

State of the Parks 2018



Parks Victoria's management effectiveness evaluation



Executive summary

The State of the Parks program is delivered on a three to five-yearly cycle to assess the condition of the parks network and evaluate Parks Victoria's effectiveness in meeting park management goals for nature conservation, Traditional Owner cultural values, historic heritage, visitors and community, and fire and emergency management. It is a best-practice standardised tool based on a World Commission on Protected Areas (WCPA) framework, which is used by over 180 jurisdictions world-wide and Parks Victoria is considered a world leader in its use.

The program utilises diverse sources of information, including elicitation of staff knowledge and expertise, specialist opinion, community perception data, on-ground monitoring, research programs, corporate data sources and traditional knowledge. The use of expert elicitation in conjunction with qualitative and quantitative information is widely accepted in the evaluation of protected area management effectiveness as well as other large-scale evaluations such as the Intergovernmental Panel on Climate Change assessments. This State of the Parks report is informed by park manager assessments completed in 2018 for 300 parks (more than 90% of the area managed by Parks Victoria) and other available information.

State of the Parks identifies and assesses 38 key value types associated with the parks estate under categories ranging from natural values, visitor experience, Aboriginal and historic heritage to economic, social and education values. It identifies and assesses more than 40 threatening processes impacting these values. The impacts of climate change are included under the relevant threatening processes (for example, extreme weather, inappropriate water regime, and inappropriate fire regime).

Key findings by theme

Management for Nature Conservation

Status of threats and condition

- The most commonly reported threats to nature conservation values were weeds (85% of parks) and pest animals (79% of parks).
- The impact of most key threats has remained stable since 2013.
- The condition of natural values was good or very good in 54% of relevant terrestrial parks (52% of park area). This percentage has remained stable since 2013.
- The condition of natural values was good or very good in 93% of marine parks (75% by marine park area). This percentage has remained stable since 2013.

Extent management objectives met

- Management objectives for marine pests, fire and inappropriate water regimes were fully or substantially met in 38%, 58% and 37% of relevant parks, respectively. The extent to which management objectives for these threats were met has remained stable since 2013.
- Management objectives for weeds, pest animals, non-compliance and visitor impacts were fully or substantially met in 41%, 25%, 13% and 20% of relevant parks, respectively. Although the extent to which management objectives were met was stable for most relevant parks across these threats, significantly more parks reported that it had declined (between 21%

and 33% of relevant parks across the four threats) than improved (between 8% and 11% of relevant parks across the four threats) since 2013.

- Management objectives for nature conservation in terrestrial parks were fully or substantially met in almost 40% of relevant parks (over 60% by park area). Although the extent to which management objectives were met remained stable for most relevant parks (67%), significantly more parks reported that it declined (24%) than improved (9%) since 2013. This may, in part, be due to more parks now having comprehensive objectives detailed in conservation action plans.
- Management objectives for nature conservation in marine parks were fully or substantially met in over 30% of relevant parks (over 60% by park area). The extent to which objectives were met has remained stable since 2013.

Key factors influencing management effectiveness (over assessment period, 2013-18)

Improved management actions

- Implementation of well-planned, resourced and monitored weed, pest animal and habitat restoration initiatives at priority parks (e.g. Mallee, Grampians, Alps).
- Excellent delivery partnerships (CMAs, volunteers, other government agencies) enabled larger-scale delivery of environmental programs (e.g. large-scale Mallee revegetation).
- Improved clarity of management objectives for parks through conservation action planning.
- Improved environmental conditions including mild bushfire seasons, natural flood events and increased environmental water allocations.
- Targeted compliance programs (e.g. illegal firewood removal).
- Targeted marine and terrestrial monitoring programs and partnerships providing valuable knowledge (e.g. Great Otway, Yarra Ranges, Alpine National Parks).

Challenges

- Some priority parks were still in recovery phase from recent large-scale bushfires (e.g. Grampians, Yarra Ranges).
- Improved environmental conditions resulted in favourable conditions for spread of weeds.
- Lack of effective management strategies for key pest animals (e.g. feral cats, deer).
- Complex and diverse stakeholder views on proposed threat management, e.g. feral horses.
- Challenges in reconciling planned burns for community safety and conservation objectives.

Management of Traditional Owner cultural values

Status of threats and condition

- The threatening processes with the highest percentage of parks having an extreme or major impact on Traditional Owner cultural values were: wildfire, illegal activities, damage to cultural values by visitors, and lack of knowledge/expertise.
- Traditional Owner places and objects were in very good or good condition in 36% of relevant parks. Condition was unknown in just over a third of relevant parks.
- The condition of Traditional Owner places and objects has remained stable since 2013.

Extent management objectives met

- Objectives for management of fire with respect to Traditional Owner cultural values conservation were fully or substantially met in 60% of relevant parks.

- Less than 30% of parks fully or substantially met objectives for non-compliance and visitor impacts on Traditional Owner cultural values.
- The extent to which parks are meeting objectives for managing visitor impacts, non-compliance and inappropriate fire regimes on Traditional Owner cultural values has remained stable since 2013.
- Around 40% of parks that identified Aboriginal places and sites fully or substantially met objectives for management of those values, while almost 20% did not meet management objectives. This has remained stable since 2013.

Key factors influencing management effectiveness (over assessment period, 2013-18)

Improved management actions

- Improved understanding of cultural heritage management plans, permits and other tools.
- Organisational commitment to stronger partnerships with Traditional Owners.
- Appointment of cultural heritage officers.
- Development of the *Managing Country Together Framework*.

Challenges

- Limited knowledge or monitoring of significant sites.
- Limited awareness and understanding of intangible Aboriginal cultural values and how best to protect them.
- Lack of proactive management and Traditional Owner engagement.

Management of Historic Heritage

Status of threats and condition

- Park managers identified threatening processes impacting on historic heritage values in 128 parks (43% of the 300 assessed parks).
- The threatening processes with the highest percentage of parks having an extreme or major impact on historic heritage values were: wildfire (30%), inadequate maintenance (23%), weathering/age-related dilapidation (19%) and extreme weather events (15%).
- Park managers reported that the condition of historic heritage places and objects was very good or good in one-third of relevant parks. Although condition was stable in 71% of these parks, significantly more parks reported that it declined (19%) than improved (9%) since 2013.
- For the 55 assessed parks that include places on the Victorian Heritage Register, park managers reported that heritage places and objects were in very good or good condition in 45% of parks. These parks showed a similar trend; condition remained stable in 65% but declined in significantly more parks (29%) than improved (6%).

Extent management objectives met

- Almost 30% of relevant parks indicated that they were fully or substantially meeting objectives for management of historic heritage places and objects. This has remained stable since 2013.
- Of the 55 assessed parks with sites on the Victorian Heritage Register, 32% fully or substantially met objectives. Although the extent to which objectives were met remained stable for most of these parks (64%), significantly more parks reported that it decreased than increased (29% compared to 8%, respectively).

Key factors influencing management effectiveness (over assessment period, 2013-18)

Improved management actions

- Introduction of funding through the Victorian Government's Living Heritage Grants program has seen a significant investment in conservation works to priority places.
- Launch of the Heritage Asset Management App (HAMA), which provides a tool for capturing the condition of the heritage buildings and structures managed by Parks Victoria.
- Well-managed lease arrangements assisted with the maintenance of places and objects with historic heritage value.

Challenges

- Declining maintenance of heritage places resulting in declining condition.
- Gaps in specialist heritage management skills and knowledge in regions.
- Some heritage assets present unique conservation challenges.

Management for Visitors and Community

Park visits and visitor services

- The total number of visits to parks and piers in 2018-19 was 130.8 million. This has steadily increased over the reporting period
- 75% of the Victorian population visited a park in 2018. This figure has remained relatively stable since 2002.
- Over 114,000 participants were involved in interpretation and education programs in 2017-18, including 70,000 participants to general interpretation activities, more than 30,000 participants in education programs, and over 12,500 Junior Ranger participants.
- Between 2014-15 and 2017-18 there has been an increase in the number of school/education activities and Junior Rangers programs available in Victorian parks
- In 2017-18 there were 496 licensed tour operators, who generated over 472,000 visits. This is a 33% increase in licensed tour operators and a 109% increase in generated visits compared to 2013 data.

Park assets and their condition

- There are over 38,600 assets managed across the Victorian parks network, up from 28,000 assets in 2013.
- Asset condition (considering all assets within a park) was excellent or good in 27% of relevant parks and fair (serviceable) in 50% of relevant parks. Although 60% of relevant parks reported that the condition of assets was unchanged since 2013, significantly more parks reported that it declined (28% of relevant parks) than improved (12% of relevant parks).
- When park asset classes are considered separately, at least 80% of visitor assets (e.g. shelters, barbecues and toilets), 84% of access assets (e.g. roads, tracks, signage), 76% of buildings and accommodation and 70% of maritime and waterway assets were in average or better condition.

Outcomes and benefits for visitors and communities

- Based on community surveys, 86% of the community rated the adequacy of visitor recreation opportunities as very good or good. This has remained relatively constant in the past two decades, with approval ratings consistently above 80%.
- Based on park manager assessments, more than 60% of relevant parks provided adequate visitor opportunities across the variety of recreation experiences except for learning about nature or heritage, where 44% of parks fully or substantially provided these visitor needs.
- Park managers reported that inadequate maintenance of assets or facilities as being of extreme or major consequence to visitor experience values in 16% of relevant parks while changes to access, inadequate assets or facilities and wildfire were reported as being of extreme or major consequence in approximately 10% of parks.
- The majority (>80%) of park visitors indicated they were fully or very satisfied with their park visit. Overall, their experience and satisfaction has improved since 2013.
- Between 2014 and 2018, community satisfaction with management of national, state, regional parks and conservation reserves, and management of bays, waterways and piers increased to 90% and 80%, respectively. Satisfaction with management of metropolitan parks remained stable at more than 80%.
- Around one third of visitors rated preservation of the natural environment as the foremost benefit of Victoria's parks to the community.

Extent management objectives met

- Management objectives were fully or substantially met in 55%, 57%, 57% and 73% of relevant parks for provision of visitor opportunities, parks servicing, visitor facilities and visitor safety respectively, while less than 45% of parks fully or substantially met objectives for asset management, interpretation and education and the promotion of heath programs.
- The extent to which relevant parks met objectives for visitor opportunities, asset management, park servicing, visitor facilities and visitor safety has declined since 2013. Although the trend was stable for most relevant parks (between 65% and 74% across these five programs), significantly more parks reported that it had declined (between 20% and 27% of relevant parks across the five program areas) than improved (between 6% and 10% of relevant parks across the five program areas).
- The extent to which relevant parks met objectives for interpretation and education has remained stable since 2013

Community engagement and volunteerism

- During the reporting period the number of hours volunteers contributed to parks per year increased from 219,000 to 281,776 hours in 2017-18.
- Park managers reported that partnership activities were essential for achieving management objectives in over one third of relevant parks. This has remained stable since 2013.
- Over 80% of parks reported that volunteer activities were essential or often contributed to achieving objectives. This has remained stable since 2013.

Key factors influencing management effectiveness (over assessment period, 2013-18)

Improved management actions

- Roll out of the Visitor Experience Framework (VEF) to assist prioritisation.
- Infrastructure improvements at a range of priority parks and sites.

- Completion of strategic plans to reinvigorate and improve education and interpretation (*Learning in Nature*) as well as a disability action plan, cultural diversity action plan and a volunteering plan).
- Improved information, accessibility and services for people with a disability.
- New community engagement rangers.
- Growth of programs to connect younger visitors and PV-led volunteer programs
- A variety of partnerships for nature-based health and wellbeing including integration of migrant communities and programs for people with a disability.
- Development of citizen science initiatives to connect people with nature.
- Introduction of ParkConnect system.

Challenges

- Provision of contemporary services at high-growth priority locations (e.g. Shipwreck Coast).
- Implementing maintenance regimes for visitor assets/facilities.
- Provision of ranger services at peak times (including competition with fire season demands).
- Keeping up with rapid growth of emerging visitor experiences (e.g. mountain bike riding).

Fire and Emergency Management

Fire and emergency planning, prevention, response and recovery

- 96% of assessed parks had a planned approach to emergency management, while 94% of parks where fire management was an issue had a planned fire management approach.
- The impact of fire on park values was minor or moderate in most of the parks where it was identified as an issue: fire had a major or extreme impact on natural values conservation in 24% of relevant parks, on asset protection in 17% of relevant parks, on Traditional Owner cultural values in 16% of parks, and on historic heritage values conservation in 18% of parks. (Response to this assessment was optional.)

Extent management objectives met

- Of the 67 parks that identified asset protection as an objective of fire management, 68% were fully or substantially meeting fire management objectives.
- Of the parks that identified fire management objectives for historic heritage, Traditional Owner and natural values objectives, around 60% were fully or substantially met.
- The extent to which fire management objectives were met has remained stable since 2013.

Key factors influencing management effectiveness (over assessment period, 2013-18)

Improved management actions

- Proactive fire and emergency partnership with DELWP and other agencies.
- Comprehensive fire and emergency planning including emergency management plans and mock exercises.

Challenges

- Limited resources to contribute effectively to Fire Operations Planning in some instances.
- Natural values often have low priority in fire recovery.

Value of findings – improving management effectiveness

The information gathered through the State of the Parks program is used to help improve the way Parks Victoria manages the Victorian parks network. It provides a tool for land managers to identify and share knowledge, understand emerging issues, and highlight any gaps in management. Using the information gathered from the State of the Parks program, Parks Victoria can improve park planning and resource allocation, have better informed recovery and emergency plans and monitor the efficacy of park management over time. The results from each State of the Parks assessment also feed into partner agencies' reports including *State of the Environment*, *State of the Forest*, and catchment condition reporting.

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1. Management of Victoria's parks network

Parks Victoria is responsible for managing a diverse network of parks, spanning more than 4 million hectares, or 18% of the state. As part of its commitment to effective park management, Parks Victoria has compiled a fourth edition of the State of the Parks report, to provide an overall snapshot of the parks network as well as respond to emerging issues and review priorities.

1.1. About State of the Parks

Parks Victoria has committed to undertaking evaluation of the effectiveness of its management programs and condition of its parks at regular intervals as an important component of adaptive management.

The State of the Parks evaluation program gathers the best available information and data to evaluate the health of the parks network, and Parks Victoria's effectiveness in meeting park management goals for nature conservation, culture and heritage, visitor experiences, community engagement, and fire and emergency management.

The State of the Parks program has adopted the internationally recognised Management Effectiveness Framework from the IUCN World Commission on Protected Areas (WCPA), which has been adopted in more than 180 jurisdictions.

This fourth edition of the State of the Parks is based on 2017-18 data. The first State of the Parks report, which focussed on natural values, was published in 2000 and was the first of its kind in Australia. A second edition was published in 2007 and expanded its scope to include evaluation of all aspects of park management including culture and heritage conservation, and visitor services. The third edition, based on 2013 data, solidified the indicators and measures used in the reports, and emphasised the increasing importance of tracking long-term changes to parks' condition, threats and park management.

1.1.1. Sources of information

The State of the Parks evaluation uses a range of information sources including datasets from the Parks Victoria and the Department of Environment, Land, Water and Planning (DELWP), scientific monitoring data, commissioned reports, expert opinion and the experience and knowledge of professional park managers. The use of expert opinion, where empirical evidence is not available, is endorsed by the IUCN World Commission on Protected Areas (WCPA) as appropriate to evaluate management effectiveness. Increasingly, other sources of information such as knowledge from Traditional Owners are being incorporated wherever possible.

This State of the Parks report is informed by park manager assessments conducted between November 2017 and February 2018, calculations of trends since 2013, and other available information up to the end of 2017-18. The confidence park managers reported in their assessments is included where relevant. Results for current status are based on the number of parks that responded to each issue, while trends

were statistically analysed based on the subset of parks that responded in both evaluations (2013 and 2018), excluding parks that responded 'unknown'.

In total, 300 parks and reserves or about 90% of the area of Victoria's parks network were assessed by park managers. This includes all terrestrial national, state and wilderness parks, marine protected areas, and metropolitan parks, most regional and reservoir parks and around 150 significant conservation reserves.

1.1.2. Using State of the Parks results

The State of the Parks program gathers, analyses and summarises the best-available information on the condition, issues and the management effectiveness for Victoria's parks estate. This data can be fully interrogated on bespoke spatial and temporal scales. The resulting knowledge is of high value in a diverse range of programs and processes and is used to help improve the way Parks Victoria manages the Victorian parks network. This includes:

- Identifying and sharing knowledge about the contributing factors that are influencing the condition of parks and the effectiveness of management programs.
- Highlighting gaps and emerging issues for improved planning and response.
- Providing evidence to better inform allocation of resource.
- Informing park management planning processes, including development of park management plans, conservation action plans, precinct plans, and implementation plans
- Informing risk assessments and recovery planning following emergency events (e.g. fire, flood)
- International benchmarking of the condition and management of the estate

The State of the Parks program also provides information to other government agency reports including *State of the Environment* reports, *State of the Forests* reports and catchment condition reporting.

1.1.3. Further information

More detailed annual outcomes of environmental, cultural heritage, visitor experience and fire programs can be found in [Parks Victoria's Annual Reports](#), published each year.

1.1.4. Changes since the assessment

Since the State of the Parks assessment was completed in 2018, visitation to the parks network and participation in volunteering has continued to grow. Significant fires occurred in both the summers of 2019 and 2020. These, especially the devastating East Gippsland fires, have had significant impacts on the condition of parks and communities. The Covid-19 pandemic has presented both new challenges and opportunities for connecting people to nature. These changes and their impacts will be detailed in the next State of the Parks assessment.

1.2. About Parks Victoria

Parks Victoria is responsible for managing a diverse network of protected areas such as national parks and conservation reserves, urban and historic parks and waterways. As part of its commitment to effective park management, Parks Victoria has compiled a fourth edition of the State of the Parks report, to provide an overall snapshot of the parks network as well as respond to emerging issues and review priorities.

1.2.1. About Parks Victoria

Parks Victoria is established under the *Parks Victoria Act 2018* as an independent statutory authority to protect, conserve and enhance Parks Victoria managed land, including its natural and cultural values, for the benefit of the environment and current and future generations.

Parks Victoria is responsible for managing an expanding and diverse estate covering more than 4 million hectares, or about 18%, of Victoria. It manages parks in the context of their surrounding landscape and in partnership with government and non-government organisations, park neighbours, friends groups and the broader community. Victoria also has 17 parks and reserves under joint management with Traditional Owners.

The estate includes national parks, marine national parks and sanctuaries, wilderness areas, state parks, conservations reserves, metropolitan parks, thousands of Aboriginal and post-European cultural and heritage places, several local ports and major rivers, and approximately 70% of Victoria's coastline.

Parks Victoria's role is to protect the natural and cultural values of these parks and other assets, while providing a great range of outdoor opportunities for all Victorians and visitors.

Parks Victoria's vision is to be "a world-class park service ensuring healthy parks for healthy people".

1.2.2. Why are parks important?

On behalf of the Victorian Government, Parks Victoria manages one of the most diverse park and waterway networks in the world.

Parks are the backbone of our state's efforts to conserve nature and heritage values. They also provide significant opportunities for employment, recreation, health benefits, education and research, cultural and spiritual connection, and economic activity.

Parks are central to conserving Victoria's important natural assets for both our current and future generations. Parks protect and conserve representative ecosystems and the biodiversity they contain.

The Victorian parks network plays an important role in maintaining and improving Victoria's liveability and supporting the state's economy. Parks provide tangible benefits for communities such as clean water, climate and heat regulation, nurseries for fish breeding, pollination and pest control services for agriculture, storm protection for coastal communities, and physical and mental health benefits for park

visitors. Parks also let people connect with nature; make cultural, spiritual and social connection; partake in outdoor recreation; and learn about our environment.

The fundamental connection between people and nature is highlighted in Parks Victoria's *Healthy Parks Healthy People* approach to park management, which is based on scientific evidence showing contact with nature is beneficial for people's physical, mental, emotional and spiritual health and wellbeing.

1.2.3. Park management obligations

Parks Victoria is an independent statutory authority established under the *Parks Victoria Act 2018*. Parks Victoria's responsibilities are to protect, conserve and enhance Parks Victoria managed land, including its natural and cultural values, for the benefit of the environment and current and future generations. The new Act provides Parks Victoria with a clear framework to achieve its goals, while strengthening focus on engaging with the community and with Traditional Owners. The Minister provided Parks Victoria with a [statement of obligations](#) on 27 October 2018.

Under the new Act, Parks Victoria has direct responsibility for Parks Victoria managed land. Many of the powers required to manage public land under the *National Parks Act 1975*, the *Crown Land (Reserves) Act 1978*, *Land Act 1958*, *Forests Act 1958*, *Conservation Forests and Land Act 1987*, *Water Industry Act 1994* and *Wildlife Act 1975* were previously held by the Secretary to the Department of Environment, Land, Water and Planning. These powers are now directly held by Parks Victoria – increasing its accountability for managing public land for the people of Victoria.

Victoria's parks are managed in accordance with a range of other state and Commonwealth legislation including: *Flora and Fauna Guarantee Act 1988*, the *Aboriginal Heritage Act 2006*, the *Port Management Act 1985*, *Marine Safety Act 2010*, *Port of Melbourne Authority Act 1958* and the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*.

1.2.4. Goals for park management

Parks Victoria's [Shaping Our Future Strategy](#), describes the fundamental goals for management of the parks network under four themes:

Conserve Victoria's special places

- Manage the natural and cultural values of parks to increase resilience in the face of climate change and other stressors.
- Adapt park management based on evidence from science and traditional knowledge.
- Work collaboratively with Traditional Owners and other land managers to conserve natural and cultural park values.

Connect people and parks

- Encourage more people, to be more active, more often in parks through offering activities and experiences that improve people's physical, emotional and social wellbeing.
- Provide contemporary facilities and information to encourage park experiences and tourism.
- Unlock the energy of partnerships and park volunteers.
- Promote parks as inspirational settings for learning and education.

Provide benefits beyond park boundaries

- Play a major role in making communities safer.
- Work with Aboriginal communities to achieve shared objectives.
- Manage parks to contribute to productive, healthy and prosperous Victorian agricultural and rural communities.

Enhance organisational excellence

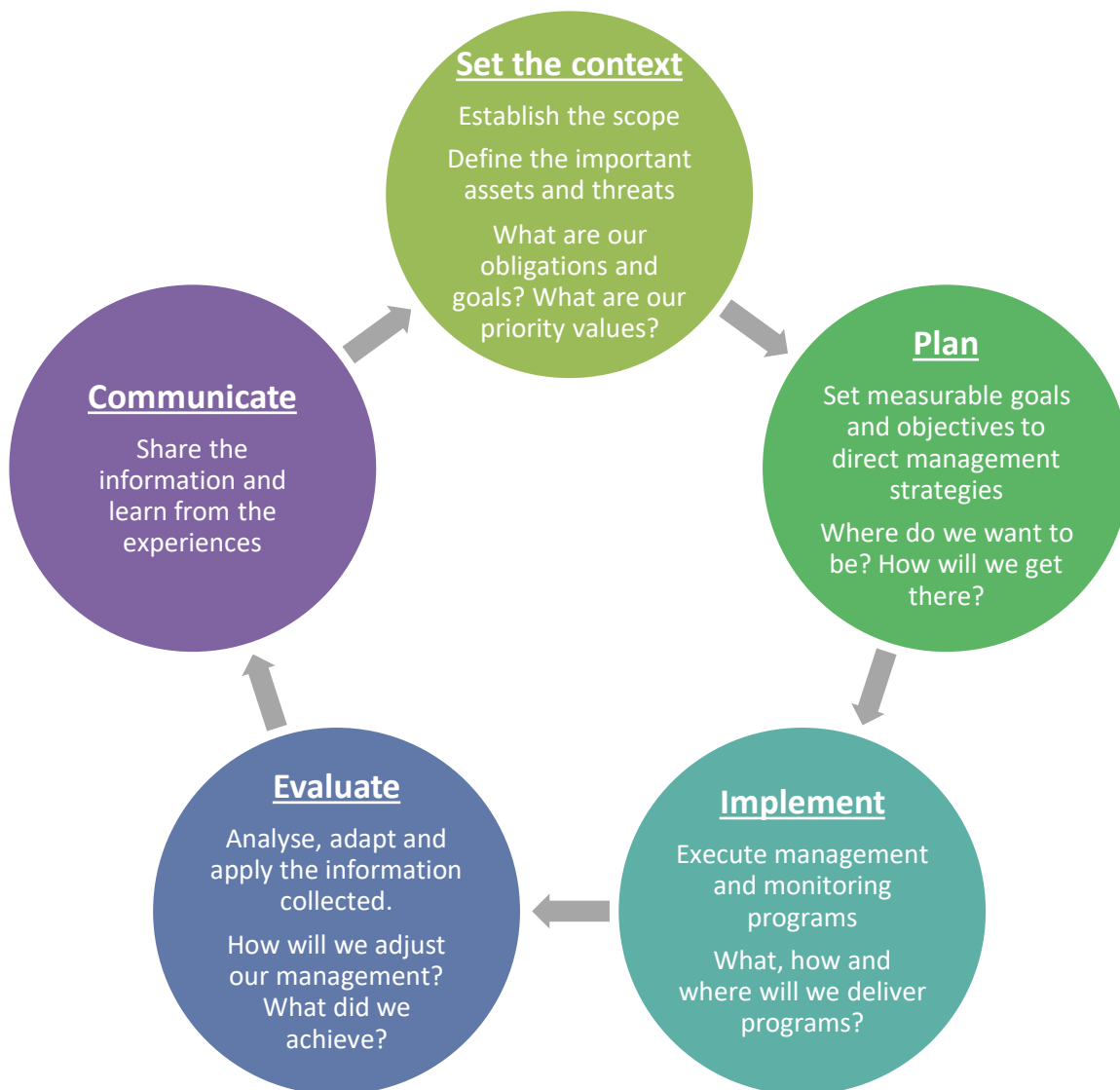
- Continue to value the health, safety and wellbeing of our staff, volunteers and contractors as our highest priority.
- Build a strong service culture that fosters all-round high performance, learning, innovation, teamwork, excellence, accountability and adaptability.
- Create a more resilient Parks Victoria that anticipates and adapts to economic, social and environmental trends.

1.2.5. Adaptive park management

Driven by demographic change, climate change, technological change and social change, Parks Victoria’s management of the state’s parks network must be flexible, evidence-based and adaptive. Excellence in park management requires a thorough understanding of the diverse natural, cultural and recreational values that occur in parks, their significance and the factors that may positively or negatively impact on them.

As a learning organisation, Parks Victoria has adopted an adaptive management framework to guide its park planning, on-ground activities and evaluation of park management outcomes. This helps to guide decision making and priorities with finite resources.

Parks Victoria’s adaptive management framework



2. Profile of the Victorian parks network

Victoria has one of the most diverse park networks in the world, ranging from wilderness areas and national parks, to urban and regional parks and waterways, historic parks and reserves, and nature conservation reserves. These various parks and reserves are managed for a range of goals including protecting natural and cultural heritage, enabling recreational use, providing clean fresh water and contributing to Victoria's economy. The increasing recognition of Traditional Owners in land management has resulted in both joint management and co-management arrangements of parks.

Indicators

2.1.1 Number and area of parks

2.1.2 History of park establishment

2.1.3 Areas managed under joint management and co-management

2.1.4 Additional conservation obligations and responsibilities

2.1.5 Park complexity

2.1.1. Number and area of parks

Number and area of parks by park type

- Parks Victoria is responsible for managing an expanding and diverse estate covering more than 4 million hectares, or about 18%, of Victoria. The network includes
- There are 124 parks managed under the *National Parks Act 1975* covering approximately 3.47 million hectares (84% of the total area of the parks network).
- Conservation reserves account for 93% of the total number of parks but only 13% of the area of the parks network.
- Parks Victoria also manages a comprehensive network of 66 metropolitan, reservoir and regional parks.
- Parks Victoria has responsibilities as the local port manager for Port Phillip Bay, Western Port and Port Campbell, and is the designated waterway manager for the Lower Yarra and Maribyrnong rivers, as well as the recreational manager of the bays.

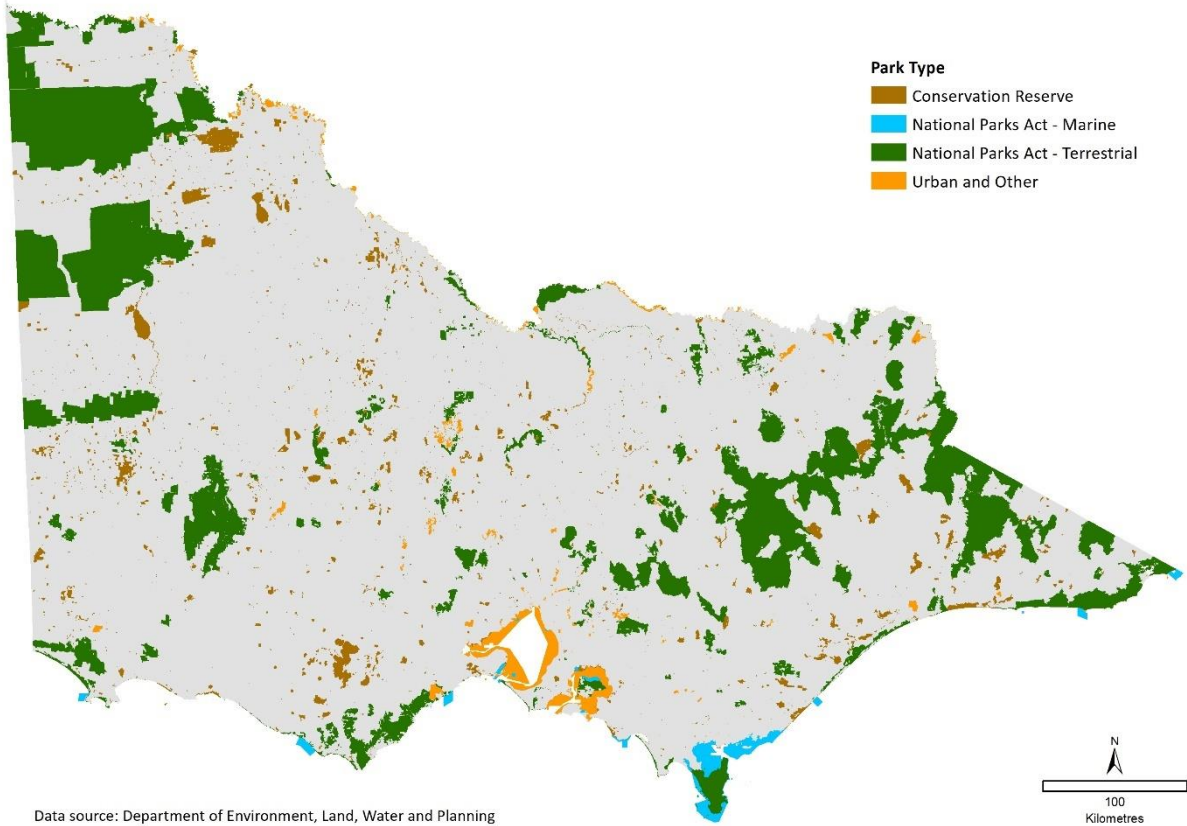
| Park type | Number of parks | Percentage of total number of parks | Total area (ha) | Percentage of total area of all parks (ha) |
|----------------------------------|-----------------|-------------------------------------|------------------|--|
| Conservation Reserve* | 2,766 | 93 | 543,636 | 13 |
| National Parks Act – Marine | 30 | 1 | 121,162 | 3 |
| National Parks Act – Terrestrial | 94 | 3 | 3,347,290 | 81 |
| Urban and Other | 86 | 3 | 105,463 | 3 |
| Total** | 2,976 | 100 | 4,117,552 | 100 |

*Managed under *Crown Land (Reserves) Act 1978* (Vic.)

**Excludes Port Phillip Bay, Western Port and waterways.

Data source: DELWP

Victoria's parks and reserves by type



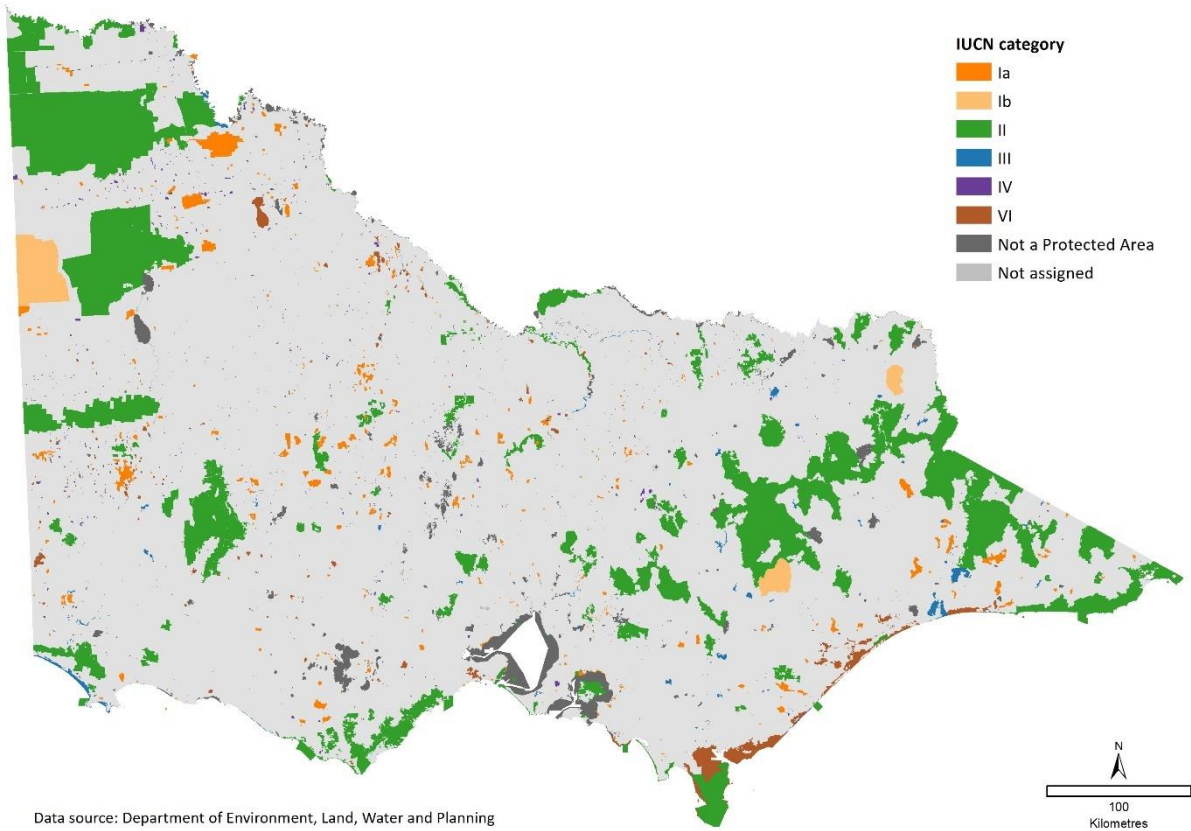
Number and area of parks by IUCN category

- The International Union for the Conservation of Nature (IUCN) defines a protected area as: “a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.” (IUCN, 2018). Most national and state parks are classified as IUCN category II, which protects large natural or near natural areas with large-scale ecological processes, indigenous species and ecosystems, that also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.

| IUCN Category | Number of parks | Percentage of total parks | Total area (ha) | Percentage of total estate area |
|-----------------------------|-----------------|---------------------------|------------------|---------------------------------|
| Ia | 466 | 15.6 | 262,637 | 6.2 |
| Ib | 3 | 0.1 | 200,700 | 4.7 |
| II | 84 | 2.8 | 3,128,052 | 73.3 |
| III | 334 | 11.2 | 66,143 | 1.6 |
| IV | 1,479 | 49.7 | 45,787 | 1.1 |
| VI | 252 | 8.5 | 169,556 | 4.0 |
| Total protected area | 2,618 | 87.9 | 3,872,876 | 90.8 |

Data source: DELWP

Victoria's parks and reserves by IUCN category



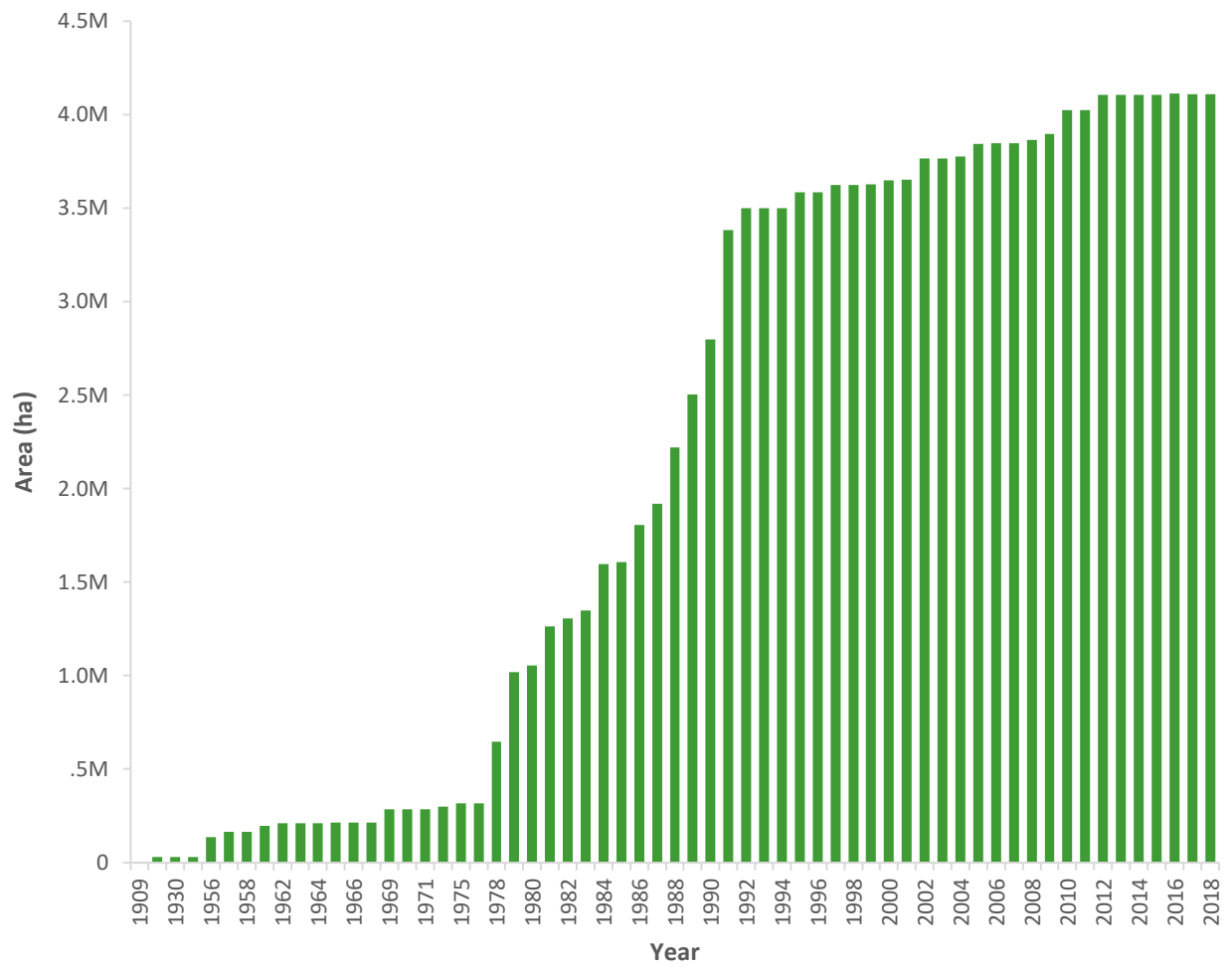
2.1.2. History of park establishment

The history of the Victorian parks network dates to the late nineteenth century, when the earliest national parks were established to protect scenic or natural features from development. Many of the metropolitan parks managed by Parks Victoria were established in the 1930s as urban planners recognised the value of preserving open space for community use and enjoyment.

During the 1980s and early 1990s, the area of the Victorian parks estate rapidly expanded based on recommendations by the Land Conservation Council (and its successors) to preserve representative examples of Victoria's ecosystems.

History of park establishment

- Based on formal land assignments, approximately 6,500 hectares were added to the parks estate between 2013 and 2018.
- Much of the increase has resulted from additions to already established reserves, including 6,357 hectares added to Anglesea Heath.
- Other changes to Victoria's parks network during the reporting period included the creation of the Wimmera River Heritage Area Park, Western Grasslands Reserve and Woookarung Regional Park.
- Since the establishment of the first parks, the Victorian parks estate has grown to more than 4 million hectares in 2018.



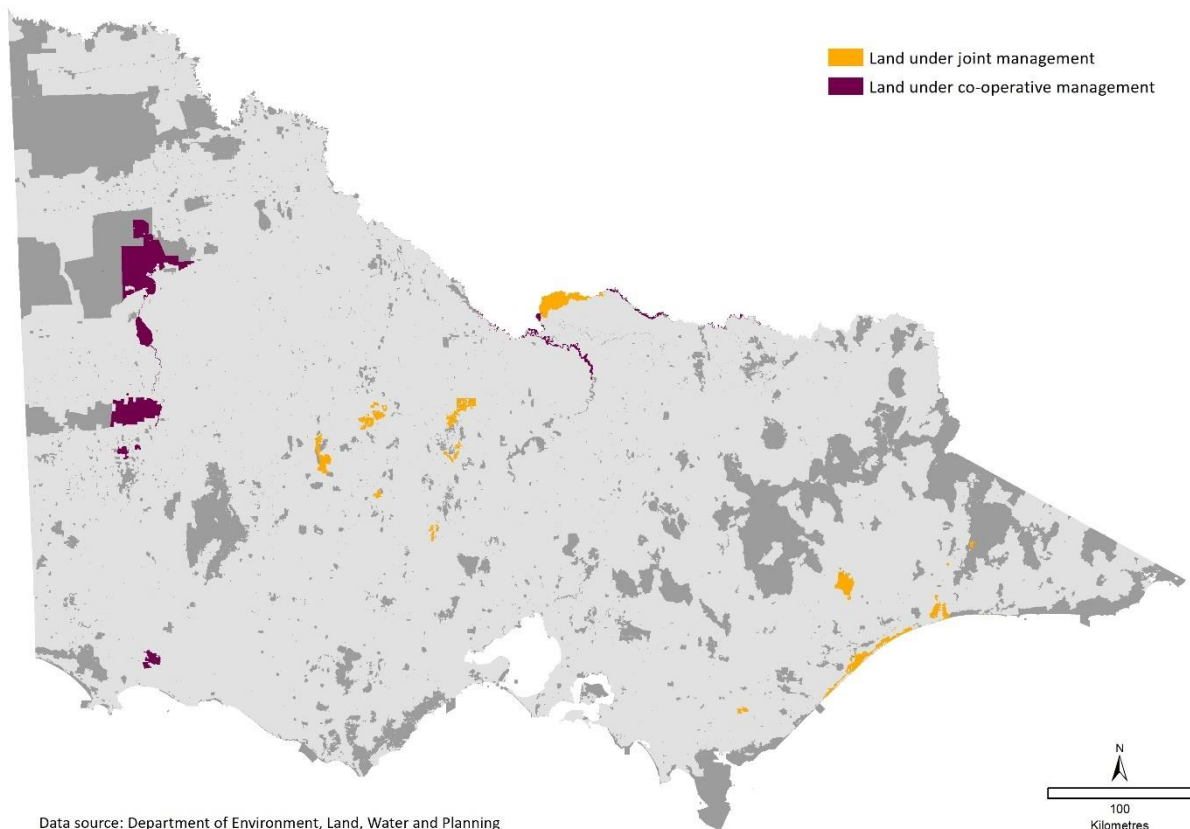
Data source: DELWP

2.1.3. Areas managed under joint management and co-management

Joint management describes a formal partnership between Traditional Owners and the state where both parties share knowledge and collaborate to manage parks and other protected areas. In Victoria, joint management is established under the terms of the *Traditional Owner Settlement Act 2010* (Vic). The Act allows for parks and reserves to be returned to Aboriginal ownership under Aboriginal Title. Land under this title continues to be managed under existing legislation, such as the *National Parks Act 1975*.

Co-management is an alternate form of partnership with Traditional Owners operating in Victoria, established through the native title process. Under co-management, the land title remains unchanged and Traditional Owners are involved in shaping the ongoing management of specific parks by forming land management councils with representatives from Government. These councils are advisory bodies.

Parks and reserves under joint management or co-management



Joint-managed land across the parks network

- As of August 2019, there are 16 parks and reserves jointly managed in partnership with Parks Victoria, totalling approximately 122,188 hectares.
- Joint management arrangements have been established in north western Victoria with the Dja Dja Wurrung People, east Gippsland with the Gunaikurnai People, and northern Victoria with the Yorta Yorta People.
- Agreement has been made for a further nine Parks and Reserves to be handed back to Taungurung Traditional Owners, though the agreement has not yet formally commenced.

| Land under joint management* | Traditional Owner Land Management Board | Traditional Owner Group | Area (ha) |
|---|---|--|-----------|
| Barmah National Park | Yorta Yorta Traditional Owner Land Management Board | Yorta Yorta Nations Aboriginal Corporation | 28,502 |
| Buchan Caves Reserve | Gunaikurnai Traditional Owner Land Management Board | Gunaikurnai Land and Waters Aboriginal Corporation | 296 |
| Corringle Foreshore Reserve (within Marlo Coastal Reserve) | Gunaikurnai Traditional Owner Land Management Board | Gunaikurnai Land and Waters Aboriginal Corporation | 159 |
| Gippsland Lakes Coastal Park | Gunaikurnai Traditional Owner Land Management Board | Gunaikurnai Land and Waters Aboriginal Corporation | 17,756 |
| Greater Bendigo National Park | Dhelkunya Dja Land Management Board | Dja Dja Wurrung Clans Aboriginal Corporation | 17,321 |
| Hepburn Regional Park | Dhelkunya Dja Land Management Board | Dja Dja Wurrung Clans Aboriginal Corporation | 2,916 |
| Kara Kara National Park (part) | Dhelkunya Dja Land Management Board | Dja Dja Wurrung Clans Aboriginal Corporation | 12,643 |
| Kooyoorra State Park | Dhelkunya Dja Land Management Board | Dja Dja Wurrung Clans Aboriginal Corporation | 11,455 |
| Lake Tyers | Gunaikurnai Traditional Owner Land Management Board | Gunaikurnai Land and Waters Aboriginal Corporation | 8,500 |
| Mitchell River National Park | Gunaikurnai Traditional Owner Land Management Board | Gunaikurnai Land and Waters Aboriginal Corporation | 14,346 |
| New Guinea Cave II (within Snowy River National Park) | Gunaikurnai Traditional Owner Land Management Board | Gunaikurnai Land and Waters Aboriginal Corporation | 1,184 |

| | | | |
|---|---|--|----------------|
| Paddys Ranges State Park | Dhelkunya Dja Land Management Board | Dja Dja Wurrung Clans Aboriginal Corporation | 2,015 |
| Raymond Island Gippsland Lakes Reserve | Gunaikurnai Traditional Owner Land Management Board | Gunaikurnai Land and Waters Aboriginal Corporation | 249 |
| Tarra-Bulga National Park | Gunaikurnai Traditional Owner Land Management Board | Gunaikurnai Land and Waters Aboriginal Corporation | 2,018 |
| The Lakes National Park | Gunaikurnai Traditional Owner Land Management Board | Gunaikurnai Land and Waters Aboriginal Corporation | 2,416 |
| Wehla Nature Conservation Reserve | Dhelkunya Dja Land Management Board | Dja Dja Wurrung Clans Aboriginal Corporation | 411 |
| Total | | | 122,188 |

*Knob Recreation Reserve is also under joint management with Gunaikurnai Land and Waters Aboriginal Corporation in partnership with DELWP

Data source: DELWP

Co-managed land across the parks network

- As of August 2019, there are 14 parks and reserves under cooperative management in Victoria, totalling approximately 213,380 ha.
- Co-management councils exist in western Victoria with the Gunditjmara People and the Wotjobaluk Nation, as well as in northern Victoria with the Yorta Yorta People.

| Land under cooperative management | Traditional Owner Group | Area (ha) |
|---------------------------------------|---|----------------|
| Dharnya Centre | Yorta Yorta Nations Aboriginal Corporation | 22 |
| Gemmill Swamp Wildlife Reserve | Yorta Yorta Nations Aboriginal Corporation | 216 |
| Goulburn River K49 Streamside Reserve | Yorta Yorta Nations Aboriginal Corporation | 3 |
| Lake Albacutya Park | Barengi Gadjin Land Council Aboriginal Corporation | 8,332 |
| Lake Hindmarsh Lake Reserve | Barengi Gadjin Land Council Aboriginal Corporation | 15,236 |
| Little Desert National Park | Barengi Gadjin Land Council Aboriginal Corporation | 50,243 |
| Loch Gary Wildlife Reserve | Yorta Yorta Nations Aboriginal Corporation | 557 |
| Lower Goulburn National Park | Yorta Yorta Nations Aboriginal Corporation | 9,321 |
| Mount Arapiles-Tooan State Park | Barengi Gadjin Land Council Aboriginal Corporation | 5,379 |
| Budj Bim National Park | Gunditj Mirring Traditional Owners Aboriginal Corporation | 8,571 |
| Proposed Murray River Park (part) | Yorta Yorta Nations Aboriginal Corporation | 7,040 |
| Murray River Reserve | Yorta Yorta Nations Aboriginal Corporation | 3,245 |
| Wimmera River Heritage Area Park | Barengi Gadjin Land Council Aboriginal Corporation | 2,093 |
| Wyperfeld National Park | Barengi Gadjin Land Council Aboriginal Corporation | 103,122 |
| Total | | 213,380 |

Data source: DELWP

2.1.4. Additional conservation responsibilities

Parks Victoria has conservation responsibilities as part of, or in addition to, its core legislation. These include obligations under international treaties and conventions (e.g. Ramsar Wetlands Agreement), management of reference areas proclaimed under the *Reference Areas Act 1978 (Vic.)*, wilderness zones and remote and natural areas established under the *National Parks Act 1975*, heritage rivers and natural catchment areas.

The Victorian parks network provides important habitat for many species that are listed under international conventions and agreements between the Australian Government and other countries, including bilateral migratory bird agreements with Japan (JAMBA) and China (CAMBA), the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), the Ramsar Convention on Wetlands, and the Agreement on the Conservation of Albatrosses and Petrels (ACAP).

Number and area of additional conservation obligations and responsibilities*

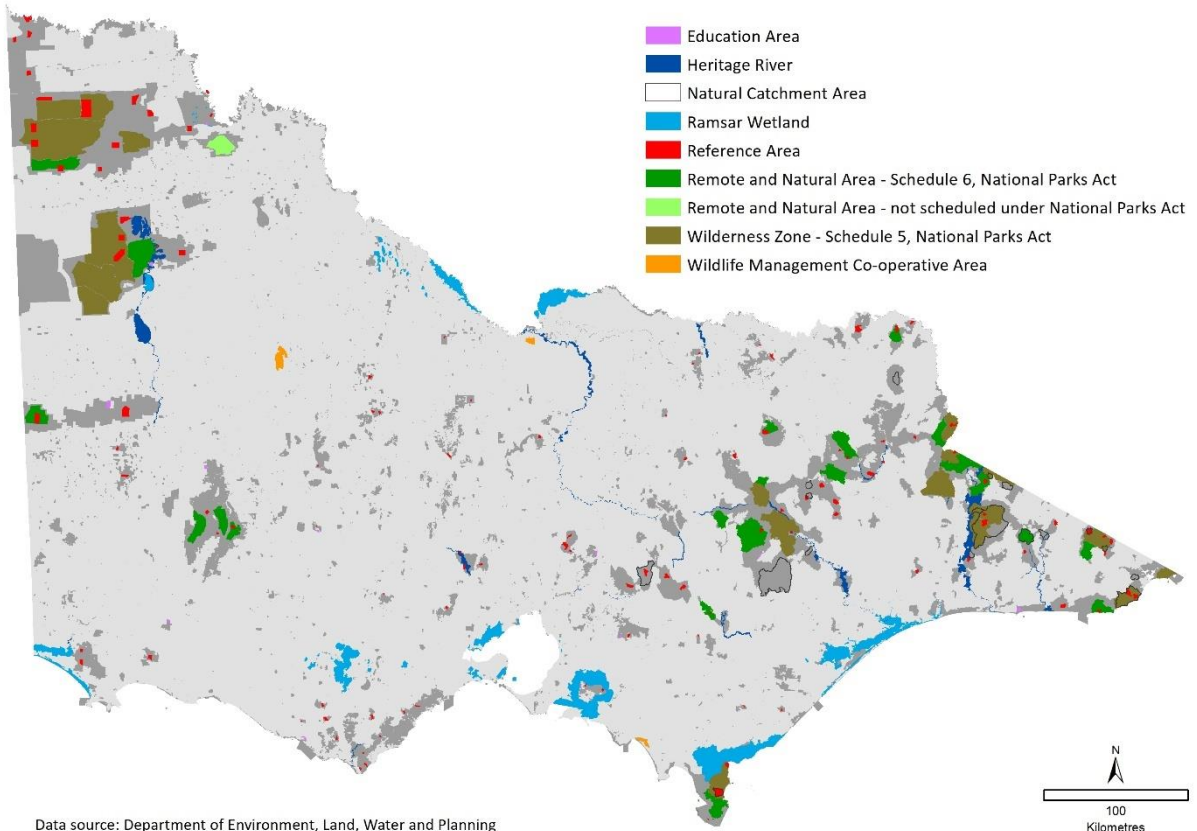
- Areas of additional conservation responsibility across Victoria’s parks estate make up more than 1.5 million hectares, including 641,621 hectares of Wilderness Zone.

| Legislative obligation | Number of area type | Number of parks | Total park area (ha) | Percentage of total park estate area |
|--|---------------------|-----------------|----------------------|--------------------------------------|
| Education Area | 15 | 13 | 6,098 | 0.1 |
| Heritage River | 18 | 58 | 137,042 | 3.2 |
| Natural Catchment Area | 18 | 10 | 139,542 | 3.3 |
| Ramsar Wetland | 12 | 95 | 254,233 | 6.0 |
| Reference Area | 117 | 50 | 94,918 | 2.2 |
| Remote and Natural Area - not scheduled under National Parks Act | 2 | 2 | 16,908 | 0.4 |
| Remote and Natural Area - Schedule 6, National Parks Act | 22 | 17 | 280,823 | 6.6 |
| Wilderness Zone - Schedule 5, National Parks Act | 19 | 11 | 641,621 | 15.0 |
| Wildlife Management Co-operative Area | 4 | 3 | 484 | 0.0 |

*Includes Port Phillip Bay, Western Port and waterways.

Data source: DELWP

Additional conservation responsibilities

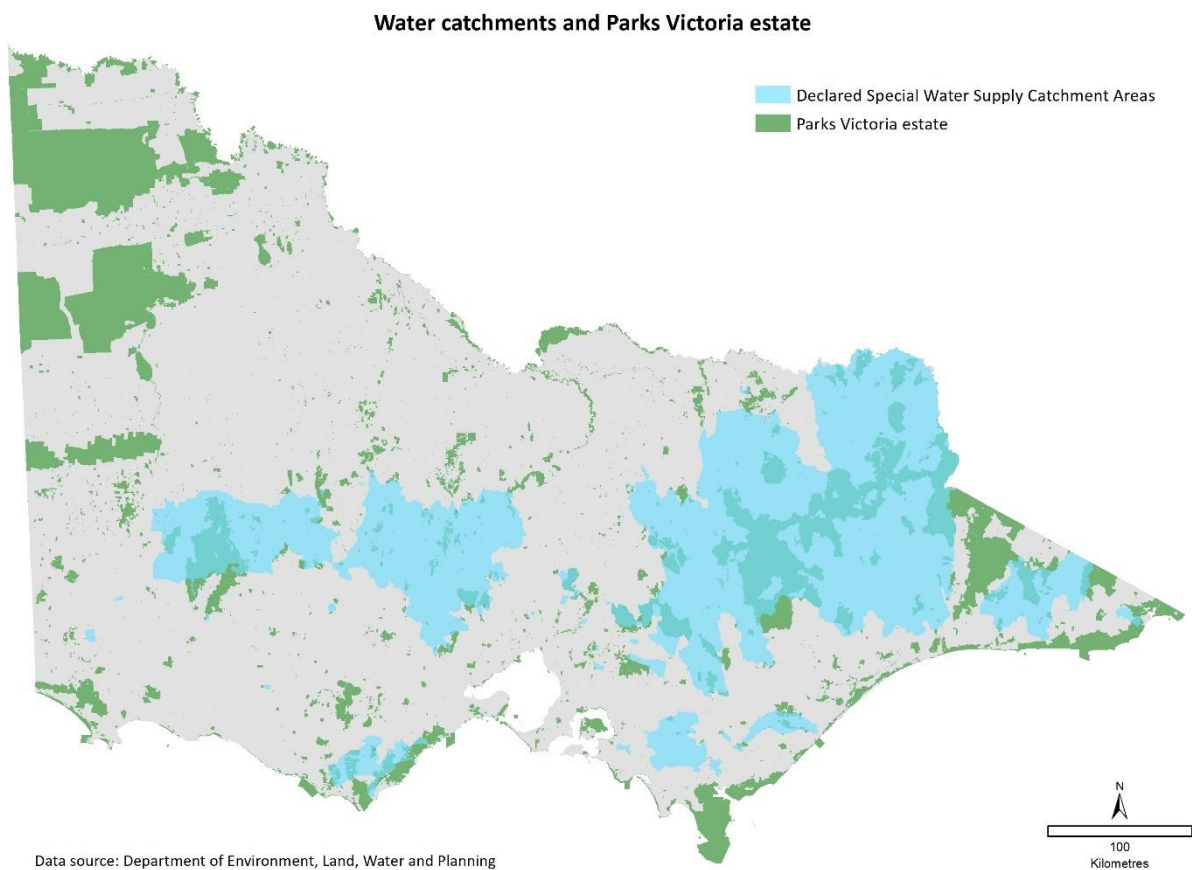


Area of Declared Special Water Supply Catchment Areas

- Nearly a quarter of the entire parks estate is within a declared special water supply catchment area.

| Catchment type | Area in the parks network (ha) | State-wide area (ha) | Percentage of the parks network |
|--|--------------------------------|----------------------|---------------------------------|
| Declared Special Water Supply Catchments | 1,221,539 | 5,339,652 | 22.9 |

Data source: DELWP

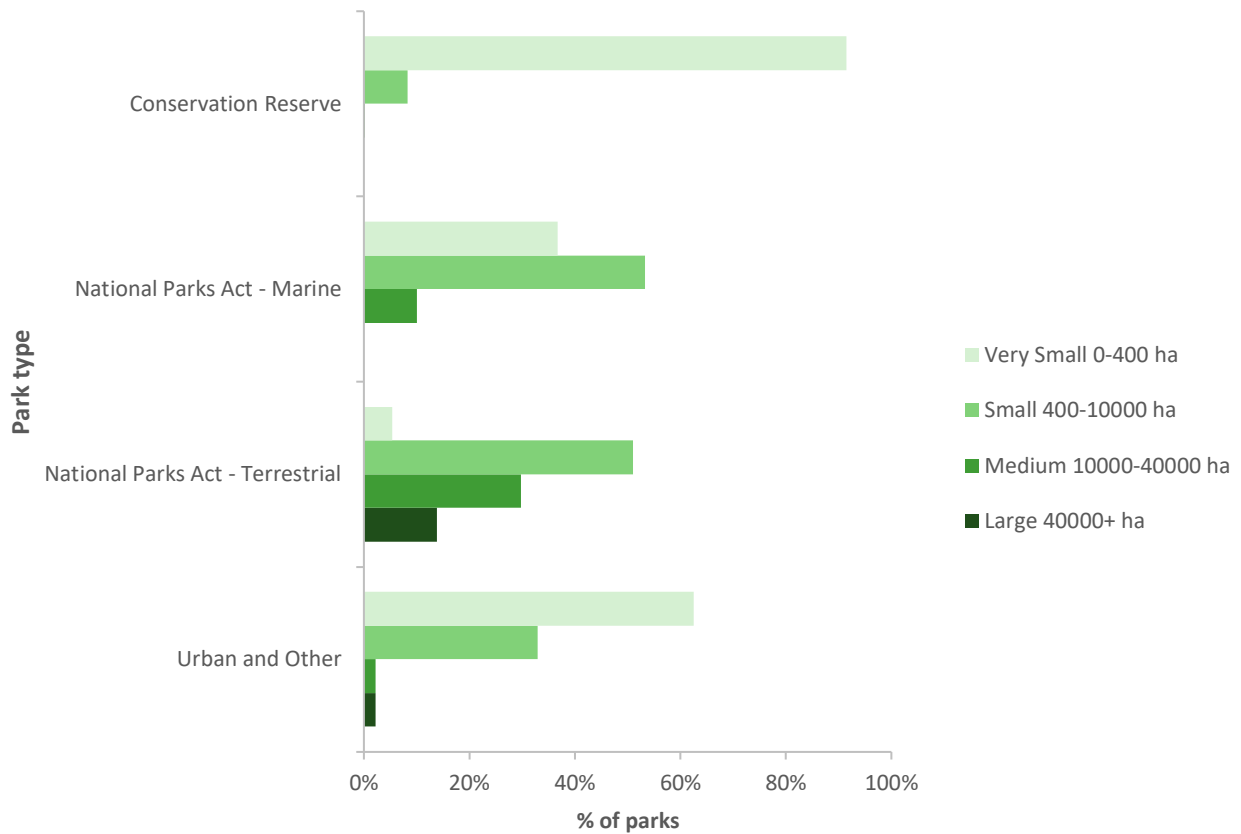


2.1.5. Park complexity

The size and shape of parks, adjoining land use and number of neighbours can indicate management complexity. Larger parks with lower edge to area ratio are less prone to external effects than smaller parks with higher edge to area ratio, while parks that have conservation as the primary surrounding land use and fewer neighbours will generally have fewer external threats.

Size profile of the Victorian parks network*

- Individual park size across Victoria’s parks estate varies. Around 44% of terrestrial national parks are larger than 10,000 hectares, while 92% of conservation reserves and 88% of metropolitan parks are less than 400 hectares.

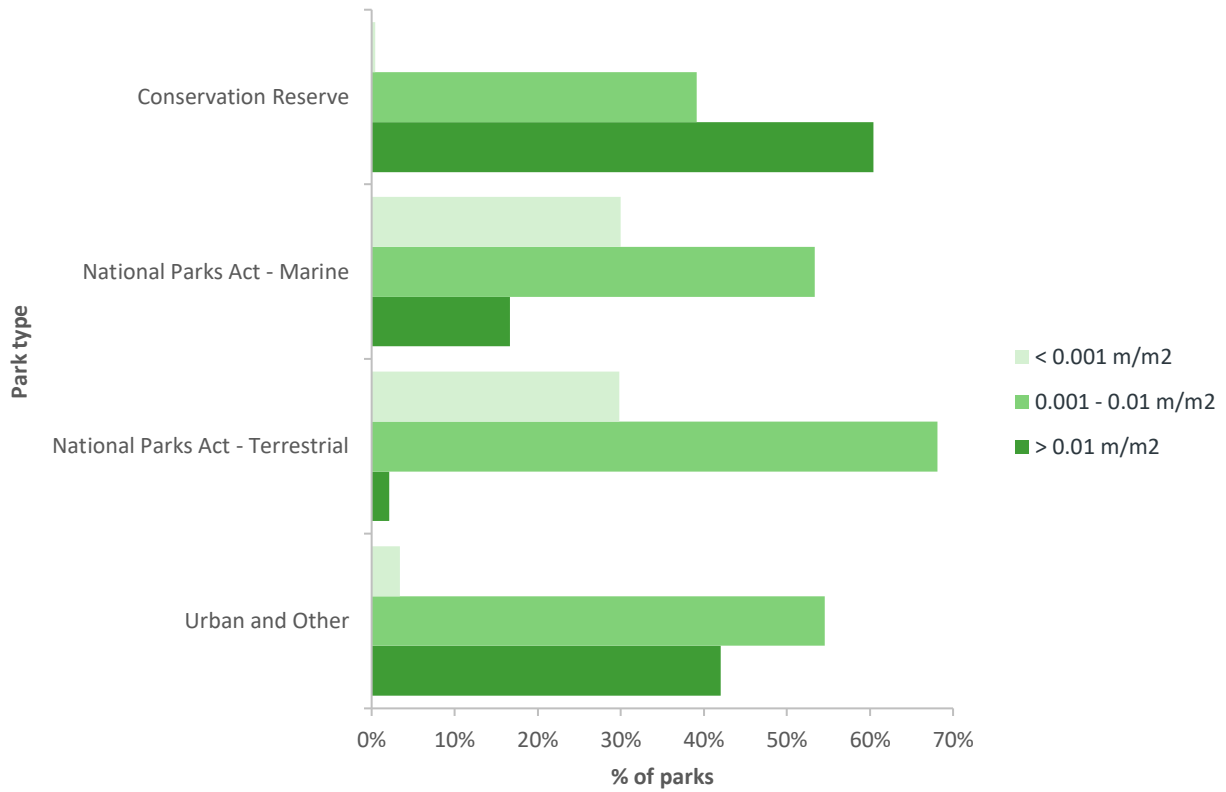


*Includes Port Phillip Bay, Western Port and waterways.

Data source: DELWP

Edge to area ratio (m/m²) of parks*

- National parks have a greater proportion of parks with a low edge to area ratio, while urban parks and conservation reserves have a greater proportion of parks with a high edge to area ratio.

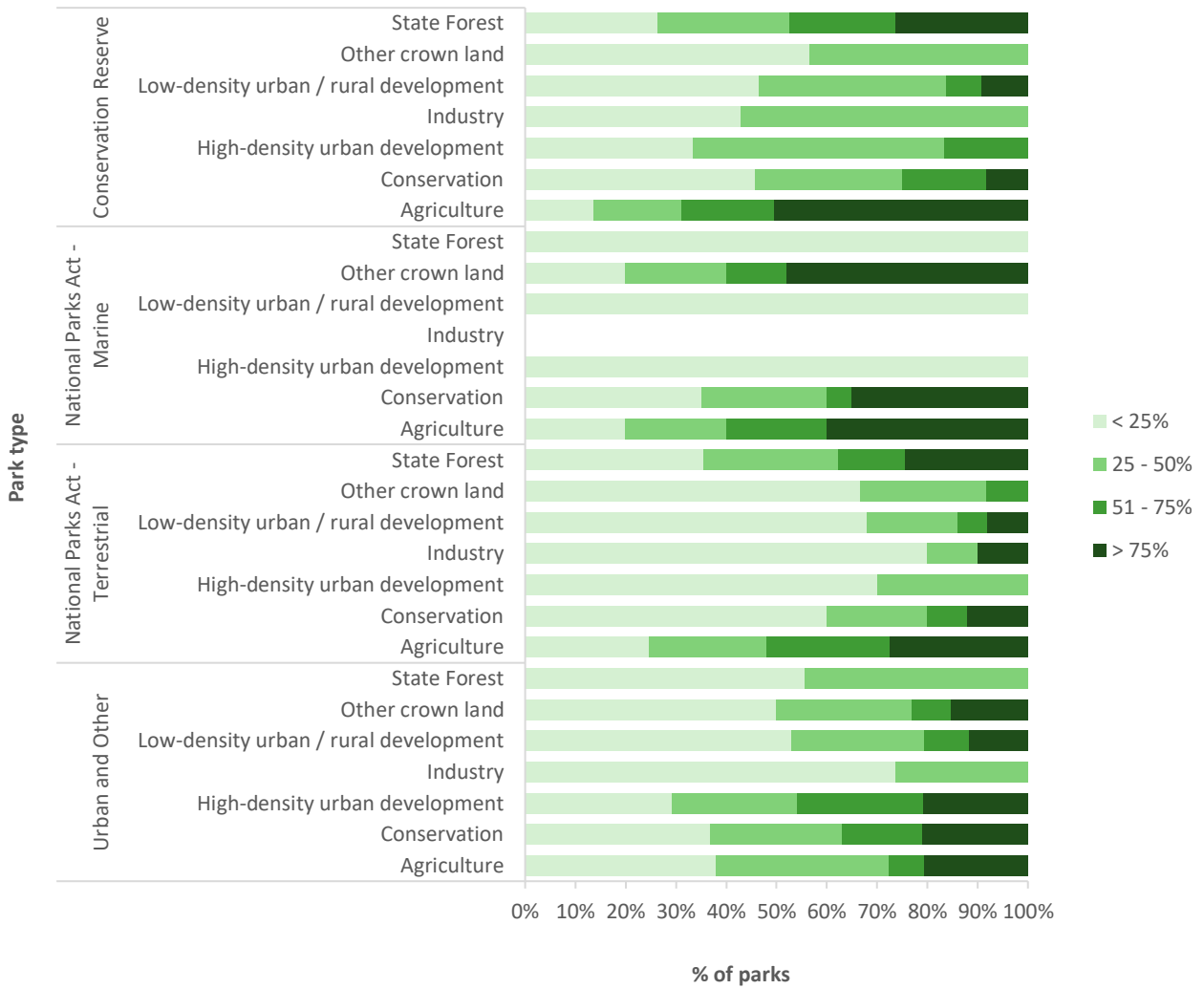


*Includes Port Phillip Bay, Western Port and waterways.

Data source: DELWP

Surrounding land use*

Parks that have conservation land use as the predominant surrounding land use will generally have few external threats.

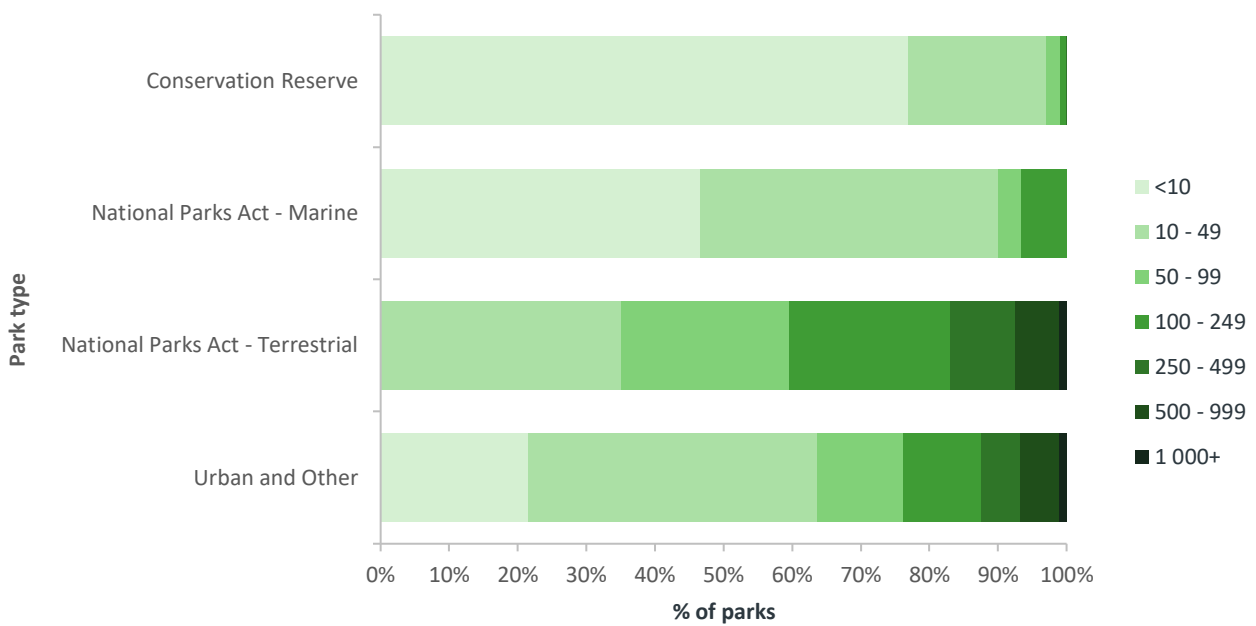


*Includes Port Phillip Bay, Western Port and waterways.

Data source: Parks Victoria State of the Parks assessments

Number of park neighbours

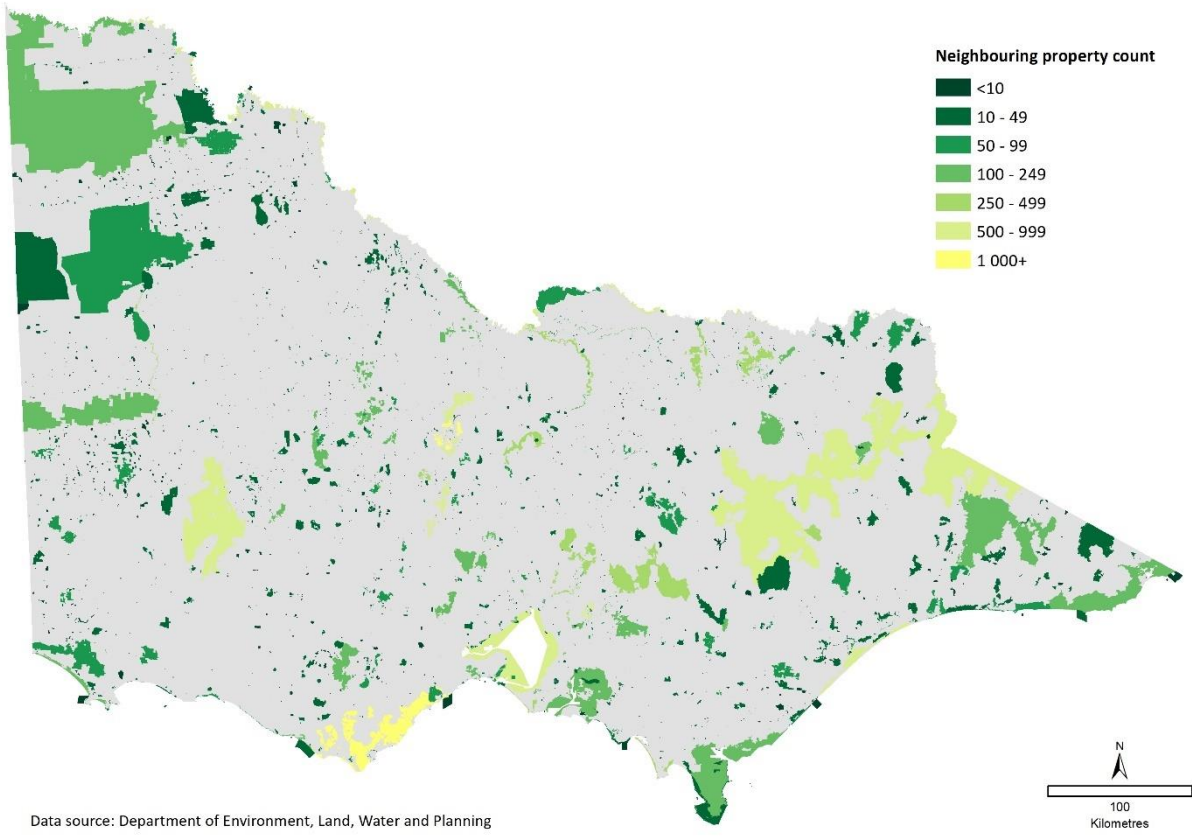
- There are nearly 55,000 properties neighbouring parks and reserves across Victoria. The Great Otway National park has the highest number of neighbouring properties in the state, with over 2,000 neighbours.
- Most conservation reserves (77%) have less than 10 neighbouring properties, while over 20% of urban and other parks have more than 100 neighbouring properties.
- In 2018, a new method was used to calculate this measure to improve accuracy and therefore results are not comparable with Victoria's State of the Parks - Third Edition.



*Includes Port Phillip Bay, Western Port and waterways

Data source: DELWP

Neighbouring property count 2018



3. Management for nature conservation

Victoria's parks are important for conservation of representative and adequate examples of the State's biodiversity and ecological processes. Victoria's parks are home to many of the state's largest and least disturbed ecosystems, as well as many of its most threatened species and communities. Parks also play an important role in protecting remnant vegetation in urban areas.

Sections

3.1 Extent and representation of natural assets in parks

3.2 Status and management of key threats to park ecosystems

3.3 Condition of park ecosystems

3.4 Key factors influencing management effectiveness

3.1 Extent and representation of natural assets and ecosystem services in parks

Victoria can be divided into [28 terrestrial bioregions](#); large land areas characterised by similar natural features and environmental processes that influence the functions of entire ecosystems, and five marine bioregions, large areas of the sea that can be grouped according to characteristics such as currents, wave energy, seawater temperature, geology and geography.

The parks network protects a great variety of native vegetation types, from wetlands and forests to coastal heath and grasslands, some of which are rare and depleted. Vegetation types (Ecological Vegetation Divisions or EVDs) reflect the climate, soils and topography of an area.

Parks also play an important role in conserving the diversity of the state's native flora and fauna and provide refuge to many threatened flora and fauna species. They allow for the evolutionary potential of species, provide climate change refugia and can contribute to the resilience of broader landscapes.

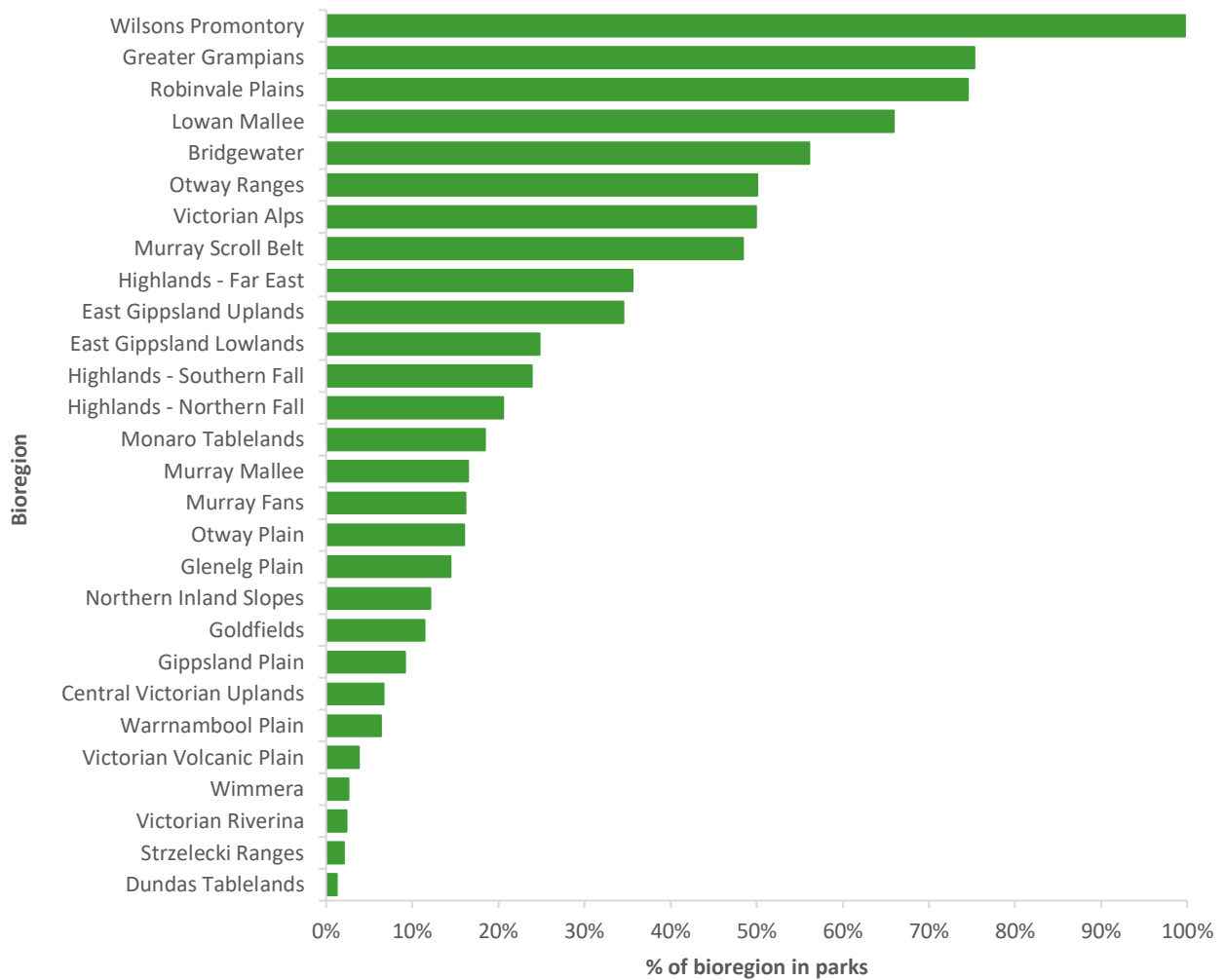
Indicators

- 3.1.1 Representation of terrestrial bioregions in parks
- 3.1.2 Representation of marine bioregions in parks
- 3.1.3 Extent and representation of native vegetation in parks
- 3.1.4 Extent and representation of marine habitats in parks
- 3.1.5 Extent and representation of wetlands in parks
- 3.1.6 Representation of flora and fauna in terrestrial parks
- 3.1.7 Significance of park habitats for threatened species
- 3.1.8 Representation of marine flora and fauna

3.1.1. Representation of terrestrial bioregions in parks

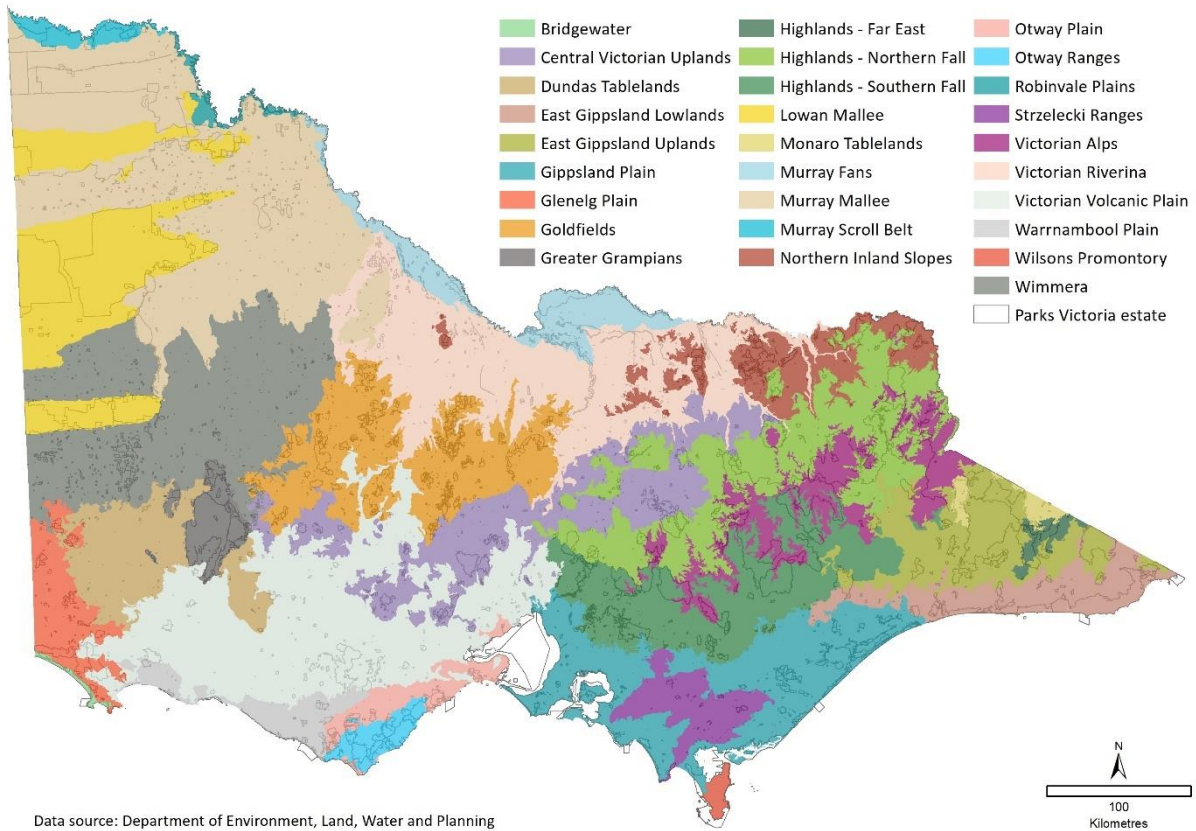
- The proportion of bioregions protected in parks ranges from 100% of the Wilsons Promontory bioregion to just over 1% of the Dundas Tablelands bioregion.

Percentage of terrestrial bioregions within parks



Data source: DELWP

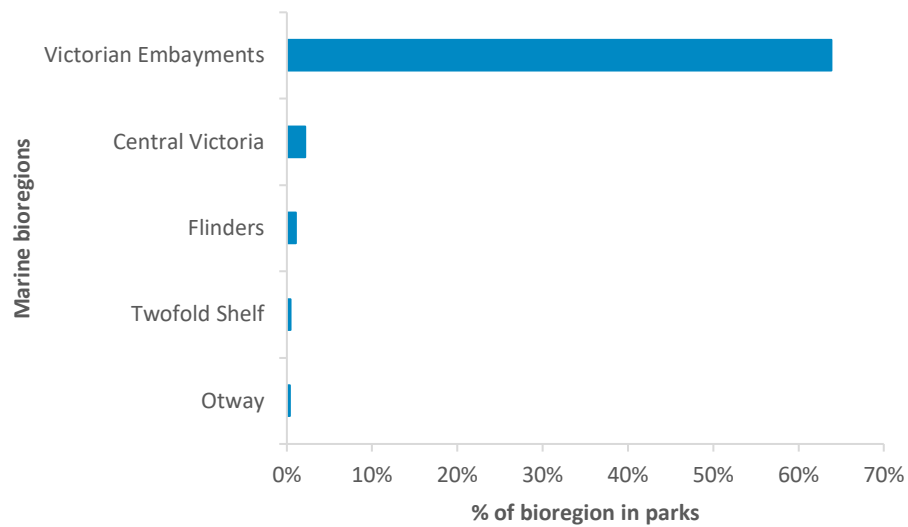
Terrestrial bioregions and Parks Victoria estate



3.1.2. Representation of marine bioregions in parks

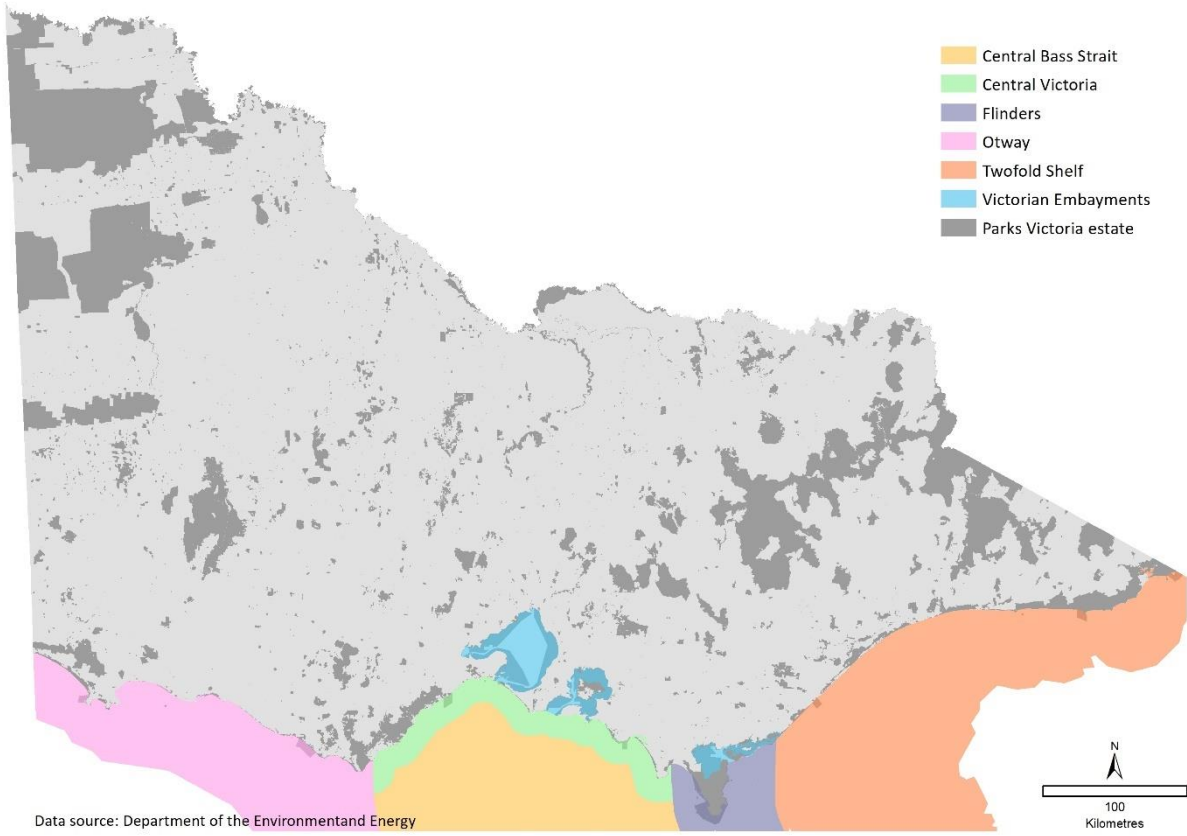
- Of the five marine bioregions off Victoria’s coastline, the Victorian Embayments bioregion is the most well represented in parks, with more than 60% of its area protected. Central Victoria, Flinders, Twofold Shelf and Otway have 2% or less of their area protected in parks.

Percentage of marine bioregions within parks



Data source: Department of the Environment and Energy

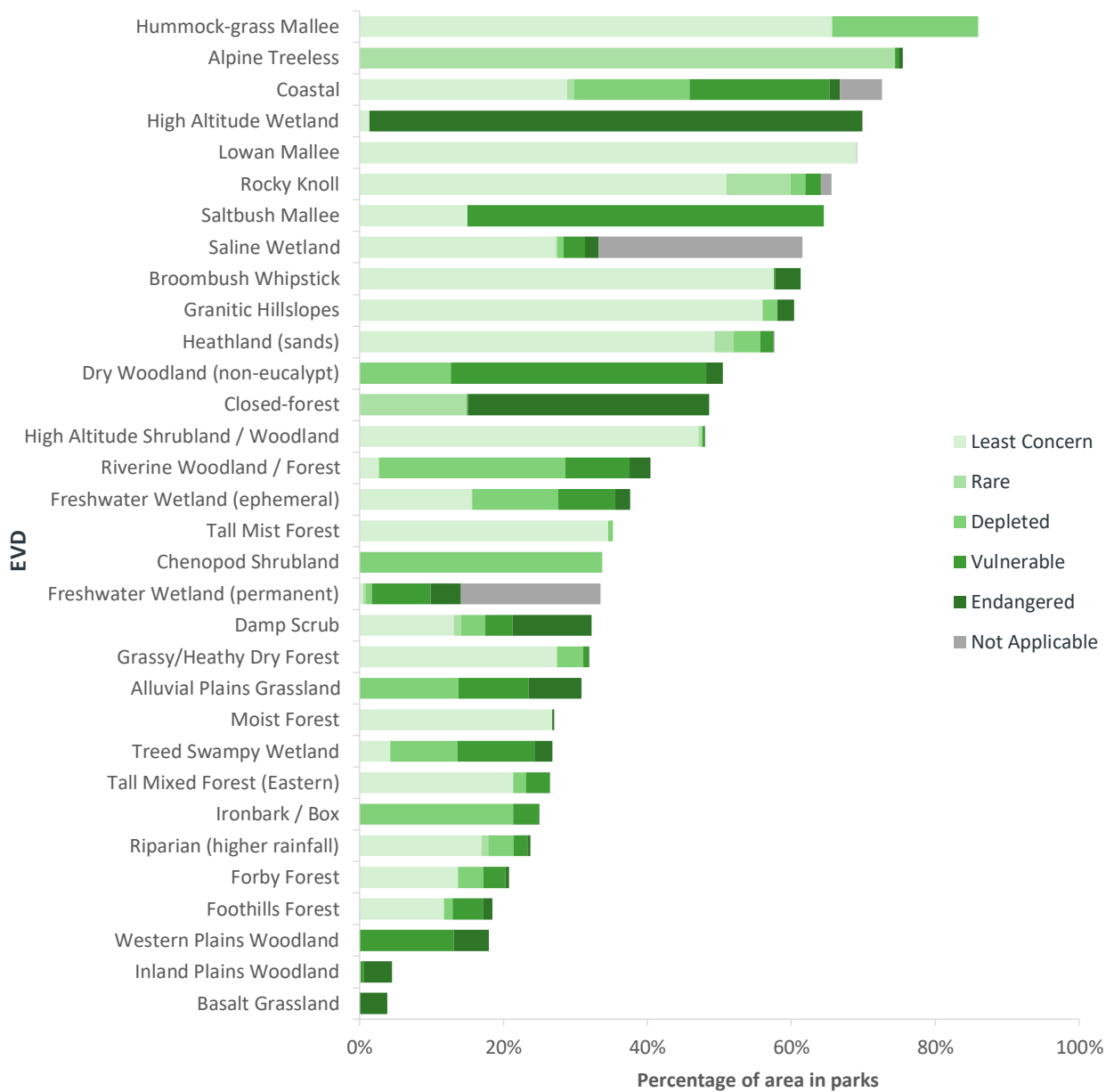
Marine bioregions and Parks Victoria estate



3.1.3. Extent and representation of native vegetation in parks

- All Ecological Vegetation Divisions are represented within parks, although the extent of representation varies widely: Hummock-grass Mallee is the most well-reserved with 86% protected in parks while the least represented is Basalt Grassland, with just 3.8% of its area present in parks.

Percentage area of Ecological Vegetation Divisions in parks by Ecological Vegetation Class bioregional conservation status



Data source: DELWP

3.1.4. Extent and representation of marine habitats in parks

- Around 5% of Victorian marine waters are protected by marine national parks and marine sanctuaries. Other marine protected areas include marine parks, marine and coastal parks, and a marine reserve.
- The habitats found within these marine protected areas include seagrass meadows, mangroves, saltmarsh, rocky reefs and soft sediment.

Extent of marine habitats within parks

| Marine ecosystem | Total area (ha) |
|------------------|------------------|
| Soft Sediment | 69,143 |
| Subtidal Reef | 21,566 |
| Seagrass | 18,287 |
| Saltmarsh | 3,738 |
| Mangrove | 3,435 |
| Coastal Island | 191 |
| Intertidal Reef | 186 ¹ |

Data source: Parks Victoria

¹ Only includes intertidal reefs in Marine Protected Areas. Intertidal reefs that fall within terrestrial (coastal) parks have not yet been accurately estimated, but are a significantly larger area.

3.1.5. Extent and representation of wetlands in parks

Victorian wetland classification framework, developed in 2014, identifies twenty wetland types based on wetland system, salinity regime, water regime and dominant vegetation.

Extent and representation of wetland types in parks

- Seven wetland types have more than 60% of their area within the parks estate.
- Permanent freshwater swamps/marshes/meadows and intertidal flats are the most well represented wetlands in the parks network, while permanent saline and freshwater swamps are the least represented.

| Wetland type | Total state 2018 wetland area (ha) | Park estate 2018 wetland area (ha) | Percentage 2018 wetlands in parks |
|---|--|--|---|
| Permanent freshwater swamps/marshes/meadows | 52 | 51 | 99 |
| Intertidal flats | 72,790 | 68,311 | 94 |
| High country peatlands | 4,492 | 3,575 | 80 |
| Permanent saline swamps/marshes/meadows | 45 | 34 | 75 |
| Permanent freshwater marshes and meadows | 2,241 | 1,622 | 72 |
| Temporary saline swamps/marshes/meadows | 1,125 | 778 | 69 |
| Temporary saline lakes | 36,704 | 23,167 | 63 |
| Temporary saline marshes and meadows | 8,536 | 4,701 | 55 |
| Temporary freshwater swamps/marshes/meadows | 1,015 | 545 | 54 |
| Permanent saline lakes | 65,939 | 34,523 | 52 |
| Coastal saltmarsh | 52,946 | 27,458 | 52 |
| Temporary freshwater swamps | 103,575 | 47,900 | 46 |
| Permanent saline marshes and meadows | 2,887 | 1,289 | 45 |
| Temporary freshwater lakes | 57,885 | 25,700 | 44 |
| Temporary saline swamps | 5,431 | 2,394 | 44 |
| Estuary | 4,143 | 1,272 | 31 |
| Unknown | 171,575 | 35,793 | 21 |
| Permanent freshwater lakes | 92,620 | 9,641 | 10 |
| Temporary freshwater marshes and meadows | 98,915 | 9,470 | 10 |
| Permanent freshwater swamps | 902 | 66 | 7 |
| Permanent saline swamps | 319 | 4 | 1 |
| Total | 784,138 | 298,293 | 38 |

Data source: DELWP

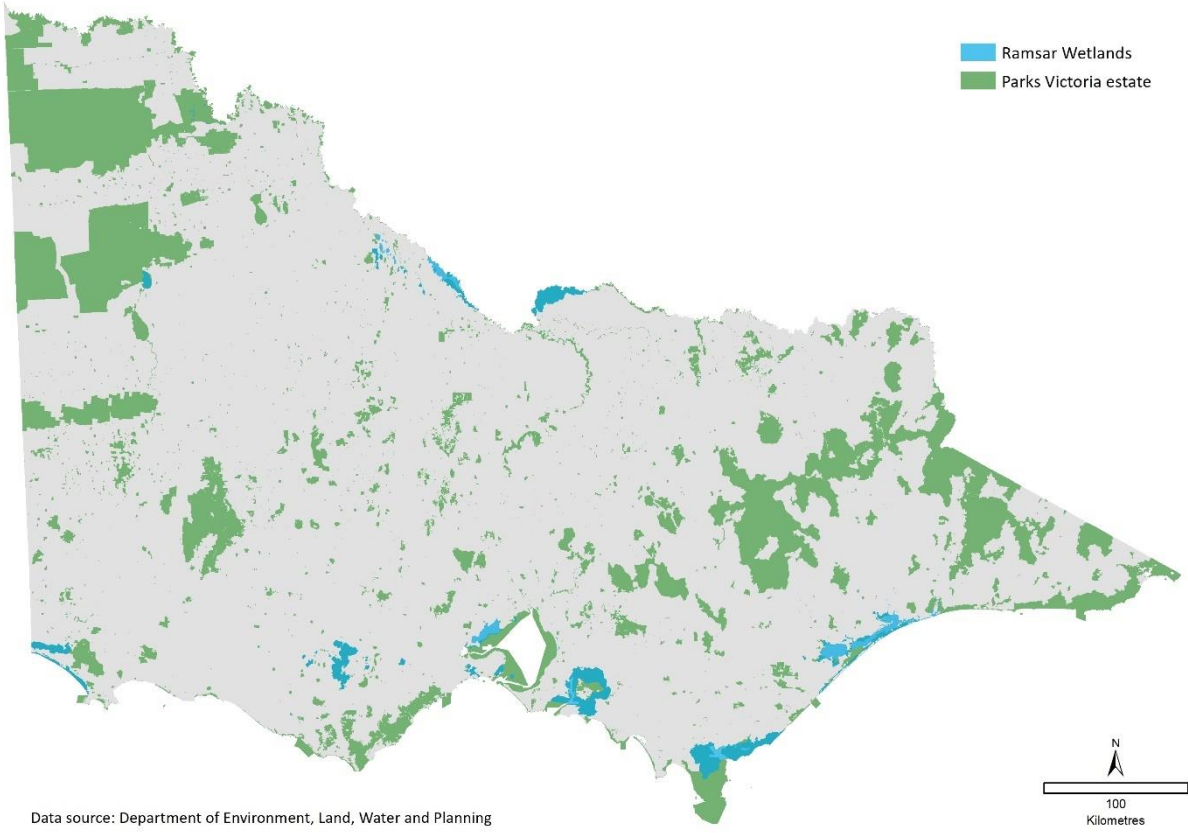
Extent and representation of Ramsar wetlands in parks

- Eleven of the 12 internationally significant [Ramsar wetlands](#) found in Victoria are entirely or partially managed by Parks Victoria.
- The Glenelg Estuary and Discovery Bay is Victoria's newest Ramsar site. Listed in February 2018, the site includes the majority of Lower Glenelg National Park and Discovery Bay Coastal Park.

| Ramsar wetland | Ramsar area within parks (ha) | Ramsar site total area (ha) | Percentage Ramsar site within parks |
|--|-------------------------------|-----------------------------|-------------------------------------|
| Hattah-Kulkyne Lakes | 978 | 978 | 100.0 |
| Lake Albacutya | 5,656 | 5,660 | 99.9 |
| Western District Lakes | 32,631 | 32,675 | 99.9 |
| Barmah Forest | 29,243 | 29,307 | 99.8 |
| Glenelg Estuary and Discovery Bay | 22,116 | 22,290 | 99.2 |
| Western Port | 54,004 | 59,972 | 90.0 |
| Corner Inlet | 59,199 | 67,235 | 88.0 |
| Kerang Wetlands | 5,683 | 9,795 | 58.0 |
| Gunbower Forest | 10,464 | 20,220 | 51.7 |
| Port Phillip Bay (Western Shoreline) and Bellarine Peninsula | 9,694 | 22,647 | 42.8 |
| Gippsland Lakes | 24,565 | 61,152 | 40.2 |
| Edithvale-Seaford Wetlands | 0 | 261 | 0.0 |
| Total | 254,233 | 332,193 | 76.5 |

Data source: DELWP

Ramsar wetlands and Parks Victoria estate



Data source: Department of Environment, Land, Water and Planning

3.1.6. Representation of flora and fauna in terrestrial parks

Parks play an important role in conserving the diversity of the state's native flora and fauna. In 2018, 4,997 native species of flora and 1,677 native species of fauna were known to be present in Victoria's parks network. The number of species recorded was boosted by an increase in new species records, as well as changes to species taxonomy.

Native flora species in parks

- Of the 5,405 native flora species recorded in Victoria, 92% (4,997) are present in the state's terrestrial and marine protected areas².
- The Alpine National Park has the highest number of native flora species recorded followed by the Grampians, Great Otway and Snowy River national parks. There are 13 terrestrial parks that have over 800 species recorded.

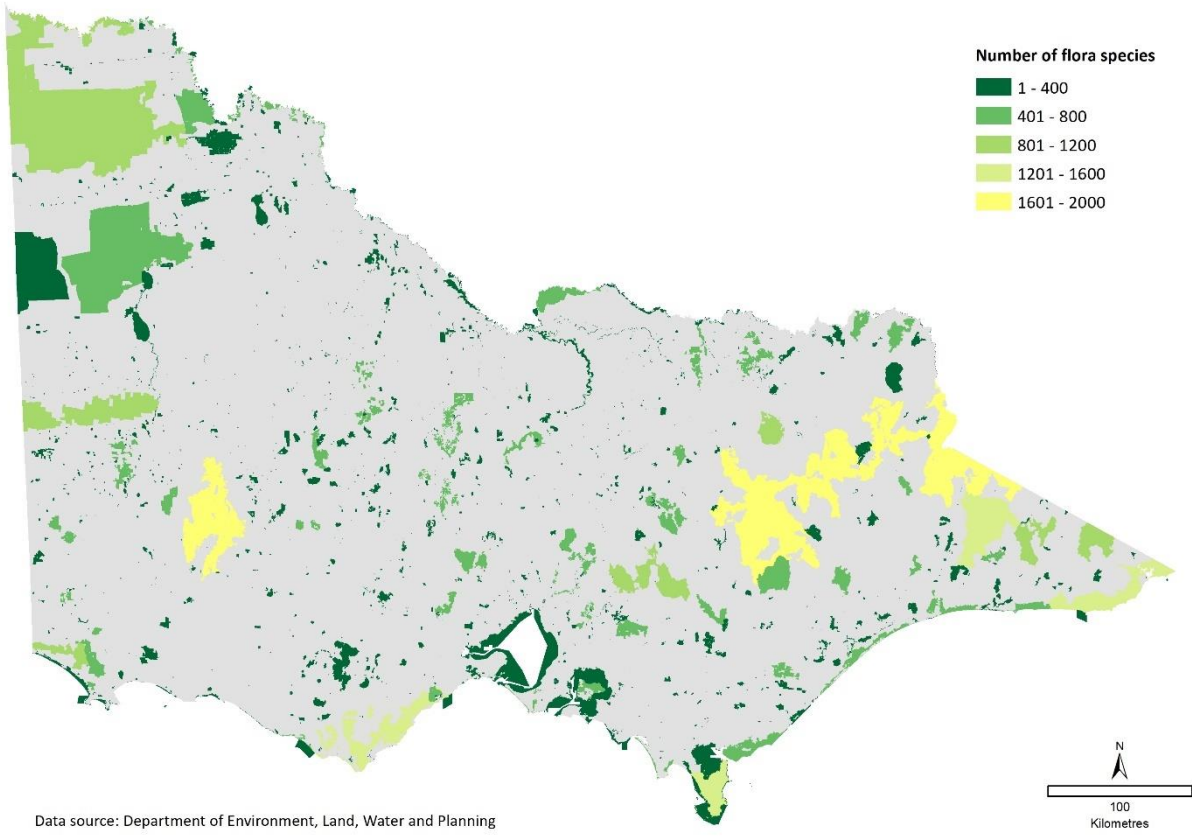
Parks with more than 800 native flora species

| Park name | Number of native flora species | State total (%) |
|-----------------------------------|--------------------------------|-----------------|
| Alpine National Park | 1,999 | 37.0 |
| Grampians National Park | 1,618 | 29.9 |
| Great Otway National Park | 1,425 | 26.4 |
| Snowy River National Park | 1,309 | 24.2 |
| Wilson's Promontory National Park | 1,274 | 23.6 |
| Croajingolong National Park | 1,243 | 23.0 |
| Yarra Ranges National Park | 959 | 17.7 |
| Coopracambra National Park | 929 | 17.2 |
| Murray - Sunset National Park | 914 | 16.9 |
| Little Desert National Park | 888 | 16.4 |
| Errinundra National Park | 852 | 15.8 |
| Mount Buffalo National Park | 835 | 15.5 |
| Lower Glenelg National Park | 829 | 15.3 |

Data source: DELWP

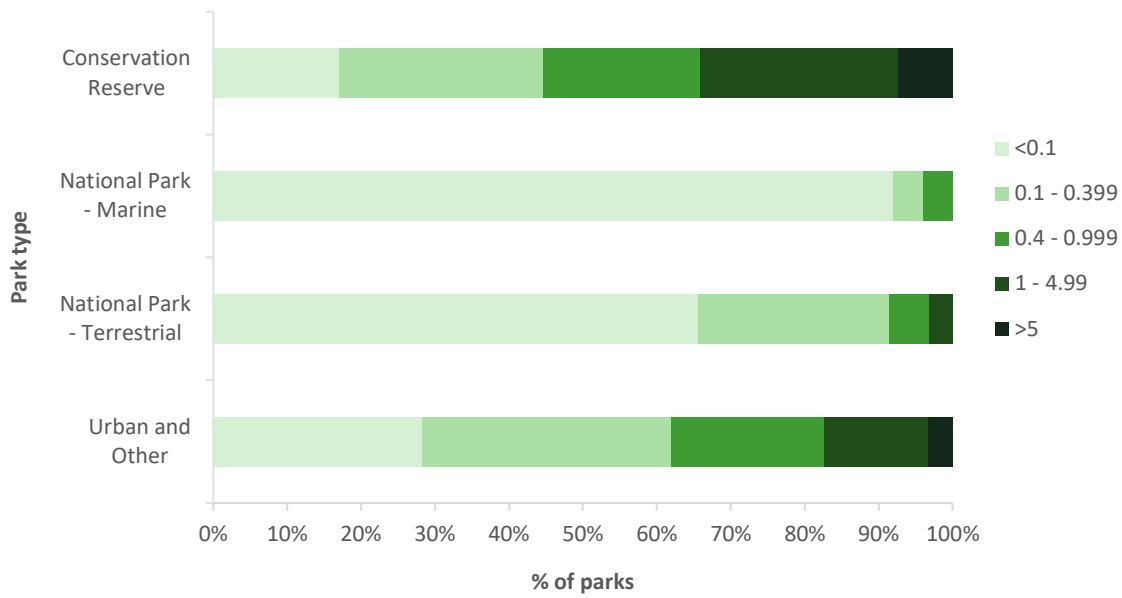
² [Victorian Biodiversity Atlas](#)

Native flora recorded in parks



Number of flora species per hectare as a ratio

- Conservation reserves account for the highest proportion of park type which contain one or more species per hectare (34%). This highlights their importance in conserving flora species, even though more than 90% of these reserves are very small (less than 400 ha).



Data source: DELWP

Rare and threatened flora species in parks

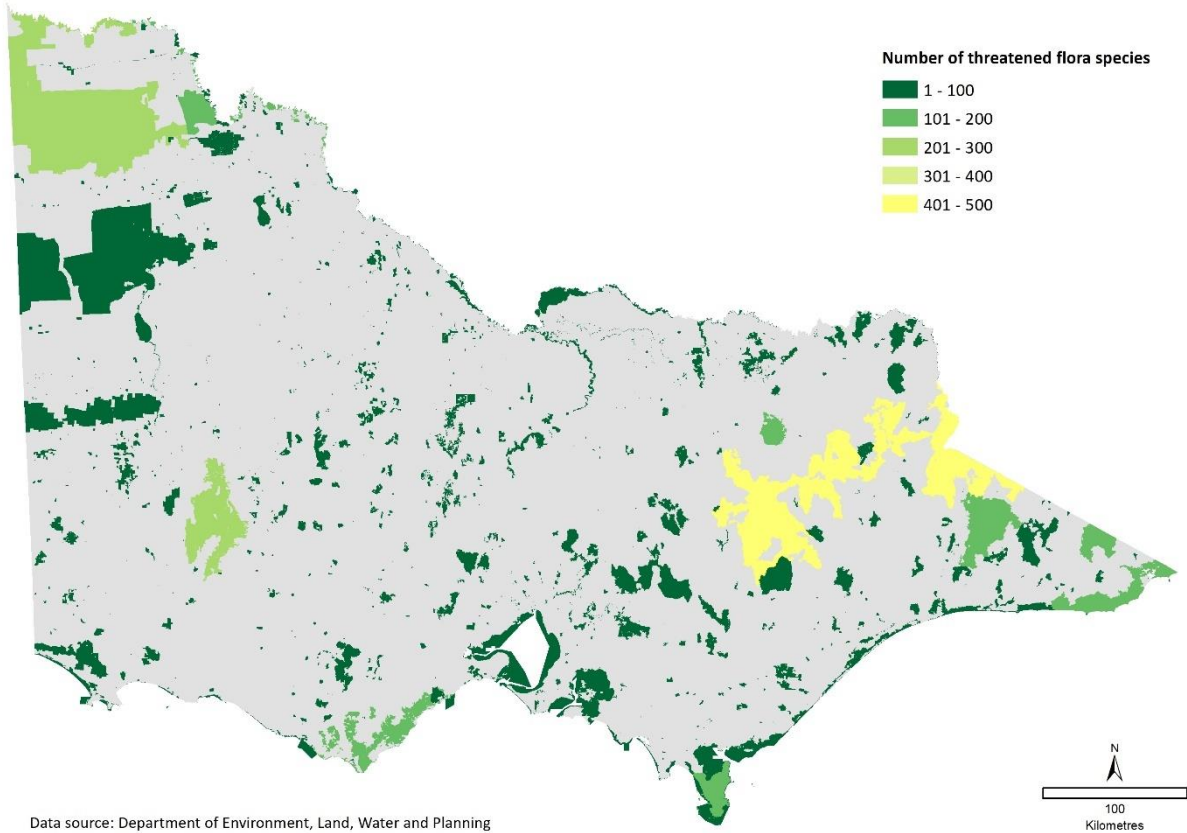
- Of Victoria's 1,902 listed rare and threatened flora species, 90% are recorded in parks, with 11 parks containing more than 100 species.
- Alpine National Park has by far the largest number of rare and threatened flora species, with ten other parks having more than 100 rare and threatened species recorded.

Parks with more than 100 rare and threatened species recorded

| Park name | Number of threatened flora species |
|-----------------------------------|------------------------------------|
| Alpine National Park | 491 |
| Murray - Sunset National Park | 217 |
| Grampians National Park | 202 |
| Croajingolong National Park | 194 |
| Snowy River National Park | 169 |
| Great Otway National Park | 137 |
| Hattah - Kulkyne National Park | 128 |
| Wilson's Promontory National Park | 121 |
| Coopracambra National Park | 118 |
| Murray River Park (proposed) West | 115 |
| Mount Buffalo National Park | 102 |

Data source: DELWP

Threatened flora recorded in parks



Endemic flora species in parks

- 344 species of flora are endemic to (only found in) Victoria. Of these, 36 species are endemic to a single park.
- The Grampians and Alpine national parks have the highest number of endemic species.

Flora species endemic to a park

| Park name | Number of endemic flora species |
|-----------------------------------|---------------------------------|
| Grampians National Park | 12 |
| Alpine National Park | 7 |
| Chiltern-Mt Pilot National Park | 1 |
| Inverleigh F.R. | 1 |
| Lerderderg State Park | 1 |
| Little Desert National Park | 1 |
| Lower Glenelg National Park | 1 |
| Maldon H.A. | 1 |
| Marble Gully - Mount Tambo N.C.R. | 1 |

Data source: DELWP

Native fauna species in parks

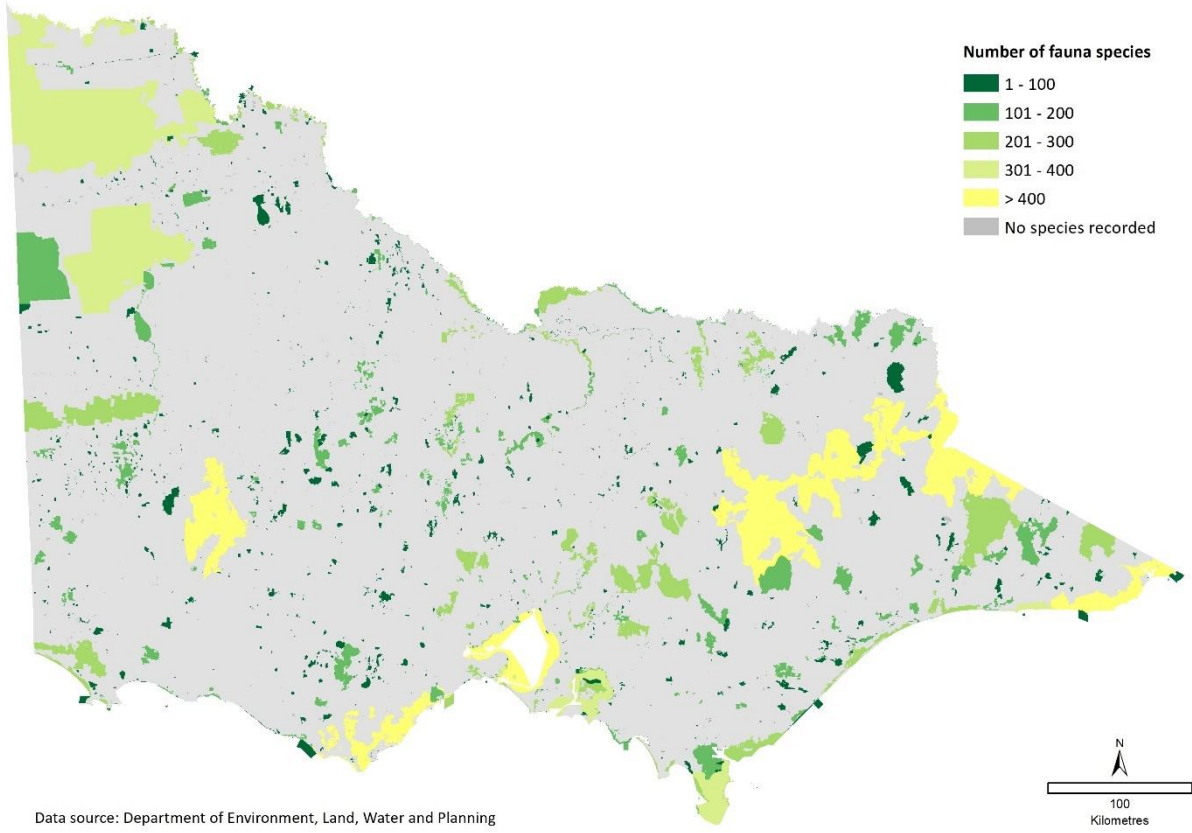
- Of the 2,204 native fauna species recorded in Victoria, 1,677 (76%) are present in terrestrial and marine parks.
- Terrestrial parks with the greatest number of fauna species include Croajingolong, Grampians, Alpine and Great Otway national parks. Ten terrestrial parks have more than 300 native fauna species recorded.

Terrestrial parks with more than 300 native fauna species

| Park name | Number of native fauna species in park | Percentage of state total |
|-----------------------------------|--|---------------------------|
| Croajingolong National Park | 445 | 20.2 |
| Grampians National Park | 439 | 19.9 |
| Alpine National Park | 410 | 18.6 |
| Great Otway National Park | 408 | 18.5 |
| Wilson's Promontory National Park | 361 | 16.4 |
| Cape Conran Coastal Park | 352 | 16.0 |
| Murray - Sunset National Park | 341 | 15.5 |
| Hattah - Kulkyne National Park | 316 | 14.3 |
| Wyperfeld National Park | 301 | 13.7 |
| Yarra Ranges National Park | 300 | 13.6 |

Data source: DELWP

Native fauna recorded in parks



Data source: Department of Environment, Land, Water and Planning

Representation of faunal groups in parks

- Of the 1,677 recorded faunal species in the parks network, invertebrates (643 species) and birds (451 species) are the most represented faunal groups.

Representation of faunal groups in parks

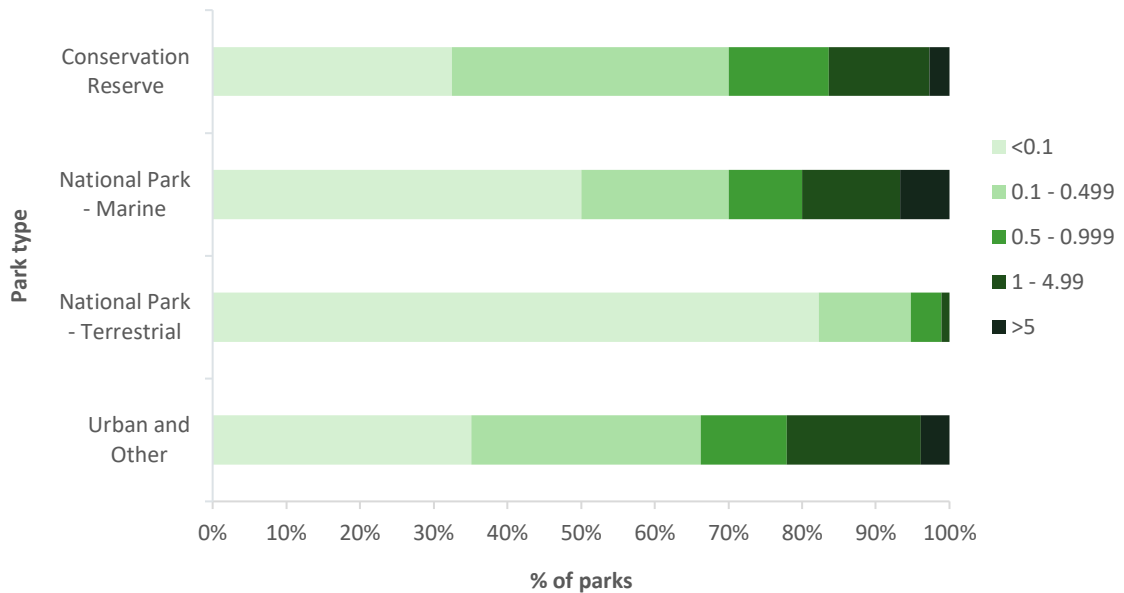
| Taxon type | Number of fauna species recorded in parks network |
|------------------------------|--|
| Invertebrates* | 643 |
| Birds | 451 |
| Fish (marine and freshwater) | 253 |
| Reptiles | 128 |
| Mammals | 103 |
| Amphibians | 49 |

*Includes terrestrial, freshwater and marine invertebrates

Data source: DELWP

Number of fauna species per hectare as a ratio

- Conservation reserves and Urban and Other parks have a higher number of fauna species per hectare than National Park Act parks. This highlights the important role that these smaller reserves can play in complementing the National Parks system and building more resilient landscapes.



Data source: DELWP

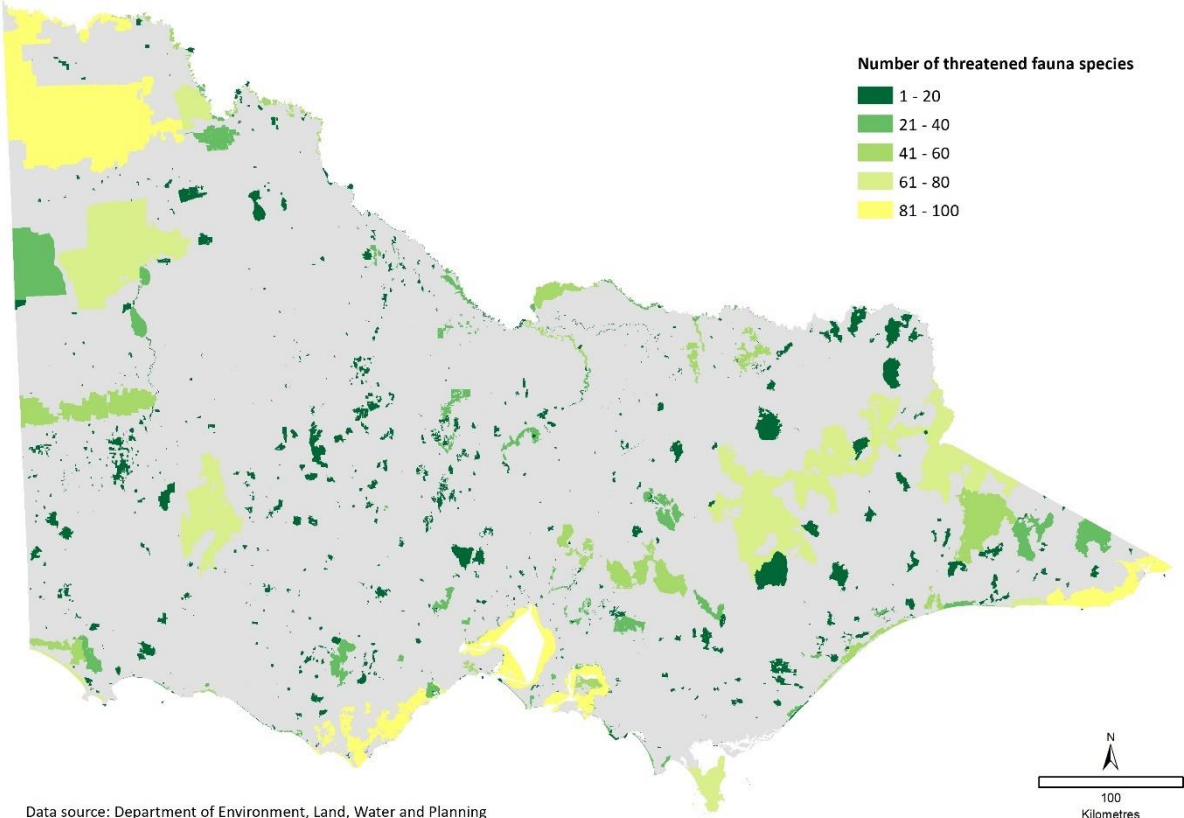
Rare and threatened fauna species in parks

- In 2018 there were 347 listed threatened fauna species recorded in Victoria’s parks network, which represented 89.2% of the state’s listed threatened fauna species.
- Croajingolong and Murray-Sunset national parks are home to the largest number of rare and threatened species found across the parks network. In total, 16 parks have 50 or more rare or threatened fauna recorded.

| Park name | Number of rare and threatened fauna species | Percentage of state total |
|----------------------------------|---|---------------------------|
| Croajingolong National Park | 93 | 23.9 |
| Murray - Sunset National Park | 87 | 22.4 |
| Great Otway National Park | 85 | 21.9 |
| Wilsons Promontory National Park | 76 | 19.5 |
| Grampians National Park | 75 | 19.3 |
| Discovery Bay Coastal Park | 74 | 19 |
| Hattah - Kulkyne National Park | 72 | 18.5 |
| Wyperfeld National Park | 71 | 18.3 |
| Alpine National Park | 68 | 17.5 |
| Cape Conran Coastal Park | 66 | 17 |
| Lake Tyers State Park | 58 | 14.9 |
| The Spit Wildlife Reserve | 58 | 14.9 |
| Lake Connewarre Wildlife Reserve | 55 | 14.1 |
| Chiltern-Mt Pilot National Park | 54 | 13.9 |
| Gippsland Lakes Coastal Park | 52 | 13.4 |
| French Island National Park | 50 | 12.9 |

Data source: DELWP

Threatened fauna recorded in parks



Number of terrestrial vertebrate fauna species endemic to a park

Four terrestrial vertebrate animal species endemic to a park have been recorded.

Three of the four endemic animals occur in parks located in the Victorian Alps.

| Park name | Number of endemic species |
|---------------------------|---------------------------|
| Alpine National Park | 2 |
| Great Otway National Park | 1 |
| Snowy River National Park | 1 |
| Total | 4 |

Data source: DELWP

3.1.7. Significance of park habitats for threatened species

Number of species for which national parks and nature conservation reserves provide best habitat

- Habitat suitability modelling for threatened species, covering 638 Victorian parks and reserves (including all national parks and larger conservation reserves) indicated that these parks provide 516 threatened species with at least 80% of important available habitat in the state.

| Habitat importance in selected parks | Threatened species type | | | | | Total number of species |
|--------------------------------------|-------------------------|------------|------------|------------|---------------|-------------------------|
| | Critically endangered | Endangered | Rare | Vulnerable | Not specified | |
| 80%-100% of best habitat | 17 | 75 | 241 | 181 | 2 | 516 |
| 60%-80% of best habitat | 4 | 34 | 158 | 59 | 2 | 257 |
| 40%-60% of best habitat | 7 | 39 | 149 | 72 | 1 | 268 |
| 20%-40% of best habitat | 7 | 58 | 152 | 96 | 1 | 314 |
| 20%-0% of best habitat | 12 | 51 | 92 | 70 | 1 | 226 |
| Total | 47 | 257 | 792 | 478 | 7 | 1,581 |

Data source: DELWP

Top 10 parks with greater than 80% of best habitat suitability in the state

- The Alpine National Park contains the highest number of threatened species (127) for which it provides at least 80% of the modelled best habitat suitability for that species, followed by the Grampians National Park (66 species).

| Park name | Number of threatened species |
|----------------------------------|------------------------------|
| Alpine National Park | 127 |
| Grampians National Park | 66 |
| Murray - Sunset National Park | 38 |
| Croajingalong National Park | 32 |
| Little Desert National Park | 15 |
| Wilsons Promontory National Park | 12 |
| Hattah - Kulkyne National Park | 9 |
| Mount Buffalo National Park | 9 |
| Wyperfeld National Park | 8 |
| Baw Baw National Park | 8 |

Data source: DELWP

Number and distribution of *Flora and Fauna Guarantee Act 1988* (Vic)-listed vegetation and faunal communities recorded in park

- Of the 41 flora and fauna communities listed as threatened under the *Flora and Fauna Guarantee Act 1988* (Vic), 40 can be found in the parks network (34 flora and 6 fauna).

| <i>Flora and Fauna Guarantee Act 1988</i> (Vic)-listed vegetation communities represented in parks | Number of parks |
|---|------------------------|
| Cool Temperate Rainforest Community | 13 |
| Granite Foothills Spring Wetland (Northeast Victoria) Community | 12 |
| Northern Plains Grassland Community | 11 |
| Western (Basalt) Plains Grasslands Community | 11 |
| Floristic Community 55-04 Western Basalt Plains (River Red Gum) Grassy Woodland | 10 |
| Forest Red Gum Grassy Woodland Community | 8 |
| Rocky Chenopod Open Scrub Community | 7 |
| Coastal Moonah (<i>Melaleuca lanceolata</i> ssp. <i>lanceolata</i>) Woodland Community | 6 |
| Warm Temperate Rainforest (East Gippsland Alluvial Terraces) Community | 5 |
| Limestone Pomaderris Shrubland Community | 3 |
| Plains Grassland (South Gippsland) Community | 4 |
| Semi-arid Herbaceous Pine - Buloke Woodland Community | 4 |
| Semi-arid Herbaceous Pine Woodland Community | 4 |
| Warm Temperate Rainforest (Coastal East Gippsland) Community | 4 |
| Strzeleckis Warm Temperate Rainforest Community | 4 |
| Cool Temperate Mixed Rainforest | 3 |
| Alpine Bog Community | 2 |
| Dry Rainforest (Limestone) Community | 2 |
| Fen (Bog Pool) Community | 2 |
| Grey Box - Buloke Grassy Woodland Community | 2 |
| Herb-rich Plains Grassy Wetland (West Gippsland) Community | 2 |
| Limestone Grassy Woodland Community | 1 |
| Semi-arid Shrubby Pine - Buloke Woodland Community | 2 |
| Warm Temperate Rainforest (Far East Gippsland) Community | 2 |

| | |
|--|---|
| Alpine Snowpatch Community | 1 |
| Caltha introloba Herbland Community | 1 |
| Central Gippsland Plains Grassland Community | 1 |
| Creepline Grassy Woodland (Goldfields) Community | 1 |
| Devonian Limestone Pomaderris Shrubland Community | 1 |
| Montane Swamp Complex Community | 1 |
| Red Gum Swamp Community No. 1 | 1 |
| Sedge Rich Eucalyptus camphora Swamp Community | 1 |
| Semi-arid Northwest Plains Buloke Grassy Woodlands Community | 1 |
| Warm Temperate Rainforest (Cool Temperate Overlap, Howe Range) Community | 1 |

Data source: DELWP

| <i>Flora and Fauna Guarantee Act 1988 (Vic)</i>-listed faunal communities represented in parks | Number of parks |
|---|------------------------|
| Victorian Temperate-Woodland Bird Community | 1,358 |
| Lowland Riverine Fish Community of the Southern Murray-Darling Basin | 94 |
| Victorian Mallee Bird Community | 23 |
| Port Phillip Bay Entrance Deep Canyon Marine Community | 2 |
| Butterfly Community No 1 | 1 |
| San Remo Marine Community | 1 |

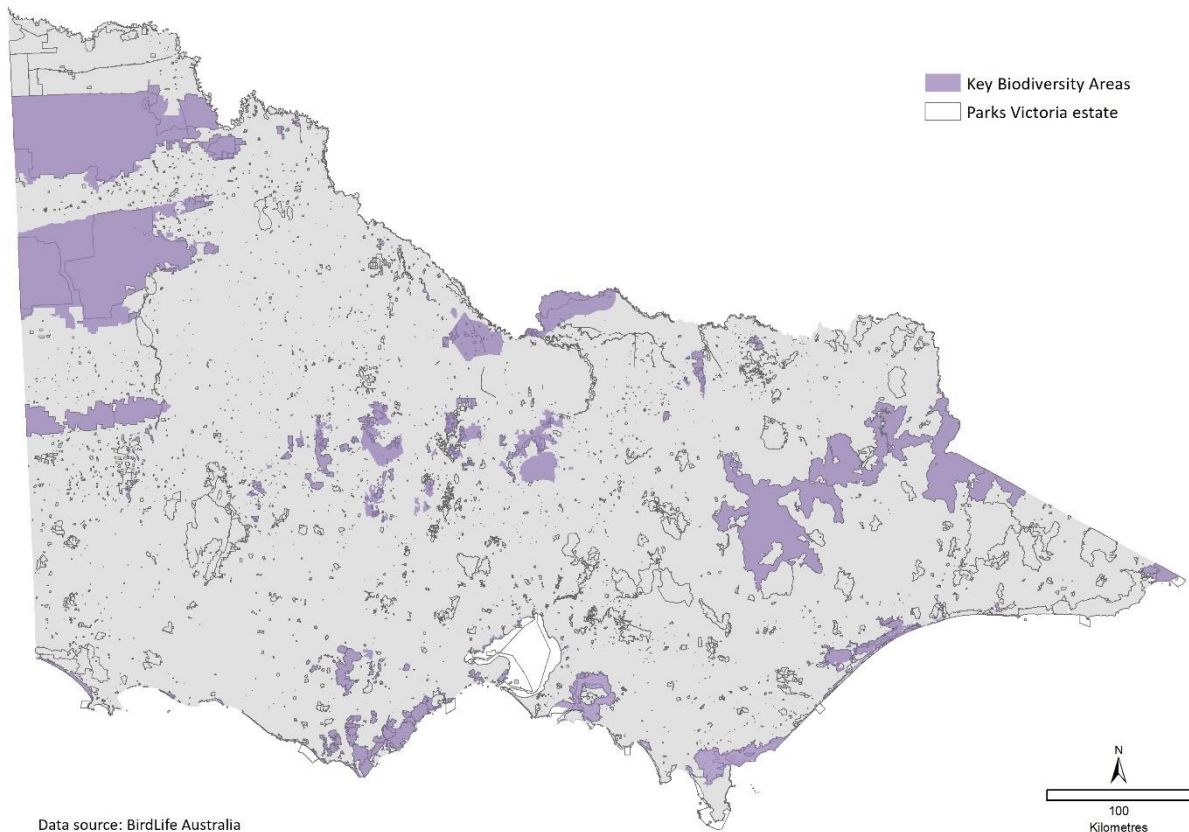
Data source: DELWP

Key Biodiversity Areas

Key Biodiversity Areas (KBA) represent the most important sites for biodiversity conservation worldwide, and are identified using [globally standardised criteria](#). They include vital habitat for threatened plant and animal species in terrestrial, freshwater and marine ecosystems.

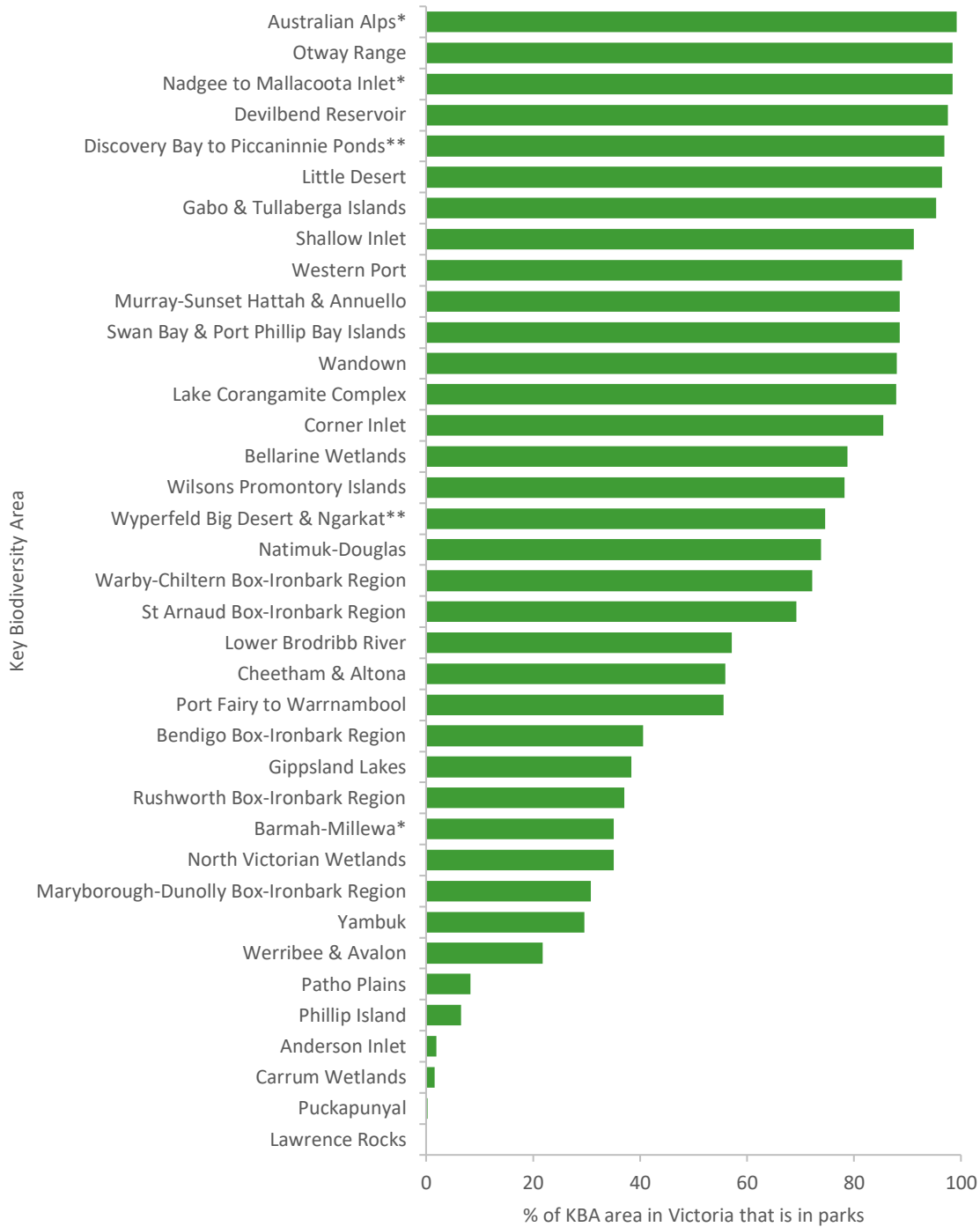
As of 2018, 37 of the KBAs declared in Australia occurred in Victoria and 36 of these sites (78% of their total area) were in parks. Five KBAs are shared between Victoria and other states. In total, 14 KBAs in Victoria have more than 80% of their area protected in parks.

Key biodiversity areas and Parks Victoria estate



Data source: BirdLife Australia

Percentage of Key Biodiversity Area (KBA) in parks



*KBA shared between Victoria and New South Wales

**KBA shared between Victoria and South Australia

Data source: BirdLife Australia

3.1.8. Representation of marine flora and fauna

Marine flora and fauna species in parks

- Greater numbers of marine flora and fauna species have been recorded in the Port Phillip Heads and Wilsons Promontory marine national parks, reflecting both survey effort and their size.

Number of marine flora and algae species in parks*

| Park | Species count |
|---|---------------|
| Port Phillip Heads Marine National Park | 231 |
| Wilsons Promontory Marine National Park | 164 |
| Point Addis Marine National Park | 138 |
| Merri Marine Sanctuary | 108 |
| Eagle Rock Marine Sanctuary | 98 |
| Cape Howe Marine National Park | 87 |
| Point Hicks Marine National Park | 77 |
| Marengo Reefs Marine Sanctuary | 74 |
| Ricketts Point Marine Sanctuary | 72 |
| Jawbone Marine Sanctuary | 56 |
| Point Cooke Marine Sanctuary | 46 |
| Beware Reef Marine Sanctuary | 41 |
| Bunurong Marine Sanctuary | 34 |

*Marine data were derived from monitoring surveys including the Subtidal Reef Monitoring Program (SRMP), Reel Life Survey (RLS) and Baited Remote Underwater Video Stations (BRUVS). These datasets were selected for their scientific rigor and accuracy. Victoria Biodiversity Atlas (VBA) data, included previously in State of the Parks reports, has been excluded. This change in methodology means data cannot be compared with those reported in Victoria's State of the Parks - Third Edition.

Data source: Parks Victoria and Reef Life Survey

Number of marine fauna species in parks*

| Park | Species count |
|--|---------------|
| Port Phillip | 265 |
| Port Phillip Heads Marine National Park | 260 |
| Wilson's Promontory Marine National Park | 207 |
| Beware Reef Marine Sanctuary | 191 |
| Point Addis Marine National Park | 164 |
| Bunurong Marine Sanctuary | 143 |
| Cape Howe Marine National Park | 127 |
| Point Hicks Marine National Park | 113 |
| Wilson's Promontory National Park | 100 |
| Wilson's Promontory Marine Park | 94 |
| Gippsland Lakes Coastal Park | 84 |
| Twelve Apostles Marine National Park | 82 |
| Discovery Bay Marine National Park | 80 |
| Merri Marine Sanctuary | 78 |
| Eagle Rock Marine Sanctuary | 73 |
| Wilson's Promontory Marine Reserve | 73 |
| Marengo Reefs Marine Sanctuary | 66 |
| Jawbone Marine Sanctuary | 59 |
| Point Cooke Marine Sanctuary | 57 |
| Ricketts Point Marine Sanctuary | 54 |
| Cape Conran Coastal Park | 45 |
| Avalon Coastal Reserve | 16 |
| Point Gellibrand Heritage Park | 16 |

*Marine data were derived from monitoring surveys including the Subtidal Reef Monitoring Program (SRMP), Reel Life Survey (RLS) and Baited Remote Underwater Video Stations (BRUVS). These datasets were selected for their scientific rigor and accuracy. Victoria Biodiversity Atlas (VBA) data, included previously in State of the Parks reports, has been excluded. This change in methodology means data cannot be compared with those reported in Victoria's State of the Parks - Third Edition.

Data source: Parks Victoria and Reef Life Survey

3.2. Status and management of key threats to park ecosystems

Park ecosystems can be impacted by a wide range of threatening process including weed invasion, predation, overgrazing, lack of connectivity, impacts of increasing visitation and pollution. Climate change is one of the largest threats to Victoria’s natural environments and the species that inhabit them. The impacts of climate change are not considered separately in this report but are included under the relevant threatening processes (for example extreme weather, inappropriate water regime and inappropriate fire regime). In managing threats, park managers seek to minimise processes that have the greatest negative impact on the most significant conservation values.

Management objectives for key threats include prevention, eradication of new and emerging populations, containment or control of established threats to protect priority conservation values, and working with other land managers to control threats to economic values on adjacent land.

Indicators

3.2.1 Status and trend of key threats in parks

3.2.2 Management response to key threats in parks

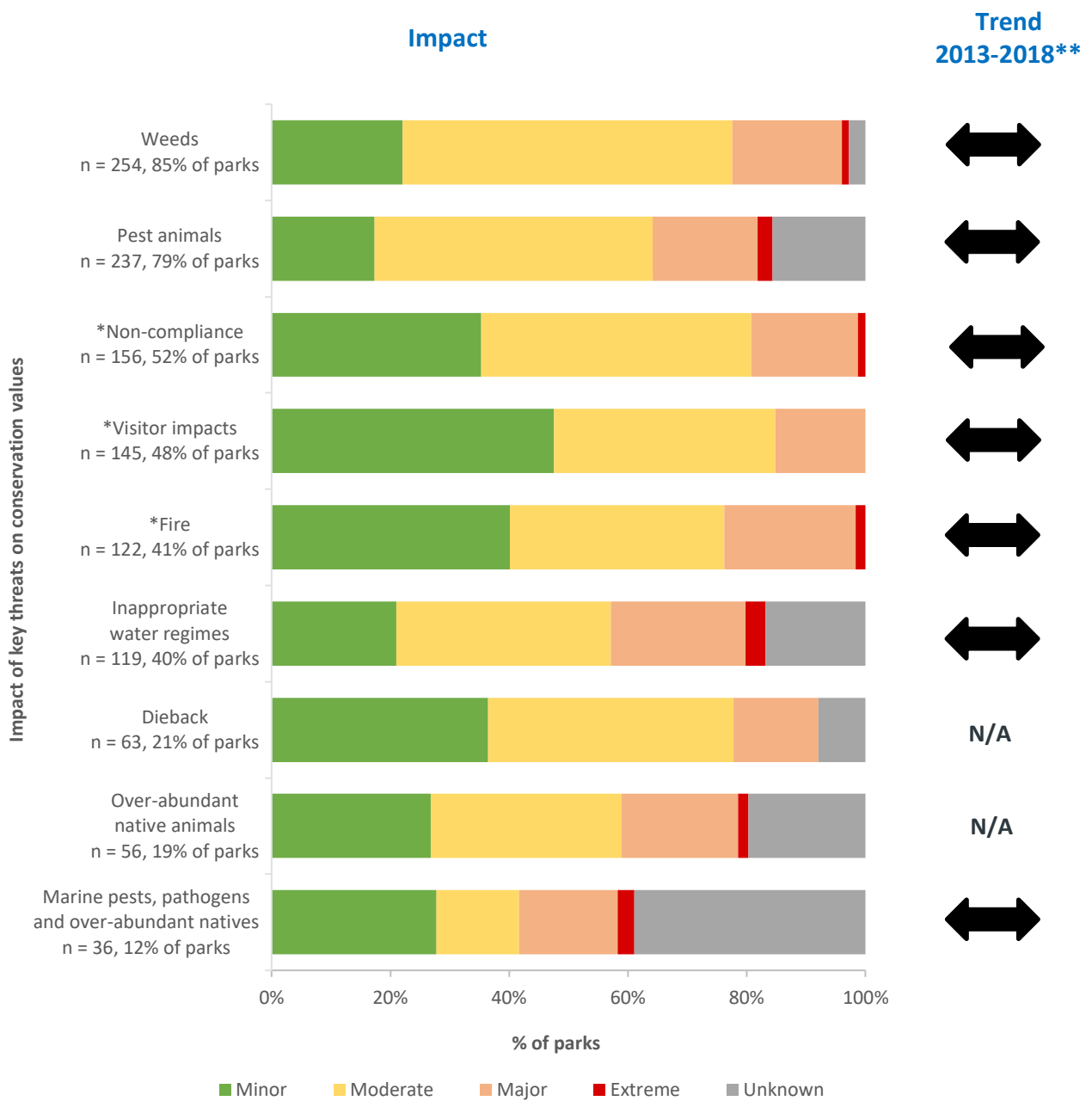
3.2.3 Extent management objectives met for key threats in parks

Data confidence

3.2.1. Status and trend of key threats in parks

Impact of key threats on conservation values in parks

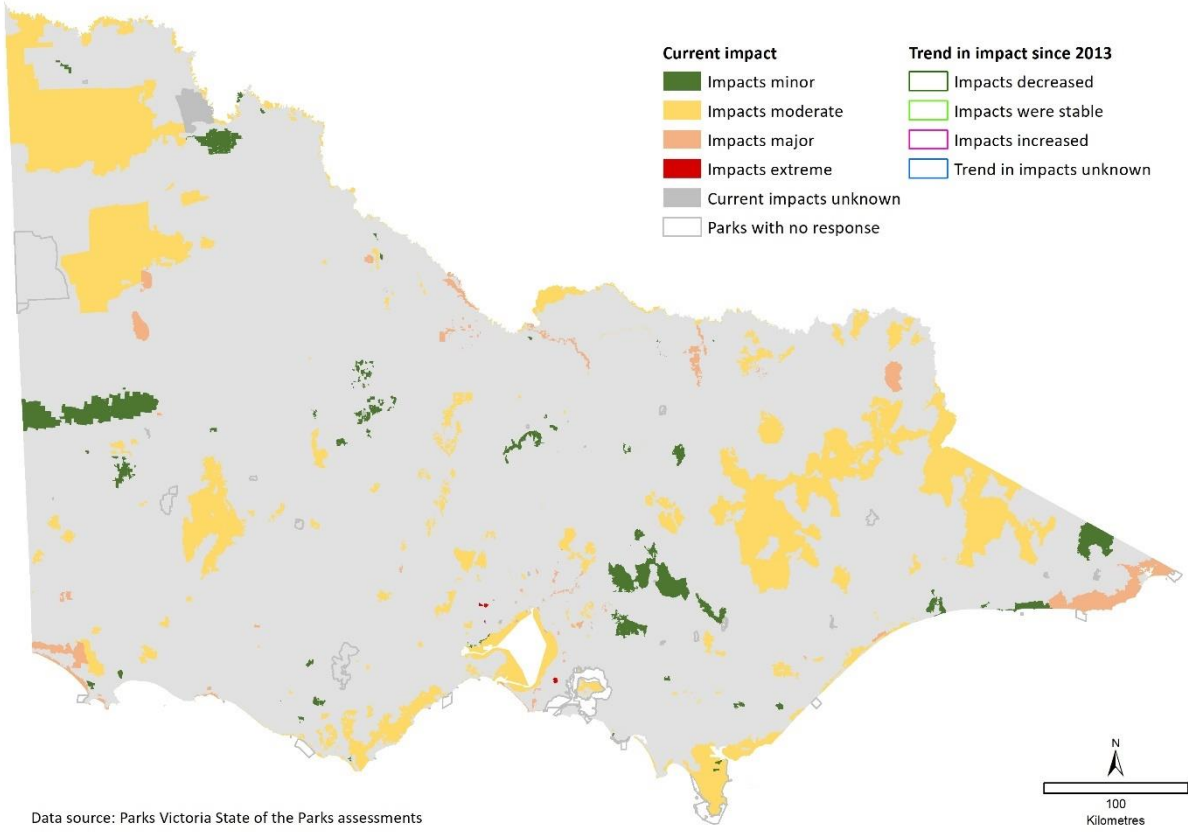
- Based on park manager assessments, the most commonly reported threats to nature conservation values were weeds and pest animals.
- The percentage of parks where key threats were an extreme or major impact ranged from 14% to 26% of relevant parks.
- The impact of key threats on natural values has remained stable since 2013.
- Although Feral horses were established in only two parks across the estate, Alpine National Park and Barmah National Park, in both cases park managers reported that their impact on park values was major.



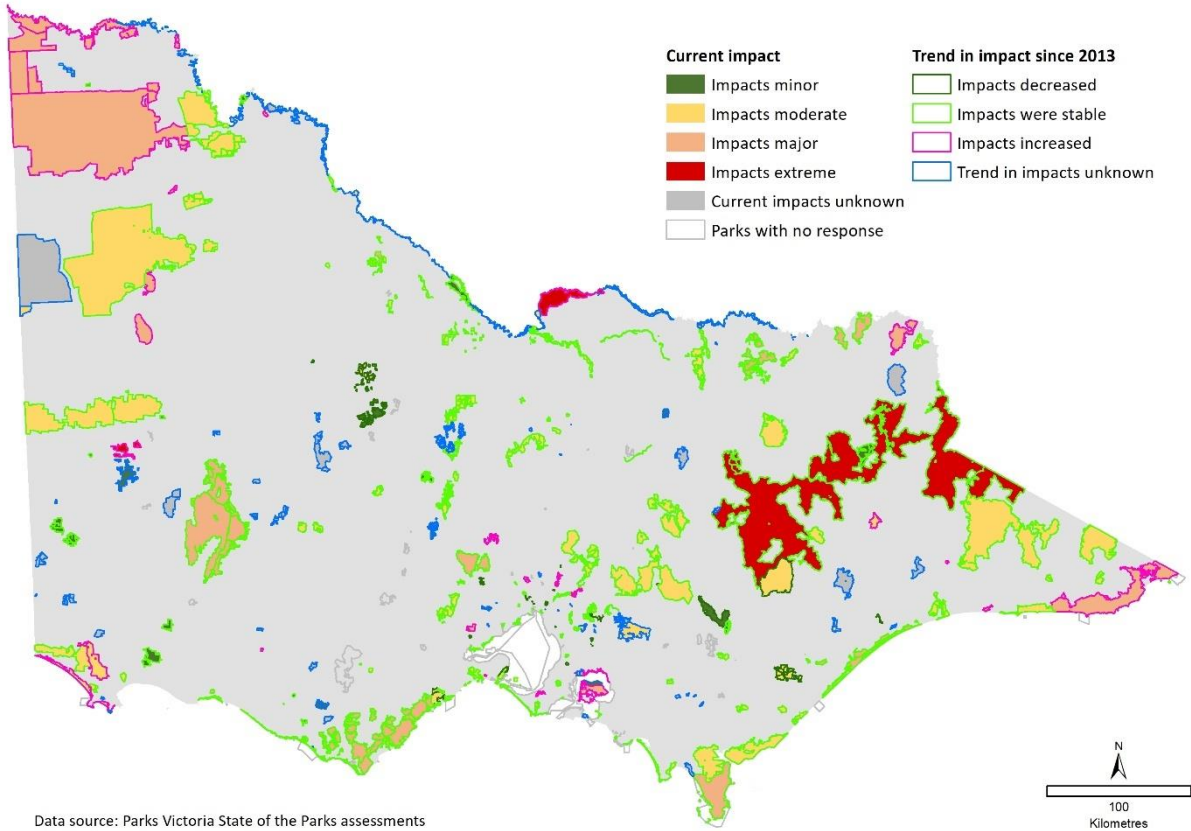
*Assessments were optional for all non-National Parks Act parks. **Calculated from parks that were assessed in both 2013 and 2018 (Weeds, n = 233 parks; Pest animals, n = 181 parks; Inappropriate water regimes, n = 79 parks; Non-compliance, n = 142 parks; Visitor impacts, n = 133 parks; Fire, n = 114 parks; Marine pests, n = 18 parks), excluding parks where impact was unknown. 2013 data not available for dieback and over-abundant native animals.

Data source: Parks Victoria State of the Parks assessments

Impact of weeds

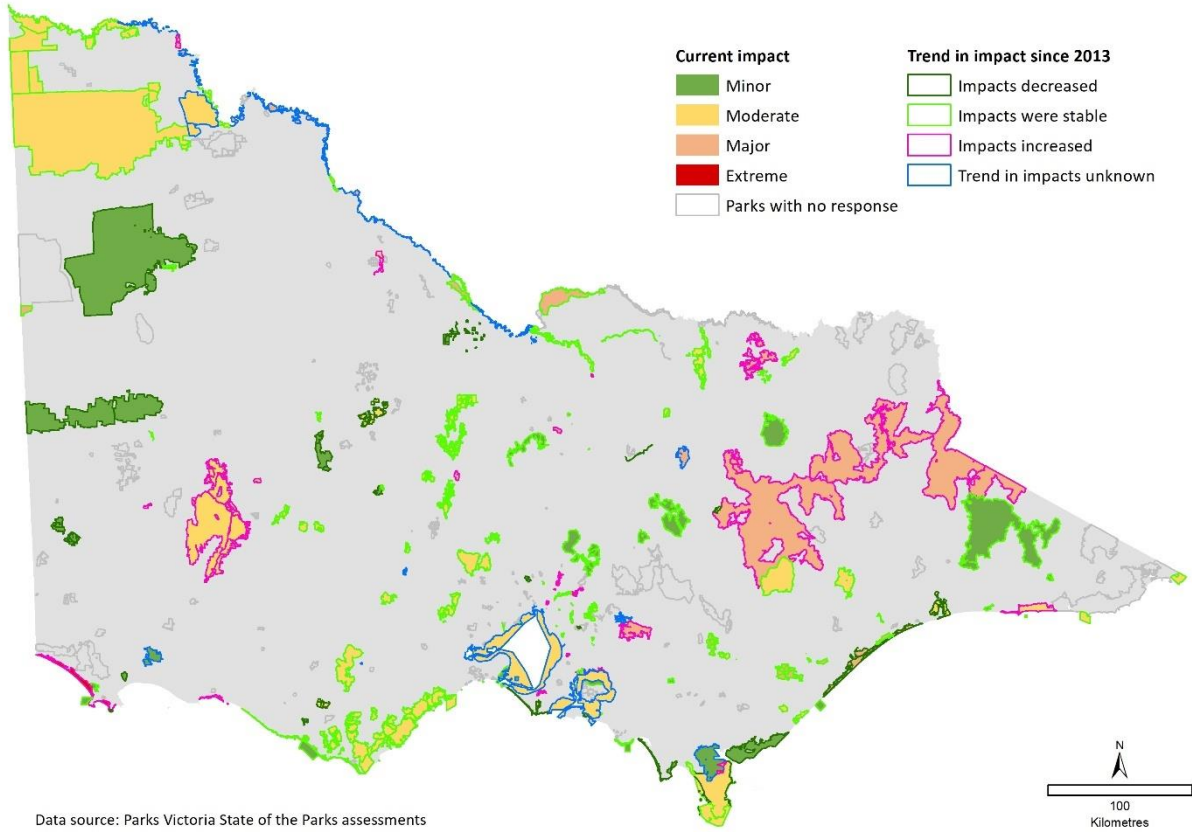


Impact of pest animals



Response to this question was optional

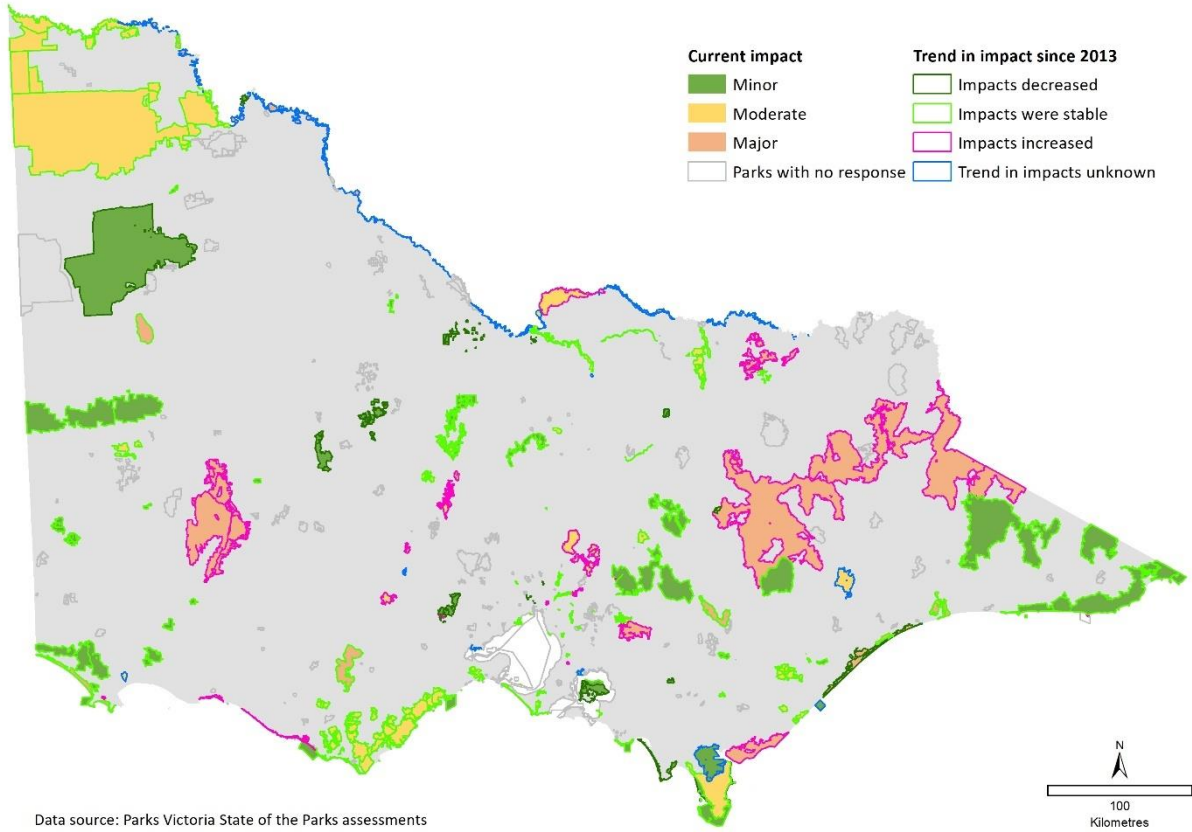
Impact of non-compliance on conservation values



Data source: Parks Victoria State of the Parks assessments

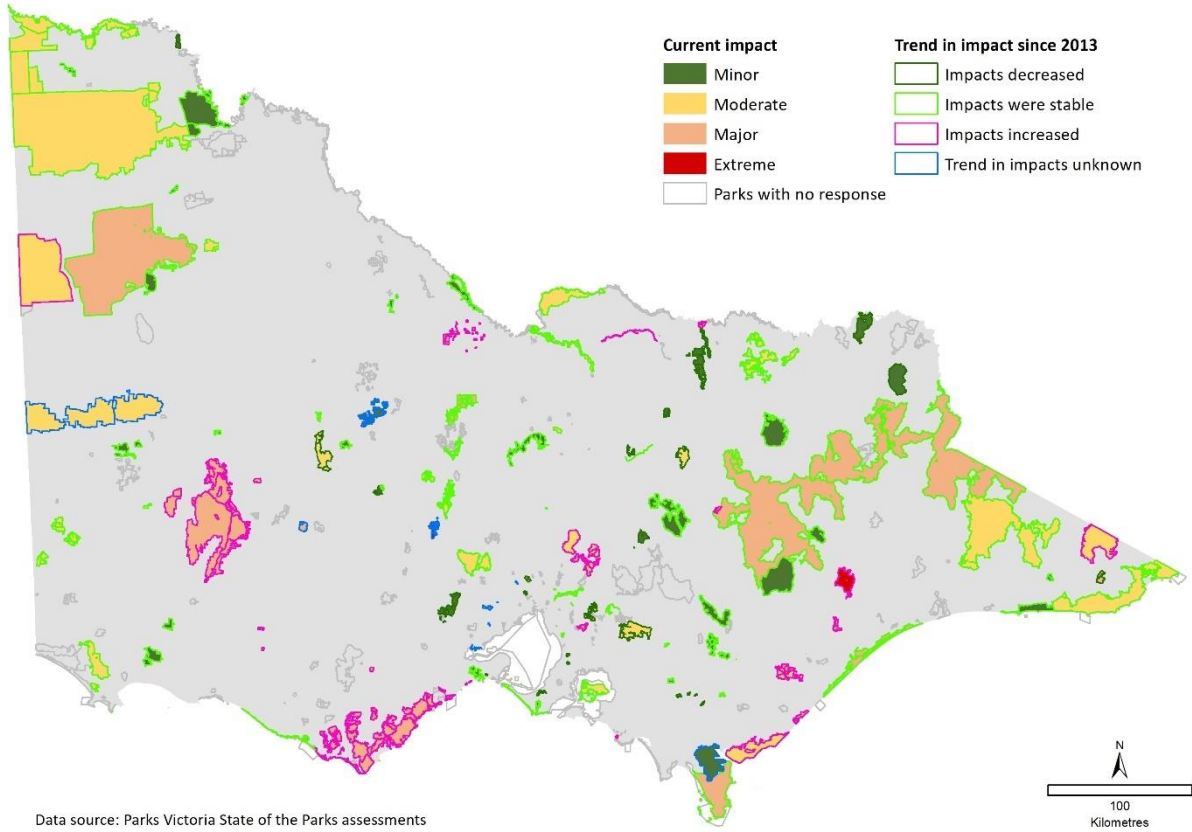
Response to this question was optional

Impact of visitors on conservation values

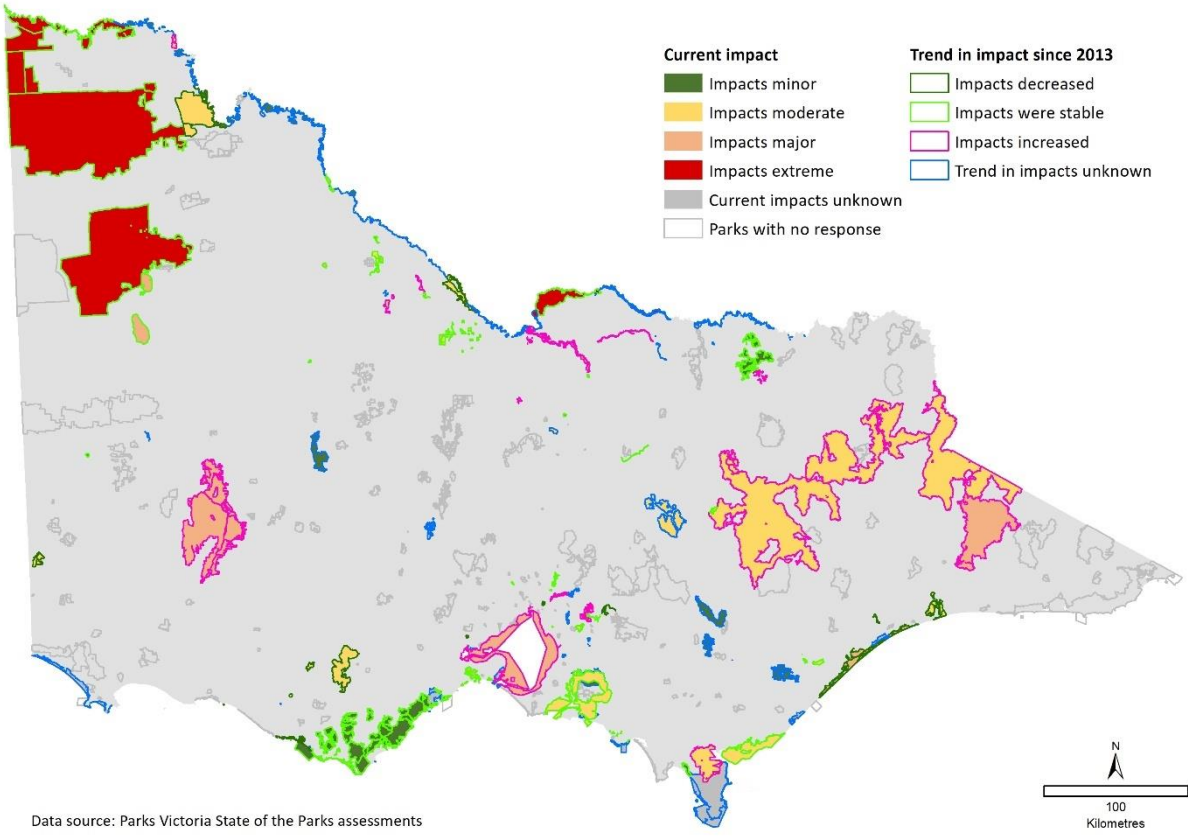


Response to this question was optional

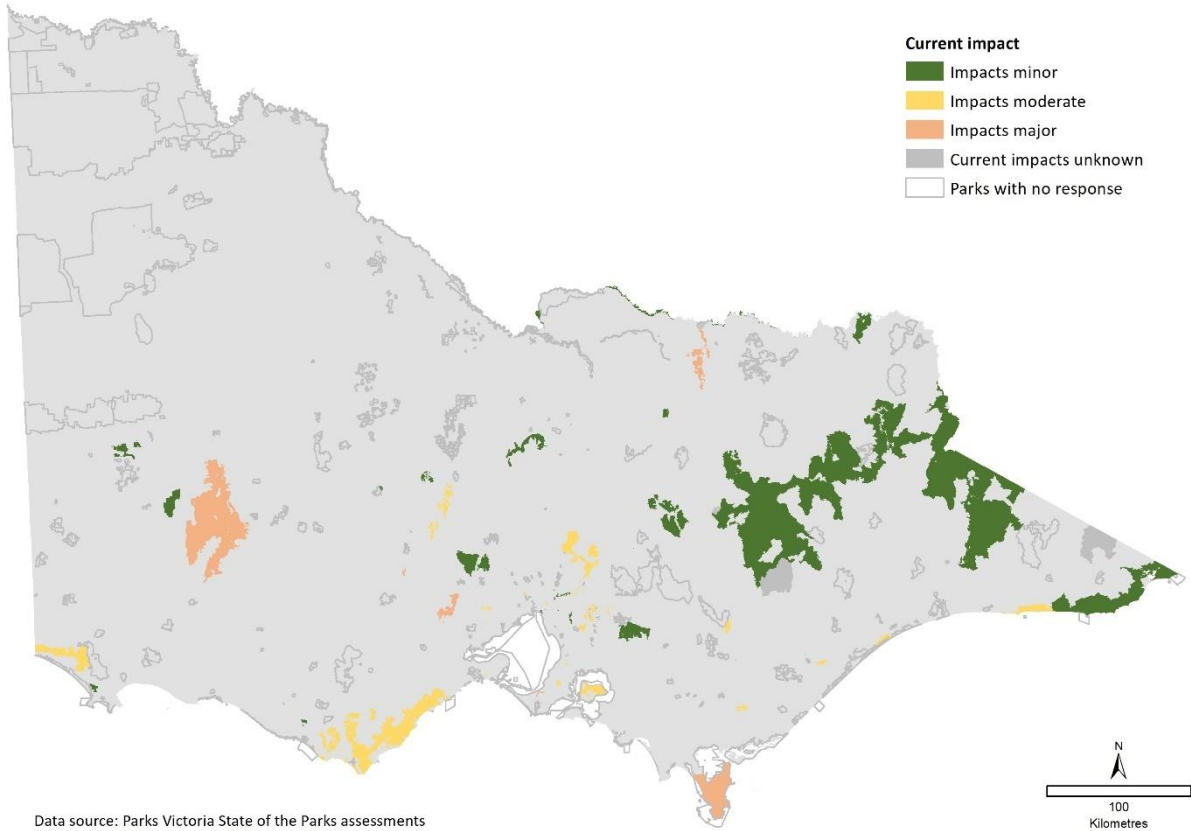
Impact of fire on conservation values



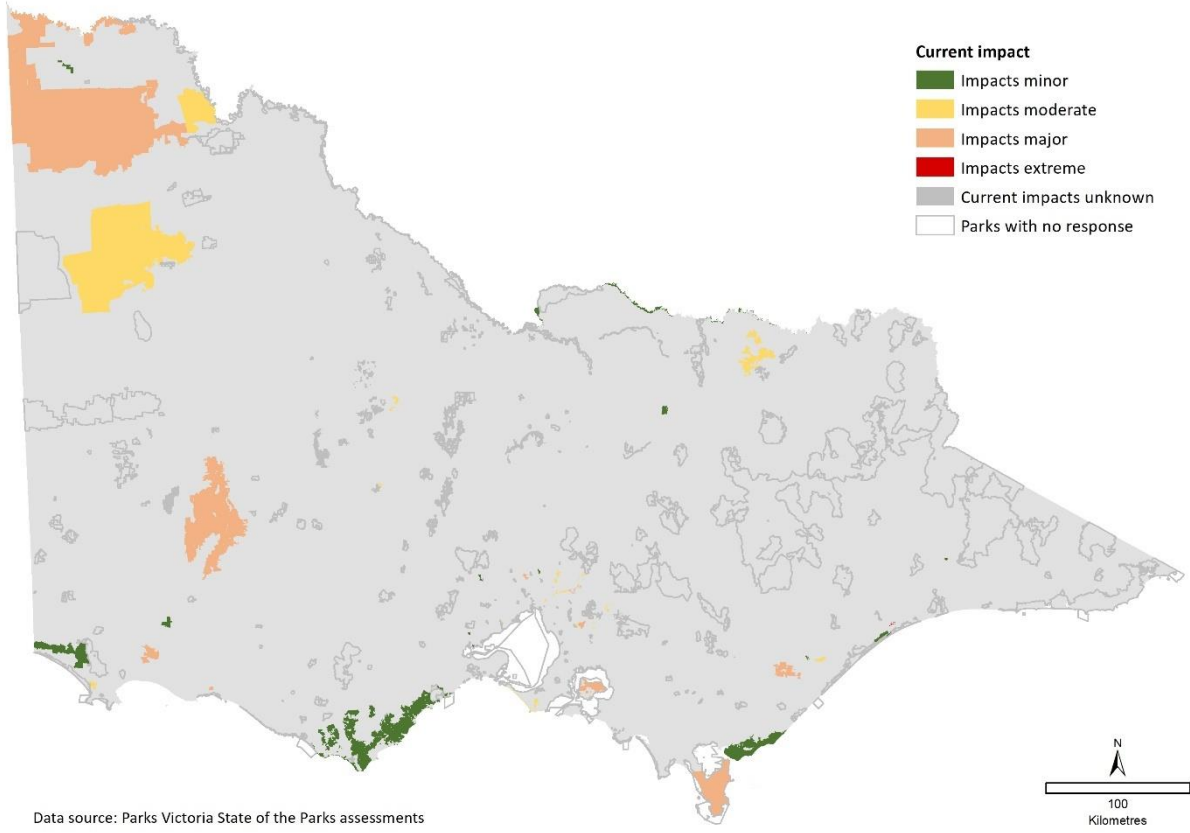
Impact of inappropriate water regimes



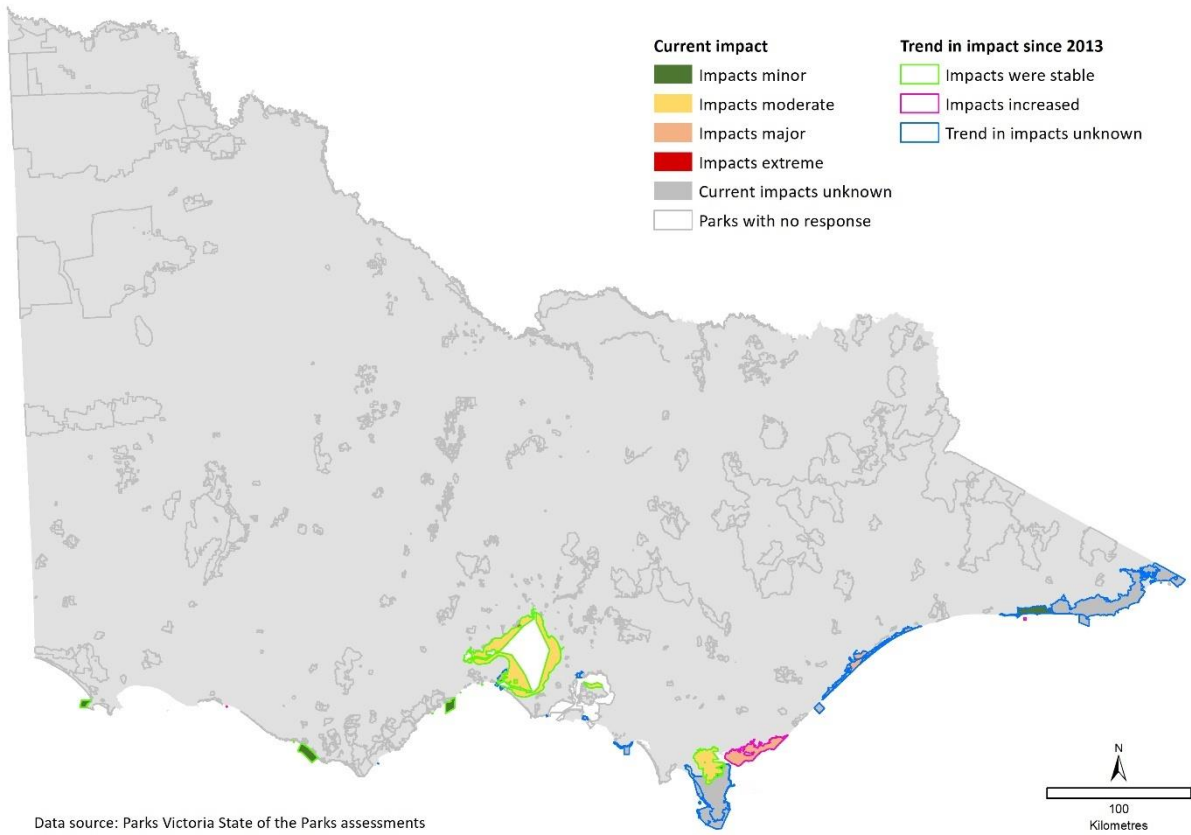
Impact of dieback



Impact of over-abundant native animals



Impact of marine pests, pathogens and over-abundant natives



Ratio of weeds to native flora in Victorian national parks

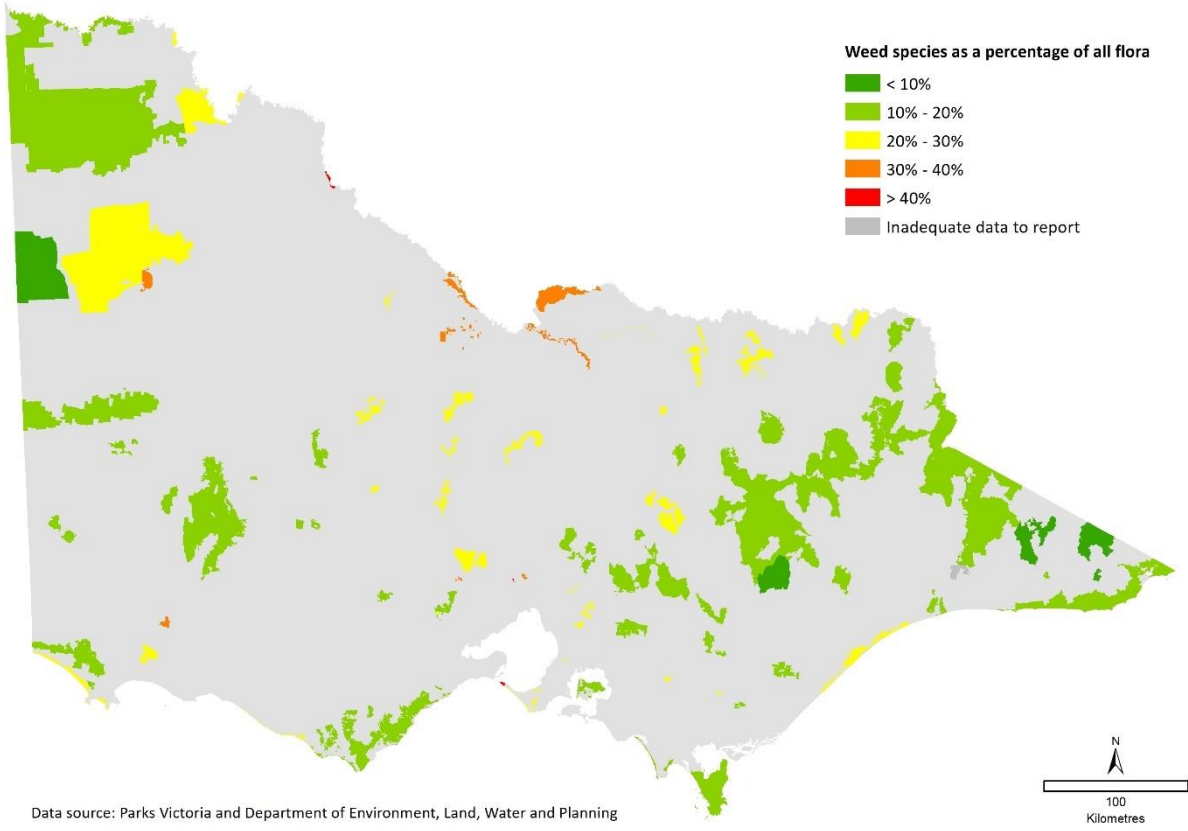
- The proportion of weed species to total native flora species is one indicator of the potential impact of weeds in parks.

Parks with the highest and lowest ratio of weeds to native flora

| | National park | Number of weed species recorded | Number of native flora species recorded | Weeds to total flora (%) |
|-----------------------------|-----------------|---------------------------------|---|--------------------------|
| Top 10 highest percentage | Nyah-Vinifera | 70 | 97 | 41.9% |
| | Organ Pipes | 205 | 303 | 40.4% |
| | Point Nepean | 135 | 202 | 40.1% |
| | Woodlands | 139 | 219 | 38.8% |
| | Barmah | 262 | 459 | 36.3% |
| | Mount Napier | 134 | 236 | 36.2% |
| | Lower Goulburn | 133 | 237 | 35.9% |
| | Gunbower | 152 | 310 | 32.9% |
| | Terrick Terrick | 179 | 371 | 32.5% |
| | Werribee Gorge | 166 | 351 | 32.1% |
| Bottom 10 lowest percentage | Tyers Park | 42 | 292 | 12.6% |
| | Langi Ghiran | 66 | 481 | 12.1% |
| | Baw Baw | 73 | 556 | 11.6% |
| | Black Range | 65 | 559 | 10.4% |
| | Moondarra | 21 | 184 | 10.2% |
| | Alfred | 24 | 232 | 9.4% |
| | Coopracambra | 95 | 929 | 9.3% |
| | Avon | 63 | 634 | 9.0% |
| | Errinundra | 78 | 854 | 8.4% |
| | Big Desert | 12 | 236 | 4.8% |

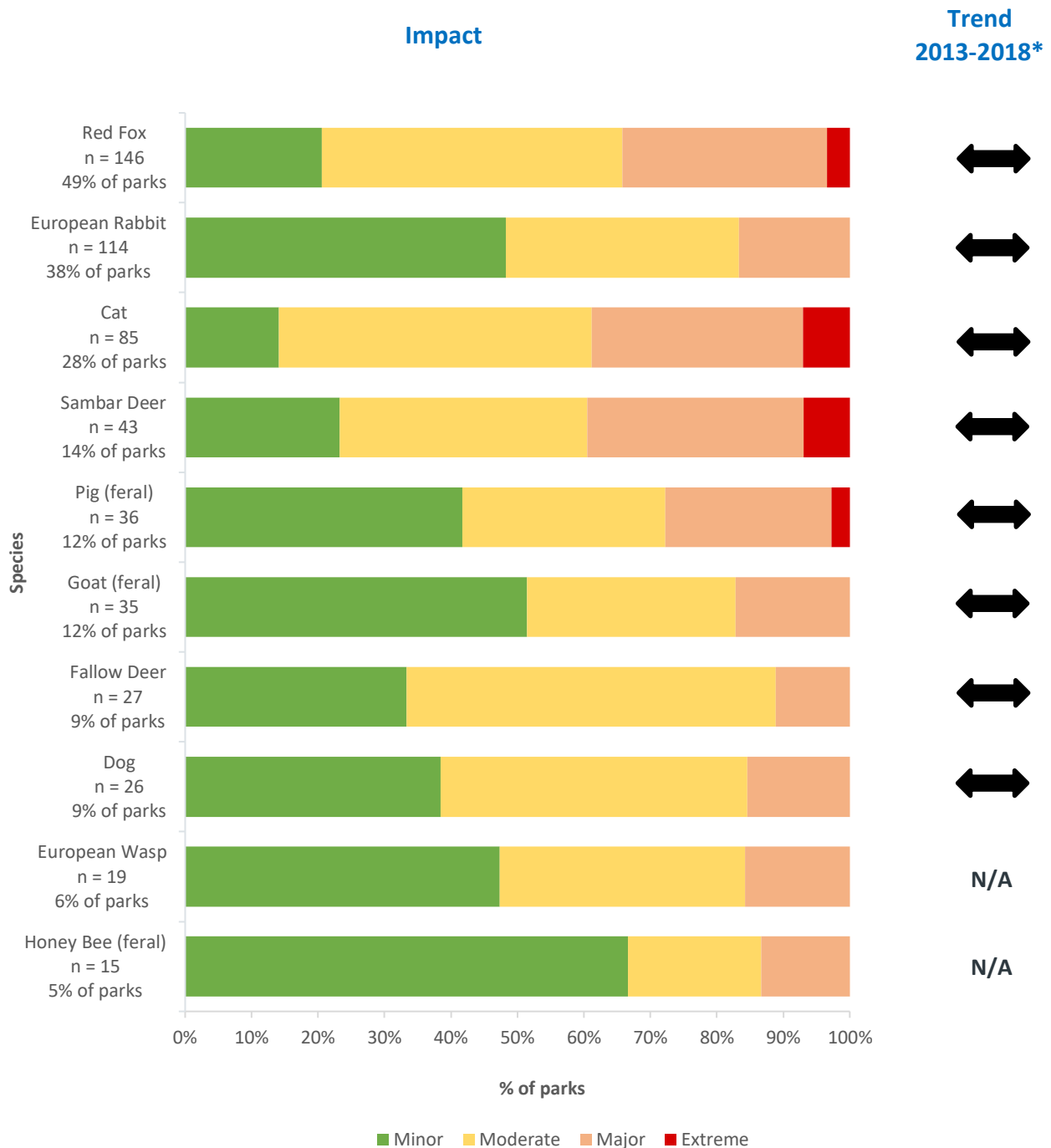
Data source: Parks Victoria and DELWP

Proportion of weeds to total flora species in terrestrial National Park Act parks



Impact of individual pest animals in parks

- Foxes, rabbits and cats are affecting the greatest number of parks.
- The impacts of these species have remained stable since 2013.



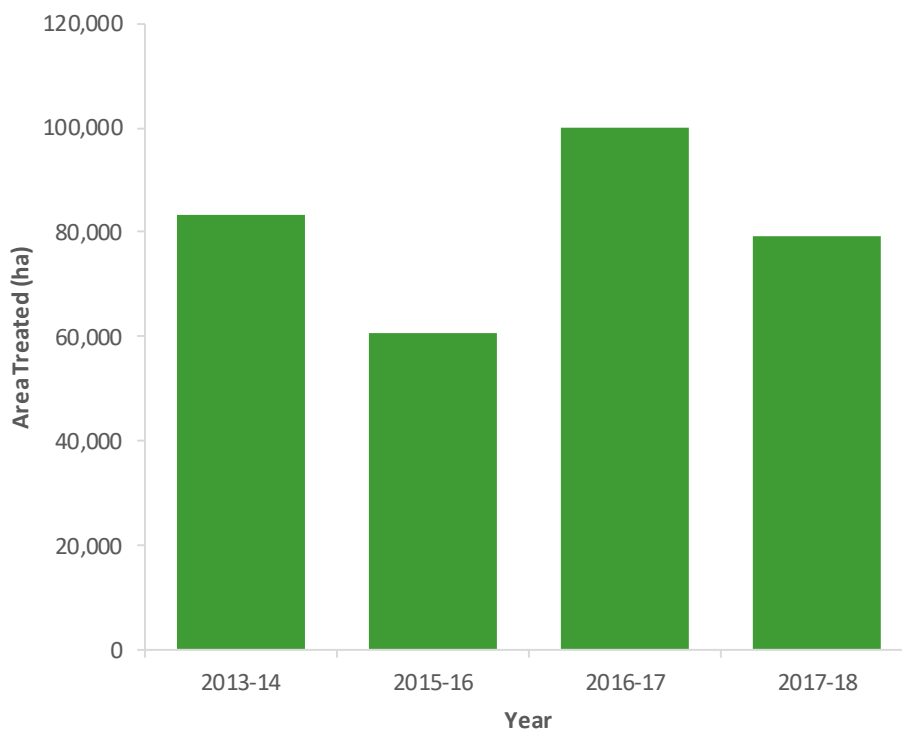
*Calculated from parks that were assessed in both 2013 and 2018 (Red foxes, n = 139; European rabbits, n = 108; Cats, n = 67; Sambar deer, n = 35; Pigs, n = 27; Goats, n = 31; Fallow deer, n = 24; Dogs, n = 24), excluding parks where impact was unknown.

Data source: Parks Victoria State of the Parks assessments

3.2.2. Management response to key threats in parks

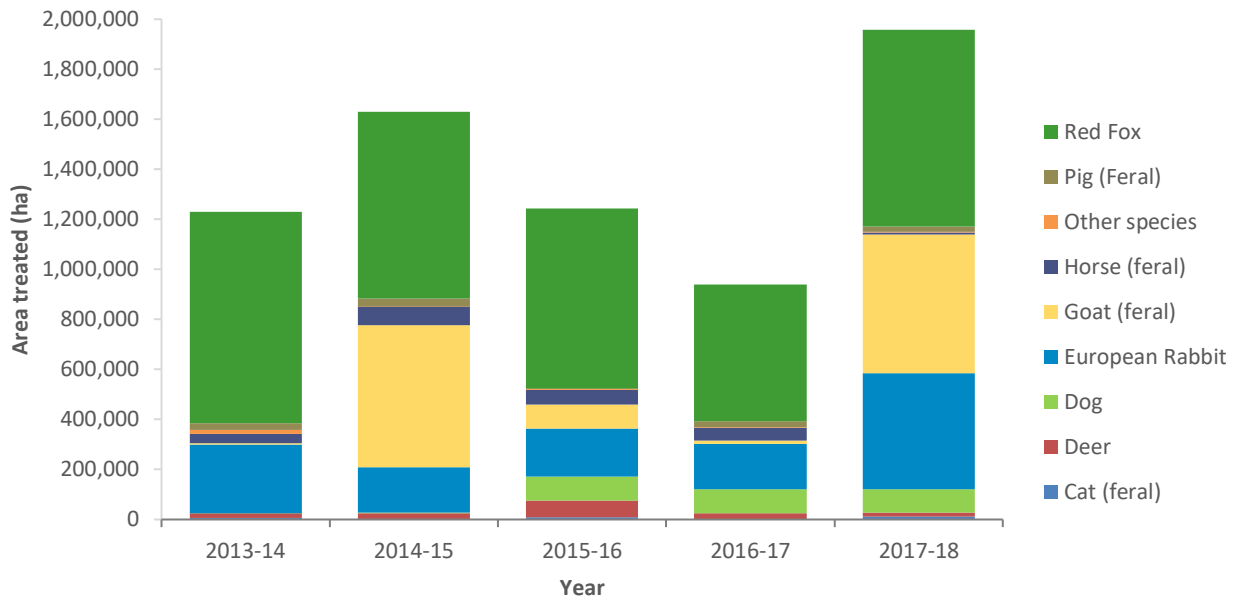
- Across the Victorian parks network, weed and pest animal control are the most common conservation activities employed by park management.
- The total area of weed control varied during the reporting period in line with fluctuations in initiative funding. Reporting in the 2014-15 year was incomplete.
- The overall area treated for pest animals varied between 2014-15 and 2017-18. Variations are largely due to intermittent large-scale treatment of Goats, and smaller changes in the area treated for Red Foxes and European Rabbits.

Area (ha) treated for weeds



Data source: Parks Victoria Environmental Information System and DELWP

Area (ha) treated for pest animals (by species)



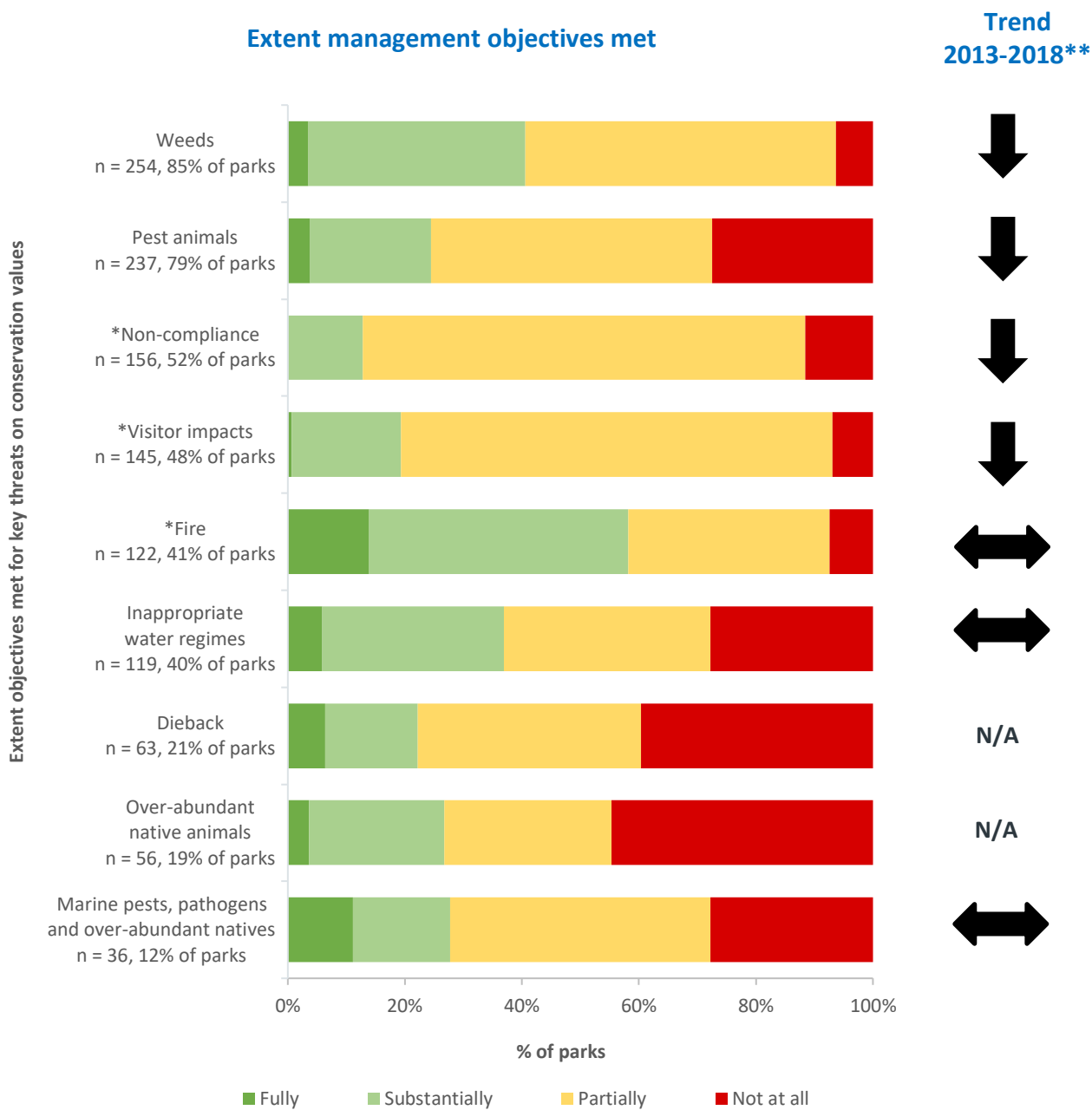
Data source Parks Victoria Environmental Information System and DELWP

3.2.3. Extent management objectives met for key threats in parks

Parks Victoria manages threats in several ways, including prevention, eradication, containment and asset protection. The extent to which management objectives can be met is due to a range of factors including available control methods, drivers such as climate and available resources and skills.

Extent to which management objectives for key threats were met

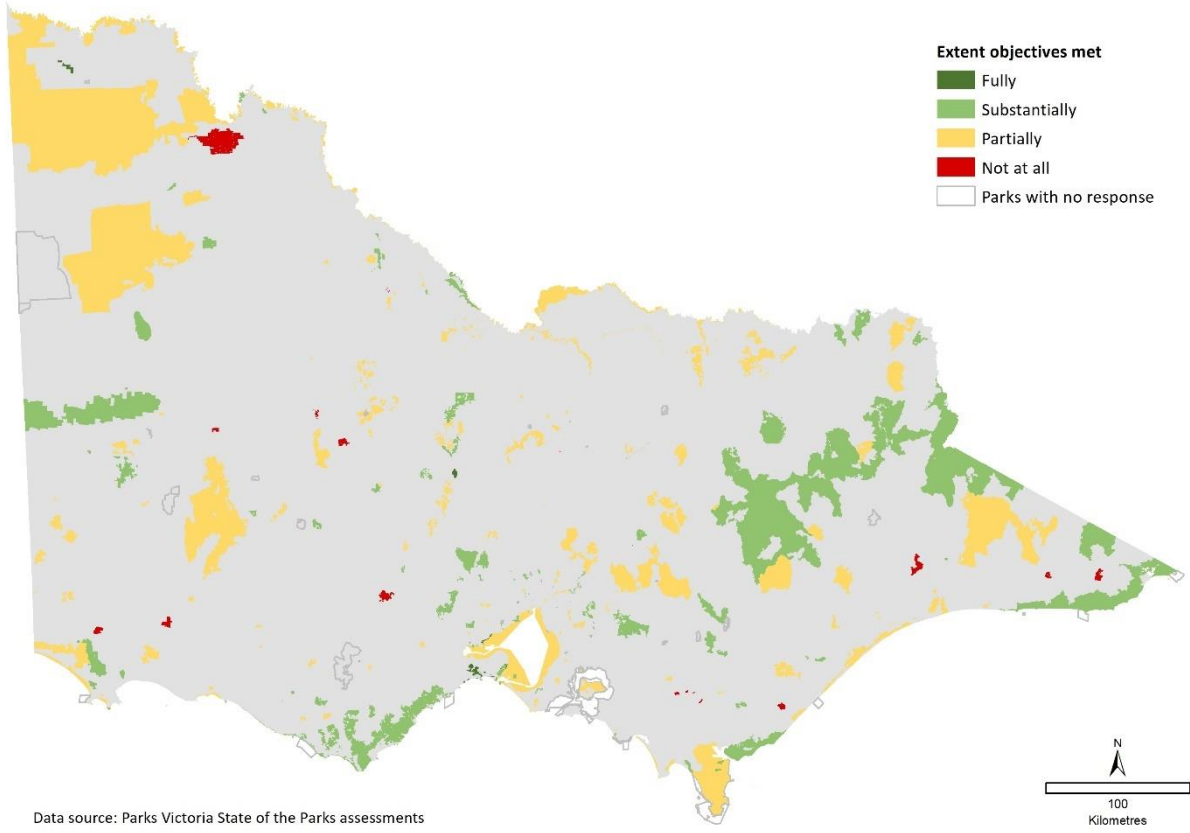
- Park managers reported that the extent to which management objectives for key threats to park values were met varied across threats with objectives being fully or substantially met in 13% – 31% of relevant parks.
- The extent to which management objectives were met for fire, inappropriate water regimes and marine pests, pathogens and over-abundant natives has remained stable since 2013. However, the extent to which management objectives were met for weeds, pest animals, visitor impacts, and non-compliance decreased. Although the trend was stable for between 57% and 70% of relevant parks across these threats, significantly more parks reported that it had declined (between 21% and 33% of relevant parks) than improved (between 8% and 11% of relevant parks).



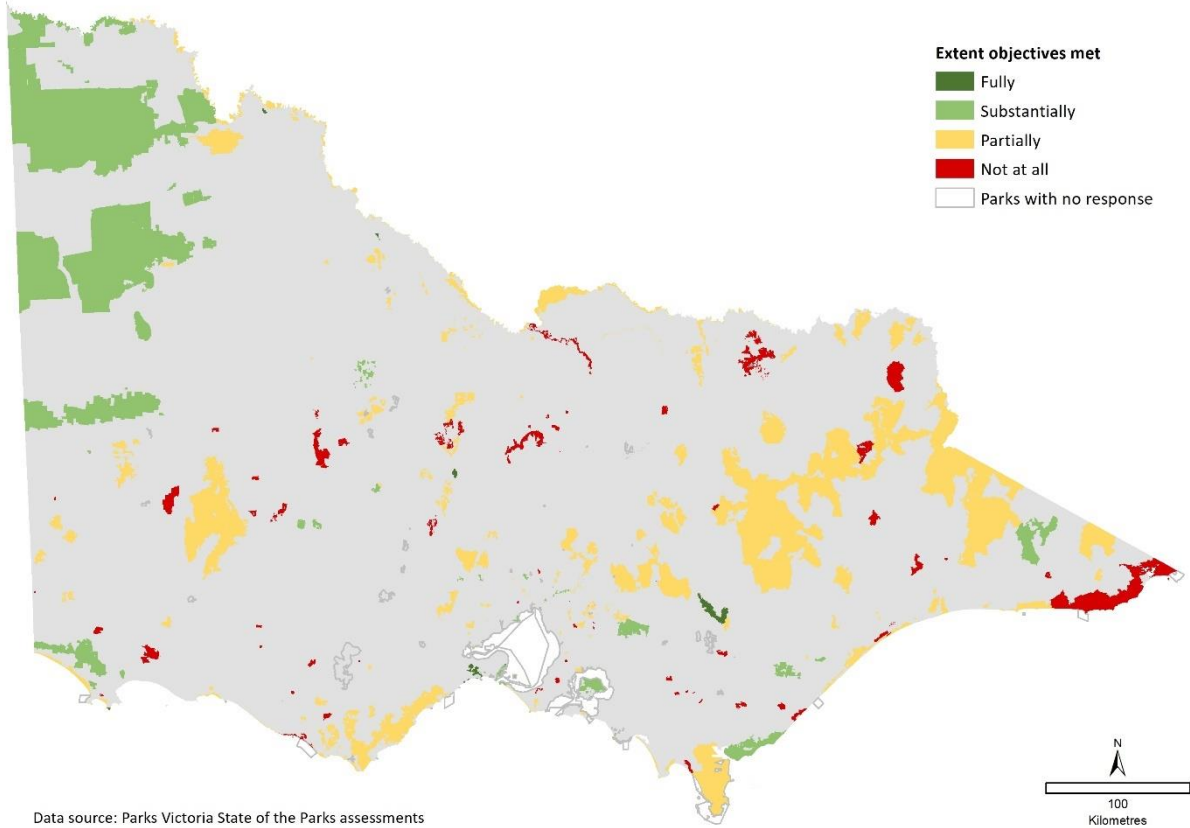
**This assessment was optional for non-National Parks Act parks. **Calculated from parks that were assessed in both 2013 and 2018 (Weeds, n = 244; Pest animals, n = 226; Non-compliance, n = 142; Visitor impacts, n = 133; Fire, n = 114; Inappropriate water regimes, n = 103; Marine pests, n = 34). Only data for 2018 was available for dieback and over-abundant native animals.*

Data source: Parks Victoria State of the Parks assessments

Extent management objectives met for weeds



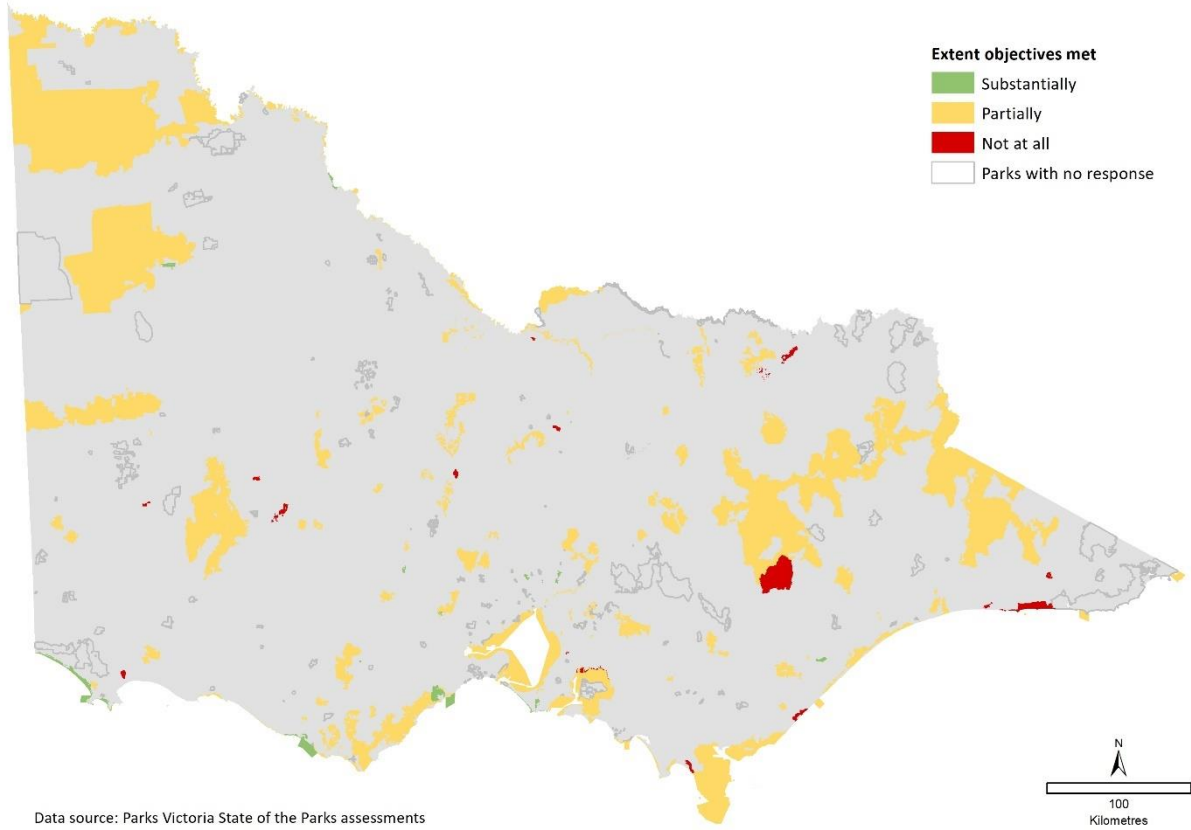
Extent management objectives met for pest animals



Data source: Parks Victoria State of the Parks assessments

Response to this question was optional

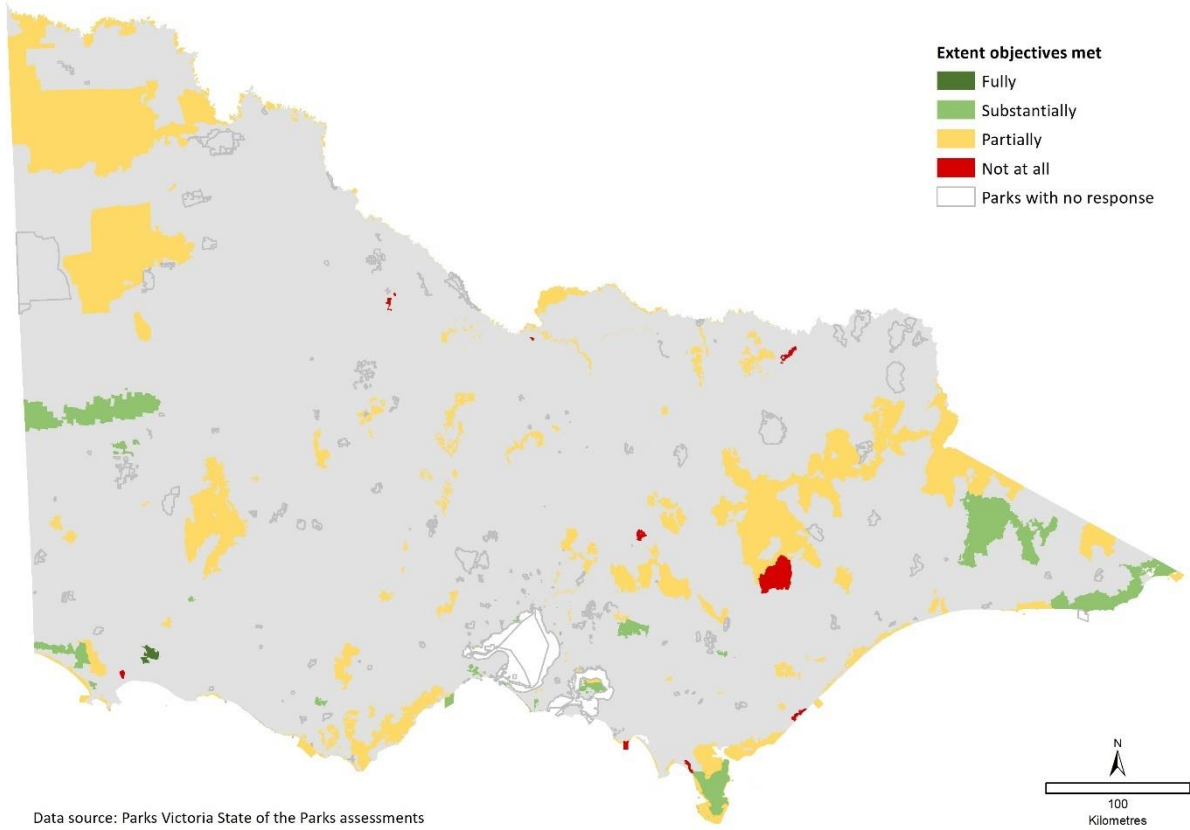
Extent management objectives met for non-compliance on conservation values



Data source: Parks Victoria State of the Parks assessments

Response to this question was optional

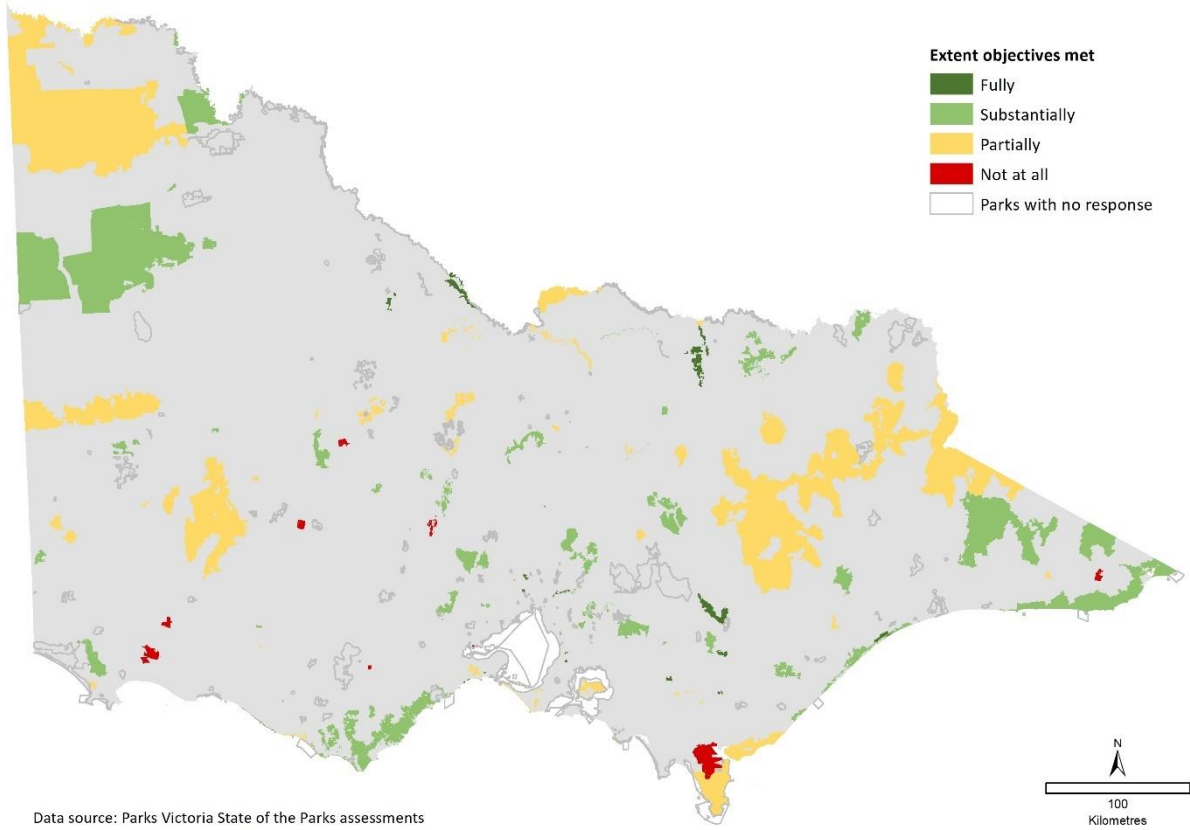
Extent management objectives met for visitor impacts on conservation values



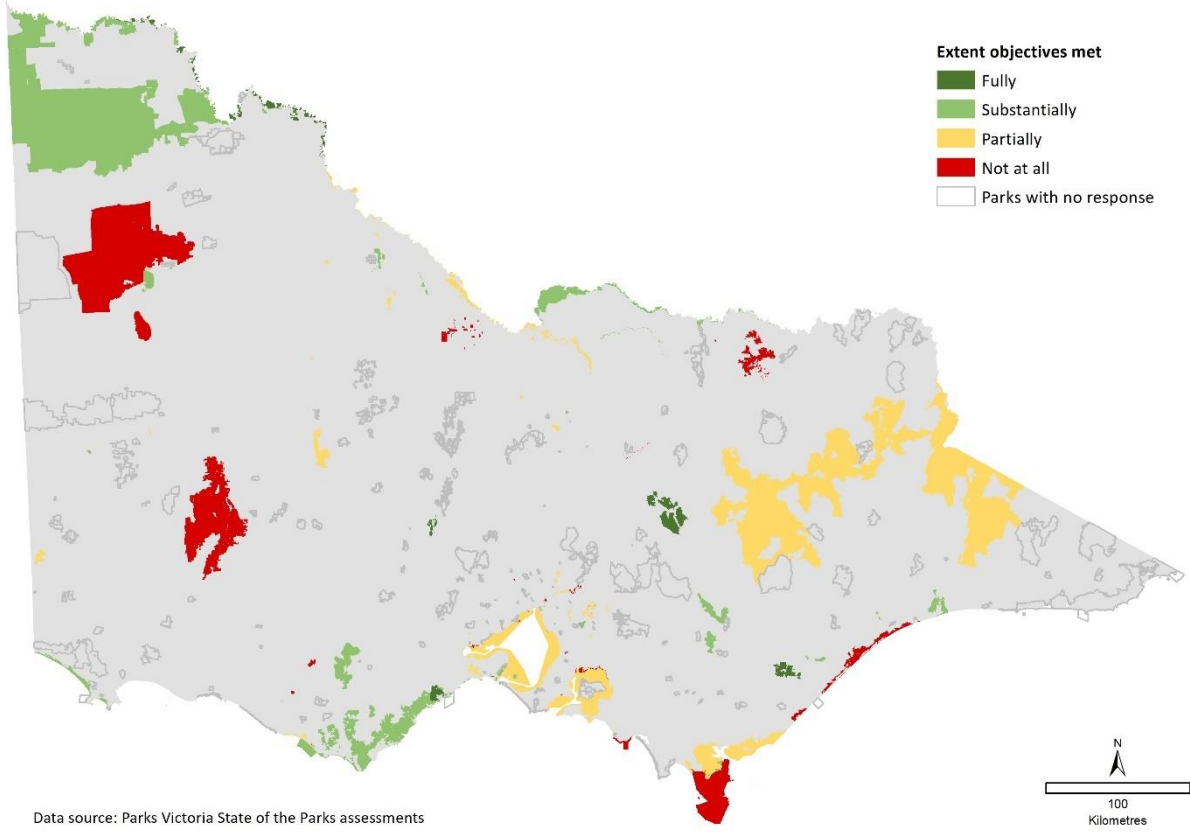
Data source: Parks Victoria State of the Parks assessments

Response to this question was optional

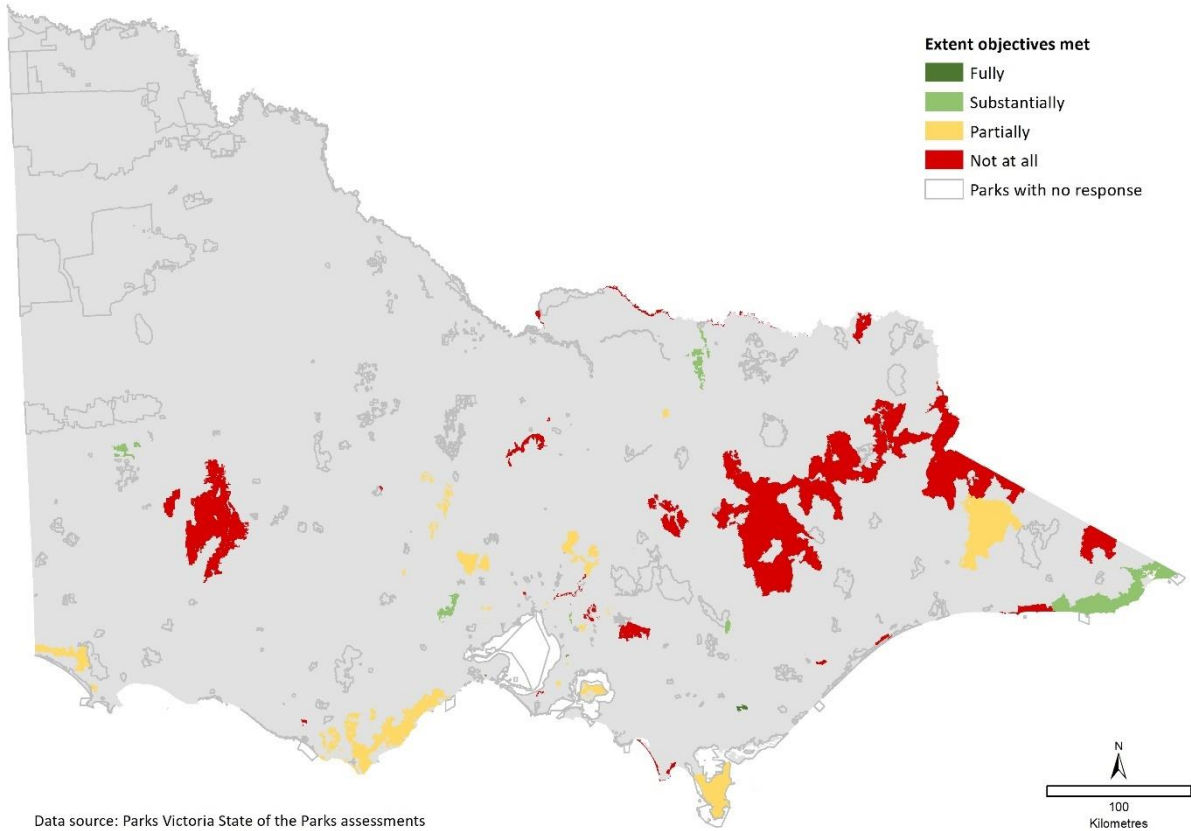
Extent management objectives met for fire on conservation values



Extent management objectives met for inappropriate water regimes

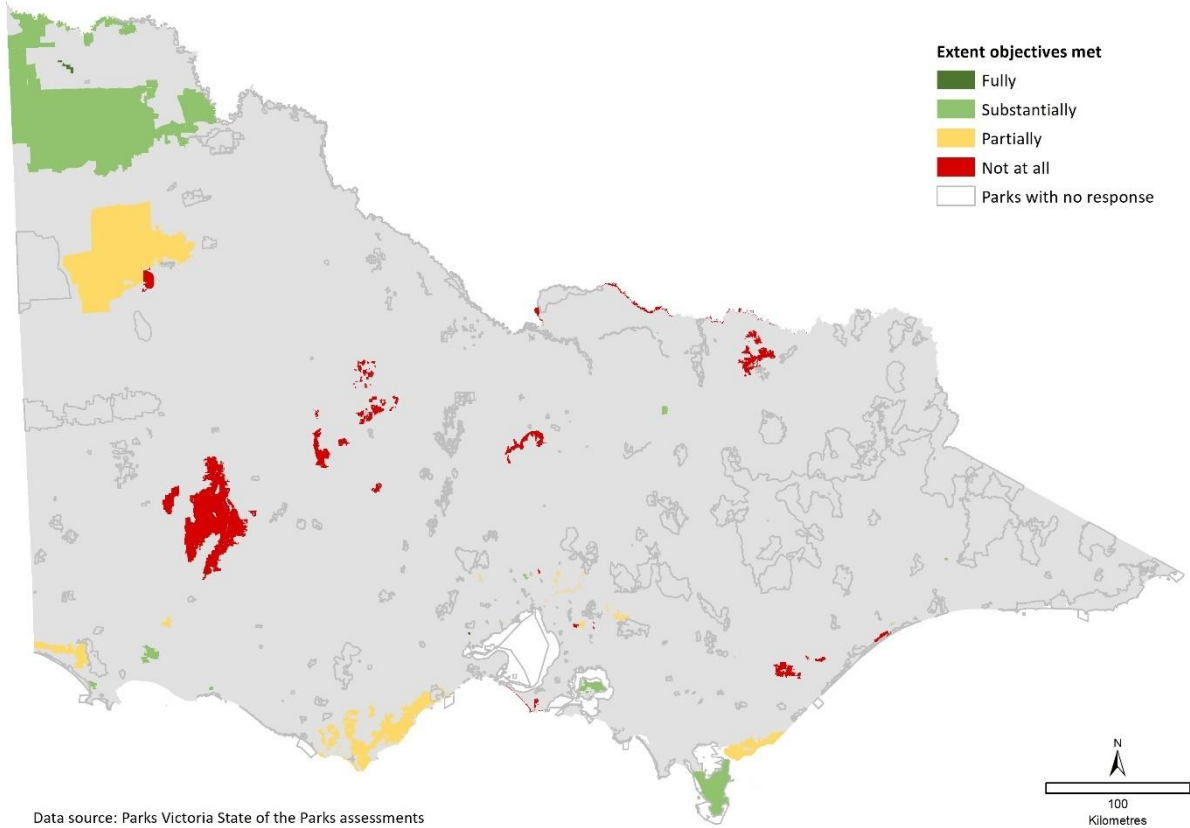


Extent management objectives met for dieback

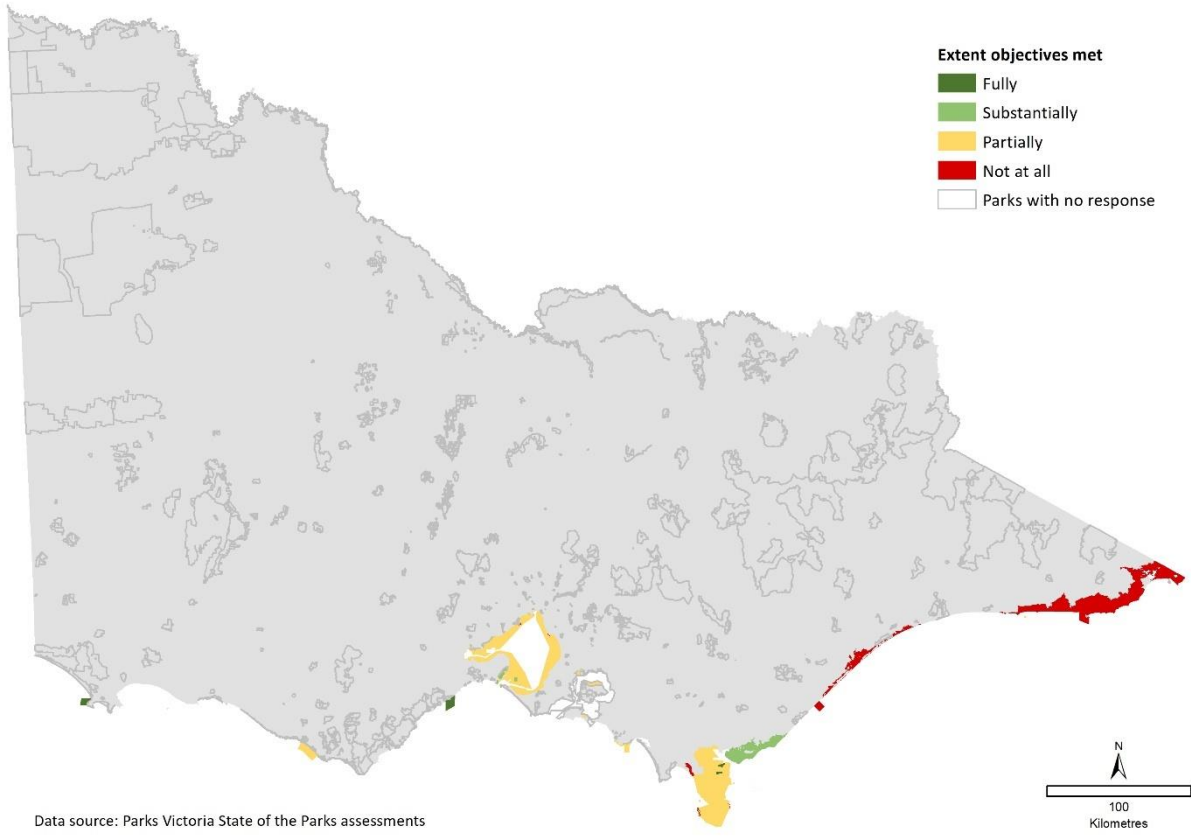


Data source: Parks Victoria State of the Parks assessments

Extent management objectives met for over-abundant native animals

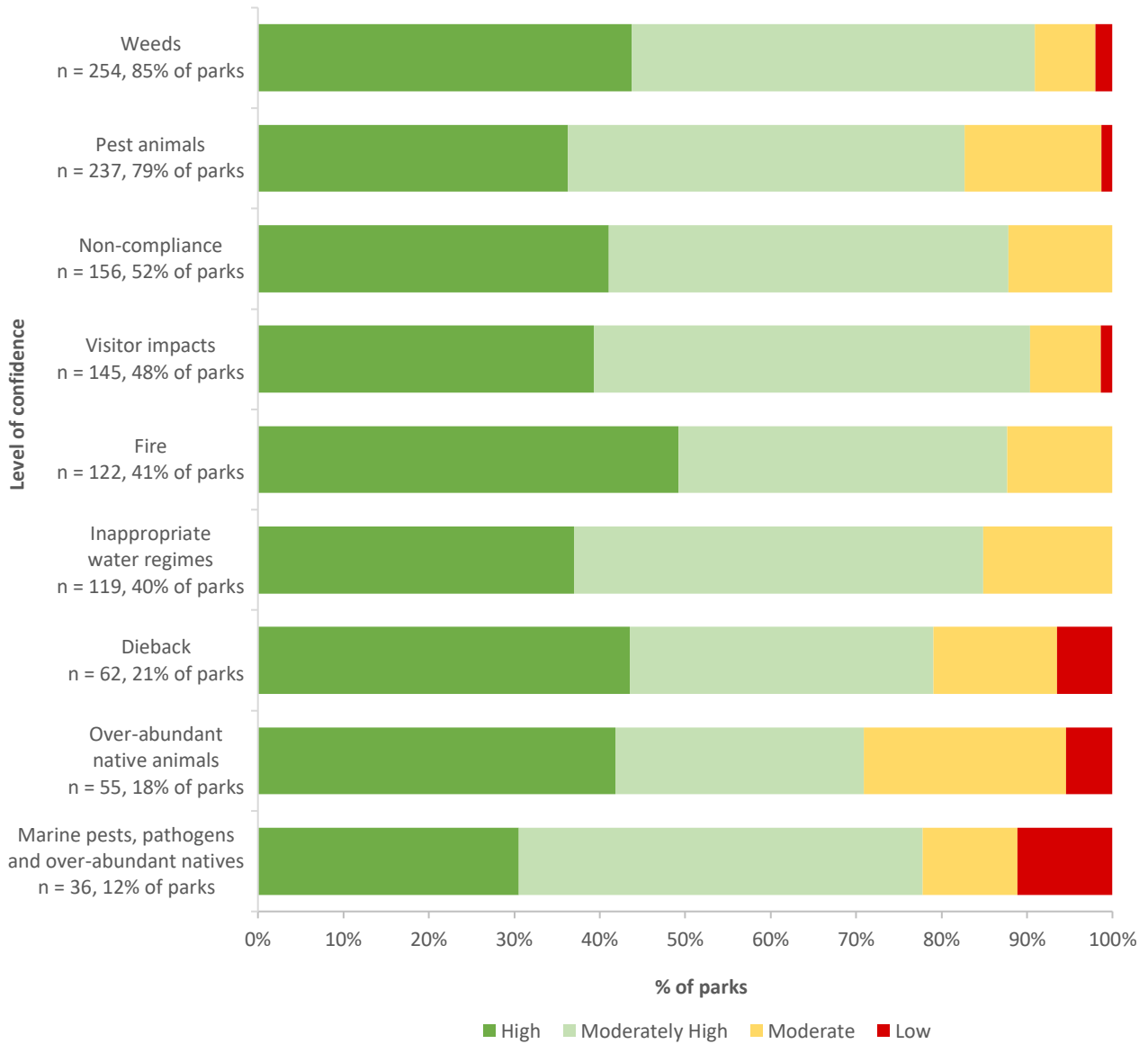


Extent management objectives met for marine pests, pathogens and over-abundant natives



Data confidence

Confidence in park manager assessments for impact and extent objectives met for key threats



Data source: Parks Victoria State of the Parks assessments

3.3. Condition of park ecosystems

Ecosystem condition is broadly measured by various factors such as the expected vegetation structure and composition, and ecological processes. These can be influenced by a range of drivers, threats and disturbances, which can include external factors such as climate, direct management to reduce the impact of threats and indirect management through community education. The overall goal for management of natural assets is to maintain or improve ecological diversity and processes to ensure the parks' long-term viability and resilience.

Indicators

3.3.1 Condition of terrestrial ecosystems

3.3.2 Condition of marine ecosystems

3.3.3 Condition of freshwater ecosystems

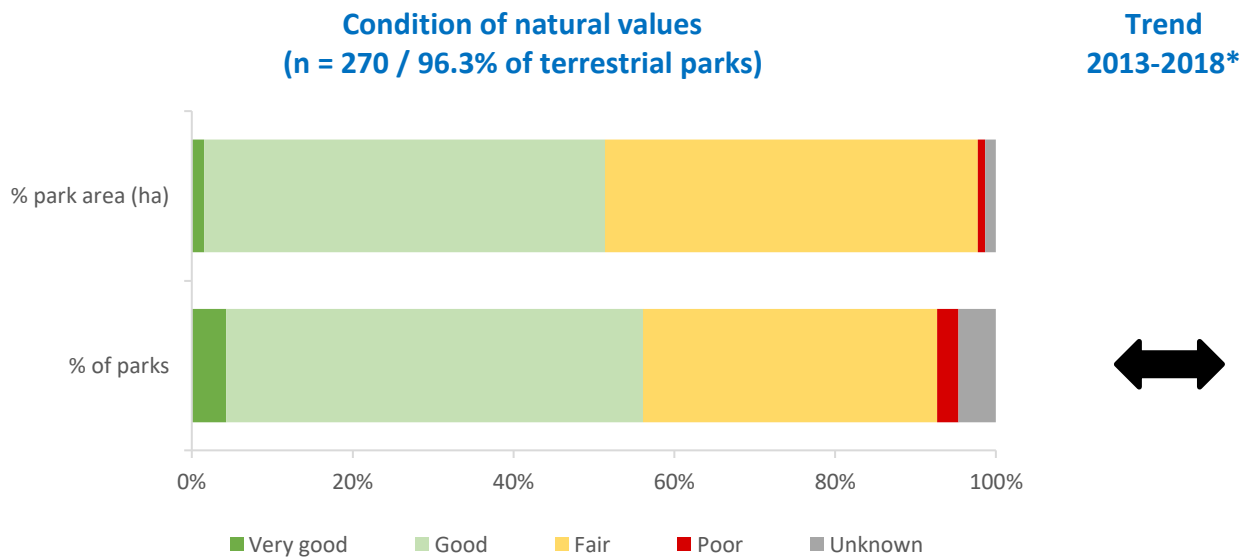
3.3.4 Condition of significant and threatened flora and fauna

3.3.5 Extent management objectives met for park ecosystems

Data confidence

3.3.1. Condition of terrestrial ecosystems

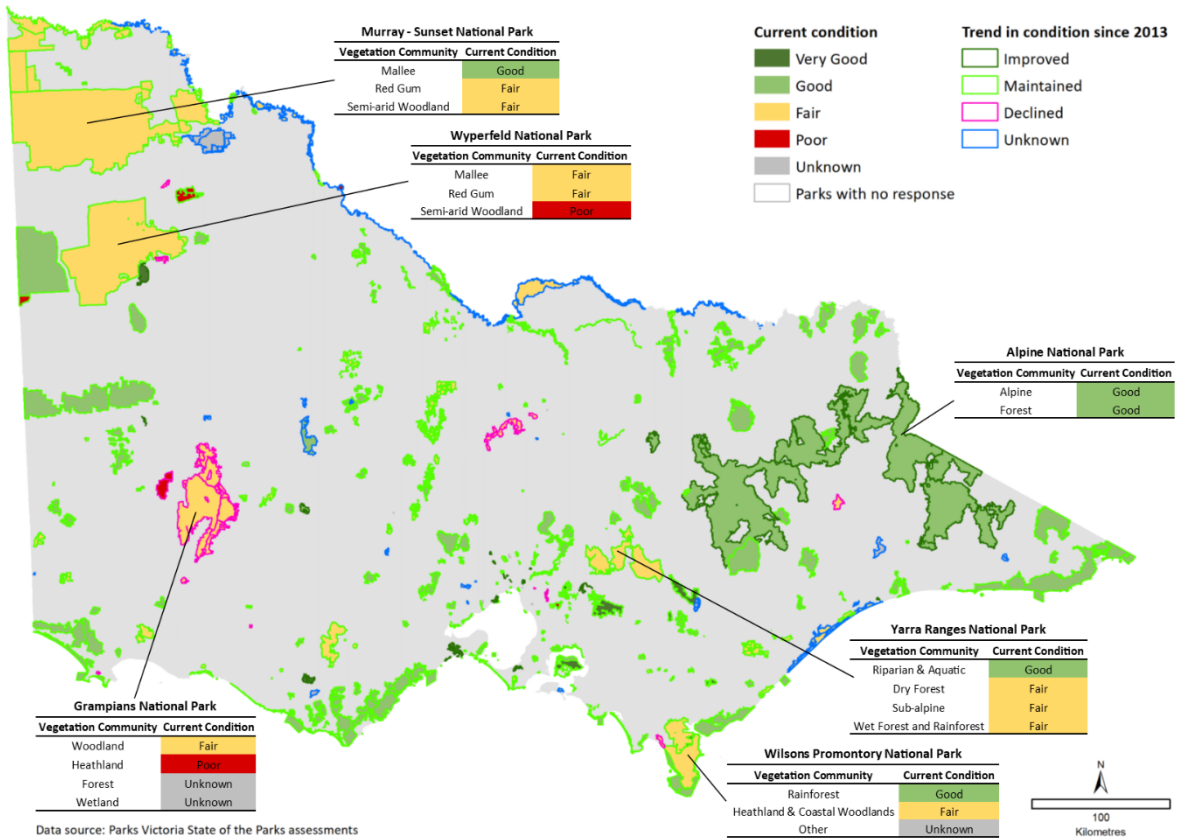
- Park managers reported that the condition of natural values was good or very good in 54% of relevant terrestrial parks (52% of park area).
- This percentage has remained stable since 2013.



*Calculated from parks that were assessed in both 2013 and 2018 (n = 238), excluding parks where condition was unknown

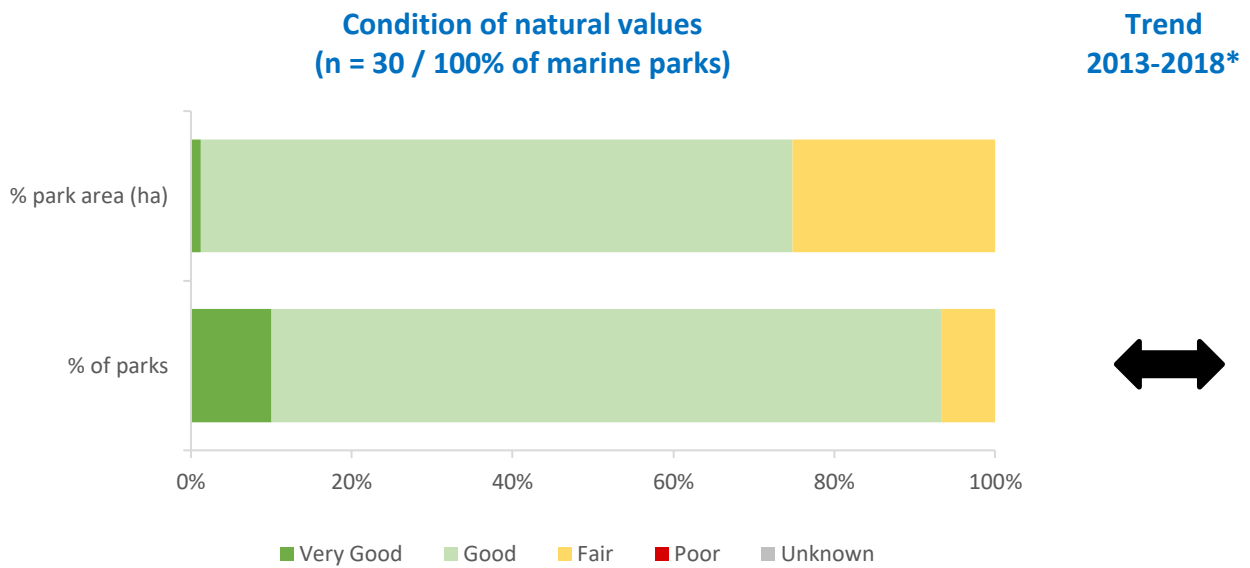
Data source: Parks Victoria State of the Parks assessments

Condition and trend in condition of natural values



3.3.2. Condition of marine ecosystems

- Park managers reported that the condition of natural values was good or very good in 93% of marine parks (75% by park area).
- This percentage has remained stable since 2013.



**Calculated from parks that were assessed in both 2013 and 2018 (n = 29), excluding parks where condition was unknown*

Data source: Parks Victoria State of the Parks assessments

3.3.3. Condition of freshwater ecosystems

Assessment of the condition of Parks Victoria's diverse network of freshwater ecosystems is based on the Index of Wetland Condition and the Index of Stream Condition, both developed and implemented by the Department of Environment, Land, Water and Planning. This assessment was last undertaken in 2011.

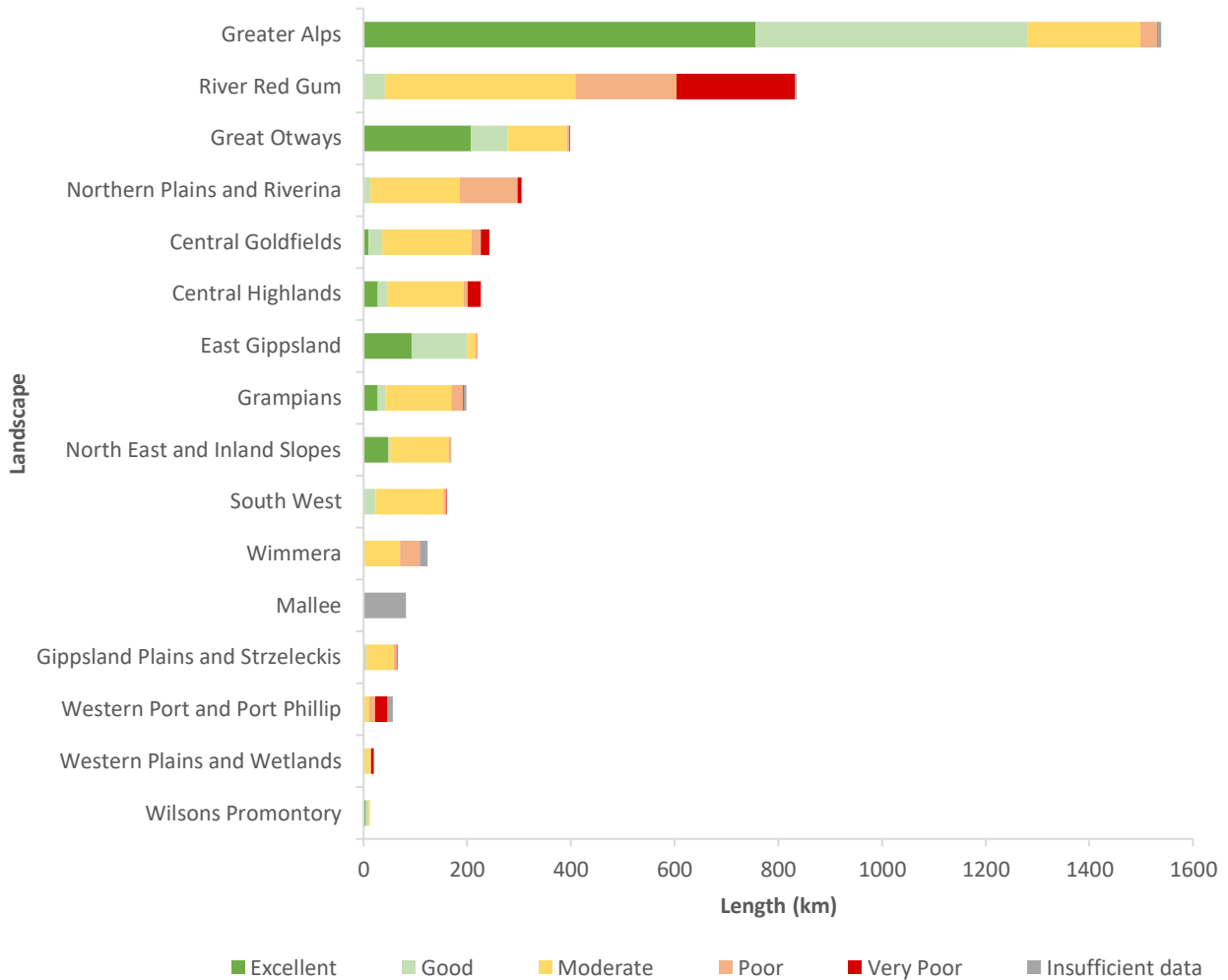
Extent and condition of wetlands and rivers for each of the IUCN categories across the parks network

| Ecosystem assets | Wetlands | | | Rivers | |
|---|-----------------------|---|--|--|---|
| | 2018 | 2018 | 2011 | 2011 | 2011 |
| <u>Assets measures</u> | <u>Extent</u> (ha) | <u>Freshwater</u> <u>extent (ha)</u> | <u>Ave condition:</u> <u>Index of</u> <u>Wetland</u> <u>Condition</u> (freshwater) | <u>Extent:</u> <u>Hectares</u> <u>with</u> <u>river</u> | <u>Ave</u> <u>condition:</u> <u>Index of</u> <u>Stream</u> <u>Condition</u> |
| Protected areas (IUCN PA Categories) | | | | | |
| IA Nature Conservation Reserve | 15,998 | 6,799 | 7.9 | 2,741 | 29.3 |
| IB Wilderness Parks | 20 | 20 | - | 928 | 42.0 |
| II National and State Parks | 72,166 | 57,813 | 7.3 | 29,451 | 30.6 |
| III Natural Features Reserves | 1,796 | 1,600 | 7.4 | 3,857 | 28.1 |
| IV Bushland Reserves | 1,823 | 1,334 | 7.3 | 474 | 26.2 |
| V Protected Landscapes | - | - | - | - | - |
| VI Wildlife Reserves | 111,233 | 18,616 | 7.3 | 1,360 | 27.6 |
| Non-protected areas | | | | | |
| Conservation Reserve | 65,657 | 27,566 | 6.7 | 3,555 | 23.9 |
| Port and Coastal Asset | 20,946 | 0 | - | 28 | 22.5 |
| Urban, Regional and Other Parks | 8,653 | 8,196 | 5.9 | 2,926 | 28.6 |
| Parks Total | 298,293 | 121,944 | | 45,319 | 28.8 |

Data source: DELWP

Index of stream condition in parks by landscape

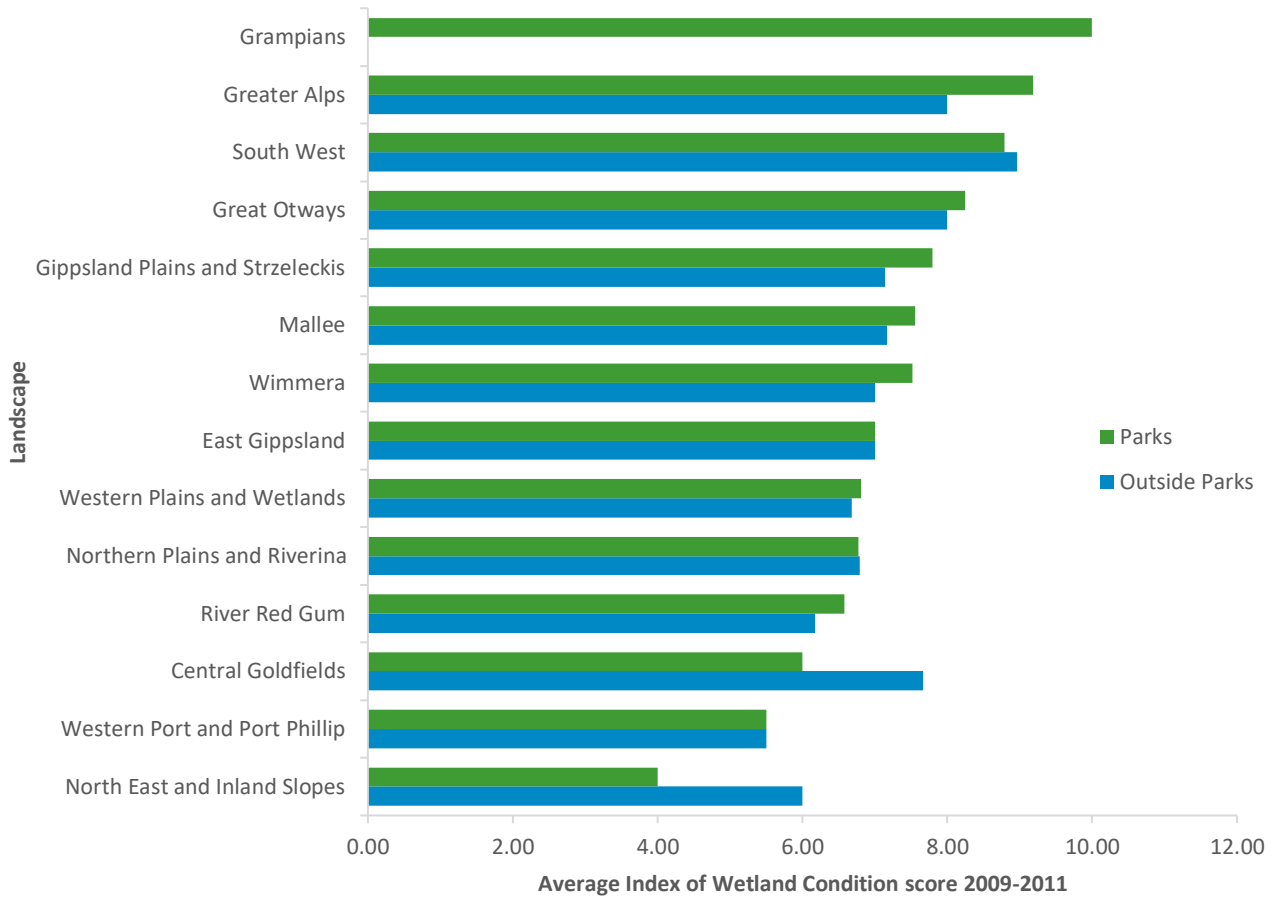
- According to the 2010 Index of Stream Condition, the streams in the Greater Alps landscape are in the best condition, with over 80% of assessed streams in excellent or good condition. However, 50% of the streams in the River Red Gum and Western Port and Port Phillip landscapes are in poor or very poor condition.



Data source: DELWP

Index of wetland condition in parks by landscape

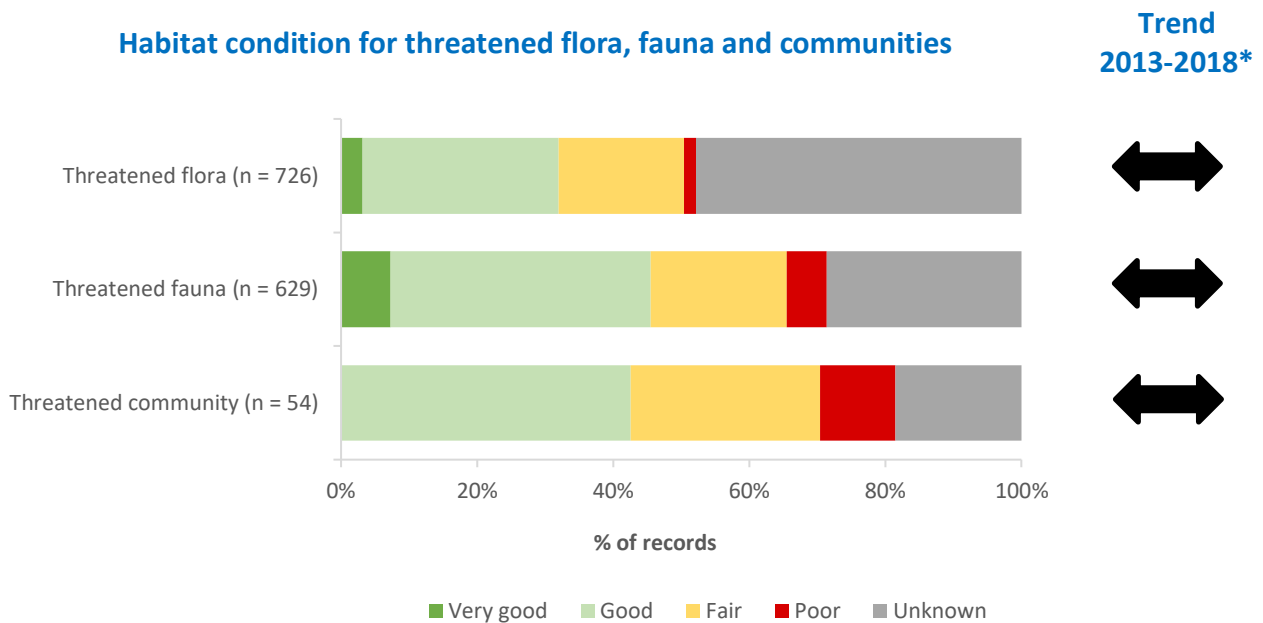
- Based on the average Index of Wetland Condition scores from 2009 to 2011, the wetlands in the Grampians, Greater Alps and South West landscapes are in the best condition.



Data source: DELWP

3.3.4. Condition of threatened flora and fauna

- Park managers reported that the habitat condition for threatened communities, flora and fauna was very good or good in more than 30% of records. However, the condition of habitat was unknown in approximately 20% to 50% of records.
- Habitat condition for threatened communities, flora and fauna has remained stable since 2013.



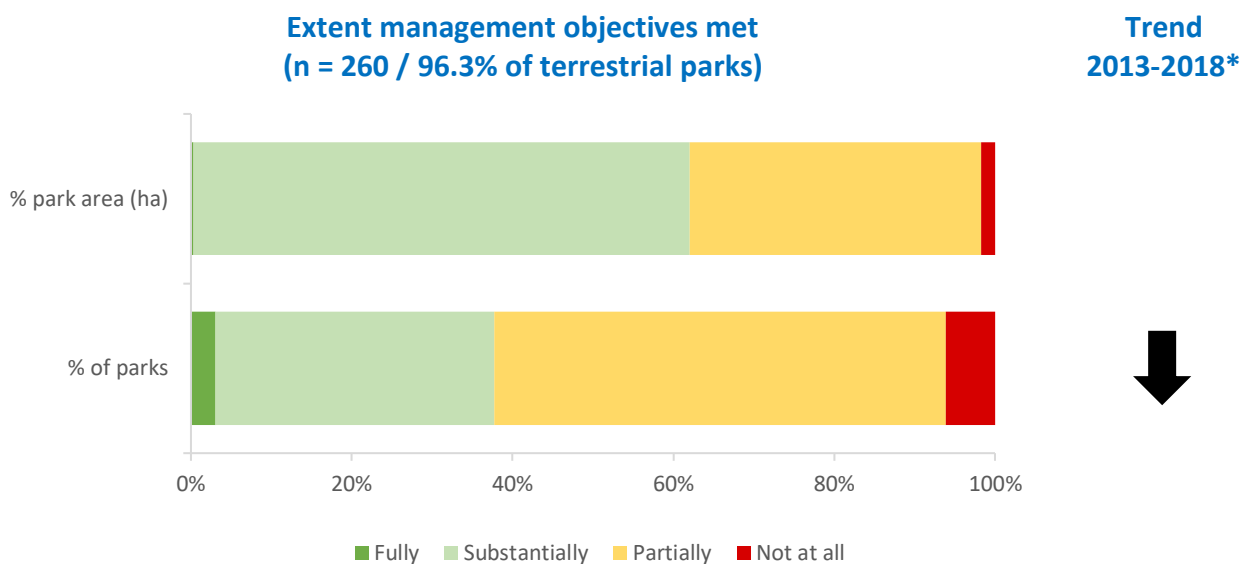
**Calculated from parks that were assessed in both 2013 and 2018 (Flora, n = 76; Fauna, n = 197; Communities, n = 23), excluding parks where condition was unknown*

Data source: Parks Victoria State of the Parks assessments

3.3.5. Extent management objectives met for condition of park ecosystems

Extent management objectives met for nature conservation in terrestrial parks

- Park managers reported that objectives for nature conservation in terrestrial parks were fully or substantially met in almost 40% of relevant parks (over 60% by park area).
- Although the extent to which management objectives were met for most parks remained stable, (67%), significantly more parks reported that it declined (24%) than improved. The decrease was mostly driven by parks moving from *substantially* meeting management objectives in 2013 to only *partially* meeting management objectives in 2018. This may, in part, be due to more parks now having comprehensive objectives detailed in conservation action plans.



*Calculated from parks that were assessed in both 2013 and 2018 (n = 253)

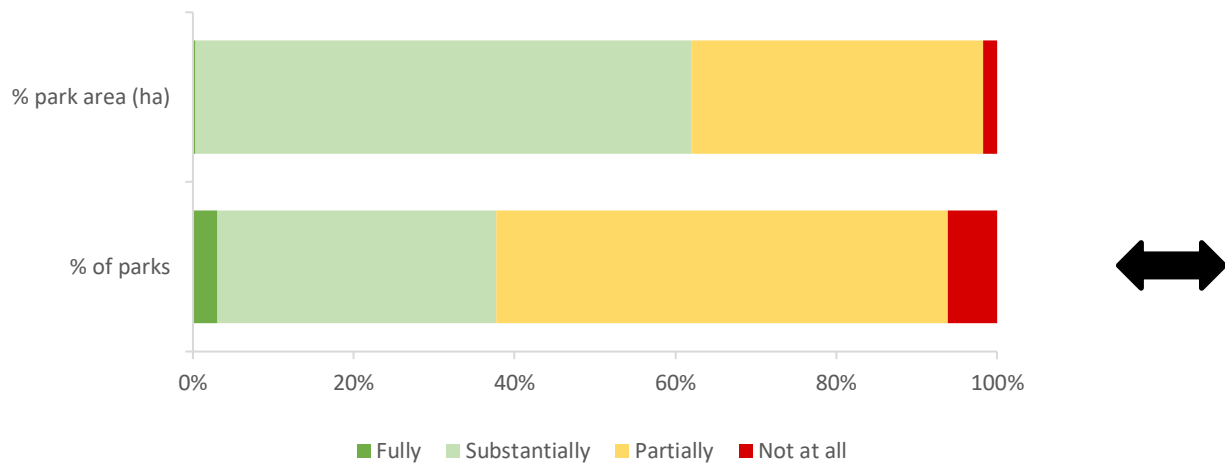
Data source: Parks Victoria State of the Parks assessments

Extent management objectives met for nature conservation in marine protected areas

- Park managers reported that management objectives for nature conservation in marine parks were fully or substantially met in over 30% of the 30 marine protected areas (or more than 60% by park area).
- The extent to which objectives were met for nature conservation in marine parks has remained stable since 2013.

Extent management objectives met
(n = 30 / 100% of marine protected areas)

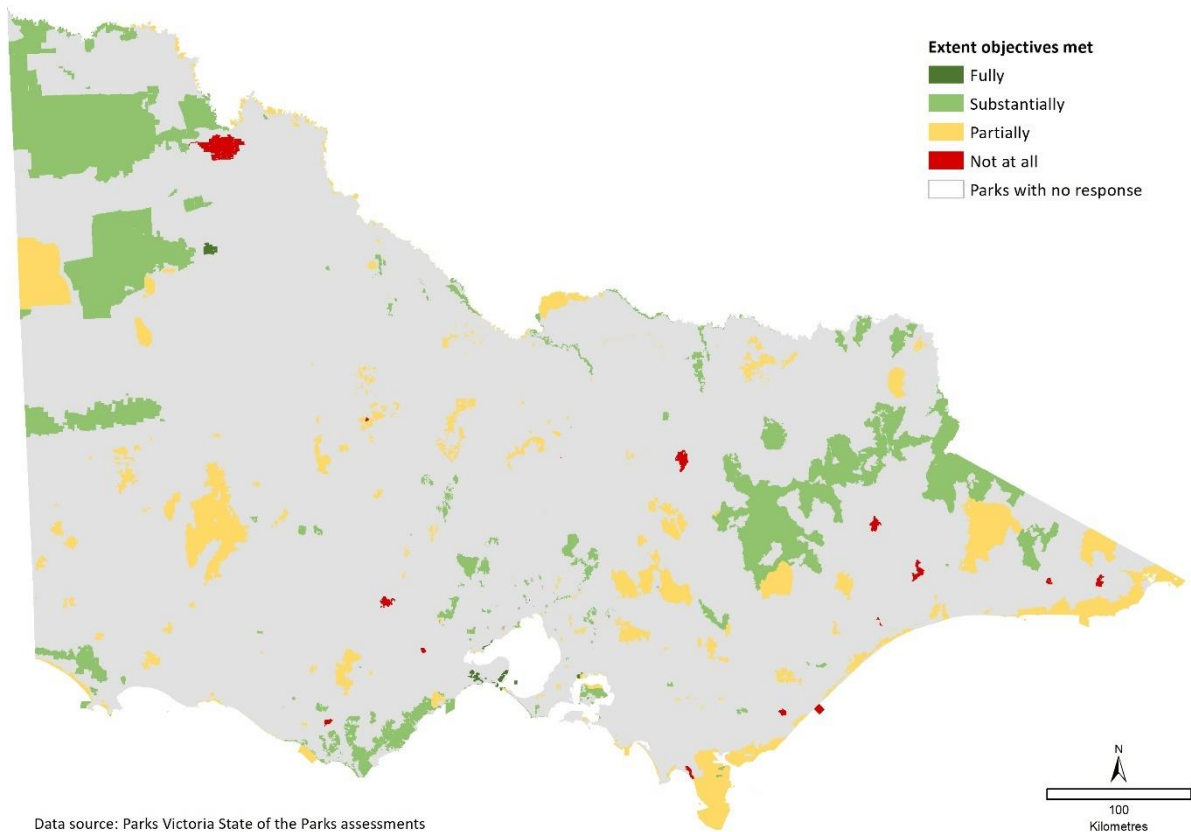
Trend
2013-2018*



**Calculated from parks that were assessed in both 2013 and 2018 (n = 30)*

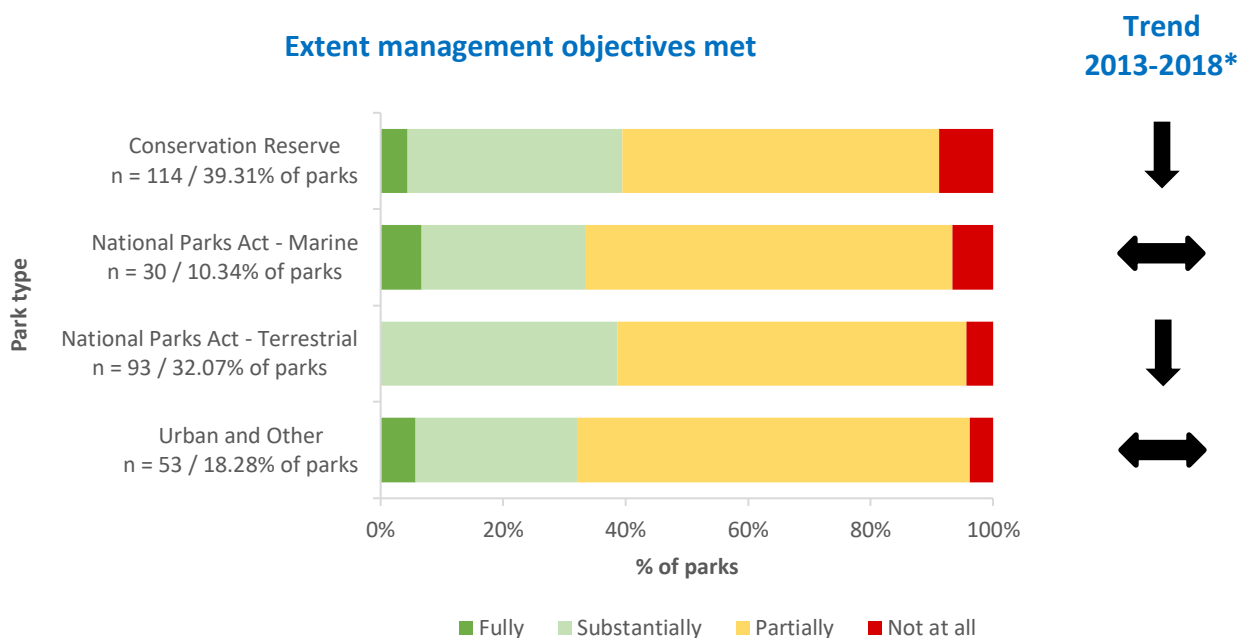
Data source: Parks Victoria State of the Parks assessments

Extent management objectives met for nature conservation



Extent management objectives met for nature conservation by park type

- Park managers reported that slightly more conservation reserves met management objectives (39%) compared to other park types, with urban/other parks showing a lower result (32%).
- The extent to which objectives were met for nature conservation in National Park Act – marine and urban and other parks has remained stable since 2013.
- Although the extent to which management objectives were met remained stable for most conservation reserves and National Parks Act - terrestrial parks (67% for both park types) significantly more parks reported that it declined (25% and 24%, respectively) than improved (8% and 9%, respectively). The decrease was mostly driven by parks moving from *substantially* meeting management objectives in 2013 to only *partially* meeting management objectives in 2018. This may, in part, be due to more parks now having comprehensive objectives.

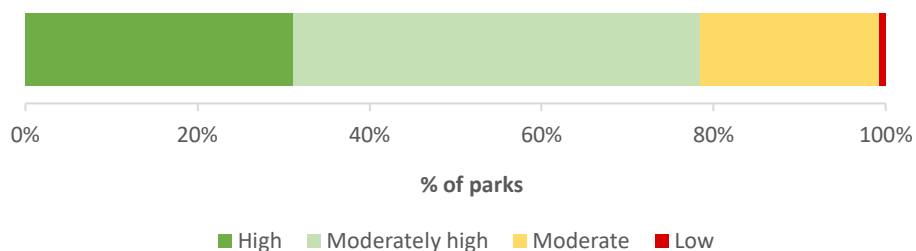


*Calculated from parks that were assessed in both 2013 and 2018 (Conservation Reserve, n = 111; National Parks Act – Marine, n = 30; National Parks Act – Terrestrial, n = 93; Urban and Other, n = 49)

Data source: Parks Victoria State of the Parks assessments

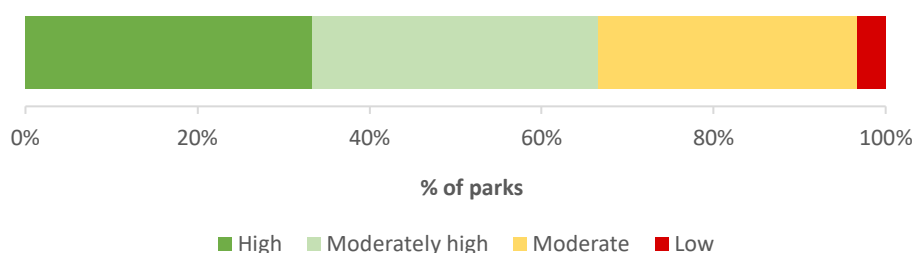
Data confidence

Confidence in park manager assessments for condition and management outcomes of terrestrial parks (n = 260 parks)



Data source: Parks Victoria Parks Victoria State of the Parks assessments

Confidence in park manager assessments for condition and management outcomes of marine protected areas (n = 30 parks)



Data source: Parks Victoria State of the Parks assessments

3.4. Key factors influencing management effectiveness (other than resourcing)

3.4.1. Improved management actions

- Implementation of well-planned, resourced and monitored weed, pest and habitat restoration initiatives at priority parks (e.g. Mallee, Grampians, Alps).
- Excellent delivery partnerships (e.g. with Catchment Management Authorities, volunteers, other government departments) enabled larger-scale delivery of environmental programs (e.g. large-scale revegetation in Mallee parks).
- Improved clarity of management objectives for priority parks through conservation action planning.

- Targeted compliance programs (e.g. firewood removal).
- Targeted marine and terrestrial monitoring programs and partnerships in several priority parks (e.g. Great Otway, Yarra Ranges, Alpine), providing valuable knowledge.

3.4.2. Challenges

- Some parks were still in recovery phase from recent large-scale bushfires (e.g. Grampians, Yarra Ranges).
- Improved environmental and climatic conditions also resulted in favourable conditions for spread of weeds.
- Lack of effective management strategies for some key and emerging pest animals (e.g. feral cats, deer).
- Complex and diverse stakeholder views on appropriate strategies for some environmental threats, such as feral horses.
- Ageing baseline datasets for species composition and condition.
- Challenges in reconciling planned burns for community safety and conservation objectives.
- Time-lag in management response to changes in environmental conditions.
- Difficult access to some parks.

3.4.3. Future focus

- Ensure that programs align with goals and contribute to targets under *Protecting Victoria's Environment - Biodiversity 2037* strategy.
- Continue to roll out conservation action planning priority landscapes to identify clear and measurable objectives for both priority conservation assets and for the key threats to them, as well as development of effective strategies for management, priorities for actions and priorities for monitoring.
- Grow targeted compliance plans and programs to reduce illegal activities.
- Continue to build on the science program, including leverage through the research partners panel and partnered, targeted monitoring projects to enable more quantitative information to supplement the qualitative assessments used for State of the Parks.
- Undertake further planning and assessment and response to respond to climate change impacts.
- Continue to work closely with DEWLP to ensure that all planned burns optimise ecological objectives.
- Plan for and respond to emerging issues/changing environmental conditions.
- Increase the profile of the parks estate's significant environmental values through digital media and other initiatives.

4. Management of Traditional Owner cultural values

Aboriginal cultural heritage is the legacy of Victoria's Aboriginal peoples, and is expressed in both tangible places and objects, and intangible values. Protecting this cultural heritage is a priority for Parks Victoria, as it is not only essential to Aboriginal people's identity and wellbeing, but also a fundamental part of Victoria's heritage overall.

Parks Victoria recognises the value and importance of working closely with Traditional Owners to manage parks and reserves in a culturally sensitive and ecologically sympathetic way. Parks Victoria is working with Traditional Owner groups to establish and implement joint management plans that ensure that Traditional Owner knowledge, combined with western knowledge, form the basis of ongoing park management.

Parks Victoria's *Managing Country Together* framework aims to provide both practical and symbolic recognition of Traditional Owner rights, underpin enduring partnerships with Traditional Owners and strengthen sector capacity in joint protected area and cultural heritage management.

Sections

- 4.1 Representation of Traditional Owner cultural places in parks
- 4.2 Status and management of key threats to Traditional Owner cultural places
- 4.3 Partnerships to protect and conserve Traditional Owner culture
- 4.4 Condition and management outcomes for Aboriginal cultural places
- 4.5 Key factors influencing management effectiveness

4.1. Representation of Traditional Owner cultural places in parks

The *Aboriginal Heritage Act 2006* defines an Aboriginal Place as an area (or coastal waters) in Victoria that is of cultural heritage significance to the Aboriginal people of Victoria. Victoria's parks contribute to Aboriginal people's social, spiritual, economic and physical wellbeing. While many places are physical, others have no physical form but remain significant to the living culture of Aboriginal people through their connection to ancestors, lore, traditions, language, story and ceremonies.

Place components are distinct cultural features within a place, with requirements for their accurate description and associated heritage values (Aboriginal Affairs Victoria, 2008). It is important to recognise that while protection and conservation of physical place components such as artefacts scatters and scar trees are important in themselves, they are only part of much broader cultural landscapes that recognise both tangible and intangible cultural values.

Indicators

- 4.1.1 Extent and representation of recorded Aboriginal place components in parks

4.1.1. Extent and representation of recorded Aboriginal place components in parks

- As of 2018, there are 12,395 Aboriginal places and 15,064 place components recorded across Victoria's parks network. This is an 8% increase in the number of place components since 2013. This number of recorded places and objects represents only a fraction of the actual number of Aboriginal places and components in the landscape because less than 3% of the parks estate has been surveyed for cultural heritage values.

Number of known Aboriginal places and place components within parks

| Aboriginal Place Component | Number of components within the parks network | Percentage of components within the parks network |
|--|---|---|
| Aboriginal Cultural Place | 23 | 0.15 |
| Aboriginal Historical Place | 17 | 0.11 |
| Aboriginal Ancestral Remains (Burial) | 336 | 2.23 |
| Aboriginal Ancestral Remains (Reinterment) | 4 | 0.03 |
| Artefact Scatter | 4,947 | 32.91 |
| Object Collection | 77 | 0.51 |
| Earth Features (Total) | 1,749 | 11.63 |
| Hearth | 946 | 6.29 |
| Mound | 627 | 4.17 |
| Soil Deposit | 168 | 1.12 |
| Soil Feature | 0 | 0.00 |
| Unknown | 8 | 0.05 |
| Low Density Artefact Distribution | 839 | 5.58 |
| Quarry | 96 | 0.64 |
| Rock Art | 143 | 0.95 |
| Scarred Tree | 4,583 | 30.48 |
| Shell Midden | 2,050 | 13.64 |
| Stone Features (Total) | 170 | 1.13 |

| | | |
|---------------------------------|---------------|---------------|
| Fish Trap | 17 | 0.11 |
| Grinding Groove | 15 | 0.10 |
| Rock Well | 90 | 0.60 |
| Stone Arrangement | 9 | 0.06 |
| Stone Structure | 39 | 0.26 |
| Total Components | 15,034 | 100.00 |
| Total Aboriginal Places* | 12,395 | |

* Note: there are some Aboriginal places that contain more than one component

Data source: Aboriginal Victoria

4.2. Status and management of key threats to Traditional Owner cultural places and objects

Traditional Owner cultural values can be impacted by a range of threatening processes such as weathering, bushfire and climate; disturbance by humans or animals; and the level of knowledge and types of park management interventions.

Indicators

4.2.1 Threats to Traditional Owner cultural places and objects

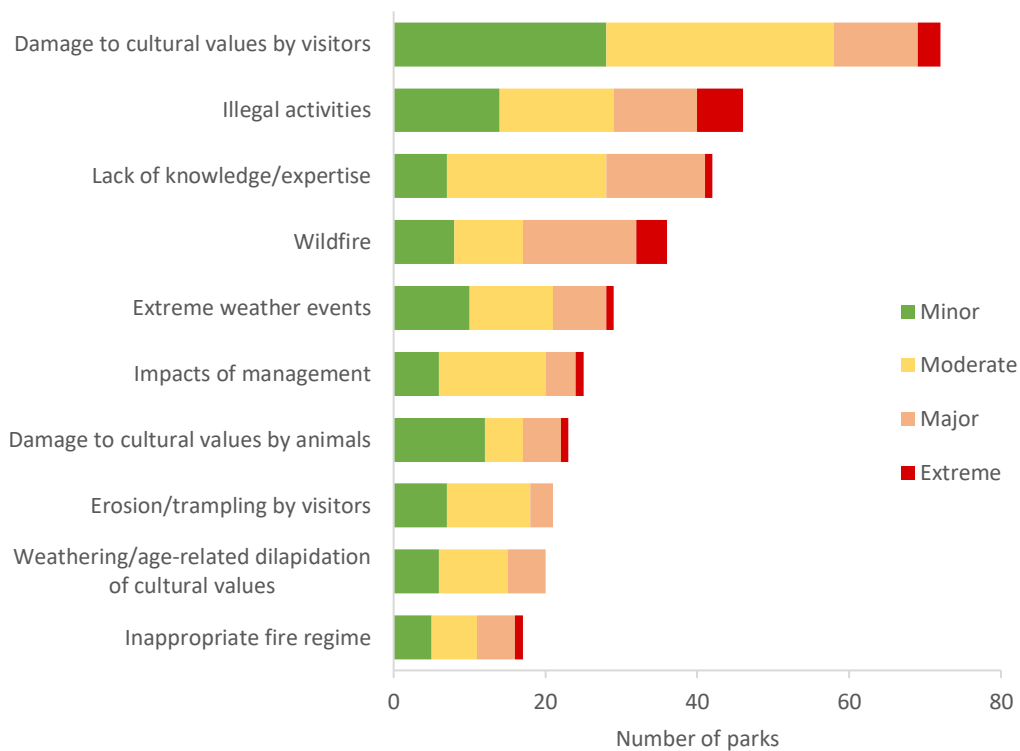
4.2.2 Extent management objectives met for key threats

Data Confidence

4.2.1. Threats to Traditional Owner cultural places and objects

- Park managers identified threatening processes impacting on Traditional Owner cultural values in 129 parks (43% of the 300 assessed parks).
- Wildfire, illegal activities, damage to cultural values by visitors and lack of knowledge/expertise were the most commonly reported threatening processes to Traditional Owner cultural values with extreme or major impacts.

Severity of top 10 threats to Traditional Owner cultural values across parks network



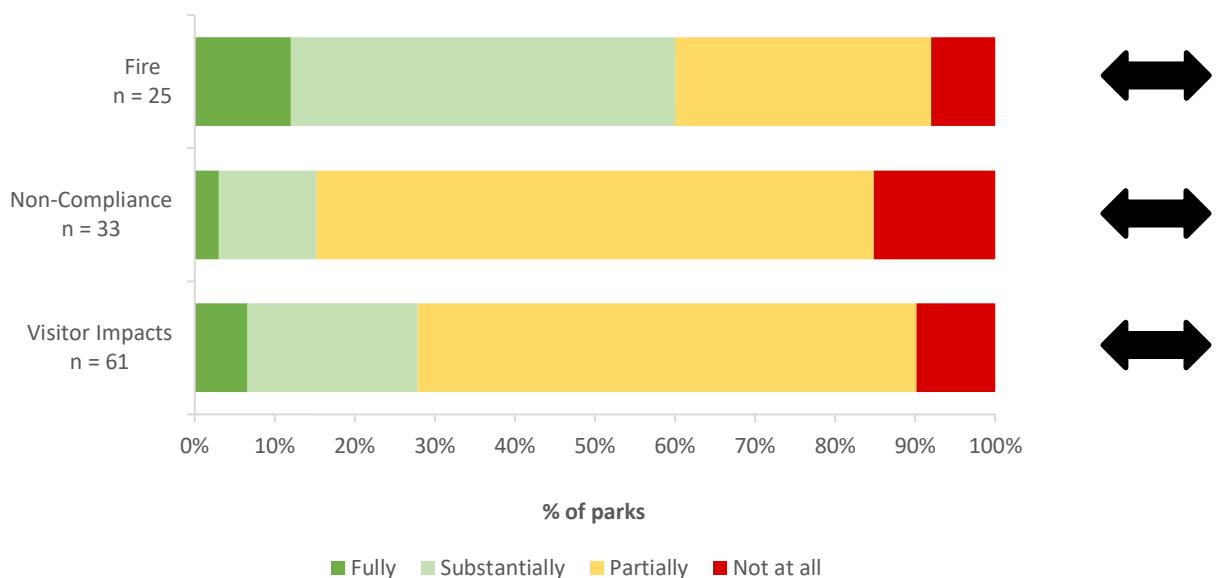
Data source: Parks Victoria State of the Parks assessments

4.2.2. Extent management objectives met for key threats

- Park Managers reported that they fully or substantially met management objectives for the management of fire with respect to Traditional Owner cultural values conservation in 60% of relevant parks. More than 70% of parks only partially or did not at all meet objectives for non-compliance and visitor impacts.
- The extent to which parks are meeting objectives for managing visitor impacts, non-compliance and inappropriate fire regimes has remained stable since 2013.

Extent to which management objectives for key threats to Traditional Owner cultural values were met*

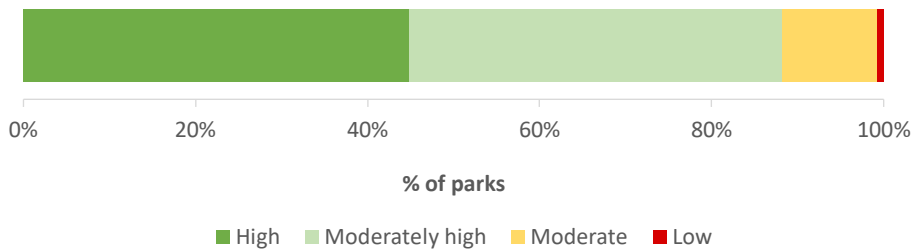
Trend 2013-2018**



Data source: Parks Victoria State of the Parks assessments

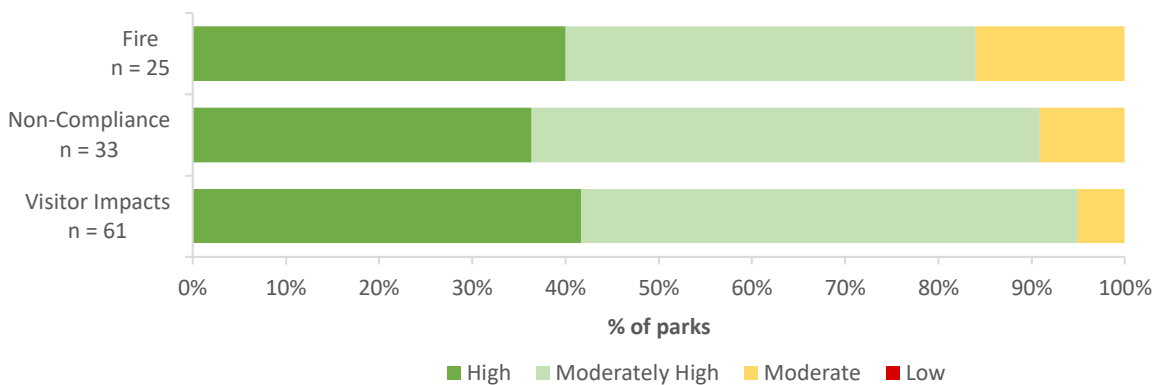
Data confidence

Confidence in park manager assessments of impact of threatening processes to Traditional Owner cultural values



Data source: Parks Victoria State of the Parks assessments

Confidence in park manager assessments for impacts and management outcomes for threats to Traditional Owner cultural values



Data source: Parks Victoria State of the Parks assessments

4.3. Partnerships to protect and conserve Traditional Owner culture

Parks Victoria seeks to partner with Traditional Owners across many aspects of park management including recognition of Country, park planning and management, employment and training, cross-cultural awareness, tourism opportunities, interpretative signage and management of Aboriginal places.

Indicators

4.3.1 Level of Traditional Owner involvement in decision making

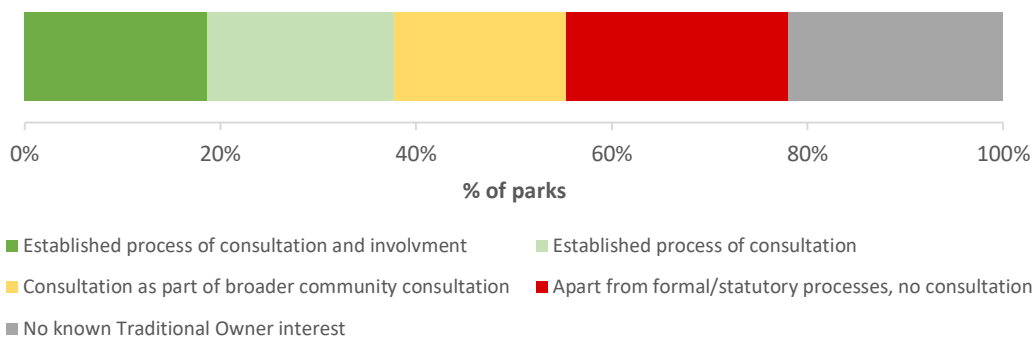
Data confidence

4.3.1. Level of Traditional Owner involvement in decision making

- Park managers reported that almost 40% of all 300 assessed parks had an established process of consultation with Traditional Owners, while they were unaware of Traditional Owner interest in just over 20% of assessed parks.
- Traditional Owner involvement in decision making has remained stable since 2013.
- All co- / joint managed parks had an established process of Traditional Owner consultation and most had a process that included involvement.

Level of involvement of Traditional Owners in park management decision making

Trend
2013-2018*

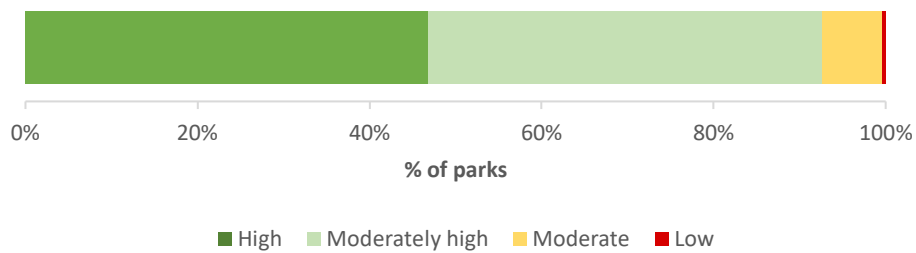


*Calculated from parks that were assessed in both 2013 and 2018 (n = 291).

Data source: Parks Victoria State of the Parks Assessments

Data confidence

Confidence in park manager assessments for level of involvement of Traditional Owners in park management decision making



Data source: Parks Victoria State of the Parks assessments

4.4. Condition and management outcomes for Traditional Owner cultural values

Understanding the condition of known Traditional Owner places and objects and the appropriate interventions to restore or maintain these places and objects requires park managers to work in close partnership with Traditional Owners.

Indicators

4.4.1 Condition of Traditional Owner places and objects

4.4.2 Extent management objectives met for conservation of Traditional Owner places and objects

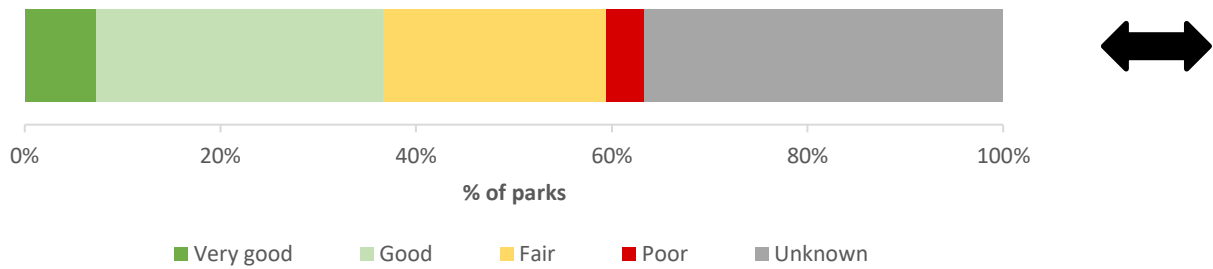
Data confidence

4.4.1. Condition of Traditional Owner places and objects

- Park managers reported that Traditional Owner places and objects were in very good or good condition in 36% of relevant parks. Condition was unknown in just over a third of relevant parks.
- The condition of Traditional Owner places and objects has remained stable since 2013.

Condition of known Aboriginal places and objects in assessed parks (n = 232 / 77.3% of parks)

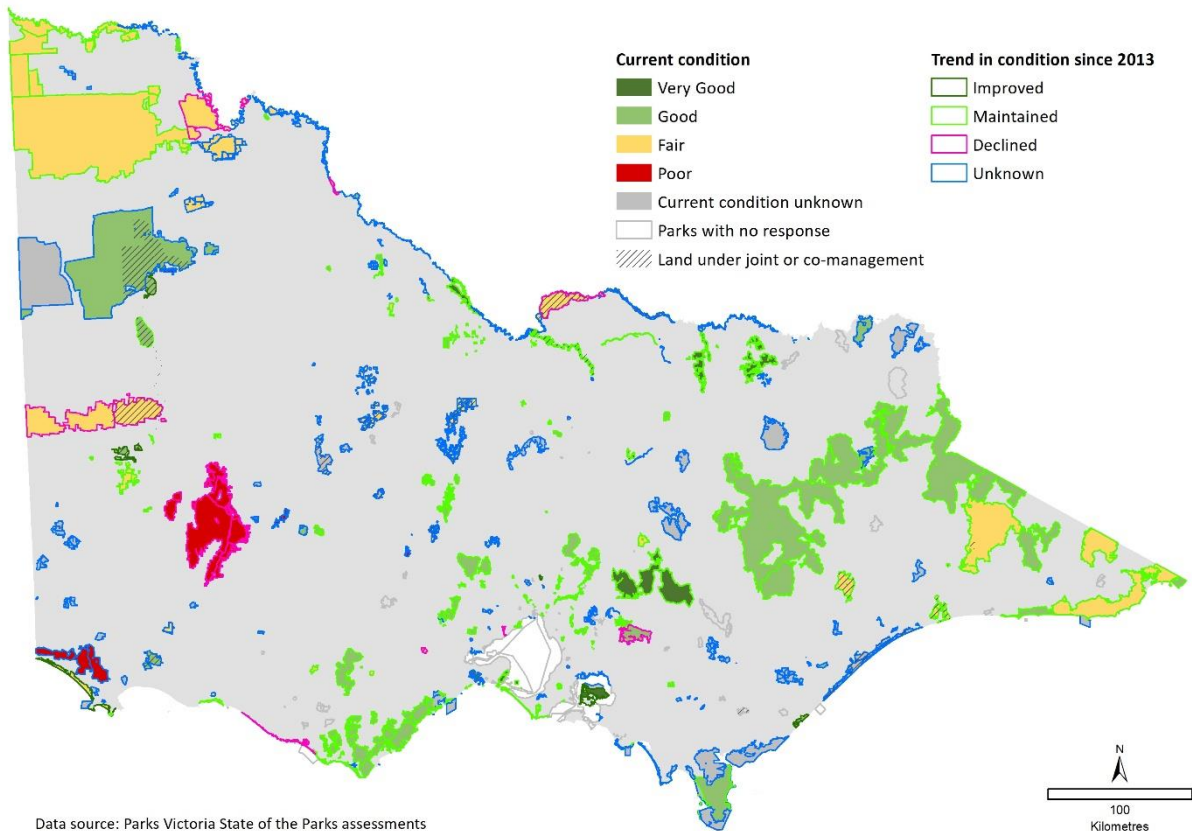
Trend
2013-2018*



*Calculated from parks that were assessed in both 2013 and 2018 (n = 92), excluding parks where condition was unknown

Data source: Parks Victoria State of the Parks assessments

Condition and trend in condition of known Traditional Owner places and objects



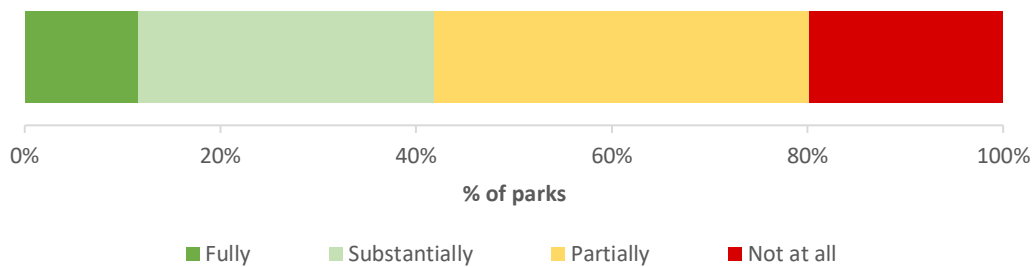
Data source: Parks Victoria State of the Parks assessments

4.4.2. Extent management objectives met for conservation of Traditional Owner places and objects

- Park managers reported that approximately 40% of parks that identified Aboriginal places and objects fully or substantially met objectives for management of those values, while almost 20% did not at all meet management objectives.
- The extent to which management objectives for Aboriginal places and objects have been met has remained stable since 2013.

**The extent to which management objectives for Traditional Owner values conservation were met
(n = 232 / 77.3% of parks)**

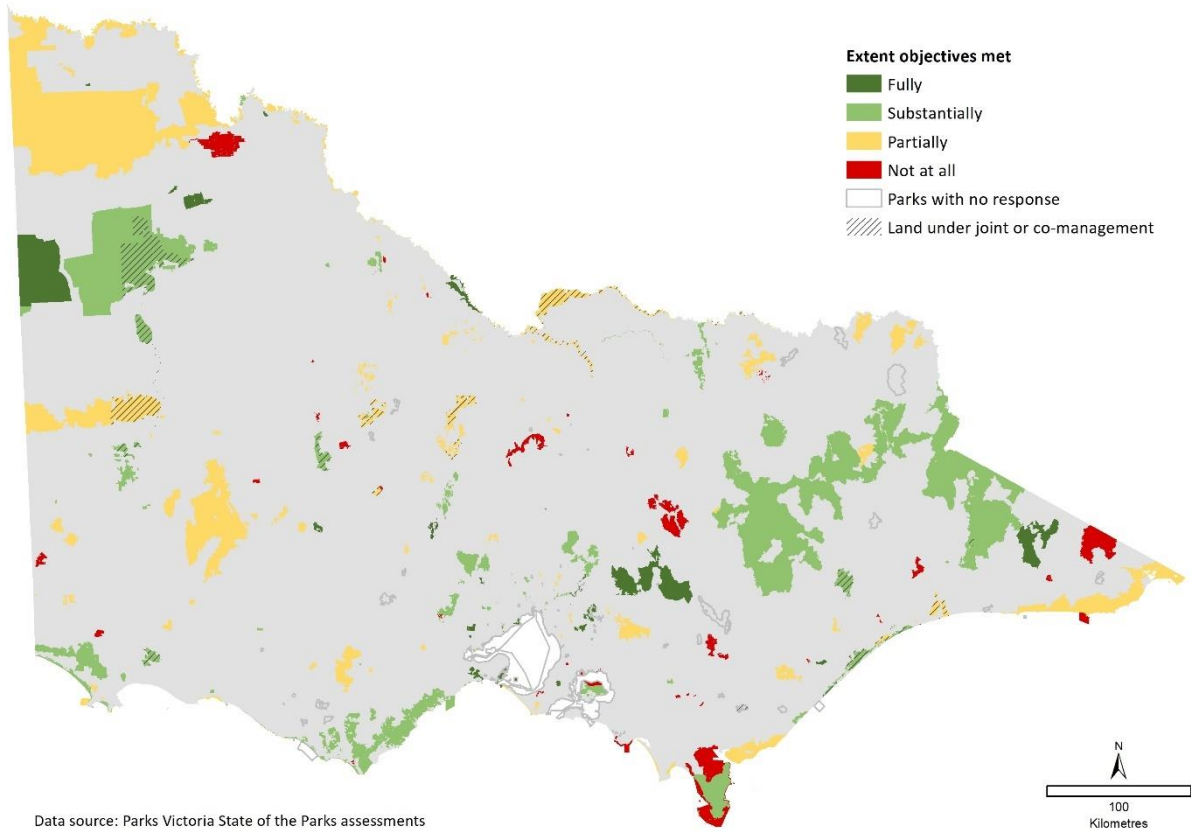
**Trend
2013-2018***



**Calculated from parks that were assessed in both 2013 and 2018 (n = 214)*

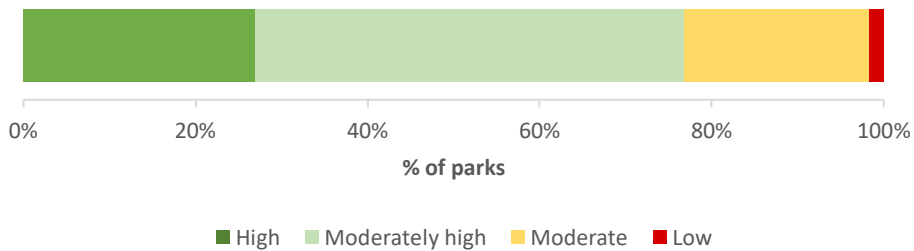
Data source: Parks Victoria State of the Parks assessments

Extent management objectives met for Traditional Owner values conservation



Data confidence

Confidence in park manager assessments for condition and management outcomes of Traditional Owner cultural values



Data source: Parks Victoria State of the Parks assessments

4.5. Key factors influencing management effectiveness (other than

resourcing)

4.5.1. Improved management actions

- Improved understanding of cultural heritage management plans, permits and other tools.
- Organisational commitment to stronger partnerships with Traditional Owners.
- Appointment of cultural heritage officers.
- Development of *Managing Country Together Framework*.

4.5.2. Challenges

- Limited knowledge or monitoring of significant sites.
- Limited awareness and understanding of intangible Aboriginal cultural values and how best to protect them.
- Lack of proactive management and Traditional Owner engagement.

4.5.3. Future focus

- Expand employment opportunities for Traditional Owners and other Aboriginal Victorians.
- Support increased participation of Traditional Owners in park management decisions.
- Improve tools, procedures and knowledge for managing Aboriginal cultural heritage.
- Work with Traditional Owners to undertake Aboriginal cultural heritage surveys to identify significant sites.

5. Management of historic heritage in parks

Parks Victoria is the custodian of the largest historic heritage estate on public land in Victoria. These heritage places include buildings and structures, significant trees, gardens, landscapes, archaeological sites, a large collection of objects, and shipwrecks. A heritage place may include many assets that have ‘historic’ values. Parks Victoria is responsible for the management, conservation, and activation of this diverse range of heritage places.

Sections

5.1 Representation of historic heritage places and objects in parks

5.2 Status and management of key threats to historic heritage places and objects

5.3 Condition and management outcomes for historic heritage places and objects

5.4 Key factors influencing management effectiveness

5.1. Representation of historic heritage places and objects in parks

Heritage values are a core characteristic of Victorian parks, and our layered landscapes often have a combination of natural heritage values (biodiversity, geological, and landscape), and cultural heritage values (Aboriginal cultural heritage and non-Aboriginal ‘historic’ cultural heritage). Within Parks Victoria, ‘historic heritage’ is considered to be the tangible or intangible evidence of the layers of non-Aboriginal human cultural activity, occupation, and use over time.

The parks estate includes six cultural landscapes of National significance, 210 places of State significance and historic shipwrecks, and many other additional places that are of local significance. It includes almost 3,000 assets with historic heritage value as well as 55 collections of moveable historic objects, which are non-Aboriginal objects of cultural significance, either individually or in association with a heritage place (for example, original furniture, art and farm machinery).

Indicators

5.1.1 Extent and representation of historic places and objects in parks

5.1.2 Heritage listed places in parks

5.1.3 Moveable collections of historic objects

5.1.1. Extent and representation of historic places in parks

Number of designated historic parks and reserves

- The Parks network includes one national heritage park, Castlemaine Diggings National Heritage Park. This is a unique designation declared under the *National Parks Act 1975* in 2002. There are also 94 designated historic reserves.
- Many assets with historic heritage value are also found in other National Parks Act parks, Conservation reserves and metropolitan parks.

Number of assets with historic heritage value

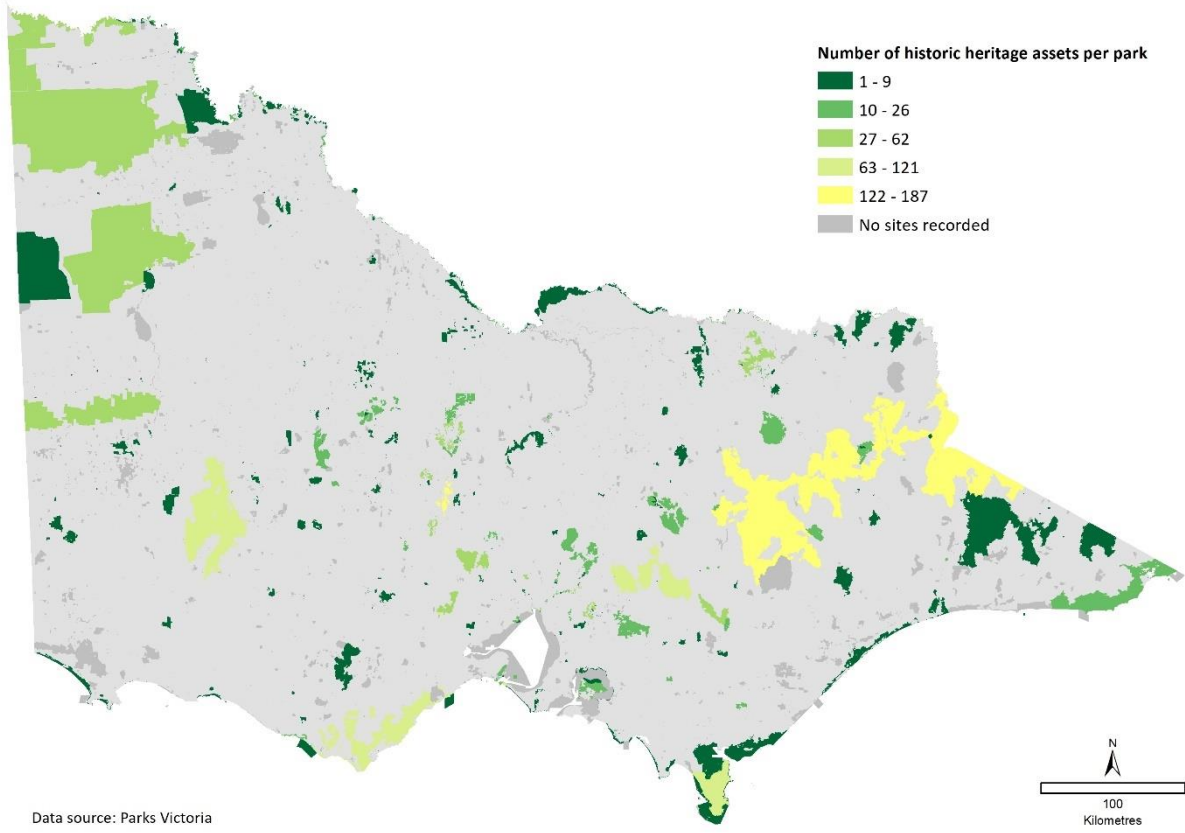
- A diverse range of 2,884 historic assets are recorded within the Victorian parks network. An additional 71 assets have been identified since 2013, with 40% of these being within Castlemaine Diggings National Heritage Park.
- Alpine National Park includes the highest number of recorded assets with historic heritage value, which include alpine huts and various archaeological sites.

Victorian parks and reserves that have 30 or more recorded assets with historic heritage value

| Park name | Number of historic assets |
|---|---------------------------|
| Alpine National Park | 187 |
| Castlemaine Diggings National Heritage Park | 154 |
| Point Nepean National Park | 121 |
| Grampians National Park | 110 |
| Steiglitz Historic Park | 91 |
| Wilsons Promontory National Park | 78 |
| Great Otway National Park | 77 |
| Yarra Ranges National Park | 71 |
| Wyperfeld National Park | 62 |
| Maldon Historic Area. | 53 |
| Bendigo Regional Park | 49 |
| Brisbane Ranges National Park | 43 |
| Werribee Park | 42 |
| Wattle Park | 40 |
| Chiltern-Mt Pilot National Park | 39 |
| Warrandyte State Park | 39 |
| Baw Baw National Park | 37 |
| Dandenong Ranges National Park | 35 |
| Hepburn Regional Park | 32 |
| Woodlands Historic Park | 32 |
| Little Desert National Park | 31 |
| Albert Park | 30 |
| Murray - Sunset National Park | 30 |

Data source: Parks Victoria

Historic heritage assets in parks



5.1.2. Heritage listed places in parks

Number of heritage places and shipwrecks included on the Victorian Heritage Register across the parks network

- In 2018, there were 140 heritage places across 84 parks and 67 shipwrecks across 26 parks included on the Victorian Heritage Register.
- Castlemaine Diggings National Heritage Park includes the most heritage places listed on the Victorian Heritage Register of any one park in the Victorian network (19 heritage places).

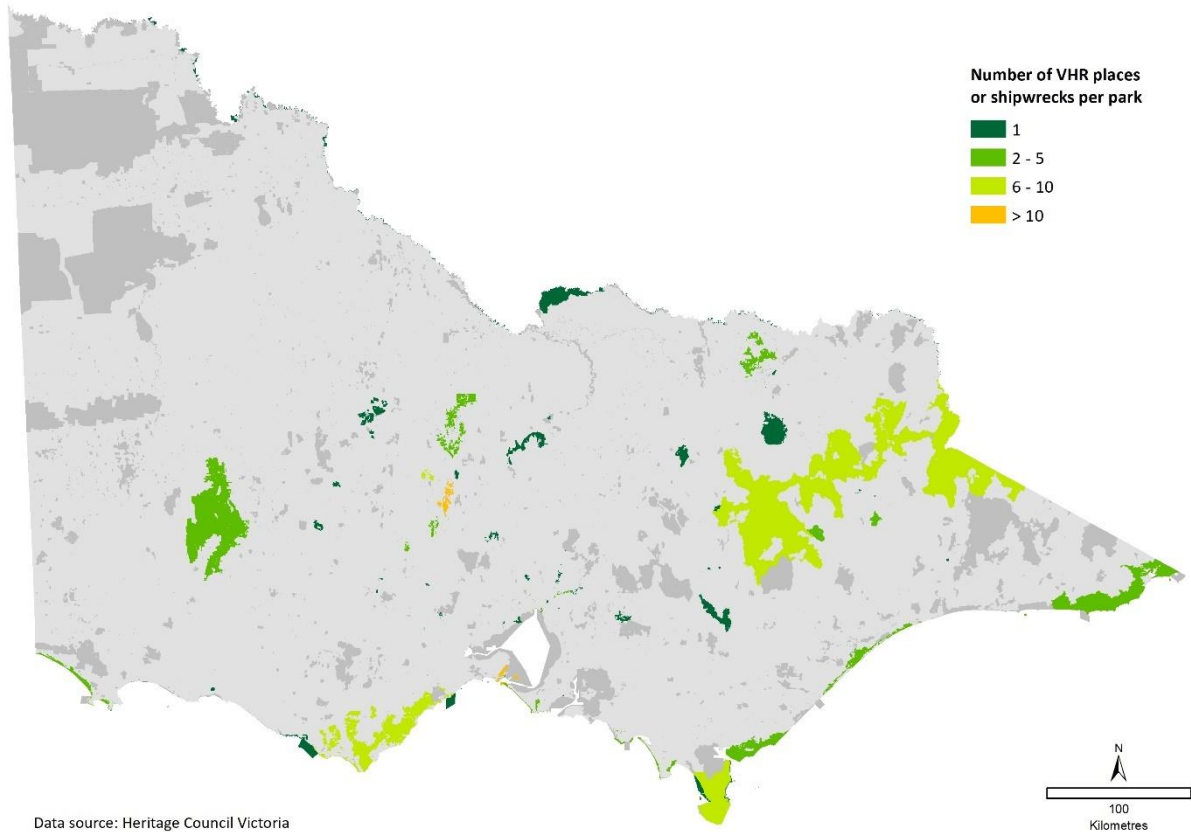
Parks with multiple heritage places or shipwrecks included on the Victorian Heritage Register

| Park name | Number of places or shipwrecks listed on the Victorian Heritage Register |
|---|--|
| Castlemaine Diggings National Heritage Park | 19 |
| Port Phillip Heads Marine National Park | 16 |
| Alpine National Park | 9 |
| Great Otway National Park | 9 |
| Wilson's Promontory Marine National Park | 7 |
| Maldon Historic Area. | 6 |
| Wilson's Promontory National Park | 6 |
| Cape Liptrap Coastal Park | 4 |
| Croajingolong National Park | 4 |
| Hepburn Regional Park | 4 |
| Bendigo Regional Park. | 3 |
| Beware Reef Marine Sanctuary | 3 |
| Cassilis Historic Area | 3 |
| Creswick Regional Park | 3 |
| Discovery Bay Coastal Park | 3 |
| Gabo Island Lighthouse Reserve | 3 |
| Greater Bendigo National Park | 3 |
| Nooramunga Marine & Coastal Park | 3 |
| Point Gellibrand Heritage Park | 3 |
| Williamstown Workshop, Piers & Stony Creek Backwash | 3 |
| Albert Park | 2 |
| Bunurong Marine Park | 2 |
| Chiltern-Mt Pilot National Park | 2 |
| Gippsland Lakes Coastal Park | 2 |
| Grampians National Park | 2 |
| Grant Historic Area. | 2 |
| Lower Maribyrnong River land | 2 |
| Marengo Reefs Marine Sanctuary | 2 |
| Mornington Peninsula National Park | 2 |
| Point Hicks Lighthouse Reserve | 2 |

| | |
|--------------------------------------|---|
| Point Nepean National Park | 2 |
| Queenscliff Harbour Precinct Reserve | 2 |
| State Coal Mine Historic Area. | 2 |
| Yarra Valley Parklands | 2 |

Data source: Heritage Council Victoria

Victorian Heritage Register places and shipwrecks in parks



Data source: Heritage Council Victoria

Victorian parks included on the National Heritage List

- The Victorian Parks network has 16 parks that are within landscapes included on the National Heritage List, of which 12 are terrestrial national parks.
- Of the six nationally listed landscapes, five have criteria that relate to historic heritage.
- Budj Bim National Park in the state's south-west, which forms part of the Budj Bim Cultural Landscape was added to the UNESCO World Heritage List in early July 2019. It is the first heritage place in Australia to be recognised on this list solely for its Aboriginal cultural significance.

Parks that are included on the National Heritage List

| Park Name | National Heritage Site Name |
|---|---|
| Alpine National Park | Australian Alps National Parks and Reserves – Alpine National Park |
| Avon Wilderness Park | Australian Alps National Parks and Reserves – Avon Wilderness |
| Baw Baw National Park | Australian Alps National Parks and Reserves – Baw Baw National Park |
| Mount Buffalo National Park | Australian Alps National Parks and Reserves – Mt Buffalo National Park |
| Snowy River National Park | Australian Alps National Parks and Reserves – Snowy River National Park |
| Budj Bim National Park | Budj Bim National Heritage Landscape |
| Castlemaine Diggings National Heritage Park | Castlemaine Diggings National Heritage Park |
| Grampians National Park | Grampians National Park (Gariwerd) |
| Bay of Islands Coastal Park | Great Ocean Road and Scenic Environs |
| Port Campbell National Park | Great Ocean Road and Scenic Environs |
| Great Otway National Park | Great Ocean Road and Scenic Environs |
| Aire River W.R. | Great Ocean Road and Scenic Environs |
| Marengo Reefs Marine Sanctuary | Great Ocean Road and Scenic Environs |
| Port of Port Campbell | Great Ocean Road and Scenic Environs |
| Twelve Apostles Marine National Park | Great Ocean Road and Scenic Environs |
| Point Nepean National Park | Point Nepean Defence Sites and Quarantine Area |

Data source: Department of the Environment and Energy

5.1.3. Moveable collections of historic objects

Number of historic moveable objects

- By 2018, 14,477 historic moveable objects were catalogued from 55 collection sites, which represents an increase of 727 objects since 2013. Two collections contain more than 50% of all catalogued objects: Werribee Park and Days Mill and Farm.
- Over 3,000 objects are identified but yet to be catalogued; most of which are from Andersons Mill and Point Nepean Quarantine Station.

Moveable historic objects in parks

| Collection Site | Number of objects catalogued (2018) |
|--|-------------------------------------|
| Werribee Park | 4,010 |
| Days Mill & Farm | 3,422 |
| Kurth Kiln | 1,326 |
| Parks Victoria Art Collection William Ricketts Sanctuary | 1,053 |
| State Coal Mine | 960 |
| Mount Buffalo Chalet | 946 |
| Andersons Mill | 579 |
| Castlemaine | 301 |
| Coolart Wetlands and Homestead | 268 |
| Wilson's Promontory Lightstation | 187 |
| Petty's Orchard | 140 |
| Woodlands Homestead | 136 |
| Cape Otway Lightstation | 101 |
| Gabo Island Lightstation | 99 |
| Maldon State Battery | 97 |
| Point Cook Homestead | 75 |
| Nyerimilang Heritage Park | 74 |
| Glenample Homestead | 65 |
| Tarra Bulga National Park | 61 |
| Steiglitz Historic Park | 59 |
| Cape Schanck Lightstation | 54 |
| Parks Victoria History Collection | 54 |
| Collins Settlement Site | 53 |
| Wattle Park Chalet | 36 |
| Parks Victoria Art Collection Bourke St | 34 |
| Cape Nelson Lightstation | 32 |
| Wilson's Promontory National Park | 28 |
| Homebush Lower State School | 26 |
| Greens Creek Battery | 25 |
| Point Hicks Lightstation | 20 |
| Brimbank Park | 17 |

| | |
|--|---------------|
| O'Shannassy Lodge | 16 |
| Port Campbell Rocket Shed | 16 |
| Buchan Caves Reserve | 14 |
| Heathcote Powder Magazine | 13 |
| Parks Victoria Art Collection Coolart Wetlands and Homestead | 12 |
| Kinglake | 11 |
| Parks Victoria Art Collection Herring Island Sculpture Park | 9 |
| Cann River | 9 |
| Parks Victoria Art Collection Westgate Park | 8 |
| Arthurs Seat | 6 |
| Parks Victoria Art Collection Seawinds Gardens | 6 |
| Creswick Regional Park | 3 |
| Parks Victoria Art Collection Cape Otway | 3 |
| Parks Victoria Art Collection Maribyrnong River | 2 |
| Serendip Sanctuary | 2 |
| George's Creek Powder Magazine | 2 |
| Parks Victoria Art Collection Gariwerd | 2 |
| Browns Coolstore | 1 |
| Parks Victoria Art Collection Tindale Gardens | 1 |
| Cope Hut | 1 |
| Berribee Homestead | 1 |
| Tower Hill | 1 |
| Point Nepean Quarantine Station | - |
| Werribee Park Sculpture Collection | - |
| Total | 14,477 |

Data source: Parks Victoria

5.2. Status and management of key threats to historic heritage places and objects

The condition of historic heritage places and objects is affected by a range of threats including human or animal disturbance, the level of knowledge and the types of park management interventions. Natural forces such as weathering/age-related dilapidation, extreme weather events can also have an impact.

Indicator

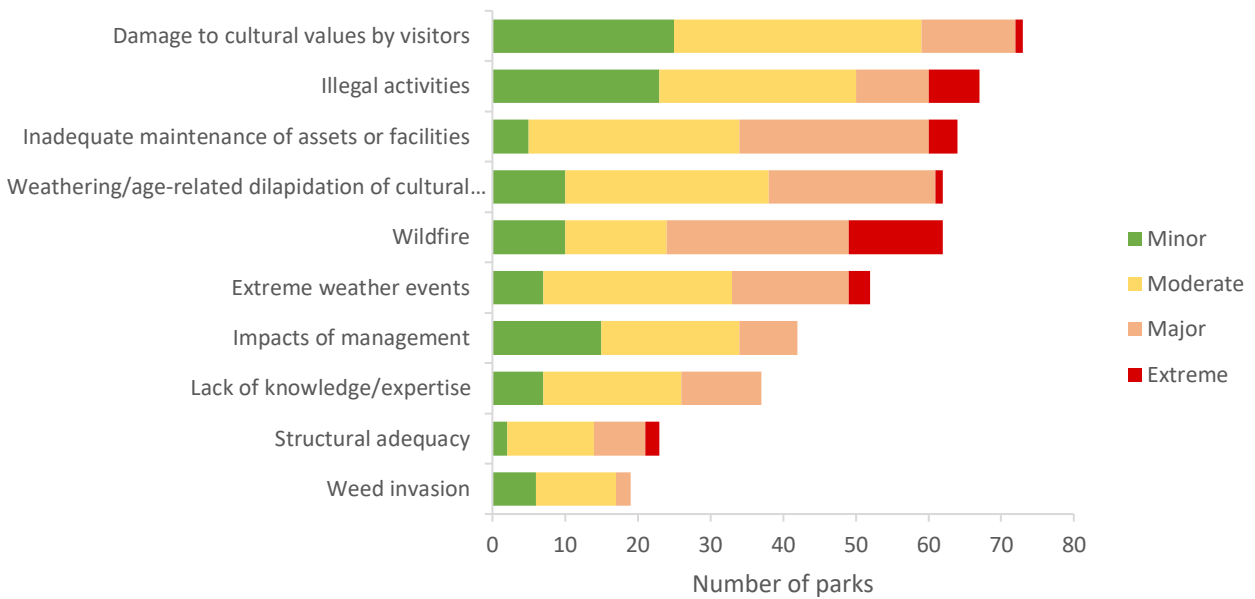
5.2.1 Threats to historic heritage places

Data confidence

5.2.1. Threats to historic heritage places

- Park managers identified threatening processes impacting on historic heritage values in 128 parks (43% of the 300 assessed parks).
- Threatening processes with the highest percentage of parks with an extreme or major impact on historic heritage values were wildfire, inadequate maintenance, weathering/age-related dilapidation and extreme weather events. This represented 19% – 30% of relevant parks.

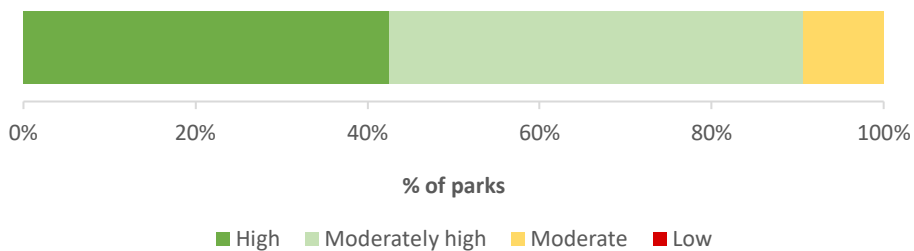
Severity of top 10 threats to historic heritage values across parks network



Data source: Parks Victoria State of the Parks assessments

Data confidence

Confidence in park manager assessments of severity of threatening processes of historic heritage values



Data source: Parks Victoria State of the Parks assessments

5.3. Condition and management outcomes for historic heritage places and objects

Understanding the condition of historic heritage places and objects informs park management in setting and achieving objectives to conserve the historic heritage places and objects found within the parks network. Each heritage place requires different conservation strategies depending on their physical fabric, scale, and complexity. In some cases, such as in managing archaeological sites that contain remnant machinery, the role of park management may be to simply allow these structures to weather in-situ and ensure there are no interventions.

Indicators

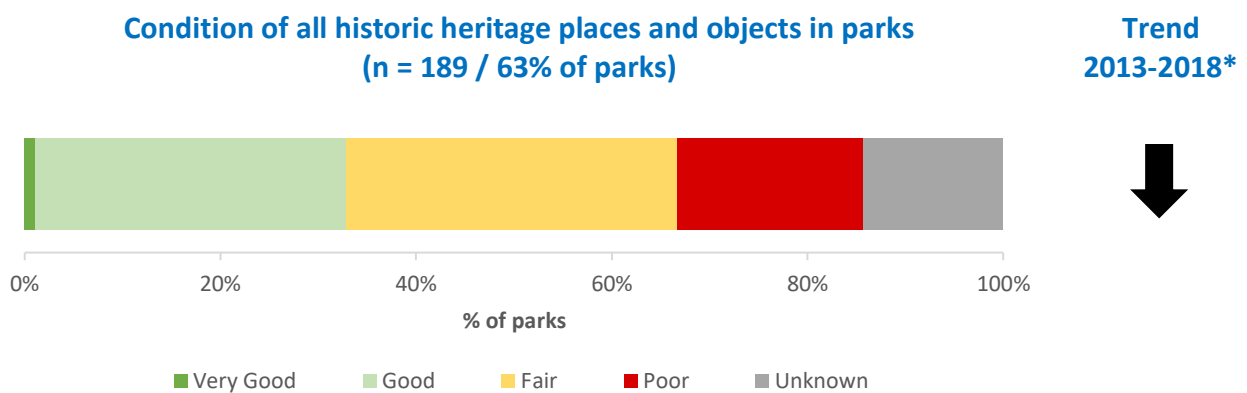
5.3.1 Condition of historic heritage places and objects

5.3.2 Extent management objectives met for conservation of historic heritage places and objects

Data confidence

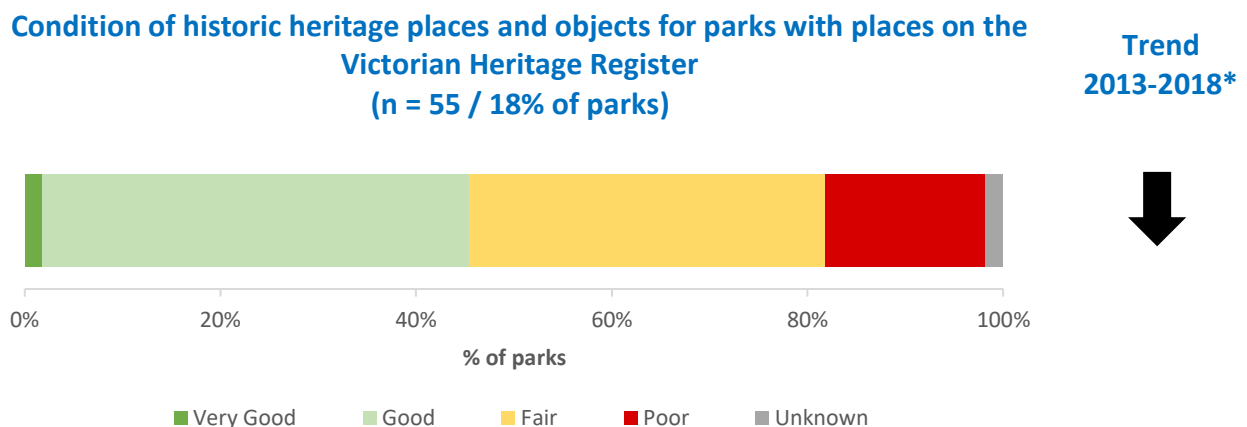
5.3.1. Condition of historic heritage places and objects

- Park managers reported that the condition of historic heritage places and objects was very good or good in one-third of relevant parks. Although condition was stable in 71% of these parks, significantly more parks reported that it declined (19%) than improved (9%) since 2013.
- For the 55 assessed parks that include places on the Victorian Heritage Register, park managers reported that heritage places and objects were in very good or good condition in 45% of parks. These parks showed a similar trend; condition remained stable in 65% but declined in significantly more parks (29%) than improved (6%).



**Calculated from parks that were assessed in both 2013 and 2018 (n = 149), excluding parks where condition was unknown*

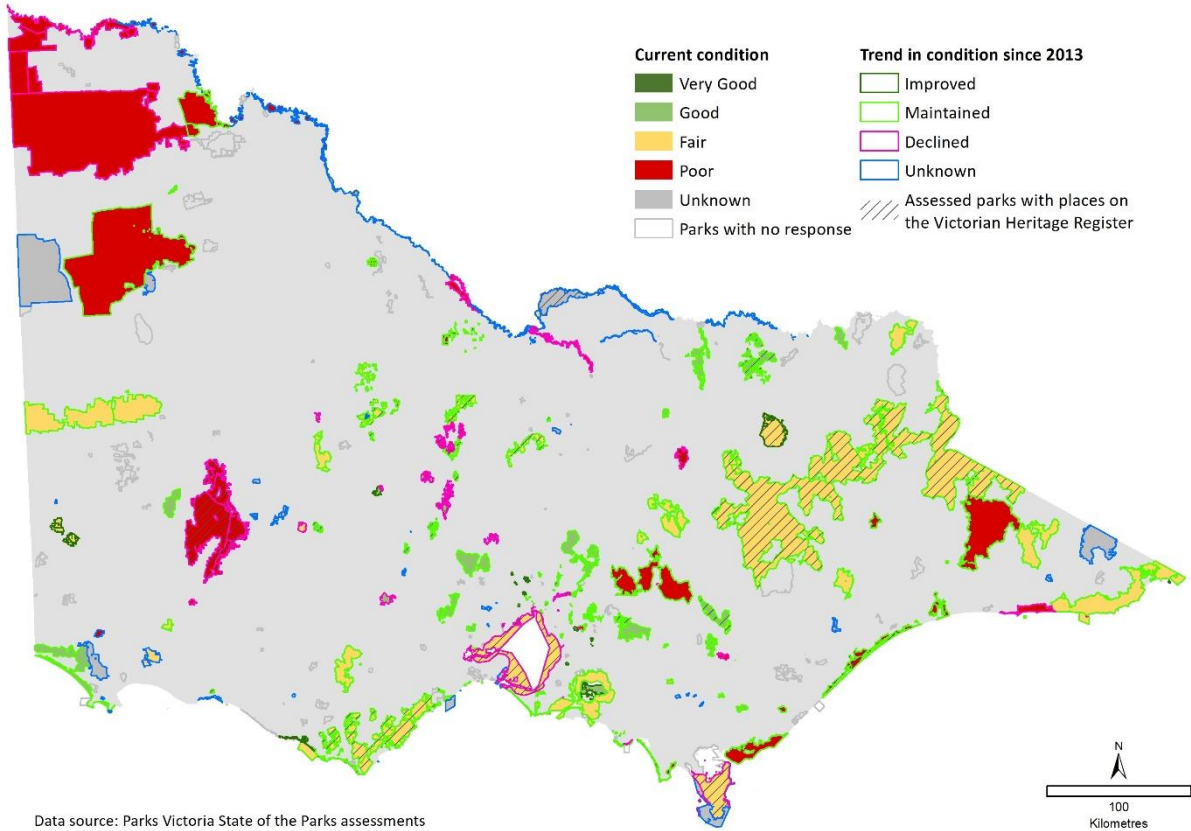
Data source: Parks Victoria State of the Parks assessments



**Calculated from parks that were assessed in both 2013 and 2018 (n = 51 parks), excluding parks where condition was unknown*

Data source: Parks Victoria State of the Parks assessments

Condition and trend in condition of historic heritage places and objects

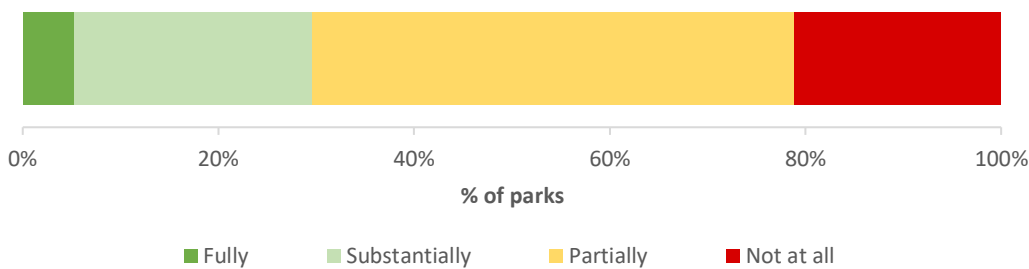


5.3.2. Extent management objectives met for conservation of historic heritage places and objects

- Park managers reported that almost 30% of relevant parks indicated that they were fully or substantially meeting objectives for the management of historic heritage places and objects. This has remained stable since 2013.
- While a similar percentage of the 55 parks with places on the Victorian Heritage Register fully or substantially met objectives, fewer parks indicated that objectives were not met at all. Although the extent to which objectives were met remained stable for most of these parks (64%), significantly more parks reported that it decreased than increased (29% compared to 8%, respectively).

The extent to which management objectives for historic heritage places and objects were met (n = 189 / 63% of parks)

Trend 2013-2018*

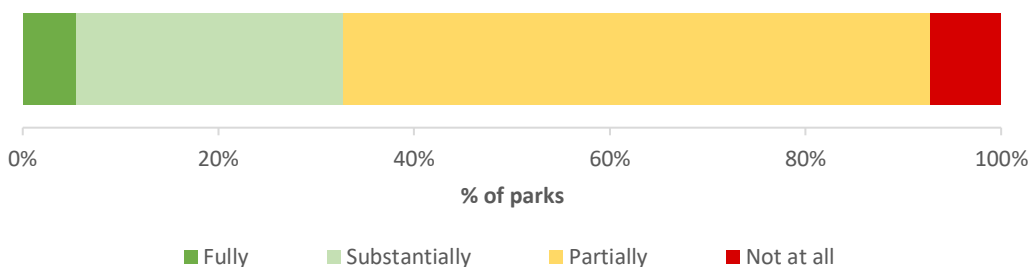


*Calculated from parks that were assessed in both 2013 and 2018 (n = 175)

Data source: Parks Victoria State of the Parks assessments

The extent to which management objectives for historic heritage place and objects were met for parks with places on the Victorian Heritage Register (n = 55 / 18% of parks)

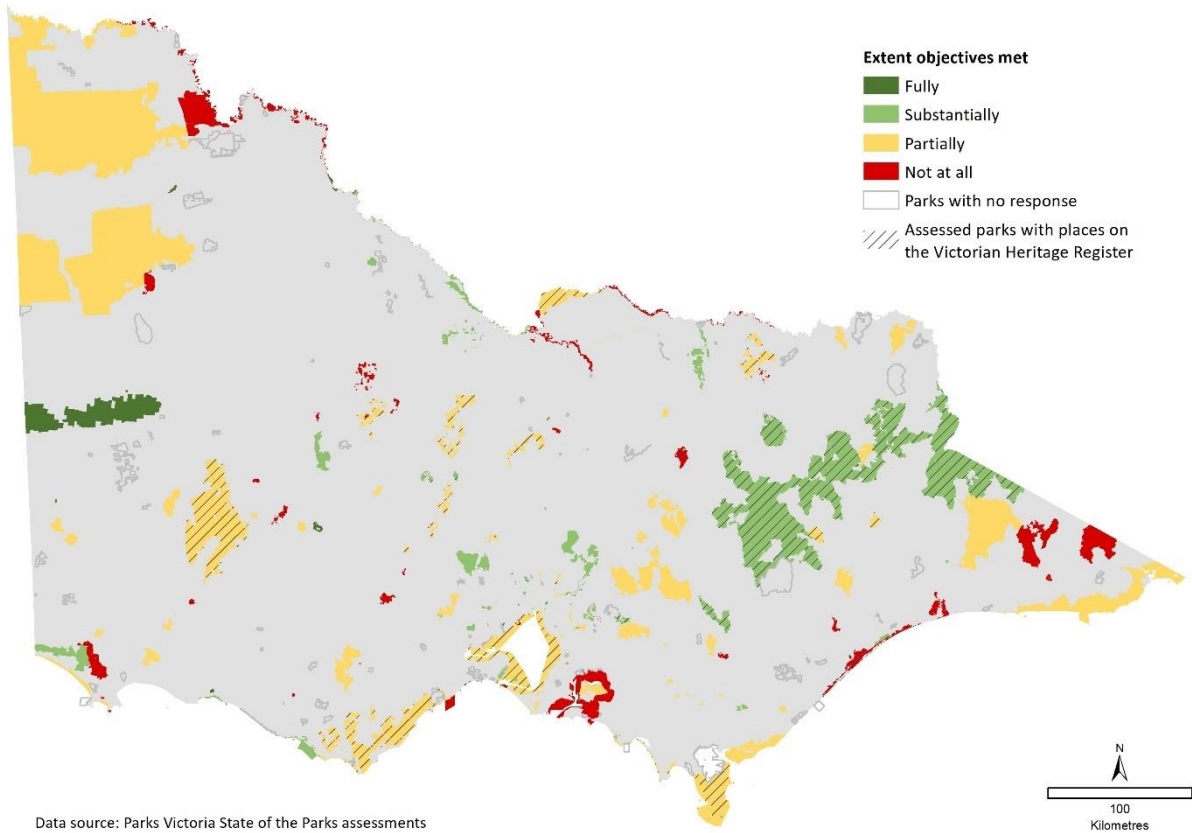
Trend 2013-2018*



*Calculated from parks that were assessed in both 2013 and 2018 (n = 52)

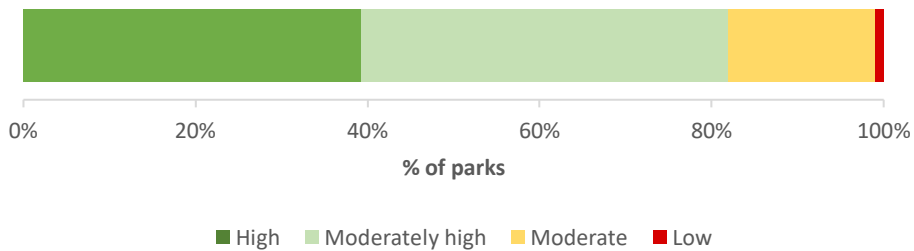
Data source: Parks Victoria State of the Parks assessments

Extent management objectives met for historic heritage places and objects



Data confidence

Confidence in park manager assessments for condition and extent objective met for historic heritage assets



Data source: Parks Victoria State of the Parks assessments

5.4. Key factors influencing management effectiveness (other than resourcing)

5.4.1. Improved management actions

- Introduction of funding through the Victorian Government's Living Heritage Grants program has seen a significant investment in conservation works to priority places.
- Launch of the Heritage Asset Management App (HAMA), which provides a tool for capturing the condition of the heritage buildings and structures managed by Parks Victoria.
- Well-managed lease arrangements assisted with the maintenance of places and objects with historic heritage value.

5.4.2. Challenges

- Declining maintenance of significant heritage places resulting in declining condition.
- Gaps in specialist heritage management skills and knowledge in regions.
- Some heritage assets present unique conservation challenges. For example, early concrete structures with specialist conservation requirements.

5.4.3. Future focus

- Implement the new *Historic Places Strategic Framework and Action Plan (2019-2022)*.
- Develop procedures to ensure we are meeting our statutory obligations around seeking approvals and undertaking essential maintenance and works.
- Continue to develop partnerships to implement heritage interpretation, events, and exhibitions at priority heritage places.
- Continue to implement the rolling heritage condition assessment program using HAMA.

6. Management for visitors and community

Parks have always been valued places of enjoyment, learning and wellbeing for visitors. Parks Victoria is committed to maintaining park assets and programs to ensure quality visitor experiences and enable diverse people to engage with parks and enjoy the community benefits of parks. Parks Victoria has been progressively implementing a revised Visitor Experience Framework (VEF) to assist prioritisation in effective park management. The VEF is a structured decision-making framework for determining what visitor experiences to provide, and where to invest across the estate. It also captures knowledge about the diversity of visitor experiences offered in Victorian parks.

Sections

- 6.1 Park visits and visitor services
- 6.2 Park assets and their condition
- 6.3 Outcomes and benefits for visitors and community
- 6.4 Community engagement and volunteerism
- 6.5 Key factors influencing management effectiveness

6.1. Park visits and visitor services

The diversity of Victoria's park network provides for an array of visitor experiences. Understanding the level of visitation as well as the motivations and demographics of the visitors themselves is essential in planning and developing appropriate visitor services and facilities across the parks network.

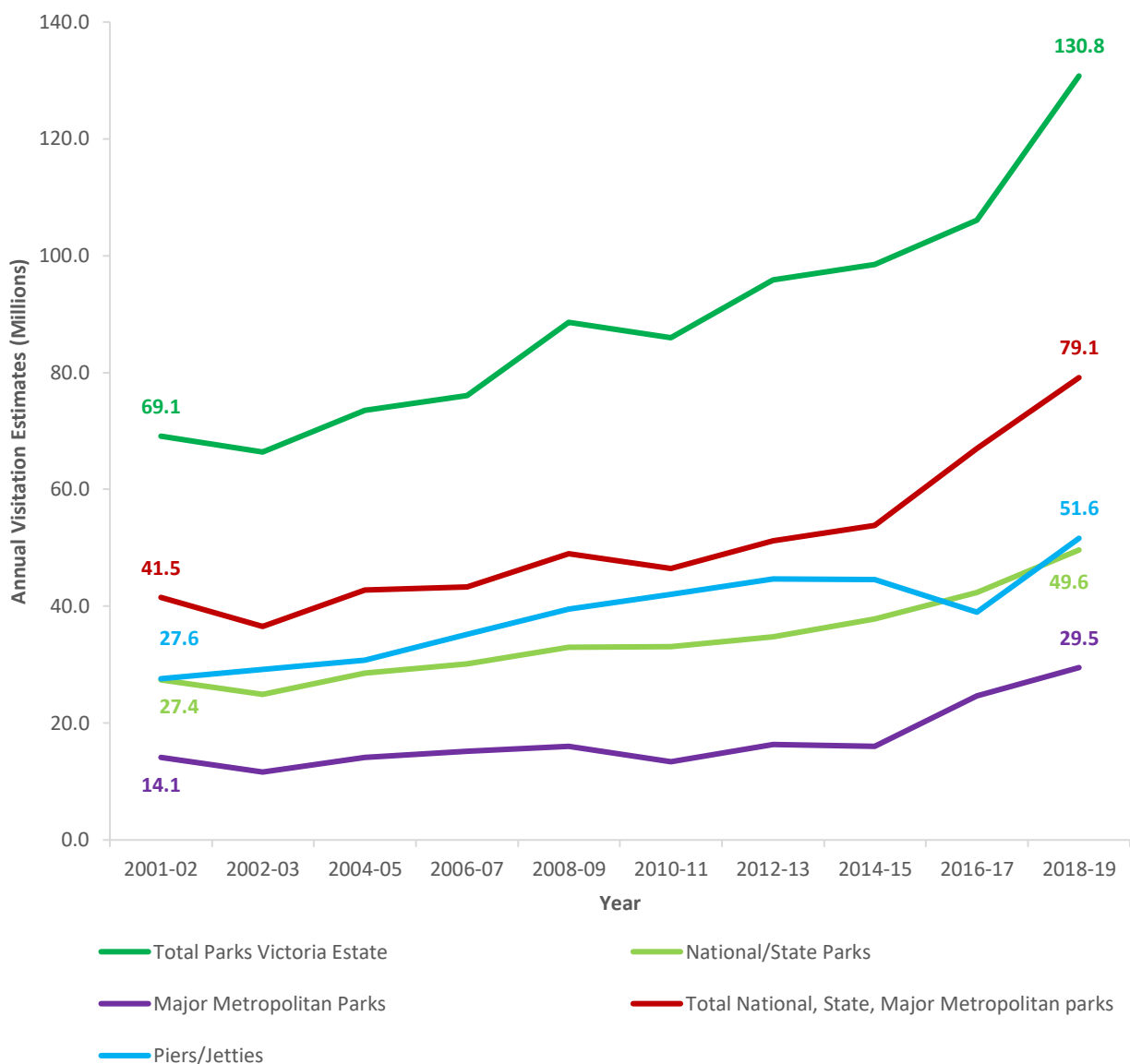
Indicators

- 6.1.1 Number of visits to parks and piers
- 6.1.2 Proportion of Victorians that have visited a park
- 6.1.3 Demographic profile of park visitors
- 6.1.4 Motivation and types of park visitors
- 6.1.5 Reason for park visit and activities undertaken
- 6.1.6 Interpretation and education services provided
- 6.1.7 Licensed Tour Operator services provided

6.1.1. Number of visits to parks and piers

- The total number of visits to parks and piers in 2018-19 was 130.8 million.
- Between 2002-03 and 2018-19 there was a steady increase in visitation to national and state parks and major metropolitan parks rising from 41.5 million visits to 79.1 million visits. There was also an overall increase of visitation to piers/jetties. In addition to land-based parks, in 2018-19 there were 80.5 million visits to bays.

Number of visitors to parks and trend in visitor numbers

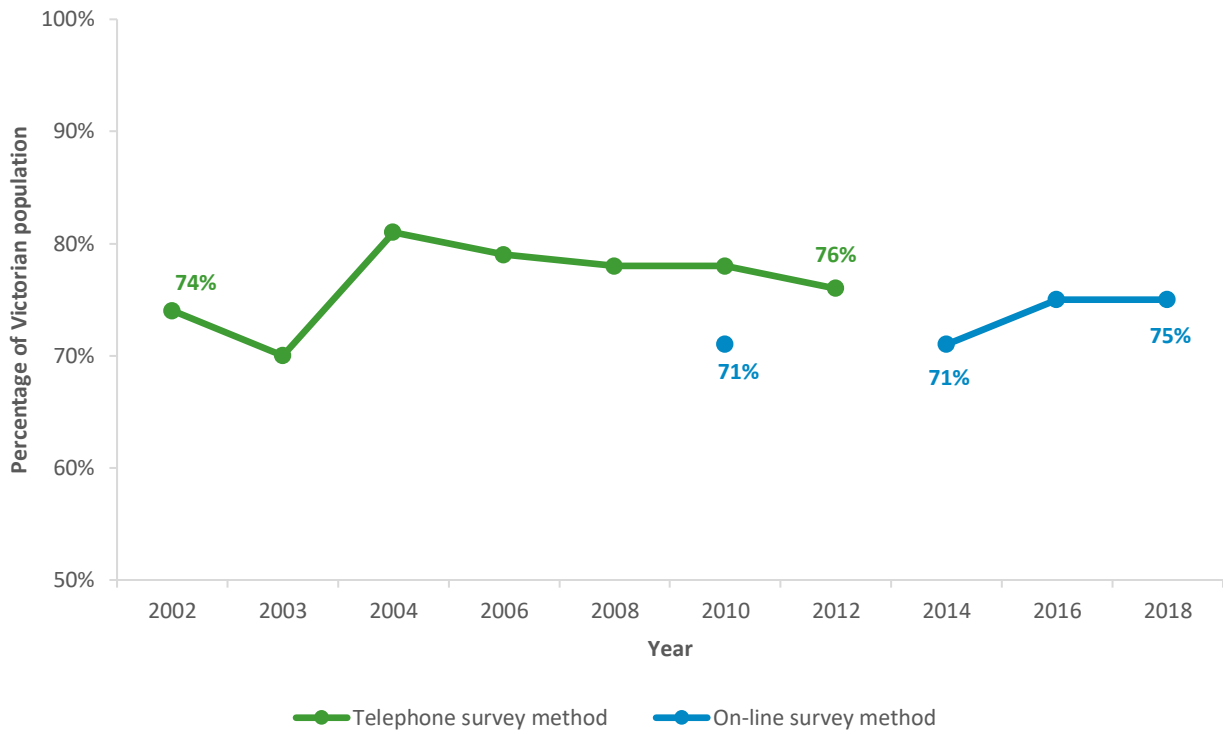


Data source: Parks Victoria Visitor Number Monitor 2018-19

6.1.2. Proportion of Victorians that have visited a park

- 75% of the Victorian population visited a park in 2018. This figure has remained relatively stable since 2002.

Percentage of Victorian population that have visited a park and trend in park visitation



Data source: Parks Victoria Community Perception Monitor 2018

6.1.3. Demographic profile of park visitors

Visitors to parks are more likely to be older, employed, university educated, have higher incomes, and be from households without children. Parks Victoria is committed to increasing park accessibility for everyone and increasing engagement for people from all walks of life, through its implementation of diversity and accessibility plans.

Demographic profile of park visitors

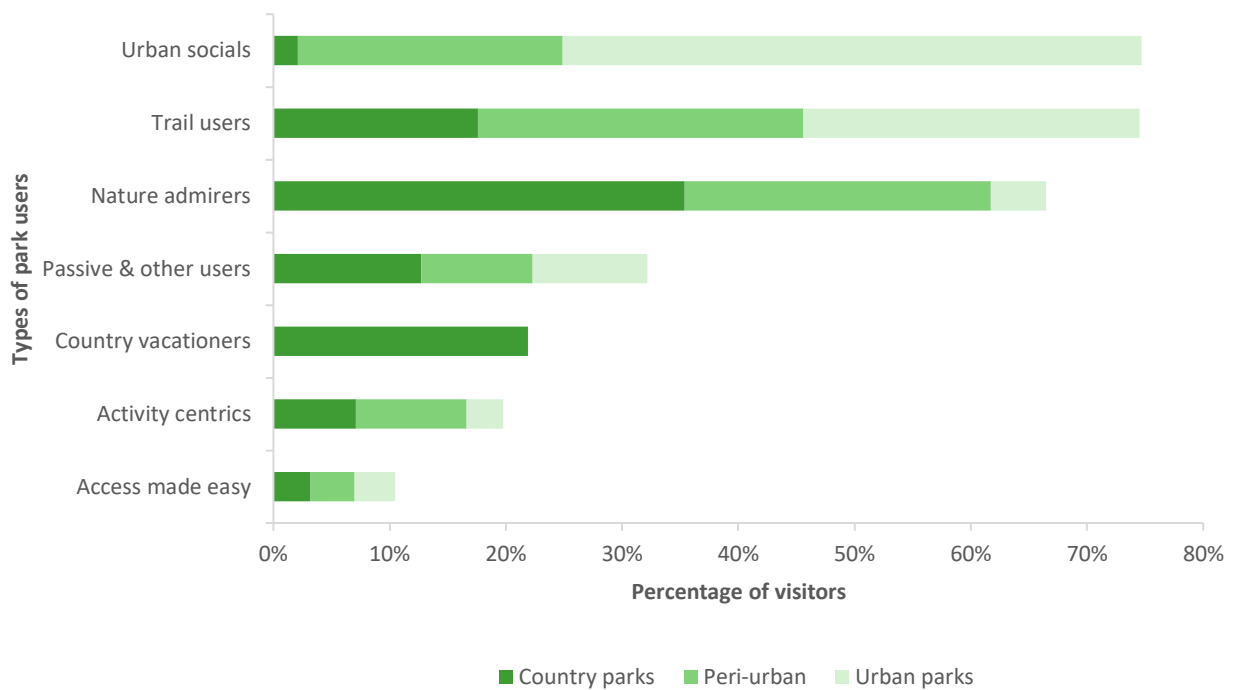
| | National and state parks | Metropolitan parks |
|-------------------------|--|--|
| Gender | Males (54%) more than females (46%) | Similar proportion males (50%) and females (50%) |
| Age | Aged 50+ years (32%) more than aged 35-49 years (30%) more than 25-34 years (23%) more than 18-24 years (15%) | Aged 50+ years (33%) more than aged 35-49 years (32%) more than 25-34 years (23%) more than 18-24 years (12%) |
| Employment | Full time workers (64%) more than employed part-time workers (15%) more than retired people (14%) more than non-workers (5%) | Full time workers (62%) more than employed part-time workers (17%) more than retired people (15%) more than non-workers (6%) |
| Household income | Households with a combined annual income greater than \$110,000 (37%) more than \$70,000 - \$109,999 (22%) more than \$30,000 - \$69,999 (17%) more than households with a combined income less than \$30,000 (5%) | Households with a combined annual income greater than \$110,000 (39%) more than \$70,000 - \$109,999 (21%) more than \$30,000 - \$69,999 (15%) more than households with a combined income less than \$30,000 (5%) |
| Education | University educated (48%) more than primary/secondary school (27%) and college/apprenticeship (23%) | University educated (56%) more than primary/secondary school (23%) and college/apprenticeship (19%) |
| Children | Households without children (58%) more than households with children (41%) | Households without children (58%) more than households with children (42%) |

Data source: Parks Victoria Visitor Number Monitor 2018-19

6.1.4. Motivation and types of park visitors

Visitor segmentation profile across parks network

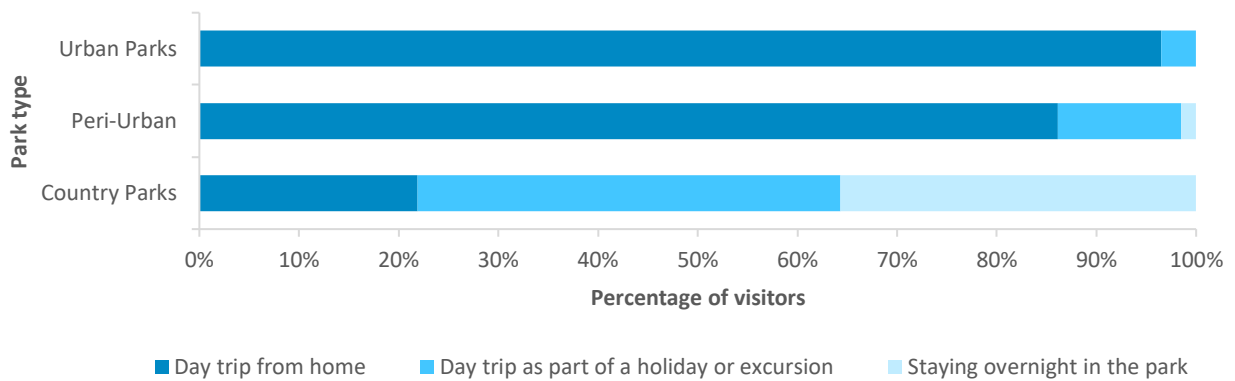
- The largest group of visitors to urban parks are “Urban socials”, peri-urban parks are most frequented by “Trail users”, while “Nature admirers” are the main type of visitor to country parks.



Data source: Parks Victoria Visitor Satisfaction Monitor 2017-18

Length of stay

- 97% of visitors to urban parks and 86% of visitors to peri-urban parks were on a day trip from home, while 42% of visitors to country parks were part of a holiday or excursion. Overnight stays were most common in country parks (36% of visitors), with only 1.5% of visitors to peri-urban parks staying overnight.

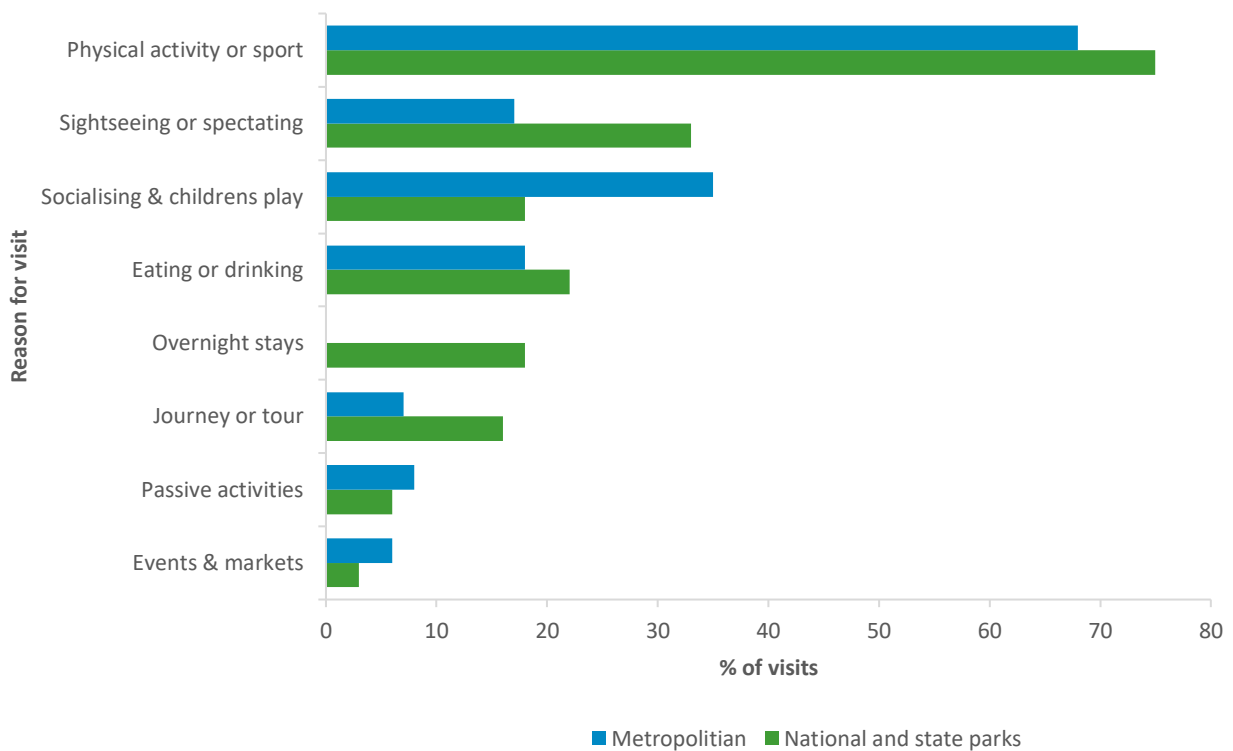


Data source: Parks Victoria Visitor Satisfaction Monitor 2017-18

6.1.5. Reason for park visit and activities undertaken

Reasons for visit to metropolitan and national/state parks as a percentage of visits

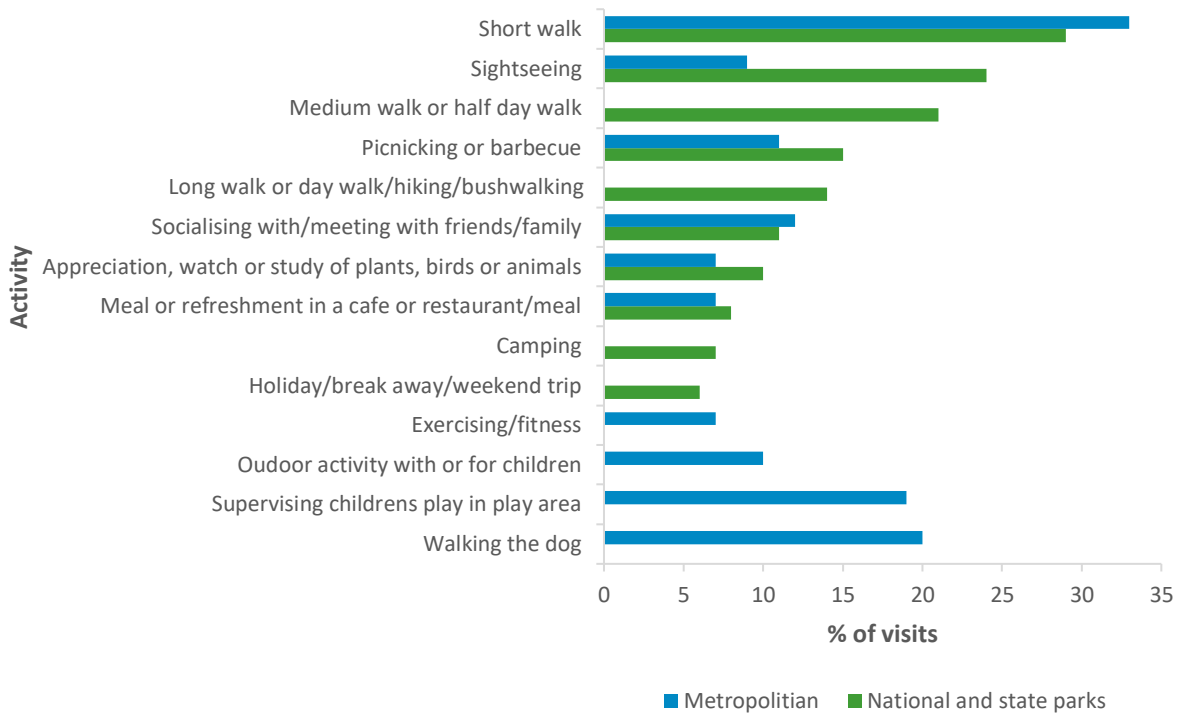
- More than half of all visits to Victoria’s metropolitan and national/state parks are for physical activity or sporting purposes.
- Since 2013, more people have visited metropolitan parks for socialising and children’s play (rising from 21% to 35%), and there has been an increase in visits to Victoria’s national/state parks for overnight stays (rising from 8% to 18%).



Data source: Parks Victoria Visitor Number Monitor 2018-19

Specific activities undertaken across parks networks as a percentage of visits

- Short walks are the most popular activity undertaken in both national/state parks and metropolitan parks.
- Sightseeing has significantly increased in popularity since 2013, rising from 14% to 24% of visits to national/state parks.



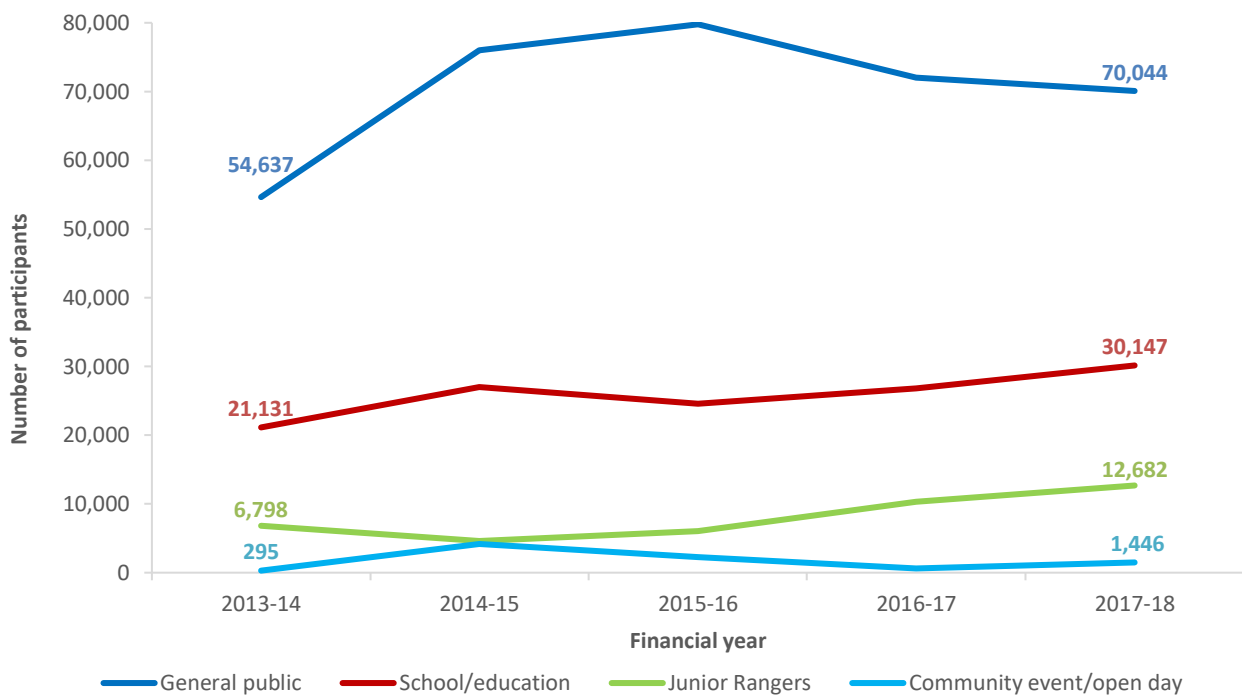
Data source: Parks Victoria Visitor Number Monitor 2018-19

6.1.6. Interpretation and education services provided

Parks Victoria provides a variety of interpretation and education services, ranging from formal, curriculum-based learning in schools to public interpretation events, junior ranger activities and community events. These services allow locals and visitors alike to improve their awareness and connection with nature. The Learning in Nature plan guides the strategic direction and priorities of Parks Victoria’s learning programs. The plan’s three program streams include education programs such as Bush Kinder and enhanced school education outreach, community programs such as Junior Rangers and a citizen science program.

Number of participants in interpretation and education programs in Victorian parks

- More than 114,000* participants were involved in interpretation and education programs in 2017-18, including 70,000 participants to general interpretation activities, more than 30,000 participants in education programs, and over 12,500 Junior Ranger participants.

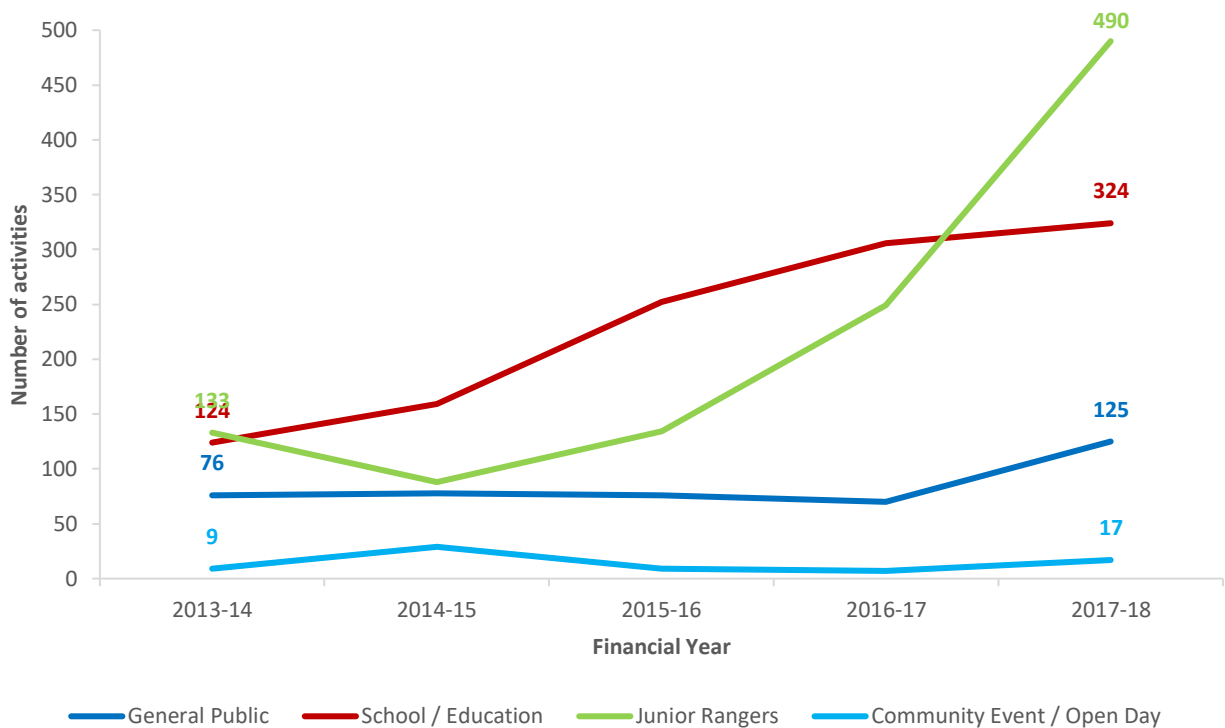


*includes 66,336 people who went on commercial tours at Buchan Caves Reserve

Data source: Parks Victoria Education and Interpretation team

Number and type of interpretation and education activities in park

- Between 2014-15 and 2017-18 there has been an increase in the number of school/education activities and Junior Rangers programs available in Victorian parks.
- The appointment of community engagement rangers contributed to the increase in the number of activities particularly for Junior Rangers, as well as General Public activities from 2016-17 to 2017-18.



Data source: Parks Victoria Education and Interpretation team

6.1.7. Licensed tour operator services provided

Licensed tour operators provide bushwalking, fishing, gold panning and fossicking, native wildlife viewing, vehicle touring, whale watching, guided nature tours and Aboriginal cultural heritage interpretation. These activities are conducted across many environments from remote national parks to metropolitan parks close to Melbourne.

In 2017-18 there were 496 licensed tour operators, who generated over 472,000 visits. This is a 33% increase in licensed tour operators and a 109% increase in generated visits compared to 2013 data.

Number of licensed tour operators and visits they generated in 2017-18

| Licensed tour operator services | 2017-18 |
|--|---------|
| Licensed tour operators | 496 |
| Number of licensed tour operators-generated visits | 472,760 |

Data source: Parks Victoria ParkConnect

6.2. Park assets and their condition

Park assets allow visitors to access and enjoy parks, and ensure park management and emergency staff and vehicles have access across the parks network. These assets are monitored throughout the year and regular maintenance is undertaken to ensure their safety and functionality. Park management aims to maximise the proportion of assets that are in excellent to average condition, through Parks Victoria's Asset Management Strategy.

Indicators

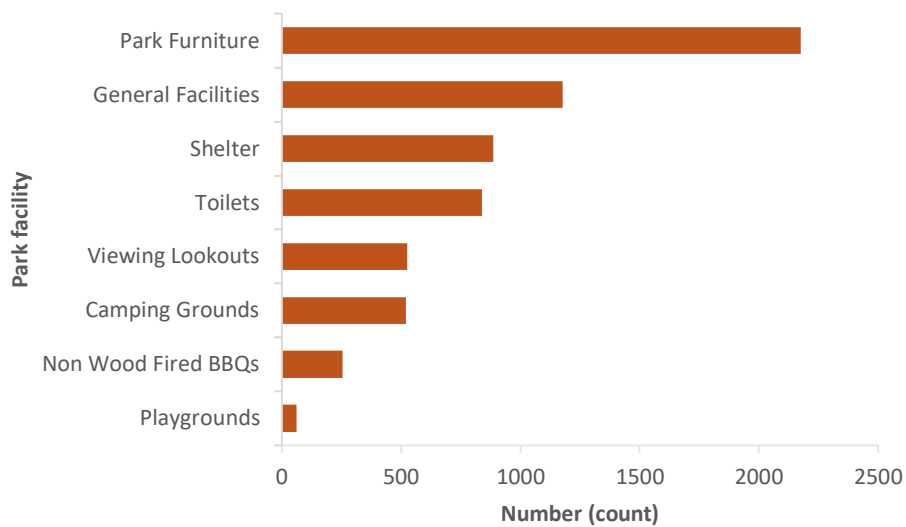
6.2.1 Diversity of park assets

6.2.2 Condition of park assets

6.2.1. Diversity of park assets

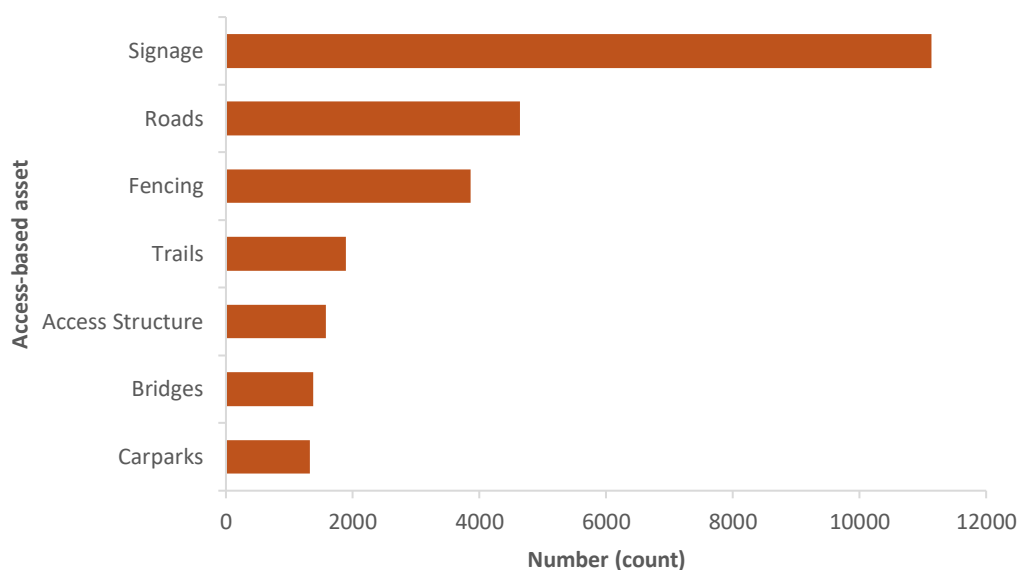
There are over 38,600 assets managed across the Victorian parks network, up from 28,000 assets in 2013. These includes trails, accommodation, carparks, sporting facilities, utilities and visitor facilities such as park furniture, toilets, lookouts, camping grounds, BBQs and playgrounds. Current ownership of assets across the parks estate is being reviewed in line with changes to the *Parks Victoria Act 2018*.

Number of park facility assets managed across the parks network



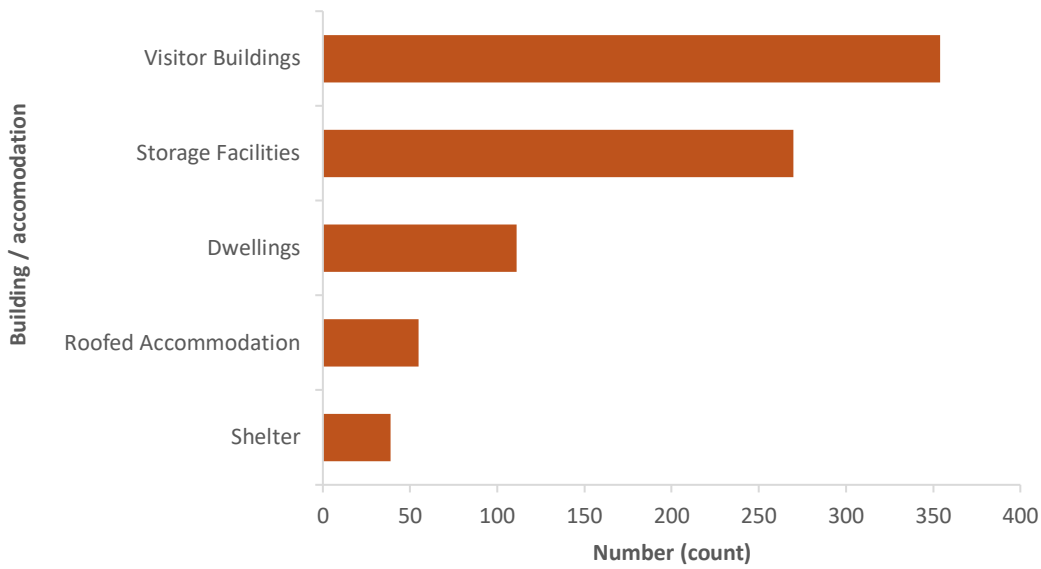
Data source: Parks Victoria Asset Information System

Number of access-based assets managed across the parks network



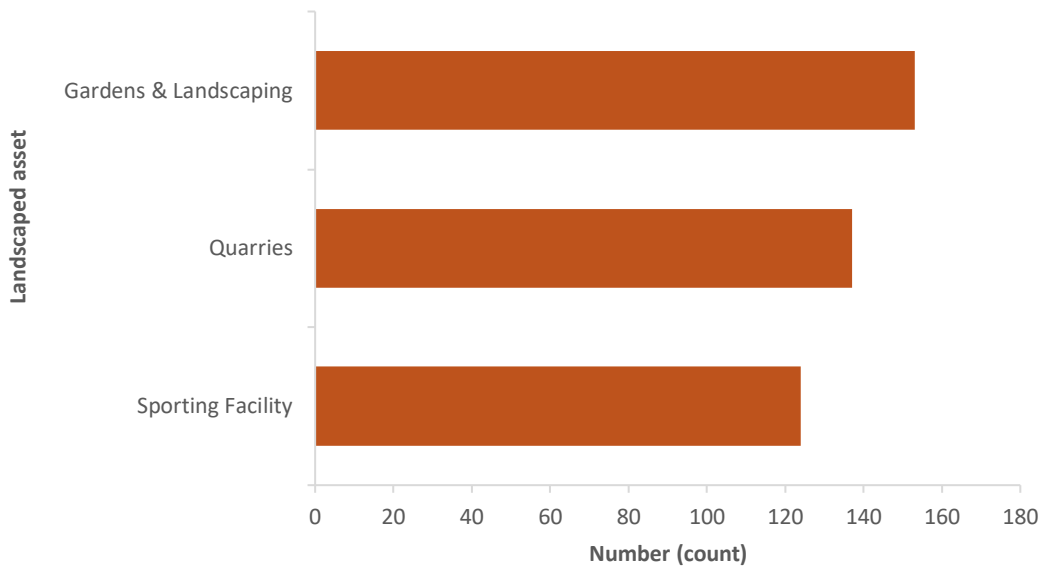
Data source: Parks Victoria Asset Information System

Number of building and accommodation assets managed across the parks network



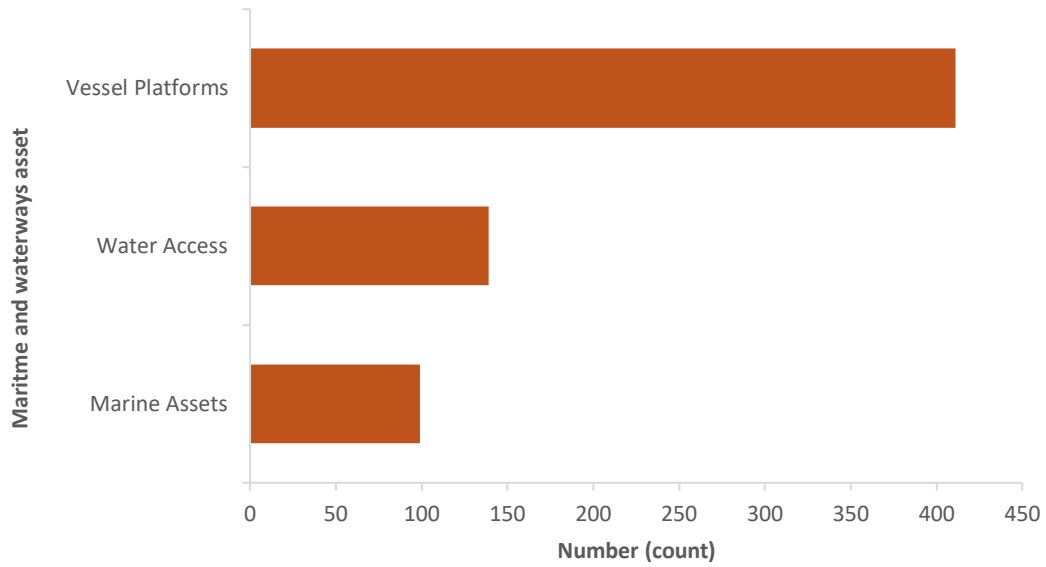
Data source: Parks Victoria Asset Information System

Number of landscaped assets managed across the parks network



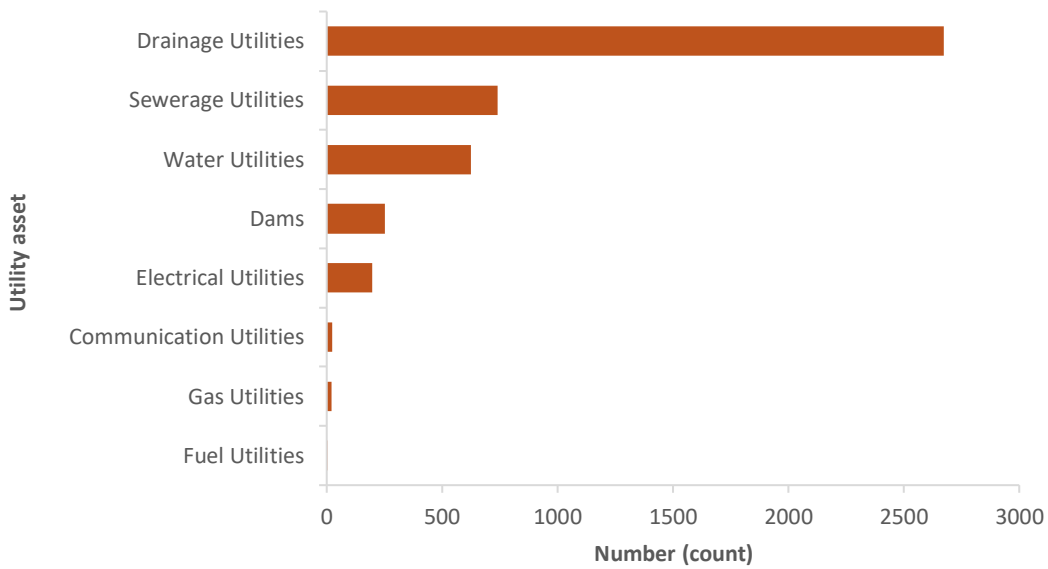
Data source: Parks Victoria Asset Information System

Number of maritime and waterway assets managed across the parks network



Data source: Parks Victoria Asset Information System

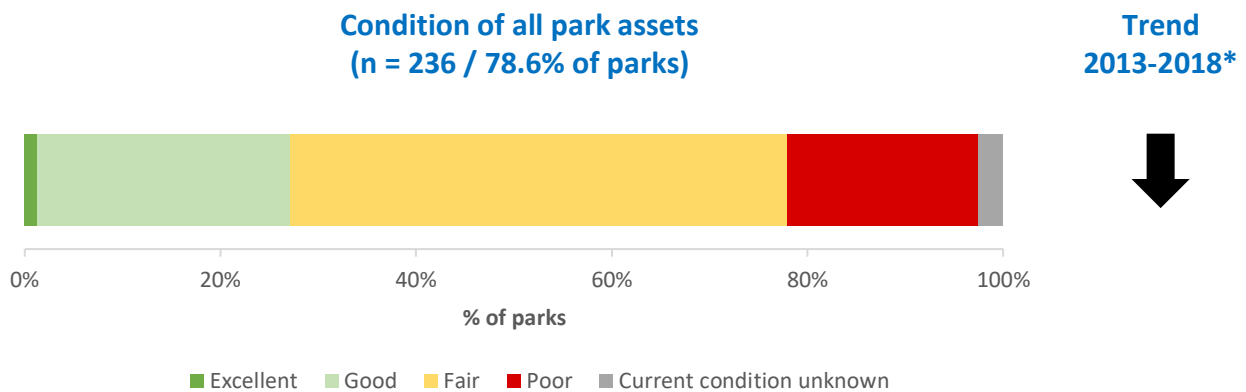
Number of utility assets managed across the parks network



Data source: Parks Victoria Asset Information System

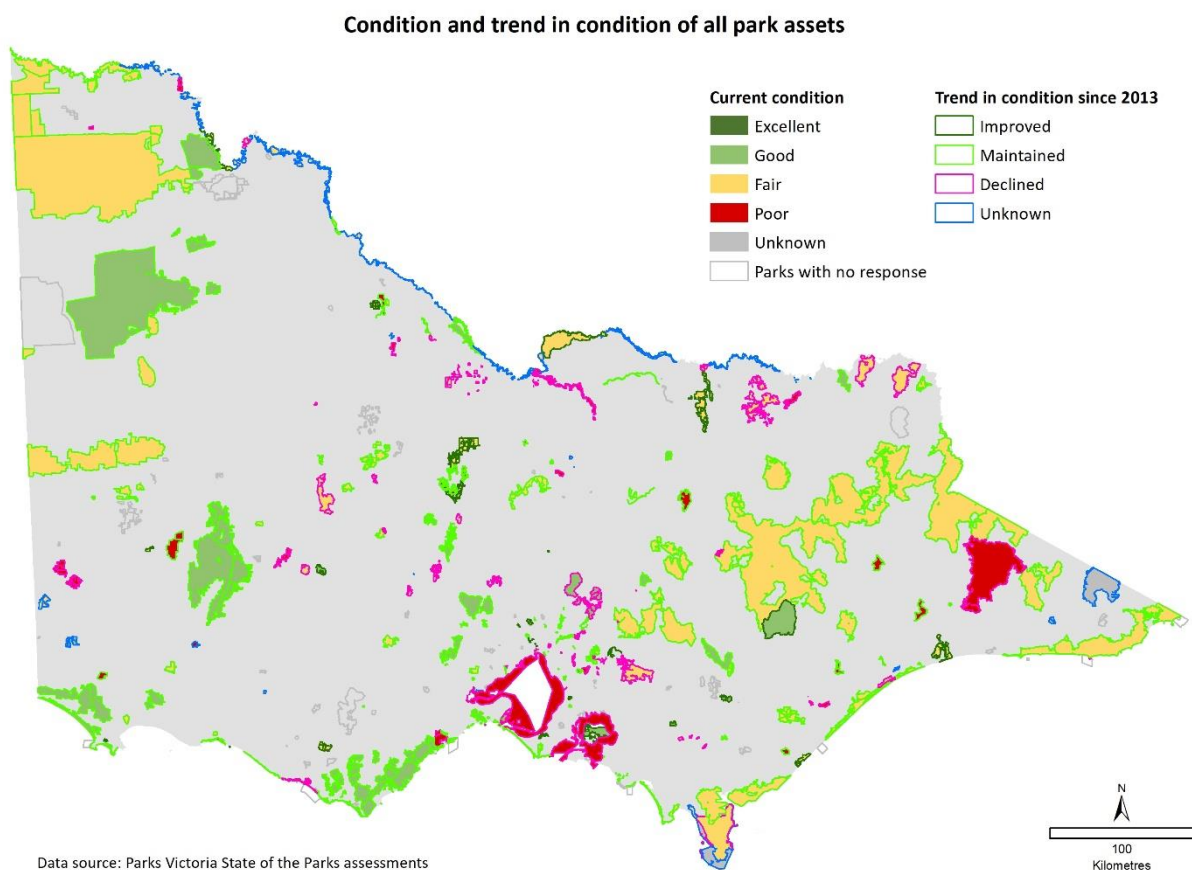
6.2.2. Condition of park assets

- Park managers reported that asset condition (considering all assets within a park) was excellent or good in 27% of relevant parks, fair (serviceable) in 50% of relevant parks and poor in less than 20% of relevant parks. Although 60% of relevant parks reported that the condition of assets was unchanged since 2013, significantly more parks reported that it declined (28% of relevant parks) than improved (12% of relevant parks).



*Calculated from parks that were assessed in both 2013 and 2018 (n = 216), excluding parks where condition was unknown

Data source: Parks Victoria State of the Parks assessments

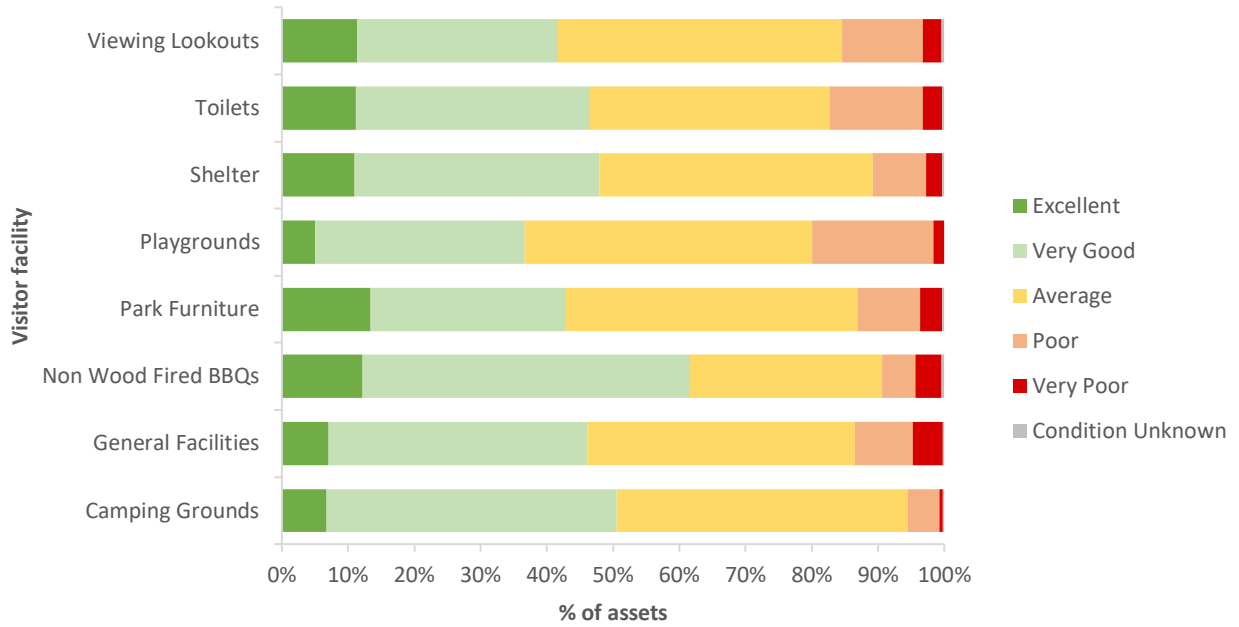


Data source: Parks Victoria State of the Parks assessments

Condition of specific asset classes

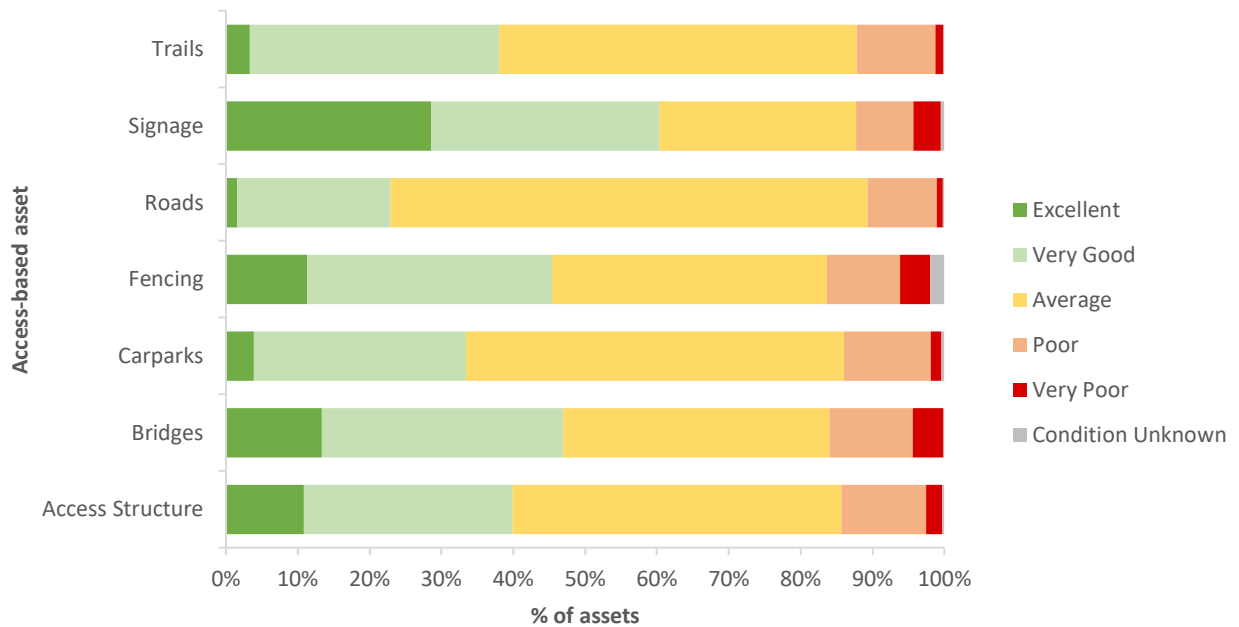
- Based on asset condition assessments for specific asset classes (considering individual assets within a park),
 - between 80% and 95% of park facilities are in average or better condition.
 - At least 84% of access-based assets are in average or better condition.
 - Between 76% and 95% of building and accommodation assets are in average or higher condition.
 - At least 86% of all landscaped assets are in excellent, very good or average condition.
 - Nearly 30% of vessel platforms are in poor or very poor condition, whereas 26% of marine assets are in excellent condition.
 - Between 52% and 92% of most utilities such as communication, gas and drainage are in excellent, very good or average condition.

Condition of visitor assets



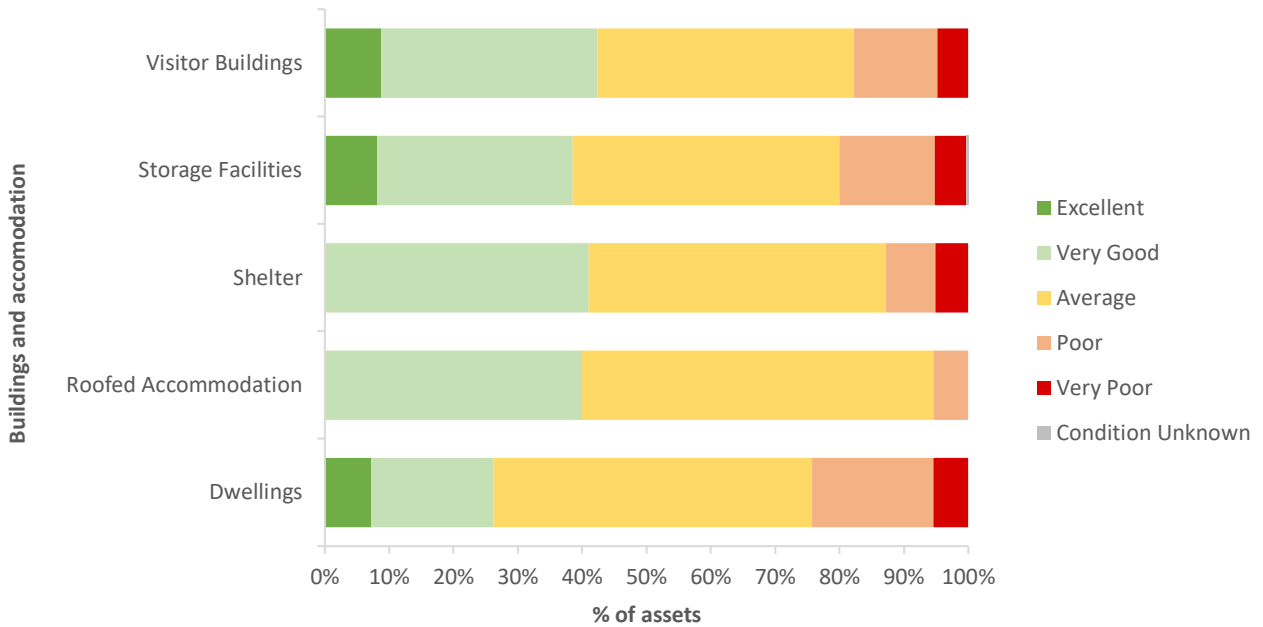
Data source: Parks Victoria Asset Information System

Condition of access-based assets



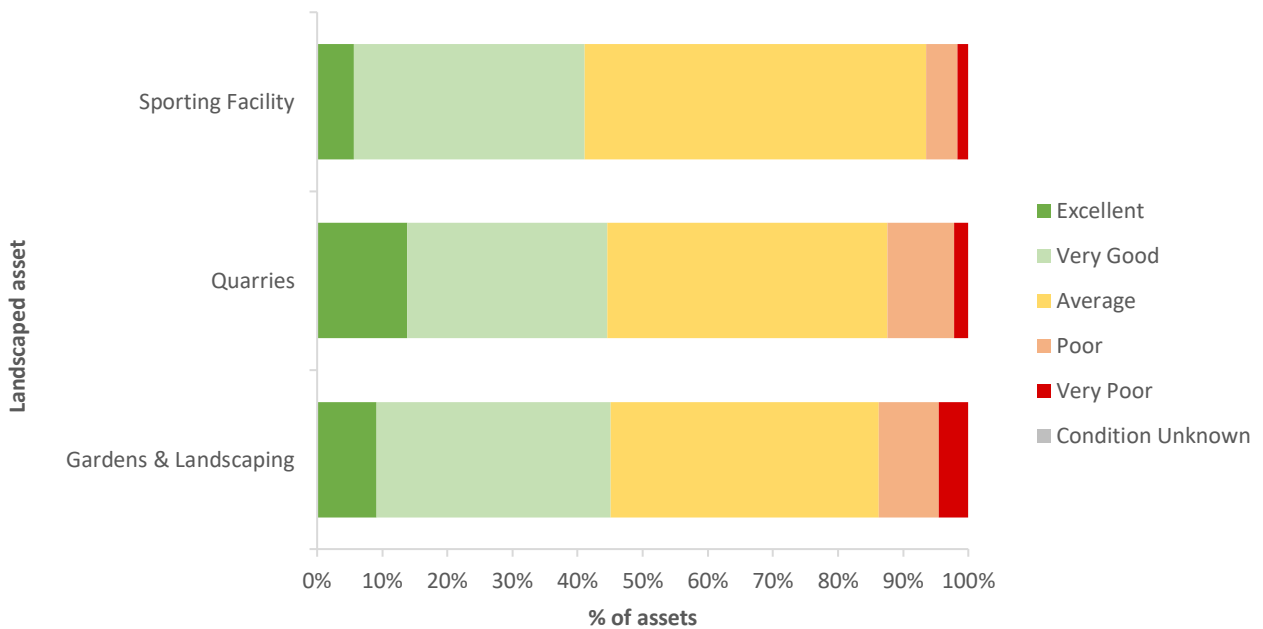
Data source: Parks Victoria Asset Information System

Condition of building and accommodation assets



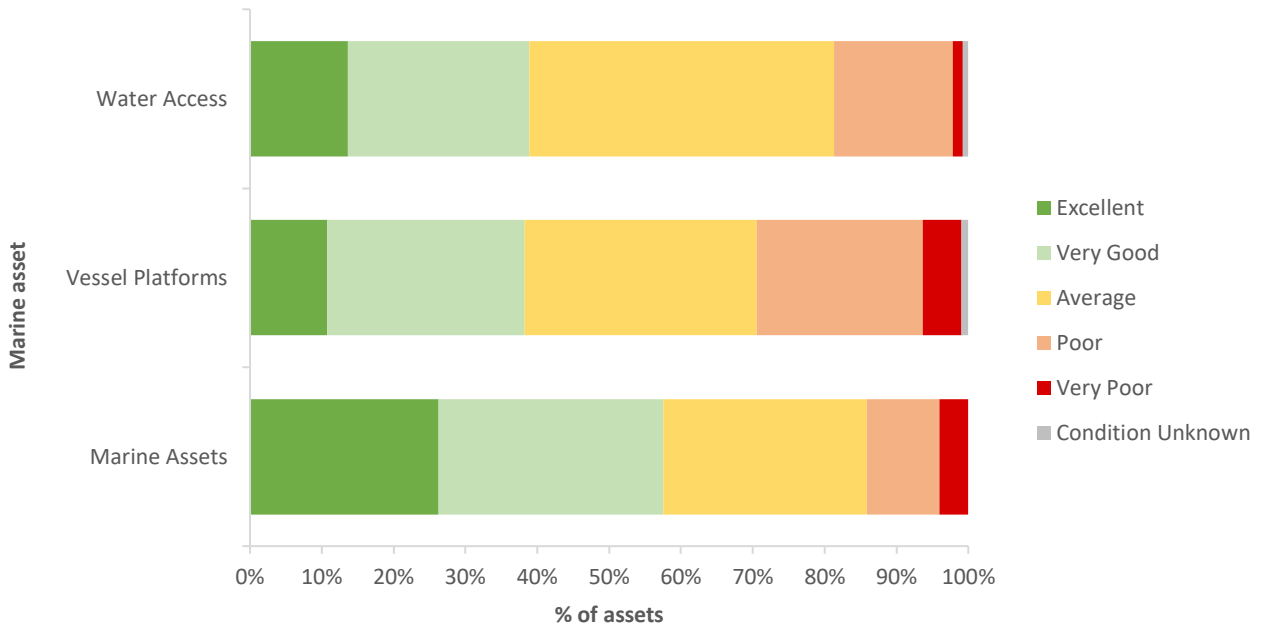
Data source: Parks Victoria Asset Information System

Condition of landscaped assets



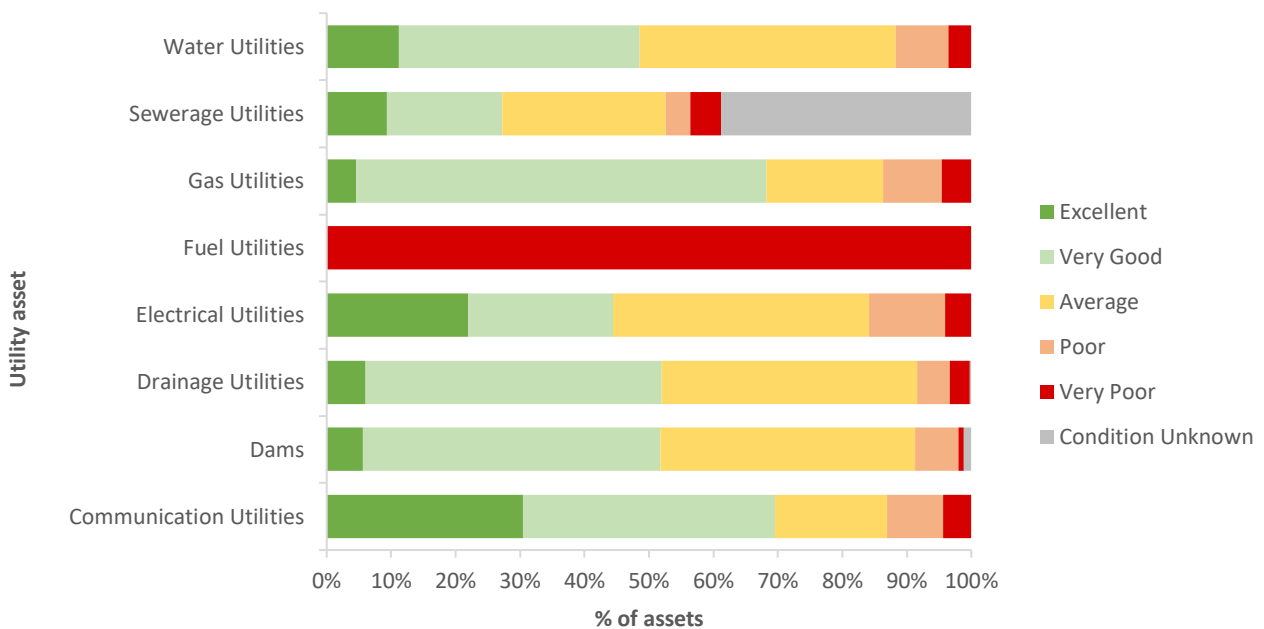
Data source: Parks Victoria Asset Information System

Condition of maritime and waterway assets



Data source: Parks Victoria Asset Information System

Condition of utility assets*

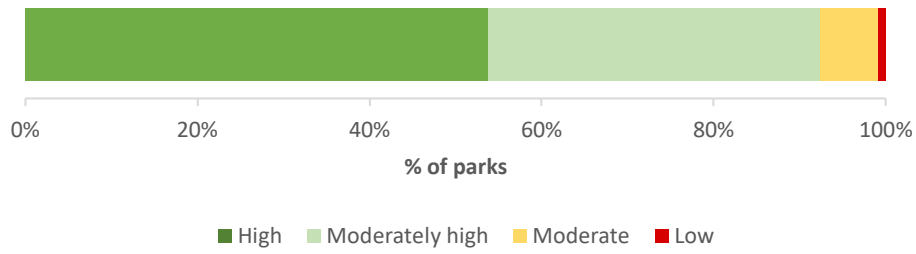


*Current ownership is being reviewed with changes to the *Parks Victoria Act 2018*

Data source: Parks Victoria Asset Information System

Data confidence

Confidence in park manager assessments for condition of park assets



Data source: Parks Victoria State of the Parks assessments

6.3. Outcomes and benefits for visitors and community

Parks Victoria aims to ensure quality visitor experiences across the parks network by providing various opportunities, connecting people with nature and enabling beneficial individual and community outcomes from parks. Parks Victoria regularly conducts visitor surveys to measure visitor and community satisfaction.

Park Victoria has implemented a Visitor Experience Framework for determining what visitor experiences to provide within parks and where to invest across the parks network. It provides a structured and objective approach to ensure that experiences offered are targeted to visitor needs and delivered in a safe and sustainable manner.

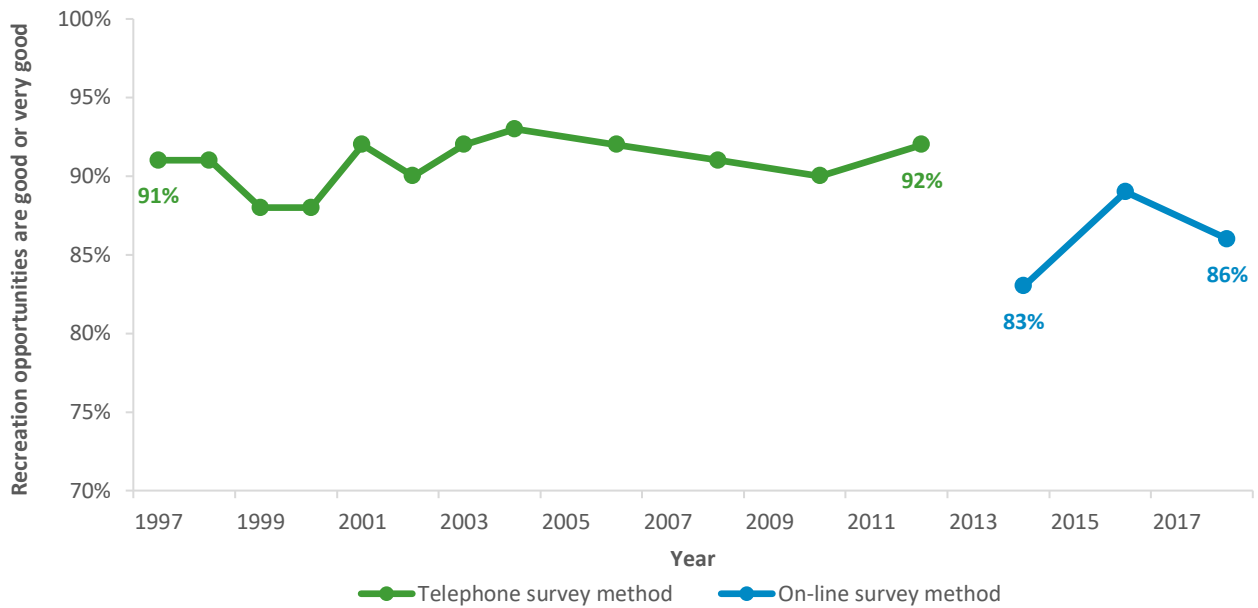
Indicators

- 6.3.1 Adequacy of visitor opportunities
- 6.3.2 Threats to quality visitor experiences
- 6.3.3 Extent visitor management objectives met
- 6.3.4 Park visitor satisfaction
- 6.3.5 Community satisfaction with park management
- 6.3.6 Community benefits of parks

6.3.1. Adequacy of visitor opportunities

Percentage of community rating the adequacy of recreation opportunities as very good or good

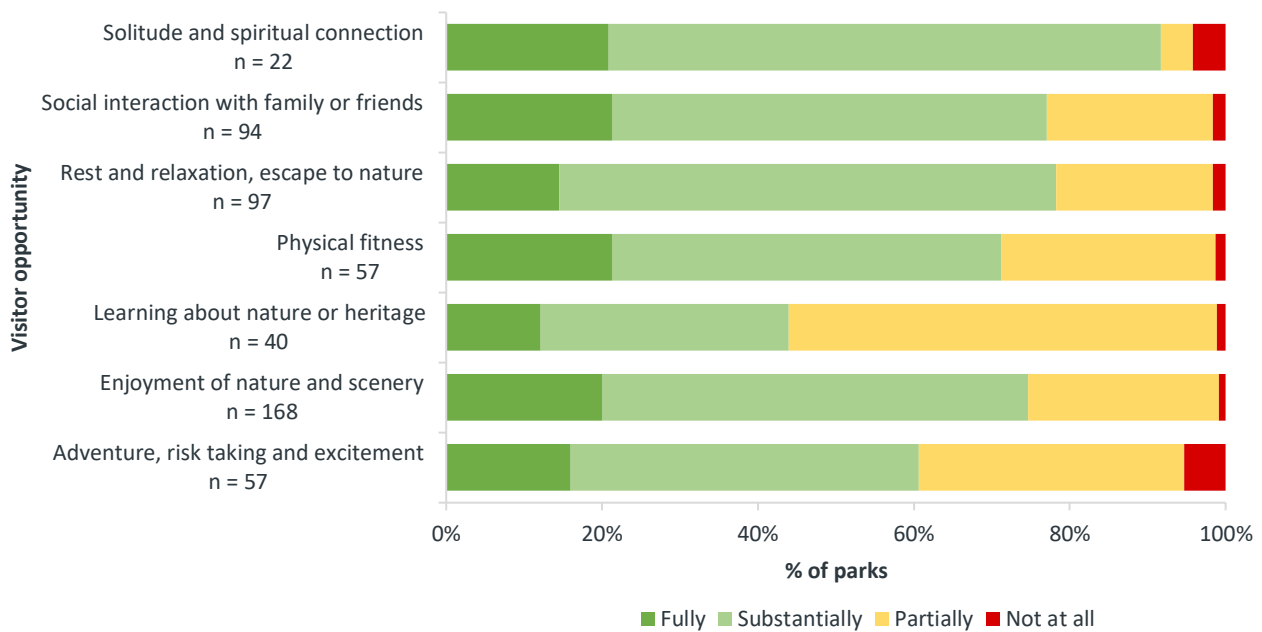
- Based on community surveys, 86% of the community rate the adequacy of visitor recreation opportunities as very good or good. This has remained relatively constant in the past two decades, with approval ratings consistently above 80%.



Data source: Parks Victoria Community Perception Monitor 2018

Extent to which visitor needs are provided for

- Based on park manager assessments, the majority of relevant parks (more than 60%) provided adequate visitor opportunities across the variety of recreation experiences except for learning about nature or heritage, where 44% of relevant parks fully or substantially provided for visitor needs.

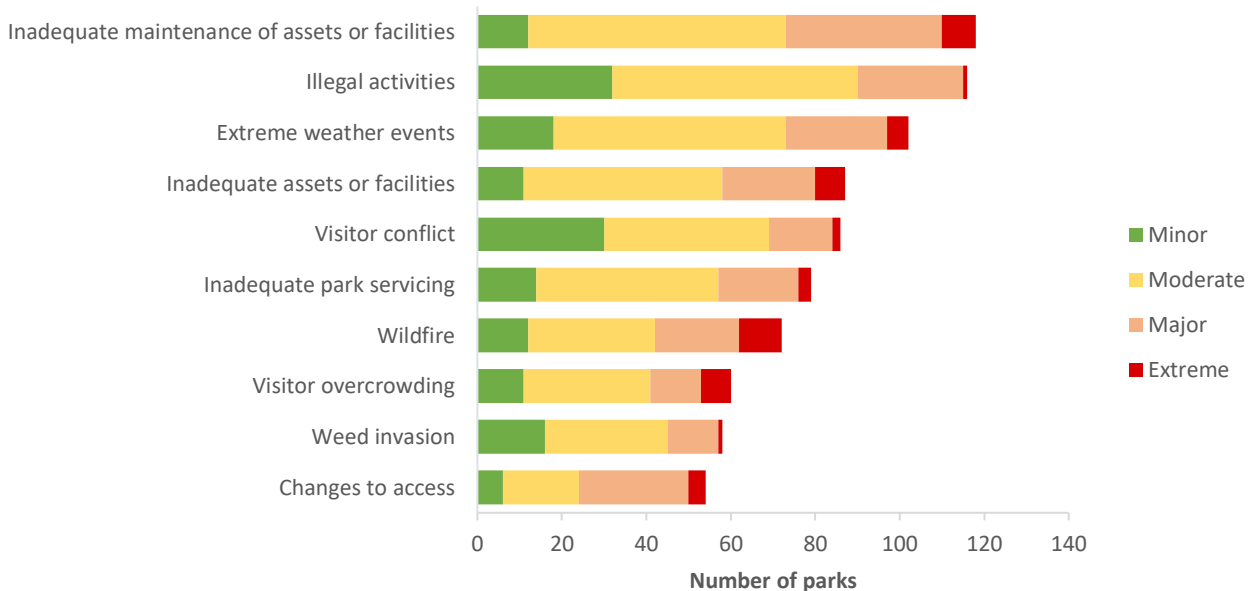


Data source: Parks Victoria State of the Parks assessments

6.3.2. Threats to visitor experiences

- Threats to visitor experiences range from external/climate-driven factors (e.g. extreme weather events) and visitor overcrowding to management-based issues (e.g. inadequate park servicing).
- Park managers reported that threats impacted on visitor experiences in 217 parks (72% of the 300 assessed parks).
- Inadequate maintenance of assets or facilities was reported as being of extreme or major consequence to visitor experience values in 16% of relevant parks while changes to access, inadequate assets or facilities and wildfire were reported as being of extreme or major consequence in approximately 10% of parks.

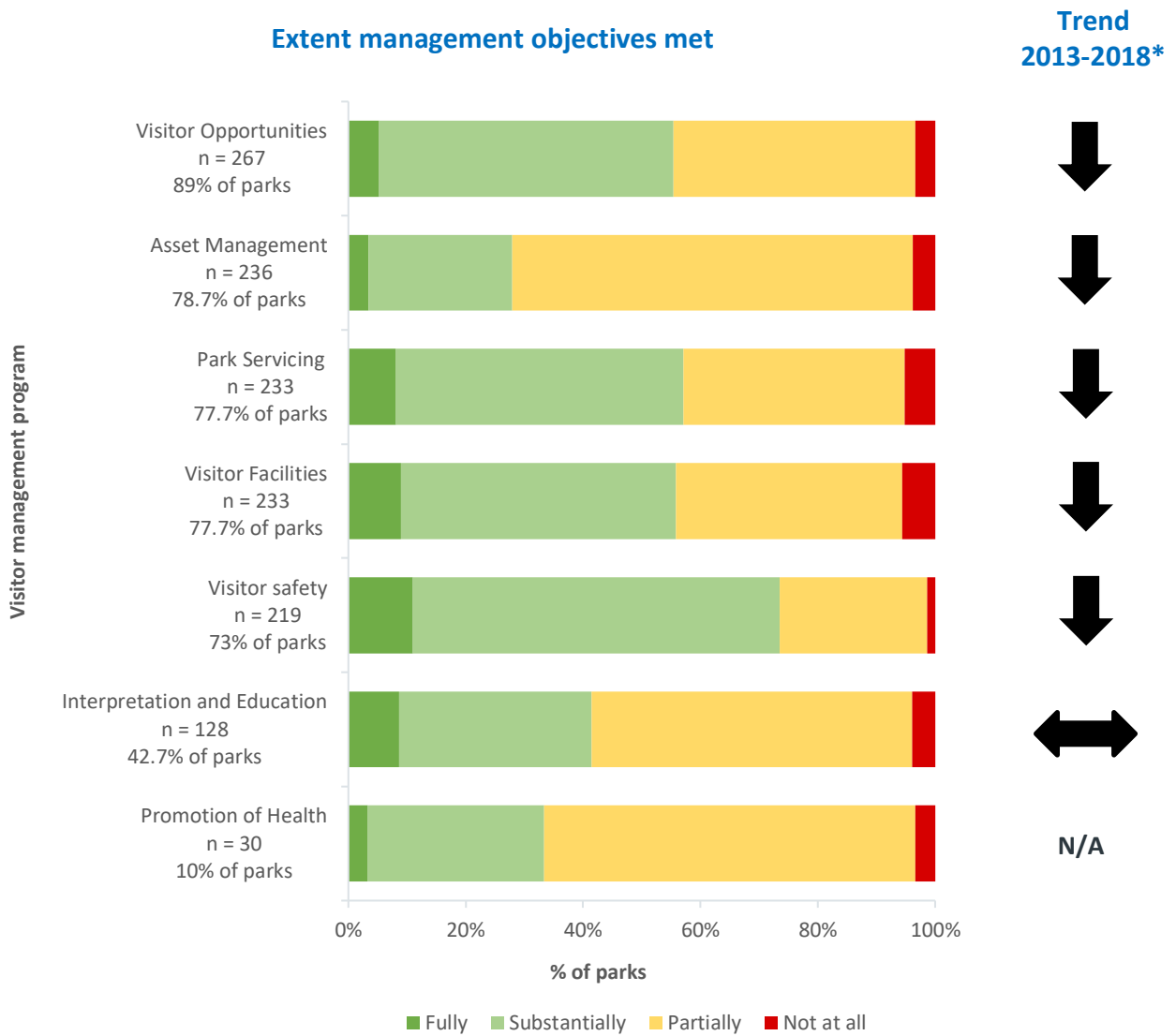
Severity of top 10 threats to visitor experience across parks network



Data source: Parks Victoria State of the Park assessments

6.3.3. Extent visitor management objectives met

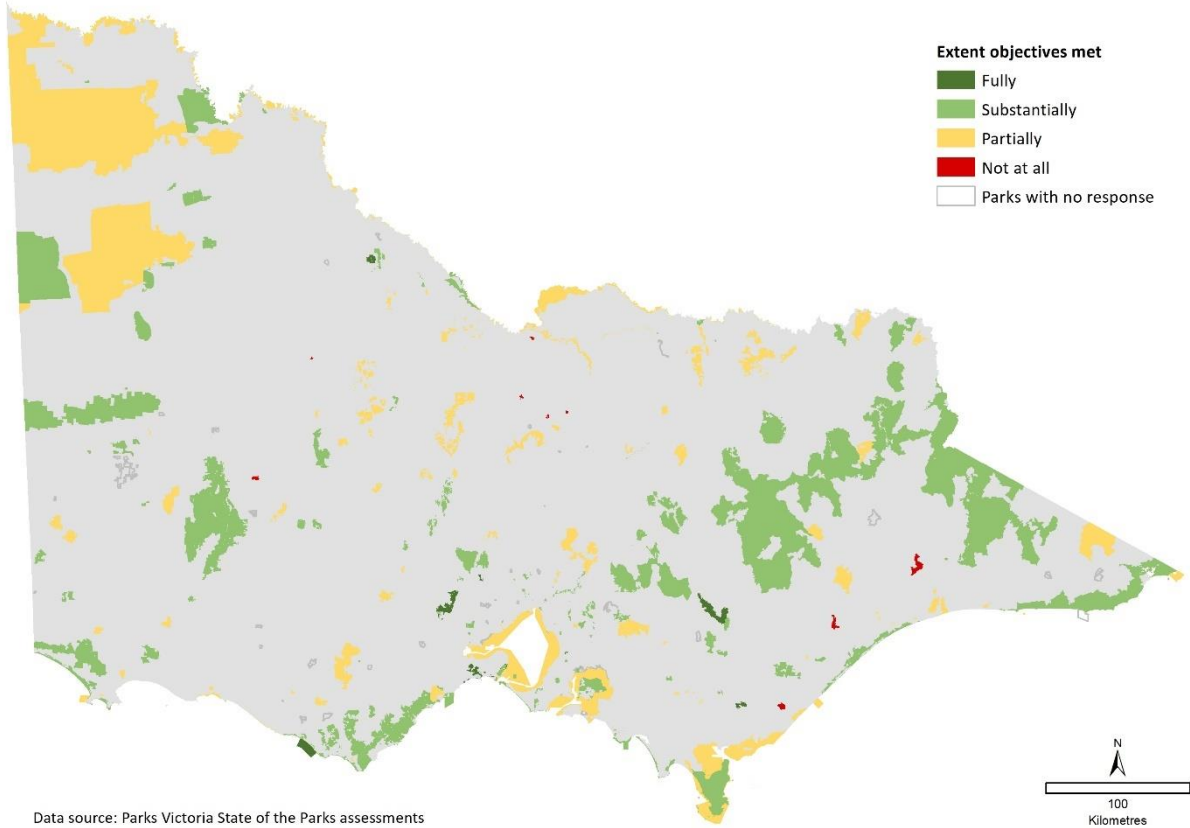
- Across the range of visitor management programs, park managers reported that management objectives were fully or substantially met in 50 – 70% of all relevant parks for provision of visitor opportunities, parks servicing, visitor facilities and visitor safety while less than 45% of relevant parks fully or substantially met objectives for asset management, interpretation and education and the promotion of heath programs.
- The extent to which relevant parks met objectives for visitor opportunities, asset management, park servicing, visitor facilities and visitor safety has declined since 2013. Although the trend was stable for between 65% and 74% of relevant parks across these programs, significantly more parks reported that it had declined (between 20% and 27% of relevant parks) than improved (between 6% and 10%). The majority of this decrease is in parks moving from substantially meeting objectives in 2013, to only partially meeting objectives in 2018.
- The extent to which relevant parks met objectives for interpretation and education has remained stable since 2013.



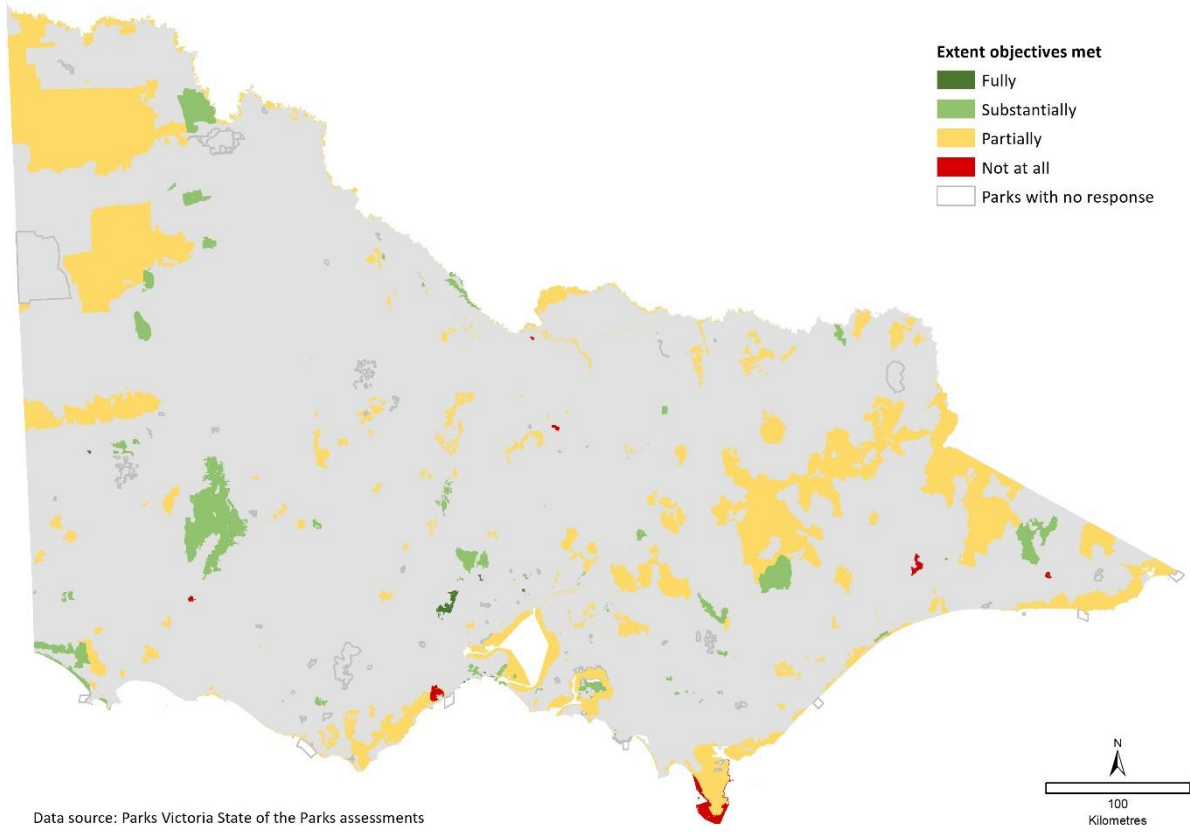
**Calculated from parks that were assessed in both 2013 and 2018 (Visitor opportunities, n = 255; Asset management, n = 222; Park servicing, n = 225; Visitor facilities, n = 225; Visitor safety, n = 208; Interpretation and education, n = 108). Promotion of health is a new question for the 2018 State of the Parks assessment.*

Data source: Parks Victoria State of the Parks assessments

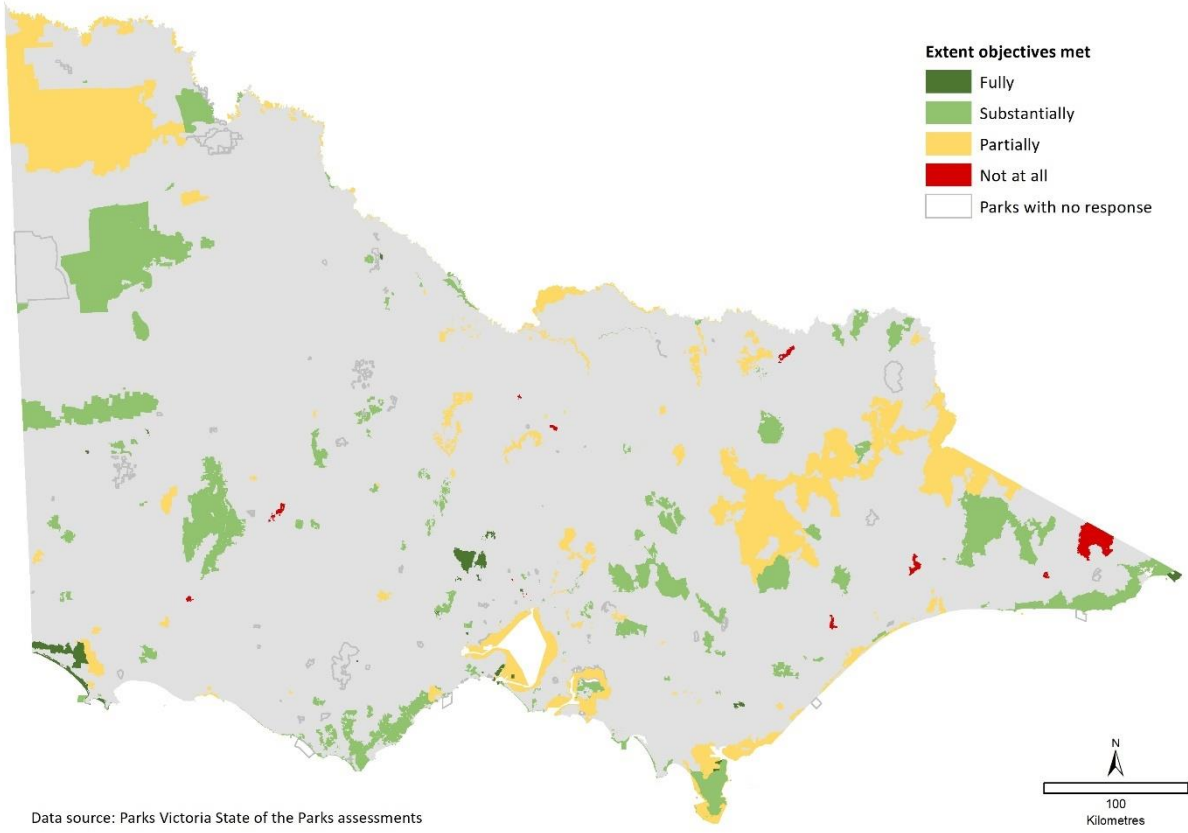
Extent management objectives met for the provision of visitor opportunities



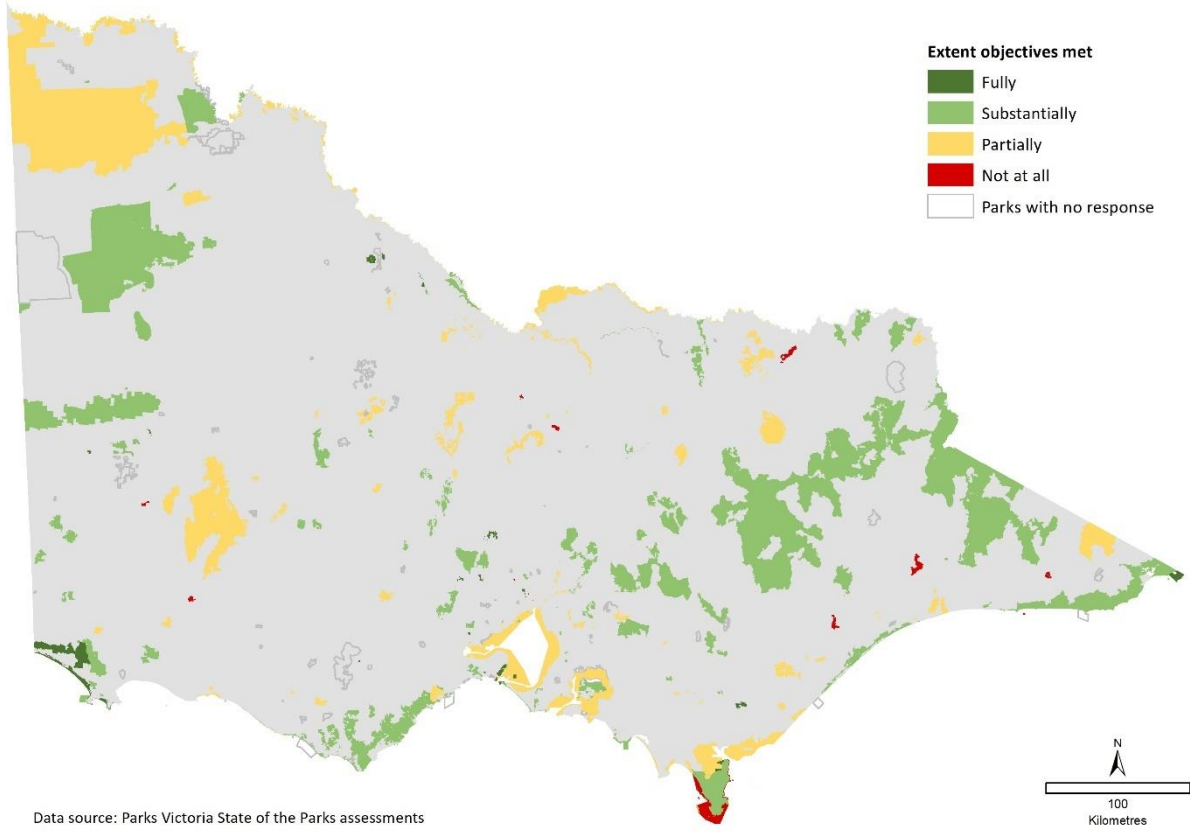
Extent objectives met for the management of visitor assets



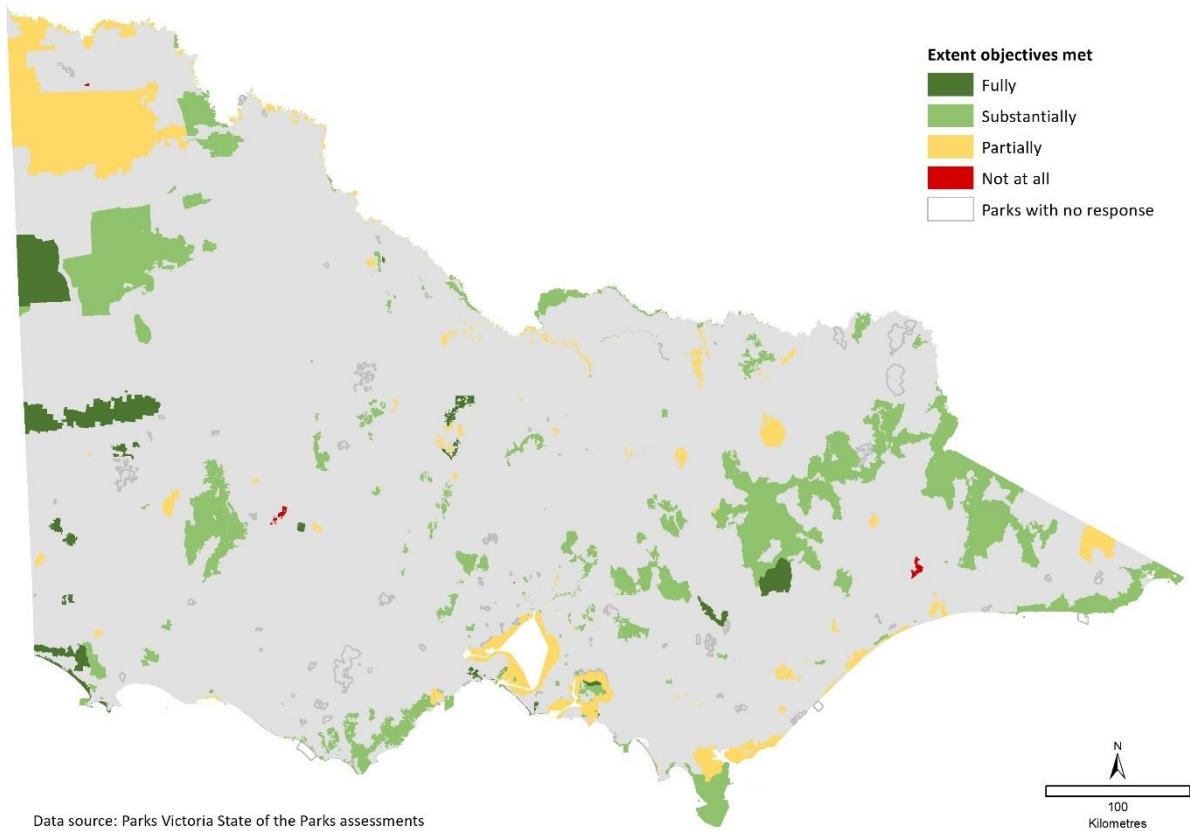
Extent management objectives met for park servicing



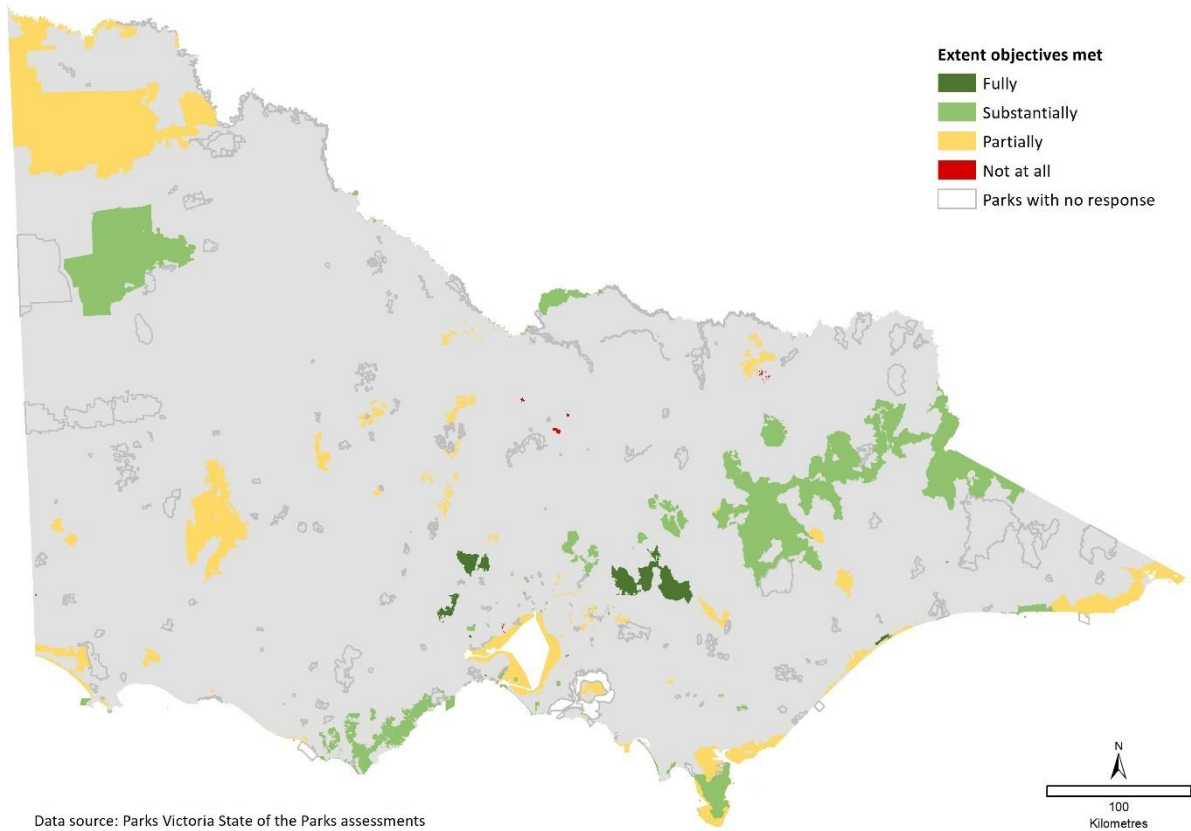
Extent objectives met for the management of visitor facilities



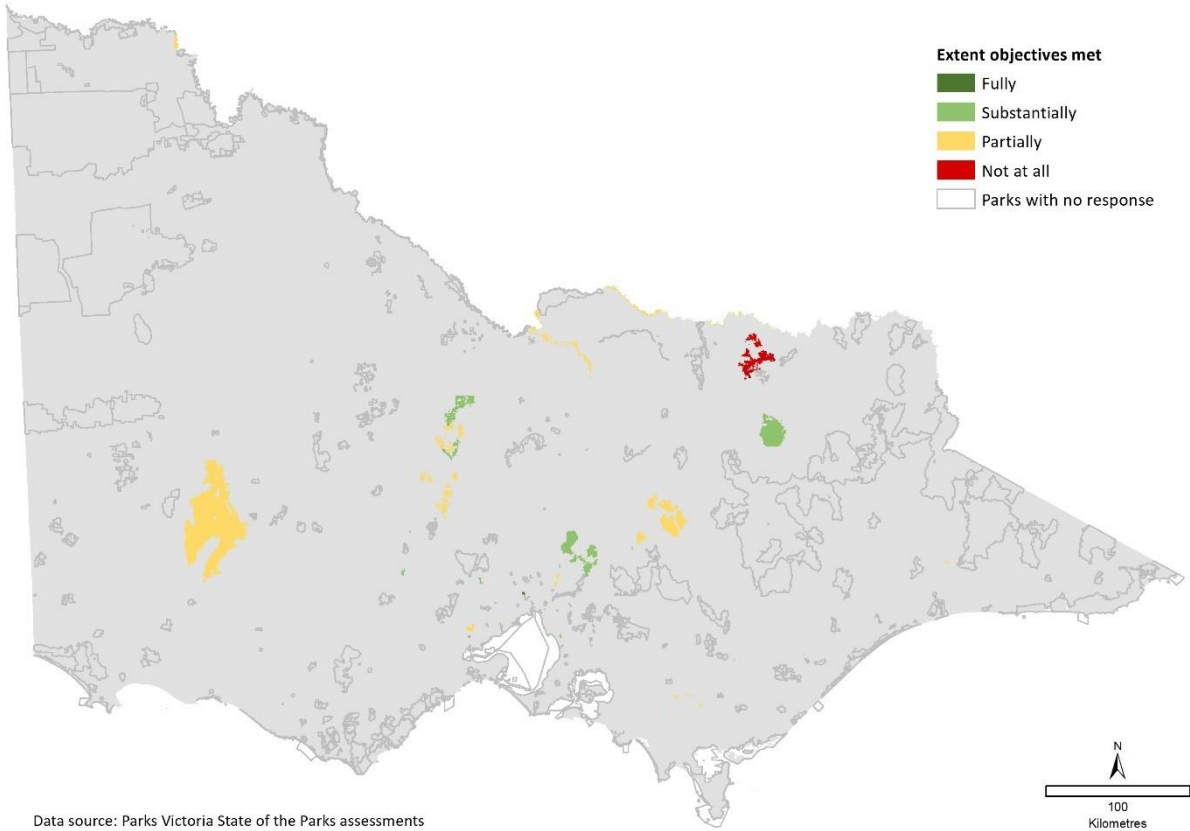
Extent management objectives met for visitor safety



Extent management objectives met for the provision of interpretation and education services



Extent management objectives met for the provision of structured programs for physical, mental or social health

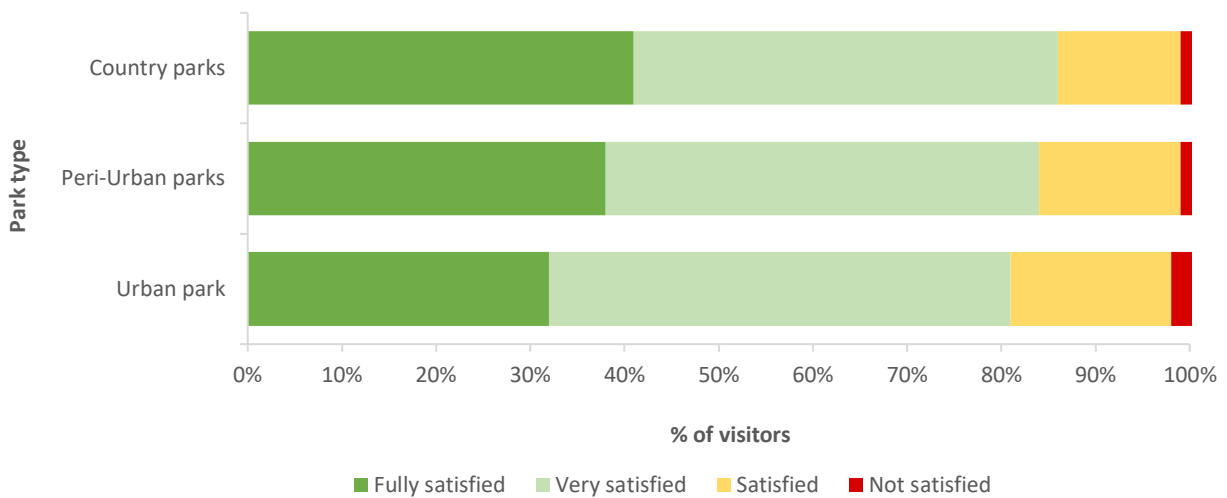


6.3.4. Park visitor satisfaction

- The majority of park visitors indicated they were fully or very satisfied with their park visit. Overall, their experience and satisfaction has improved since 2013.

Level of visitor satisfaction across the parks network

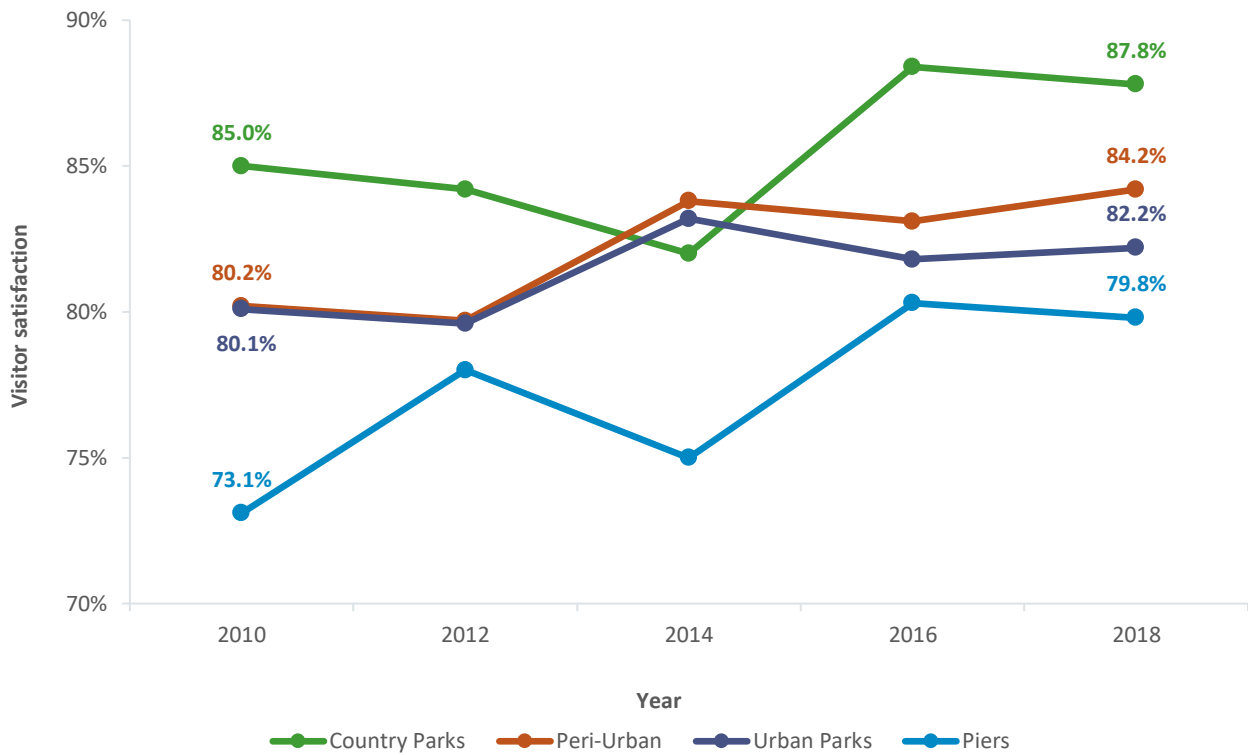
- Visitors to Victorian parks are almost entirely satisfied, with less than 2% of visitors reporting that they are not satisfied.



Data source: Parks Victoria Visitor Satisfaction Monitor 2017-18

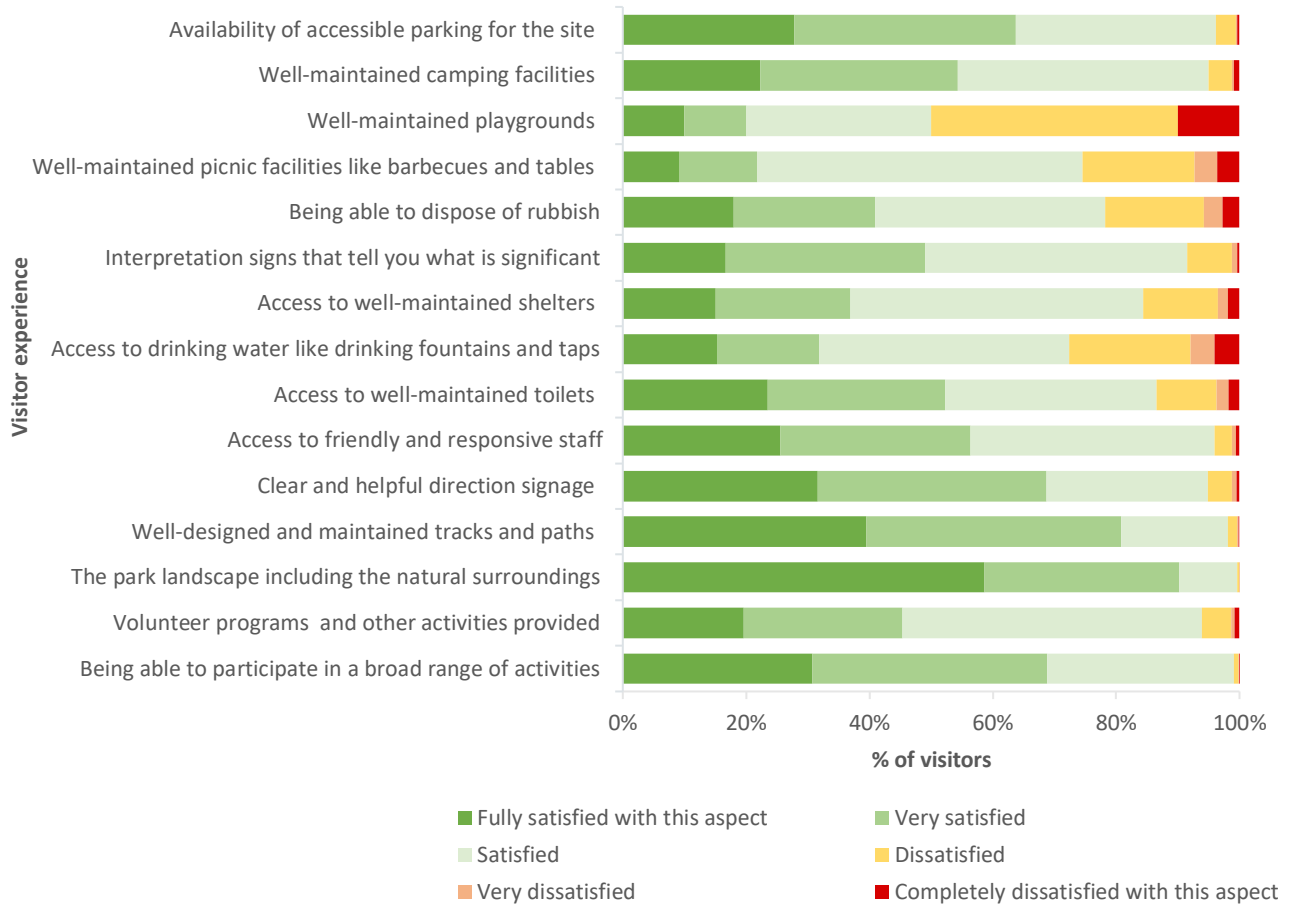
Visitor Satisfaction Index 2010-2018

- Data from the Visitor Satisfaction Index reveals an increasing trend in visitor satisfaction levels across all park types between 2010 and 2018.
- The satisfaction of visitors to country parks has notably improved since 2014, rising from 82% to 88%.



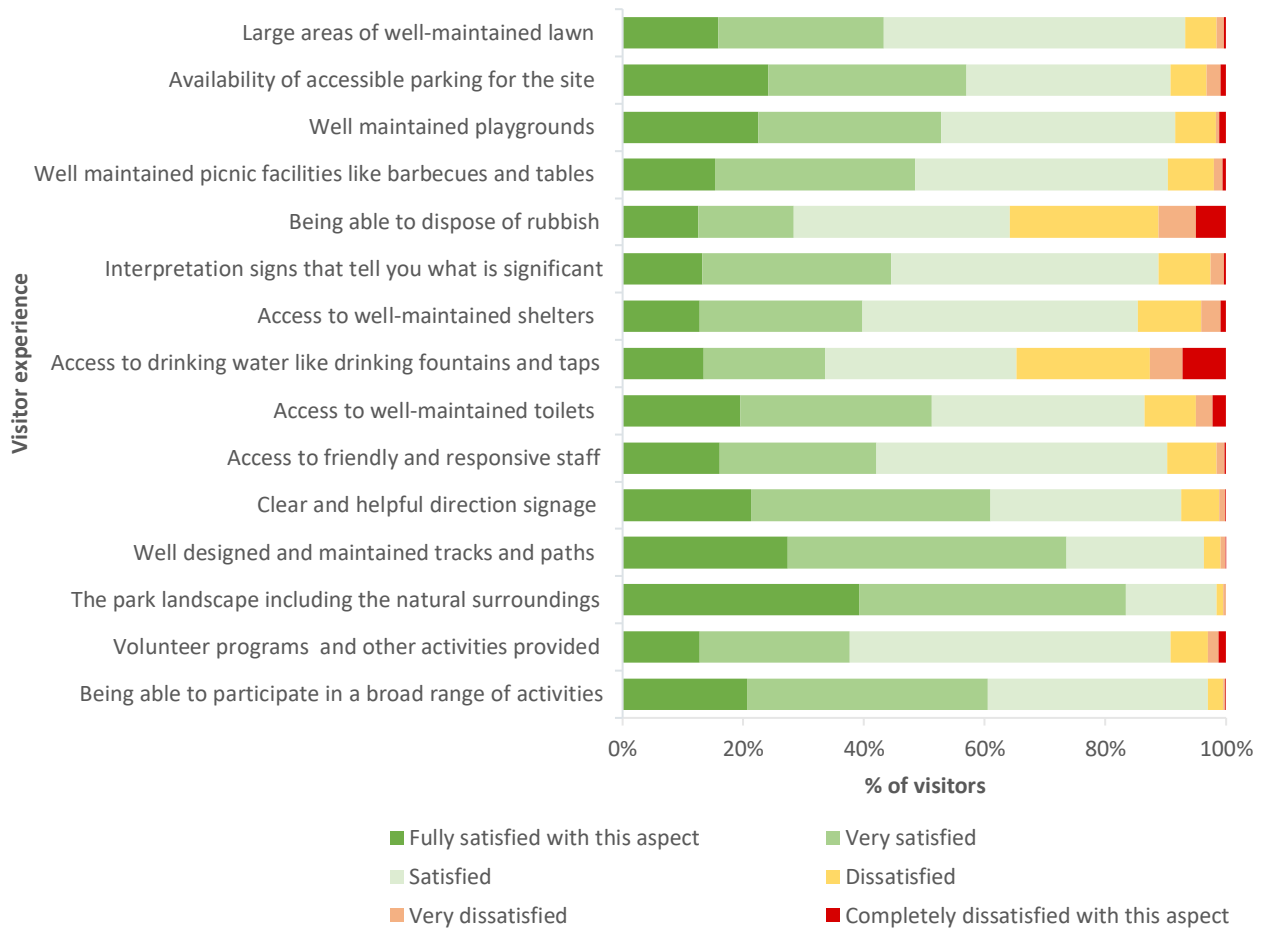
Data source: Parks Victoria Visitor Satisfaction Monitor 2017-18

Visitor satisfaction – Country (non-metropolitan) parks



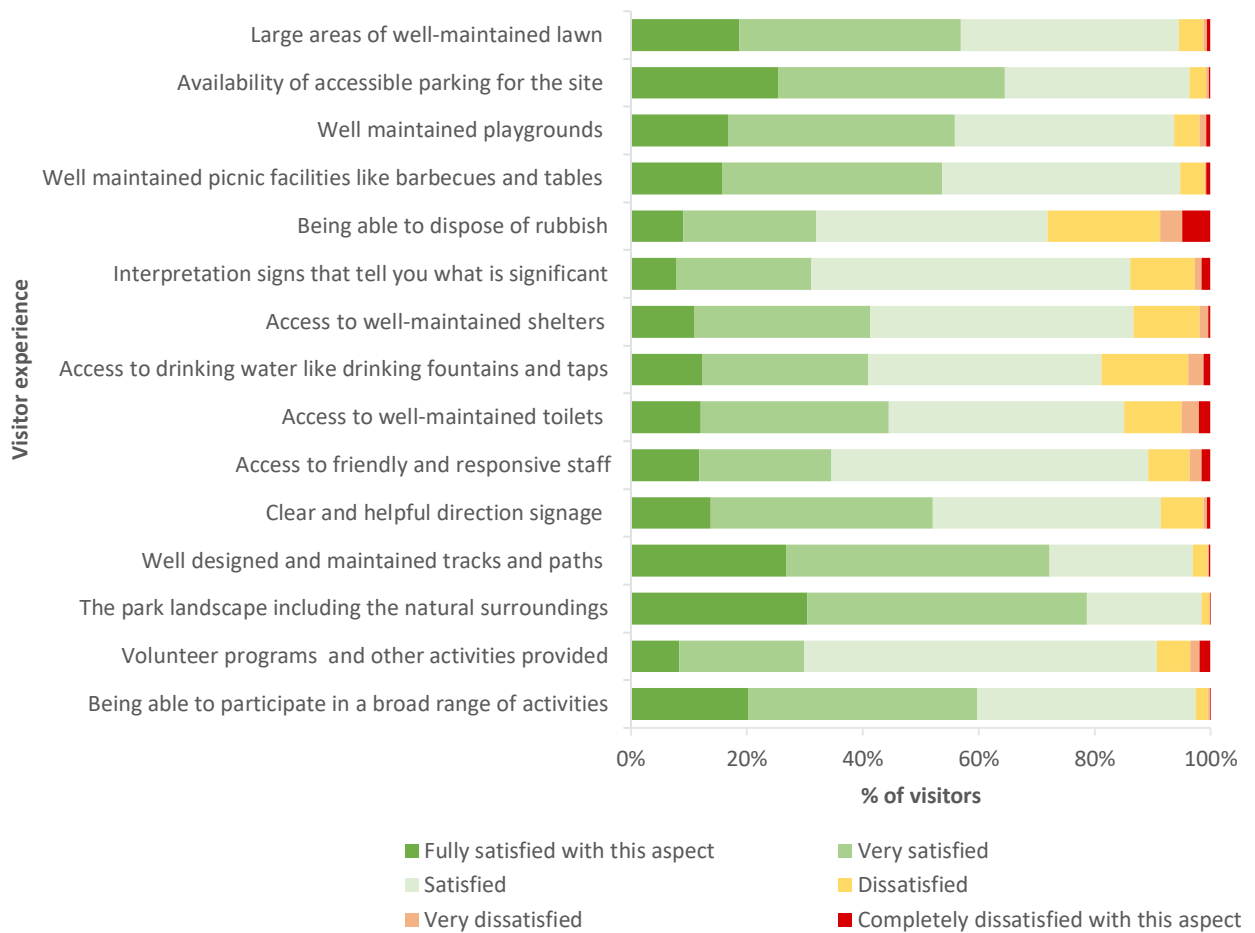
Data source: Parks Victoria Visitor Satisfaction Monitor 2017-18

Visitor satisfaction – Peri-urban parks



Data source: Parks Victoria Visitor Satisfaction Monitor 2017-18

Visitor satisfaction – Urban parks



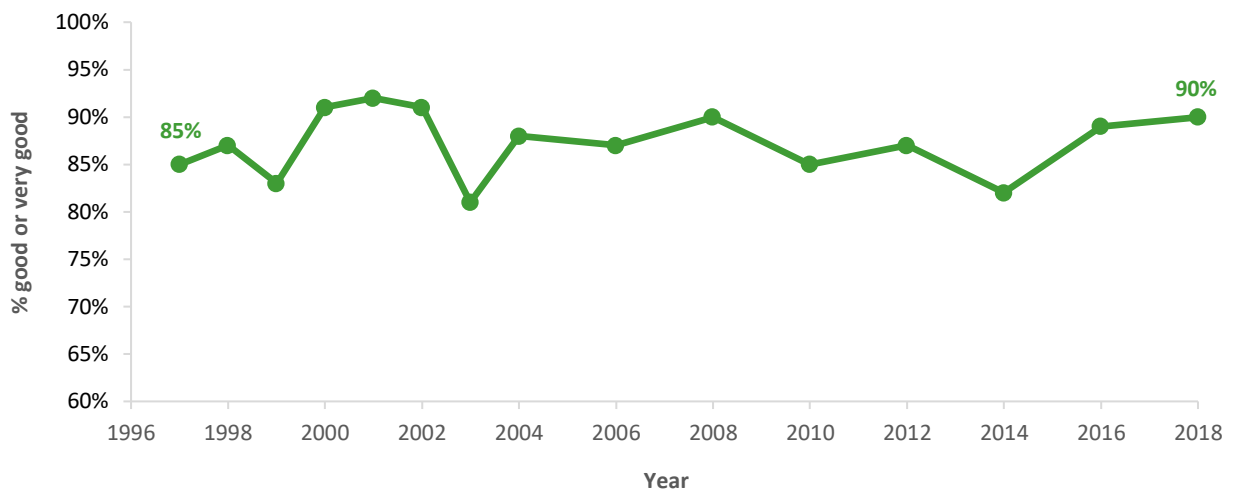
Data source: Parks Victoria Visitor Satisfaction Monitor 2017-18

6.3.5. Community satisfaction with park management

Since surveys began in 1997, community satisfaction with park management (including both visitors and non-visitors) has remained relatively high.

Community satisfaction with management of national, state, regional parks and conservation reserves

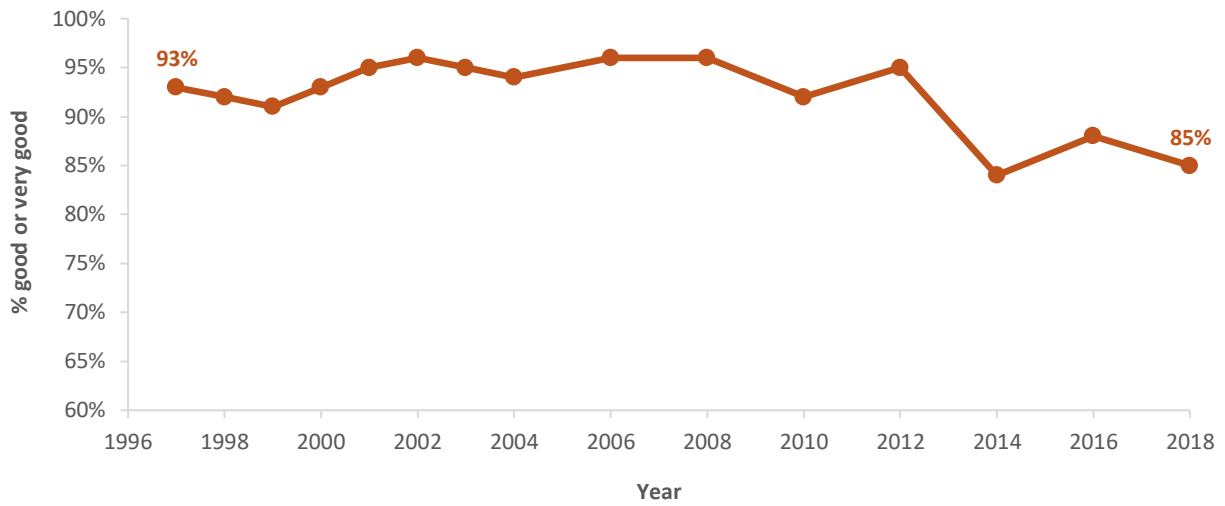
- Between 2014 and 2018, community satisfaction with management of national, state, regional parks and conservation reserves significantly increased from 82% to 90%.



Data source: Parks Victoria Community Perception Monitor 2018

Community satisfaction with management of metropolitan parks

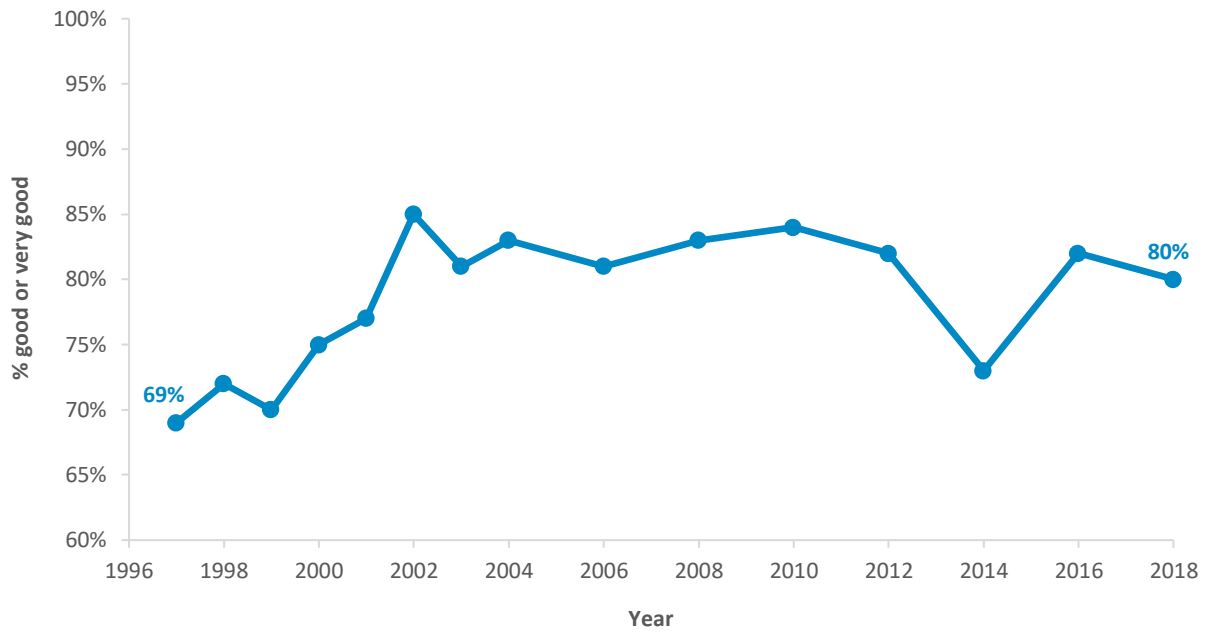
- After remaining relatively stable between 1996 and 2012, community satisfaction with the management of metropolitan parks declined in 2014 to 84% and in 2018 remained about the same at 85%.



Data source: Parks Victoria Community Perception Monitor 2018

Community satisfaction with management of bays and waterways and piers

- Community satisfaction with management of bays, waterways and piers has risen over the past two decades and is up to 80% in 2018 compared to 73% in 2014.



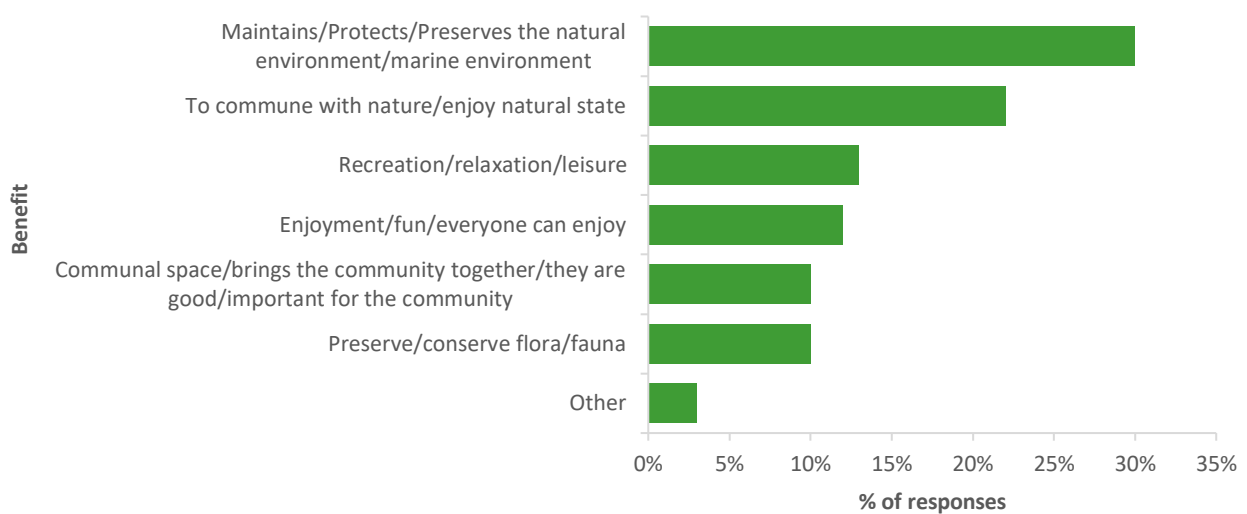
Data source: Parks Victoria Community Perception Monitor 2018

6.3.6. Community benefits of parks

Park visitors value the role parks play in maintaining the natural environment and many visitors look to parks for inspiration and enjoyment.

Perceived benefits of Victoria’s parks to the community

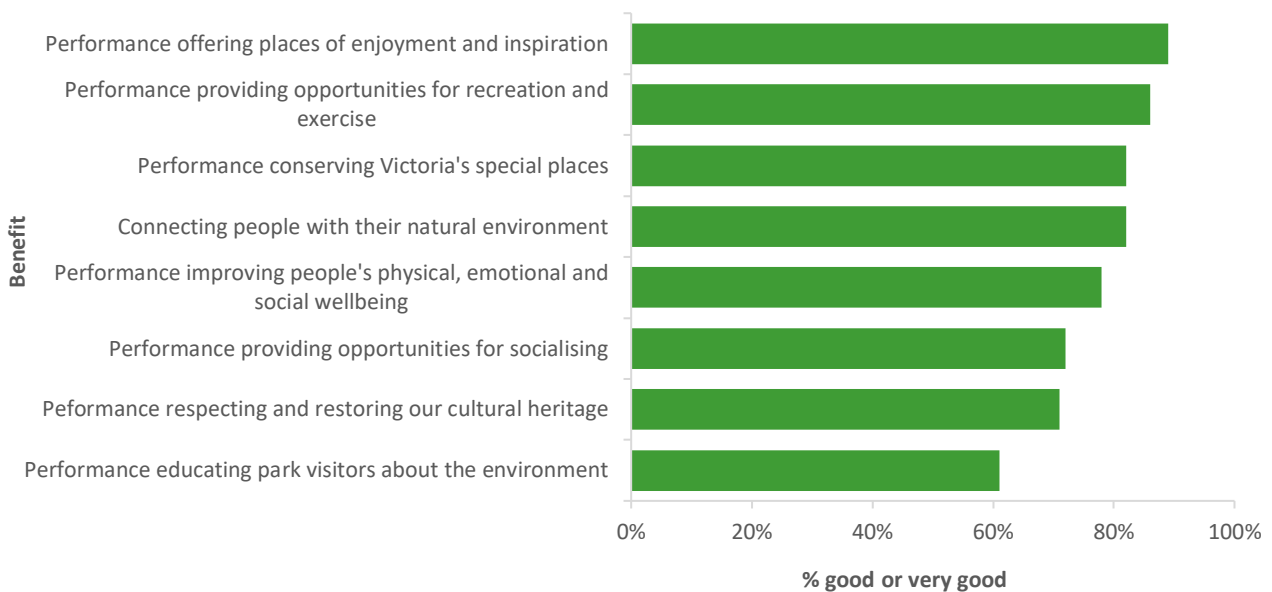
- Roughly one third of visitors rated preservation of the natural environment as the foremost benefit of Victoria’s parks to the community.
- Communion with nature (22%), recreation/relaxation/leisure (13%) and enjoyment (12%) were also prominent perceived benefits.



Data source: Parks Victoria Community Perception Monitor 2018

Performance of Parks Victoria in providing benefits to the community

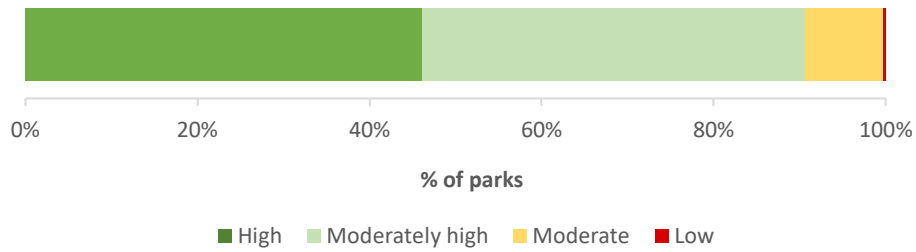
- The parks network is perceived as being 'very good' or 'good' at 'offering places of enjoyment and inspiration' and 'providing opportunities for recreation and exercise' by 89% and 86% of people surveyed respectively.
- However, less than two thirds of people surveyed (61%) perceived the parks network as being 'good' or 'very good' at 'educating park visitors about the environment'.



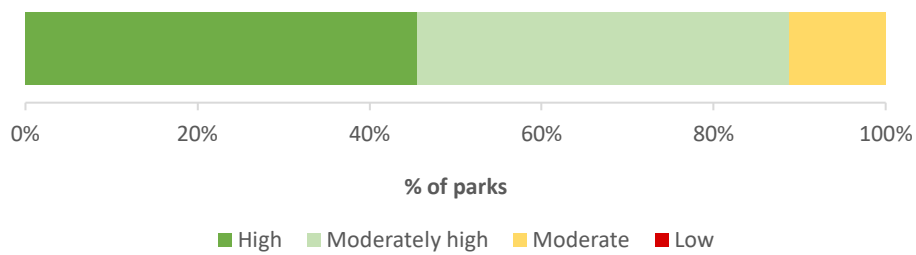
Data source: Parks Victoria Community Perception Monitor 2018

Data confidence

Confidence in park manager assessments of extent to which visitor needs are provided for

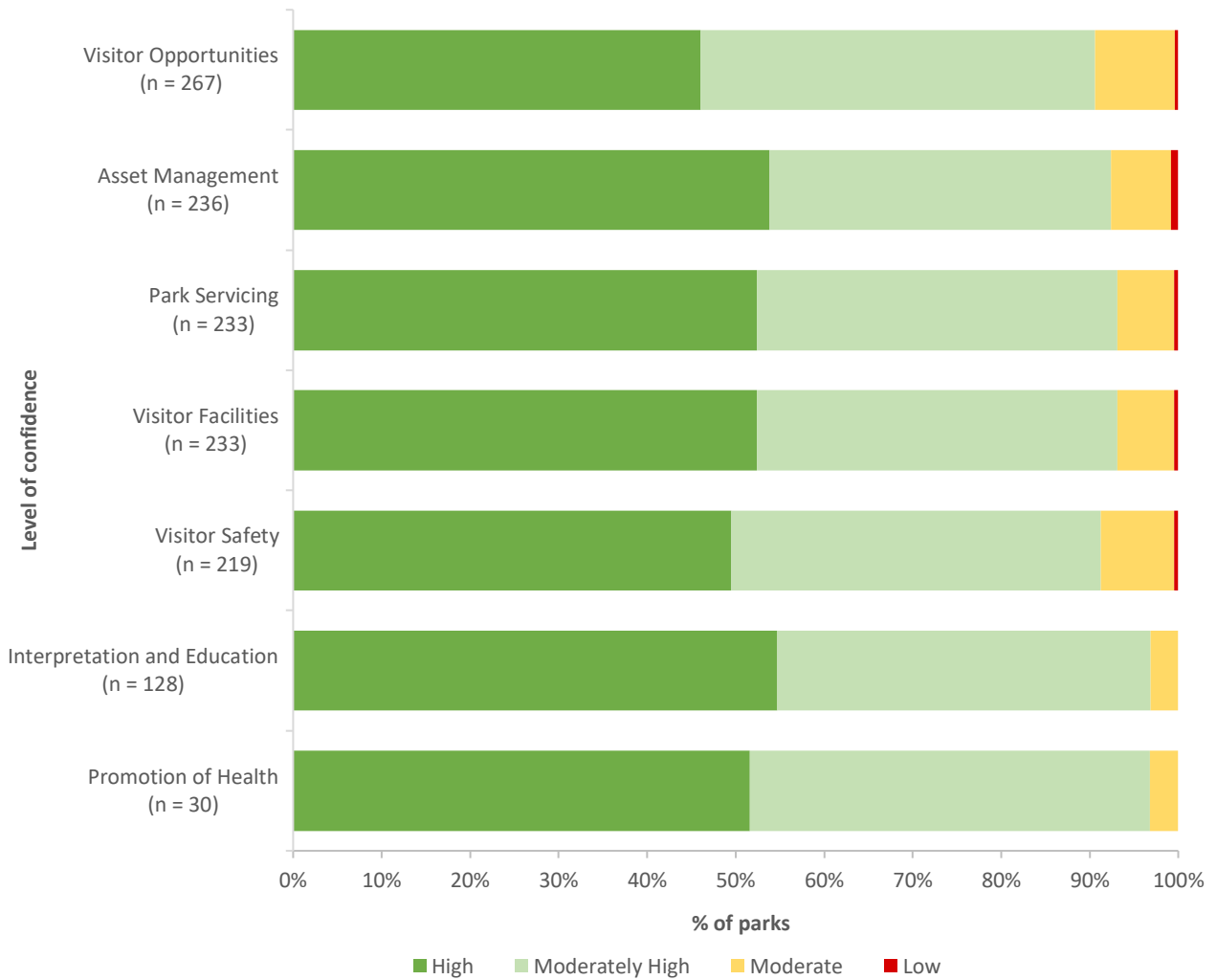


Confidence in park manager assessments of severity of threatening processes to visitor experience



Data source: Parks Victoria State of the Parks assessments

Confidence in park manager assessments for visitor management program areas



Data source: Parks Victoria State of the Parks Assessments

6.4. Community engagement and volunteerism

Parks are significant community assets, and thus community engagement is an important process to enable awareness, involvement and a sense of belonging.

Volunteers contribute to park management through their involvement in hands-on activities such as tree planting, wildlife monitoring, conservation of heritage sites, maintenance of tracks and camp host programs. From these experiences, volunteers can gain great social, physical and mental benefits, and learn new skills. The *Volunteering In Parks* strategy is driving a modernisation of Parks Victoria's volunteer approach and aims to deliver a world-class volunteering program. ParkConnect, an online interactive volunteer management system, is supporting a growth in volunteerism by connecting volunteers to hundreds of opportunities in Victoria's parks.

Through Parks Victoria's *Healthy Parks Healthy People* initiative there has been increased engagement with diverse communities across the state to enable better access to Victoria's parks. Diverse communities include those from Culturally and Linguistically Diverse (CALD) backgrounds, persons with a disability, carers, young people and older people. Parks Victoria's Disability Action Plan articulates its commitment to creating an inclusive experience for all park visitors. Park managers work with a range of partners to develop and sustain programs offering opportunities for communities to engage with parks.

Indicators

6.4.1 Level of volunteer participation

6.4.2 Effectiveness of volunteer and partnership programs

6.4.3 Number, diversity and participation in community engagement programs

Data confidence

6.4.1. Level of volunteer participation

Parks Victoria engages with a large network of committed volunteers including individuals and partner organisations working across parks, covering a wide range of activities. Volunteers are increasingly active in enhancing Victoria's parks and waterways.

- During the reporting period the number of hours volunteers contributed to parks per year increased from 219,000 to 281,776 hours in 2017-18. Although outside the formal reporting period, this has increased further to over 300,000 hours in 2018-19.
- The number of hours volunteers contributed to parks was boosted by the introduction of the first bespoke on-line volunteer management system for a state-based park agency, ParkConnect, with 1500 new volunteer registrations.
- The largest proportion of volunteer activities are focussed on habitat restoration followed by environmental research, historic heritage conservation and then gardening.
- Friends, community and recreational user groups continue to be the largest contributor of volunteer hours.

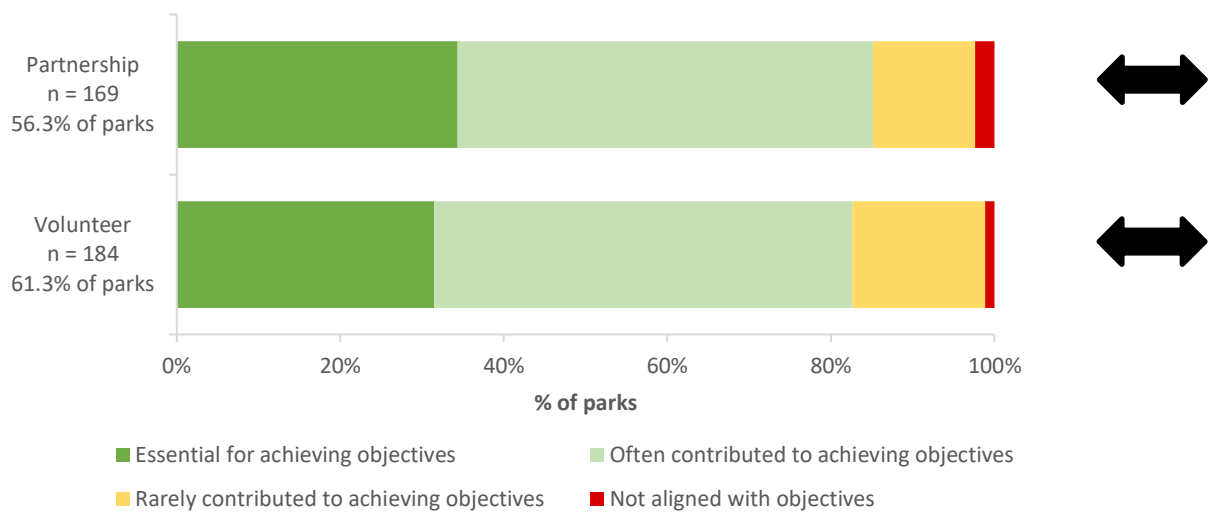
Data source: Parks Victoria ParkConnect and Community Engagement and Inclusion team

6.4.2. Effectiveness of volunteer and partnership programs

- Park managers reported that partnership activities were essential for achieving management objectives in over one third of relevant parks.
- Volunteer activities were similar, with over 80% of parks reporting that volunteer activities were essential or often contributed to achieving objectives.
- Although some park managers reported that volunteer activities and partnerships did not or only rarely contributed to achieving objectives, these may still be of benefit.

Contribution of volunteer activities and partnerships to achieving management objectives

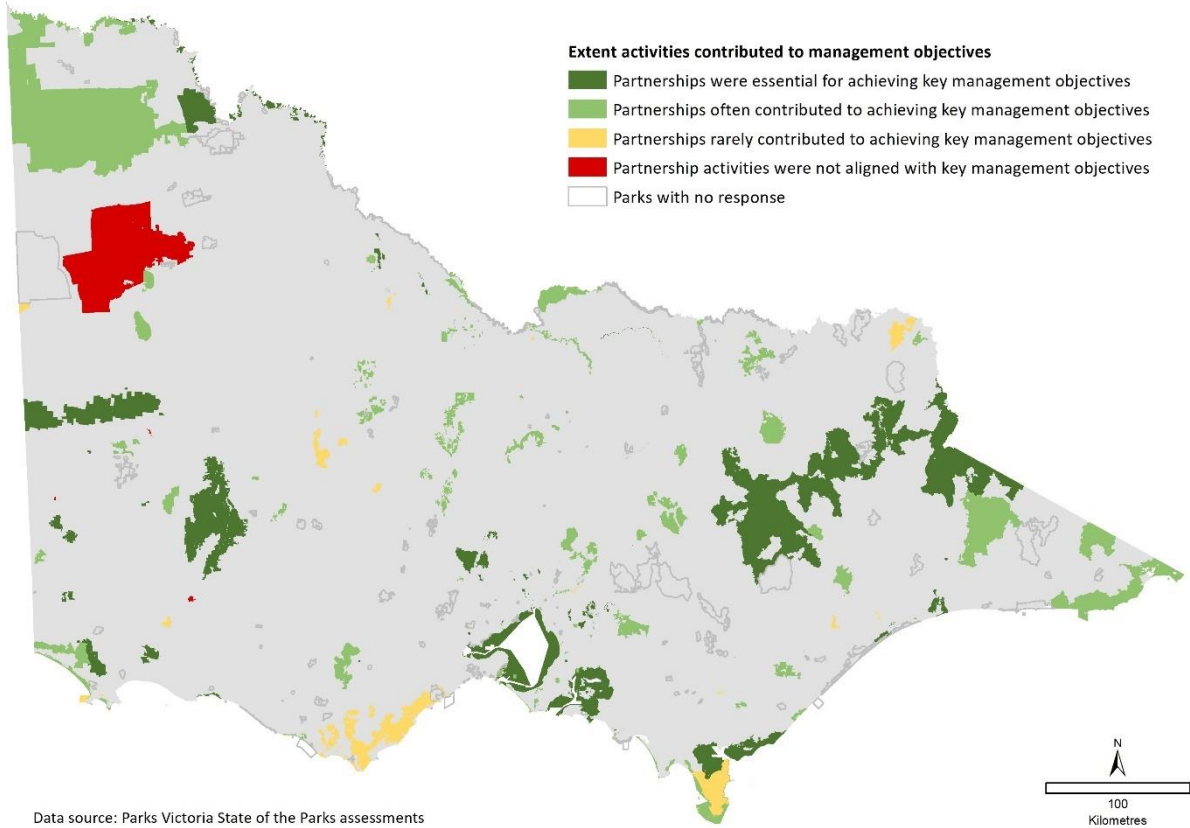
Trend 2013-2018*



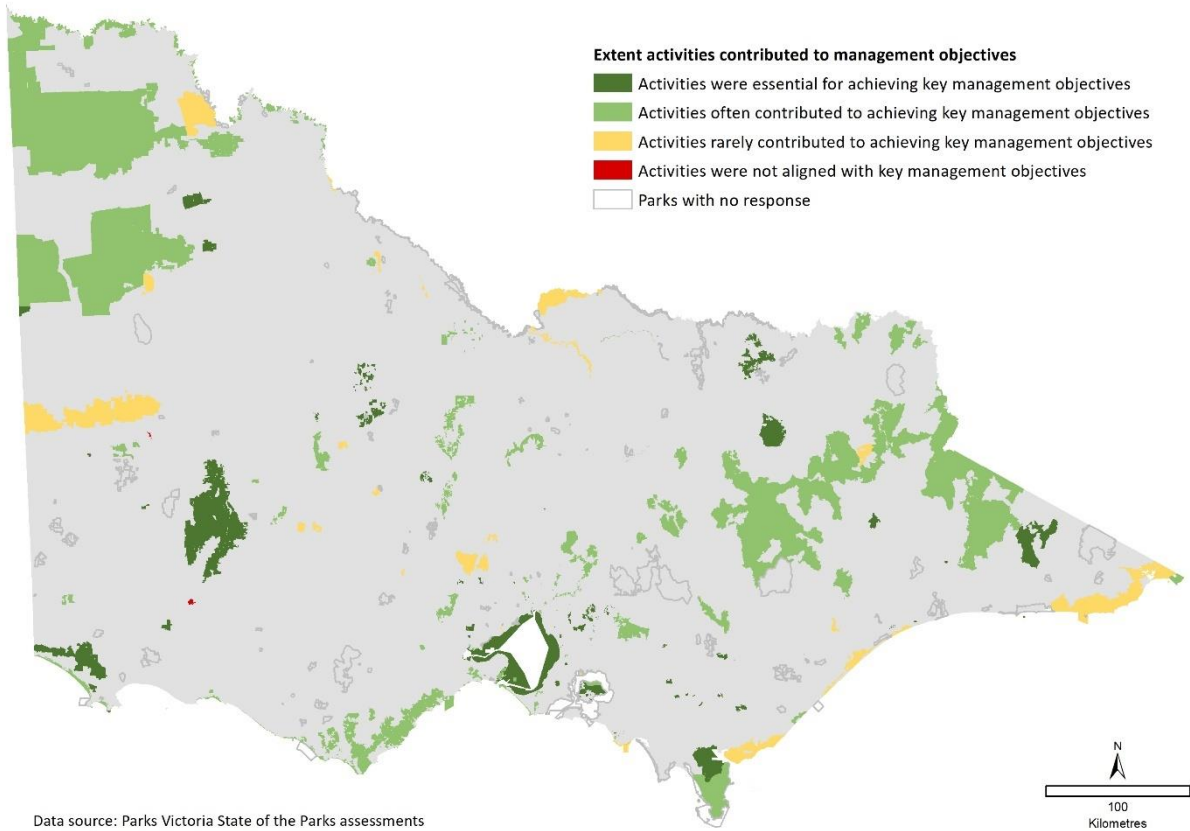
*Calculated from parks that were assessed in both 2013 and 2018 (Partnership activities, n = 92; Volunteer activities, n = 138)

Data source: Parks Victoria State of the Parks assessments

Contribution of partnerships to achieving management objectives



Contribution of volunteer activities to achieving management objectives



6.4.3. Number, diversity and participation in community engagement programs

Programs to engage under-represented community groups in parks

| Program | Description |
|---|--|
| Access for All | A suite of initiatives designed to make Parks Victoria's parks easier to access for adults and children with disabilities, including modified equipment and accommodation, information about park accessibility, and promotional media. Inclusive volunteer programs in parks, such as <i>Walk in the Park</i> (in partnership with Blind Sports Victoria) and <i>Green Pathways</i> (in partnership with Leisure Networks) are also part of this program. |
| Arts and Cultural Diversity Initiatives | Including the Heartlands Refugee Art Prize, Diwali Festival and Gurtji Narruk Youth Camp. |
| Bilingual Guides | Training and support for culturally diverse participants to run park tours for community members in their own language. |
| Discover Parks | A small funding round of grants up to \$2,000 awarded to community organisations to introduce new groups to parks. |
| Park Walks | Regularly led walks through various parks delivered in association with partners such as VicWalks and the Heart Foundation. |
| Place-based programs | Targeted community engagement in disadvantaged areas such as Shepparton, Greater Geelong, and the Greater Dandenong regions. |
| Programs for the Ageing | Programs with a specific focus on engaging elderly people. Projects include Re-Activate in Parks (a partnership with Council of Ageing Victoria) and Walk in the Park (a partnership with Blind Sports Victoria). |
| Staff Accessibility Training | An online and face-to-face training package for Parks Victoria staff regarding working with people who have a disability or who are from a culturally diverse background. |
| Swimsafe | A partnership with Lifesaving Victoria to deliver water safety education to CALD groups across regional Victoria. |
| Urban Camping | A program that provides a camping experience to diverse participants who may not otherwise have the opportunity. |
| Working Beyond the Boundaries | A partnership between Parks Victoria, AMES Australia and the Brotherhood of St Laurence that is helping refugees gain employment and language skills while connecting with their local park, to the benefit of both the people and the park. |

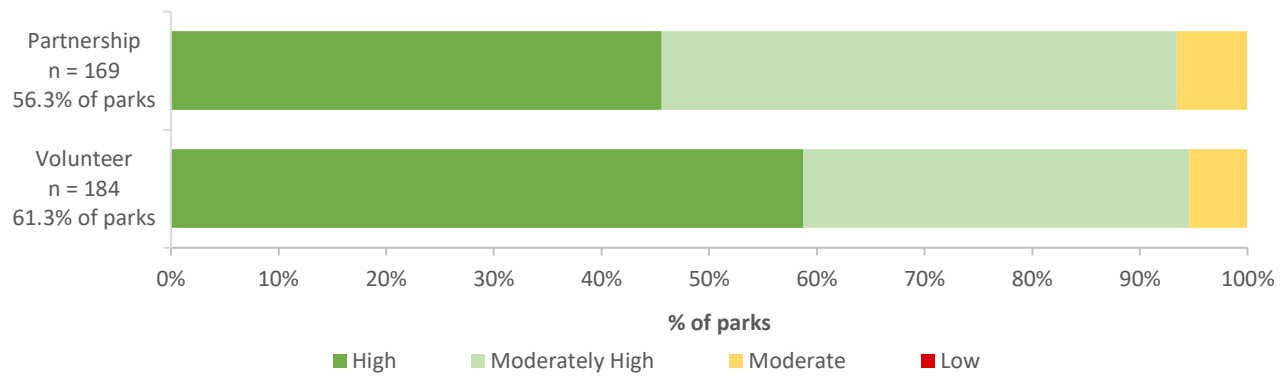
Youth

Multiple short and longer-term projects designed to increase youth engagement with, and participation in, parks.

Data source: Parks Victoria

Data confidence

Confidence in park manager assessments for contribution of partnerships and volunteers in achieving key management objectives.



Data source: Parks Victoria State of the Parks assessments

6.5. Key factors influencing management effectiveness (other than resourcing)

6.5.1. Improved management actions

- Roll out of the Visitor Experience Framework (VEF) to assist prioritisation.
- Clear direction set for some parks through management plans and master planning.
- Infrastructure improvements at a range of priority parks and sites.
- Completion of strategic plans to reinvigorate and improve education and interpretation (*Learning in Nature*) as well as a disability action plan, cultural diversity action plan and a volunteering plan).
- Improved information, accessibility and services for people with a disability.
- New community engagement rangers.
- Growth in PV-led volunteer programs including Volunteer Track Rangers, Campground Host and Volunteer TrailRiders.
- Significant growth of programs to connect younger visitors including Junior Ranger and Bush Kinder and youth pathways programs.
- A variety of partnerships for nature-based health and wellbeing including integration of migrant communities and programs for people with a disability.
- Development of citizen science initiatives to connect people with nature.
- Introduction of ParkConnect system.

6.5.2. Challenges

- Challenges in provision of contemporary services at high growth priority locations (e.g. Shipwreck Coast).
- Challenges in implementing maintenance regimes for visitor assets/facilities.
- Challenges in provision of ranger services at peak times (including competition with fire season demands).
- Challenges in keeping up with rapid growth of emerging visitor experiences (e.g. mountain bike riding).

6.5.3. Future focus

- Develop new website to improve digital experience and provide quality park information.
- Implement *Nature is Good Medicine* strategic plan and develop new partnerships with healthcare sector.
- Implement park asset improvement plan.
- New asset information and management system.
- Nature-based tourism strategy and signature walks.
- Improve partnerships with Tourism sector including License Tour Operators.
- Grow more diverse volunteer experiences including better use of ParkConnect tools.

- Complete collection and validation of asset and Visitor Experience Framework data.
- Implement visitor safety improvement plan.

7. Fire and emergency management

Parks Victoria plays a significant role in fire and emergency management.

Sections

7.1 Fire and emergency planning, prevention, response and recovery

7.2 Key factors influencing management effectiveness

7.1. Fire and emergency planning, prevention, response and recovery

Parks Victoria has a crucial role to play in fire and emergency management as a support agency and partner in the whole-of-government planning and response program. Parks Victoria supports the Department of Environment, Land, Water and Planning (DELWP) to prepare for, respond to and recover from bushfires on public land. Parks Victoria also has a key support role in other emergency events.

Parks Victoria works in partnership with DELWP responding to bushfires and conducting planned burns and other fuel management activities under the brand “Forest Fire Management Victoria” (FFMVic). In 2018, Parks Victoria signed a new Memorandum of Understanding (MoU) with DELWP, outlining their respective roles and responsibilities during fire and emergency situations (including blue-green algae outbreaks and dam failure). Parks Victoria also engages in a comprehensive monitoring and research program informing bushfire management planning. This includes pre- and post-fuel hazard monitoring, projects relating to ecosystem reliance, evidence-based management and application of ecological fire and post-fire regeneration in fire sensitive bioregions.

Indicators

7.1.1 Fire and emergency planning

7.1.2 Area burned by bushfire

7.1.3 Area treated by planned burns and other fuel treatments

7.1.4 Impact by fire on park values

7.1.5 Parks Victoria’s contribution to fire and emergency management

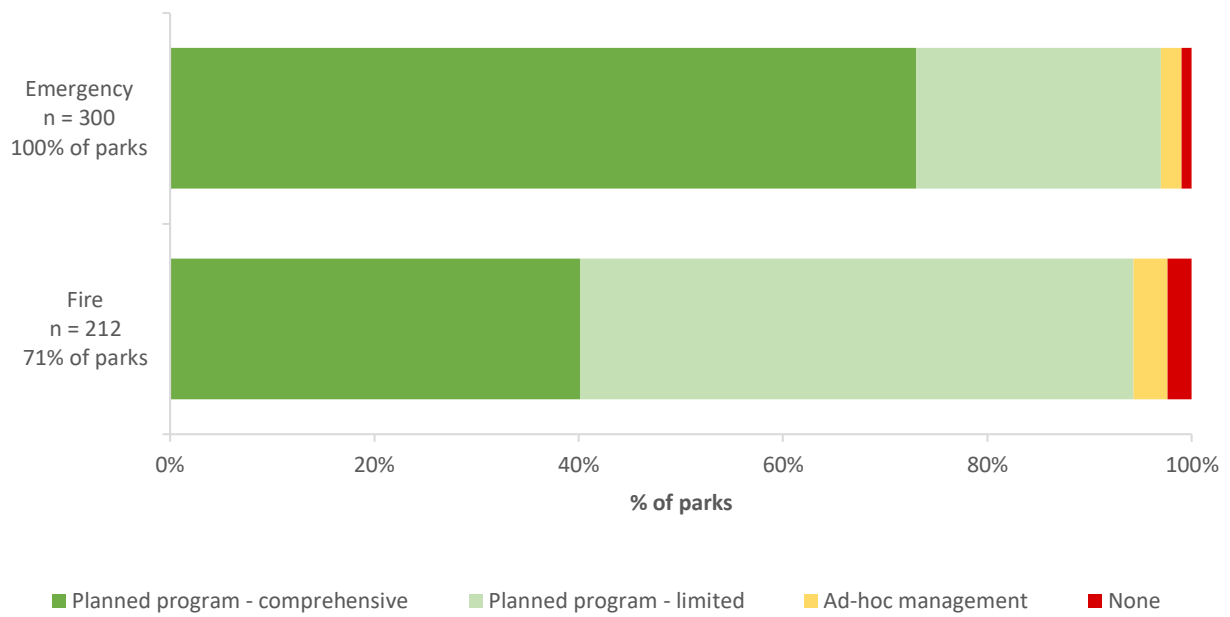
7.1.6 Effectiveness of fire and emergency management programs

Data confidence

7.1.1. Fire and emergency management

Fire and emergency management response

- Fire and emergency management is the most comprehensive and well-planned program of all park management programs. Park managers reported that 97% of assessed parks have a planned approach to emergency management while over 94% of relevant parks have a planned approach to fire management.

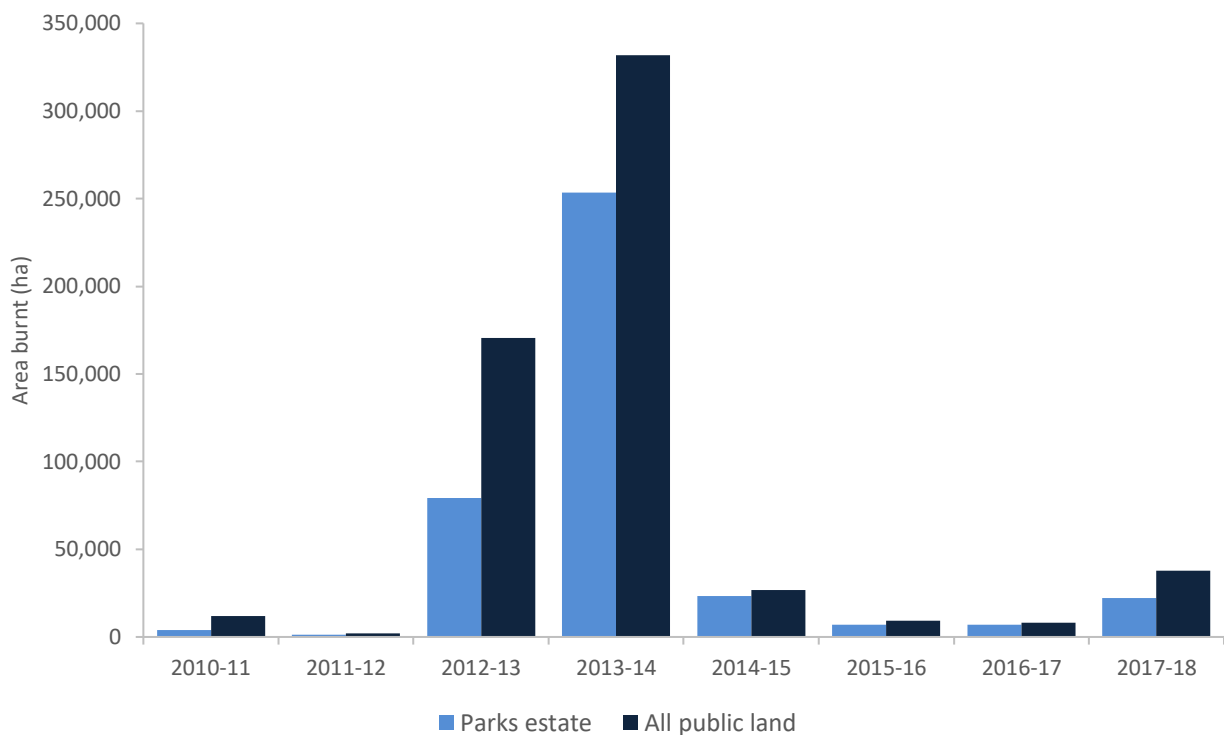


Data source: Parks Victoria State of the Parks assessments

7.1.2. Area burned by bushfire

- The annual area of the parks estate burnt by bushfire has varied widely between 2010 and 2018.
- In 2013-14, Victoria experienced its most significant fire season since 2008-09. More than 250,000 hectares of the parks estate was burnt (mainly in the Mallee and East Gippsland). Large area of the Grampians National Park also burnt.
- Significantly less area has been burned by bushfire since 2013-14.

Area (ha) burnt by bushfire across parks estate and all public land

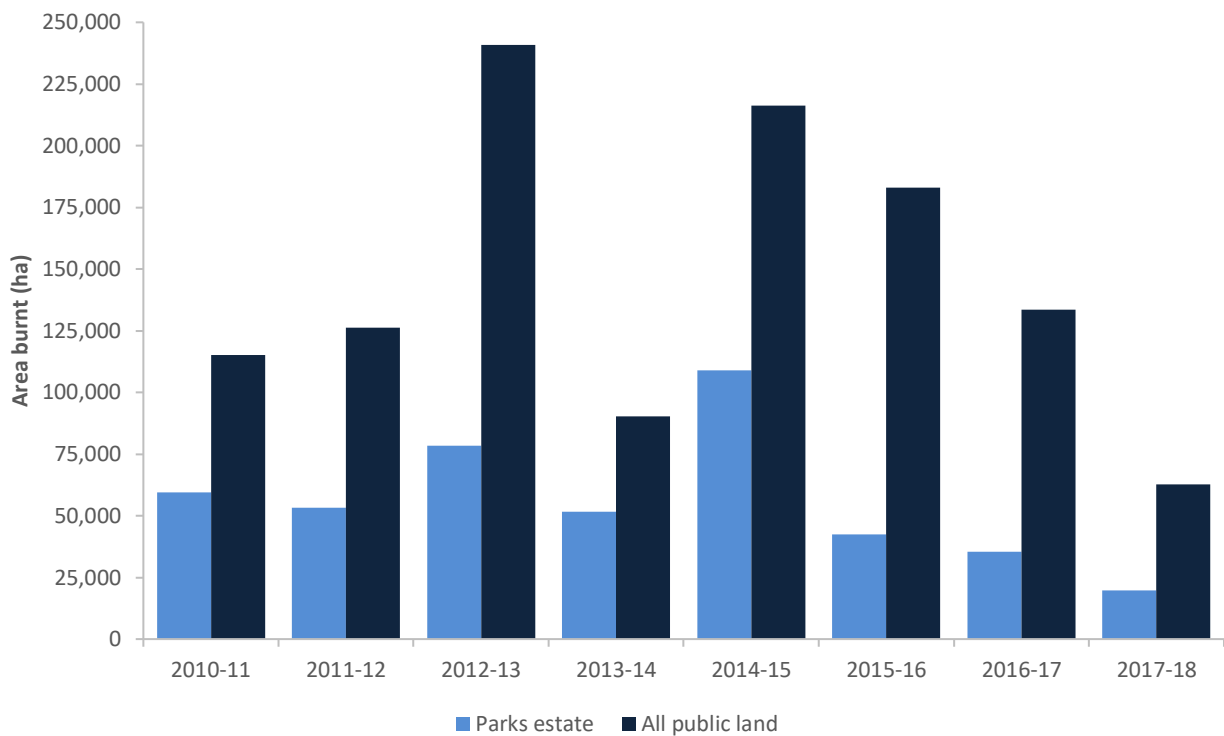


Data source: DELWP

7.1.3. Area treated by planned burns and other fuel treatments

- Planned burns involve lighting fires under carefully managed conditions. By reducing fuel loads, planned burns help to lessen the impact of damaging bushfires on communities, property and the natural environment.
- The area of the parks network treated by planned burning to reduce fire risk and/or improve ecological values varied year-to-year (between a low of 19,676 hectares in 2017-18 to 108,860 hectares in 2014-15). This variance was largely based on the suitability of weather conditions for delivering planned burning.
- Planned burns are complemented by other activities to reduce fuel, such as mowing, slashing and clearing, to make and maintain fuel breaks.

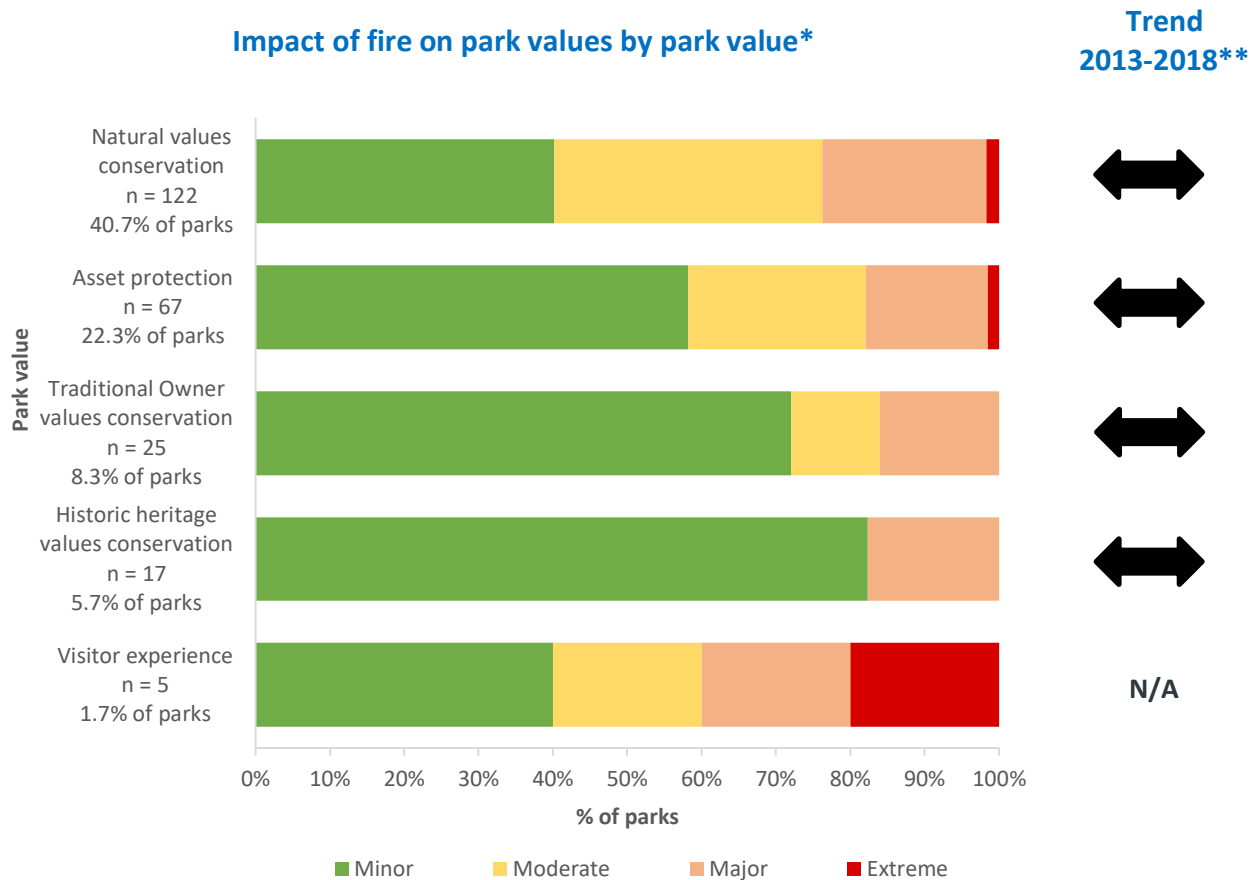
Area (ha) treated for fuel management by planned burns



Data source: DELWP

7.1.4. Impact of fire on park values

- Park managers reported that the impact of fire on park values was minor or moderate in most of the relevant parks.
- Fire had a major or extreme impact on natural values in 24% of relevant parks.
- More than 70% of parks that identified either Traditional Owner cultural values or historic heritage values as being impacted by fire reported that fire impacts were minor; while 58% reported that fire impacts on asset protection was minor (54% by park area).
- The impact of fire on park values has remained stable since 2010.



**This assessment was optional for non-National Parks Act parks. **Calculated from parks that were assessed in both 2013 and 2018 (Natural values, n = 114; Asset protection, n = 56; Traditional Owner values, n = 19; Historic heritage values, n = 13)*

Data source: Parks Victoria State of the Parks assessments

7.1.5. Parks Victoria's contribution to fire and emergency management

Parks Victoria works alongside DELWP, the Country Fire Authority (CFA) and Emergency Management Victoria (EMV) to reduce bushfire risk and deliver the *Safer Together* program. This includes multi-agency bushfire awareness activities, multi-agency exercises (EMV, DELWP, CFA, State Emergency Service and Metropolitan Fire Brigade) focused on response capabilities and training, bushfire-centred Junior Ranger programs and releasing media around bushfire risk reduction.

Following the 2009 bushfires, the Melbourne Fire and Emergency Program was initiated that aims to directly protect communities that adjoin urban parks. During the 2017-2018 program, Parks Victoria upgraded 8.4 km of fuel breaks, slashed 798 km of fuel breaks, and upgraded 21 km of fire vehicle access roads.

In 2017-18 Parks Victoria employed 850 accredited ongoing staff to emergencies and 190 Project Seasonal Firefighters who are trained and available and responded to 1562 bushfires.

Emergency Recovery

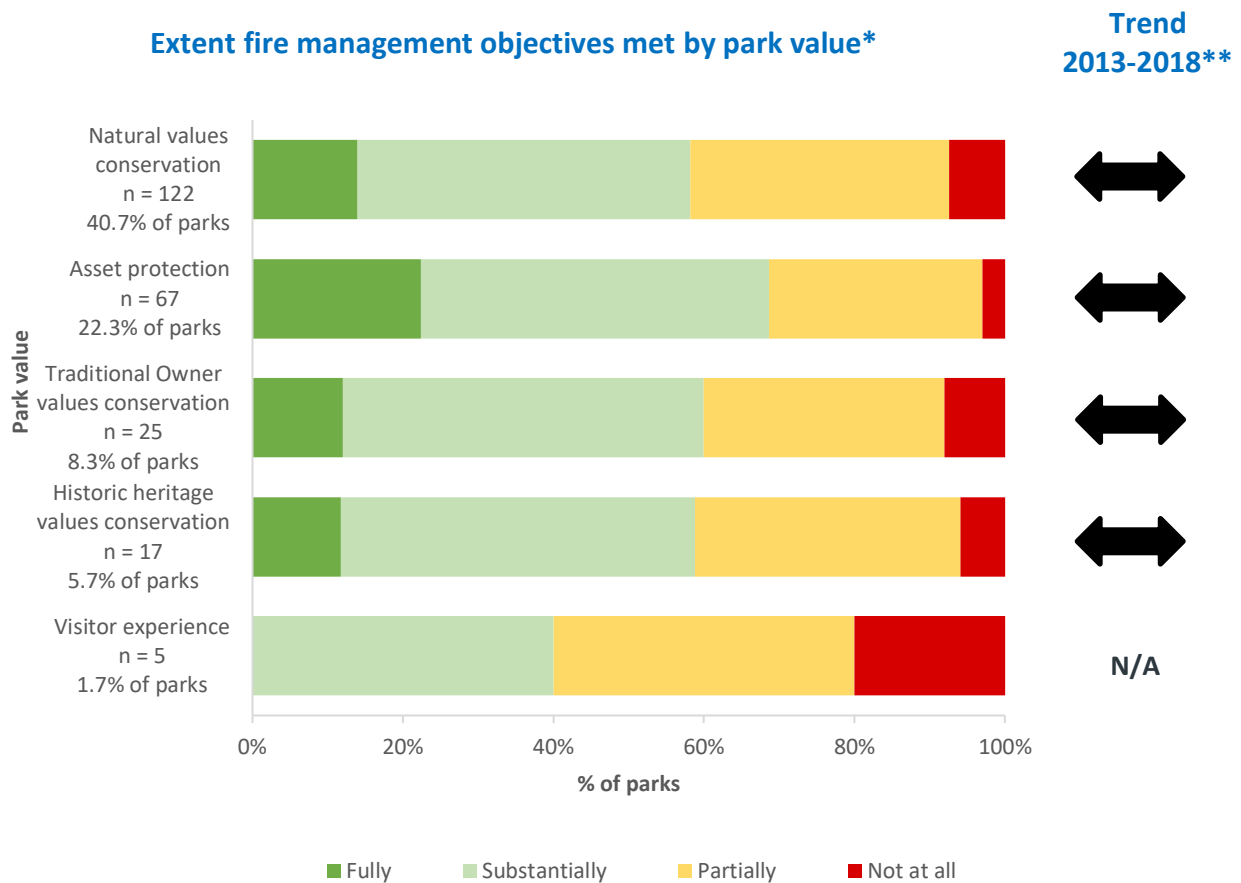
Several large bushfires impacted on various parks and reserves across the State between 2013 and 2015 resulting in significant bushfire recovery programs. As well as impacting park infrastructure and services, the Aberfeldy-Donnelly's bushfire in East Gippsland, Wyperfeld National Park-Bronzewing F.F.R bushfire in the Mallee, Chiltern-Mt Pilot National Park bushfire in North East, and Wye River-Great Otway National Park bushfire in the southwest had significant impacts on surrounding communities. The Grampians was impacted over two years in 2013 and 2014 with consecutive recovery programs following the Victoria Valley bushfire in 2013 and the Northern Grampians fire in 2014. Between 2013-2015 approximately \$11.5M of bushfire recovery programs were delivered whilst finalisation of the \$66M 2010-2012 flood and storm recovery was simultaneously occurring.

In 2016-2017 ten consecutive flood and storm events across the state caused widespread damage to parks, impacting thousands of assets, threatening cultural heritage sites and the environment, resulting in an \$11.2 million recovery program, which is currently in its final stages of delivery.

Successful initiative funding (Treasury Advance/ERC) applications for the Northern Grampians complex bushfires and 2016-2017 Floods and storms have allowed programs to support the recovery of significantly impacted cultural or environmental values. Unless additional funding had been provided, the focus for most events has been on community recovery and replacement/repair of insured assets.

7.1.6. Effectiveness of fire and emergency management programs

- Of the 67 parks that identified asset protection as an objective of fire management, 68% were fully or substantially meeting fire management objectives.
- Of the parks that identified historic heritage, Traditional Owner and natural values objectives, between 58% and 60% of fire management objectives were fully or substantially met.

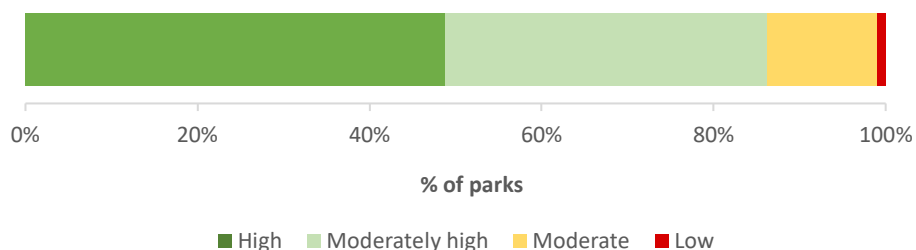


**This assessment was optional for non-national parks act parks. **Calculated from parks that were assessed in both 2013 and 2018 (Natural values, n = 114; Asset protection, n = 56; Traditional Owner values, n = 19; Historic heritage values, n = 13)*

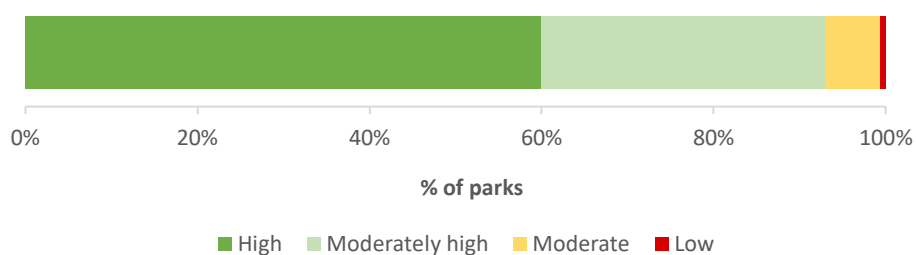
Data source: Parks Victoria State of the Parks assessments

Data confidence

Confidence in park manager assessments for fire management



Confidence in park manager assessments for emergency management



Data source: Parks Victoria State of the Parks assessments

7.2. Key factors influencing management effectiveness

7.2.1. Improved management actions

- Proactive fire and emergency partnership with DELWP and other agencies.
- Comprehensive fire and emergency planning including emergency management plans and mock exercises.

7.2.2. Challenges

- Limited resources to contribute effectively to Fire Operations Planning in some instances
- Natural values often have low priority in fire recovery

7.2.3. Future focus

- Formalise an 'after-hours' response to marine (and terrestrial) emergencies.
- Develop policy and procedures to improve planning, implementation and investment in post-fire recovery of natural values.

- Further carrying-capacity assessments and planning needed for high-visitation sites to ensure emergency incidents can be effectively managed, and park facilities can support increased tourism.

8. Park planning and knowledge

Parks Victoria views planning, sharing knowledge and evidence-based learning as essential components in effective parks management.

Section

8.1 Park planning and knowledge

8.1. Park planning and knowledge

Clear plans, and learning from evidence, experience and shared knowledge are crucial to the effective management of parks. As the manager of the state's parks network, Parks Victoria seeks to build partnerships to gather, analyse and share knowledge to inform its management actions for nature and heritage conservation, and provision of facilities, programs and services for our visitors and community.

Indicators

8.1.1 Park management plans

8.1.2 Park research to improve knowledge and effectiveness

8.1.3 Traditional cultural knowledge

8.1.4 Participation in citizen science and other knowledge partnerships

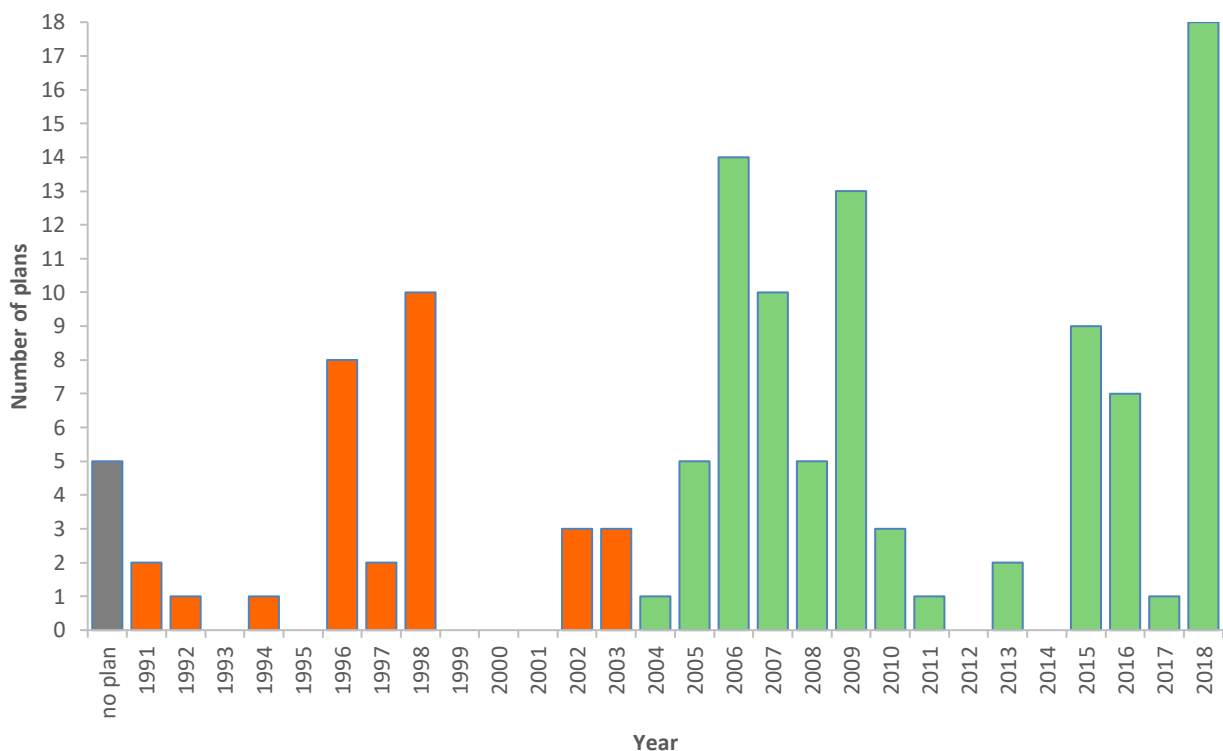
8.1.1. Park management plans

Park management plans guide the future management of parks over a 15-year timeframe. The plans identify the vision, goals, outcomes, measures and long-term strategies for action. The *National Parks Act 1975* requires a plan of management for each national and state park. In addition, Parks Victoria produces Conservation Action Plans, Precinct Master Plans, and a Visitor Experience Framework to guide its planning approach. Management plans adopt a landscape-wide approach to consider things bordering the park that may influence how a park operates.

In areas where Traditional Owner rights and interests have been formally recognised by the State, Parks Victoria-led plans are replaced with Joint Management Plans, which are developed by the relevant Traditional Owner Land Management Board.

National Parks Act parks with a park management plan

- As of 2018, 89 of the 124 National Parks Act parks (72%) had an approved park management plan that was less than 15 years old.
- Nearly one-quarter of parks reserved under the National Parks Act have a management plan that is over 15 years old. With drivers such as climate change, and social and demographic changes, these parks now require more contemporary plans.
- Over the reporting period, seven management plans (including joint management plans) were approved covering 35 National Parks Act parks.



Data source: Parks Victoria State of the Parks assessments

Number of parks covered by Joint Management Plans

- The Victorian Government continues to recognise First Peoples' rights and interests in the management of Country through Recognition and Settlement Agreements. Traditional Owner Land Management Boards are established to develop joint management plans, which are implemented in partnership between Parks Victoria (or other relevant land managers) and the representative Traditional Owner organisation.
- Joint Management Plans continue to emphasise nature conservation and recreation but bring an increased focus on cultural values, protection of Aboriginal places and the participation of Traditional Owners in management of their traditional Country.
- As of August 2019, 15 of the 16 parks and reserves jointly managed in partnership with Parks Victoria were covered by joint management plans. The remaining park had a draft joint management plan.
- Joint management plans replace any prior park management plans.

| Land under joint management* | Traditional Owner group | Area (ha) |
|---|--|-----------|
| Barmah National Park** | Yorta Yorta Nations Aboriginal Corporation | 28,502 |
| Buchan Caves Reserve | Gunaikurnai Land and Waters Aboriginal Corporation | 296 |
| Corringle Foreshore Reserve (within Marlo Coastal Reserve) | Gunaikurnai Land and Waters Aboriginal Corporation | 159 |
| Gippsland Lakes Coastal Park | Gunaikurnai Land and Waters Aboriginal Corporation | 17,756 |
| Greater Bendigo National Park | Dja Dja Wurrung Clans Aboriginal Corporation | 17,321 |
| Hepburn Regional Park | Dja Dja Wurrung Clans Aboriginal Corporation | 2,916 |
| Kara Kara National Park (part) | Dja Dja Wurrung Clans Aboriginal Corporation | 12,643 |
| Kooyoorra State Park | Dja Dja Wurrung Clans Aboriginal Corporation | 11,455 |
| Lake Tyers | Gunaikurnai Land and Waters Aboriginal Corporation | 8,500 |
| Mitchell River National Park | Gunaikurnai Land and Waters Aboriginal Corporation | 14,346 |
| New Guinea Cave II (within Snowy River National Park) | Gunaikurnai Land and Waters Aboriginal Corporation | 1,184 |
| Paddys Ranges State Park | Dja Dja Wurrung Clans Aboriginal Corporation | 2,015 |
| Raymond Island Gippsland Lakes Reserve | Gunaikurnai Land and Waters Aboriginal Corporation | 249 |
| Tarra-Bulga National Park | Gunaikurnai Land and Waters Aboriginal Corporation | 2,018 |

| | | |
|-----------------------------------|--|-------|
| The Lakes National Park | Gunaikurnai Land and Waters Aboriginal Corporation | 2,416 |
| Wehla Nature Conservation Reserve | Dja Dja Wurrung Clans Aboriginal Corporation | 411 |

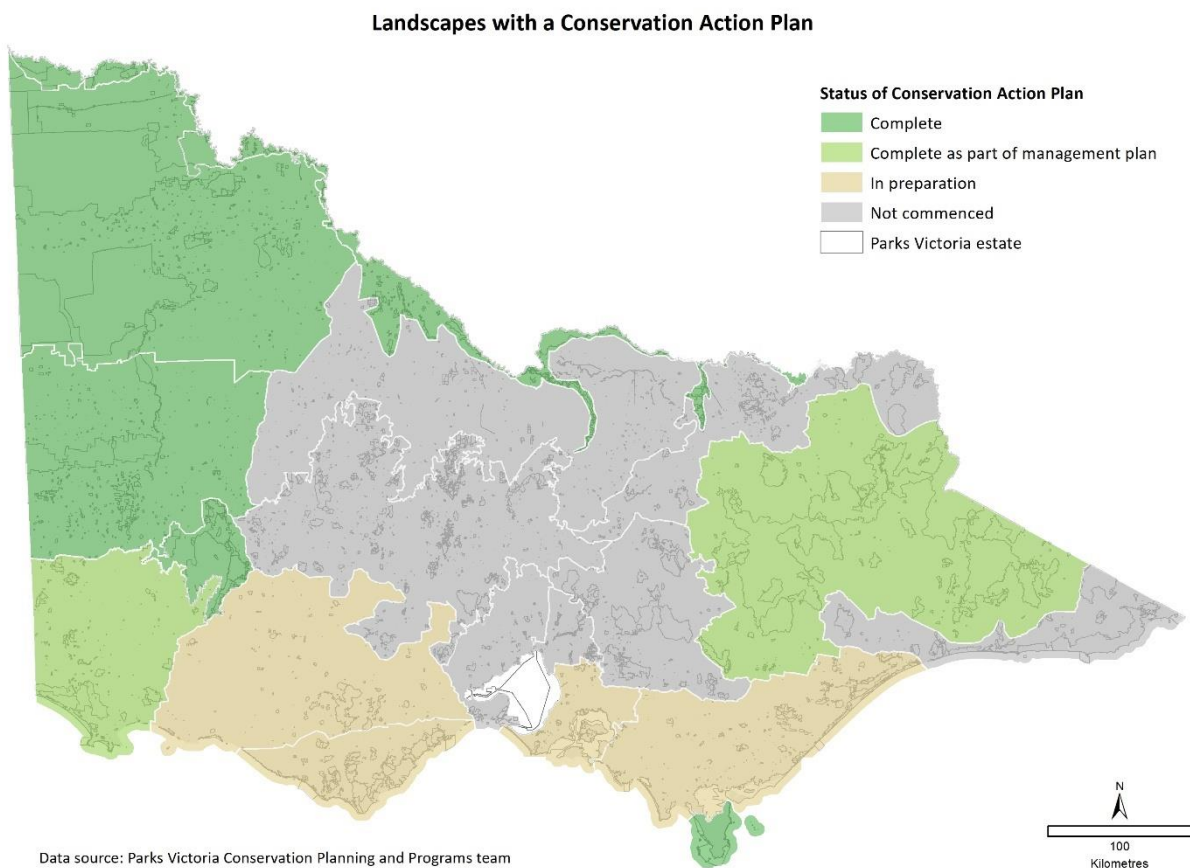
*The Gunaikurnai and Victorian Government Joint Management Plan also covers Knob Recreation Reserve which is jointly managed by Gunaikurnai Land and Waters Aboriginal Corporation in partnership with DELWP

**A draft Joint Management Plan for Barmah National Park has been released for public comment

Data source: DELWP

Percentage of landscapes with a Conservation Action Plan

- Conservation Action Plans are created to define and prioritise conservation strategies for specific landscapes, and broadly describe the expected outcomes of those strategies by realistically outlining what can be achieved to address threats that pose the most risk to conservation assets.
- Conservation Action plans are essential in achieving Parks Victoria’s vision of increasing the resilience of natural assets and maintaining ecosystem services across the park network.
- As of 2019, five of the 18 Park Landscapes (22%) had a completed Conservation Action Plan, with a further two (11%) completed as part of the management plan. Four (28%) were in preparation and seven (39%) had not commenced.



Data source: Parks Victoria Conservation Planning and Programs team

8.1.2. Park research to improve knowledge and effectiveness

A strong base of knowledge and evidence is essential to effective park management. Targeted research programs enable park managers to fill key knowledge gaps, address uncertainty and test assumptions. These include both environmental and social research programs.

Number and types of RPP projects completed or commenced

The Parks Victoria Research Partners Program (RPP) continued to deliver collaborative research with universities and other research institutions during the reporting period. Since 2013, more than 60 new research projects were initiated, and many other multi-year projects continued to address critical knowledge gaps and ensure management decisions and actions were supported by high-quality data and science. Projects supported through the Research Partners Program included:

- development of a rapid park health check tool as an early warning for detecting symptoms of degradation in terrestrial parks
- using different technologies (e.g. sonar, remote sensing, thermal imaging) to innovatively monitor and manage parks
- improving how the impacts of fire on biodiversity are measured and considered in managing fragmented landscapes
- development of decision tools to predict how different management actions will affect the persistence of coastal ecosystems and their capacity to sequester carbon
- restoration techniques for degraded habitats
- assessment of risk and control strategies for emerging environmental weeds
- managing the impacts of overabundant native species
- blue-carbon valuation and mapping
- marine pest investigations (removal strategies, prioritisation and biocontrol)
- hydroacoustic and habitat mapping of marine protected areas

Number and types of scientific research permits in parks

In 2017, Parks Victoria introduced ParkConnect, an interactive system for staff and researchers to manage permit applications, request and approve access to parks for research activities, and upload research findings. Based on an analysis of research permits managed in 2017-18, research activity in parks included the following:

- A total of 763 research permits were managed, including the issue of 382 new permits.
- Permits were held by 345 different universities, other research institutions and individuals; universities/colleges (including collaborations) accounted for 23% of these.
- Permits enabled research to be carried out in more than 30 parks (a permit may cover more than one park) or in all parks if required (24 permits).

- More than 90% of the permits were for terrestrial landscapes. Alpine National Park managed the greatest number of permits (260), followed by Great Otway National Park (166) and Gippsland Lakes Coastal Park (134).
- More than two-thirds of permits were predominantly about fauna, with 31% predominantly about flora.

8.1.3. Traditional cultural knowledge

With the vast responsibility of managing over four million hectares of Victoria's most intact landscapes, Parks Victoria recognises the importance and value of collaborating with Traditional Owners to manage parks in a culturally sensitive and ecologically sympathetic way.

The authority and cultural responsibilities of Traditional Owners to care for Country are being increasingly recognised through Joint Management Plans, co-management agreements and other partnerships.

Cultural knowledge has been an essential component of new park planning approaches. Examples include the development of the Lake Boort Management Plan in collaboration with Dja Dja Wurrung Traditional Owners and **engaging and collaborating with Eastern Maar Traditional Owners to inform and co-design visitor infrastructure that respects and celebrates Aboriginal culture as part of implementation of the Shipwreck Coast Master Plan.**

Parks Victoria's *Managing Country Together* framework is strengthening the organisation's capacity to effectively manage Victoria's cultural landscapes in partnership with Traditional Owners. The framework provides both practical and symbolic recognition of Traditional Owner rights, underpins enduring partnerships with Traditional Owners, and strengthens sector capacity in management of joint protected areas and Aboriginal cultural heritage.

8.1.4. Participation in citizen science and other knowledge partnerships

Citizen scientists and community volunteers play a valuable role in gathering information to improve baseline knowledge of park values. Their involvement in this process of understanding, as well as partnerships to improve alignment of research with park management priorities, have dramatically increased since 2007.

During the reporting period Parks Victoria expanded its role in citizen science initiatives to connect people with nature, including:

- developed a new app for the Sea Search program in partnership with CSIRO
- facilitated citizen science surveys monitoring some of Victoria's most threatened ecosystems and animal species, including over 400 km of spotlight transects in native grasslands at Terrick Terrick National Park and Bael Bael Nature Conservation Reserve.
- provided ongoing support to the Victorian Mallee Fowl Recovery Group, one of the Victoria's most extensive and long-running citizen science programs
- partnered with Bush Blitz to support expeditions within Croajingolong National Park and on Gabo Island, as well as adjoining seas.
- supported the successful release and monitoring of captive-bred critically endangered Regent Honeyeaters into Chiltern-Mt Pilot National Park
- continued to partner with Conservation Volunteers Australia (CVA) to deliver specialised 'voluntourism' products for Naturewise Eco Escapes.
- formed partnerships with specialist citizen science groups including the Field Naturalists Club of Victoria to deliver focused fauna survey programs and publish results.

As technology continues to rapidly develop, there are increasing opportunities to establish and maintain knowledge partnerships with citizen scientists and other organisations to build and share knowledge and help evaluate the effectiveness of park management programs.

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