

Statewide Assessment of Public Land

SUPPLEMENT TO THE DISCUSSION PAPER



May 2017

VICTORIAN ENVIRONMENTAL ASSESSMENT COUNCIL

The Victorian Environmental Assessment Council (VEAC) was established in 2001 under the *Victorian Environmental Assessment Council Act 2001*. It provides the State Government of Victoria with independent advice on protection and management of the environment and natural resources of public land.

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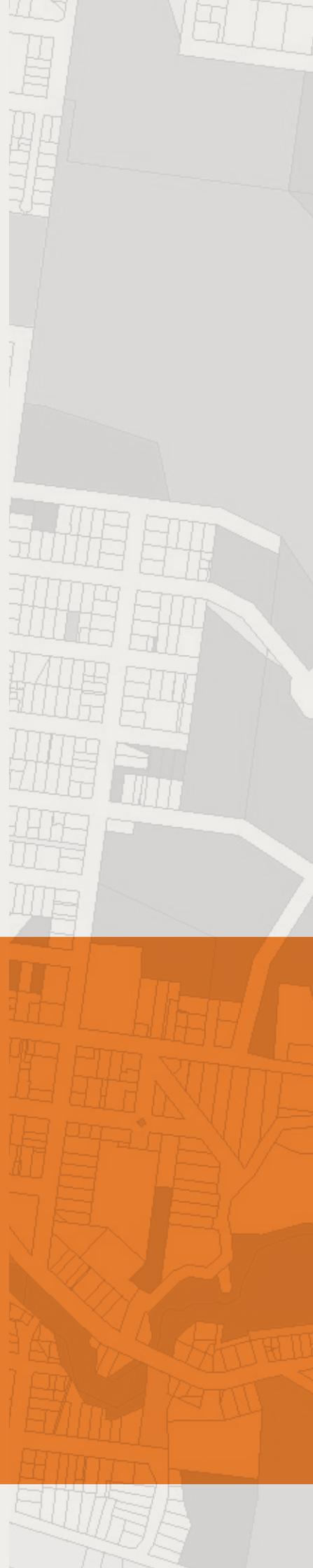
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Acknowledgment of Country

The Victorian Environmental Assessment Council acknowledges and pays its respects to Victoria's Native Title Holders and Traditional Owners, and the rich cultural and intrinsic connection they have to Country. The Council also recognises and acknowledges the contribution and interest of other Aboriginal peoples and organisations in the management of land and natural resources.



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Introduction

The Victorian Environmental Assessment Council (VEAC) commenced this investigation into public land in Victoria – the Statewide Assessment of Public Land – in late 2014 at the request of the then Minister for Environment and Climate Change. This supplement to the discussion paper is published together with the final report for the investigation. It complements and updates information in the discussion paper published in August 2016. The discussion paper and the supplement should be read together.

This supplement provides additional information related to the terms of reference for the Statewide Assessment of Public Land, arising from written submissions and further public consultation; an updated map of Victoria's public land and an additional map depicting Victoria's public land use overlays; and corrections to some errors in the discussion paper.

1.1 Background to the investigation

The background to the investigation, details of the formal request and terms of reference, information about VEAC and the investigation process are described in sections 1.1 to 1.6 of the discussion paper. The terms of reference are reproduced below.

Terms of reference

Pursuant to section 15 of the *Victorian Environmental Assessment Council Act 2001*, the Minister for Environment, Climate Change and Water requests the Victorian Environmental Assessment Council to carry out an investigation into public land in Victoria.

It is more than 25 years since the Land Conservation Council's *Statewide Assessment of Public Land Use* was published and it is timely to consider revisiting aspects of that assessment in order to provide updated information for public land management. National parks are recognised internationally as the core element of nature conservation and protection. Victoria's protected area estate is significant but remains fragmented and incomplete.

The purpose of the investigation is to carry out a statewide assessment of public land in Victoria which considers the recommendations of the council and its predecessors and the appropriateness of the current system of public land use categories established as a result. The focus of the investigation is to provide information and recommendations to assist management effectiveness and is not intended to change the current levels of protection underpinning Victoria's protected area system.

In particular, the council is requested to investigate and provide:

1. an assessment of the current system of public land use categories, including identification and evaluation of approaches adopted in other jurisdictions nationally and internationally, and consideration of options for changing or consolidating the existing categories to result in a system of categories that is simple and clear and that supports effective and efficient public land management;
2. an assessment of the current reservation status of public land, including areas where land use has changed since government accepted a recommendation; and
3. an inventory of the types of values on public land.

The council is requested to provide an interim report on the first term of reference that includes options for the consolidation of the existing public land categories by September 2015. To ensure there is an opportunity for public comment, the council is requested to publish information to assist in the making of submissions on this term of reference in the notice of investigation.

The council must prepare a discussion paper and a draft proposals paper.

The council must report on the completed investigation by 1 May 2017*.

*Originally February 2017

The terms of reference for the investigation specified the preparation of a discussion paper and a draft proposals paper. For this investigation an interim report was also required on the first of the three specific terms of reference. The contents of the interim report covering the first term of reference were revised, updated and summarised, and included in the discussion paper.

The discussion paper and draft proposals paper were jointly released for public comment in August 2016. The discussion paper addressed all three specific topics in the terms of reference.

The final report for the investigation was submitted to the Minister on 1 May 2017.

1.2 Structure of this supplement

This supplement complements and updates information in the discussion paper published in August 2016. The supplement should be read in conjunction with the discussion paper.

There are three sections:

Section 1 briefly introduces the investigation and the structure of the supplement

Sections 2 to 4 provide additional information grouped according to the three specific topics in the terms of reference and corresponding sections in the discussion paper: public land classification, current reservation status of public land, and public land values

Section 3 corrects some errors in the discussion paper

Pocket maps include Map A which is an updated version of map A in the discussion paper depicting public land in Victoria and Map B shows Victoria's public land use overlays.

Public land and public land classification

Consultation on the discussion paper indicated that further details on forest management was desirable, to supplement information in the discussion paper on the primary land legislation in section 2.3.1 and other systems of classifying land in section 3.3. There is considerable stakeholder interest in native forests on public land, and more information was sought about the basis for and characteristics of forest zoning and its relationship to public land use categories. The following information relates to State forest, which is the single largest category by area of terrestrial public land at 3.15 million hectares.

2.1 Forest management

Management of state forests in Victoria is carried out within a complex legal and policy framework.

2.2.1 Legal and policy framework

National forest policy

Australia has endorsed the Global Statement of Principles on Forests, presented at the 1992 United Nations Conference on the Environment and Development. An outcome of this endorsement was the preparation of a strategy for the ecologically sustainable management of Australia's forests, the National Forest Policy Statement¹, which has been signed by the federal and all state and territory governments.

In 1993, Canada convened the International Seminar of Experts on the Sustainable Development of Boreal and Temperate Forests. This led to the development of the Montreal Process criteria and indicators. These criteria are designed to reflect the ecological, economic and social components of sustainable forest management.

Regional indicators have been developed within these criteria for use in Australia. *Australia's Sustainable Forest Management Framework of Criteria and Indicators* 2008² forms the basis for measuring and reporting on sustainable forest management in Australia.

Regional forest agreements (RFAs)

Regional forest agreements between the federal, state and territory governments are a key outcome of the National Forest Policy Statement. Victoria has five such agreements, signed between 1997 and 2000. The Australian government coordinates a national approach to environmental and industry issues, while Victoria is responsible for managing the forests. These agreements are intended to last for 20 years.

The main objectives of the Victorian RFAs are:

- ✦ to identify a comprehensive, adequate and representative reserve system and provide for the conservation of those areas
- ✦ to provide for the ecologically sustainable management and use of forests in each RFA region, and
- ✦ to provide for the long-term stability of forests and forest industries.

The performance of all RFAs is reviewed together every five years. The first review period was from the date the RFAs were signed to 30 June 2004, and the second review period was from 1 July 2004 to 30 June 2009. These two review periods were assessed in one report, which was tabled in Parliament in 2010.³ The joint Australian and Victorian government response to the review was tabled in Parliament in 2015.⁴ No subsequent reviews have yet been completed.

Victoria's legislative framework

The Department of Environment, Land, Water and Planning (DELWP) manages state forests on behalf of the Victorian community. State forest is managed to balance a variety of uses. These uses include conserving flora and fauna, protecting water catchments and water supply, providing timber for sustainable forestry, protecting landscape, traditional owner, archaeological and historic values, and providing recreational and educational opportunities.

VicForests is the state-owned enterprise that is responsible for the sustainable harvest and commercial sale of timber from state forests in Victoria. The Minister for Agriculture through the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) provides guidance to VicForests on operating in a framework that is consistent with Victorian government policy and priorities. The Department of Treasury and Finance (DTF) supports the Treasurer in his role as the sole shareholder of VicForests and oversees its commercial and financial performance.

A range of state legislation governs forest management and timber harvesting in Victoria and specifies the areas of state forests that are subject to commercial activities.

1 Commonwealth of Australia 1992

2 Commonwealth of Australia 2008

3 Wallace, L 2010 *Independent review on progress with implementation of the Victorian Regional Forest Agreements*

4 DEPI 2014

Sustainable Forests (Timber) Act 2004

This Act provides a framework for sustainable forest management and sustainable timber harvesting in state forests. Amongst other things, it provides for the allocation of timber to VicForests through an allocation order and the development of a sustainability charter for Victoria's state forests, determines sustainability criteria and indicators and reporting requirements, and establishes the requirement to comply with codes of practice.

VicForests may only harvest and/or sell vested timber resources in accordance with the allocation order. The most recent allocation order is dated 30 October 2014, which was an amendment of the 1 October 2013 order.

Forests Act 1958

This Act provides for the management of state forests, including the protection of public land from fire, the development of forest management plans, licensed occupations including grazing and beekeeping, and the sale of forest produce.

Forest management areas (FMAs) are units for planning and managing state forest, and are defined in the Forests Act. Victoria has 15 forest management areas. The Wodonga and Wangaratta FMAs are currently managed together as the North East FMA. The FMA boundaries do not align with the RFA boundaries.

Section 22 of the Forests Act provides the Secretary of DELWP with a broad power to establish and revise a working plan 'with respect to the control, maintenance, improvement, protection from destruction or damage by fire or otherwise, and removal of forest produce in and from State forests'. For the purposes of section 22, forest management plans are a working plan.

Forest management plans outline information and minimum prescriptive management actions resulting from Victoria's RFA process. They establish strategies for integrating the use of state forest for wood production and other purposes with the conservation of natural, aesthetic and cultural values. To balance these uses, forest management plans include:

- ✦ conservation guidelines which specify minimum levels of planned protection provided for natural values in state forest, taking into account the extent of those values in formal reserves
- ✦ forest management zones which set priorities and permitted uses in different parts of state forest
- ✦ a process for adapting to change in a systematic and orderly manner.

Forest management plans are developed with experts from disciplines such as forestry, botany, wildlife biology, catchment management, water resources, cultural heritage and recreation planning, in consultation with the public. Information on the uses and values of the forest (including natural, cultural, social, resource and economic) arising from the RFA comprehensive regional assessment processes informs the planning process. Forest management plans align with the RFA areas and therefore may cover one or more FMAs, and different areas of a FMA may be subject to different management plans.

The forest management zoning scheme is the spatial representation of a working plan, or forest management plan. This detailed zoning system allows for the protection and management of a range of values and uses of state forest.

The zoning scheme includes special protection zones (SPZ), special management zones (SMZ), and general management zones (GMZ).⁵

Special protection zones are managed for the conservation of natural, cultural, recreation and amenity values. Larger components of SPZs include old-growth forest, habitat for rare and threatened species, areas of rainforest, and representative examples of ecological vegetation classes. SPZs form part of the Comprehensive, Adequate Reserve (CAR) System, which is a key element of delivering on the conservation objectives set out in Regional Forest Agreements. A number of smaller areas such as historic and recreation sites are also included in SPZs. Each component of this zone is managed to minimise disturbances or processes which threaten conservation values, and timber harvesting is excluded. Timber resources in the SPZ are not included in sawlog sustainable yield forecasts. SPZs may be removed or amended, for example, if the values they are protecting no longer exist, or review processes demonstrate that alternative areas are a higher priority for protection.

Special management zones are managed to maintain specific values while catering for some timber production. This zone primarily includes areas of high landscape value, the protection of which requires modification to timber harvesting or other land use practices rather than their exclusion. Management of this zone tends to be considered on a case-by-case basis within the constraints outlined in relevant forest management plans. Timber and other forest produce may be harvested from this zone.

⁵ Descriptions of zones are drawn from forest management plans, particularly the Forest Management Plan for Gippsland 2004

This zone forms part of the area that contributes to the sustainable yield of sawlogs, provided that modifications to normal management practices adequately address the protection of the identified values, or positively contribute to their conservation.

General management zones cater for a range of uses, with timber production being a high priority. Forest in this zone will be managed for the sustainable production of sawlogs in accordance with the Code of Practice for Timber Production and more detailed local management prescriptions. Other management aims include protection of landscape and water quality, provision of recreation and educational opportunities, fire protection and conservation of natural values to complement adjacent zones.

A number of sub-zones apply within the SMZ and GMZ, as follows:

Timber production sub-zones are used to produce sawlogs on a sustainable basis in accordance with the Code of Practice for Timber Production and regional prescriptions. This sub-zone corresponds to the net area in both the GMZ and the SMZ that is both available and suitable for producing sawlogs. It generally corresponds to sites where soil and rainfall conditions enable suitable tree species to grow to a height of about 28 metres or greater. Harvested areas will be regenerated with local species, and the regrowth across the sub-zone will produce a mosaic of native forest of different ages.

Other uses sub-zones apply to forest within the GMZ and SMZ where productivity is too low for sawlog harvesting under current arrangements. This sub-zone contributes to the conservation of drier forest types and associated fauna. While activities such as fuel-reduction burning, harvesting of other forest produce (such as firewood, poles and honey) and recreation are permitted, they will generally be localised, leaving much of the area relatively undisturbed.

Code exclusions sub-zones identify areas within the GMZ and SMZ that are excluded from harvesting operations due to the requirements of the Code of Practice for Timber Production. It includes stream buffers and slopes generally greater than 30 degrees. Much of this area will remain largely undisturbed and contributes to the conservation of a number of ecological vegetation classes and related fauna.

The Secretary of DELWP may amend the forest management zones at any time, subject to administrative processes. Amendments must also be consistent with Regional Forest Agreements. For significant updates of the forest management zones, public consultation is required.

Conservation, Forests and Land Act 1987

This Act addresses requirements for the protection of land, water and wildlife prior to the commencement of harvesting or construction activities, as met through approval of the Timber Release Plan process, and enforces compliance with the Code of Practice for Timber Production.

2.2.2 Administrative arrangements

A number of state government agencies have roles and responsibilities relating to state forests and/or native timber harvesting in Victoria.

DELWP has responsibility for managing public land in Victoria including the Crown land making up state forest. It also regulates compliance of VicForests' activities with the Code of Practice for Timber Production. DELWP also has broader roles in forest policy and forest management zoning, and management roles in relation to fire, biodiversity, recreation and administration of some non-commercial licences. DEDJTR, VicForests and DTF are the key government agencies with roles and responsibilities in relation to the native timber industry in Victoria.

VicForests was established in 2003 by Order in Council under the *State Owned Enterprises Act 1992*. The Treasurer is the sole shareholder. The responsible minister is the Minister for Agriculture. VicForests is responsible for the sustainable harvest, regrowing and commercial sale of timber from Victoria's state forests on behalf of the Victorian government.

2.2.3 Environmental management of Victoria's forests

In addition to the formal conservation reserve system and forest management zones, there is a comprehensive regulatory system for activities that occur in state forest that may impact biodiversity and other natural values.

Code of practice for timber production

The primary regulatory document is the *Code of Practice for Timber Production 2014* which applies to all commercial timber production activities in public and private native forests and plantations in Victoria. The purpose of the code is to provide direction and guidance to forest managers and operators to deliver sound environmental performance when growing and harvesting commercial timber.

Timber production on all native forest and plantations in Victoria is guided by six code principles, which are developed from the internationally recognised Montreal Process criteria, and are consistent with the objectives of the sustainability charter.

The *Management standards and procedures for timber harvesting operations in Victoria's State forests 2014* are derived from the Code of Practice for Timber Production, and are intended to assist managing authorities, and harvesting entities in interpreting the requirements of the Code. These management standards include a number of planning standards. Prior to 2014, prescriptions that specified particular management actions, such as threatened species protections or stream buffers, were stated in Forest Management Plans and Action Statements. With the 2014 revision of the Code, many of these prescriptions (e.g. for Leadbeater's possum) were transcribed directly into the planning standards.

Current reservation status of public land

The second topic in the terms of reference for this investigation required an assessment of the current reservation status of public land, including areas where land use has changed since government accepted a recommendation. This was addressed through an assessment of progress in formally implementing – usually through land reservation – government-accepted recommendations of the LCC, ECC and VEAC, and noting which recommendations or areas may require review.

3.1 Additional analysis

The assessment of reservation status is a labour-intensive and time-consuming task. For the discussion paper, the reservation status was assessed for 13 public land categories and 5 public land use overlays (see section 4.2 of the discussion paper). Subsequent to the release of the discussion paper, the reservation status of a further 11 categories was assessed. Table 2.1 on page 17 of the final report for the investigation (2017) summarises the results for all the assessed categories, sub-categories and overlays.

3.1.1 Defining implementation of government-accepted recommendations

Formal processes are set out in legislation about how the government must respond to reports and recommendations of VEAC and its predecessors. Section 2.2.2 of the discussion paper describes the legal status of government-accepted recommendations of the LCC, ECC and VEAC. For example, section 26 of the *Victorian Environmental Assessment Council Act 2001* provides that, if the statement of the government response to a report specifies that the government wholly or partly accepts a recommendation, the government must ensure that appropriate actions are taken to implement the recommendation to the extent that it has been accepted. Historically, the *Land Conservation Act 1970* provided that, following notice by the Minister to affected government departments and public authorities of the intention to accept the recommendations, an Order of the Governor in Council required departments or public authorities to use ‘all diligence and dispatch to give effect to any recommendation’ so far as it affects any land vested in or controlled by them.

Public land is usually thought of in terms of discrete areas such as a specific national park, state forest or reserve. However, public land administration deals with land in terms of both individual and multiple ‘parcels’ of land. A parcel is an allotment of land with defined boundaries and an individual identifying number (analogous to private land parcels that have unique title, subdivision and plan numbers).

To assess, categorise and inventory the implementation status of recommendations applying to different public land use categories, VEAC described the level of implementation as follows:

- ✦ fully implemented
- ✦ partially implemented
- ✦ unimplemented
- ✦ implementation unclear.

Most reservations under the Crown Land (Reserves) Act are made by Order of the Governor in Council published in the Government Gazette. It is much more complex and time-consuming to assess the implementation of public land categories that are reserved via this mechanism, as the data about reserved land units are not all listed together in an easily accessible place.

For a land unit to be classified as fully implemented, all parcels covered by one or multiple government-accepted recommendations must be reserved. In addition, the reservation purpose must be appropriate to the public land use category. For example, ‘public purposes’ is not considered to be an appropriate reservation purpose for a recommendation for a natural features reserve - wildlife area.

Land units classified as partially implemented have between 25 and 99 per cent of parcels in the land unit correctly reserved in accordance with the government-accepted recommendation.

There are multiple reasons for a land unit being classified as unimplemented. These include having fewer than 25 per cent of parcels correctly reserved, parcels that are unreserved, parcels reserved for the wrong purpose, and parcels reserved for a different and potentially similar purpose (e.g. a parcel was recommended as an historic reserve, but is appropriately reserved for a cemetery as it is currently used as an active cemetery).

Land units are classified as ‘implementation unclear’ if there is inadequate or conflicting information about reservation status for parcels and/or about the final government-accepted recommendation for parcels.

3.1.2 Analysing implementation

In contrast to the two methods used to assess implementation in the analyses reported in the discussion paper (see page 48), these additional analyses used only the parcel-area method. This involved assessing the reservation status of individual parcels through assigning each parcel as: correctly reserved, unreserved, incorrectly reserved, or recommendation/reservation unclear. Following this step, the hectares of parcels assigned to each status were summed. This contrasts with the parcel-count method, where the numbers of parcels assigned to each status were summed.

Where there were tied results, partially-implemented was selected over implementation unclear and unimplemented, and implementation unclear over unimplemented.

3.1.3 Assessing implementation

To better understand the reservation status of government-accepted recommendations primarily implemented under the Crown Land (Reserves) Act, a further ten sub-categories were assessed, in addition to those assessed for the discussion paper in 2016. The analysis of natural features reserves-wildlife areas was also extended statewide. The sub-categories assessed and reported for this supplement are:

- ✦ Natural features reserve: Bushland area
- ✦ Natural features reserve: Cave
- ✦ Natural features reserve: Geological and geomorphological area
- ✦ Natural features reserve: Highway park
- ✦ Natural features reserve: Lake reserve
- ✦ Natural features reserve: Mineral spring
- ✦ Natural features reserve: River Murray reserve
- ✦ Natural features reserve: Streamside area
- ✦ Natural features reserve: Wildlife area
- ✦ Community use area: Education area
- ✦ Earth resources: Stone reserve

Assessing implementation is a resource-intensive process involving checking the reservation status of each parcel of land within a recommended land unit against a number of internal and external databases. Accordingly, only a sample of recommendations for the sub-categories of bushland reserves, streamside reserves and stone reserves was able to be assessed in the time available. The first two sub-categories were assessed for the Angahook-Otway, Ballarat, Corangamite and River Red Gum Forests study (or investigation) areas, while stone reserves were assessed only for the Ballarat study area. In contrast, VEAC was able to assess all caves, geological and geomorphological areas, highway parks, lake reserves, mineral springs, river Murray reserves, wildlife areas and education areas across all LCC/ECC/VEAC investigation areas.

Bushland areas

Natural features reserve-bushland areas are typically small Crown land reserves often containing remnant vegetation in a largely cleared landscape. In the past these areas may have provided opportunities for camping and watering points for travelling stock, and opportunities for passive recreation in relatively natural surroundings. All formally reserved bushland areas are implemented through the Crown Land (Reserves) Act.

Government-accepted recommendations for natural features reserve-bushland areas apply to potentially 1,150 land units totalling approximately 49,000 hectares. For the purposes of this analysis, 104 land units totalling 5,508 hectares were assessed for recommendations in the Angahook-Otway, Ballarat, Corangamite and River Red Gum Forests study areas. The reserves within these investigation areas range in size from 0.19 to 1,490 hectares. Many land units consist of a single parcel (see table 3.1).

Table 3.1
Summary information on natural features reserve - bushland areas

Smallest	Piangil Bushland Area (0.19 hectare)
Largest	Wargan-Mallee Bushland Area (1,490 hectares)
Least parcels	72 consist of a single parcel
Most parcels	Beattie Depression Natural Features Reserve (40 parcels)

Assessing implementation of land units against government-accepted recommendations reveals 64 per cent of bushland areas are fully implemented, 5 per cent are partially implemented, 29 per cent are unimplemented, and for 2 per cent the implementation status is unclear. Bushland areas are considered to be IUCN protected areas (category III: natural monument or feature or category IV: habitat/species management area). While protected areas typically show higher levels of implementation, this is not the case for bushland areas. Protected areas with lower implementation levels tend to be those with lower IUCN protected area classifications, such as bushland areas.

Where parcels were unimplemented, this was largely because they were unreserved (79 per cent) compared to being reserved for an incorrect or inappropriate purpose (21 per cent). Where there was an incorrect reservation purpose, 3 per cent were permanently reserved, 90 per cent were temporary reservations, and 7 per cent were reserved for a potentially more appropriate purpose which requires review.

For 58 per cent of implemented (correctly reserved) parcels, reservation for the correct purpose occurred after the most recent investigation. The remaining 42 per cent of correctly reserved parcels were reserved prior to the most recent investigation. For the one parcel where the implementation was unclear, both the reservation status and the original recommendation were unclear.

Reservation purposes for bushland areas have been highly consistent. Only two different forms of the wording of purpose have been used: Conservation of an area of natural interest and Preservation of native flora and fauna.

Cave reserves

Cave reserves were only ever recommended in the Gippsland Lakes Hinterland study (LCC 1983). Seven land units were recommended, covering 414 hectares. All cave reserves consist of one to four parcels, and range in size from one to 340 hectares. All formally reserved cave reserves are implemented through the Crown Land (Reserves) Act.

Assessing implementation of land units against government-accepted recommendations revealed 72 per cent of cave reserves are fully implemented, 14 per cent are partially implemented and for 14 per cent the implementation status is unclear.

For all implemented (correctly reserved) parcels, reservation for the correct purpose occurred before the most recent investigation. Where the implementation status of parcels was unclear, all had unclear reservation statuses. All parcels for cave reserves have all been reserved using one form of the wording of purpose: Public purposes and Protection of natural features.

Geological and geomorphological features areas

Natural features reserve-geological and geomorphological features areas are reserved to protect specific features showing significant geological exposures, for example, the Permian glacial pavements at Eppalock, or geomorphic elements, such as the Victoria Hill plunging anticline at Bendigo, for scientific and wider interest. All formally reserved geological and geomorphological features areas are implemented through the Crown Land (Reserves) Act.

Government-accepted recommendations for geological and geomorphological features areas apply to 18 land units totalling 477 hectares. The reserves range in size from 0.19 to 148 hectares. All geological and geomorphological features areas consist of between one and eight parcels (see table 3.2).

Table 3.2
Summary information on natural features reserve-geological and geomorphological features areas

Smallest	Flag Reef Geological Reserve (0.19 hectare)
Largest	Mount Greenock Geological Reserve (148 hectares)
Least parcels	14 consist of a single parcel
Most parcels	Koonwarra Fish Beds Geological Reserve (8 parcels)

Assessing implementation of land units against government-accepted recommendations reveals 44 per cent of geological and geomorphological features areas are fully implemented, 39 per cent are unimplemented, and for 17 per cent the implementation status is unclear.

The small number of land units in this sub-category means that the outcome of the analysis is sensitive to small changes in the reservation status of single parcels. Where parcels were unimplemented, 10 per cent were unreserved and the remaining 90 per cent were reserved for an inappropriate or incorrect purpose. Where there was an incorrect or inappropriate reservation purpose, 37 per cent were permanent reservations and the remaining 63 per cent were temporary reservations. Inappropriate permanent reservations tended to be public purposes reservations from the 1880s, which are comparatively more complex to revoke than more recent temporary reservations.

For 67 per cent of implemented (correctly reserved) parcels, reservation for the correct purpose occurred after the most recent investigation. The remaining 33 per cent were already correctly reserved prior to the most recent investigation. Cases of unclear implementation status were always due to uncertainty about the reservation status of the parcel.

Geological and geomorphological features areas have been reserved using eight different forms of the wording of purpose (see table 3.3).

Table 3.3
Reservation purposes for natural features reserve-geological and geomorphological features areas

Conservation of an area of natural and scientific interest
Conservation of an area of natural interest
Conservation of an area of scientific interest
Preservation of an area of geological and geomorphological significance
Preservation of an area of geological significance
Public purposes (fossil area)
Public purposes (preservation of geological feature)
Public purposes (preservation of native flora and natural features)

Highway park

Natural features reserve-highway parks were recommended along major tourist routes where there was a need for areas sufficiently large to allow travellers to be isolated from the road environment and to allow dispersion of picnickers. These areas have scenic qualities, such as streams, and are sufficiently stable to withstand intensive use. They are used by travellers for relaxation and picnicking and often contain picnic and rest facilities like fireplaces and tables. All formally reserved highway parks are implemented through the Crown Land (Reserves) Act.

Government-accepted recommendations for highway parks apply to 14 land units totalling 339 hectares. The reserves range in size from 0.58 to 145 hectares. Almost half of the land units consist of a single parcel (see table 3.4).

Table 3.4
Summary information on highway parks

Smallest	Tallandoon roadside picnic area (0.58 hectare)
Largest	Highway park on Wimmera Highway at Bates Lake (145 hectares)
Least parcels	5 consist of a single parcel
Most parcels	Toolleen Highway Park (21 parcels)

Assessing implementation of land units against government-accepted recommendations reveals 7 per cent of highway parks are fully implemented, 7 per cent are partially implemented, and 86 per cent are unimplemented.

Incorrect or inappropriate reservation purpose was the main reason parcels, and therefore land units, were assessed as unimplemented. Where parcels were unimplemented 16 per cent were unreserved and 84 per cent were reserved for an inappropriate purpose. Where there was an incorrect reservation purpose, 10 per cent were permanent reservations and 90 per cent were temporary reservations. Some of the inappropriate temporary reservation purposes date to the late 1800s. These purposes include Camping and recreation, Camping and watering, Growth and preservation of timber, Police purposes, Supply of gravel and Water supply. These reservations were not revoked when the land was identified for a different use by the LCC. More recent inappropriate reservation purposes are often 'Conservation of an area of natural interest' which is inconsistent with the intent of the original government-accepted recommendation. This may indicate areas where the land use has changed since the government accepted a recommendation.

For 80 per cent of implemented (correctly reserved) parcels, reservation for the correct purpose occurred before the most recent investigation. The remaining

20 per cent of implemented parcels were correctly reserved after the most recent investigation. All cases of unclear implementation were due to unclear recommendations.

Highway parks have been reserved using two different forms of the wording of purpose: Amenity of the travelling public and Public park.

Lake reserve

Lake reserves vary widely. They have been reserved to protect a range of values including scenic values, recreation (mainly boating and angling), wildlife conservation (particularly waterfowl), water supply and drainage. Some are popular for duck hunting during the declared hunting period, but the extent of this varies according to the season. The ephemeral nature of many lakes also leads to a temporal variation of uses and values on individual lakes. Almost all lake reserves are confined to the western and northern plains, particularly within the volcanic plains between Colac and Hamilton. All formally reserved lake reserves are implemented through the Crown Land (Reserves) Act.

Government-accepted recommendations for natural features reserve-lake reserves apply to 106 land units totalling 72,561 hectares. The reserves range in size from less than one hectare to over 25,000 hectares. Many land units consist of a single parcel (see table 3.5).

Table 3.5
Summary information on lake reserves

Smallest	Lake Gellies Reserve (0.8 hectare)
Largest	Lake Corangamite Reserve (25,264 hectares)
Least parcels	72 consist of a single parcel
Most parcels	Cundare Pool and Lake Martin Reserve (72 parcels)

Assessing implementation of land units against government-accepted recommendations reveals 69 per cent of lake reserves are fully implemented, 7 per cent are partially implemented, 22 per cent are unimplemented, and for 2 per cent the implementation status is unclear.

Because some land units allow hunting and others have an emphasis on recreation, lake reserves are not considered to be protected areas (conservation reserves). This assessment of implementation has shown that areas outside Victoria's protected area system typically have lower levels of implementation. However, lake reserves are one of a few sub-categories that show a different pattern. The high level of community use of some of these reserves may mean that there is strong community interest in ensuring that the areas are appropriately reserved and regulated.

For 76 per cent of implemented (correctly reserved) parcels, reservation for the correct purpose occurred after the most recent investigation. The remaining 24 per cent were already correctly reserved prior to the most recent investigation. Where parcels were unimplemented, 69 per cent were unreserved and 31 per cent were reserved for an incorrect or inappropriate purpose. Where there was an inappropriate reservation purpose, 37 per cent were permanent reservations, 51 per cent were temporary and for 12 per cent it was not possible to determine whether the reservation was permanent or temporary due to missing data. For parcels where the implementation status was unclear, 93 per cent were due to unclear reservation status. In only 7 per cent of cases the recommendation was unclear.

Lake reserves have been reserved using 17 different forms of the wording of purpose (see table 3.6).

Table 3.6
Reservation purposes for natural features reserve-lake reserves

Conservation of an area of natural interest
Conservation of water and public recreation
Park and recreation
Preservation of the bed and banks of a lake
Protection of the bed and banks of a lake
Public park
Public park and recreation
Public purposes (caravan park)
Public purposes (protection of the bed and banks of a lake)
Public recreation
Public recreation and tourist camping
Public recreation and water supply
Recreation and other public purposes
Road and watering
Watering purposes
Water supply
Water supply and public recreation

Mineral springs

Most natural features reserve-mineral springs occur within the LCC's Melbourne District 1 area, predominantly to the north-west of Melbourne. Of those located on public land, many are located within reserves set aside for mineral springs. A few others fall within other Crown land reserves such as recreation reserves. All formally reserved mineral springs are implemented through the Crown Land (Reserves) Act.

Government-accepted recommendations for mineral springs apply to 12 land units totalling 175 hectares. The reserves range in size from less than one hectare to 30 hectares. Almost half of the mineral springs consist of a single parcel (see table 3.7).

Table 3.7
Summary information on mineral springs

Smallest	Leonards Hill Mineral Spring (0.3 hectare)
Largest	Hepburn Mineral Springs Reserve (30 hectares)
Least parcels	5 consist of a single parcel
Most parcels	Daylesford Mineral Springs and Lake Reserve (14 parcels)

Assessing implementation of land units against government-accepted recommendations reveals 67 per cent of mineral springs are fully implemented, 8 per cent are unimplemented, and for 25 per cent the implementation status is unclear. Due to the small number of land units in this category, the three land units which have unclear implementation status have a large impact on the outcome of this assessment. With further detailed work, these land units may be found to be fully or partially implemented.

All implemented (correctly reserved) parcels were reserved for the correct purpose before the most recent investigation. Where parcels were unimplemented, all of them were unreserved. Where the implementation status was unclear for parcels, this was due to unclear reservation status and unclear boundaries for the original recommendation.

Mineral springs have been reserved using six different forms of the wording of purpose (see table 3.8).

Table 3.8
Reservation purposes for natural features reserve-mineral spring

A site affording access to mineral springs
Mineral springs
Mineral springs and public park
Mineral springs, public recreation and public purposes
Public purposes
Recreation, convenience or amusement of the people

River Murray reserve

The majority of the area recommended as River Murray reserve was reviewed in VEAC's River Red Gum Forests investigation. Land in this category now only exists upstream of Lake Hume. Downstream of Lake Hume, most of the land in this category has been included in the Murray River Park.

The remaining area of government-accepted recommendations for the River Murray reserve covers 1,135 hectares over 70 parcels in a single land unit. All of this area is unimplemented, 8 per cent is unreserved and 92 per cent reserved for an incorrect or inappropriate purpose. Where there was an incorrect reservation purpose 86 per cent are permanent reservations, 9 per cent temporary reservations, and for the remaining 5 per cent it was not possible to determine if the reservation is permanent or temporary. The inappropriate permanent reservations tend to be original 1881 public purposes reservations, which are comparatively more complex to revoke than more recent temporary reservations.

Streamside area

Natural features reserve-streamside areas are typically scenic and accessible reserves adjoining rivers and streams. Often these areas are located where a wider section of public land is intersected by a road or stream crossing. Originally set aside for passive recreation such as picnicking and camping, these areas are also ecologically important, protecting riparian vegetation along watercourses. All formally reserved streamside areas are implemented through the Crown Land (Reserves) Act.

To meet the timeline for the investigation, the assessment of the implementation status of natural features reserve-streamside areas is limited to the Angahook-Otway, Ballarat, Corangamite and River Red Gum Forests investigation areas. Within these investigation areas, government-accepted recommendations for streamside areas apply to 48 land units totalling 1,993 hectares. The reserves range in size from less than one to 856 hectares. Approximately a third of streamside reserves consist of a single parcel (see table 3.9).

Table 3.9
Summary information on streamside areas within the four selected investigation areas

Smallest	Woody Yaloak river frontage 0.6 hectare
Largest	Arcadia streamside area (856 hectares)
Least parcels	19 consist of a single parcel
Most parcels	Arcadia streamside area (34 parcels)

Assessing implementation of land units against government-accepted recommendations reveals 25 per cent of streamside areas are fully implemented, 10 per cent are partially implemented, 63 per cent are unimplemented, and for 2 per cent the implementation status is unclear. Streamside areas are considered to be IUCN protected areas (category III: natural monument or feature or category IV: habitat/species management

area). While protected areas typically show higher levels of implementation, this is not the case for streamside reserves. Protected areas with lower implementation levels tend to be those with lower IUCN protected area classifications, like streamside reserves.

Incorrect or inappropriate reservation purposes were the main reason for streamside areas being unimplemented. Where parcels were unimplemented, 74 per cent were reserved for an inappropriate purpose and 26 per cent were unreserved. Of the incorrectly reserved parcels 45 per cent were permanent reservations, 31 per cent temporary, and for 24 per cent it was not possible to determine if the reservation was permanent or temporary due to missing data.

For 90 per cent of implemented (correctly reserved) parcels, reservation for the correct purpose occurred after the most recent investigation. The remaining 10 per cent were reserved prior to the most recent investigation. For parcels where the implementation status was unclear, 33 per cent were due to unclear reservation status, and for 67 per cent of parcels it was due to a lack of clarity about the intent of the original recommendation.

Streamside areas have been reserved using only three different forms of the wording of purpose: Conservation of an area of natural interest, Public recreation and conservation of an area of natural interest, and Public purposes.

Wildlife area

Natural features reserve-wildlife areas are distinguished from nature conservation reserves in that they permit hunting. They are sometimes known as game reserves. Recommendations for wildlife management co-operative areas are included in this public land sub-category. To meet the timeline for the discussion paper, assessment of the implementation status of wildlife areas was limited to government-accepted recommendations from the Ballarat, Gippsland Lakes Hinterland, Wimmera and River Red Gum Forests investigation areas. Subsequently the analysis has been extended statewide. All formally reserved wildlife areas are implemented through the Crown Land (Reserves) Act.

Government-accepted recommendations for wildlife areas apply to 229 land units totalling 85,227 hectares. The reserves range in size from less than one hectare to 12,759 hectares. Many wildlife areas consist of a single isolated parcel (see table 3.10).

Table 3.10
Summary information on wildlife areas

Smallest	Trig Reserve (0.7 hectare)
Largest	Lake Tyrell Wildlife Reserve (12,759 hectares)
Least parcels	145 consist of a single parcel
Most parcels	Lake Buloke Wildlife Management Co-operative Area (108 parcels)

The initial analysis presented in the discussion paper (see page 51), which covered four LCC/ECC/VEAC investigation areas, found that 49 per cent of land units were fully implemented, 20 per cent were partially implemented, 5 per cent were unimplemented and for 26 per cent it was not possible to determine the implementation status. Subsequent analysis of all wildlife areas statewide showed that 67 per cent of wildlife areas are fully implemented, 13 per cent are partially implemented, 4 per cent are unimplemented, and for 16 per cent the implementation status is unclear.

Wildlife areas are not considered by VEAC to be protected areas as they permit hunting of native wildlife, although they are sometimes reported as an IUCN category VI reserve. This implementation analysis has generally shown that areas outside Victoria's system of protected areas have lower levels of implementation compared to protected areas, like national parks and nature conservation reserves. However, there is a relatively higher level of implementation for this public land use sub-category, reflecting strong community interest in ensuring that areas available for hunting are appropriately reserved and regulated.

For 73 per cent of implemented (correctly reserved) parcels, reservation for the correct purpose occurred after the most recent investigation, and 24 per cent of parcels prior to the most recent investigation. For the remaining 3 per cent of parcels, it was not possible to determine when they were correctly reserved due to discrepancies in information from different databases.

Where parcels were assessed as unimplemented, 88 per cent were unreserved and 12 per cent were reserved for an incorrect or inappropriate purpose. Where there was an inappropriate reservation purpose, 20 per cent were permanent reservations, 65 per cent were temporary reservations, and for 15 per cent it was not possible to determine whether the reservation was permanent or temporary due to missing data. Where the implementation was unclear, for 92 per cent of parcels it was due to unclear reservation status. For 2 per cent of parcels the original recommendation was unclear, and for 6 per cent of parcels both the reservation status and recommendation were unclear.

Wildlife areas have been reserved using 23 different forms of the wording of purpose (see table 3.11).

Table 3.11
Reservation purposes for wildlife areas

Classified state game reserve
Fisheries and Wildlife department purposes
Management of wildlife
Management of wildlife (state game reserve)
Management of wildlife and preservation of habitat
Management of wildlife and the preservation of wildlife habitat
Management of wildlife or wildlife habitat
Management of wildlife-preservation of wildlife habitat
Preservation of wildfowl
Preservation of wildlife
Preservation of wildlife habitat
Preservation or management of wildlife
Preservation or management of wildlife and wildlife habitat
Preservation or management of wildlife or preservation of habitat
Preservation or management of wildlife or preservation of wildlife habitat
Propagation or management of wildlife or the preservation of wildlife habitat
Public purposes (preservation of wildfowl)
Public purposes (preservation of wildlife)
Public purposes (wildlife)
State game reserve
Victorian college of agriculture and horticulture and management of wildlife
Wildlife purposes
Wildlife reserve

Education area

Education areas were identified as a sub-category where the land use may have changed since government accepted a recommendation.

Community use area-education areas were previously recommended to be set aside for environmental education; some have permanent school camps established on-site or nearby. The recommendations permit use for environmental studies, which may involve some environmental manipulation that would not normally be possible in parks and conservation reserves. Land use appears to have changed in this category. No new education areas have been recommended in more than a decade. Recent VEAC investigations have re-categorised

many existing education areas. Education areas that have been recently recommended were pre-existing and were often recommended with smaller boundaries. All formally reserved education areas are implemented through the Crown Land (Reserves) Act.

Government-accepted recommendations for education areas apply to 34 land units totalling 9,510 hectares. The reserves range in size from 3 to 1,360 hectares. Education areas have on average three parcels per land unit (see table 3.12).

Table 3.12
Summary information on education areas

Smallest	Spence Bridge Education Area (3.05 hectare)
Largest	Eppalock Education Area (1360.36 hectares)
Least parcels	7 consist of a single parcel
Most parcels	Kinglake West Education Area (12 parcels)

Assessing implementation of land units against government-accepted recommendations reveals 20 per cent of education areas are fully implemented, 6 per cent are partially implemented, 64 per cent are unimplemented, and for 9 per cent the implementation status is unclear.

Inappropriate or incorrect reservations were the primary reason for education areas being assessed as unimplemented. Where parcels were unimplemented, 74 per cent were reserved for an inappropriate purpose and 26 per cent were unreserved. Where there was an inappropriate reservation purpose, for 35 per cent of parcels the reservation was permanent, for 23 per cent of parcels it was temporary, and for the remaining 42 per cent of parcels it was not possible to determine the nature of the reservation due to missing information. Many cases of inappropriate or incorrect temporary reservations occurred because the parcels were reserved under the Forests Act rather than the Crown Land (Reserves) Act.

For 60 per cent of implemented (correctly reserved) parcels, reservation for the correct purpose occurred after the most recent investigation. The remaining 40 per cent were correctly reserved prior to the most recent investigation. Where the implementation status was unclear, this was always due to uncertainty about the reservation status.

Education areas have been reserved using seven different forms of the wording of purpose (see table 3.13).

Table 3.13
Reservation purposes for education areas

An area and facilities for the study of the natural environment
Area for the study of the natural environment
Facilities for the study of the natural environment
Public purposes (educational purposes)
Public purposes (nature park and environment study centre)
Study of natural environment
Study of natural environment and public purposes

Stone reserve

Earth resources-stone reserves were recommended to provide for the extraction of rock, gravel, clay, sand, and soil for the construction of roads and buildings. Many of these materials are provided from private land, but public land was also an important source. All formally reserved stone reserves are implemented through the Crown Land (Reserves) Act, apart from those that are covered by an Extractive industries lease.

Stone reserves were identified as a category where the land use may have changed since government accepted a recommendation. To assess the extent to which land use may have changed in this category, the implementation status of all stone reserves was assessed within the LCC's 1982 Ballarat area investigation. This investigation area was chosen due to the length of time since the investigation and the large number of stone reserves originally recommended.

Within the Ballarat study area, government-accepted recommendations for stone reserves apply to 67 land units totalling 756 hectares. The reserves range in size from less than one hectare to 155 hectares. Approximately two thirds of the stone reserves consist of a single parcel (see table 3.14).

Table 3.14
Summary information on earth resources-stone reserves within the LCC's 1982 Ballarat study area

Smallest	0.22 hectare
Largest	155 hectares
Least parcels	58 land units consist of a single parcel
Most parcels	13

Assessing implementation of land units against government-accepted recommendations reveals 34 per cent of stone reserves are fully implemented, 2 per cent are partially implemented, 58 per cent are unimplemented, and for 6 per cent the implementation status is unclear.

The land use appears to have changed for stone reserves that were assessed in the original LCC Ballarat study. One third of the unimplemented land units were reserved for another purpose, and all of these reservations occurred after 1982, the date of the LCC final recommendations. These alternative purposes included: Conservation of an area of natural/ historic interest, Management of wildlife, Preservation of species of native plants and Public recreation. This pattern suggests that public land managers may have been recently assessing land units for their values and assigning different reservation purposes. This category is worthy of further systematic consideration involving all stakeholders, in particular local councils.

For 92 per cent of implemented (correctly reserved) parcels, reservation for the correct purpose occurred before the most recent investigation. The remaining 8 per cent of parcels were reserved after the most recent investigation. Where parcels were unimplemented, 71 per cent were unreserved and 39 per cent were reserved for an incorrect or inappropriate purpose. All incorrect reservation purposes were temporary, and all were dated more recently than the 1982 recommendation. Where the implementation status of parcels was unclear, 83 per cent due to an unclear original recommendation and 17 per cent due to unclear reservation status.

In the LCC's Ballarat study area alone, stone reserves have been reserved using nine different forms of the wording of purpose (see table 3.15).

Table 3.15
Reservation purposes for stone reserves within the LCC's 1982 Ballarat investigation area

Gravel reserve
Gravel supply and camping
Public recreation and supply of stone
Quarry reserve
Stone and water reserve
Stone reserve
Supply of gravel
Supply of material for road making
Supply of stone

Values of public land

The third topic in the terms of reference is an inventory of the types of values on public land. Within the context of the broad purpose of the investigation, VEAC took the opportunity in the discussion paper to provide a comprehensive stocktake of the values on public land, as this information is otherwise dispersed and not readily available. While there are strong inter-relationships between types of values, for the purposes of the discussion paper the values were organised into the following groups: natural values, cultural heritage, recreation and tourism, resource uses, and utilities and government services.

Additional and updated information is provided in this section to supplement the information on values in the discussion paper, in response to input received during public consultation.

In particular, further consultation with Native Title Services Victoria (NTSV) and the Federation of Victorian Traditional Owner Corporations identified where further information and clarity related to Aboriginal rights and interests in public land would be useful. The NTSV and the Federation provided VEAC with the material in section 4.1, and the Victorian Aboriginal Heritage Council provided additional information on its role and on the rights and responsibilities of Registered Aboriginal Parties in relation to Aboriginal cultural heritage sites and objects located on public land for section 4.2.

Additional or updated material on natural and other values and some uses is provided in sections 4.3 to 4.4 in response to public consultation, to ensure that the inventory of the types of values on public land is more comprehensive.

4.1 Traditional Owner rights and interests in public land

The legal recognition and protection of Traditional Owner rights has changed substantially since the public land use categories were established. As acknowledged in the discussion paper (see section 5.2.1), Victoria's Traditional Owners now have four successful native title determinations under the *Native Title Act 1993* (Cth) (Native Title Act) and two settlements under the *Traditional Owner Settlement Act 2010* (Vic) (TOS Act), together covering much of the Crown land in the State.

In November 2016, the Victorian government strengthened Traditional Owner rights to easily exercise entitlements to Crown land and natural resources for cultural, social and economic reasons under the *Traditional Owner Settlement Amendment Act 2016* (TOS Amendment Act). The reforms acknowledge the unique spiritual, material and economic relationship of Traditional Owners with the land and water resources.

This legal recognition affords Traditional Owners distinct rights and interests. However, it is important to acknowledge that Traditional Owners do not want to impinge on the public's right to access parks; quite the opposite, the intent is to care for Country and share traditional ecological knowledge, working alongside the broader public interests so that public lands can be enjoyed by everyone. The TOS Amendment Act ensures that all existing leases, licences and other interests on Crown land are preserved after a grant of Aboriginal Title is made, in order to protect essential public interests.

4.1.1 Traditional Owner rights and interests on Crown land

Traditional Owner rights and interests in Crown land extend beyond Aboriginal Title and their full range of rights and interests need to be incorporated into the conceptualisation of public land use categories. This is necessary to ensure that the management of Crown land upholds, and affords appropriate recognition of, Traditional Owner legal rights and interests.

Traditional Owners assert distinctive rights in relation to their Country. In very broad terms, these can be described as encompassing the rights of Traditional Owners to:

- ✦ the enjoyment of the culture and identity of the Traditional Owner group
- ✦ the maintenance of a distinctive spiritual, material and economic relationship with the land and the natural resources on or connected to the land
- ✦ the ability to access and remain on the land
- ✦ the ability to camp on the land
- ✦ the ability to use and enjoy the land
- ✦ the ability to take natural resources on or connected to the land
- ✦ the ability to conduct cultural and spiritual activities on the land
- ✦ the protection of places and areas of importance on the land.

Federal Court determinations of native title and Indigenous Land Use Agreements under the Native Title Act and settlements under the TOS Act can recognise and give effect to these distinctive rights, including the rights of traditional owners to access and use land and waters, take and use natural resources and provide input into the management of land and natural resources.

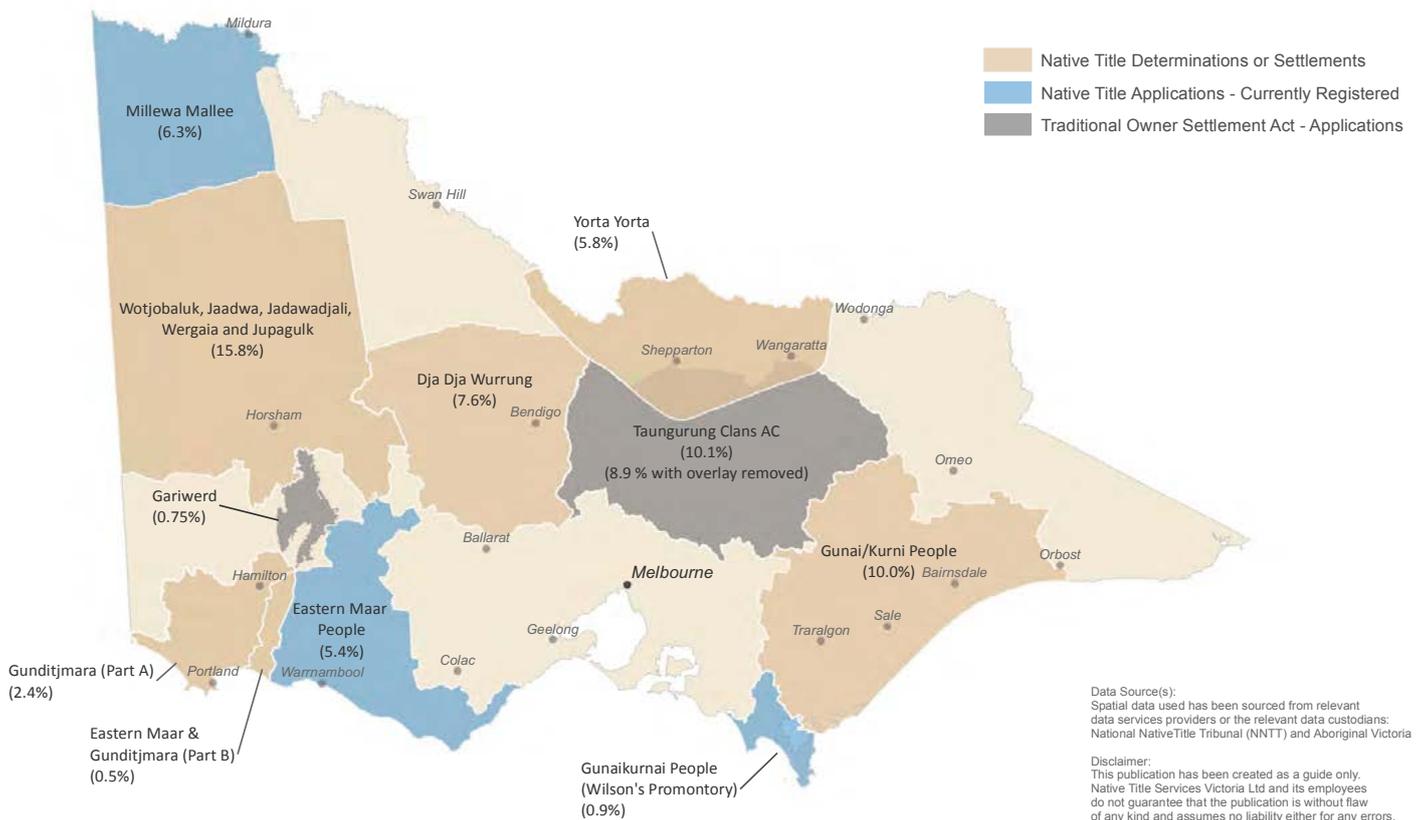
Traditional Owners may be afforded rights to comment on, or consent to, certain activities on Crown land, as provided under the Land Use Activity Regime of the TOS Act or the Future Acts regime of the Native Title Act. In certain circumstances these rights are afforded to Traditional

Owners prior to a native title determination being made or prior to the entering of a settlement agreement.

The TOS Act allows Traditional Owners to enter into a Land Agreement, which provides for grants of land in freehold title for cultural or economic purposes, or as Aboriginal Title to be jointly managed in partnership with the state.

The manner in which native title is recognised will depend on what is claimed in a native title claim and what is negotiated between all of the people and organisations with an interest in the area claimed.

Figure 4.1
Native Title Act applications and determinations and Traditional Owner Settlement Act applications and settlements in Victoria as of 30 June 2016



©Native Title Services Victoria

Cultural rights

Natural resource management extends to cultural rights. Traditional Owners have the right to use and access land and resources for cultural purposes and this affords a way for people to pass down their living culture to younger generations. Natural resources are used to make traditional objects, artefacts and tools. Plants are gathered for traditional medicinal purposes.

Cultural rights also extend to holding meetings, ceremonies and festivals.

4.1.2 Examples of management

Victoria has formal arrangements in place intended to facilitate a partnership between Traditional Owners and the State for the management of national parks and other protected areas. These include joint management and co-management arrangements.

Joint management

As part of agreements under the TOS Act, the State can enter into a Traditional Owner Land Management Agreement (TOLMA) with Traditional Owners. These agreements direct the parameters of joint management plans. The agreement established a Traditional Owner Land Management Board, which mandates a majority of Traditional Owner members with a mix of members of the broader community.

The State has TOLMAs with the Gunaikurnai Land and Waters Aboriginal Corporation, Dja Dja Wurrung Clans Aboriginal Corporation and Yorta Yorta Aboriginal Corporation.

The Gunaikurnai Traditional Owner Land Management Board was established to jointly manage ten parks and reserves:

- ✦ The Knob Reserve, Stratford
- ✦ Tarra Bulga National Park
- ✦ Mitchell River National Park
- ✦ Lakes National Park
- ✦ Gippsland Lakes Coastal Park
- ✦ New Guinea Cave (within Snowy River National Park)
- ✦ Lake Tyers Catchment Area
- ✦ Buchan Caves Reserve
- ✦ Gippsland Lakes Reserve at Raymond Island
- ✦ Corringale Foreshore Reserve

The Dhelkunya Dja Land Management Board was established to jointly manage six parks and reserves in central Victoria:

- ✦ Greater Bendigo National Park
- ✦ Kara Kara National Park (part)
- ✦ Hepburn Regional Park
- ✦ Kooyooro State Park
- ✦ Wehla Nature Conservation Reserve
- ✦ Paddys Ranges State Park

The Yorta Yorta Traditional Owner Land Management Board was established to jointly manage the Barmah National Park.

Co-management

Co-management arrangements enable Traditional Owners to be involved in the management of other Crown reserves. Under these arrangements management bodies are established comprising Traditional Owners and State representatives; however, the transfer of title of parks and reserves to Aboriginal Title is not involved.

The State has entered into co-management arrangements with the Gunditjmara native title holders (in 2007; areas include Mount Eccles National Park), the Wotjobaluk, Jaadwa, Jadawadjali, Wergaia and Jupagalk native title holders (in 2005; areas include parts of Little Desert National Park), and the Yorta Yorta Traditional Owners (in 2004).

4.1.3 Traditional Owner access to land and natural resources

Traditional Owners view the access, use and management of natural resources within their respective cultural landscapes as an important means to recognise and build on economic opportunities. It is an integral part of self-determination and is a pathway to future sustainability, self-reliance and community prosperity. In November 2016, the TOS Amendment Act strengthened the legal rights of Traditional Owners to manage natural resources. Traditional Owner access, use and management of natural resources is authorised under Natural Resource Agreements. Activities include the right to hunt wildlife and game, fish, and gather flora and forest produce.

Recognising the link between natural resource management and economic development enables efficient, effective and sustainable use of natural assets by Traditional Owner groups. Examples include:

- ✦ utilising traditional ecological knowledge of plants and animals to leverage business investment opportunities
- ✦ developing natural resource management services including vegetation and habitat management, fire, water management and licensing
- ✦ creating employment for Aboriginal rangers
- ✦ engaging in markets for eco-assets and eco-services.

Economic development opportunities created from these services, that integrate traditional ecological knowledge with western science, have the potential to create new market segments in the eco-assets/eco-services industry, which will complement rather than compete with existing industry practices.

Traditional Owners assert that the sustainable use of native species and their ecologies is embedded in traditional cultures across Australia. In line with traditional laws, customs and practices, the principles of sustainability continue to be relevant to commercial ventures where Traditional Owner groups are accessing, managing and harvesting resources to ensure use does not deplete resources for future generations. Economic aspirations regarding commercial take and use may include:

- ✦ opportunities for managing the population, location and reproduction in animal populations where there are also benefits from the feathers, skins or meat for commercial purposes
- ✦ the ability to leverage biodiversity to generate economic opportunities through tourism and hunting, forestry and bush management
- ✦ deriving benefits from the use and management of resources (e.g. from food and medicinal ingredients).

Further policy reform may be required to give effect to these activities. For example, carbon markets constitute a relatively new industry segment, whose further development in terms of practices, markets and policy would benefit from incorporation of traditional principles of sustainability.

To assist in understanding Traditional Owner aspirations, Whole of Country plans have been established by the Dja Dja Wurrung Clans Aboriginal Corporation, the Gunaikurnai Land and Waters Aboriginal Corporation, the Eastern Maar Aboriginal Corporation and the Taungurung Clans Aboriginal Corporation, and are currently being developed by several other Traditional Owner Groups. These plans set out amongst other things how Traditional Owner groups wish to work with other stakeholders to manage Country and form the strategic basis for joint management planning on Aboriginal Title lands. Each plan is available on the relevant corporation website.



Image courtesy Gunaikurnai Land and Waters Aboriginal Corporation

4.2 The Victorian Aboriginal Heritage Council and Registered Aboriginal Parties

4.2.1 Victorian Aboriginal Heritage Council

The Victorian Aboriginal Heritage Council (VAHC) was created under the *Aboriginal Heritage Act 2006* to ensure the preservation and protection of Victoria's rich Aboriginal cultural heritage.

The VAHC's vision is of a community that understands and respects Aboriginal cultural heritage and the cultural responsibilities of Traditional Owners. The VAHC recognises Traditional Owners as the primary guardians, keepers and knowledge holders of their heritage.

The VAHC is made up of up to eleven Traditional Owners who are appointed by the Minister for Aboriginal Affairs. Members must reside in Victoria and have demonstrated traditional or familial links to an area in Victoria. They are also required to have relevant knowledge or experience in the management of Aboriginal cultural heritage in Victoria because the VAHC's role is as a specialist body rather than a representative one.

The VAHC plays an important role in the implementation of the Aboriginal Heritage Act. The principal functions are outlined below.

Making decisions on Registered Aboriginal Party (RAP) applications

Since its establishment in 2006, the Council has appointed ten RAPs which collectively cover more than 60 per cent of Victoria. RAPs are organisations that hold decision-making responsibilities for protecting Aboriginal cultural heritage in a specified geographical area. From 1 August 2016, the Council is able to include conditions on the registration of a RAP.

Monitoring RAPs

Since 1 August 2016, the Council is responsible for overseeing and supervising the operations of RAPs. The Council is currently designing its approach to this work in collaboration with RAPs and with organisations already involved in monitoring RAPs.

Protecting Ancestors' resting places and returning Ancestors to Country

The VAHC is the central coordinating body responsible for Ancestral Remains in Victoria. Over time, this new role will allow the VAHC to strengthen the protection of Aboriginal burial places and deliver better support for Traditional Owners returning Ancestors to Country.

Secret or sacred objects in Victoria

From 1 August 2016, there are new obligations in relation to Aboriginal objects that are secret or sacred. A person

who has custody of an Aboriginal object that is a secret or sacred object but who is not the owner of that object must, as soon as practicable, take all reasonable steps to transfer the object into the custody of the VAHC.

Managing the Victorian Aboriginal Cultural Heritage Fund

The first Aboriginal Cultural Heritage Fund ever created in Victoria was established on 1 August 2016. The VAHC will be responsible for managing this Fund as guided by the Aboriginal Heritage Act.

Measures to promote understanding and awareness

The VAHC's work includes promoting understanding and awareness of Aboriginal cultural heritage in Victoria.

Reporting

From 1 August 2016, the Council must report to the Minister annually and produce a *State of Victoria's Aboriginal Cultural Heritage* report every five years.

4.2.2 Registered Aboriginal Parties (RAPs)

Under the Aboriginal Heritage Act, RAPs play a key role in ensuring the preservation and protection of Victoria's rich Aboriginal cultural heritage. RAPs have a number of rights and responsibilities in relation to Aboriginal cultural heritage sites and objects located on public land as discussed below.

Cultural Heritage Management Plans

Cultural Heritage Management plans (CHMPs) provide a mechanism to protect and manage Aboriginal cultural heritage with the involvement of RAPs. CHMPs must be prepared by a public land manager (the sponsor) in the following circumstances:

- ◆ if required under the Aboriginal Heritage Regulations 2007 (i.e. if all or any part of a proposed activity is in an area of cultural sensitivity and all or part of the activity is a high impact activity);
- ◆ if directed by the Minister for Aboriginal Affairs; or
- ◆ if an activity is subject to completion of an Environment Effects Statement under the *Environment Effects Act 1978*.

The evaluation of CHMPs is one of the most significant responsibilities of RAPs. When a CHMP is prepared, it is evaluated by the relevant RAP/s for the area of the proposed activity. RAPs have 30 days from receipt of the CHMP to approve or refuse the CHMP. RAPs are also consulted during the preparation of a CHMP. A RAP-approved CHMP allows managers of public land to upgrade a major roadway while minimising harm to Aboriginal cultural heritage sites along the route.

Cultural Heritage Permits (CHP)

Under the Aboriginal Heritage Act, RAPs are one of the approval bodies for permit applications. An application by a public land agency must be made to a RAP for a CHP if a person/entity proposes to carry out the following activities:

- ✦ for the purpose of uncovering or discovering Aboriginal cultural heritage
- ✦ for the purpose of carrying out research on an Aboriginal place or object
- ✦ that will, or is likely to, harm Aboriginal cultural heritage
- ✦ involving selling an Aboriginal object, or
- ✦ involving the removal of an Aboriginal object from Victoria
- ✦ to inter Aboriginal Ancestral Remains at an Aboriginal place
- ✦ to rehabilitate land at an Aboriginal place, including land containing burial grounds for Aboriginal Ancestral Remains.

The RAPs have 30 days to approve or refuse permit applications. RAPs can attach 'reasonable' conditions to an approved permit such as:

- ✦ that the activity is supervised by a heritage advisor;
- ✦ that any Aboriginal cultural heritage found in the course of the activity be conserved in a particular way; or
- ✦ that specified things are to be done to the satisfaction of the RAP.

An example of the application of a RAP's statutory role regarding CHPs is their recent approval of a CHP application from Parks Victoria to construct an extensive walking track through a national park.

Aboriginal Cultural Heritage Land Management Agreements (ACHLMAs)

ACHLMAs are voluntary agreements between a RAP and a public land manager for the purpose of managing and protecting cultural heritage and cultural landscapes during land management activities within a specific area, for an agreed period. In effect they provide a mechanism for joint management of land of Aboriginal cultural heritage value. ACHLMAs must be prepared in accordance with prescribed standards, as set out in Schedule 4 of the Aboriginal Heritage Regulations. ACHLMAs may include conditions; they can also be amended with consent from all parties. ACHLMAs cannot be used for any activity that would require a CHMP. ACHLMAs are a new type of agreement that became available following recent amendments to the Aboriginal Heritage Act which came into effect on 1 August 2016.

The Victorian Aboriginal Heritage Register (the Register)

RAPs amongst other groups and individuals, have access to the Register for the purpose of obtaining information relating to the area(s) over which the RAP is registered. RAPs have the power to authorise persons who wish to gain access to the Register for the purpose of obtaining information relating to the area(s) over which the RAP is registered. Authorisation from the RAP must be given in writing.

Sensitive Aboriginal heritage information

RAPs can recommend to the Secretary of the Department of Premier and Cabinet that information on the Register relating to Aboriginal cultural heritage or Aboriginal intangible heritage, is sensitive Aboriginal heritage information. If, on the recommendation of a RAP, information on the Register is determined to be sensitive, access to that information will be restricted unless written approval from the relevant RAP is obtained. It is at the RAP's discretion whether to approve an application for access to sensitive Aboriginal heritage information.

Aboriginal intangible heritage and Aboriginal intangible heritage agreements

Aboriginal intangible heritage is defined by the Aboriginal Heritage Act as any knowledge of, or expression of Aboriginal tradition, other than Aboriginal cultural heritage, and includes oral traditions, performing arts, stories, rituals, festivals, social practices, craft, visual arts and ecological knowledge. It does not include anything widely known to the public. RAPs, Registered Native Title Holders and Traditional Owner Group Entities may nominate Aboriginal intangible heritage to be recorded on the Register. Registration of Aboriginal intangible heritage allows that heritage to become the subject of an Aboriginal intangible heritage agreement. For example, if a land manager such as Parks Victoria would like to utilise intangible heritage on the Register as part of its Aboriginal cultural tour of a national park, it would need to enter into an Aboriginal intangible agreement with the relevant RAP/Registered Native Title Holder. The agreement is then lodged with Aboriginal Victoria.

Protection declarations, enforcement and compliance

RAPs have a role in enforcement and compliance through the employment of Aboriginal Heritage Officers (AHOs). AHOs are RAP employees appointed by the Minister for Aboriginal Affairs on the basis that they have both the appropriate level of, knowledge and experience in the identification and protection of Aboriginal cultural heritage.

AHOs are legally authorised to issue and deliver 24-hour stop orders. Although employed by RAPs, their statutory authority extends beyond RAP boundaries to encompass

the whole of Victoria. AHOs are also authorised to monitor compliance of CHMPs, CHPs and ACHLMAs.

Some Aboriginal places and objects are of particular cultural heritage significance to Aboriginal people and the broader Victorian community. The Aboriginal Heritage Act allows the Minister for Aboriginal Affairs to make declarations for the protection of Aboriginal places or objects. There are two types of protection declarations - Interim Protection Declarations and Ongoing Protection Declarations. Both types of declaration provide specific measures for the protection and management of an Aboriginal place or object. For example, a declaration may restrict the public's access to an area. The VAHC or any RAP can ask the Minister to make an Interim Protection Declaration or an Ongoing Protection Declaration and the Minister can place an Interim Protection Declaration over an area to protect it while an assessment is undertaken to see if it warrants permanent protection.

The Minister has put two ongoing Protection Declarations in place to date with another three areas currently being considered. In 2011, the Minister placed an ongoing Protection Declaration on Garradha Molwa located in Barmah National Park after a recommendation by the RAP for that area, Yorta Yorta National Aboriginal Corporation. To this date the declared area is subject to the following measures: the area must be enclosed by fencing and gates by Parks Victoria and maintained to a standard acceptable to DELWP; livestock is not permitted to enter the area; native trees, plants or grasses in the area are not to be destroyed or removed; and no trees, grasses or plants other than local indigenous flora may be planted.

4.3 Natural values and terrestrial biodiversity

As discussed in section 5.1.2 of the discussion paper, there are many potential perspectives that could be used to describe the contribution of Victoria's public land to protection of terrestrial biodiversity. Six areas were explored. Feedback from public consultation indicates the desirability of briefly describing some additional values which were not specifically addressed in the discussion paper to ensure that the inventory of natural values is more comprehensive.

In this section, additional information is also provided on the representativeness of the protected area system and the shortfall in under-represented terrestrial ecological vegetation classes (EVCs) in response to some questions raised in public consultation.

4.3.1 Representativeness of the protected area system

The information provided in the discussion paper about the representativeness of the protected area system attracted interest from some stakeholders, with

suggestions for additional information about the effects of the new Aichi Biodiversity Targets and role of private land protected areas. Priority 18 in section 9.2 of the recently released Victorian biodiversity plan, *Protecting Victoria's environment – Biodiversity 2037*, is to 'maintain and enhance a world-class system of protected areas', and is informed by VEAC's analyses in the discussion paper for this investigation.

As noted in the discussion paper, the Aichi targets have not been operationalised in Australia so it is not possible yet to determine their effects. However, a limited indication of the potential dimensions of change could come from the substitution of the 15 per cent minimum target on ecosystem representation of the JANIS criteria used by VEAC in the discussion paper with the 17 per cent figure of the Aichi targets, noting that the two are not directly comparable. This substitution has relatively little effect on the public land representation 'shortfall' (see table 4.1) in bioregions that have either very high or very low percentages of their original native vegetation remaining. This is because those with substantial remaining native vegetation have often already met both targets within the existing protected area system, while those with very little remaining vegetation have great difficulty in meeting either target. The bioregions most affected by this change would be those falling in the middle range of remaining vegetation such as the Central Victorian Uplands, Goldfields and Highlands–Northern Fall bioregions where the shortfall would increase by between 1,000 and 9,000 hectares, of 0.4 to 0.7 per cent of the total area of these bioregions. Many of these bioregions are in the clusters of under-representation identified in the discussion paper. This is an indicative assessment which does not take account of other aspects of the Aichi targets, such as those relating to connectivity and ecosystem services.

VEAC's functions are limited to public land, so providing any detailed information about the current and potential role of private land in improving ecosystem representation is beyond VEAC's scope. However, for completeness, a column has been added to table 4.1 below showing the total 'shortfall' in representation across all land, public and private, compared to table 5.6 in the discussion paper. Care should be taken however not to use this figure to simply generate a private land 'shortfall' by deducting the public land shortfall from the overall shortfall. It does not follow for example that, for the Strzelecki Ranges bioregion, 33,282 hectares of private land (the difference between the figures in the first two columns) is required to complete the protected area system in this bioregion. There are many other more important considerations such as the different roles, management regimes and landscape settings of public and private lands. These considerations are best addressed in regional planning exercises such as those undertaken by DELWP, Trust for Nature, VEAC and catchment management authorities that can address the specific issues in actual landscapes.

Table 4.1

Total area of 'shortfall' in under-represented EVCs as a percentage of total area for each bioregion

Bioregion	Total of 'shortfall' on all land (hectares)	Total of 'shortfall' on public land (hectares) ¹	Bioregion total area (hectares)	Public land shortfall as percentage of total area	Comments ²
Strzelecki Ranges	-63,012	-29,730	342,179	8.69	Include in Strzelecki-Gippsland Plain cluster
Dundas Tablelands	-161,973	-42,070	688,164	6.11	Include in South west cluster
Central Victorian Uplands	-194,997	-70,638	1,217,609	5.80	Include in Central Victorian Uplands cluster
Glenelg Plain	-42,495	-22,055	398,828	5.53	Include in South west cluster
Gippsland Plain	-95,786	-66,292	1,208,072	5.49	Include in Strzelecki-Gippsland Plain cluster
Northern Inland Slopes	-154,459	-30,625	565,808	5.41	Potential supplement to Central Victorian Uplands cluster
Victorian Riverina	-315,162	-73,844	1,890,328	3.91	Although this bioregion has a large shortfall (absolutely and relative to its total area) much of it has been assessed in the recent investigations and substantial further protected area additions are unlikely
Murray Fans	-53,073	-16,874	435,153	3.88	Although this bioregion has a large shortfall relative to total area, it has recently been assessed and substantial further protected area additions are unlikely
Goldfields	-166,964	-47,617	1,325,762	3.59	Potential supplement to Central Victorian Uplands cluster
Monaro Tablelands	-3,123	-2,667	74,821	3.57	
Wimmera	-268,921	-69,050	2,011,321	3.43	Include western half in South west cluster
Warrnambool Plain	-24,386	-8,733	264,110	3.31	Potential inclusion in South west cluster
Otway Plain	-19,969	-7,353	237,190	3.10	
Highlands - Far East	-1,943	-1,938	70,018	2.77	
Victorian Volcanic Plain	-365,318	-63,139	2,355,732	2.68	Western part is a potential inclusion in South west cluster
Murray Mallee	-126,123	-73,091	2,919,064	2.50	Although this bioregion has a large shortfall, over 50 per cent of it is accounted for by just two EVCs – Woorinen Mallee and Chenopod Mallee.
East Gippsland Uplands	-17,483	-17,074	791,031	2.16	
Highlands - Southern Fall	-30,494	-18,214	1,196,155	1.52	
East Gippsland Lowlands	-8,723	-7,308	531,830	1.37	
Highlands -Northern Fall	-18,915	-16,328	1,415,346	1.15	Potential supplement to Central Victorian Uplands cluster
Victorian Alps	-7,661	-6,941	714,321	0.97	
Otway Ranges	-3,217	-1,395	149,755	0.93	
Robinvale Plains	-520	-511	64,186	0.80	
Greater Grampians	-3,316	-1,341	237,351	0.56	
Bridgewater	-73	-6	18,110	0.03	
Lowan Mallee	-907	-270	1,419,874	0.02	
Murray Scroll Belt	-2	-1	116,144	0.00	
Wilsons Promontory	-21	0	40,361	0.00	
Total	-2,149,037	-695,106	22,698,623	3.06	

¹ The 'shortfall' on public land for each under-represented EVC is the area of public land required to be added to the protected area system to meet the JANIS targets. If the target is greater than the total area of public land with that EVC outside current protected areas, this figure is 100 per cent. The figures in this column are the total of the shortfalls for all under-represented EVCs in each bioregion.

² See page 72 of discussion paper for descriptions of the clusters identified in this column.

4.3.2 Species diversity

Species diversity refers to both the number of species (species richness) and the variation in the population sizes of the species that live in a particular location (species evenness). While these measures contribute to an understanding of the patterns of biodiversity, the numbers do not of themselves provide an index of value. Some habitats may for example have a naturally low species richness but include many endemic species, while other habitats may have a naturally high species richness comprised mainly of widely distributed species.

However, maintaining natural species diversity is important, partly because every species has a role in supporting ecosystem function. Species diversity therefore directly contributes to the provision of many ecosystem services. For more detail on ecosystem services, see section 5.1.4 of the discussion paper. Retaining genetic diversity within species is also critical, as it gives species the opportunity to adapt to new challenges, like novel diseases and climate change. Vegetated public land contributes significantly to the maintenance of species diversity.

4.3.3 Habitat for native species

Public land provides a range of habitats for native species. The most familiar terrestrial habitats include some form of native vegetation. The important role of native vegetation in supporting biodiversity has been covered in the discussion paper (pages 58-74 in section 5.1.2).

Freshwater ecosystems including lakes, swamps, wetlands, billabongs, floodplains, streams and rivers provide feeding and breeding sites for many native invertebrates, fish and birds. These ecosystems support a diversity of plant communities including trees, rushes, reeds, or floating and submerged aquatic plants.

Non-vegetated public land, and public land with non-native vegetation also provides habitat for native species. For example, the Welcome Swallow (*Hirundo neoxena*) nests in the eaves of buildings, the Eastern Banjo Frog (*Limnodynastes dumerillii*) lives and breeds in artificial ponds, and the Grey-headed Flying Fox (*Pteropus poliocephalus*) feeds and roosts in urban parklands and gardens.

4.3.4 Rainforest

Rainforest is dominated by a dense canopy of non-eucalypt tree species, with an understory of climbers, broad-leafed shrubs, tree-ferns, epiphytic ferns, ground ferns and small soft-leafed herbs. It is found in sheltered gullies at altitudes from about 200 to 1200 metres above sea level and in areas with annual rainfall of between 800 and 1500 millimetres. The two most common types of rainforest in Victoria are cool temperate rainforest and warm temperate rainforest.

Rainforest is rare in Victoria. At the time of European settlement, rainforest covered 0.21 per cent of Victoria. Of the original 50,500 hectares of Victorian rainforest, 80 per cent remains. Public land supports 89 per cent of the remaining rainforest. Both cool temperate rainforest and warm temperate rainforest are listed as threatened under the Flora and Fauna Guarantee Act.

Rainforests take many hundreds of years to develop and are particularly compelling places for the public. They contain many ancient and endemic species, relics of Australia's wetter, Gondwanan history. A number of threatened species occur in Victoria's rainforests, including the Spot-tailed Quoll (*Dasyurus maculatus maculatus*), Southern Barred Frog (*Mixophyes balbus*), and Long-footed Potoroo (*Potorous longipes*).

4.3.5 Old-growth forest

Old-growth forests are the subject of significant scientific and public interest. These forests generally have a layered structure, with broad and tall overstorey trees, a well-developed understorey of other trees and shrubs, and key habitat features such as dead standing trees and large decaying or hollow logs on the forest floor. It is defined in the National Forest Policy Statement as:

Forest that is ecologically mature and has been subjected to negligible unnatural disturbance such as logging, roading and clearing. The definition focuses on forest in which the upper stratum or overstorey is in the late mature to over-mature growth phases (Commonwealth of Australia 1992)

Old-growth forests have many special values not found in other forest areas. Their characteristics meet the key habitat requirements of many species, such as the range of nesting hollows they provide and their greater structural complexity compared with younger forests. As a result, old-growth forest is of great scientific interest and value providing insights into the ecological functioning of forests in their most natural state over the millennia. In addition, old-growth forests support a range of aesthetic and cultural values, and provide tourism opportunities. Old-growth forests provide opportunities for people to appreciate the ancient evolution of the great southern forests.

With clearing of native vegetation and increasing disturbance of what remains, the extent of old-growth forest has greatly reduced over the last 200 years. Once lost, old-growth forest is difficult to replace, requiring as much as several hundred years without disturbance. The National Forest Policy Statement gives high priority to the protection of old-growth forests, with specific provisions to protect more than 60 per cent of areas identified as old-growth according to national criteria.

DELWP has modelled the extent of old-growth forest in Victoria at a scale of 1:100,000 and updates the extent regularly. This mapping shows that approximately 350,000 hectares of old-growth forest may currently exist in Victoria, almost all in state forests and protected areas east of the Hume Highway. Around 300,000 hectares has been lost in the last two decades, predominantly in the 2003, 2007 and 2009 fires. Approximately 100 hectares of modelled old-growth forest is harvested each year by VicForests, nearly all in east Gippsland.⁶

4.3.6 Aquatic ecosystems

Additional information for this section is sourced from DELWP

Rivers, estuaries and wetlands, collectively known as waterways, are a focal point for many communities. Healthy waterways support diverse environmental values including native fish and birds, riparian vegetation and habitats, drought refuges and rare or threatened species. Waterways also supply water for agriculture and other industries, provide places for recreation (e.g. fishing, birdwatching), contribute to ecosystem services (e.g. water filtration) and are sites for important Aboriginal and European cultural heritage.

Rivers range from major rivers to streams and creeks and their tributaries. The important values of rivers derive from the water, the channel and the adjacent riparian land.

The majority of Victoria's estuaries are brackish river mouths that flow directly into the ocean or large marine bays such as Western Port, Port Phillip Bay and Corner Inlet. There are more than 100 estuaries in Victoria, 83 of which are longer than one kilometre. Estuaries also include coastal inlets (e.g. Tamboon Inlet and Anderson Inlet), smaller bays (e.g. Swan Bay and Limeburners Bay) and coastal barrier lagoons (e.g. Jack Smith Lake and Lake Dennison).

Wetlands are still-water environments that usually occur where water collects in depressions in the landscape. Wetlands can include swamps, lakes and peatlands. Some wetlands are groundwater fed, while others depend on surface water run-off or flooding. The 2014 inventory of Victoria's wetlands recorded 35,429 wetlands covering 784,025 hectares. Approximately 72 per cent of wetlands are naturally occurring.^{7,8}

⁶ VicForests 2014 Fact sheet on old growth. Accessed at <http://www.vicforests.com.au>

⁷ Papas, P and Moloney, P 2012 *Victoria's wetlands 2009–2011: statewide assessments and condition modelling*. Arthur Rylah Institute for Environmental Research Technical Report Series No. 229. Department of Sustainability and Environment, Heidelberg

⁸ Department of Environment, Land, Water and Planning 2016 *The Victorian wetland classification framework 2014*. DELWP, East Melbourne

Some wetlands naturally have water in them all the time, while others naturally dry out for short or long periods of time.

Aquatic ecosystems are among the most threatened ecosystem types worldwide. Many Victorian threatened species (threatened in Victoria, near threatened and data deficient) occur in waterways (see table 4.2).

Table 4.2
Threatened species occurring in Victorian waterways (source: DELWP)

Aquatic ecosystem	Number of threatened fauna species	Number of threatened flora species
River	160	16 (aquatic) 412 (riparian)
Estuary	94	440
Wetland	32	2 (aquatic) 10 (riparian)

Furthermore, of the 149 wetland ecological vegetation classes, nearly all are threatened in at least one Victorian bioregion.⁹ In the lowland bioregions (Gippsland Plain, Glenelg Plain, Otway Plain, Victorian Riverina, Victorian Volcanic Plain, Warrnambool Plain) over 75 per cent of all wetland EVCs are considered endangered or vulnerable.

4.3.7 Wilderness

Wilderness areas are characterised by their remoteness from settlement and access roads, and their aesthetic and biophysical naturalness. The 1991 LCC Wilderness Special Investigation defined wilderness as 'a large area with landforms and native plant and animal communities relatively unaltered or unaffected by the influence of the European settlement of Australia'.

A key value of wilderness relates to its use largely for self-reliant recreation including solitude, inspiration and challenging activity. Wilderness is also used by society as a whole for nature conservation, scientific and educational, and water resource uses. While many of these values can be derived from a range of natural areas, many are maximised in wilderness. There is also value in retaining some areas at a minimal level of development to maintain the spectrum of environmental settings from highly developed through to undisturbed, and to ensure that future generations can enjoy wilderness if they wish. Furthermore, wilderness has values arising from its unique worth - that areas of wilderness are kept for their own sake.

⁹ Flood, D and Papas, P 2016 *A guide to water regime, salinity ranges and bioregional conservation status of Victorian wetland Ecological Vegetation Classes* Arthur Rylah Institute for Environmental Research. Technical Report Series No. 266. DELWP, Heidelberg.

4.3.8 Caves

Australia is relatively poorly endowed with limestone in outcrop and consequently has few karst and cave areas. Karst is a distinctive topography which is formed by the gradual dissolution of limestone, dolomite or marble over many thousands of years. This geological process results in unusual surface and sub-surface features including sinkholes, vertical shafts and caves. The outcrop of Devonian limestones in the Buchan-Murrindal area represents the largest outcrop of cave and karst-forming limestone in south-eastern Australia and contains some of the best examples of surface karst and cave development anywhere in the country.¹⁰ Many caves are protected on public land.

Caves provide important habitat for a variety of highly specialised plants and animals. Cave-dwelling animals (including troglobites, troglaphiles and troglonexes) have reduced or completely absent eyes, pale -coloured bodies, longer legs and antennae, sensory hairs and a keen sense of smell. They also tend to have low metabolic rates, so can survive for long periods without food and are restricted in distribution, with many confined to a single cave system or karst area. Troglobites are entirely dependent upon caves for their survival, troglaphiles spend their entire life cycle underground, while troglonexes spend part of their life cycle within caves. Caves also provide roosting and breeding habitats for many species of bat.

4.3.9 Geological and geomorphological features

Public land containing sites of geological interest or significance may be reserved primarily to protect these features for future education, research and public enjoyment. These places may also have other natural or recreational values including nature conservation, scenic or landscape values. Sites with geological or geomorphological features vary widely and include natural outcrops or landforms, as well as exposures in road and railway cuttings, quarries or other excavated sites. Some sites show rare or unusual minerals, fossils or landforms. Geological sites generally display features developed in earlier times, such as an outcrop with sediments and fossils. Many geomorphological sites are important for displaying active land forming processes, such as dune development or stream erosion and deposition.

Geological and geomorphological significance are variable in their aesthetic appearance. Some sites of very high significance may not be at all aesthetically pleasing, (e.g. quarry faces or road cuttings), while aesthetically pleasing views may have no geological significance. Many of these sites are within national parks because of their high scenic and scientific values.

4.3.10 Mineral springs

Most of Australia's mineral springs are located in Victoria and concentrated in the Central Goldfields area, particularly in and around the townships of Daylesford and Hepburn Springs. There are 46 mineral springs located on Crown land in the Central Goldfields and Geelong areas of Victoria. These mineral springs occur in a variety of landscapes – from remote forests through to townships. Some mineral spring reserves experience occasional usage by locals, while others receive international visitors.¹¹

The mineral springs of the Central Goldfields and Geelong areas of Victoria have a rich natural and cultural history. The Dja Dja Wurrung people are the formally recognised Traditional Owners of large areas of the Central Goldfields and the land, including waterways and springs, is important to this community.

During the 19th century gold rush, the physical landscape of the region was altered significantly. Many mineral springs sites, particularly within the Central Goldfields area, still demonstrate the impact of the mining period. After the gold rush, further settlement of the region occurred with the mineral springs of the area becoming a recreational place for European settlers 'taking the waters' for health benefits. In recent years, the growth in health and wellbeing tourism has increased public awareness of and demand for access to mineral springs.

4.3.11 Scenic landscapes

Public land offers many opportunities for appreciating the scenic value of landscapes. Scenic landscapes tend to include native vegetation, rock formations, and/or water. Areas on public land with high scenic value include mountain ranges, beaches, rivers and valleys. Popular places to view scenic landscapes include elevated locations such as look outs, picnic areas, walking trails and roadside stops. Scenic landscapes allow people to enjoy nature and often provide a sense of pleasure and wellbeing. They also provide opportunities for recreation and tourism and contribute to local economies.

¹⁰ Land Conservation Council 1983 *Gippsland Lakes Hinterland Area final recommendations*. Land Conservation Council, Melbourne.

¹¹ Victorian Mineral Water Committee 2015 *Victorian Mineral Springs Strategic Masterplan 2015-2024*. VMWC, Ballarat

4.4 Other values and uses

Additional details were sought during the public consultation on the use of public land for scientific research and education, and on maritime cultural heritage. Updated information is also provided on economic assessments of the native forest timber industry.

4.4.1 Scientific research and education

The reservation of education areas was covered in section 5.3.6 of the discussion paper. However, public land plays a broader role in environmental education. For example, between 2012 and 2015 on average 183,000 people participated in education programs provided by Parks Victoria.¹²

Formal scientific research into natural and cultural values occurs across a number of categories of public land. On average, 215 research permits are issued for land managed by Parks Victoria annually. Research on public land contributes to all types of land management and planning, especially land-use planning, environmental impact assessment, forestry, agriculture, and wildlife management. Many species are still undescribed, and the importance and role of species within communities and ecosystems are often poorly understood. Much of this information can only be obtained where natural systems and processes prevail. Scientific research to increase knowledge of Victoria's natural resources may include geological, geochemical, geophysical, geomorphological, stream sediment, and soil studies. Scientific research on public land also answers theoretical questions in a diverse range of fields (e.g. anthropology, evolution, geology, zoology).

In recognition of the importance of public land to scientific research, the LCC, ECC and VEAC have recommended 144 reference areas. Reference areas are tracts of public land containing viable samples of one or more land types that are relatively undisturbed and that are reserved in perpetuity. Those concerned with studying land for particular comparative purposes may then refer to such areas, especially when attempting to solve problems arising from the use of land. Reference areas include typical examples of land types that have been modified elsewhere for productive uses such as agriculture, mining, or intensive timber production. The course and effects of human alteration and utilisation can be measured against these relatively stable natural areas. Reference areas are implemented through the Reference Areas Act (see sections 2.3.2 and 4.2.4 in the discussion paper).

¹² Parks Victoria and Department of Environment, Land, Water and Planning 2015 *Valuing Victoria's parks: Accounting for ecosystems and valuing their benefits*. State Government of Victoria, Melbourne

4.4.2 Maritime cultural heritage

Victoria has a significant maritime cultural heritage, predominantly in the form of shipwrecks and associated relics. There are believed to be around 780 shipwrecks along the Victorian coastline, most of which are undiscovered. In Victoria's territorial waters – within 3 nautical miles of the coastline – historic shipwrecks and associated items (older than 75 years or by special declaration) are protected under Part 5 of the *Heritage Act 1995* and listed on the Victoria Heritage Register. The Act applies to all shipwrecks and relics in Victorian state waters including bays, harbours and rivers such as Port Phillip Bay, Gippsland Lakes and the Goulburn River. The legislation also provides for the declaration of protected zones around particularly significant and/or fragile historic shipwrecks. Protected Zones are no-entry zones to a maximum radius of 500 metres placed around a wreck site.

In addition to the historic value of shipwrecks and relics, shipwreck sites are highly valued by recreational divers and fishers.

4.4.3 Economic assessments of the native timber industry

Following the release of the discussion paper, the Council's attention was drawn to some recent assessments of the native timber industry that provide some additional perspectives on forest industry estimates of employment and broader economic benefits cited in the discussion paper (page 110).

Two notable reports include an investigation by PricewaterhouseCoopers published in 2016 of the economic contribution of the forestry sector to both regional and urban areas across Victoria,¹³ and a 2016 analysis by Deloitte Access Economics of the net economic benefits (both direct and indirect) of the native timber industry focusing specifically on the Central Highlands RFA Area.¹⁴ In addition, Australian Paper commissioned a report in 2012 to measure its impact on national, state and regional economies. The study included the economic impacts of Australian Paper's Maryvale Mill operation on Victoria and the Gippsland region.¹⁵

While these studies cannot be directly compared with each other, they nonetheless demonstrate contested estimates of economic contribution and employment in the sector.

¹³ PricewaterhouseCoopers Consulting 2016 *Rethinking Victoria's approach to forestry*. PricewaterhouseCoopers, Melbourne

¹⁴ Deloitte Access Economics 2016 *Economic assessment of the native timber industry in the Central Highlands RFA Area*. Deloitte, Melbourne

¹⁵ Western Research Institute Ltd 2012 *Economic Impact Study Australian Paper*. WRI, Bathurst

Errata

Some factual errors in the discussion paper and draft proposals paper are corrected below.

Discussion Paper

page 19:

figure 2.2: bottom map LCC reviews should depict Melbourne District 2 as 1994 in legend

page 80:

'the United Nations Statistical Commission has grouped them into three main categories' should read 'the United Nations Statistical Commission has adopted three main categories...'

page 99:

'The highest peak in Victoria, Mt Bogong at 1986 metres, is within the resort' should read '...is north of the resort'.

page 123:

'This is known as 'unlicensed occupation' or 'unauthorised occupation'" should read 'These are either unlicensed or unauthorised occupations.'

page 123:

'Following these actions the occupation ceases and a licence is not required or issued' should be replaced with:

'Where Crown frontages are in unauthorised occupation on a priority reach, and it is deemed appropriate to issue a licence by the public land manager (for example, DELWP or Parks Victoria), the landholder will be given the choice of:

- taking up a riparian management licence (which provides for the issue of a licence to take and use water for stock) and typically being eligible for fencing and offstream stock watering incentives, or
- not taking up a licence which will require fencing the frontage off at the landholder's cost.

Where Crown frontages are in unauthorised occupation on a non-priority waterway, the landholder may be offered a standard agricultural licence. However, in circumstances where the unauthorised occupation is on a low priority waterway but the site-specific riparian values are high, a riparian management licence may be offered.'

page 152:

replace table in appendix 9 with table 5.1 (see opposite page)

Draft Proposals Paper

page 19:

'Victoria is fortunate in that most of the frontages of wetlands and permanent streams have been retained as public land' should delete the words 'wetlands and'.

Table 5.1 Summary of permitted activities in current major land use categories

This table is based on an ECC brochure (2001) summarising the activities allowed in the major land use categories recommended in the Box-Ironbark Forests and Woodlands investigation area. It illustrates the complexity of providing accurate information, given the number of exceptions and conditions that apply – including

allowance for the land manager’s discretion - in relation to many activities. The table has been amended from that produced in appendix 9 of the discussion paper to make it more generally applicable across the state, where possible

ACTIVITY	National park	State park	National heritage park	Regional park	Nature conservation reserve	State forest
Recreation and tourism activities						
Nature observation	✓	✓	✓	✓	✓	✓
Picnicking and barbecues	✓	✓	✓	✓	✓	✓
Camping ¹	✓	✓	✓	✓	✓	✓
Bushwalking or short walks	✓	✓	✓	✓	✓	✓
Car-touring, four-wheel driving and trail bike riding ²	✓	✓	✓	✓	✓	✓
Dogs	✗ ^{3,4}	✗ ^{3,4}	✓ ⁴	✓ ⁴	✗ ³	✓
Visiting historic features	✓	✓	✓	✓	✓	✓
Orienteering and regaining ⁴	✓	✓	✓	✓	✓	✓
Car rallies ⁴	✗ ³	✗ ³	✓ ⁷	✗	✗	✓
Horse riding ⁵	✗ ³	✗ ³	✓ ⁴	✓ ⁴	✗ ³	✓
Hunting	✗ ⁶	✗ ⁶	✗ ⁶	✗ ⁶	✗ ⁶	✓ ⁶
Prospecting/ metal detecting						
Metal detecting	✗ ⁸	✗ ⁸	✓ ⁷	✓	✓ ⁷	✓
Gold panning	✗ ⁸	✗ ⁸	✓ ⁷	✓	✗	✓
Gemstone fossicking	✗ ⁸	✗ ⁸	✓ ⁷	✓	✗	✓
Resource industries						
Mineral exploration	✗ ⁹	✗ ⁹	✓ ^{9,10}	✓ ¹⁰	✓ ¹⁰	✓
Mining	✗	✗	✓	✓	✓	✓
Sawlog and post production	✗	✗	✗	✗	✗	✓
Firewood	✗ ¹¹	✗ ¹¹	✗ ¹¹	✗ ¹¹	✗ ¹¹	✓
Apiculture	✓ ¹²	✓ ¹²	✓	✓	✓ ¹²	✓
Eucalyptus oil production	✗	✗	✗	✗	✗	✓ ¹³
Other uses						
Environmental education	✓	✓	✓	✓	✓	✓
Approved research	✓	✓	✓	✓	✓	✓
Water production/distribution	✓	✓	✓	✓	✓	✓
Stone extraction	✗	✗	✗ ¹⁴	✗ ¹⁴	✗ ¹⁴	✓
Grazing ¹⁵	✗	✗	✗	✗	✗	✓
Utilities	✗ ¹⁶	✗ ¹⁶	✗ ¹⁶	✗ ¹⁶	✗ ¹⁶	✓

1 Camping may be at designated campsites only, and may be excluded from some smaller parks and reserves

2 Only on roads and tracks formed for the passage of four-wheel vehicles; may be subject to seasonal or permanent closure

3 Some exceptions

4 Subject to certain conditions

5 Only on formed roads or specially designated tracks

6 Land managers may organise shooting drives to assist in the control of feral animals

7 Some areas may be excluded in management plans

8 Allowed in limited areas in four national parks and five state parks, and gemstone fossicking only allowed in small areas of three additional national parks

9 Existing exploration or mining licences continue; Government may approve mining following such exploration

Specified park and reserve areas will extend only 100 metres below the surface, allowing new exploration and mining beneath this depth

10 Restricted under the *Mineral Resources Development Act 1990*

11 Some firewood may be available from ecological management in parks and reserves. Some regional parks may allow taking of minor forest produce

12 Permitted where an existing use

13 Confined to areas used since 1995

14 Extraction for local management use only

15 Only small areas are suitable for grazing. Light grazing for ecological management may continue in limited areas

16 Pre-existing utilities within parks and reserves are generally able to continue



