsible for determining all subdivision applications in Western Australia. The WAPC consults with numerous stakeholders including local government, infrastructure providers and DEC when considering subdivisions. DEC's involvement in the subdivision and broader land use planning process is in an advisory capacity. This finding should be taken up with the WAPC.

#### Finding 6

*No documented five-year weed management program has been implemented within either park as required by existing management plans.*

The five-year weed management plans have not been prepared, however significant weed control programs have and will continue to be undertaken in the parks of the Perth Hills. DEC is working to address this finding by preparing regional weed management plans. The management plans will highlight priorities based on both a species led and biodiversity assets at risk approach.

#### Finding 7

*It is not clear how priorities for managing weeds in the parks are determined. There is no weed management plan as required by existing management plans and CALM Policy Statement No.14. – Weeds on CALM Land. There was no operational control system for recording data as required by CALM Policy Statement No. 14.*

Currently weed management works are prioritised using a range of criteria, including the invasiveness of the species, the assets at risk, achievability of success and the availability of volunteer support. The documentation associated with these priorities can be improved and the abovementioned regional weed management plans will assist in clearly prioritising weed management actions.

DEC provides the additional information below in relation to other components of the report, for your consideration.

- Page 17, the map is incorrectly titled *impact of erosion*; this map should be titled *uncontrolled access*.
- Page 18, the map is repeated from the previous page.
- Page 19, paragraph two, the paragraph incorrectly refers to figure seven rather than figure six.
- Page 28, paragraph three, Goorolong is no longer on Department of Water freehold land, it has now been incorporated into Serpentine National Park.

Yours sincerely



Jim Sharp  
ACTING DIRECTOR GENERAL

22 February 2013