

PART 2 ISSUES

CHAPTER 6 NATURAL AND CULTURAL HERITAGE

The Angahook-Otway study area has a wide range of natural and cultural heritage values, from fragile ecosystems that support rare and threatened species, to internationally significant geological and geomorphological features. It is rich in the history of the Indigenous people whose shell middens, quarries, axe grinding grooves and artefacts are evidence of a long and profound association with the land. The history of European occupation is also apparent, with many relics of the timber, shipping and transport and other industries across a complex cultural landscape.

Natural Heritage

Central to VEAC's vision for the Otways is an enhanced environmental outcome, at the core of which is biodiversity conservation, provided by the Otway Ranges National Park and other parks and reserves. The recommended reserve system has been designed to maximise protection of natural values, especially those for which adequate reserve protection is a key conservation requirement. The objective of biodiversity conservation is to protect natural ecosystems and thereby maximise the survival potential of the 1230 recorded plant species, 341 recorded vertebrates, indigenous invertebrates and other unrecorded species found in the Otways.

Community Views on Biodiversity

Biodiversity protection in the Otways has substantial community support, with many submissions recognising the area's outstanding natural values, including old-growth forest, cool temperate rainforest, diverse heathlands and coastal habitats. Many submissions to VEAC's Discussion Paper and Draft Proposals Paper specifically refer to the importance of nature conservation, through protection of either wildlife habitat or threatened species. Many submissions proposed that specific places or extensive areas be included in the national park.

Biodiversity Protection

VEAC is recommending a substantial increase in the area of permanent parks and conservation reserves established primarily for biodiversity conservation in the Otways. These parks and reserves implement the principles of a comprehensive, adequate and representative reserve system. VEAC's recommendations aim to include areas of all ecosystem types in permanent parks and reserves, ensuring these areas are of suitable size and represent an appropriate extent of each ecosystem. This approach seeks to protect all plant and animal species that occur within their boundaries. To ensure the protection of rare and threatened species, information from the Department of Sustainability and Environment's Atlas of Victorian Wildlife and Flora Information System databases was used in the design of the recommended reserve system. Considerations included habitat requirements, species ranges and habitat links.

A key issue for the establishment of a comprehensive, adequate and representative reserve system is that few examples remain of some ecosystems. Some ecological vegetation classes (EVCs) of the Warrnambool Plain and Otway Plain Bioregions have been extensively cleared and those remnants remaining are of particular importance. The vegetation of the Heytesbury forests is one such area. It has been almost entirely cleared, with the remnant vegetation on public land thus vital to ensuring adequate representation in the reserve system.

Species with the highest conservation status—those at most risk—may require recovery programs. However, such programs are expensive and can only be applied to a small number of species, and only those whose decline, scarcity or existence has been documented. The only practical way to protect all species (known and unknown, scarce and abundant) is to conserve sufficiently large areas representing the range of habitat types.

Old-growth and senescent forests contain key habitat resources for many species such as tree hollows and fallen logs and are an important repository of both flora and fauna. Long-term protection in permanent reserves protects current old-growth and, over time, allows more ecologically mature forests to replace old-growth forests lost to wildfire.

While assisting visitors to use and enjoy the natural values of national parks it is important that such values be protected from over-use or inappropriate use by visitors. Visitor management techniques may be required to protect natural heritage and to rehabilitate damaged areas.

As well as conserving natural heritage, national parks and other permanent reserves such as nature conservation reserves provide long-term protection for other landscape values such as scenic amenity, and ensure priority for the protection for those species and features most under threat.

Climate Change

Climate change is expected to lead to a more erratic climate pattern in the study area. There are likely to be more extreme events such as storms and droughts against a background of higher average temperatures and reduced annual rainfall.



VEAC has applied design principles for its recommended conservation reserves in the study area that aim at minimising the impact of climate change on threatened species and ecological communities. These principles include:

- the permanent protection of important habitat areas;
- ecological connectivity to facilitate migration and dispersal of species through the provision of habitat links; and
- the protection of drought refuges for wildlife, including wetter habitats and gully vegetation.

Actions to reduce greenhouse gas emissions are being taken under the Victorian Government's Greenhouse Strategy.

Representation of Vegetation Types

Vegetation types are commonly grouped into ecological vegetation classes (EVCs), which consist of one or more vegetation communities occurring under similar environmental conditions. Bioregions are larger areas that have been classified according to a number of environmental variables including landform, rainfall and soil fertility. The representation of specific EVCs within bioregions is often used as a measure of ecosystem representation. VEAC's recommendations significantly increase the representation of EVCs in permanent reserves (see Chapter 13), across the study area as a whole and within each of its component bioregions.

Special Features Protection

While the national park encompasses a whole array of special features, the forest park areas also contribute to biodiversity protection and include areas of special nature conservation value and interest. VEAC's recommendations include a schedule of special features to be protected within the forest park. This emphasis on the protection of particular values and locations highlights their importance to land managers and the community, and will contribute to ensuring their conservation.

Small Parcels of Public Land

Smaller vegetated blocks of public land in the study area are important for protecting remnant vegetation and landscape amenity in areas where cleared farmland is the dominant land use. These small, but significant areas are particularly susceptible to threats such as weed invasion because of their large exposed boundary. In addition, these blocks have a limited capacity to cope with impact from recreational pursuits and minor forest produce utilisation. Most such areas have been designated as natural features reserves. Astute planning and management of these reserves is required to ensure that their important role is maintained.

Protecting Natural Values

EVC representation in dedicated parks and reserves offers long-term conservation of natural values in the permanent reserve system. VEAC's recommendations increase the protected area of many EVCs that were previously under-represented in permanent reserves, including:

- lowland forest, dominated by brown stringybark, or occasionally co-dominated by messmate, narrow-leaved peppermint and the rare bog gum;
- herb-rich foothill forest, with messmate dominant or co-dominant with mountain grey gum; and
- shrubby wet forest, dominated by messmate, mountain grey gum and manna gum.

Permanent representation of several other habitats will also be substantially increased by VEAC's recommendations. Cool temperate rainforest, for example, is home to a large number of threatened species, including feather-fan germanderwort (otherwise found only in Tasmania), tall astelia, slender tree-fern, beech finger-fern and slender fork-fern. These cool, damp environs are also habitat for endemic species (that is, species found nowhere else), such as the Otway black snail and Otway stonefly. The national park delivers secure, long-term protection for all rainforest sites of national and state significance in the Otways, and over two-thirds of extant cool temperate rainforest.

Another vegetation type with a high proportion of rare and threatened species is heathy woodland. Substantial areas of this EVC near Anglesea, Carlisle River and Devondale are included in the national park. These heathlands are strongholds for many orchids, some listed as rare or threatened including the endemic Angahook pink-fingers.

Several rare or threatened species in the study area require large, contiguous areas of suitable habitat, notably the powerful owl and the spot-tailed quoll. Habitat links are also important for many other species in the study area, providing increased security against habitat fragmentation, which often leads to local extinction. The extended national park contributes to meeting these requirements.

The national park and forest park play a significant role in protecting populations that may be key links in their species' western Victorian or coastal distributions, such as the long-nosed potoroo, swamp skink, wine-lipped spider-orchid and heart-lip spider-orchid. The Otways are the south-west limit of the distribution of many Australian east coast species such as the broad-toothed rat and satin bowerbird. On the other hand, currant wood and Brooker's gum are species that indicate the Otways' links with Tasmania.

For other fauna, geographic isolation has resulted in a relatively large number of endemic species. For example, the endemic Otway population of the rufous bristlebird is a subspecies distinct from other populations in far western Victoria. Protection of such rare and threatened species will be a high management priority for the national park and forest park. The poorly known status of a number of other apparently endemic species highlights the importance of careful management and long-term protection for the

Otway forests—while some knowledge exists for the rare carnivorous Otway black snail, there is limited information regarding the distribution and ecological requirements of several other land snail species thought to be endemic to the area.

Old-growth and Senescent Forest

Old-growth forest—that is, ecologically mature forest where the effects of disturbances are now negligible—is a natural value of particular importance for its scarcity, habitat value, biological diversity, and spiritual and aesthetic qualities.

The status of some areas of mapped old-growth (generated principally for the West Victoria Regional Forest Agreement in 2000) was questioned in submissions to the Draft Proposals Paper. Some of these submissions also mentioned other areas not mapped as old-growth but containing a high density of veteran trees and mapped as senescent or late-mature forest in the Department of Sustainability and Environment's forest growth stage mapping. Among the specific areas mentioned were Barongarook forest, the Lower Arkins Creek catchment, and various parts of the Barwon catchment.

The relationship between forest growth stage mapping and old-growth mapping is somewhat complex, but essentially the growth stage mapping is one of many initial inputs used in the identification and mapping of old-growth. Other key factors include those related to disturbance history, although not all types of disturbances are well-documented. Indeed, VEAC inspections of several areas mentioned in submissions found mapped old-growth areas showing signs of disturbance that had not been well-documented (e.g. cutting for firewood). On the other hand, these inspections also revealed that several areas mapped as senescent or late-mature forest—but not old-growth—had very little disturbance and, more particularly, abundant old forest elements such as large trees, tree hollows, fallen timber and structural complexity.

In summary, while areas mapped as old-growth, senescent or late-mature forest may in fact show signs of disturbance, they are nonetheless likely to contain abundant old forest elements—and, therefore, abundant biodiversity—and are generally indicative of older forests than places that have no such areas mapped. Other things being equal, they may be high priority areas for protection, even if they have some disturbance.

In preparing its final recommendations, VEAC largely used DSE's mapping of old-growth as indicative of important forest areas with the forest age mapping used as an additional tool. However, this value was only one component of those used to refine park boundaries—there are areas of mapped old-growth outside the national park, and no large areas are included in the national park solely on the basis of mapped old-growth.

The end result is that old-growth forest remains well-represented in the recommended national park, with inclusion of some of the largest patches across the full range of vegetation types.

Rivers and Streams

The waterways of the Otways are home to at least 14 native freshwater fish species including the critically endangered Australian mudfish and the vulnerable Australian grayling.

The outstanding values of the Aire River were recognised with its designation as a heritage river under the *Heritage Rivers Act 1992*. The majority of the river's length, and the entire Aire River gorge, are encompassed by the national park. The gorge is one of the most rugged river gorges in south-west Victoria.

Riparian zones are particularly sensitive environments—important for biodiversity in themselves—and with potentially significant effects on in-stream characteristics such as nutrient levels and turbidity. Protection and enhancement of natural values along water frontages will contribute to overall conservation management objectives.

Public land water frontages are managed in partnership with the regional Catchment Management Authority, licensees, local land care groups and DSE. Their value for habitat and recreation is increasingly recognised with management now giving particular emphasis to fencing and revegetation. Many water frontages in the study area are in poor condition, and land managers and licensees need to improve native vegetation cover and reduce streambank disturbance and weed infestation to restore natural and recreational values.

Geological and Geomorphological Sites

As described in Chapter 3, the national park includes two sites of international geological and geomorphological significance (Dinosaur Cove and the coastline between Torquay and Aireys inlet). The national park also encompasses six sites of national significance. While many of these sites are reasonably robust, care must be taken to ensure appropriate management particularly regarding access and sensitive rehabilitation works. These sites are vital for education about landscape formation.

Waterfalls, a prominent feature of the Otways landscape, demonstrate the relationship between lithology and stream development and offer easily accessible views of the underlying rock. The steep southern slopes of the national park have an abundance of waterfalls, cascades and fast-flowing rapids.

Reference Areas

The national park encompasses five existing reference areas, managed in accordance with the *Reference Areas Act 1978*. Council has recommended an additional three reference areas in the eastern part of the study area. These areas offer the highest level of protection for little-disturbed representative land-units not found elsewhere in the Otways.

Cultural Heritage

Historic places and objects are a tangible link to our past. They give meaning and enlightenment to the stories, both written and verbal, that describe how life once was.

Cultural Heritage Protection

The Land Conservation Council's 1997 special investigation into historic places across south-western Victoria identified eleven historic sites of state significance, as well as a range of other significant and notable historic places in Otways public lands. As a consequence, reserves were established to protect places with highly significant historical values that were not within other permanent reserves or parks. These sites were then listed on the Heritage Inventory or Victorian Heritage Register.

Under VEAC's recommendations, cultural heritage protection and management generally will continue to be undertaken in a manner consistent with the Victorian Heritage Strategy 2000-2005 and, specifically, the recommended national and forest parks will protect these sites and their values. The recommendation for the Otway Ranges National Park specifies that the park be used to (among other things):

protect significant cultural and historic sites and places, including Aboriginal cultural sites and places

The Otway Forest Park is to be used to:

protect and conserve....natural and cultural features, and water supply catchments

A schedule of special features which includes historic sites and features is listed in the forest park recommendations, highlighting the need for management to help protect cultural heritage. The Victorian Heritage Act 1995 controls the protection of cultural heritage places, relics and objects.

Indigenous Heritage

Chapter 10 provides an overview of Aboriginal cultural heritage and measures for the protection of archaeological sites. VEAC's national park and forest park recommendations supplement such protection and identify the need for Indigenous people to be more closely involved in public land management.

Specific recommendations developed by VEAC, in consultation with the Indigenous communities of the Otways, aim to improve mechanisms for the participation of Indigenous people in public land management, during planning and policy development, resource use decision-making, and day-to-day management through employment and training opportunities.

European Heritage

The numerous sites of European historic significance located within the national and forest parks relate largely to timber-getting, transport, water supply infrastructure and shipping. Features are often notable for their intactness, scarcity or their setting in rugged terrain.

As described in Chapter 3, three sites of state significance are listed on the Victorian Heritage Register and are included within the national park: Cape Otway Lighthouse; Knotts No.3 sawmill; and Henry's No.1 sawmill and tramways. The Lorne Pier has also been nominated for the Register recently. The implications of VEAC's

recommendations for significant sites on public land in the study area are listed in Chapter 13.

Many historic sites, such as Knotts No.1 sawmill at Triplet Falls and Cape Otway Lightstation are highly accessible and well documented. Others demand some research and exploration before yielding their stories.

While there are few remaining sawmill buildings, many features associated with the sawmills remain intact, such as the well preserved tramways of the Hitt No.1 mill in the Lardner forest, and hand dug sawpits and sizeable sawdust mounds at numerous sites. Some features are rarely found outside the Otways, with tunnels found at the Henry and Sanderson sawmill complex, in the West Barwon catchment, two of only three tunnels known to have serviced sawmills in Victoria.

Maritime history is important to the region which has a long association with shipping, as evidenced by the 150 year old Cape Otway Lighthouse which is one of the earliest examples of European settlement in the region. The shores between Point Lonsdale and Cape Otway are known to contain 52 shipwrecks. The whaling station at Point Bunbury, Apollo Bay is the area's first recorded extractive industry.

Both road and rail transport history is well-represented throughout the area. The Cape Otway Lightstation is the second lighthouse constructed on mainland Australia and one of the earliest examples of European settlement in the region. It is protected by inclusion in the national park.

The narrow gauge Colac-Beech Forest-Crowes railway line operated on and off from 1902 until 1962, providing all-weather access through the steep terrain. It is of both social and technical interest. It carried general supplies to remote communities and timber and agricultural produce to markets and had more than 150 curves on the 19 kilometres between Gellibrand and Beech Forest. Most of the infrastructure has been long dismantled and much of the line sold. However, the track embankments remain and are being developed for recreational use. The Great Ocean Road, constructed between 1918 and 1932 is another historic transport feature. The road was principally designed as a memorial and tourist route but also opened up access to the bays and townships along the relatively isolated coast. It remains and has become the major transport and tourist route that we know today.

The region's water supply infrastructure also has important heritage values as well as being a vital piece of community infrastructure. The wet and difficult conditions of the Otways posed challenges in construction of Colac's water supply. From 1909 to 1911, mainly sustenance labour was used to construct the Olangolah Weir and gravity-fed pipeline, the first long, welded steel pipeline in Victoria, and possibly Australia.

All such historic features are offered protection through VEAC's recommendations and where appropriate under the Heritage Act 1995.

CHAPTER 7 WATER PRODUCTION

The Otways supply high quality water to a large part of south-west Victoria, including the major centres of Warrnambool, Colac and Geelong. The management arrangements of the different water supply catchments vary across the region as well as within individual catchments. There are advantages in a consistent approach.

The South West Water Supply System

Regional water authority South West Water provides domestic supply to Warrnambool, Camperdown, Terang, Cobden, Koroit, Mortlake, Timboon, Lismore, Derrinallum, Allansford, Peterborough, Port Campbell, Carlisle River, Simpson, other small towns and around 1000 rural stock and domestic users. Water is drawn from a complex "run-of-the-river" system, with little bulk water storage, and town service basins which only store 8-10 weeks supply.

A crucial component of this system is Arkins Creek catchment, which produces high-quality, gravity-fed water contributing about one third of the total volume being used. Arkins Creek weirs feed the Otway Main Pipeline which extends to Warrnambool via Cobden and during high demand is supplemented at Carlisle River by pumping from the Gellibrand River. The Gellibrand River downstream is also the raw water source for the separate South Otway Pipeline (Warrnambool via Port Campbell). Otway Main Pipeline water is treated at major towns for bacteriological quality. South Otway Pipeline water from the Gellibrand River has full bacteriological, physical and chemical treatment.

The Barwon Water Supply Systems

Water supplies for the Geelong region and coastal towns from Anglesea eastwards are drawn from the Barwon Water systems. West Barwon Reservoir of 21,000 megalitres has a large catchment—all of which is Crown land except for 670 ha of public land owned by the water authority. Water released from the storage enters the 55 km Wurdee Boluc Inlet Channel, augmented by flows from the East Barwon River, Callahans Creek, Pennyroyal and Matthews Creeks catchments. Wurdee Boluc Reservoir (just outside the study area) stores some 38,000 megalitres.

The 2000 megalitre West Gellibrand Reservoir and 136 megalitre Oolangolah Reservoir form the principal water storage for the Colac region. Gellibrand township takes water from Lardners Creek. The West Barham catchment, supplying Apollo Bay and Skenes Creek, has a small off-take weir that diverts water to the 125 megalitre Marengo Service Basin. Lorne's 220 megalitre Allen Reservoir is in the St Georges River catchment. Painkalac Reservoir holds 514 megalitres for Aireys Inlet and Fairhaven supply.

Barwon Water's supply is augmented by groundwater pumping at Barwon Downs, and Geelong also takes substantial volumes from the Moorabool River catchment (to the north outside the study area). To ensure reliable water quality, Barwon Water has constructed water treatment plants in the following places: Wurdee Boluc (main Geelong plant); Lorne; Aireys Inlet; Apollo Bay; Colac; Birregurra; Forrest; and Gellibrand. The water quality of the West Barwon Reservoir catchment and tributaries supplying Geelong is also improved by aeration from a long run of channel flow and retention time in the Wurdee Boluc Reservoir. The West Barwon catchment is very important for the Geelong region's water supply, especially with lower than expected flows from the Moorabool River system over recent years.



Trends in Water Demand

Apollo Bay's water demand now exceeds the system yield, necessitating water restrictions. Demand is expected to increase 2.1 percent per year. There are current plans to enlarge the Marengo basin to 325 megalitres and substantially increase potential yield by establishing a new Barham River off-take downstream of the confluence of the East and West branches. This catchment would include substantial private land areas.

Barwon Water's Geelong system is also approaching the limit of its current supplies, and the following measures are being investigated:

- water conservation;
- alternative resources such as recycled water; greywater, stormwater and household tanks;
- improving system efficiency; and
- new supply sources.

In 2001 Barwon Water investigated 15 future surface water supply options, including possible dams on the Dewings and Callahan Creeks, where some farmland has been purchased. These are now not preferred options. Barwon Water's preferred new source options, in order of increasing cost per megalitre, are:

- further groundwater development at Barwon Downs or Bambra;
- interconnection with the West Gellibrand Reservoir or Melbourne system; and
- potable recycled water or desalination of seawater.

Demand in the South West Water supply area is within the system capacity.

Catchment Land-uses and Effects

The water catchments for reservoirs and offtakes currently include a number of land tenures which are subject to different management arrangements. Permitted land-uses vary from catchment to catchment and even within individual catchments.

The small Arkins Creek, Olangolah Reservoir and West Gellibrand Reservoir catchments are effectively closed to uses other than water production and biodiversity conservation. Elsewhere in the Otways, water supply catchments currently encompass state park, state forest, or water supply reserves, with a wide range of recreational and/or commercial utilisation activities, including timber harvesting. The range of permitted uses varies even more widely in water catchments which include freehold land.

The Gellibrand River water supply catchment to the South Otway pump at Chapple Vale has several land-uses which may cause earth disturbance or increase the risk of pollution by pathogenic organisms. These include extensive areas of freehold land with farming activities, road construction, softwood and hardwood harvesting

operations and extractive industries. The townships of Gellibrand and Carlisle River adjoining the river, and Lavers Hill, Beech Forest and Kawarren in the catchment, are unsewered. South West Water's two offtakes have freehold farmland close by. The water authority fully treats supply taken from this river. Treatment costs are higher with poor raw water quality.

Recreational activities vary in their effects on water quality. Direct human contact with water used for domestic supply can increase the risks of water borne diseases, most commonly gastro-intestinal illnesses. Some recreation activities can contribute to degradation of tracks, encouraging erosion and reducing water quality in nearby streams or rivers. "Run-of-the-river" water supply off-takes and small water storages are particularly susceptible to water quality problems arising from their catchments. Retention time in large water storages generally improves water quality. Aeration of flowing water in stream or channel flows contributes to improvement in microbiological quality by oxidation of organic substrates for pathogens.

Water yield is a significant issue with supply systems at the limit of their capacity, especially with "run-of-the-river" systems dependent on reliable stream flow.

The hydrological response to timber harvesting is highly dependent on the composition of the forest, age class distribution, average rainfall of the site, and proportion of the catchment logged. In the Otways, the response of streamflow to logging of foothill mixed species forest is likely to be substantially different to that of mountain ash forests. Logging a small part of a catchment (before 2008) is likely to have a negligible effect on streamflow levels across the catchment as a whole. Research in the Otways forest has demonstrated a significant but small increase in turbidity due to logging, but no other significant water quality effects. Roading and crossings are more significant contributors to soil erosion, turbidity and localised sediment.

Wildfire can potentially have a major impact on water catchment yield and water quality. For example, modelling predicts that if 50 percent of the West Barwon catchment were affected by wildfire, streamflow would be reduced for more than 30 years, in addition to increased erosion, turbidity and nutrient levels in run-off. Human access markedly increases the risk of wildfire, although controlled day-time access by walkers along designated routes away from watercourses and water storages may present an acceptable risk.

Views on Water Catchment Protection

VEAC's Discussion Paper outlined several issues associated with water supplies, in particular the effects of catchment land-uses on water quality and yield, and appropriate levels of protection.

There has been much debate over the potential effects of forestry operations on water supply. Supporters of expanded parks and reserves often mentioned water

(supply) catchments in their submissions for inclusion in expanded parks. Their rationale for park expansion was usually the protection of these areas, typically from logging or other uses perceived as adversely affecting water supply. Among the catchment areas most commonly mentioned in this context were the West Barham River, lower Arkins Creek and Barwon catchments, and more generally the Geelong and Warrnambool water supply catchments. Some submissions sought the further extension of 'closed catchment' policies to all water supply catchments, especially for the West Barwon catchment upon which Geelong's water supply is highly dependent.

As noted above the effects of timber harvesting a small part of a catchment on water quality and yield is not significant and, in any case, timber harvesting is to be phased out across the Otways, irrespective of VEAC's recommendations for a national park.

Catchment Protection

In considering public land-uses in water supply catchments, VEAC considered land tenure, current catchment uses, the water supply systems and water treatment methods.

VEAC recommends that the majority of the water supply catchments above the Arkins Creek weirs, the West Gellibrand, Olangolah and West Barwon Reservoirs, Allen Reservoir, Painkalac Reservoir and West Barham off-take be included in the Otway Ranges National Park and be managed cooperatively between the Department of Sustainability and Environment (DSE) and the relevant water authority. Council considers that the management of such lands is best placed under the jurisdiction of a land manager, not the water authority, but nonetheless firmly believes that an overriding function of these sectors of the national park is to ensure reliable, high quality water.

The West Gellibrand and Olangolah catchments cover just 2900 ha but these high rainfall catchments are the sole source of water supply for Colac. The small Arkins Creek catchment plays a very important role in the Warrnambool region's water supply. Its reliable, high yield is generated from a high rainfall catchment of 1200 ha, in a system with no significant water storage capacity. The current closed catchment policies of the West Gellibrand, Olangolah and

Arkins Creek catchments will be maintained under these recommendations. These catchments have been managed as closed catchments by the relevant water authorities for many years and have not been available for timber harvesting and, being fenced and untracked, are not accessible for recreation.

The 2700 ha St Georges River catchment and 3400 ha Painkalac Creek catchment are largely forested and undisturbed with minimal existing access. Vehicular tracks in these catchments are "management vehicle only" and there are no recreational facilities. Communities supplied by these two reservoirs are entirely reliant on these catchments for continuing good quality water. Application of closed catchment policies will formalise a de facto arrangement.

Limiting access to the above catchments in park management will provide a consistent management strategy for small catchments with limited bulk water storage. It is expected that the limited access policy would have little to no adverse impact on the current uses of these areas. In contrast, there are significant benefits from the supply of consistent, high quality water (with low requirements for treatment) to communities with a steadily increasing permanent population.

The 1050 ha West Barham River catchment is also contained entirely in the national park. However, the planned new off-take below the junction with the East Barham substantially alters the situation in relation to catchment area, tenure and land-uses — as the catchment above the offtake includes extensive areas of freehold land subject to a variety of land-uses.

Under VEAC's recommendations, public land in the East and West Barwon and Pennyroyal Creek catchments is largely in the national park because of their nature conservation values. They are not, however, pristine. The West Barwon River catchment in particular has suffered some localised disturbance, mostly from timber harvesting. The track networks that arose from harvesting activity are now used by vehicle-based visitors to access a number of increasingly popular recreation areas. Protecting this vital water supply area and its natural and cultural features, while providing for recreational use, will require careful management.

Most other public land in water supply catchments lying outside the national park has been included in forest park, where the protection of water supply catchments is also a key management objective (see Chapter 4).

VEAC also envisages that under its recommended cooperative management arrangements, the water authorities will take on a greater responsibility for fire management.





Catchment Management

In 1995 Melbourne Water's "closed catchments" were included in the Yarra Ranges and Kinglake National Parks, with land-use subject to management agreements between Melbourne Water and DSE. These areas provide for biodiversity conservation, and very limited recreation, with public access only to areas away from watercourses and the water storages.

VEAC recommends similar arrangements for the catchments of the Arkins Creek weirs, the West Gellibrand and Olangolah Reservoirs, Allen Reservoir and Painkalac Reservoir, located within the national park. The management objectives of the Otway Ranges National Park include protecting water supply catchments. Cooperative management arrangements between the water authority and park manager will ensure domestic water quality and yield, as well as addressing:

- the timing, location, nature and intensity of scientific, educational and recreational use;
- restrictions on the development of facilities for public access and recreation; and
- retention and/or application of "closed catchment" land-use policies.

It is important that the national park management plan protects water supply catchments within the park. By far the greatest threat to water supply quality in the Otways is from fire. Risk management planning and practices must ensure appropriate measures are implemented within the park. To this end, VEAC has developed a series of principles for the cooperative management of the Painkalac Creek, St Georges River, Olangolah, West Gellibrand and Arkins Creek water supply catchments (as described in Chapter 2).

The State Government is developing a risk management approach to the delivery of safe drinking water. Protection of drinking water catchments is an important part of this program. Sound hydrological research and ongoing monitoring is required to ensure that land management practices meet water supply objectives.

Elements of the Government's approach are:

- to evaluate land-use proposals against river water quality and quantity requirements;
- to develop and implement catchment management strategies that minimise the impact of identified risks; and
- review and continually improve catchment management strategies.

Water Production Land

VEAC recommends that water storages, off-takes, associated infrastructure and the water production buffer identified in special area plans under the *Catchment and Land Protection Act 1994* not be included in the national park or forest park. These areas should have water supply as their primary management objective and be managed by the respective water authority with sole responsibility for the infrastructure and associated operational area. Close liaison between the land and water authority is required for the catchments to these water bodies and facilities, as identified in special area plans.

At present the Painkalac Reservoir is partly in the Angahook-Lorne State Park. It is recommended that this small area be removed to become water production land, for consistency of management. Likewise, Allen Reservoir is to be excluded from the national park and managed by the water authority. The two Gellibrand River off-takes, Lardner Creek off-take, and East Barwon River weir have little public land at the off-take points. Small water production areas are recommended for these sites. The Pennyroyal and Matthews Creeks off-takes in the Barwon River catchment have been treated similarly.

Barwon Water-owned farmland on Dewings Creek may be required in the long term for a new water storage. While there are no active plans for such development, VEAC considers that this option be at least kept open for the longer term. Accordingly, this area remains as uncategorised public land where present uses may continue.

CHAPTER 8 RECREATION AND TOURISM

The Otway Region offers diverse, accessible natural environments that provide a variety of recreational opportunities for residents and visitors alike. Its natural features attract tourists from around the world, with the tourism industry playing an expanding role in the economy of the region.

Recreational activities and tourism are enjoyed throughout the Otway Ranges region and encompass a diverse range of experiences. Many forms of recreation and tourism activities and experiences depend on the natural landscape. Additionally, different visitors to the area may bring very different expectations. For example, sightseers may focus on scenic beauty and special interest attractions, while those undertaking active recreation may demand infrastructure, access and facilities as well as specific landscape characteristics.

Ecologically sustainable development of public land requires the conservation of natural and cultural values of public land, while also providing for long-term individual and community well-being. Personal and community well-being relies upon adequate opportunities and facilities for desirable recreation and tourism activities. Sound planning and procedures are required to ensure that biological diversity and ecological processes are protected now and into the future in a climate of increasing visitor demands and expectations. The current distribution of visitors to the region is heavily skewed towards the coast and warmer seasons. The development of targeted recreation and tourism opportunities in the Otways hinterland is intended to disperse visitors across the area and seasons and extend the time they stay.

Recreation

Recreational opportunities are a major attraction for visitors to the area and also contribute to the health and quality of life of residents. A wide diversity of recreational pursuits is undertaken on public land in the study area,

including bushwalking, fishing, four wheel driving, nature study, horse and trail bike riding, gem fossicking, fishing and hunting. Many people living in the area seek a lifestyle with close links to the natural environment. Access to this environment, and protection of its natural assets, are high priorities for the local community.

Recreational activities are generally managed through regulation and management plans rather than legislation. Different restrictions and exceptions may apply in different parks or between different public land categories but, overall, very few recreational activities are totally prohibited in any public land category—including national parks.

A fundamental difference between national park and forest park is the approach taken to recreation. In national parks the objective is to provide for recreation 'associated with the enjoyment and understanding of the natural environment'. The promotion and encouragement of such use is a specific legislative objective of national parks. The new category of the forest park has three equal management objectives of recreation, nature conservation and minor resource utilisation. National parks and forest parks are expected to have substantially different usage patterns with high impact or widely dispersed activities occurring in the forest park, and highly localised impacts around the facilities and services offered in the national park. The forest park land-use category allows flexibility to cater for new recreational uses and activities that grow in popularity.

In submissions to VEAC, many people proposed that access be maintained for recreational users in general in the study area. Arguments both for expansion of national park area and for either the status quo or a reduction in the recommended national park areas, were based on assumptions about continuing recreational access. There was some concern voiced about the potential threats posed by some recreational pursuits to natural values.



Council believes that concerns regarding the limitation of certain recreation activities in the Otway region are addressed by the creation of the Otway Forest Park where a diverse range of recreational activities will be encouraged, while also providing for a wide range of recreational activity, including horseriding, in the Otway Ranges National Park. The flexibility to achieve sustainable recreation and tourism, while maintaining the natural and cultural features that make the area attractive, is an important objective of this approach. It is important to acknowledge the natural values that encourage such a diverse range of uses, and to manage the area so as to preserve these values.

Some key points regarding recreational use in the study area are that:

- walkers, horseriders, cyclists and trailbike riders often prefer designated tracks for their own use;
- active recreation activities are often combined, for example four wheel driving, camping and hunting may be undertaken together;
- recreational activities vary greatly—some areas are intensively used, while other areas are valued for their remoteness and low intensity use;
- flexibility is needed to cater for a wide range of recreation needs which may change over time; and
- as many uses are competing, it is not possible to provide for all uses at all locations.

Bushwalking

Bushwalking is a popular recreational use of public land in the study area, undertaken by individual residents and visitors, as well as walking clubs, school groups and commercial operators. Bushwalking on well-maintained tracks is generally compatible with the conservation objectives of both the national park and the forest park.

Many opportunities exist for walks of varying length and difficulty in the study area. A large number of short walks to special features, like waterfalls and lookouts, are present and visitor interpretation facilities at some of these sites add to the experience and improve understanding and appreciation of natural and cultural values.

Provision is also made for those seeking more remote and challenging experiences on longer day and multi-day walks. The two-day Great Ocean Walk currently links Apollo Bay and Cape Otway, and work is under way to provide an eight-day walk that continues across the coastal cliffs and beaches to Glenample Homestead (just outside the study area, west of Princetown). More recently, an 18 km return walk linking Forrest to Lake Elizabeth has been established to encourage visitors to stay longer in the hinterland towns of the Otways. The Surf Coast Walk at the eastern end of the study area provides a different experience with spectacular coastal scenery and diverse vegetation stretching over 30 km between Jan Juc and Moggs Creek.

Bushwalking clubs proposed the development of new walking tracks, most notably the Trans-Otway walking track

connecting Lorne and Apollo Bay, as well as other walks in the Apollo Bay and Gellibrand areas. Such long distance walking tracks will require improved facilities including designated campsites and signage, as well as careful planning and maintenance to minimise environmental impacts. More educational resources and information boards would also enhance the walking experience while promoting an understanding of natural and cultural values of the area.

Some recreational users of public land claimed that national parks are for bushwalkers only with others excluded. Visitor numbers show that this is clearly not the case, although some remoter areas may only be accessible by walking.

The growing popularity of bushwalking and the recommendations for the Otway Ranges National Park encourage the development and maintenance of walker-only tracks suitable for short and longer walks, as well as the provision of walk-in campsites. Other public land categories will also continue to provide bushwalking opportunities with a range of experience, catering to different levels fitness and physical abilities.

Four Wheel Driving and Trail Bike Riding

The large number of tracks and the varied terrain of the Otways have particular appeal for four wheel driving and trail bike riding. Drivers and riders seek challenging conditions, as well as access to places of interest (such as forests, waterfalls and scenic views). There is also a preference for roads that provide through access across the Otways, rather than dead-ends. Trail bike riding is particularly popular in the forests and heaths around Anglesea where riders have a reasonably short travel distance from large population centres such as Geelong, Torquay and the western suburbs of Melbourne.

Under existing legislation, four wheel driving and trail bike riding on public land are restricted to formed roads. Some trail bike riders would like to see areas designated for off-road riding. In the past, pine plantations on public land provided extensive opportunities for four wheel driving and trail bike riding but the licensee of these plantations has told VEAC that it discourages such use due to safety concerns. This is also the case for the Alcoa lease area near Anglesea.

Seasonal closures are applied to many tracks between May and November to limit impact on water quality and the road surface, as well as for driver safety. Local four wheel drive clubs recognise the value of seasonal closures in the Otways for safety, to reduce track damage and for the protection of natural values. Some local four wheel drive clubs have offered to classify tracks to provide users with guidance to make informed decisions about vehicle capabilities, equipment requirements, and driver training or experience.

Four wheel drive clubs have established collaborative relationships with Parks Victoria and the Department of Sustainability and Environment to discuss track closures and budget allocations as well as assisting with maintenance such as track clearing, reporting, camp site maintenance and rubbish removal. Despite this acknowledgment, there are

four wheel drivers who argue that they are excluded from national parks by arbitrary or unjustified track closures. VEAC recognises the importance of the existing relationships in ensuring good management outcomes. The establishment of advisory committees is recommended by VEAC as the most appropriate mechanism for recreational users to have input into public land management practices and decision-making processes.

Both trail bike riding and four wheel driving can potentially damage natural values when undertaken off formed roads, or in heavily used areas. Some submissions noted such damage from off-road activities in many areas. Legislation preventing off-road damage needs to be enforced while erosion and track widening must be managed to protect environmental values. Monitoring and research, such as the Stream Crossing project and Sayers Track road drainage trials currently under way, are essential for the effective management of recreation on roads and tracks.

Four wheel driving and trail biking are popular recreational activities for both local residents and visitors to the region. In response, VEAC has ensured that the recommendations for both the national and forest park provide for four wheel driving and trail bike riding on formed roads. Restrictions may be necessary on the timing, location, nature and intensity of recreational use to ensure the protection of nature conservation values and the quality and yield of water for domestic supply.

The forest park recommendations recognise the potential for conflict between vehicular and other recreational users and highlight the importance of safety for all users of narrow, undulating vehicular tracks. The schedule of features to be protected in the forest park also identifies important recreational sites (See Chapter 4).

Camping

Camping options provided on public land across the study area range from the foreshore reserves in coastal townships such as Skenes Creek and Anglesea, to quieter, more nature-based experiences in the forested hinterland. These inland campsites are often used as a base for other recreation activities in the forest, for example four wheel driving or trail bike riding.

Dispersed camping in the bush with no facilities (rather than at formalised camping areas) appeals to visitors who prefer a more isolated and natural camping experience. It also tends to have greater potential impact on natural and water values due to vegetation damage, soil disturbance and disposal of excrement and rubbish.

Concern was expressed, particularly from four wheel drivers, that the expansion of a national park in the Otways will restrict access to vehicle-based dispersed camping. Other submissions called for more camping facilities (especially for longer walking tracks) while also supporting an expansion of national parks. Some user groups emphasised the need for routine maintenance of existing facilities to ensure that sites are not closed due to safety concerns or lack of resources.

Demand for camping in the study area is likely to increase and campsite management will become an important issue with a strong bearing on the visitor experience. Allocation of resources to maintain and improve facilities will be necessary to meet the increasing demand.

VEAC's recommendations for the Otway Ranges National Park provide for walk-in campsites as part of the development and maintenance of walker only tracks. In addition, camping will be provided in designated areas of the national park, as well as opportunities for dispersed camping at the land manager's discretion, in appropriate locations where biodiversity values and water quality will not be adversely affected.

The new forest park land-use category also provides for camping at designated sites, as well as opportunities for dispersed camping, including overnight camps for horseriders.

Hunting

Parts of the study area are used by recreational hunters who target both pest animals and game species. Commonly hunted pest species include rabbits and foxes. Game species include red, fallow, and sambar deer. During the duck season hunters also shoot ducks on some of the water bodies of the study area, such as the lower Aire River.

Recreational hunters and hunting groups are interested in maintaining current access to public lands in the study area for the purposes of hunting. Submissions on this issue ranged from total opposition to any hunting on public land to access to all or most public land for hunting. Recreational hunting was frequently described as beneficial in reducing pest animals, particularly given that management authorities may be unable to undertake this role effectively by other methods. However, other submissions stated that hunters had introduced exotic species in some areas.

Three freshwater lakes on the Aire River floodplain comprise a designated state game reserve (the Aire River Wildlife Reserve) and are used by duck hunters during duck season. VEAC recommends that this wildlife reserve be retained and expanded to include nearby public land along water frontages.

Fishing

A number of waterways in the study area are popular with recreational fishers. Ongoing access for fishing was an issue for some, leading to a call for the status quo or exclusion of some areas from any new national park. Riparian land and intertidal zones as well as coastal or foreshore reserves were often proposed for exclusion from national parks, in order to maintain access for fishing.

In fact, licensed marine, estuarine and freshwater fishing in accordance with fishing regulations is permitted for native and introduced fish in terrestrial national parks in Victoria, and will be generally permitted in both the recommended national park and forest park—subject to any statewide provisions that apply. In short, VEAC's recommendations do not entail any change for recreational fishing.

Horseriding

Horseriding and carriage driving are popular activities undertaken by individuals or as part of club activities or commercial tour operations in the Otways. Horseriding occurs on tracks throughout the Otways, but is particularly focused on locations with good access and proximity for local residents, for example near Anglesea, Aireys Inlet, Barwon Downs, Princetown, Wensleydale, Cape Otway and Barongarook.

Some local clubs have their facilities located on public land. These clubs include the Loch Ard Pony Club, operating from the Wiridjil Recreation Reserve, Aireys Inlet Pony Club at Aireys Inlet and the Anglesea District Riding Club that operates adjacent to the Anglesea River. The social benefit of horseriding is highly valued and provides a sense of ownership and recreational activity for youth in small communities, particularly through pony clubs. VEAC has recommended that the status of the public land where these three clubs operate remain unchanged.

Opportunities for longer distance trail rides are generally found on public rather than freehold lands and some riders particularly seek the experience of riding through forested areas or on beaches. Generally, riders are keen to continue access along formed roads and vehicle tracks in all public land-use categories. Some horse riders, particularly those around Aireys Inlet, felt that recommendations to change the existing Angahook-Lorne State Park to Otway Ranges National Park would specifically exclude horses.

Horseriding has the potential to conflict with the conservation objectives of public land, particularly national parks, and also to conflict with other recreational users—especially where horseriding is undertaken in large groups. Introduction of a horseriders' code of practice is designed to minimise impact on environmental, historical and cultural features, and ensure rider safety for the study area. This may be undertaken through public land managers and horseriding groups, including commercial operators, working together as part of an advisory committee(s).

Council supports horseriding on public land while acknowledging prudent management is required. The Otway Ranges National Park provides for the continuation of horseriding on designated beaches and formed roads and firebreaks, subject to restrictions including seasonal closures to avoid damage to tracks, introduction of weeds and conflict with other users and natural values. The new forest park category provides access for horseriding on formed vehicular tracks and roads, subject to the same restrictions.

Access for Walking Domestic Dogs

Dog walking is a popular activity undertaken in many areas, including accessible areas of public land near towns, picnic grounds and beaches. VEAC has retained coastal reserves and community use areas to provide for such use. Away from the townships, forest park areas provide opportunities for dog walking and for dog owners to camp or ride with their animals.

Dogs are generally not permitted in national parks and nature conservation reserves. In recognition that some parts of the recommended Otway Ranges National Park adjoin township areas currently used for dog walking, VEAC has provided for the walking of dogs on leads along with a limited number of designated tracks and beaches. These exceptions are to be designated through management plan processes.

Coastal Recreation

The coastline of the study area has long attracted large numbers of people seeking beach-based recreation such as surfing, swimming, beachcombing, diving, kayaking and boating. Such use is highly seasonal, with a major influx of visitors over summer. The great majority of these people are from outside the study area, predominantly from Melbourne.

Popular coastal reserves especially in the immediate environs of townships have been greatly modified to cope with the high numbers of people seeking to enjoy this coastal environment. These locations often provide public facilities, planned beach and water access points and car parking. VEAC recognises the importance of these coastal reserves (and their recently restructured committees of management) in providing facilities and desirable settings for large numbers of people. VEAC recommends that coastal reserves in the townships be retained and a wide variety of recreation provided for.



Away from townships, the coastal experience is less structured and natural values often high. Where existing coastal reserves are adjacent or linked to areas recommended as national park, the coastal land has generally been recommended for inclusion in the adjoining national park.

Nature Study

The heathlands, woodlands, forests and wetlands of the Otways offer many opportunities for nature study. The study of natural features in their settings is essential to understand and appreciate the environment and promote the conservation of natural resources for the future.

People undertaking nature study seek experiences largely without the assistance of formal nature trails with interpretative facilities. However, others who may be less experienced greatly appreciate the provision of interpretive nature trails that extend participants' interest and knowledge of natural systems. Nature trails are located at such areas as Maits Rest, Triplet Falls, Sheoak Creek near Lorne, Melba Gully and Lake Elizabeth.

Overall, nature study on its own has relatively little impact on natural values, other than occasional trampling of vegetation. The bird hide at Distillery Creek, near Aireys Inlet, is an example of a facility that provides for nature study with minimal impact on the environment. Factors contributing to satisfying nature study include good access, a range of camping options, diversity of landscapes and vegetation, as well as presence of key species, for example rare or charismatic animals.

VEAC recommends that one of the three key objectives of the national park be to:

provide opportunities for recreation and education associated with the enjoyment and understanding of natural environments and cultural heritage.

This objective provides for nature study within the national park. The recommendations for the forest park complement the nature study opportunities and values of the national park.

Car Touring

The two wheel drive roads of the study area provide a wide range of touring alternatives and also provide good access through the tall forests to popular sites such as waterfalls, rainforest and scenic lookouts. The Great Ocean Road remains the focus for most car-touring visitors to the region.

VEAC recognises that the management and enhancement of the Great Ocean Road and other main roads that traverse the Otway Ranges is largely a regional issue rather than specifically related to a particular land-use category.

The Great Ocean Road Region Strategy addresses the need for improved management of access and transport. Key touring routes identified in that Strategy include the Winchelsea–Deans Marsh–Lorne Road, the Birregurra–Forrest–Apollo Bay Road and the Colac–Lavers Hill Road as alternative touring routes. Road management

programs will promote the dispersal of visitors to the Otways hinterlands along the Grey River Road, Forrest–Apollo Bay Road and Mt Sabine Road linking to Erskine Falls Road, providing a range of experiences and alleviating some of the congestion on the Great Ocean Road.

Council recommends joint management agreements be established between the road manager and the park manager, where these roads pass through parks. These agreements are directed towards retaining the scenic and natural values along these routes, particularly the Great Ocean Road, as part of the key visitor experience of the region.

Picnicking

The majority of formal picnic areas across the study area are either linked to specific attractions (for example, the rainforest nature trail at Melba Gully), located with existing camp sites, or on the coastal foreshore. Picnicking is usually associated with a broad range of recreational activities, from car touring to horseriding. Formal picnic areas cater for both the local community and visitors, and generally have associated toilet facilities.

The Otway Ranges National Park recommendations specifically provide for picnicking at designated areas with facilities. Informal picnicking is encouraged throughout the forest park with established formal picnic areas at Dandos and Stevenson Falls, popular existing destinations.



Cycling and Mountain Biking

Long distance cycling and mountain biking have greatly increased in popularity in recent years. Cycle touring to townships and attractions is mainly limited to bitumen roads. Mountain biking, on the other hand, is focused on dirt roads and tracks in natural settings, and tends to be limited to single day routes.

Mountain bikers generally seek challenging and diverse terrain. The numerous roads and tracks on public land in the Otways provide a range of opportunities for mountain biking. A new designated walking and cycling trail has also been created from Forrest to the Lake Elizabeth camping ground, and the Old Beechy rail trail will provide other cycling opportunities in the Otways hinterland.

The impact of mountain biking can be significant if it is not confined to defined roads or designated tracks. Impacts include damage to vegetation, soil disturbance and conflict with other users. Track maintenance is essential to limit soil movement and reduce impact on water quality, particularly when close to, or crossing, waterways. Management plans for public land should accommodate and manage this increasingly popular activity.

There are no specific recommendations regarding cycling and mountain bike riding in the national or forest park, however it is envisaged that this activity will be continue to be confined to formed vehicular tracks and roads.

Gold Prospecting and Gem Fossicking

Agates and other semi-precious stones can be found along the beaches and bays near Moonlight Head, and a designated fossicking area at Wreck Beach (within the existing Otway National Park) is of ongoing interest to gem collectors. While prospecting is generally excluded from national parks, continued access to existing designated areas has been specifically permitted. VEAC recognises that careful management of the existing resource is required to ensure this activity is able to continue at these sites.

While other areas of public land are not considered to be prospective for precious metals or gemstones, provision is made for recreational prospectors and fossickers to pursue their interest in the forest park under authorisation of a miner's right or tourist fossicking authority.

Sporting Facilities

Sports requiring specific facilities are provided for in a number of coastal and inland towns and are mostly located on recreation reserves. They provide for activities such as golf, tennis, football, cricket and basketball. Many of these facilities are managed by committees of management and clubs and are used predominantly by local residents.

VEAC recognises the important role these reserves and their committees of management contribute to both the physical and social health of the communities that they serve. All recreation reserves that are currently actively used and those that are situated within the townships are recommended to remain.

Tourism

The Otway region, and particularly the Great Ocean Road, is one of Victoria's major tourist destinations, with some of the highest visitation rates outside Melbourne. The tourism industry supports a significant part of the region's economy. Tourism Victoria estimated that annual visitation is growing at around one percent for domestic and six percent for international visitor nights. Currently tourism is largely focussed on the Great Ocean Road which is recognised as one of the world's great touring routes. Visitors come to the region to experience diverse, accessible natural environments with a growing demand for nature-based or ecotourism activities.

The tourism industry is increasingly focused on enhancing the value of tourism by spreading seasonal visitation patterns, increasing the length of stay, improving visitor dispersal, and avoiding duplication of experience and overcrowding. The economic result of this is described as visitor yield. From a tourism perspective, increasing visitor yield is preferable to building capacity for more short stay visits or day-trips that often provide little economic return for input, and increase demand on already limited resources and infrastructure. For example, some sections of the Great Ocean Road are currently over carrying capacity at peak times. The widening of roads or provision of alternative routes may increase capacity, but not increase the length of stay in the region and, by diminishing the environmental values adjoining the road, may diminish the driving experience itself.

The proximity of the study area to major population centres aids its popularity but it also provides challenges to increasing yield, as visitors often limit their visit to a day or short weekend. Another challenge to visitor yield is that many visitors to the study area are provided with accommodation by friends or relatives. These visitors do not tend to explore the surrounding natural assets of the region, but prefer to limit their activities to the coastal fringe.

However, recent information indicates that the number of day-trips to the region is decreasing, the number of overnight stays is increasing, and the colder months are also becoming more popular with domestic visitors. It seems that the efforts of many in the industry, and especially regional bodies such as Geelong Otway Tourism, to reshape tourism in the Otways are already proving successful.

Furthermore, the recent success of the Otway Fly tree top walk and visitor centre private development near Beech Forest has demonstrated that there is high demand for nature-based experiences away from the coastal area. In submissions and elsewhere, several people involved in tourism proposed that in order to maximise opportunities, developments should be concentrated in zones or nodes with visitor infrastructure, improved access and focussed marketing. Potential sites for nodes include the Triplet Falls–Otway Fly area (including the Little Aire falls area), Mount Sabine and Forrest in the hinterland and, along the coast, Apollo Bay, Glenaire, and Cape Otway. Some



proposed that VEAC should identify specific nodes, or recommend a study to do so. Proximity to the recommended national park was seen as important to the success of developments, with some proposing that the nodes be in the national park itself, or that appropriate locations be identified and excluded from the park expressly for development. The use of public land in this context was seen as beneficial in that it would encourage private investment and provide funding for park management through lease payments.

In contrast, several submissions opposed the use of public land for commercial development, and especially in national parks. Such people were concerned that development in parks in the Otways may set a precedent for environmentally damaging developments in national parks elsewhere in Victoria, as well as adverse impacts on specific sites in the Otways.

The effects of tourism on the natural environment were explored in many submissions, including those that, in general, supported tourism development for its economic benefits. There was an overriding concern that unsustainable levels of visitation may adversely affect the natural assets of national parks. This concern was also reflected in calls for improved park management (including more flexibility), improved tracks, roads, signage, planning and resources, as well as promotion of inland areas to relieve some of the pressure on the coastal zone, and to allow tourism development to proceed without significant environmental impacts.

Recent studies of national parks throughout Australia support the commonly held view that parks need adequate funding to sustain their natural, cultural and heritage assets and, thereby maintain quality visitor experience and associated regional tourism industries. The studies identified

natural features and unspoiled nature as the most important factors, although the provision of suitable signage, maps and clean toilets were also important.

VEAC is strongly of the view that land managers need to provide facilities to encourage a spread of visitors to hinterland attractions. VEAC's recommended national park will protect the natural values that appeal to many nature-based tourists and, by linking coastal and hinterland attractions, will assist planners to attract visitors to the hinterland. The park manager in consultation with tourism planning bodies will be able to provide facilities and services to match the capability of the region.

In relation to tourism developments within the national park, VEAC has refined its position. Its recommendations provide for commercial development and operation of only the existing accommodation and associated facilities at the Cape Otway lighthouse precinct in the national park. The Cumberland River camping ground (existing facilities) and recently acquired land to the north of Little Aire waterfalls (proposed facilities) are no longer included in the recommended park. There are numerous other potential sites for tourism development nodes in the Otways—often abutting the recommended national park, and including those listed above—most of which have suitable areas of freehold land where tourism development could occur with greatly reduced threat to park values.

CHAPTER 9 RESOURCE INDUSTRIES

Resource industries use public land for mining, quarrying, sawlog and pulpwood production, harvesting of other forest produce, commercial fisheries, apiculture, and grazing. These industries make a valuable contribution to the livelihood of local communities. Continued use of resources from public land depends on both sustainability and compatibility with conservation and recreation objectives.

The recommendations in this report offer simplified public land management, planning and administration for the resource industry in the Otway region. However, resource utilisation will not generally be appropriate in the national park and may be restricted in parts of the forest park where it conflicts with other values.

Extractive Industry

The extractive industry produces crushed rock, sand, gravel and blocks for building and paving from public land in the Otways region. Work authorities, administered under the *Extractive Industry Development Act 1995*, allow operators to extract stone resources from specific sites. While most commercial stone is extracted from private land, there are ten current work authorities on public land in the study area, and four applications or proposals for additional work authorities.

Under the *Extractive Industry Development Act*, work authorities are not generally granted in national parks. However, stone production may continue if a pre-existing tenement or application exists at the time of park establishment. This occurred at the Bambra Road sandstone quarry which continued operation when the Angahook-Lorne State Park was created. This quarry, which now falls within the recommended national park, does not have a current work authority, but an application has been submitted. While recognising the pre-existing rights to pursue the application, conditions relating to approval for the work authority may be more onerous following inclusion of the area in the Otway Ranges National Park.

Similarly the Kaanglang quarry, located within the national park, is subject to an application for a work authority. This quarry is also a geological site of state significance. Previous works have exposed interbedded sandstones and shales of the Otway Group containing plant remains, and it is one of the most accessible sites in the Otways for study of Cretaceous flora. The application can be pursued as it predates park implementation, but the geological values of the site need to be considered in relation to any works conducted (including rehabilitation).

VEAC recommends that exploration for, and extraction of, earth resources and minerals within the forest park be subject to approval from the Minister for the Environment. This may require amendment to the *Mineral Resources*

Development Act 1990. Extractive operations may be permitted where consistent with the recreation and conservation values of forest park. A current work authority at the Lardner pit, and an application for a work authority located south of Carlisle River, are within the Otway Forest Park.

Stone Reserves

VEAC considers that extraction of stone should generally be concentrated in the fewest possible sites, while still allowing competition between suppliers.

The study area contains extensive sand, gravel and hard rock resources. As with other extractive industries, a current work authority (within an existing stone reserve or not) remains current once land is recommended as forest park or national park. New work authorities can be applied for in forest park areas but not national park areas.

A number of existing stone reserves are no longer in use, generally because they have been worked out. These have been included with the adjoining land-use category as follows:

- Chapple Vale Stone Reserve; to be included in the national park and rehabilitation works completed;
- Gellibrand Stone Reserve; to be added to the adjoining community use reserve; and
- Cape Horn Stone Reserve; to be added to the national park.

Two small stone reserves on Rochfords Road, south of Modewarre, are recommended as uncategorised public land.

The Yaugher Stone Reserve and the Gerangamete Stone Reserve have been incorporated in the forest park, with the latter an active sand pit operated under a current work authority. All remaining work authorities or applications for work authorities on public land in the study area are found within the Gherang Gherang Stone Reserve. VEAC is recommending that this stone reserve be retained as a stand-alone reserve.



Mining and Fossil Fuel Production

There are no petroleum or mining licences or leases on public land in the Angahook-Otway study area, however the majority of the area is covered by current exploration licences or licence applications, for minerals (coal bed methane), and petroleum and other fossil fuel products. These are administered under the *Mineral Resources Development Act 1990*, which does not permit exploration and extraction in "exempt" areas such as national parks, except where approved tenements or applications existed prior to park establishment or are made under the *Petroleum Act 1998*. Any such prior tenements or applications are allowed to take their course meaning that some mining activity may be permitted in the park.

Timber Production

State Government has declared that sawlog and pulpwood production will cease in the Otways by 2008. In the intervening years, approximately 20,000 cubic metres of sawlog and approximately 60,000 cubic metres of pulpwood is intended for harvest under existing commitments to the sawlog and pulpwood licensees annually.

The forest park, including declared water supply catchments, will be available for timber harvesting until the end of the 2007-2008 harvesting season. All such logging coupes will be listed on the Wood Utilisation Plans prepared each year for the Otway Forest Management Area (FMA), and will be prepared with public consultation.

Those Special Protection Zones which exclude timber harvesting under the Regional Forest Agreement (to ensure adequate representation of EVCs or ecological vegetation classes) may no longer be necessary with the expanded representation of many EVCs in the new national park. However Special Protection Zones and Special Management Zones to protect rare and threatened species, including quoll habitat protection, will still be required. All such zones will continue to apply until management planning is completed.

No native forest timber harvesting will be permitted within the boundaries of the Otway Ranges National Park either during or following the phase out of sawlog and pulpwood production. However, the removal of pines from small isolated plantations lying within the boundaries of the national park or forest park is permitted at the land manager's discretion as part of native revegetation or rehabilitation plans.

Other Forest Harvesting

The harvesting of other forest products is not compatible with the primary conservation objective of national parks, and as such will not be catered for in the Otway Ranges National Park. Harvesting forest produce is, however, consistent with the management objectives of the forest park which include minor resource utilisation compatible with recreation and conservation. Many submissions requested continued access to firewood and forest

produce, including blackwood sawlogs for manufacture of furniture or musical instruments.

Firewood

Firewood is the main form of other forest produce harvested. All commercial and domestic firewood from public land in the study area is sourced from the northern fall foothill forests and from the Jancourt, Irrewillipe, Wonga and Barongarook forest blocks. The majority of firewood produced is consumed locally.

The forest park includes large sections of suitable foothill forest and its proximity to many Otway communities facilitates collection of firewood by local residents. Currently firewood harvesting is of low intensity, with the amount of suitable firewood resource in the forest park adequate to provide for existing requirements.

Some areas of the forest park may be unavailable for firewood harvesting in order to maintain conservation and recreation values. Management planning will need to ensure that firewood collection occurs in a way that does not compromise conservation values or impair recreational experiences in the forest park, and is demonstrably sustainable. In addition, the land manager will need to work closely with licensed operators to identify resource needs and locations, and ensure that where permitted, harvesting is sustainable, low intensity, selective and conducted with minimal impact on other forest park users and values. Mechanisms will be needed to ensure that the level and location of firewood harvesting is accurately recorded and that sustainability can be demonstrated through a continuous review process involving monitoring and audit.

Firewood collection will be permitted in the western portion of Jancourt Nature Conservation Reserve only during a phase-out period of five years after which this activity will need to be relocated. Council envisages that sufficient resources will be available from other forest park blocks and increasingly from private plantations and woodlots.

Other Harvesting

Numerous commercial operators and local landowners currently use the Otway forests as a source of material ranging from posts and poles used on farms to seed sources for revegetation and nursery use.

The recommendations for the forest park allow for the licensed low-intensity harvesting of selected trees and other vegetative material for posts and poles, tea-tree stakes, craftwood, wood chop logs, and decorative foliage. VEAC's recommendations also provide for the harvesting of selected trees for specialist applications such as providing ornamental timbers for musical instruments.

The range of vegetation types in the forest park enables the collection of a wide range of other forest produce. Prudent management and consultation with licensed operators, will ensure that the sustainable harvesting of these products will not impact negatively on recreation and conservation values and be maintained at low-intensity levels.

Commercial Fisheries

The only commercial fishery within the study area is an eel fishery that mainly operates on the lower reaches and estuaries of the Gellibrand and Aire Rivers, south of the Great Ocean Road. This relatively small industry is undertaken by two operators (one on each river). The fishery relies on the harvesting of wild populations of shortfin eels as glass elvers (about 1cm in length) and immature eels (about 30-50 cm length) that are on-sold to other licensees who supplement stocks in lakes north of the study area and harvest adults for sale. The fishery is governed by the *Fisheries Act 1995* and operates under the Eel Fishery Management Plan 2002. Fisheries Victoria, Department of Primary Industries administers commercial eel fishing licences.

Commercial eel fishing under these two licences is currently conducted across a range of Crown land categories, including the existing national park, a wildlife reserve and public land water frontage reserves. While eel fishing may be appropriate for some of these categories, it conflicts with the conservation objectives and values of the national park, not only in relation to the harvesting of a native species, but also in relation to potential incidental catches of threatened species (such as the Australian grayling and Tasmanian mudfish).

Recommended additions to the national park boundaries include parts of the licensed areas in both the Gellibrand and Aire River fisheries. VEAC recommends that commercial eel harvesting not be permitted in these sections of national park after a phase-out period of ten years. VEAC has also recommended that commercial harvesting during the phase-out period be assessed and modified to reduce by-catches, particularly of protected fish. Eel fishing in Lake Elizabeth is recommended to cease immediately.

Commercial eel fishing in the Aire River Wildlife Reserve is currently subject to consultation with the land manager (Parks Victoria) and is also permitted on water frontage reserves, both of which are unaffected by VEAC's recommendations.



Apiculture

Apiculture is not a major resource industry in the Otways. Currently there are three designated apiculture sites on public land in the study area, all of which occur on Crown land near Anglesea. The national park will include all three sites.

Apiculture conflicts with national park conservation objectives due to competition from European honeybees with native species for nectar, pollen and nesting hollows. Apiculture may effect plants that require specific native pollinators to ensure successful fertilisation. Accordingly, the recommendations for the Otway Ranges National Park specifically exclude apiculture.

Potential alternative sites have been identified on other public land and the recommendations for forest park permit apiculture. There are no existing sites in the forest park.

Agriculture

While most agriculture within the study area occurs on private land, some public land is subject to grazing licences. Typically these areas are water frontages and unused Government roads. Grazing licences are usually held by the adjacent land owner. There are currently 602 grazing licences issued for public land in the study area comprising some 2138 ha.

In its Draft Proposals Paper VEAC proposed that public land water frontages be included in the proposed forest park to simplify management by reducing the number of public land-use categories. Many submissions were received from people proposing that these water frontages be retained as they are rather than added to forest park. The reasons given were largely to do with administrative responsibilities and perceived differences in management by the existing responsible authorities (Corangamite CMA and DSE) and the forest park manager. In response VEAC has recommended that most public water frontages be retained as natural features reserves and that Corangamite CMA and DSE work with adjoining landholders to implement restoration projects and control stream-bank erosion or protect natural values.

Grazing may be incompatible with the natural values of public land as it can cause loss of native vegetation, trampling, streambank disturbance, soil compaction, erosion and reduced water quality. In light of this, the recommendations for the Otway Ranges National Park and the expanded Aire River Wildlife Reserve exclude grazing by domestic stock, with existing licences to be terminated as soon as possible, but no later than 2008. In all, implementation of VEAC's recommendations will require the cancellation of all or part of 39 grazing licences. The area of cancellation covered by these licences is about 196 ha, although in many cases the entire area is not currently grazed.

Most grazing licences remain within public land water frontage reserves where VEAC's recommendations permit grazing to continue where it currently exists, provided it is compatible with recreation and conservation objectives, or undertaken on unused roads which are also unaffected.

CHAPTER 10 ABORIGINAL INTERESTS

The landscape is a central element of Aboriginal culture, arising from thousands of years of living with the land and skillfully using and managing its resources.

People of the Wada Wurrung, Gulidjan, Katabanud and Kirrae Wurrung Aboriginal communities have strong traditional and contemporary connections to the Otways, with the Wathaurong Aboriginal Co-operative and Framlingham Aboriginal Trust having formal responsibility for cultural heritage protection.

As well as its intrinsic importance, Aboriginal people's continuing sense of belonging to, and responsibility for, country can bring valuable insight and custodianship principles to contemporary land management. Adequate consultation with, and involvement of, the Aboriginal community, particularly traditional owners, is a prerequisite for sustainable development in the Otways.

Consultation with Aboriginal People and Groups

To facilitate Aboriginal participation in the public consultation process following the release of the Draft Proposals Paper, VEAC engaged independent consultants Atkinson Kerr and Associates to seek the views of Aboriginal groups and individuals with a potential interest in the investigation. The consultants' report on the outcomes of their consultation is provided in full in Appendix 3.

Major issues for Aboriginal people in the VEAC study area are:

- protection of cultural sites and places;
- greater involvement in land and water management, including employment of Indigenous people and moves towards more formal arrangements such as joint management of public lands;
- addressing cultural requirements, including access to and protection of key sites on public land for traditional practices;
- more frequent and timely consultation on issues of importance to Aboriginal people;
- more visible identification and better interpretation of the traditional and on-going relationships between Indigenous people and their country, potentially including visitor and cultural centres; and
- measures to increase the capacity of Aboriginal people to be fully involved in land and water management and consultation on issues of importance to them and the broader community.

Protection of Cultural Sites and Places

Pre-European Contact

Aboriginal people occupied the Otways for many thousands of years, however little is contained in the written record of their culture, economy and movements. Some conclusions can be drawn from the 250 or so known archaeological sites along the main range and adjoining areas. The density of these variable sites—mostly middens and artefact scatters—is lowest along the main range itself, and greatest along the coast and hinterland, and along the north-western periphery of the range.

The coastal strip may have been occupied by the Gadabanud language group moving up and down the coast year-round. The ranges and northern periphery are more likely to have been occupied seasonally, leading to contact with people of the adjoining Girai Wurrung, Djargurd Wurrung, Gulidjan, and Watha Wurrung language groups, who occupied the inland plain and lakes country.

European Impact on Communities

The lives of Aboriginal people in the study area were significantly disrupted by European settlement. European settlers introduced diseases, instigated massacres and dispossessed and forcibly removed Aboriginal people from their land to missions and reserves.

Places of Aboriginal interactions with explorers and settlers, including massacre sites, mission stations and reserves are especially significant. These sites are important for recognising the interactions that occurred there, and because many people lost their families and ancestors there. Protection of these places is vitally important to Aboriginal communities.

Recognition of the history of cultural contact, resistance and adjustment, and an awareness of places reflecting that history are important for understanding our shared, and at times, poorly documented past.

Management and Protection of Cultural Sites and Places

The identification, protection and management of Aboriginal cultural heritage places in Victoria are primarily the responsibility of Aboriginal Affairs Victoria (AAV), who administer the Victorian and Commonwealth-delegated Aboriginal cultural heritage legislation, discussed later in the Legislative Obligations section. This responsibility is shared with the relevant Aboriginal groups and communities.

Once cultural sites are located, their spiritual and cultural sensitivity for Aboriginal communities needs to be recognised. Groups associated with these want to be, and indeed must be, consulted about any development or interpretation, and be involved in authorising any public access to such sites.

The protection of both pre- and post-contact Aboriginal sites and places is vital and VEAC recognises that stringent enforcement, as well as application of mechanisms to enhance public awareness (such as community education programs, and cross-cultural training for land and water managers) is essential to ensure cultural sites and places are not damaged or violated.

Adequate protection of cultural heritage—and adequate consultation with Aboriginal people in relation to this protection—was a major and consistent theme to emerge from the work of VEAC's independent consultants with Indigenous communities in the Otways (see Appendix 3). Other public submissions also expressed considerable support for the recognition, protection and cooperative management of sites and artefacts representing Aboriginal cultural heritage with a number of submissions calling for the general protection of Aboriginal cultural sites and artefacts in national parks or other special protection reserves.

Many Aboriginal sites and places are located in the recommended Otway Ranges National Park which complements the existing protection provided under the current State and Commonwealth legislation. The recommendations for the Otway Forest Park also require the protection of sites and places of Aboriginal cultural significance.

Survey Coverage

Surveys for Aboriginal sites have been limited on Angahook-Otway public land, partly because of heavy vegetation. Most surveys have been associated with the planning and development of specific works, such as the construction of walking tracks, and laying of communication cables. Adequate surveys, involving traditional owners and relevant cultural heritage officers, must be done prior to any planning and development. Opportunities for further surveys should be sought to improve the existing level of information and recognition of cultural sites and places in the study area. Aboriginal people report that new sites are found regularly in the study area.

Cultural Requirements

Aboriginal people in the Otways have specific cultural requirements that need to be recognised by land managers. This awareness can be achieved by consulting with local Indigenous groups, developing protocols and processes to facilitate productive, open communication and implementing cross-cultural training.

Consideration and awareness of these cultural requirements enables land and water management regulations and practices to reflect the needs of traditional landowners and



provide opportunities where appropriate to continue cultural and spiritual practices such as hunting, fishing, food gathering, education, and ceremonial activities, which may well lead to more sustainable land management.

Legislative Obligations

Cultural Heritage Protection

Aboriginal archaeological sites are protected under the *Archaeological and Aboriginal Relics Preservation Act 1972*, and the *Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984* with substantial penalties for unauthorised disturbance of Aboriginal sites. The regulations under the Commonwealth Acts define the boundaries of the 'local Aboriginal communities' that have standing under the legislation. Within the study area, these are Framlingham Aboriginal Trust and Wathaurong Aboriginal Co-operative Ltd.

Aboriginal communities often assert that the requirements of these Acts and the spirit of the legislation are ignored by public and private land and water management agencies. Aboriginal people want to be consulted and involved in planning, decision-making and implementation processes, rather than invoking the provisions in the legislation when a problem arises.

Native Title and Indigenous Land Use Agreements

Native title is based on the laws and customs of Indigenous people that is recognised by the common law of Australia. Aboriginal people have significant associations with the Otways and continue to assert their association with all of their ancestral areas. The exercise or enjoyment of native title rights and interests may include hunting, fishing, gathering, and cultural or spiritual activities.

Under the Commonwealth *Native Title Act 1993* Aboriginal people can claim native title on Crown lands and waters in their traditional lands. In Victoria, Native Title Services Victoria coordinates the majority of native title claims, facilitates the identification of an authorised Indigenous negotiation group for a particular area, and acts for native title holders and claimants in relation to matters that may affect their rights and interests in land. The existence of native title is not dependent on a claim being lodged.

Under the 'future acts' provisions of the *Native Title Act 1993* there are obligations to notify, receive and consider comments and in some cases negotiate with groups in relation to activities which may affect native title. In the event that obligations are not observed, activities are invalid to the extent that they affect native title. In summary, Aboriginal groups must be consulted about activities proposed on their traditional lands, with negotiation undertaken as to whether or not the activity may proceed, and if so, how—to the satisfaction of all parties.

Negotiation rather than litigation has become the preferred approach to native title applications, as well as for broader Indigenous involvement in land and water management. The identification of an authorised negotiation group greatly assists in undertaking these negotiations.

In 2000, the *Protocol for the Negotiation of a Native Title Framework Agreement for Victoria* was developed by the Victorian Government, the former Aboriginal and Torres Strait Islander Commission (ATSIC) and the Mirimbiak Nations Aboriginal Corporation (predecessor of Native Title Services Victoria). In this protocol, the Victorian Government acknowledges that traditional Aboriginal owners of land and waters in Victoria may hold native title to their traditional lands.

The protocol offers a framework for resolving native title claims in Victoria. The framework provides for Indigenous Land Use Agreements (ILUAs) which may address a range of issues including:

- recognition, protection, and exercise of native title rights and interests;
- the relationship between native title rights and other rights, and the manner in which native title rights are exercised, including co-management of, and access to, national parks, state forests, etc., and any flora and fauna therein; and
- the identification, protection and management of Aboriginal cultural property.

An ILUA is a voluntary agreement made between native title groups (who hold or claim to hold native title) and other people or organisations, such as governments, mining companies and other commercial industries, regarding the use of land and resources of a particular area. Although ILUAs can be complex and time-consuming to negotiate, they allow people to make agreements about how land is used without necessarily entering into the usual native title process—although an ILUA may also be a stepping stone to a native title determination.



ILUAs allow parties to negotiate flexible and pragmatic agreements. They are intended to be living documents that set relevant, formal specifications about how the land will be used. Once registered, ILUAs bind all the parties and all persons claiming to hold native title to the terms of the agreement. ILUAs offer Indigenous people potential benefits such as employment, compensation and recognition of native title rights.

To date, 138 ILUAs have been registered (with the National Native Title Tribunal) in Australia, including 11 in Victoria. Like most ILUAs, those in Victoria are associated with particular infrastructure or mining developments, such as the Lara to Paarattie gas pipeline which passes through the Angahook-Otway study area. The Arakwal ILUA, one outcome of which is the creation of, and funding for Arakwal National Park, which is jointly managed by the Byron Bay Arakwal People and the New South Wales National Parks and Wildlife Service is of particular relevance to the study area.

Most of VEAC's recommendations in this report, if adopted by Government, would modify permitted uses on Crown land, or change the emphasis of public land management. However, this should not occur prior to further Government consultation with relevant Aboriginal groups on native title rights and interests. VEAC stresses that nothing in these recommendations should be taken to prejudice or diminish any native title rights to land, water and resources.

Involve ment in Land and Water Management

Indigenous stakeholders in the Angahook-Otway Investigation were generally broadly supportive of VEAC's draft proposals for public land. Rather than the specific areas proposed for particular public land categories, they were more concerned about environmental degradation, dispossession from traditional land and water estates, loss of traditional access, fishing and hunting rights, and lack of opportunities for genuine participation in decision-making about land and resource planning and management.

Consultation and Negotiation

Consultation is the first step to involvement in land and water management. Traditional owners and local Aboriginal communities need to be consulted early in land use planning and decision-making processes. This provides the opportunity to:

- assess the landscape for potential sites of significance;
- identify and locate sites that may be affected; and
- ensure that appropriate protocols for dealing with Aboriginal sites are followed.

During the consultation process opportunities to increase public awareness of Aboriginal connections with the area were identified, for example, by naming particular locations or providing interpretative material along walking tracks and visitor attractions.

VEAC's recommendations refer specifically to the need for consultation with traditional owners. The need for consultation is not limited to special events such as the artificial opening of the mouths of the Aire and Gellibrand Rivers and those specified by legislation, but to overall management of the public land in the study area.

Representation and Economic Opportunities

Involvement in natural resource management may increase opportunities for representation on land and water management bodies and improve economic opportunities for the Aboriginal community. This could be achieved in a number of ways including:

- employment in natural resource management and liaison positions;
- representation on land and water planning bodies, or policy-making committees with capacity-building to facilitate Indigenous input;
- interpretation, community education, and tourism opportunities provided through dedicated programs or interpretive centres; and
- cultural heritage protection program positions.

The involvement of the Aboriginal community in the management of public land in the study area will also lead to improved cultural and environmental outcomes.

A specific, tangible example of these aspirations was a proposal received in submissions for the establishment of an Aboriginal Cultural Centre at Point Bunbury (Apollo Bay) if and when the golf course relocates. This accessible, high profile site has strong associations with past Aboriginal occupation as evidenced by a number of archaeological and environmental features. It was envisaged that this area could provide a focus for visitors entering the recommended Otway Ranges National Park whilst demonstrating an appreciation of the cultural significance of the park for Aboriginal communities.

Another suggestion made in submissions was for an area, not specifically defined at this stage, within the park or other public land, that could be used for ceremonial and specific cultural activities.

CHAPTER 11 ROADS

The primary purpose of road reserves is to provide for communication, transport and access. Within the study area the Great Ocean Road is both a main access road and an internationally recognised touring route attracting numerous visitors to the region. Roads through the Otway Ranges provide links to the hinterland and access to the forests.

The Great Ocean Road

The Great Ocean Road extends some 242 km from Torquay to Allansford (east of Warrnambool), providing access to major tourist destinations both within and beyond the study area — such as the Twelve Apostles, Apollo Bay, Lorne and Torquay. Approximately 60 percent of the entire length of the road is included in the study area and of that, approximately 40 percent has public land on both sides.

Although the Great Ocean Road is used by local residents and provides access for commercial traffic, the road's role as a major tourist route and world-class driving and touring experience is by far its greatest value. The essential character of the road and its ability to deliver on its reputation is under increasing pressure, leading many groups to call for the road to be reserved within a national park.

VicRoads has responsibility for works and maintenance and manages the road in accordance with the detailed Great Ocean Road Roadside Management Plan. Much of the road is within a permanent gazetted road reserve. There are, however, sections of the road that are on other forms of Crown land such as coastal reserve or park without a defined road reserve, particularly between Apollo Bay and Lorne. In such areas VicRoads usually has agreements in place with land managers, such as Parks Victoria and foreshore committees of management, which cover the management of both the formed road surface and the road environs. Irrespective of the tenure of the road, the maintenance of the scenic and tourism attraction of major sectors of the road continue to be important aspects of its management.

The vehicle capacity of the Great Ocean Road is finite with significant delays being experienced during peak summer and Easter periods. Because of the increasing popularity of the area as a tourist attraction, these peak periods are extending. There are also sections of road with substantially higher accident rates than the State average, motorcycle crashes being a particular concern. The standard response to such factors on other roads might include major construction work to increase carrying capacity. In the case of the Great Ocean Road, increasing capacity would compromise both scenic and environmental values along the road and, given the physical constraints of the Otway Ranges, would likely be cost-prohibitive. Given that demands on the road are unlikely to decrease, alternative measures such as traffic calming, redirection of traffic and upgrading of alternative routes need to be considered.

A major strategic review entitled "Great Ocean Road Region - A Land-Use and Transport Strategy" has been recently adopted by the Government. The Strategy has identified key initiatives such as enhancing the Great Ocean Road as a world-class travelling experience by preserving key vistas and improving travel information and improving safety, sealing road shoulders, guard fencing, signage and undertaking a speed limit review. Additionally, investigation of alternative routes for through-traffic around townships and improved safety for north-south routes accessing the hinterland areas are suggested.

While the Great Ocean Road Region Strategy deals with issues related to the road in detail, part of VEAC's specific charter was to recommend whether the Great Ocean Road should be in the national park or not. VEAC's terms of reference require that Council consider whether or not the Great Ocean Road should be included within an expanded Otway Ranges National Park and a number of submissions received specifically addressed this. Those that proposed excluding the Great Ocean Road from the national park generally indicated that VicRoads was the most appropriate manager, although few gave detailed rationales. Those who proposed the inclusion of the Great Ocean Road in an expanded national park based their views largely on conservation grounds or the enhancement of tourism values through sensitive future development. Some suggested including parts of the road only where it abutted national park. Specific concerns were related to managing roadsides for conservation values, enhancing tourism potential, continuing access, establishing a road reserve along the entire length and controlling pest plants and animals.

Some submissions commented on the potential for a road toll to be introduced and, whilst most preferred no tolls, a small number proposed tolls with exemptions for local residents.

According to some submissions, inclusion of the Great Ocean Road in the national park would not have to change existing funding and on-ground management arrangements.



Some saw it as desirable for park regulations to apply to those travelling on the Great Ocean Road. Others thought this inappropriate given the extent of through traffic and the fact that exemptions would be required for the passage of vehicles with firearms, stock, and dogs through the national park. There was a view expressed that such roads should only be included in national parks if they serve as an access road terminating in the park.

VEAC has recommended that the Great Ocean Road not be included in the national park but be restricted to a defined road reserve. This road reserve is to be managed by VicRoads, with the roadside vegetation managed cooperatively through a management agreement established between the park manager and the road authority.

Council has assumed that strategic planning and upgrading of hinterland routes as described in the Great Ocean Road Regional Strategy will alleviate some of the existing capacity and safety concerns related to the road, while maintaining its existing character and function as a tourist route. Nonetheless, Council envisages that in places, road widening or engineering works may be required outside the defined road reserve. Any road re-alignment outside the defined road reserve would entail a revision of the park boundaries and should be subject to environmental assessment to ensure that the essential scenic character of the road is maintained.

Hinterland Roads

The Great Ocean Road Region Strategy identifies the development and promotion of inland routes from Apollo Bay and Lorne (and, outside the study area, from Port Campbell) as a strategy to reduce traffic congestion on the primary tourist route, the Great Ocean Road.

The Strategy also identifies a 'main touring route' connecting a number of arterial roads (formerly declared main or tourist roads) in order to promote touring through the Otways. A number of sections of the nominated route, including Turtons Track, traverse the Otway Ranges National Park. The designation of 'supporting routes', for two wheel drives and four wheel driving, is also proposed in the Strategy.

VEAC acknowledges that redirecting traffic from the Great Ocean Road to such hinterland routes may require upgrading of these roads and that this may compromise the values of the land (including parts of the Otway Ranges National Park) through which these roads pass. In some places within the study area the road formation does not actually lie within the designated road reserve. VEAC has delineated the boundaries of recommended national and forest parks to reflect the actual alignment of the main through roads. The same approach recommended by VEAC for the Great Ocean Road also applies to these hinterland roads in relation to management of roadside reserves and use of abutting public land. VEAC has also recommended that roadside management plans be prepared by the responsible road authority in consultation with the adjoining land manager.

Some submissions have suggested that an additional inland route be designated to link Aireys Inlet with the hinterland. VEAC considers that this proposal is worthy of further investigation by VicRoads and the relevant municipal Council.

Tourist Roads

The Great Ocean Road, Otway Lighthouse Road and Beech Forest Road (Turtons Track) have for many years been designated declared tourist roads. Such designation clearly defined their function as well as the State as the responsible authority for their management. Under the recently proclaimed *Road Management Act 2004* these three roads are now designated as arterial roads. VEAC recommends that the tourist function and related values of these roads be specifically recognised in addition to their role as arterial roads.

Vehicle Tracks and Road Management



The Otway region has inherited an extensive vehicle track network created to establish fire access and facilitate timber harvesting. Some tracks were created as part of Government relief schemes. The vehicle track network is a valuable resource for managers and users alike. However, current use of such vehicular tracks may not reflect the original rationale for their creation and their design and construction may no longer be adequate, leading to high maintenance costs and/or damage especially given the wet climate of the Otways. Consequently tracks on public lands may be subject to seasonal closures, restrictions or permanent closure and rehabilitation.

Changes to the status of vehicular tracks usually occur through management plan processes and consultation with key user groups. Some groups also assist park managers with the monitoring and aspects of track maintenance, and contribute to collaborative projects such as track rating systems to improve the safety of recreational users.

Many submissions from recreational users of the Otway forests were concerned that park creation may lead to all, or almost all, tracks being closed. Other submissions offered a contrary view, suggesting that park creation led to tracks being made or upgraded to cater for increased visitor use. Concern was raised that closure of tracks would hinder fire

fighting and other emergency operations. Some felt that while organised groups had the opportunity to be involved in decisions about tracks the opportunity for individuals to be involved was limited.

VEAC was advised that track closures followed the establishment of the Otway National Park. There was, however, no evidence that all tracks in national parks are or would be closed. Council also noted that a network of fire access tracks is still maintained, and that tracks have been closed in state forest areas as well as in parks.

While tracks are closed by park managers for legitimate reasons, VEAC acknowledges that there is a demand for continued recreational access and has placed a high emphasis on providing for this use in most land-use categories including the Otway Ranges National Park. In particular, Council's recommended Otway Forest Park has the capacity to provide for a range of four wheel drive and trail bike recreational requirements. VEAC has also recommended that car touring, including routes for four wheel drives as well as all-weather access for two wheel drives standard, be provided in the national park. It is anticipated that the expanded national park can meet conservation objectives while maintaining a viable road network and most vehicular roads and tracks through the park are expected to remain open. Nonetheless, threatened species protection, safety risk management, and other potential reasons for track closures occur within parks and are ultimately the responsibility of the land manager.

VEAC recognises the importance of the wider community being involved in such decisions and has recommended the establishment of advisory committee(s) to help guide decision-making throughout the implementation, planning and on-going operational phases of the management of the public lands of the Otways. It is envisaged that an advisory committee would deal with track access and develop criteria for the development, closure and standard of vehicular tracks.

Some have advocated the classification of tracks according to their standard, allied with identifying signage, to provide guidance to users of four wheel drive tracks across the Otways. VEAC supports this approach. Council has also reviewed the use of a system to regulate access, as

developed in Tasmania, to designated trailbike routes, but considered it unsuitable in the Victorian context as Tasmania has a different licensing system.

Concern was expressed about funding for track maintenance to replace current timber industry contributions to road management. Some suggested that tourist operators pay road levies. VEAC considers that such funding issues need to be taken into account by the Government when considering the recommendations in this report. It also notes that levies obtained from the timber industry for roads, are intended to upgrade and maintain roads for use by log trucks — a standard not necessary for general recreational traffic and not always on routes that coincide with the interests of recreational users.

Roads across public land may be important for through traffic as well as park traffic. In some instances they may provide legal and/or practical access to freehold lands surrounded by or adjoining the main blocks of public land. Such roads will generally remain within road reserves, rather than be included in a park or reserve.

Road access is also required for log haulage of hardwood timber sourced from public land (until 2008) and for softwood logs sourced from both public land and freehold. Mostly such haulage routes are on roads through the forest park or on roads within road reserves managed by municipal Councils. VEAC is not recommending any changes to such arrangements.

Unused road reserves that are surrounded by public land and are not used for access have been recommended for addition to adjoining parks or reserves.

The recently proclaimed *Road Management Act 2004* will also influence the future management of vehicular roads in the study area. For example, each road authority must keep a register of public roads for which it is responsible, in which it lists the classification of public roads, any public roads that have been closed and the construction standard for each public road. The Act also provides for the development of codes of practice which, amongst other things, will guide the allocation of resources, engineering standards, risk identification, maintenance programs and the making of road management plans.



CHAPTER 12 IMPLEMENTATION AND MANAGEMENT

The full value of VEAC's recommendations is dependent upon the extent to which they are successfully implemented and managed into the future by the respective land managers. Both adequate resourcing and community involvement are required.

Many of the submissions received following both the Discussion Paper and Draft Proposals Paper, referred to the need to improve management of public land and, in particular, adequately fund parks resulting from VEAC's recommendations. Comment was also made about difficulties identifying the responsible land manager and differences between land managers in dealing with issues such as pest species control. Some expressed the view that local knowledge and experience was undervalued and that opportunities for influencing management practices were limited. Many recreational users felt that their activity was either being excluded by VEAC recommendations or, in areas where VEAC recommend it be permitted, would be subsequently excluded by land managers. In particular, recreational users were concerned that such exclusion might occur without the opportunity to comment, contribute to decision-making or formally object to management decisions.

In summary, the most common issues raised relating to implementation and management were:

- adequate resources for implementation of VEAC recommendations including provision of assistance to those adversely affected;
- enhancing management of all public land;
- desirability of integrated management;
- support for ecological sustainability; and
- the need for community participation in public land management decision-making processes.

Resources for Implementation

Most public land in Victoria is managed, directly or indirectly (through delegation), by DSE regardless of the current or recommended land-use category. While land status changes do not necessarily imply a greater level of management, community expectations may differ between land-use categories. For example, the public may expect higher quality picnic areas in a national park compared with state forest. Additional resources are required to respond

to these expectations and, in particular, will be required where the intensity of management needed increases as a result of the acceptance of VEAC's recommendations. Accordingly, VEAC has made a specific recommendation that the Government allocate adequate resources for the implementation of its approved final recommendations.

Implementation also involves establishment costs, such as fencing, signs and management planning, as well as an ongoing commitment to ensure that the management objectives of each particular land category are met. During the implementation of Council's recommendations it will be necessary to widely distribute information on boundaries and permitted activities in the different land-use categories, particularly those of the national and forest parks. This information should be supported by the presence of rangers or other staff at community events and institutions. While education should be emphasised during the implementation phase, compliance programs will also be necessary to address potential threats to the park and its biodiversity. A suite of education and enforcement approaches developed specifically to achieve compliance within the Otways will require specific allocations of resources.

Assistance to Affected Parties

VEAC's recommendations have been designed to provide a net benefit to all Victorians, and to minimise the impacts on current users of resources of the Otways.

On the basis of its own work and that of independent social and economic consultants engaged by VEAC, Council anticipates that any negative effects of the recommendations on resource users are likely to be relatively minor (see Appendix 4 for details). However, where an individual, business or local community is disproportionately affected, VEAC considers it appropriate for the community, through Government, to assist in overcoming those effects, and has made a specific recommendation to that effect.

It should be noted that the Government has a separate process for dealing with the impacts of its decision to phase out logging and woodchipping from public land in the Otways. This decision by Government is likely to have much greater adverse socio-economic implications for the Otways than any changes resulting from VEAC's recommendations.

Enhancing Public Land Management

Throughout the consultation process, a frequent issue raised in submissions, briefings and meetings was the perceived need for more expenditure on public land management. Some of the issues raised as needing more resources include:

- pest plant and animal control, particularly foxes and feral cats;
- fire protection;
- presence of Parks Victoria rangers and DSE staff;
- provision and servicing of recreation facilities; and
- track maintenance.

These comments applied both to parks and reserves and state forests. Concerns arose from effects on biodiversity conservation in these areas as well as their impact on adjoining landowners and water catchments.

VEAC's view is that these concerns result from genuine public observation about what public lands require. The Otways forests are in real need of additional resources for on-ground management and for the scientific research upon which on-ground management is based. These concerns stand irrespective of any VEAC recommendations to change existing land-use categories.



Integrated Management

Management issues such as fire and pest species are currently the responsibility of a number of agencies such as DSE and Catchment Management Authorities, who operate across land-use categories. Regional coordination of other management issues across public land categories, such as recreation and tourism, would also be advantageous and avoid unnecessary duplication of visitor experiences across the Otways. Emphasis on integration and coordination should lead to improved and more cost-effective land management.

The need for integrated management was the primary reason for VEAC's original over-arching Otways Park proposal and, although that proposal has not endured, VEAC remains committed to addressing this issue. The recommendations in this Final Report simplify and consolidate the vast majority of public land into two main land-use categories, whilst also emphasising coordination, across category boundaries, of implementation, planning and management. DSE's current program to consolidate coastal reserve committees of management is a good example of the type of initiative that VEAC envisages bringing further clarity and simplicity to public land management.

The following examples demonstrate some of the key issues that would benefit from an integrated management approach.

Fire

As is the case throughout Victoria, fire protection in the Otways is the responsibility of the Department of Sustainability and Environment's Fire Management Branch (FMB). The Department develops fire management plans and coordinates fire-fighting efforts between government and other agencies. The fire management plans take into account special natural values as well as ensuring the protection of assets. All public land managers including Parks Victoria, water boards, VicRoads and plantation managers have a role to play in fire control, together with the CFA, and need to maintain at least first attack capability.

Pest Plants and Animals

Many pest species favour disturbed environments (such as forest tracks) or forested-open country interfaces which often coincide with land-use boundaries, and so coordinated management is particularly important in the control of these species. Particular pest species, such as foxes and feral cats, are currently targeted in the Otways according to regional and statewide priorities and program directions developed in conjunction with other land managers including private land managers.

Similarly, cinnamon fungus is a well-known soil borne pathogen that has a dramatic impact particularly upon heathland and other vegetation communities regardless of public land-use category.



Foxes, feral cats and rabbits are of particular concern in the Otways because of their impact on wildlife either as predators or competitors. Research has shown that effective control of these pests can only be achieved with sustained action (particularly baiting) across a broad area. Poor coordination between land managers could lead to apparently minor geographic or temporal gaps in control programs that may have major impacts on the success of the programs.

Track Networks

The extensive track network throughout the Otways is under increasing demand for recreational use. Many tracks have been established for fire access or timber harvesting and safety of users is now a paramount concern for land managers, especially as many tracks are steep and narrow. Such tracks can be expensive to maintain.

While it is desirable to maintain track networks to provide a range of experiences across the Otways, coordination across land-use categories is required to maximise the cost-effectiveness of track maintenance. For instance, a uniform classification system could be established with user groups to inform track users of vehicle requirements or the level of experience needed—clearly differentiating through routes from meandering four wheel drive routes, for example. The level of maintenance funding would reflect the track classification. This approach is consistent with the new requirements under the *Road Management Act 2004* (see Chapter 11).

Joint Management Agreements

Land managers on both sides of boundaries are likely to have a significant interest in land management practices at the interface, especially where these impinge upon core objectives. This is particularly the case for water supply managers and the tourism industry primarily focussed on the Great Ocean Road, both of which could be affected by poor management of adjoining land or buffers, and vice versa.

Water supply catchments were an important issue raised in submissions and other public consultation, particularly in response to the Draft Proposals Paper. Many people proposed the inclusion of all water supply catchments or those of Geelong or Warrnambool in the national park. VEAC has recommended that key areas of water supply catchment above major reservoirs and weirs be included in the Otway Ranges National Park. A series of cooperative management principles have been developed to ensure the protection of both water supply and quality as well as national park values in these areas.

A similar approach is recommended for road managers where main routes pass through the national park. In such cases the roadside management goals or outline of management objectives will be defined in a management plan prepared in collaboration with the park manager. This is particularly important for the Great Ocean Road where scenic values are a very important part of the visitor experience.

Ecologically Sustainable Development

VEAC strongly believes that the Otway Ranges National Park will form the core of a sustainable future for the Otways. The complementary Otway Forest Park will not only provide protection for other areas of forest but VEAC's recommendations seek the active management and support of recreational activities so that they are carried out in a manner which is safe and within the capability of the environment.

Informed decision-making for ongoing sustainability requires reliable and relevant data—the collection of environmental and biological data on species and ecological communities and, especially information on specific threatened species and indicator species for environmental health, such as the spot-tailed quoll. Monitoring of higher order predators or species that are highly vulnerable to changes in the ecosystem that supports them, not only improves management strategies for that species, but also provides a cost-effective measure of the health of the entire ecosystem.

VEAC also advocates that land managers make greater use of processes of continuous review and improvement in the form of environmental management systems—for planning, implementation and review of their efforts to manage the environment.

Community Participation

Community understanding and involvement are essential to the achievement of VEAC's vision for the sustainable management of the Otways. An informed community that values the many natural attributes and habitats of the Otways and understands the impacts of different uses upon them is more likely to act in ways that protect and enhance the environment. By participating with public land managers in the planning and implementation of decisions made together, the local and wider community will develop an increased sense of ownership and responsibility for their

public land. The already enthusiastic and diverse interest in the Otways indicates a strong desire from the community to be involved in public land decision-making and management. While normal processes of preparing management plans and various single-issue ad hoc processes provide for some participation, there is no existing mechanism that specifically deals with community participation or enables community issues to be addressed proactively from a regional perspective.

Accordingly, VEAC is now recommending the use of advisory committees to provide a voice for the community in decision-making at not only the implementation stage but also during preparation of management plans, and in an ongoing capacity. In summary, VEAC is proposing a comprehensive approach, with community involvement covering three stages:

- (1) in the implementation stage after the Government's response to VEAC recommendations;
- (2) in the detailed planning phase, when management plans are developed; and
- (3) in on-going management decisions.

The establishment of such advisory committees should not mean that there is no role for existing or new ad hoc groups or other consultation mechanisms as appropriate to respond to particular issues as they arise, especially for local or special interest issues.

Membership of the advisory committee(s) would include, but not be limited to, representatives of the Indigenous community, environment and recreational user groups, relevant industry representatives, and local communities.

