

Portland and Horsham forests

Forest Management Plan 2010

Foreword

Forests in the Portland and Horsham Forest Management Areas (FMAs) are valued for their rich biological diversity, cultural heritage, recreation opportunities and contribution to clean air and fresh water. The forests have significant conservation value within the altered, largely agricultural landscape of the Wimmera and far south west Victoria. These forests are a source of great pride for local communities and are intrinsically valuable to the broader community.

The future of the Portland and Horsham forests were determined by the Regional Forest Agreement in 2000, with significant changes to allowable uses. Further conservation reserves were added in 2008 with the proclamation of the Cobboboonee National and Forest Parks. This Forest Management Plan applies to the remaining State forests, which cover approximately 172 000 hectares of the Portland and Horsham regions.

Sustainable forest management in Victoria seeks to improve the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. It acknowledges the need to facilitate community involvement in decisions and actions on issues that affect the community. The development of this Plan and the strategies it contains are consistent with the principles of sustainable forest management and the *Sustainability Charter for Victoria's State forests* (DSE 2006).

Local communities were actively engaged in the development of this Management Plan. An important outcome of the community involvement was the creation of a vision describing the community's aspirations for the forests. DSE acknowledges the important contribution that local communities have made and recognises that ongoing community participation is important for the successful implementation of this Plan.

I encourage you to participate in putting this Forest Management Plan for the Portland and Horsham forests into action.

Greg Wilson
Secretary
Department of Sustainability and Environment

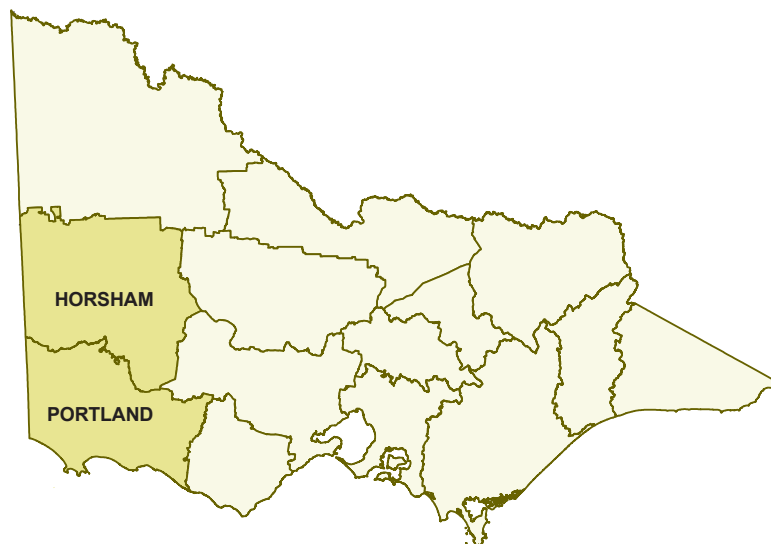
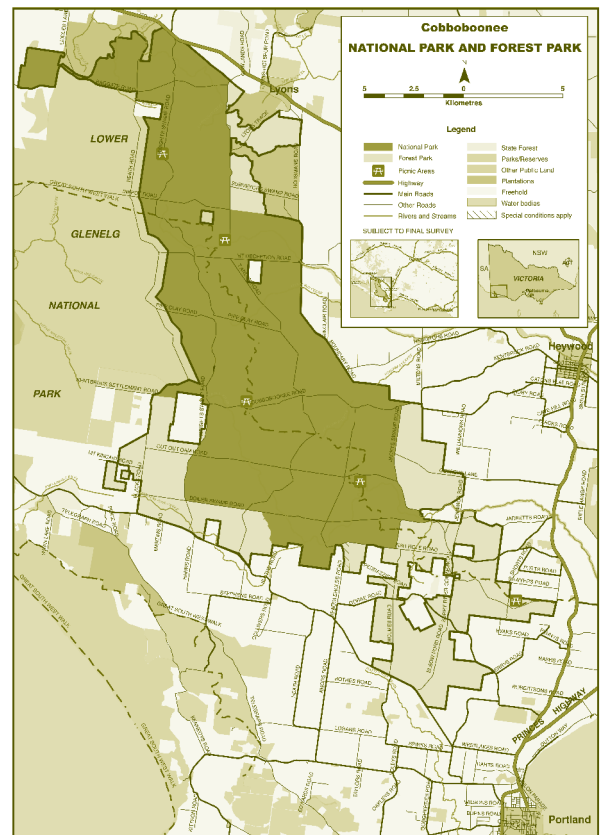
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1. Introduction

The Portland and Horsham Forest Management Areas (FMAs) cover an area of 4.4 million hectares. The FMAs include the coastal towns of Portland and Nelson and the inland towns of Edenhope, Heywood, Casterton, Nhill, Horsham, Stawell and Hamilton (map 1). Public land including State forest in the region totals 730 000 hectares (17%), and the remaining 83% is private land (see Table 1). This management plan applies to all State forests within these Forest Management Areas, an area of approximately 172 000 ha.

Cobboboonee National Park and Forest Park. This park was declared in November 2008. It is not included in this Forest Management Plan. A separate plan for the new parks is in development.



Portland and Horsham Forest Management Areas

1. Introduction

Local communities have a strong connection with these forests and hold a diversity of views and aspirations regarding their management. These communities participated in shaping the future of these forests during the development of this plan. The Department of Sustainability and Environment (DSE) recognises that ongoing community involvement and partnerships are essential for managing the forests for present and future generations.

About this Forest Management Plan

This Forest Management Plan sets out management directions for the balanced use and care of the Portland and Horsham State forests. The management decisions are directed by a series of guiding principles including: biodiversity conservation; sustainable safety; integration; cooperation; protection of indigenous culture; and historic culture.

This Plan provides a vision and strategic directions to guide the sustainable management of State forests in the Portland and Horsham FMAs. It maps out a strategy for the long-term management of our forests. It takes an 'adaptive management' approach that allows for the review and change of management practices in response to new information and changing community values.

Who is this Plan for?

This plan is for DSE to implement in cooperation with all stakeholders in forest management including other government agencies and members of

local communities associated with State forests in the Portland and Horsham FMAs. It is also for those people in the broader community who have an interest in forest management.

How to use this Plan and other documents

This plan outlines commitments and opportunities in forest management to deliver the vision for the Portland and Horsham FMAs. It includes ten chapters that address key components of forest management. Each chapter provides information on the current management approach, sets desired outcomes for the management of this issue, and defines the strategic approach to achieve the desired outcomes over the life of the plan.

- the **desired outcomes** provide long-term goals for forest management; and
- the **strategic directions** outline the management approach that will be taken to achieve the desired outcomes.

Chapter 12 outlines performance measures and actions which the department will use to implement the plan.

Management actions consistent with the strategies in the Plan will be identified in annual planning processes. Implementation will depend on resources, legislative and policy requirements.

The forest management zoning scheme used identifies three management zones within State forest: the Special Protection Zone (SPZ); the Special Management Zone (SMZ); and the General Management Zone (GMZ).

These zones are in accordance with the *Code of Practice for Timber Production* (DSE 2007). SPZs are managed for particular conservation values, forming a network designed to complement the formal conservation reserve system. Timber harvesting is excluded from this zone. SMZs are managed to conserve

specific features, while catering for timber production under specific management conditions. GMZs are managed for a range of uses and values, but timber production will have a high priority.

Maps 1 and 2 show the zoning scheme as applied to the Portland and Horsham forests. Table 1 indicates the area of each management zone within the Portland and Horsham State forests. Table 2 lists the activities permitted within each of these management zones.

The initial zoning for the Portland and Horsham forests was developed during the West Regional Forest Agreement (RFA), signed in 2000. Since the RFA was signed, changes have been made to the zoning scheme, to reflect new and changed protection priorities, particularly for flora. Changes include:

- updating the Powerful Owl Management Areas (POMA) to reflect the highest protection according to record type
- transferring all Red Gum forest areas from General Management Zone (GMZ) to Special Management Zone (SMZ)
- updating the protection of a greater proportion of Herb-Rich Foothill Forest as Special Protection Zone (SPZ)
- additional areas of SPZ to create an enhanced north-south corridor running from Portland to Dergholm.

Appendix A provides individual details about land categories in the Portland and Horsham FMAs. Appendix B shows the changes to the zones described in the RFA. The changes to the zoning scheme reflect the change of land tenure of the Cobboboonee forests to National and Forest Park.

Management zones may be amended in the future to accommodate values as they are discovered (for example the discovery of a previously unknown historic site). Zoning changes must

maintain the overall integrity of the zoning scheme and remain consistent with both the RFA and this Plan. There are formal processes for undertaking amendments to zoning.

Our vision

The Portland and Horsham State forests are well-managed, diverse and healthy forests for present and future generations

The vision for our State forests is achieved by working together. This builds capable and responsible communities and forest managers by enhancing knowledge and incorporating learning.

Guiding principles

The vision and guiding principles were formed in community workshops, and through alignment with the sustainable forest management principles outlined in the *Sustainable Forests (Timber) Act 2004*. The *Sustainability Charter for Victoria's State forests* (DSE 2006) outlines a vision and seven management objectives for State forest management. The vision and objectives will be used to guide management and decision making about State forests in the Portland and Horsham State forests. The principles apply across the forest landscape and cannot be considered in isolation from each other.

- Biodiversity in Portland and Horsham forests will be conserved and maintained. Management will seek to sustain natural values and ecological cycles, enhance ecosystem health and diversity, and will be compatible with long-term conservation of biological diversity.
- The capacity of forest ecosystems to produce timber and other products such as honey will be maintained, and a range of forest produce will be provided in a sustainable manner.

- Healthy forests will be promoted by actively managing disturbance. Forests will be protected from the spread of weeds and pests and other potentially threatening processes.
- The soil and water resources of these State forests will be maintained and conserved.
- The role of these State forests in global carbon cycles will be maintained and better understood.
- The social and economic benefits derived from the forests for local and wider communities will be maintained and enhanced. Appropriate recreation and tourism opportunities will be provided to enhance our understanding and experiences of the natural environment.
- The role of Traditional Owners in the ongoing management of forests is acknowledged and Aboriginal and historic cultural heritage values are protected to enhance understanding of our heritage.
- Decision-making in these forests is guided by government policy, legislation, community aspirations, scientific and local knowledge. Risks to the community and neighbours, including fire and public safety, will be effectively managed.

When considering an issue or activity in the forest these principles may interact differently with each other at a local or site-specific level. Each priority may not be applied in an absolute sense at every specific site, but will rather be considered in an ecosystem and landscape context.

Sustainably managed forests produce environmental, social and economic benefits for present and future generations.

The community's views on the management of forests are important to government.

Biologically diverse forests are a valuable asset in our society.

State forests will be managed in accordance with relevant legislation, agreements and policies of the Victorian and Australian Governments.

“The opportunity for community input has been greatly improved by this process...and importantly the input has been a collaborative effort rather than it being just individual groups having their say.”

Community consultation committee member

Table 1: Land Categories in Portland and Horsham FMAs

	Area in hectares	Proportion of all land (%)	Proportion of public land (%)	Proportion of State forest (%)
PUBLIC LAND				
State forest				
Special Protection Zone	103 314	2.35	14.1	59.9
Special Management Zone	27 126	0.62	3.7	15.7
General Management Zone	42 003	0.95	5.7	24.4
State forest subtotal	172 443	3.9	23.5	100.0
Conservation parks & reserves	490 306	11.1	68.0	
Forest park	8 675	0.2	1.2	
Other public land ¹	18 580	0.4	2.5	
Commonwealth land	126	0.0	0.0	
Water body	43 509	1.0	5.9	
Public land total	733 639	12.7	100.0	
PRIVATE LAND²				
Private land total	3 669 872	83.3		
Total for Portland and Horsham FMAs	4 403 511	100.0		

¹ Other public land includes water frontage reserves, recreation reserves, stone reserves and some other reserve categories.

² Private land includes freehold land and lands licensed for plantation purposes.



Table 2: Activities in Forest Management Zones

Activity	GMZ	SMZ	SPZ
Prescribed fire	Yes	Conditional	Conditional
Recreation & tourism	Yes	Conditional	Conditional
Apiculture	Yes	Conditional	Conditional
Timber production	Yes	Conditional	No
Extractive activities	Yes	Conditional	Conditional
Mining activities	Yes	Yes	Yes
Seed collection	Yes	Conditional	Conditional
Stock grazing	Conditional	Conditional	Conditional

Table 2 provides a guide to the issue of consent for various activities in State forest management zones.

Yes	Permitted under standard conditions. Permits may be required
Conditional	Permitted with additional conditions specified in this Plan, or to the extent that it does not conflict with the values identified for the respective areas
No	Not permitted

2. People and forests

State forests are valued and enjoyed by locals and the broader community for a variety of reasons. Communities have connections with forests that range from spiritual wellbeing to deriving an income from forests. Indigenous communities have a strong cultural connection to the land. The forests are enjoyed by people for a variety of pursuits, some of which cannot be undertaken elsewhere on public land. Whether for intrinsic, recreational or livelihood reasons, the importance of these forests to the community has been demonstrated during the development of this plan by the active participation of many groups and individuals.

The development of this plan demonstrates that effective partnerships can be created, developed and strengthened. A wide range of people enthusiastically participated in developing this plan through a community consultative committee, forums, workshops and field trips. Information was shared through discussion papers, newsletters and online. A collaborative decision-making framework was used to capture information from community, policy and legislation as well as scientific research. The community used this information to develop strategies to achieve long-term directions for their State forests.

The community has expressed a strong desire to continue working with Government to manage the Portland and Horsham forests and to increase shared

knowledge of forest management. DSE acknowledges that the community has a wealth of knowledge about the forests, ranging from historical knowledge to the location of specific flora and fauna. Wider information sharing not only assists in the management of forests, it also assists with developing an understanding of other people's views.

To understand the landscape and the key role that forests play in it we must establish a comprehensive and accessible knowledge base. More strategic data collection is needed to better inform land management choices. DSE will improve accessibility to data about these forests for multiple purposes in partnership with other agencies, and will participate in strategic collection of data for long term monitoring purposes, improving our shared knowledge of natural values and sites.

This plan will be implemented by DSE working with local communities and stakeholders. By monitoring, reviewing and adapting management techniques where appropriate, we can learn and make continual improvements to this plan to ensure the best outcome for our forests and people. Implementation is discussed in further detail in Chapter 12 of this plan.

Desired outcome

- Public land managers and the community work together to protect and enhance State forests and the benefits that they provide.

Strategic direction

- Foster partnerships between public land managers, communities, neighbours and Traditional Owners to develop and implement sustainable forest management programs.

Forests are valued and enjoyed by people for many reasons.

Communities have experience and knowledge that shapes forest management.

Good communication and learning together underpin effective relationships.

3. Biodiversity conservation

The forests of the Portland and Horsham areas make a vital contribution to the conservation of biodiversity across the landscape. Public land (State forests, parks and reserves) comprises almost 17 percent of all land in the Portland and Horsham FMAs. The land provides important islands of native vegetation in the largely agricultural landscape. The diversity and unique mix of the forest ecosystems also support rich biological diversity.

The remnant woodlands, heathlands, grasslands, wetlands and forests are home to more than 650 species of native animals, including the threatened Heath Mouse, Red-tailed Black-Cockatoo, Striped Legless Lizard, Brolga and Powerful Owl, and more than 2,300 native plant species. Loss of habitat is identified as a major threat to biodiversity at a landscape scale in the Portland and Horsham area. A list of threatened flora and fauna and listed potentially threatening processes is provided at Appendix C of this plan.

Securing Our Natural Future (DSE 2009) identified the far south-west of the State as a flagship area for the protection of natural values. State level management objectives and priorities for this flagship area will be articulated in the Victorian Natural Resource Management Plan, which will be published in 2011.

Although this plan applies only to State forests, biodiversity conservation has been considered at a landscape scale, recognising the role of formal conservation reserves such as national parks and remnant vegetation on private land, and complements works on private

land by the community and government agencies to improve the condition of remnants and connectivity across the landscape.

Biodiversity conservation in Portland and Horsham State forest means:

- reserving forest ecosystems in the comprehensive, adequate and representative (CAR) reserve system, consistent with nationally agreed criteria,
- implementing specific conservation measures and managing potentially threatening processes to provide an environment where flora and fauna can survive, flourish and retain their potential for evolutionary development in the wild, and
- researching and monitoring to assess the effectiveness of forest management.

In contributing to the development of the Plan, the Portland and Horsham communities stated that their priorities are to:

- recognise the importance of conserving biodiversity for future generations, placing it as the highest priority for forest management,
- recognise the uniqueness and importance of flora and fauna in the south west Victorian forests, some located at the western end of their natural range,
- advocate for integrated management across all land tenures including private land to achieve better biodiversity conservation,
- recognise the importance of managing broad-scale threats to biodiversity, including weeds, foxes and fire,
- express a strong desire to see responsible use of State forests with activities managed to be compatible with biodiversity principles,
- promote learning from the past and tapping into local knowledge and

Biodiversity encompasses a wide range of living things and complex ecosystems that are evolving and adapting.

Biodiversity enriches our lives and must be maintained and enhanced.

experience as well as educating the local community about biodiversity.

These priorities are aligned with the Victorian Government's vision, expressed in *Securing Our Natural Future: a white paper for land and biodiversity at a time of climate change* (DSE 2009), for managing Victoria's environment:

Victorians acting together to ensure that our land, water and biodiversity are healthy, resilient and productive.

Ecosystem diversity

The Portland and Horsham forest ecosystems are made up of many Ecological Vegetation Classes (EVCs) that are used to assess forest ecosystem diversity and conservation at the landscape scale. These forests display great diversity, ranging from the Messmate and mixed species forests in the south, to Brown Stringybark woodlands and Red Gum forests along watercourses in the north.

CAR Reserve System

A comprehensive, adequate and representative (CAR) reserve system has been established in Victoria for protecting ecosystems based on the nationally-agreed reserve criteria (JANIS 1997). Within the Portland and Horsham forests, the CAR reserve system includes parks and reserves and areas of Special Protection Zones (SPZs) in State forest created under the West Victoria Regional Forest Agreement 2000. These reserves protect vegetation communities and species across their natural range, including habitats for threatened species. The CAR reserve system, supplemented by Special Management Zones in State forest (Table 2), ensures habitat protection for most species. *Securing Our Natural Future* commits the Victorian government to further developing the national reserve system, helping to build ecosystem resilience in response to climate change.

Codes of practice and the regulatory regime for forests

As well as the establishment of a reserve system to provide additional protection in specific areas, there is a comprehensive regulatory system for activities that occur in State forest that may impact biodiversity. In particular, the *Code of Practice for Timber Production* (DSE 2007) applies to all timber production activities (including commercial firewood collection, road construction and maintenance), while regulations made under the Forests Act 1958 apply to other permissible activities such as grazing and beekeeping.

Threatened species

In the Portland and Horsham FMAs about 52 threatened vascular plant species and 81 threatened fauna species have been recorded in State forest or on land in close proximity to State forest. Appendix C lists threatened flora and fauna in the Portland and Horsham forests.

Orchids are the flora species most sensitive to disturbance within the Portland and Horsham State forests. Key potential threats include intensive fire regimes, grazing by native and introduced species, weed invasion, disturbance from timber harvesting and mining, road management and recreation activities such as prospecting. These potential threats do not occur at all sites.

Potentially threatening processes

Many natural and human-induced processes operating in forests can adversely affect the distribution and structure of ecosystems. Several of these potentially threatening processes (e.g. loss of hollow bearing trees, removal of coarse woody debris, inappropriate fire regimes and environmental weeds) are listed under the *Flora and Fauna Guarantee Act 1988* (FFG Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC

Act). Appendix C lists potentially threatening processes active in the Portland and Horsham forests.

Management of potentially threatening processes is important in maintaining biodiversity, by supporting the integrity of ecosystems and reducing the direct threat to populations of flora and fauna. Management strategies within this plan are consistent with Action Statements and Threat Abatement Plans prepared in accordance with the FFG Act and EPBC Act.

Forest structure and hollow-bearing trees

The structure of the forests and woodlands in the Portland and Horsham FMAs in some forest types is dominated by small trees due to past management practices. Past management has also caused forests, such as the red gum forest of Woohlpooer, to be predominantly a single age class. These forests, prior to European settlement, would generally have had fewer but larger trees and a greater range of ages.

Many birds and animals in the area, including the endangered Red-tailed Black Cockatoo, depend upon large trees with hollows. Strategies for protecting late mature and senescent trees as well as large hollow-bearing trees will be implemented. Forest management that encourages the development of hollow-bearing trees will be considered. In forests with altered structure this can be achieved by:

- protecting large old trees, particularly in places where they are most abundant
- protecting medium-size trees that will develop into large trees in the future
- selectively removing trees (thinning) in areas with high tree densities to increase the growth of retained trees.

Ecological thinning can enhance fauna habitat and biodiversity values by accelerating growth of retained trees. The retained trees are selected for their

existing or potential habitat value, such as the preservation of tree hollows and development of large crowns.

Desired outcome

- Healthy and resilient ecosystems that are ecologically and structurally diverse and provide habitat to enable flora and fauna to flourish.

Strategic directions

- Maintain a CAR reserve system within the FMAs consistent with the national reserve criteria and the priorities outlined in *Securing Our Natural Future (2009)*.
- Ensure that State forest dwelling flora and fauna can survive, flourish and retain their potential for evolutionary development in the wild.
- Promote adaptive management research and programs to monitor the effectiveness of forest management activities in providing healthy and resilient ecosystems.
- Restore forest structural diversity and habitat value.



4. Landscapes and water catchments

Catchment health

Forested areas around Portland and Horsham are highly valued in the largely cleared agricultural landscape. The uniqueness and diversity of these public native forests is a source of pride and identity for the local community. There is general consensus that for the landscape to be healthy the sustainable management of forests is a high priority. In particular, the distinctive local ecology and rich biodiversity of our forests are important features that must be central considerations in land management.

Forests in the landscape can have positive impacts on the surrounding land. For example, they can contribute to managing salinity and conserving biodiversity. Private landholders are directly affected by the effectiveness of forest management along forest boundaries. In turn, activities of neighbouring land managers can affect values in State forest.

A whole-of-landscape perspective is needed when considering management options, and Portland and Horsham communities have expressed strong desire for effective and cooperative management across tenures. This approach strongly aligns with the comprehensive Regional Catchment Strategies developed by the Glenelg–Hopkins and Wimmera Catchment Management Authorities (CMAs).

The Glenelg Hopkins CMA covers the Portland FMA. The Wimmera CMA covers most of the Horsham forests with a small area covered by the North Central CMA. These CMAs are responsible for implementing regional catchment strategies that identify the objectives and priorities for maintaining the quality of land and water resources in these areas .

Securing Our Natural Future identified integrated cross-tenure management as a

priority outcome, with a number of actions identified to achieve this. Actions include:

- a framework for managing parks and protected areas that complements Regional Catchment Strategies and the Victorian Natural Resource Management Plan, and
- stewardship agreements between public land managers and interested adjoining private land managers.

DSE will seek to complement and align management priorities and activities for shared outcomes across the landscape, with Parks Victoria, the CMAs/Natural Resource Catchment and Coasts Authorities (NRC(C)As) and with neighbours.

Visual landscapes

The visual component of the landscape is managed by DSE using the Visual Management System (VMS) (Williamson & Calder 1979). The VMS identifies areas of high scenic value based on their scenic quality, visitor sensitivity and proximity to towns. Examples of areas of high visitor sensitivity are features located on road curves in high visitor-use areas, or on ridgelines, where the viewer's gaze is captured and the perception of change increased. The VMS is used as a guide to identify areas of high scenic value that may be impacted by inappropriate design and construction of public utilities.

Water yield and quality

The Portland forests fall within the Glenelg, Portland Coast and Hopkins river catchments. The Horsham forests fall within the Wimmera catchment. Three declared Special Water Supply Catchments occur in State forests: Merino (Weecurra State forests); Casterton (Drajurk State forests); and Rocklands (Rocklands State forest). DSE

manages these Special Water Supply Catchments in accordance with the *Catchment and Land Protection Act 1994* and the Special Area Plans prepared for each catchment.

Water yield is an important consideration for the area. The current allowable activities in the Portland and Horsham forests are unlikely to have any adverse impacts on water yield in these catchments.

Low quality and poorly maintained forest roads present a risk to water quality. Sediment moves into streams following heavy rainfall events, particularly at crossing points. Forest managers are aware of this risk when constructing and maintaining roads and will continue to monitor the road network to minimise the risk of adverse events.

Water quality is protected through a range of measures including restrictions on allowable activities in forests, maintenance of filtration buffers along streams and adequate drainage of roads. DSE applies a number of policies and guidelines to guide protection of water quality including the Code of Practice for Timber Production and the Code of Practice for Fire Management.

Aquifers provide a ready source of high quality water in the region, however, their shallowness and unconfined nature present problems in the management and conservation of supplies. The rate of recharge into aquifers can be affected by activities within the intake area, and significant changes to the nature of the vegetation or extensive drainage schemes can reduce the quantity of water entering the aquifers. These areas are important in maintaining the quality and quantity of groundwater and will continue to be managed to protect these values.

¹ *Securing Our Natural Future: a white paper for land and biodiversity at a time of climate change* (DSE 2009) announced institutional reforms to catchment management. The Glenelg-Hopkins CMA will form part of the Western District Natural Resource Catchment and Coasts Authority (NRCCA), while the North Central CMA will become part of the Northern Rivers NRCA. In addition to their current roles, the new NRC(C)As will be responsible for providing natural resource management advice on issues across the catchment, coasts and marine spectrum as well as advising on environmental values in regional water planning and decision making processes. These changes are subject to Parliamentary approval and may change.



Desired outcomes

- State forests contribute to healthy and productive catchments and provide clean water.
- Important viewsheds and their values are protected.

Strategic directions

- Improve catchment values by partnering a whole-of-catchment approach with Regional Catchment Strategies and the Victorian Natural Resource Management Plan.
- Identify and protect important landscape values.
- Manage activities in State forests to minimise negative impacts on water quality.

Our State forests provide a scenic contrast to the largely agricultural landscape of the region.

Forested public land contributes to the air and water quality of the surrounding environment.



5. Aboriginal culture and heritage

The land surrounding Portland and Horsham, including the forests, is the traditional land of the Gunditjmarra, Wotjobaluk and Yupagalk people. As Traditional Owners they are intrinsically connected to the land; it is the source of Indigenous identity. Traditional Owners have cared for Country for thousands of years and continue to have an interest in a its management through Traditional Owners organisations.

The representative bodies of these Traditional Owner groups are the Gunditj Mirring Traditional Owner Aboriginal Corporation and the Barengi Gadjin Land Council Aboriginal Corporation. These representative bodies are identified as Registered Aboriginal Parties under the *Aboriginal Heritage Act 2006*.

The Aboriginal Heritage Act recognises Victorian Aboriginal people as the primary guardians, keepers and knowledge holders of Aboriginal cultural heritage. Registered Aboriginal Parties have an important role and function in managing and protecting cultural heritage as a requirement under this legislation.

Traditional Owners are keen to work in partnership with Government to build their capacity to manage the land more effectively. Indigenous communities have expressed interest in participating in all aspects of forest management, including planning and delivery. The Portland and Horsham State forests provide a strong opportunity for Indigenous people to access the land and natural resources for cultural purposes.

DSE promotes awareness and consideration of Aboriginal cultural heritage as an integral part of land and resource management.

The Portland and Horsham forests contain many Aboriginal cultural places including artefact scatters, scar trees, shell middens, rock art, mounds and burial sites. Most sites are found accidentally and it is likely that thousands of artefacts and sites exist in the area. Less than 0.2 percent of the area is believed to have been adequately surveyed.

Native Title

The Native Title Act 1993 (Cwth) recognises and protects Native Title and regulates activities that may affect Native Title. All proposals for development on State forest must be assessed in light of the Future Act provisions of the Native Title Act.

A Native Title consent determination was given to the Wotjobaluk people on 13 December 2005 over parts of the Wimmera region. A consent determination was given on 30 March 2007 to the Gunditjmarra people recognising their native title rights in the Glenelg region and established an Indigenous land use agreement (ILUA) covering 140,000 ha of public land including areas within the Portland forests. Application for native title rights has also been made by the Yupagulk people in the Horsham area and this claim is currently in mediation.

The *Victorian Native Title Settlement Framework* (Department of Justice 2008) offers an alternative method of settlement of Native Title for Traditional Owner groups. New outcomes are available to Traditional Owner groups in a Framework agreement, including joint management, handback of Aboriginal title and new measures to increase access to natural resources. There are no Framework Agreements at this stage in the Portland and Horsham areas.

Indigenous people have an important role in the management of Victoria's natural resources.

Aboriginal cultural heritage values are a core component of forest management.

Aboriginal cultural heritage values provide a tangible link to the past and are an invaluable record for present and future generations.

“Our people learnt to be good conservationists, collecting what was necessary for survival and leaving enough for future years”

From Our Land Ebenezer Mission 1859–1904 brochure



Desired outcome

- Aboriginal cultural heritage values are identified, appreciated and conserved by working in partnership with Indigenous communities.

Strategic directions

- Build and enhance partnerships between Indigenous communities and public land managers to improve forest management, collaborating with Traditional Owners and other relevant groups to manage Aboriginal heritage values in State forests, consistently with the Native Title Settlement Framework.
- Protect all known Aboriginal cultural heritage values in forests, ensuring compliance with *Aboriginal Heritage Act 2006* and regulations.



“There has been a real trust and respect built and this gave us an opportunity to negotiate and put our aspirations across and be understood.”

Winda-Mara community member

6. Historic cultural heritage

Since Major Mitchell's 1836 expedition, the landscape and forests around Portland and Horsham have been a valuable resource for regional development. Forests in the area contain relics that tell the story of the lives and activities of generations before us. From timber mills to mining sites and forest camps, these historic places and stories provide tangible links to our history. The history enriches our lives and provides an invaluable record that helps us understand the past. The historic cultural heritage of the Portland and Horsham forests is recognised as a treasured link between the past and present. Heritage includes sites, the landscape and associated stories that reflect the diversity of our historic legacy. State forests in the region contain valuable evidence of past land use and activity.

Communities are interested in conserving their historic places and landscapes and enhancing their historical knowledge and understanding. DSE will work to foster understanding and appreciation of historic cultural heritage values in forests within the broader community, by promoting appropriate interpretative materials including signs and forest notes, and welcoming partnerships with interested groups such as historical societies to collect stories from our forests and work to maintain our historic cultural heritage.

Historic places may be impacted by natural processes or human activities. Threatening processes include: the decay and erosion of the site; impacts from animal and plants; disturbance from fire; and human activity including recreational and resource management activities.

All archaeological sites and relics greater than 50 years of age are protected by law. The management of historic places in State forests is guided by the Burra Charter (1979). The Charter includes the acknowledgment of the importance of a place; understanding its cultural significance; recognising the fabric, setting and contents of the place are important; making decisions about the future of the place based on information methodically collected and analysed; and the keeping of accurate records about decisions and changes to places.

The Land Conservation Council (LCC) Special Investigation in South West Victoria (LCC 1997) identified a number of sites in the Portland forests. Recommendations were made on protection measures for each category of these sites (i.e. Category A Highly Significant Place, Category B Significant Place, Category C Notable Place). For these identified sites, where no further protection measures have been subsequently prescribed, DSE will manage in accordance with the LCC recommendations.

DSE will consider the likely impacts on historic places when determining the appropriate use and development of the land. The major emphasis on protection will be to protect significant places from human disturbance and inappropriate development, and where needed to establish a process for their long term conservation and management. Sites will be appropriately zoned to ensure that protection is provided when activities are conducted in their vicinity. Selected historic places or groupings of places which provide an understanding of the history of the regions may be used for recreation and interpretation.

Desired outcome

- The historic cultural heritage values in State forests are identified, appreciated and conserved.

Strategic direction

- Manage places of historic cultural significance in accordance with the Burra Charter and applicable LCC recommendations.

Historic places are significant because they enrich our lives.

Historic places provide a tangible link to the past and are an invaluable record for present and future generations.

7. Fire management

Topography, vegetation and climate in south-eastern Australia combine to produce one of the most severely fire-prone areas in the world. Uncontrolled fire is a risk to human safety and to built assets.

Natural fires and those used by Aboriginal people to manage the landscape have been significant in shaping the distribution and composition of Victoria's flora and fauna. Many of our native plants and animals have evolved effective survival strategies when exposed to fire, with a number of species requiring fire or similar disturbances to regenerate or renew their habitats. Other species still require long fire-free intervals to ensure continued abundance (DSE 2003a).

A key challenge for forest management is to ensure an integrated approach, where the need to protect people and assets from bushfires is met, while the ecological implications of the use of fire are considered. *The Forests Act 1958*, *National Parks Act 1975* and *the Code of Practice for Fire on Public Land* (DSE 2006) are used to govern fire management on public land. Fire management aims to achieve the dual objectives of protection of human life and property and maintenance of ecologically appropriate fire regimes. This can be achieved through an integrated approach in partnership with the community, Country Fire Authority (CFA) and other relevant agencies.

Human Safety and Asset Protection

Living with Fire – Victoria's Bushfire Strategy (DSE 2008) seeks to reduce the threat of bushfires while facilitating resilient communities and improving environmental outcomes. This strategy will enable Victoria's bushfire agencies to

better prepare to meet future challenges in a time of climate change. One key theme is that managing land with fire involves increased planned burning effort (that includes large-scale mosaic burns) based on science and a risk management framework to manage fuel loads, protect communities and promote healthy ecosystems. The Victorian government has committed to implementing a long-term increase in the program of prescribed burning.

Impacts on both Aboriginal and European cultural heritage will be considered in fire operations planning and, where possible, fire suppression and recovery. DSE also encourages the use of fuel stoves by campers to reduce the risk of fire escapes.

The *Fire Protection Plan for Portland* (DSE 2004) and the interim *Wimmera Fire Protection Plan 2007-2010* (DSE 2007) aim to ensure that wildfire prevention and suppression activities are effective, operationally safe, environmentally sensitive and cost-efficient. These plans define fire protection objectives and strategies to be adopted to achieve these outcomes. Annual Fire Operations Plans outline actions for implementation.

Ecological aspects of fire

The fire requirements of ecosystems are fundamental to maintaining many of Victoria's biodiversity assets. Burning for ecological purposes can complement prescribed burning to protect human life and property. Conversely, burning for protection purposes has ecological consequences that need to be considered.

Management objectives for the ecological use of fire in the Portland and Horsham forests will be integrated with fire protection strategies set out in the Fire Protection Plans and the *Guidelines and Procedures for Ecological Burning on Public Land* (DSE 2003). Planning for fire management needs to consider the degree of fragmentation in the landscape

Fire is a natural and recurring process to which flora and fauna have adapted.

Plants and animals vary greatly in their adaptations to and reliance on fire.

Fire needs to be managed to protect life, property, culture and biodiversity.

DSE is obliged by legislation to undertake the prevention and suppression of wildfire in Victoria.

The forests in the area are fragmented and this affects how DSE manages fire.

and address the potential risks associated with impacts of pest plants and animal predators.

The guidelines provide a practical and adaptive approach, based on available scientific knowledge, for planning and implementing ecological burning programs on public land. Using these guidelines, ecologically-based fire regimes can be developed from knowledge of life stages or vital attributes of flora and fauna species providing tolerable thresholds for fire dwellings. This provides a guide to the upper and lower thresholds for tolerable fire intervals and fire cycles.

Understanding how plants live, reproduce and respond to the impact of fire allows approximate tolerable fire intervals to be determined for a vegetation community. The tolerable fire interval indicates the minimum and maximum range for timing of disturbance by fire. To maintain the existing composition of a particular vegetation community the 'ideal' pattern for fire disturbance falls within this range.

DSE will develop and apply ecological burning strategies covering major land

management units, will monitor the response to fire of key fire-responsive species in ecological vegetation classes (EVCs) following the implementation of a fire regime, and will continue to support adaptive management research and monitoring.

Fire management will not compromise human safety and asset protection measures, and will integrate ecological objectives wherever possible to maintain appropriate fire intervals.

Desired outcome

- Fire is managed to protect human life and assets and to sustain ecosystem health.

Strategic directions

- Manage fire in the landscape in accordance with relevant legislation, policies and procedures.
- Continue to work with other agencies to deliver fire management across the Prevention, Preparedness, Response and Recovery spectrum.



8. Pests and pathogens

Pest plants and animals and pathogens cross the boundaries of private and public land. Effectively managing pest and pathogen species requires cooperation between neighbouring land managers. The *Biosecurity Strategy for Victoria* (DPI 2009) and the *Invasive Plants and Animals Policy Framework* (DPI 2010) together with the *Guidelines and Procedures for Managing the Environmental Impacts of Weeds* (EWWG 2007) provide guiding principles and directions for managing pests in Victoria. These principles recognise an integrated approach is required. Prevention and early intervention are the most cost effective means of pest management.

Controlling the initial spread of pest plants and animals and pathogens is fundamental to achieving resilient and healthy State forests. This can only be achieved with strategic, targeted and timely pest control efforts on private and public land to protect environmental and economic values. An integrated approach is consistent with the *Catchment and Land Protection Act 1994* and Regional Catchment Strategies. DSE is committed to being a good neighbour and working with other land managers to control pest plants, animals and pathogens. Priority for pest management will be given to:

- new and emerging weeds,
- pest plants and animals listed under the *Catchment and Land Protection Act* and

priorities identified in CMA Regional Pest Action Plans, and

- protecting significant environments and cultural sites from pest plants and pest animals established with the FMAs.

The Weed Action Plans of the Glenelg–Hopkins and Wimmera CMAs set the priorities for regional weed control programs. Declared noxious weeds in the Portland and Horsham forests include African Feather Grass, Blackberry, Cape Tulip and Gorse. Environmental weeds within State forests including pine, Sweet Pittosporum, Boneseed, Coast Wattle, and Bridal Creeper. Pine is of particular concern in Reference Areas and wetlands, in old plantation sites and along boundaries of public and private land. Infestations of native plants that are growing outside of their natural range, such as Coast Wattle, Sallow Wattle, Coastal Tea-tree, Sweet Pittosporum, White Kunzea and Bluebell Creeper are also a regional concern.

Exotic pest animals that have adapted to life in the Portland and Horsham forests include rabbits, foxes, cats and goats. These species damage the natural environment and can cause economic losses to farmers. Foxes are the most widespread pest animal in the area and have a significant impact on small medium sized native animal populations.

Phytophthora cinnamomi, commonly known as Cinnamon Root Fungus, is a root fungus that can cause severe dieback in native vegetation, especially in areas that receive more than 500mm of rain per year. Cinnamon Root Fungus is known to occur within the area, but there are only a limited number of records on public land. Activities that can spread this pathogen include using contaminated soil in roadworks, moving machinery and bushwalking from infected to uninfected areas. Victoria's Public Land *Phytophthora cinnamomi Management Strategy* (DSE 2008) guides Cinnamon Root Fungus management.

Pests and pathogens impact the biological, productive and aesthetic values of natural ecosystems and agricultural lands.

Effective management of pest species requires cooperation between land managers.

Forests contain introduced pests and pathogens.

Chytridiomycosis is a fatal disease of adult frogs caused by the Chytrid Fungus *Batrachochytrium dendrobatidis*. Frogs are mostly susceptible when conditions are cold and moist. The disease is widespread throughout Victoria. Fungal spores are spread by direct and indirect contact with frogs, tadpoles, water, moist soil and humans.

Specific priorities in the region are to:

- manage invasion of plantation species, such as pine wildlings into public lands,
- establish hygiene practices to control the movement of pest and pathogen species between areas, particularly the root-rot fungus *Phytophthora cinnamomi*.
- control populations of native species such as kangaroos and corellas where they become problems, and
- control foxes, rabbits and goats effectively while reducing non-target impacts.

The management of Cinnamon Root Fungus and Chytrid Fungus will be consistent with Action Statements prepared in accordance with the *Flora and Fauna Guarantee Act 1988*, in partnership with Parks Victoria and the forest using community.

Desired outcome

- Establishment of new pests and pathogens is prevented and established pests and pathogens are controlled in partnership with the community.

Strategic directions

- Manage pests and pathogens in accordance with the *Invasive Plants and Animals Policy Framework*.
- Maintain effective agency and neighbour partnership arrangements and involvement for pest and pathogen control.



9. Forest resources

Portland and Horsham forests provide the community with a great variety of products and services, including honey, timber, firewood, native seed, sandstone and gravel for roads. The forests are also used for grazing, though to a more limited extent than in the past. The economic services that forests provide allow the community to continue to carry out socially and culturally important activities.

Significant portions of the Portland and Horsham area are held under mining industry tenements. Oil, gas, silver, platinum, gold and mineral sands are major mineral resources in the region. The challenge for DSE is to balance the various forest uses and values, while ensuring the forests are sustainably managed on behalf of the community.

Sustainable forest management requires having regard for the principles of ecologically sustainable development. This is development that improves overall quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. This is achieved by safeguarding the welfare of future generations, providing equity between people and generations, and protecting biological diversity and maintaining essential ecological processes and life support systems. These principles are enacted through the Sustainability Charter.

Occupation and utility use of State forests will be restricted to uses that depend on access to State forest and:

- do not substantially conflict with conservation, resource production or recreation objectives,

- cannot be located on freehold land,
- contribute to the beneficial management of State forests, and
- provide a public benefit that outweighs social or environmental costs.

Timber resources

The Victorian Government's policy statement *Our Forests Our Future* (Victorian Government, 2002) addressed social, economic and environmental sustainability issues in forest management, and led to a major forestry industry restructure. This state-wide review reduced the number and nature of sawlog licences to sustainable levels across the State, and almost completely removed sawlog harvesting from Portland and Horsham forests.

Firewood is the primary timber resource still extracted from these forests. *Victoria's Firewood Strategy for Public Land* (DSE 2010) guides the management of firewood from State forests. Underneath the statewide strategy, regional or local firewood plans will be prepared which will state how future firewood needs will be met into the future.

There is very limited sawlog harvesting in the Horsham FMA, with red gum being taken at a sustainable level, mainly from the Woolhpooer State forest. Sawlogs are harvested using a single tree selection silvicultural system. Sawlog harvesting provides offcuts used for fence posts and firewood.

The management aim for the Woolhpooer forest is to make the currently uniformly aged forest more structurally diverse, with multiple age classes and a greater number of large hollow-bearing trees. Hollow-bearing trees are important habitat for many birds and arboreal mammals. As age class distribution is not evenly spread across the range of size classes in this forest, harvesting levels may need to be adjusted until the forest structure becomes more diverse.

Forests support a wide range of economic uses.

Sustainable management of forest resources maintains resource availability for future generations.

Woodchip licences will be not be issued and clearfell harvesting systems will not be undertaken in the Portland and Horsham State forests.

Ecological thinning may be conducted for ecological objectives and to provide firewood to local communities.

Improvement in forest structure for habitat value may also require the silvicultural technique of thinning. Thinning is the selective removal of designated trees in a forest stand in order to achieve one or more of the following objectives:

- concentration of growth to a reduced number of trees
- a yield of timber early in the life of a stand
- improved wildlife habitat such as faster hollow development
- increased water yield from a catchment (due to reduced transpiration)
- improved health in retained trees (due to reduced competition).

Thinning to yield timber may be complementary with thinning for ecological purposes. *The Thinning in State forests – Policy Statement* (DSE 2008) provides further direction on the application of thinning as a technique.

There is no current or proposed harvesting for sawlogs in Portland forests. Future single-tree selection harvesting or thinning may be considered in Portland forests only where it is sustainable, does not unduly affect ecological values and provides demonstrable benefits in line with the principles outlined in this Forest Management Plan.

Beekeeping

The forests of the Portland and Horsham FMAs are an important resource for honey production, and apiary occurs throughout the State forests. Based on existing knowledge, the current number of bee sites can be maintained. Safe access to apiary sites is vital for producers and DSE will seek to maintain appropriate access for licensed site holders, within the terms of their licenses and permits.

Some studies suggest that European bees may both adversely and positively affect native ecosystems, although the extent of their impact has not been fully evaluated (Paton 1996). Competition for resources such as nectar, pollen and tree hollows by honeybees may result in the displacement of native fauna and long-term decline in native pollinator populations. DSE will maintain the existing number of apiary sites in State forests and access to these sites, recognising that future adjustments may be required if new information about the effects of bees in native ecosystems becomes available.

Other uses

A variety of other uses of State forest are permitted under the *Forests Act 1958*, such as grazing and seed collection. Licenses and permits for these uses and occupations will be allowed where not incompatible with broader management objectives. Grazing in the Woolhpooer forest will be reviewed and its usefulness in controlling weeds and its impact on biodiversity values assessed, and a management plan will be prepared for each licensed area. Grazing will not be allowed to interfere with red gum regeneration.

DSE will implement community awareness and education programs and undertake enforcement to reduce the incidence of unauthorised use of forest resources.

Desired outcome

- Local communities benefit from the sustainable use of forest resources.

Strategic directions

- Permit the sustainable use of licensed forest products, including wood products, grazing, honey, native plant seed, gravel, stone and mineral extraction.
- By-products from ecological thinning will be preferentially used to supply sawlogs, firewood and other products, where not required for ecological purposes or fuel management.

10. Recreation and tourism

Recreation

The Portland and Horsham forests are valued by the community for recreation because they provide access for a wide range of uses and experiences. It is these diverse natural experiences that make State forests valuable to communities and visitors. Management of the Portland and Horsham State forests will seek to maintain the range of recreational opportunities while providing for the diversity of experiences recreational users expect.

State forests provide recreational opportunities that complement those available in national parks and provide for a broader range of allowable uses. They provide for recreational opportunities such as bushwalking, picnicking, camping and four-wheel driving. In addition they provide for fossicking and prospecting, firewood collection, horse riding, hunting and fishing. State forests are also a popular venue for staging events, such as car rallies and Defence Force training.

These diverse and sometimes conflicting uses will be managed by the development of recreation-specific facilities and the promotion of these activities in suitable areas of the forest.

Organised and competitive events are managed using guidelines that provide details of procedures required to protect people and natural and cultural assets. Organised groups (such as mountain biking, car rallying, school and Scout groups) and major recreational events (such as a music festival) in State forest are required to obtain a permit from DSE before an event.

Trail bike riding is popular, particularly in the State forests close to Portland. The community is concerned about trail bike noise, illegal off-road riding causing environmental impacts and illegal use of walking tracks. The options to address these issues include increasing information, education, regulation and enforcement. Effective solutions

will vary across the area and will be explored collaboratively between DSE, local affected communities, riders and representative user groups.

DSE will also encourage the development and adherence to codes of practice for private and commercial users to develop an understanding of shared use of a common resource and ensure the responsible use of State forests. DSE will continue to monitor the impacts of recreational use on forest values and will undertake regular risk assessments of recreation infrastructure, to ensure recreational activities can be enjoyed safely with minimal environmental impacts. Events in State forests, including Defence Force training, will be managed to fairly share access to forests and avoid conflict with other forest users.

Tourism

Tourism is a significant element of the local economy in the Portland and Horsham region. The Portland and Horsham State forests provide many tourism opportunities. Tourism opportunities within the Portland and Horsham State forests may be enhanced by improving existing forest experiences suitable for the region's target market segments.

The *Nature-based Tourism Strategy 2008-2012* (Tourism Victoria 2008), the *Regional Tourism Action Plan 2009-2012* (Tourism Victoria 2009) and the *Regional Marketing and Development Plan 2009 – Grampians* (Tourism Victoria 2009) guide the development of appropriate tourism strategies for this area. DSE will work in partnership with the tourism industry and local communities to facilitate tourism development opportunities that benefit local economies without compromising natural values of the forests, in keeping with the *Environmentally Sustainable Tourism Strategic Plan 2009-2012* (Tourism Victoria 2009).

Licensed tour operators provide recreational services on a commercial

Recreation and tourism opportunities in forests can improve community understanding and experience of the natural environment.

Well managed forests enhance the recreational experience.

The diversity and uniqueness of Portland and Horsham forests provide a broad range of recreational and tourism opportunities.

Forest-based tourism benefits the local economy.

basis and often provide access to forest recreation which may be unavailable to individual visitors. Opportunities may exist for more licensed tour operators and any proposals will be assessed.

Facilities and visitor information

The forests offer a variety of trails, roads, camp sites, picnic grounds and other attractions to visitors. Provision of facilities and visitor information in State forests will be considered within the broader landscape in collaboration with peak user groups, other land managers and the broader community.

Local communities suggest that improved facilities within the forests will complement recreational experiences. DSE maintains a recreation facilities database to track and maintain existing facilities and identify priority areas for the provision of new facilities. DSE will ensure the development, upgrade or removal of recreation facilities and trails in State forests is planned at the regional landscape level and in collaboration with Parks Victoria and the community to enable an integrated approach to providing facilities appropriate for current and future needs.

The *Victorian Trails Strategy 2005 – 2010* (VTCC 2004) provides strategies for DSE, Parks Victoria and local government to improve cross-organisational coordination of trail network development, management and marketing. With predicted increasing demand for shorter interpretive walks and purpose-built trails, opportunities to better align the available trail network to these future demands will be considered.

Providing more accessible information on activities, facilities and maps will improve local forest experiences and the contribution visitors can make to local economies. Examples of interpretive material include 'Forest Notes' for popular recreation sites, information on native plants and wildlife and better signage along routes to help visitors gain more from their experience.

Promoting the availability of recreational opportunities in the Portland and Horsham State forests is recognised as important. Providing more accessible information on activities, facilities and maps will improve local forest experiences and the contributions these can make to local economies. Information about facilities available in forests is available online via Forest Explorer Online.

Desired outcome

- A diverse range of quality recreation and tourism experiences in State forests that contribute to the community's health and wellbeing.

Strategic directions

- Provide and maintain quality visitor facilities that are appropriate and safe for visitors.
- Promote responsible use of State forests through signage and visitor interpretative material.



11. Forest roads

The extensive road network in the Portland and Horsham forests is a result of various historic and current forest uses. Fully formed and constructed roads with gravel surfacing were constructed primarily for sawlog extraction, while many additional tracks have been created by informal off-road usage. Unformed and unsurfaced tracks now form the majority of the routes through forests.

The formal road network enables a diverse range of activities within the forest and is important in meeting broader community needs. Community use of forest roads includes recreation, tourism, and access to private property. The principal management requirement of the road network is for fire access and strategic control lines for prescribed burns and wildfire. Other uses include pest plant and animal control and access for forest monitoring.

Unformed or unmaintained roads are a threat to water quality. The community has indicated a wish to have continued access to the forests for recreation and other purposes but would like to see tracks surplus to requirements rehabilitated and closed. DSE will close and rehabilitate tracks that are no longer needed for management or other purposes in order to minimise water quality risk. Closures will occur in consultation with local communities and peak stakeholder groups. This is consistent with DSE's approach in the development of a roads register under the *Road Management Act 2004*. The road register will identify roads that DSE will maintain and that are available for public use.

To assist in maintaining roads for public safety and protect environmental and cultural values, some roads may be subject to temporary or seasonal closures. Other roads that are causing unacceptable environmental or safety issues or are no longer required may be permanently closed. DSE will consult with the community and stakeholder groups in these instances.

Directional signage on roads will be provided and maintained adequately for the type of use relevant to the road in accordance with the DSE Signs Manual (DSE 2010).

Desired outcome

- A well maintained network of roads that meet the community's needs, especially for fire management, recreation and the environment.

Strategic directions

- Maintain the road network to standards defined in the road management plan.

Access through forests is provided for fire protection, other forest uses, recreational activities and communities.

Roads and tracks need to be maintained so they remain safe for users and minimise environmental damage.

Not all forest roads and tracks are for public vehicles. Some are for emergency or management purposes.



12. Implementation of this plan

DSE is accountable for implementing this Forest Management Plan. Within the context of the text of each chapter, the Implementation Table translates the **desired outcomes** and **strategic directions** for each chapter into the following:

- **Performance measure** – how we will measure achievement of the strategic approach
- **Target Performance** – the target we seek to achieve in each performance measure
- **Trigger level** – the level at which corrective action will be taken
- **Corrective Action** – the action that will be taken to address the target performance.

These measures, targets and actions will be adopted as part of the Annual Planning Process, which is prepared annually, with community consultation. The Annual Planning Process also identifies priority actions for the two years beyond the current year. Annual implementation depends on resources and legislative and policy requirements.

The Implementation Table identifies issues registers for several partnerships. These registers will be maintained by DSE. Resolution of issues does not require all parties to be satisfied, but that DSE has responsibly and ethically discharged its duties as a public agency accountable to the people of Victoria, and in the spirit of the principles outlined in this plan.

Victoria has enshrined its commitment to sustainable forest management in legislation. The sustainability of forest management is evaluated and communicated through five-yearly *State of the Forests Reports*. DSE is implementing a forest monitoring and reporting information system that will systematically survey forest areas at regular intervals. There are 166 survey sites in the Portland and Horsham FMAs.

A zoning scheme digital layer is maintained and available on the DSE website through Forest Explorer Online. As new information becomes available, changes to the zoning scheme and management strategies may be required. There are formal procedures for amending the zoning scheme.

This plan was developed with strong community input and from a wide range of sources, reflecting the best available information at the time. However, new information, newly identified threats or changed uses, and the dynamics of forest ecosystems in a time of climate change means that adaptive management is required. DSE will be guided by the principles outlined in this plan to ensure that the Portland and Horsham State forests are well-managed, diverse and healthy forests for present and future generations.

Desired outcomes

- Sustainable forest management and the vision for this Forest Management Plan are achieved through delivery of the strategic approaches of the plan.
- The plan and supporting information are regularly reviewed to ensure adaptive forest management that responds to new information and changing community aspirations.

Strategic directions

- Regularly report on achievement of target performance levels to the community, and consider feedback on changes to performance measures and corrective actions.
- Monitor and report on the current state, and trends over time, of forests and forest management in the Portland and Horsham FMAs in accordance with the *Criteria and Indicators for Sustainable Forest Management in Victoria* (2007).

The natural environment is complex and crosses land boundaries requiring integrated action and programs on the ground.

Management resources will always be limited so management must continually improve.

Learning is fundamental to good practice on the ground.



Implementation

Chapter	Strategic directions	Performance measure	Target performance	Trigger level	Corrective Actions
People and forests	2.1 – Foster partnerships between public land managers, communities, neighbours and Traditional Owner groups to develop and implement sustainable forest management programs.	Number of unresolved issues between public land managers and community groups, neighbours or Traditional Owners.	No issues unresolved.	Issues unresolved for three months or more.	Active engagement to resolve issues within six months of identification.
Biodiversity conservation	3.1 – Maintain a CAR reserve system within the FMAs consistent with the national reserve criteria and the priorities outlined in <i>Securing Our Natural Future</i> (2009).	CAR reserve system maintained to meet RFA and other relevant criteria.	100% compliance with RFA criteria.	Less than 98% compliance (by area) with RFA criteria.	Review zoning scheme within twelve months of identification to meet criteria.
	3.2 – Ensure that State forest dwelling flora and fauna can survive, flourish and retain their potential for evolutionary development in the wild.	Number of relevant outstanding actions in listed Action Statements for threatened species.	No outstanding actions in relevant listed Action Statements.	One outstanding action.	Implement actions required under Action Statement.
	3.3 – Promote adaptive management research and programs to monitor the effectiveness of forest management activities in providing healthy and resilient ecosystems.	Relevant sustainability indicators	Relevant sustainability indicators neutral or showing positive trends in forest health and resilience.	Relevant sustainability indicators showing decline in forest health and resilience	Investigate root cause of decline and implement management actions to arrest decline in forest health and resilience where practical.
	3.4 – Restore forest structural diversity and habitat value.	Relevant habitat value and forest structural diversity indicators.	Habitat value and forest structural diversity indicators showing positive trends.	Habitat value and forest structural diversity indicators showing decline.	Assess and if necessary undertake research to inform the design of management activities to restore habitat value and forest structural diversity. Apply outcomes of assessment or research.

Chapter	Strategic directions	Performance measure	Target performance	Trigger level	Corrective Actions
Landscapes and water catchments	4.1 – Improve catchment values by partnering a whole-of-catchment approach with CMA/ NRCA Regional Catchment Strategies and the Victorian Natural Resources Management Plan.	Number of unresolved issues with partner agencies.	No issues unresolved.	Issues unresolved with partner agencies for three months or more.	Active engagement to resolve issues within six months of identification.
	4.2 – Identify and protect important landscape values.	Number of developments that meet visual management system standards.	All (100%) developments meet Visual management standards.	Proposal for development that may affect landscape lodged.	Implement a visual management plan for each development proposal.
	4.3 – Manage all activities in State forests to minimise negative impacts on water quality.	Number of incidents where quality is reduced due to activities.	No incidents where water quality is reduced due to management activities.	Water quality reduced due to management activities more than 10 times a year.	Investigate and take corrective action to address specific water quality incident and/or to modify activities to avoid recurrence.
Aboriginal culture and heritage	5.1 – Build and enhance partnerships between Indigenous communities and public land managers to improve forest management, collaborating with Traditional Owners and other relevant groups to manage Aboriginal heritage values in State forests, consistently with the Native Title Settlement Framework.	Number of unresolved issues with registered Traditional Owners.	No issues unresolved.	Issues unresolved for three months or more.	Active engagement with Traditional Owners to resolve issues within six months of identification.
	5.2 – Protect all known Aboriginal cultural heritage values in forests, ensuring compliance with <i>Aboriginal Heritage Act 2006</i> and regulations.	Percentage of aboriginal heritage site appropriately protected	100% of known sites appropriately protected. Traditional Owners (or groups) consulted before any works which may affect cultural heritage.	<100% of known sites with appropriate protection or management for more than four months since discovery.	Engage with Traditional Owners to manage or protect sites.

Chapter	Strategic directions	Performance measure	Target performance	Trigger level	Corrective Actions
Historic cultural heritage	6.1 – Manage places of historic cultural significance in accordance with the Burra Charter and applicable LCC recommendations.	Percentage of sites managed appropriately	100% of known sites appropriately managed.	Any works or activity planned or undertaken that has or may adversely affect historic cultural heritage.	Report sites immediately. Modify any planned works in consultation with appropriate heritage experts. Rehabilitate any affected sites.
Fire management	7.1 – Manage fire in the landscape in accordance with relevant legislation, policies and procedures.	Percentage of planned burns and wildfires managed in accordance with relevant legislation policies and procedures.	100% fires managed in accordance with relevant legislation, policies and procedures.	<90 % of fires managed in accordance with relevant legislation, policies and procedures.	Review systems and processes for fire management.
	7.2 – Continue to work with other agencies to deliver fire management across the Prevention, Preparedness, Response and Recovery spectrum.	Number of unresolved issues with partner agencies.	No issues unresolved.	Issues unresolved for one fire season.	Active engagement with partner agencies to resolve issues with six months of identification.
Pests and pathogens	8.1 – Manage pests and pathogens in accordance with the <i>Invasive Plants and Animals Policy Framework</i> .	Percentage of priority pest and pathogen control programs effectively implemented.	100% of priority pest and pathogen control programs implemented within 12 months of identification.	<80% of priority programs implemented within 12 months of identification.	Implement priority programs.
	8.2 – Maintain effective agency and neighbour partnership arrangements and involvement for pest and pathogen control.	Number of unresolved issues with partner agencies and with neighbours.	No issues unresolved.	Issues unresolved for twelve months.	Active engagement to resolve issues.

Chapter	Strategic directions	Performance measure	Target performance	Trigger level	Corrective Actions
Forest resources	9.1 – Permit the sustainable use of licensed forest products, including wood products, grazing, honey, native plant seed, gravel, stone and mineral extraction.	Sustainable levels of forest product use.	Licensed use of forest products within sustainable levels.	Level of licensed use of forest products exceeds sustainable level.	Adjust (reduce, restrict, prohibit) forest product use to sustainable levels.
	9.1 – By-products from ecological thinning will be preferentially used to supply sawlogs, firewood and other products, where not required for ecological purposes or fuel management.	Volume of ecological thinning by-product that is assessed as not required for ecological purposes or fuel management that is preferentially used to supply sawlogs, firewood and other products.	All ecological thinning by-product that is assessed as not required for ecological purposes or fuel management is preferentially used to supply sawlogs, firewood and other products.	More than 50m ³ ecological thinning by-product per year assessed as not required for ecological purposes or fuel management is not preferentially used to supply sawlogs, firewood and other products.	Review licensing procedures to maximise utilisation of ecological thinning by-products.
Recreation and tourism	10.1 – Provide and maintain quality visitor facilities that are appropriate and safe for visitors.	Recreational infrastructure appropriately recorded, assessed and managed via asset databases.	All open / accessible infrastructure assessed and managed to meet service delivery standards.	<80% assessed within 18 months. More than 5 open / accessible sites not meeting standards at any one time.	Undertake assessments. Conduct works to ensure infrastructure meets standards or close sites.
	10.2 – Promote responsible use of State forests through signage and interpretative material.	Quality interpretative material (forest notes) available through regional DSE offices, visitor information centres and online to communicate the diversity of opportunities State forests provide.	Quality interpretative material available 95% of the time and reviewed every three years.	Quality interpretative material not available for more than 1 month or not reviewed for five years.	Review interpretive material, distribute.

Chapter	Strategic directions	Performance measure	Target performance	Trigger level	Corrective Actions
Forest roads	11.1 – Maintain the road network to standards defined in the road management plan.	Percentage of kilometres of roads maintained.	100% roads inspected and maintained according to standards (GIMS database) within six months of scheduled date.	<100% of roads inspected and maintained according to standards (GIMS database) within six months of scheduled date.	Road maintenance conducted in accordance with three year roading plan.
	11.2 – Provide and maintain road network directional signage that is adequate for the type of use.	Percentage of signs and boards fit for purpose.	100% of signs and boards fit for purpose.	<100% of signs replaced within six months of identified need (general service) or twelve months (after fire).	Replacement of signs in accordance with standards.
Implementing this plan	12.1 – Regularly report on achievement of target performance levels to the community, and consider feedback on adjustment to performance measures and corrective actions.	Target performance levels measured and reported on annually, as part of preparation of Annual Planning Process.	All performance measures meaningfully measured and reported on.	Insufficient data or reporting on five or more measures each year.	Collect additional data and provide to public as part of next annual planning cycle.
	12.2 – Monitor and report on the current state, and trends over time, of forests and forest management in the Portland and Horsham FMAs in accordance with the <i>Criteria and Indicators for Sustainable Forest Management in Victoria</i> (2007).	Percentage of sites measured in a five year period.	100% of sites systematically measured in a five year period.	<100% of sites systematically measured in a five year period.	Sites measured in accordance with the forest monitoring and reporting program.

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Glossary

Action Plan	A plan to implement the outcomes and strategic directions in a Forest Management Plan.
Action Statement	For flora and fauna protection – these are formal statements providing management prescriptions that aim to ensure the long-term conservation of a species. An Action Statement is prepared for every item listed under the Victorian <i>Flora and Fauna Guarantee Act 1988</i> .
Actions for Biodiversity Conservation (ABC) system	A web-based system managed by DSE that records important management actions, mainly derived from FFG Action Statements, at key locations for threatened species and communities and for potentially threatening processes. It provides a clear understanding and effective communication of what has to be done by whom, where it is to be done and for the benefit of which species or community.
Biodiversity Action Plan (BAP)	A structured approach to identifying priorities and mapping significant areas for native biodiversity conservation at the landscape and Bioregional scales. Biodiversity Action Plans have been developed as partnership projects with Catchment Management Authorities, local government and non-government organisations across the state.
Biological diversity (Biodiversity)	A concept encompassing the diversity of indigenous species and communities occurring in a given region. It includes 'genetic diversity', which reflects the diversity within each species; 'species diversity', which is the variety of species; and 'ecosystem diversity', which is the diversity of different communities formed by living organisms and the relations between them.
Bioregion	A landscape-based approach to classifying the land surface using a range of environmental attributes such as climate, geomorphology, lithology and vegetation. Bioregions are broadscale mapping units for biodiversity planning in Victoria and have been adopted under Victoria's Biodiversity Strategy and the national <i>Environment Protection and Biodiversity Conservation Act 1999</i> . Bioregions capture the patterns and ecological characteristics in the landscape.
Catchment	The natural boundary of the area where all surface water drains to a common point. Ridges form the boundaries of catchments.
Code of Practice for Timber Production	Set of principles, procedures, guidelines and standards that specify minimum acceptable practices in harvesting and associated forest management operations.
Comprehensive Regional Assessment (CRA)	A joint assessment of all forest values – environmental, heritage, economic and social – by the Commonwealth and State leading to the establishment of a comprehensive, adequate and representative (CAR) reserve system, agreements on forest management as well as the signing of a Regional Forest Agreement (RFA).

Comprehensive Regional Assessment (CRA)	A joint assessment of all forest values – environmental, heritage, economic and social – by the Commonwealth and State leading to the establishment of a comprehensive, adequate and representative (CAR) reserve system, agreements on forest management as well as the signing of a Regional Forest Agreement (RFA).
Comprehensive, adequate and representative (CAR) reserve system	A reserve system to conserve all native forest types as well as plants and animals that depend on them. Comprehensive: the full range of forest communities recognised by an agreed national scientific classification at appropriate hierarchical levels. Adequate: the maintenance of the ecological viability and integrity of populations, species communities. Representative: those sample areas of the forest that are selected for inclusion reserves which should reasonably reflect the biological diversity of the communities.
Country	Indigenous people refer to the land and natural resources of an area as 'Country'.
Crown land	Land that belongs to the government.
Diversity	A measure of the physical or biological complexity of a system. It refers to a range of features from artefacts to species present.
Ecology	The interaction between living organisms and their environment.
Ecological thinning	Thinning of a forest (or woodland) stand with the primary aim of enhancing fauna habitat and biodiversity values.
Ecological Vegetation Class (EVC)	A level within a hierarchical vegetation classification system identified on the basis of floristics, vegetation structure, environmental and ecological features.
Ecosystem	All the organisms (including plants and animals) present in a particular area together with the physical environment they interact with.
Endangered species, endangered communities	A species in danger of extinction and whose survival is unlikely if causal factors continue. Included are species whose numbers have been reduced to a critical level or whose habitats are so drastically reduced the species are deemed to be in danger of extinction.
Environmental weed	A naturalised non-indigenous plant species outside the agricultural or garden context which adversely affects the survival or regeneration of indigenous species in natural or partly natural vegetation communities.

Fauna	A general term for animals (including reptiles, birds, marsupials, fish, amphibians and invertebrates).
Fire Protection Plan	A plan prepared by DSE for planning proper and sufficient works for the prevention, preparedness, suppression and recovery of wildfire on public land. The plan is strategic in its approach, addressing fire protection at a regional (geographic) level.
Flora	A general term for plants.
Forest management agencies	Public agencies that manage forests on Crown land for many uses, including wood production, conservation, flora and fauna protection, recreation and water supply. This includes agencies with responsibility for managing unallocated and leased Crown lands that are forested.
Forest Management Area (FMA)	The basic units for forest planning and management in Victoria. Currently Victoria is divided into 14 Forest Management Areas. This plan covers the Portland and Horsham Forest Management Areas.
Forest Management Plan	A plan developed to address the full range of values and uses in State forest by Forest Management Areas.
Forest Management Zone	An area of similar physical capability or forest value to which particular DSE strategy and specific prescriptions may apply. There are three zones: Special Protection Zone, Special Management Zone and General Management Zone.
Forest type	A classification of forests according to their life form and height of the tallest stratum, and the projected foliage cover of the tallest stratum.
General Management Zone (GMZ)	Delineates the area to be managed for the broad range of forest values available in an area, including timber harvesting.
Geographic Information System (GIS)	A system which holds spatially referenced data which can be classified, overlaid, analysed and presented in map, tabular or graphic form.

Geomorphological characteristics	Features associated with active landform processes such as erosion.
Groundwater	All subsurface water occupying the pores and crevices of rock and soil.
Guidelines	The directing principles adopted to establish decisions (zoning, actions or prescriptions) for protecting and managing forest values. They are not necessarily mandatory but are to be interpreted and applied on the basis of information available and in the context of the protection and management of other values in the forest.
Habitat	The physical location or type of environment an organism or biological population lives in or occurs.
Heritage	All those things inherited from previous generations which we value, such as places, objects and folklore.
Heritage river area	Land that is a heritage river area under section 5 of the <i>Heritage Rivers Act 1992</i> . Each area of land described in a part of Schedule 1 of the Act is a heritage river under the name specified in that part.
JANIS	Joint Australian and New Zealand Environment and Conservation Council / Ministerial Council on Forestry, Fisheries and Aquaculture Nation Forest Policy Statement Implementation Sub-committee.
Management plans	The range of plans dealing with strategic and operational issues of forest management prepared for specific regional or local areas and integrating environmental and commercial objectives.
Management procedures	These detail specific conditions or standards to apply to forest operations in the vicinity of certain threatened flora or fauna. More detailed prescriptions are established at the local level and are reflected in Wood Utilisation Plans.
Management zone	An area of similar capability of forest value to which a particular DSE strategy and specific prescriptions will apply.
Multiple use forests	Forests managed for a combination of values and uses so a wide range of community expectations are met.

National park	Land described to be national park under Schedule Two of the <i>National Parks Act 1975</i> . They mostly contain substantial tracts of land of significance because of their outstanding natural environments and features, scenic landscapes and diverse land types.
National reserve criteria	The <i>Nationally agreed criteria for the establishment of a comprehensive, adequate and representative reserve system for forests in Australia, 1997</i> report by JANIS (Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee).
Native forest	Any locally indigenous forest community containing the full complement of native species and habitats normally associated with that community or with potential to develop these characteristics.
New and emerging weed	Weeds recently been recorded or present for some time that are known or are suspected to have potential for damaging environment, social or economic values.
Noxious weed	These are species declared as such in schedules under the <i>Catchment and Land Protection Act 1994</i> . The Act defines four categories: 'State prohibited', 'regionally prohibited', 'regionally controlled' and 'restricted'. The legislation requires that these be controlled or eradicated.
Population	A geographically or socially disjunct group of interacting organisms of the same species that occupy a definable area.
Potentially threatening process	See Threatening process
Prescribed fire	The controlled application of fire to a defined area of land conducted to meet specified management objectives.
Public land	Unalienated land of the Crown managed and controlled by the Minister for Environment and Climate Change, the Minister for Water or the Secretary of Environment and Sustainability, whether or not occupied under a licence or other right (but not including land occupied under a lease, or land vested or leased by the Victorian Plantations Corporation or its successor in law).
Rare species	Rare but not considered otherwise threatened. There are relatively few known populations or the taxon is restricted to a relatively small area.

Reference areas	An area declared under the <i>Reference Areas Act 1978</i> , where the overriding management purpose is to maintain the area in a natural state and avoid all potentially impactful developments.
Regional Forest Agreement (RFA)	An agreement about the long-term management and use of forests in a particular region between the Commonwealth and a State Government.
Reserved forest	Land proclaimed as reserved forest under Section 42(1) of the <i>Forests Act 1958</i> .
Reserves	Areas such as national parks and nature reserves which are subject to an established degree of protection from disturbance.
Riparian	Of, or located on, the banks of rivers.
Sawlog	A log considered suitable in size and quality for producing sawn timber.
Selection systems	Trees are harvested either singly or in groups at relatively short intervals indefinitely. Used to harvest and regenerate particular forest types. Regeneration is continually established and an uneven-aged forest maintained.
Special Management Zone (SMZ)	Forest management zone managed to conserve specific features, while catering for timber production and other utilisation activities under certain conditions.
Special Protection Zone (SPZ)	Forest management zone managed for conservation, where timber harvesting and other human disturbances will generally be excluded.
Species	A group of organisms biologically capable of breeding and producing fertile offspring. It is the lowest normal taxonomic classification in use.
State	The Crown in the right of the State of Victoria.
State forest	As defined in Section 3 of the <i>Forests Act 1958</i> . State forest comprises publicly owned land managed for conserving flora and fauna, protecting water catchments and water quality, providing timber and other forest products sustainably, protecting landscape, archaeological and historical values and providing provide recreational and educational opportunities.

State park	Land described as State park on Schedule Two B of the <i>National Parks Act 1975</i> . These are generally tracts of land containing one or more land types complementing those found in national parks to provide a system representing the major land types of the state.
Stream	The watercourse created by channelled surface runoff water as it leaves a catchment area. The flow of water in streams may be permanent or temporary. Defined in the Code of Practice for Timber Production.
Sustainability charter	The <i>Sustainability Charter for Victoria's State forests</i> (2006), prepared under the <i>Sustainable Forests (Timber) Act 2004</i> . Outlines the vision for sustainable forest management and seven principles. Consistent with the internationally recognised Montreal Process.
Sustainability indicators	Hierarchical framework that acts as a reference for monitoring, assessing, and reporting on the status of sustainable forest management at the local, state or national levels. Consistent with the Montreal Process, Victoria's framework uses seven criteria to define the essential elements of sustainable forest management. Indicators (both quantitative and qualitative) are then monitored to determine performance against each criterion.
Sustainable forest management	The management of forests on all land tenures to maintain the overall capacity of forests to provide goods, protect biodiversity and protect the full suite of forest values at the regional level.
Threatened (fauna)	A collective term used to denote taxa that are extinct, critically endangered, endangered, vulnerable, near threatened, data deficient or conservation dependent.
Threatening process (potentially threatening process)	A process which may have capability to threaten the survival, abundance or evolutionary development of any taxon or community of flora or fauna. A potentially threatening process is eligible for listing in the <i>Flora and Fauna Guarantee Act 1988</i> if, in the absence of appropriate management, it poses or has the potential to pose a significant threat to the survival or evolutionary development of a range of flora or fauna.

Vegetation type	An aggregate of plant species, such as an ecological vegetation class (EVC) recognised by DSE which consistently occur together in the landscape and provide a convenient descriptive unit.
Victorian Environment Assessment Council (VEAC)	The Victorian Environmental Assessment Council (VEAC) is appointed under the <i>Victorian Environmental Assessment Council Act 2001</i> . It provides independent and strategic advice to the government of Victoria on matters relating to the protection and ecologically sustainable management of the environment and natural resources of the State of Victoria.
Vital attributes	The key life history features which determine how a species lives and reproduces. With respect to fire, these attributes govern how a species lives and responds to fire and/or persists within a particular fire regime.
Vulnerable species	A taxon is vulnerable when it is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-term future.
Water supply catchment	A catchment from which water is used for domestic water supply purposes.
Weed	Any plant that survives in an area where it is harmful or troublesome to the land use or values.
Wetlands	Areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.
Wildlife corridor	A strip of forest of varying width reserved from harvesting to facilitate fauna movement including gene movement between patches of forest of varying ages and stages of development.

Appendix A – Land categories in Portland and Horsham FMAs

Table B 1: Land Categories in Portland FMA

	Area in hectares	Proportion of all land (%)	Proportion of public land (%)	Proportion of State forest (%)
PUBLIC LAND				
State forest				
Special Protection Zone	53,236	2.87	24.18	62.10
Special Management Zone	275	0.01	0.13	0.32
General Management Zone	32,213	1.73	14.63	37.58
State forest subtotal	85,724	4.61	38.94	100.0
Conservation parks & reserves	115,489	6.22	52.45	
Forest park	8,675	0.47	3.94	
Other public land 1	4,466	0.24	2.03	
Commonwealth land	0	0	0	
Water body	5,818	0.31	2.64	
Public land total	220,172	11.85	100.0	
PRIVATE LAND 2				
Private land total	1,637,353	88.15		
Total for Portland FMA	1,857,525	100.0		

Table B 2: Land categories in Horsham FMA

	Area in hectares	Proportion of all land (%)	Proportion of public land (%)	Proportion of State forest (%)
PUBLIC LAND				
State forest				
Special Protection Zone	50,078	1.97	9.75	57.75
Special Management Zone	26,851	1.06	5.23	30.96
General Management Zone	9,790	0.39	1.91	11.29
State forest subtotal	86,718	3.4	16.89	100.0
Conservation parks & reserves	374,818	14.8	73.00	
Forest park	0	0	0	
Other public land	14,114	0.6	2.75	
Commonwealth land	126	0.005	0.02	
Water body	37,691	1.5	7.34	
Public land total	513,467	20.2	100.0	
PRIVATE LAND				
Private land total	2,032,518	79.8		
Total for Horsham FMA	2,545,985	100.0		

Appendix B – Changes to zoning scheme

The zoning scheme as at the time of publication is shown on Maps 1 and 2 accompanying this Forest Management Plan. A zoning scheme register is maintained on the DSE website.

Table C 1 describes the changes made in this plan compared with the RFA zoning of 2000 and the Proposed Portland-Horsham Forest Management Plan of 2005

Table C 1: Changes to the zoning scheme

	RFA zoning ¹ within Plan Area (ha)	Draft Plan Area (ha)	Final Plan Area (ha)	Change in Area (Draft plan to Final plan)
PUBLIC LAND				
State forest				
Special Protection Zone	119,491	107,216	103,314	-3,902
Special Management Zone	15,009	28,754	27,126	-1,628
General Management Zone	75,859	63,254	42,003	-21,251
State forest subtotal	210,359	199,224	172,443	-26,781
Conservation parks & reserves	307,394	471,466	490,306	+18,840
Forest Park			8,675	+8,675
Other public land	13,177	19,256	18,580	-676
Commonwealth land	-	126	126	-
Water body	27,520	43,509	43,509	-
Public land total	558,450	733,524	733,639	+115
PRIVATE LAND				
Private land total	2,504,508	3,669,930	3,669,872	-58
Total for Portland and Horsham FMAs	3,062,958	4,403,511	4,403,511	

¹ The RFA zoning of 2000 only covered part of the Horsham FMA.

Appendix C – Threatening processes and threatened species

Potentially threatening processes

Many natural and human-induced processes operating in forests have potential to adversely affect the distribution and structure of ecosystems. Several of these potentially threatening processes relevant to forest management are listed in Schedule 3 of the *Flora and Fauna Guarantee Act 1988* (FFG Act). Some are also listed under the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act).

Managing potentially threatening processes is central to maintaining biodiversity by supporting protection of the integrity of ecosystems and reducing direct threats to flora and fauna populations.

Threatening processes will be managed through implementing the provisions of the *Code of Practice for Timber Production* as well as proposed actions described in particular Biodiversity Action Statements. The Actions for Biodiversity Conservation database describes actions to be implemented at the local or FMA scale.

Table A 1 lists the main potentially threatening processes relevant to forest management in the Portland and Horsham FMAs. This list is current at the time of publication but may change.

Management strategies within the Forest Management Plan are consistent with the Action Statement and Threat Abatement Plan prepared for these potentially threatening processes listed under the FFG Act and EPBC Act respectively.

Table A 1: Potentially threatening processes in Portland and Horsham FMAs

Alteration to the natural flow regimes of rivers and streams
Alteration to the natural temperature regimes of rivers and streams
Collection of native orchids
Degradation of native riparian vegetation along Victorian rivers and streams
Habitat fragmentation as a threatening process for fauna in Victoria
High frequency fire resulting in disruption of life cycle processes in plants and animals and loss of vegetation structure and composition
Fire regimes that cause disruption to sustainable ecosystem processes and resultant loss of biodiversity
Increase in sediment input into Victorian rivers and streams due to human activities
Infection of amphibians with Chytrid Fungus, resulting in chytridiomycosis
Invasion of native vegetation by environmental weeds
Invasion of native vegetation by Blackberry <i>Rubus fruticosus</i> .
Loss of coarse woody debris from Victorian native forests and woodlands
Loss of hollow-bearing trees in Victorian forests
Predation of native wildlife by cat (<i>Felis catus</i>)
Predation of native wildlife by the introduced Red Fox (<i>Vulpes vulpes</i>)
Reduction in biomass and biodiversity of native vegetation through grazing by the rabbit <i>Oryctolagus cuniculus</i>
Threats to native flora and fauna arising from the use of nesting hollows and floral resources by the feral honeybee (<i>Apis mellifera</i>)
The spread of <i>Phytophthora cinnamomi</i> from infected sites into parks and reserves, including roadsides, under control of a state or local government authority
Use of <i>Phytophthora</i> -infected gravel in the construction of roads, bridges and reservoirs

Threatened flora

Threatened flora species known to occur within State forests in the Portland and Horsham FMAs or known to occur on land in proximity to State forest and therefore likely to occur in the forests are listed in Table A2.

Action Statements for species listed under the FFG Act and Recovery

Plans under the EPBC Act will guide management of the species. The Actions for Biodiversity Conservation database describes actions to be implemented at the local or FMA scale.

The species identified as most sensitive to disturbance within the State forests are the threatened orchids. The key potential threats are inappropriate fire regimes,

grazing by native and introduced species, weed invasion, disturbance from timber harvesting and mining, road management and recreation activities such as prospecting. These potential threats do not occur at all sites.

Table A 2: Threatened flora in State forests in Portland and Horsham FMAs

Scientific name	Common name	FFG-listed	Conservation status – Australia	Conservation status – Victoria
<i>Acacia enterocarpa</i>	Jumping-jack Wattle	f	E	e
<i>Acacia glandulicarpa</i>	Hairy-pod Wattle	f	V	v
<i>Asterolasia phebaliooides</i>	Downy Star-Bush	f	V	v
<i>Borya mirabilis</i>	Grampians Pincushion-lily	f	E	e
<i>Caladenia audasii</i>	Mclvor Spider-orchid	f	E	e
<i>Caladenia brachyscapa</i>	Short Spider-orchid	f	X	x
<i>Caladenia calcicola</i>	Limestone Spider-orchid	f	V	e
<i>Caladenia carnea var. subulata</i>	Striped Pink-fingers	f	E	x
<i>Caladenia formosa</i>	Elegant Spider-orchid	f	V	v
<i>Caladenia fulva</i>	Tawny Spider-orchid	f	E	e
<i>Caladenia hastata</i>	Mellblom's Spider-orchid	f	E	e
<i>Caladenia lowanensis</i>	Wimmera Spider-orchid	f	E	e
<i>Caladenia ornata</i>	Ornate Pink-fingers	f	V	r
<i>Caladenia sp. aff. colorata</i> (Lower Glenelg River)	Colourful Spider-orchid		E	e
<i>Caladenia tensa</i>	Rigid Spider-orchid	f	E	v
<i>Caladenia versicolor</i>	Candy Spider-orchid		V	e

Scientific name	Common name	FFG-listed	Conservation status – Australia	Conservation status – Victoria
<i>Caladenia xanthochila</i>	Yellow-lip Spider-orchid	f	E	e
<i>Callitriche cyclocarpa</i>	Western Water-starwort	f	V	v
<i>Carex tasmanica</i>	Curly Sedge	f	V	v
<i>Cassinia rugata</i>	Wrinkled Cassinia	f	V	v
<i>Daviesia laevis</i>	Grampians Bitter-pea	f	V	v
<i>Dianella amoena</i>	Matted Flax-lily		E	e
<i>Dodonaea procumbens</i>	Trailing Hop-bush		V	v
<i>Eriocaulon australasicum</i>	Southern Pipewort		E	e
<i>Euphrasia collina subsp. muelleri</i>	Purple Eyebright	f	E	e
<i>Glycine latrobeana</i>	Clover Glycine	f	V	v
<i>Halosarcia flabelliformis</i>	Bead Glasswort	f	V	e
<i>Hibbertia humifusa subsp. debilis</i>	Dergholm Guinea-flower	f	V	v
<i>Ixodia achillaeoides subsp. arenicola</i>	Ixodia		V	v
<i>Lepidium monolocoides</i>	Winged Peppercross	f	E	e
<i>Myriophyllum porcatum</i>	Ridged Water-milfoil		V	v
<i>Phebalium lowanense</i>	Lowan Phebalium	f	V	v
<i>Pimelea pagophila</i>	Grampians Rice-flower		V	v
<i>Prasophyllum aff. validum B</i>	Woodland Leek-orchid		V	e
<i>Prasophyllum diversiflorum</i>	Gorae Leek-orchid		E	e
<i>Prasophyllum frenchii</i>	Maroon Leek-orchid	f	E	e
<i>Prasophyllum spicatum</i>	Dense Leek-orchid	f	V	e
<i>Prasophyllum suaveolens</i>	Fragrant Leek-orchid		E	e

Scientific name	Common name	FFG-listed	Conservation status – Australia	Conservation status – Victoria
<i>Prasophyllum subbisectum</i>	Pomonal Leek-orchid	f	E	e
<i>Pterostylis cheraphila</i>	Floodplain Rustyhood	f	V	v
<i>Pterostylis chlorogramma</i>	Green-striped Greenhood	f	V	v
<i>Pterostylis cucullata</i>	Leafy Greenhood		V	v
<i>Pterostylis tenuissima</i>	Swamp Greenhood	f	V	v
<i>Sclerolaena napiformis</i>	Turnip Copperburr		E	e
<i>Prasophyllum subbisectum</i>	Pomonal Leek-orchid	f	E	e
<i>Pterostylis cheraphila</i>	Floodplain Rustyhood	f	V	v
<i>Pterostylis chlorogramma</i>	Green-striped Greenhood	f	V	v
<i>Pterostylis cucullata</i>	Leafy Greenhood		V	v
<i>Pterostylis tenuissima</i>	Swamp Greenhood	f	V	v
<i>Sclerolaena napiformis</i>	Turnip Copperburr		E	e
<i>Senecio behrianus</i>	Stiff Groundsel	f	E	e
<i>Senecio macrocarpus</i>	Large-fruit Fireweed	f	V	e
<i>Senecio psilocarpus</i>	Swamp Fireweed	f	V	v
<i>Swainsona murrayana</i>	Slender Darling-pea		V	e
<i>Taraxacum cygnorum</i>	Coast Dandelion	f	V	e
<i>Thelymitra epipactoides</i>	Metallic Sun-orchid	f	E	e
<i>Thelymitra matthewsii</i>	Spiral Sun-orchid	f	V	v
<i>Xerochrysum palustre</i>	Swamp Everlasting	f	V	v

¹ Listed under the Victorian *Flora and Fauna Guarantee Act 1988*

² Listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

³ Advisory List of Threatened Vertebrate Fauna in Victoria – 2007

Code	Category
x	Presumed extinct in Victoria
e	Endangered in Victoria
v	Vulnerable in Victoria
r	Rare in Victoria
k	Poorly known in Victoria
X	Presumed extinct in Australia
E	Endangered in Australia
V	Vulnerable in Australia
R	Rare in Australia
K	Poorly known in Australia
f	Listed under the Victorian <i>Flora and Fauna Guarantee Act 1988</i>

Threatened fauna

Threatened fauna species known to occur within State forests in the Portland and Horsham FMAs or on land in proximity to State forests and therefore likely to occur in the forests but not yet recorded from the forests are listed in Table A3.

Action Statements for species listed under the FFG Act and Recovery Plans under the EPBC Act will guide management of the species. The Actions for Biodiversity Conservation database describes the actions to be implemented at the local or FMA scale.

Table A 3: Threatened fauna in State forests in Portland and Horsham FMAs

Common name	Scientific name	FFG-listed ¹	Conservation status – Australia ²	Conservation status – Victoria ³
Mammals				
Brush-tailed Phascogale	<i>Phascogale tapoatafa</i>	f		v
Common Dunnart	<i>Sminthopsis murina</i>			v
Greater Long-eared Bat	<i>Nyctophilus timoriensis</i>	f	V	v
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	f	V	v
Long-nosed Potoroo	<i>Potorous tridactylus</i>	f	V	e
Smoky Mouse	<i>Pseudomys fumeus</i>	f	E	c
Southern Brown Bandicoot	<i>Isodon obesulus</i>	n	E	nt
Spot-tailed Quoll	<i>Dasyurus maculatus</i>	f	E	e
Squirrel Glider	<i>Petaurus norfolcensis</i>	f		e
White-footed Dunnart	<i>Sminthopsis leucopus</i>	f		nt
Birds				
Australasian Bittern	<i>Botaurus poiciloptilus</i>	f		e
Australasian Shoveler	<i>Anas rhynchotis</i>			v
Australian Bustard	<i>Ardeotis australis</i>	f		c
Baillon's Crane	<i>Porzana pusilla</i>	f		v

Common name	Scientific name	FFG-listed ¹	Conservation status – Australia ²	Conservation status – Victoria ³
Barking Owl	<i>Ninox connivens</i>	f		e
Black Falcon	<i>Falco subniger</i>			v
Black-tailed Godwit	<i>Limosa limosa</i>			v
Blue-billed Duck	<i>Oxyura australis</i>	f		e
Brolga	<i>Grus rubicunda</i>	f		v
Bush Stone-curlew	<i>Burhinus grallarius</i>	f		e
Chestnut-rumped Heathwren	<i>Hylacola pyrrhopygia</i>	f		v
Common Sandpiper	<i>Actitis hypoleucos</i>			v
Diamond Firetail	<i>Stagonopleura guttata</i>	f		v
Eastern Great Egret	<i>Ardea modesta</i>	f		v
Elegant Parrot	<i>Neophema elegans</i>			v
Fairy Prion	<i>Pachyptila turtur</i>		V	v
Fairy Tern	<i>Sterna nereis</i>	f		e
Freckled Duck	<i>Stictonetta naevosa</i>	f		e
Great Knot	<i>Calidris tenuirostris</i>	f		e
Greater Sand Plover	<i>Charadrius leschenaultii</i>			v
Grey Falcon	<i>Falco hypoleucos</i>	f		e
Grey Goshawk	<i>Accipiter novaehollandiae</i>	f		v
Grey-crowned Babbler	<i>Pomatostomus temporalis</i>	f		e
Grey-tailed Tattler	<i>Heteroscelus brevipes</i>	f		c
Ground Parrot	<i>Pezoporus wallicus</i>	f		e
Gull-billed Tern	<i>Sterna nilotica</i>	f		e

Common name	Scientific name	FFG-listed ¹	Conservation status – Australia ²	Conservation status – Victoria ³
Hardhead	<i>Aythya australis</i>			v
Hooded Plover	<i>Thinornis rubricollis</i>	f		v
Inland Dotterel	<i>Charadrius australis</i>			v
Intermediate Egret	<i>Ardea intermedia</i>	f		c
King Quail	<i>Coturnix chinensis</i>	f		e
Lesser Sand Plover	<i>Charadrius mongolus</i>			v
Lewin's Rail	<i>Rallus pectoralis</i>	f		v
Little Bittern	<i>Ixobrychus minutus</i>	f		e
Little Egret	<i>Egretta garzetta</i>	f		e
Little Tern	<i>Sterna albifrons</i>	f		v
Magpie Goose	<i>Anseranas semipalmata</i>	f		nt
Major Mitchell's Cockatoo	<i>Cacatua leadbeateri</i>	f		v
Mallee Emu-wren	<i>Stipiturus mallee</i>	f	V	e
Malleefowl	<i>Leipoa ocellata</i>	f	V	e
Masked Owl	<i>Tyto novaehollandiae</i>	f		e
Musk Duck	<i>Biziura lobata</i>			v
Orange-bellied Parrot	<i>Neophema chrysogaster</i>	f	C	c
Painted Honeyeater	<i>Grantiella picta</i>	f		v
Painted Snipe	<i>Rostratula benghalensis</i>	f	V	c
Plains-wanderer	<i>Pedionomus torquatus</i>	f	V	c
Powerful Owl	<i>Ninox strenua</i>	f		v
Purple-gaped Honeyeater	<i>Lichenostomus cratitius</i>			v

Common name	Scientific name	FFG-listed ¹	Conservation status – Australia ²	Conservation status – Victoria ³
Red-chested Button-quail	<i>Turnix pyrrhothorax</i>	f		v
Red-lored Whistler	<i>Pachycephala rufogularis</i>	f	V	e
Red-tailed Black-Cockatoo	<i>Calyptorhynchus banksii</i>	f	E	e
Regent Honeyeater	<i>Xanthomyza phrygia</i>	f	E	c
Regent Parrot	<i>Polytelis anthopeplus</i>	f	V	v
Royal Spoonbill	<i>Platalea regia</i>			v
Southern Giant-Petrel	<i>Macronectes giganteus</i>	f	E	v
Speckled Warbler	<i>Chthonicola sagittata</i>	f		v
Square-tailed Kite	<i>Lophoictinia isura</i>	f		v
Swift Parrot	<i>Lathamus discolor</i>	f	E	e
Terek Sandpiper	<i>Xenus cinereus</i>	f		e
Western Whipbird	<i>Psophodes nigrogularis</i>	f	V	c
Whimbrel	<i>Numenius phaeopus</i>			v
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	f		v
Reptiles				
Bardick	<i>Echiopsis curta</i>	f		v
Carpet Python	<i>Morelia spilota metcalfei</i>	f		e
Corangamite Water Skink	<i>Eulamprus tympanum marnieae</i>	f	E	c
Rosenberg's Goanna	<i>Varanus rosenbergi</i>	f		v
Samphire Skink	<i>Morethia adelaidensis</i>	f		e
Striped Legless Lizard	<i>Delma impar</i>	f	V	e
Swamp Skink	<i>Egernia coventryi</i>	f		v

Common name	Scientific name	FFG-listed ¹	Conservation status – Australia ²	Conservation status – Victoria ³
Tree Goanna	<i>Varanus varius</i>			v
Amphibians				
Brown Toadlet	<i>Pseudophryne bibronii</i>	f		e
Growling Grass Frog	<i>Litoria raniformis</i>	f	V	e
Southern Toadlet	<i>Pseudophryne semimarmorata</i>			v
Fish				
Australian Grayling	<i>Prototroctes maraena</i>	f	V	v
Dwarf Galaxias	<i>Galaxiella pusilla</i>	f	V	v
Freshwater Catfish	<i>Tandanus tandanus</i>	f		e
Golden Perch	<i>Macquaria ambigua</i>			v
Macquarie Perch	<i>Macquaria australasica</i>	f	E	e
Murray Cod	<i>Maccullochella peelii peelii</i>	f	V	e
Trout Cod	<i>Maccullochella macquariensis</i>	f	E	c
Variiegated Pigmy Perch	<i>Nannoperca variegata</i>	f	V	e
Invertebrates				
Bull Ant	<i>Myrmecia sp. 17</i>	f		v
Eltham Copper Butterfly	<i>Paralucia pyrodiscus lucida</i>	f		v
Golden Sun Moth	<i>Synemon plana</i>	f	C	e
Small Brown Azure	<i>Ogyris otares</i>	f		e
Sun Moth (5091)	<i>Synemon sp c.f. selene</i>			e

¹ Listed under the Victorian *Flora and Fauna Guarantee Act 1988*

² Listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

³ Advisory List of Threatened Vertebrate Fauna in Victoria – 2007

Code	Category
x	Presumed extinct in Victoria
e	Endangered in Victoria
v	Vulnerable in Victoria
r	Rare in Victoria
k	Poorly known in Victoria
nt	Near threatened in Victoria
X	Presumed extinct in Australia
C	Critically endangered in Australia
E	Endangered in Australia
V	Vulnerable in Australia
R	Rare in Australia
K	Poorly known in Australia
f	Listed under the <i>Victorian Flora and Fauna Guarantee Act 1988</i>
n	Nominated for listing

Note: In addition to the threatened species, additional conservation measures will be implemented for protecting the Yellow-bellied Glider (*Petaurus australis*).

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