

What is the Victorian Environmental Assessment Council?

The Victorian Environmental Assessment Council (VEAC) was established in 2001 under the *Victorian Environmental Assessment Council Act 2001*. It replaced the Environment Conservation Council (ECC) as the body providing the State Government of Victoria with independent advice on protection and management of the environment and natural resources of public land. The five Council members are:

Mr Duncan Malcolm AM (Chairperson)—Mr Malcolm has a long career in natural resource management. He is currently Chairperson of the Gippsland Coastal Board, a member of the Victorian Coastal Council and former Chair of Lakes and Wilderness Tourism, Watermark Inc. and the Irrigation Association of Australia Ltd.

Associate Professor David Mercer—Associate Professor Mercer has been a VEAC member since 2002 and is currently with the School of Global Studies, Social Science and Planning at RMIT University. He has a background in natural resource management, recreation and tourism. The author of over 130 academic publications, Associate Professor Mercer is an elected Fellow of the Environment Institute of Australia and New Zealand and sits on the editorial board of the Australasian Journal of Natural Resources Law and Policy.

Professor Barry Hart—Professor Hart has expertise in environmental science, particularly in water quality management and ecological risk assessment. He has published extensively and received several awards for his work in the scientific underpinning of natural resource management. Professor Hart also has considerable experience in catchment management issues across Victoria, having served on the Victorian Catchment Management Council for almost 10 years. He has also served on the board of the Victorian Environment Protection Authority.

Ms Jan Macpherson—Ms Macpherson is a lawyer with expertise in resource, environmental and corporate law. She also has an extensive background in Indigenous heritage and land management having worked for several years in northern Australia and assisted in drafting native title legislation. Ms Macpherson has formal qualifications in corporate governance and is currently a board member of Greening Australia Ltd.

Ms Jill McFarlane—Ms McFarlane comes from a background in family farming enterprises in both western Victoria and South Australia and has also spent time as a social worker in rural areas of South Australia, NSW and Victoria. Ms McFarlane now lives in central Victoria. Having completed two terms on the board of the North Central Catchment Management Authority (CMA), she has experience in the complexities of natural resource management issues across public and private land. She has a strong focus on community engagement and involvement in natural resource management.

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18 July 2008

Gavin Jennings MLC
Minister for Environment
and Climate Change
8 Nicholson St
East Melbourne VIC 3002

Dear Minister

RIVER RED GUM FORESTS INVESTIGATION

In accordance with the requirements of Section 23 of the *Victorian Environmental Assessment Council Act 2001*, the Victorian Environmental Assessment Council is pleased to submit to you the Final Report for the River Red Gum Forests Investigation and copies of each submission received in relation to the investigation.



Duncan Malcolm
Chairperson

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Front cover: Top – Barmah Forest. Bottom – River Murray.
Photography by Mel Mitchell.

River Red Gum Forests Investigation

FINAL REPORT

Victorian Environmental
Assessment Council

ACKNOWLEDGMENT OF COUNTRY

The Victorian Environmental Assessment Council acknowledges Aboriginal Traditional Owners within the investigation area, their rich culture and their spiritual connection to Country. This includes the Bangerang, Bararapa, Dhudoroa, Dja Dja Wurrung, Jarra Jarra, Jupagulk, Latje Latje, Ntait, Nyeri Nyeri, Robinvale, Tati Tati, Taungurung, Wadi Wadi, Wamba Wamba, Way Wurru, Wergaia, Yorta Yorta and Yulupna peoples. We also recognise and acknowledge the contribution and interests of Aboriginal people and organisations in the management of land and natural resources. Finally, we acknowledge that past injustices and continuing inequalities experienced by Aboriginal people has limited, and continues to limit, their participation in land and natural resource management processes.

FOREWORD

The River Red Gum forests and their associated ecosystems are much loved and enjoyed by many people. This passion was clearly reflected during the course of the investigation. A broad range of aspirations including continued use and future protection were highlighted in thousands of thoughtful and often detailed submissions, and in comments and views put directly to Council members by the many hundreds of people who participated in community forums or other meetings. We greatly appreciate this contribution and it is clear that, although there were many differing approaches promoted during our consultations, all groups and individuals share a deep concern for the wellbeing of this region.

The unique natural assets of River Red Gum forests are highly valued ecologically, socially, culturally and economically. Given this nexus of values and uses, achieving a balance between conservation, recreation and ecologically sustainable use of public land is a difficult and complex task.

Council has heard strong arguments for multiple-use approaches to public land use and environmental management. Many people believe that current use and management is adequate. However, during the course of this investigation we have identified that past and current uses and management are seriously affecting the long-term viability of the River Red Gum forests and wetlands. The relatively small and fragmented remaining area of these ecosystems is a last refuge for many of the 350 threatened and near threatened plants and animals. Altered river flows in the River Murray and its Victorian tributaries fundamentally threatens the health of this ecosystem established by, and therefore dependent upon, flooding within an otherwise arid environment. New research continues to highlight the significant risk to water resources in future climate change scenarios.

All of these factors have led us to recommend a major shift in management priorities for public land in the investigation area, particularly for riparian, wetland and floodplain areas. We believe that our recommendations provide for multiple uses of public land whilst protecting the ecology of the region, particularly in light of increased competition for resources, most notably water. Many groups and individuals have told us that the increasing popularity of some recreational activities is threatening the natural values that have long attracted people to this region. A long-term and coordinated management framework is required to ensure that recreation can continue to be enjoyed and is sustainable for many years to come.

As a community, Australians have agreed to set aside representative areas of natural habitat and ecosystems for biodiversity conservation. This is our legacy for future generations. The process of selecting specific areas of public land for such high levels of protection is often controversial. Many community and industry groups have used—and gained economic benefit from—these public land forests and wetlands for generations. But the level of depletion leaves Council with little flexibility if the park and reserve system is to include representative examples of all ecosystems in accordance with nationally agreed reservation targets.



Council members. Front row left to right: Duncan Malcolm, Chairperson; Jill McFarlane; Jan Macpherson. Back row left to right: David Mercer; Barry Hart.

However, parks and reserves in themselves will not guarantee the long-term protection of natural values. The media attention given to the plight of the environment of the Murray Darling Basin means that most Australians are now aware that its long-term viability is ultimately dependent on adequate and appropriately timed water flows across these river and floodplain systems. We have made a start for the investigation area by assessing floodplain ecological water requirements, but ongoing research and adaptive approaches are required. Council's final recommendations seek to utilise an adaptive approach to floodplain inundation with properly resourced environmental water management directed by flood-dependent ecological values, rather than mostly relying on water that is available after all other allocations are met.

We recognise the strong association that Aboriginal Traditional Owners have with much of the investigation area, despite currently having limited opportunities for involvement in public land management and decision-making. Many of these groups would like greater involvement. We recommend mechanisms to substantially increase participation of Aboriginal people in public land management, whilst also acknowledging that adequate capacity and training is necessary for this to be successful.

Council has carefully considered the social and economic implications of its recommendations. We acknowledge that changes in categories of public land will adversely affect some people. On balance, however, we believe that the environmental outcomes for the entire community and for future generations will, in the medium to long term, be greater than the shorter-term economic costs. Where individuals or particular groups are adversely affected or disadvantaged, VEAC recommends that government develop and resource appropriate assistance strategies.

Completion of this Final Report marks the conclusion of Council's three year investigation.

Mr Duncan Malcolm
(Chairperson)

Associate Professor David Mercer

Professor Barry Hart

Ms Jan Macpherson

Ms Jill McFarlane

Contents

Foreword	vii	D. Nature conservation reserves	72
Executive Summary	xi	E. Historic and cultural features reserves	78
PART A: INTRODUCTION		F. Reference areas and heritage rivers	80
Chapter 1 Introduction	2	G. Natural features reserves	83
Scope of the investigation	2	H. Water production, drainage and distribution areas	87
Information sources	3	I. Community use areas	88
Community and stakeholder consultation	4	J. Services and utilities areas	90
Response to major issues or proposals raised in submissions	4	K. Earth resources and extraction areas	91
Changes to the Draft Proposals	16	L. Plantations	92
PART B: RECOMMENDATIONS		M. Uncategorised public land	93
Chapter 2 General recommendations	24	PART C: IMPLICATIONS	
Implementation of the recommendations	24	Chapter 4 Social, economic and environmental implications of the final recommendations	96
Nature conservation	27	Acronyms, Glossary	105
Environmental water	29	APPENDICES	
Indigenous involvement	32	1. Social and economic assessment	109
Recreation and tourism	38	2. Community Reference Group, Government Contact Agencies and Indigenous Steering Committee	144
Domestic stock grazing	42	3. Report on the Indigenous community consultation workshops	146
Domestic firewood collection	44	4. Timeframe and community consultation process	180
Chapter 3 Public land use recommendations	46	5. Species names used in the Final Report	181
A. National parks	46	6. Revised forest growth rates, state forest areas and sustainable sawlog volume estimates	183
A1. Murray–Sunset National Park	48	7. Recommendations for natural features reserves	184
A2. Hattah–Kulkyne National Park	50	8. Uncategorised public land parcels recommended for revegetation	187
A3. Leaghur–Koorangie National Park	51	9. Reservation status of Ecological Vegetation Classes	188
A4. Gunbower National Park	52	10. Representation of key values in the current and recommended reserve system	200
A5. Terrick Terrick National Park	53	11. Flood-dependent natural assets project	201
A6. Lower Goulburn River National Park	54	MAPS (rear pocket)	
A7. Barmah National Park	56	A. River Red Gum Forests Investigation Final recommendations for public land use	
A8. Warby Range–Ovens River National Park	58	B. River Red Gum Forests Investigation Final recommendations for public land use in Kerang region	
A9. Mount Buffalo National Park	59	C. River Red Gum Forests Investigation final recommendations for public land use in selected towns	
B. Regional parks and other parks	60	D. Flood-dependent EVCs along the Murray, Goulburn and Ovens Rivers in Victoria - required flood frequency	
B1. Kerang Regional Park	62	E. Flood-dependent threatened species sites on public land along the Murray, Goulburn and Ovens Rivers in Victoria - required flood frequency	
B2. Shepparton Regional Park	62		
B3. Murray River Park	63		
B4. Kings Billabong Park	65		
B5. Murray–Kulkyne Park	65		
B6. Gadsen Bend Park	66		
B7. Nyah–Vinifera Park	67		
C. State forests	68		
C1. Benwell State Forest	70		
C2. Guttram State Forest	70		
C3. Gunbower State Forest	70		

Executive summary

The River Red Gum forests and their associated ecosystems are valued by a wide section of the community for their natural, aesthetic, cultural and economic values and uses. However, these areas are under pressure. River Red Gum forests are severely stressed and without improved environmental flows onto the floodplains, many of these riverine forests and wetlands may be lost. Large areas of these ecosystems have been cleared, fragmented, degraded or depleted over the last two centuries. Public land in the River Red Gum Forests Investigation area comprises only about 22 percent of the extent of these ecosystems prior to European settlement.

There are many ecosystems in the investigation area that are poorly represented in the current conservation reserve system, and there are numerous threatened species reliant on these habitats for survival. The Victorian Environmental Assessment Council (VEAC) recommends a substantial increase in the size of the conservation reserve system in the investigation area to improve the protection of ecosystems and threatened species. In making these recommendations, VEAC took into account the potential impact of climate change and the need to maintain and enhance connectivity of ecosystems across the landscape. However, protection of these ecosystems in conservation land categories is not enough. Appropriate water management, and particularly the provision of adequate environmental water flows, is also vital to ensure the long term survival of riverine forests and wetlands.

Community interest in the River Red Gum Forests Investigation is very high, and VEAC received a large number of written submissions on its Draft Proposals Paper in 2007. These submissions have been carefully considered as part of the process of developing this Final Report, and many changes have been made to VEAC's draft proposals as a result of this input. The major issues arising from the submissions and VEAC's response are detailed in chapter 1, along with a summary of the changes made to draft proposals.

Scope of the investigation

The Victorian government asked VEAC to:

- identify and evaluate the extent, condition, values, management, resources and uses of riverine red gum forests and associated fauna, wetlands, floodplain ecosystems and vegetation communities; and
- make recommendations relating to the conservation, protection and ecological sustainable use of public land.

In addition, VEAC was requested to take a number of specific matters into consideration (see chapter 1 for details).

The investigation began in April 2005 and a Discussion Paper was released for public comment in October 2006. The Draft Proposals Paper was released in July 2007, and this Final Report submitted to the Minister for Environment and Climate Change in July 2008.

Social and economic assessment

An independent assessment of the social and economic implications of the final recommendations was commissioned and the report of the assessment is included at appendix 1. Chapter 4 includes a discussion of the socio-economic analyses (benefit–cost analysis and the regional input–output analysis) and the broad social, economic and environmental implications of the recommendations.

Consultation process

VEAC used three primary consultation methods to assist with developing its recommendations:

- Advisory groups—VEAC established a Community Reference Group, a Government Contact Group and an Indigenous Steering Committee to provide input and advice. Members of the Community Reference Group included people with backgrounds in recreational uses, industries (timber and grazing), rural communities, Aboriginal interests, local government authorities and other agencies. Members of the Indigenous Steering Committee provided advice on the Aboriginal consultation program.
- Three formal public submission periods were conducted during the investigation with almost 9000 written submissions received.
- Direct consultation—VEAC has met with hundreds of people in local communities, and with organisations such as local government, industry bodies, recreation and conservation groups, and government agencies.

The major issues arising from the consultation and VEAC's responses are provided in detail in chapter 1, along with a summary of the changes made to draft proposals.

Summary of major recommendations

The following major recommendations are included in this Final Report.

Major new or additional areas of national parks

- Barmah National Park—establishment of a large new national park from state park, state forest and River Murray Reserve in the largest River Red Gum forest along the River Murray.
- Gunbower National Park—establishment of a new national park from state forest and River Murray Reserve on the River Murray near Cohuna.
- Lower Goulburn River National Park—establishment of a new national park mostly from state forest extending from the River Murray, along the Goulburn River to north of Shepparton and including Kanyapella Basin.
- Warby Range–Ovens River National Park—addition of regional park and state forest along the Ovens River to the Warby Range State Park to establish a new national park.

- Leaghur–Koorangie National Park—establishment of a new national park in the Loddon and Avoca River floodplains west and south of Kerang, from a number of public land units, the largest of which include Leaghur State Park, Koorangie (The Marshes) Wildlife Reserve and Wandella Flora and Fauna Reserve.
- Murray–Sunset National Park—substantial increase in area through addition of state forest (including Wallpolla Island), Mullroo Creek Wildlife Area and River Murray Reserve to this existing national park.
- Terrick Terrick National Park—addition of several grassland nature conservation reserves and other public land units to this existing national park.

Major new or additional areas of regional or other parks

- Murray River Park—consolidation of the River Murray Reserve and incorporation of regional parks at Echuca, Tocumwal, Cobram, Yarrawonga and Wodonga.
- Four (three new) parks balancing recreation and conservation objectives along the River Murray
 - Kings Billabong Park incorporating Kings Billabong Wildlife Reserve and Bottle Bend;
 - Murray–Kulkyne Park incorporating the existing park, state forest and River Murray Reserve near Colignan;
 - Gadsen Bend Park incorporating state forest and River Murray Reserve south of Robinvale; and
 - Nyah–Vinifera Park incorporating Nyah State Forest and Vinifera forest (River Murray Reserve) downstream of Swan Hill.
- Two new regional parks close to regional centres
 - Kerang Regional Park incorporating Fosters, Back and Town Swamps and Cemetery Forest Wildlife Reserve; and
 - Shepparton Regional Park adjoining the new Lower Goulburn River National Park and incorporating part of the Lower Goulburn State Forest, Shepparton Flora and Fauna Reserve and Mooroopna Recreation Reserve.

Nature conservation reserves

There are 21 expanded or retained and 29 substantially new nature conservation reserves recommended in the investigation area to improve the protection of depleted and fragmented ecosystems.

State forests

- Gunbower State Forest—incorporates 61 percent of the area in the existing state forest and 71 percent of that which was previously available for timber harvesting.
- Benwell and Guttram State Forests (northwest of Koondrook)—remain unchanged.

Other areas

There are numerous other areas of public land in the investigation area. These include 111 natural features reserves including 23 new and existing state game reserves and many public land water frontages; three new or modified and 10 existing historic and cultural features reserves; seven new or modified community use areas and several other new and existing water production, service and utilities and earth resources extraction areas.

Major issues

Changes to land use categories alone are not sufficient to protect natural and cultural values on public land. VEAC has also recommended changes to public land management in four overarching themes: provision of sufficient environmental water, increased Indigenous involvement, management of sustainable recreation and tourism, and removal of domestic stock grazing.

The investigation area includes most of the pre-European extent of River Red Gum forests and associated ecosystems and consists of 1.2 million hectares of which 22 percent is public land (269,440 hectares) – see table 1 for details. The conservation reserve system (land in national parks, nature conservation reserves and some other areas), is recommended to increase from 26 percent of public land to 64 percent; or from 5.7 percent of the original extent of River Red Gum forests, wetlands and associated ecosystems to 14.2 percent. VEAC recommends a significant shift in uses and management of public land by excluding domestic stock grazing, reducing timber harvesting and involving Traditional Owners in shared management. Recreation and tourism remains a strong focus. VEAC has recommended a range of management strategies to ensure that these popular activities are sustained and enjoyed into the future. The most urgent and serious environmental problem in the investigation area is the need for delivery of sufficient environmental water to halt the imminent loss or degradation of large areas of flood-dependent riverine forests and wetlands.

Environmental water

The predominant environmental consideration for the River Red Gum Forests Investigation is the need to provide water to sustain the natural assets of the floodplains. VEAC has identified the approximate frequency and extent of flooding required to maintain—in an ecologically healthy condition—riverine forests and wetlands dependent on inundation, and recommends that this information be incorporated into decision-making on environmental watering through the relevant state and national water programs. VEAC has broadened the information base available to decision-makers by describing water requirements for all flood-dependent ecological vegetation classes and incorporating information on threatened flora and fauna, but an ongoing program is recommended to build upon this dataset and improve understanding of floodplain ecology.

Table 1. Summary of final recommendations for each public land use category

Land use category	Current area (ha)	Recommended area (ha)
National park	52,120	146,830
State park	9925	0
Other park (Schedule Three, <i>National Parks Act 1975</i>)	4000	11,130
Regional park (except Murray River Park)	3775	3925
Murray River Park	0	34,685
Nature conservation reserve	11,895	9900
Natural features reserve	48,665	27,160
Water production	2120	2105
Water supply regulation and drainage	10,545	10,610
Historic and cultural features reserve	705	865
Community use area	2690	2515
State forest	106,910	12,290
Plantation	175	175
Earth resources	125	225
Services and utility	5880	6160
Wildlife management co-operative area	2565	0
Uncategorised public land	7350	870
Total public land	269,445	269,445
Private land	950,650	950,650
Total extent of investigation area (including all freehold and other land)	1,220,095	1,220,095

Notes:

1. Additional areas of public land, particularly those where a freehold title is held by a public authority, have been identified since publication of the Draft Proposals Paper and account for the subsequent increase, from 268,715 ha to 269,445 ha, in the total extent of the public land in the investigation area.
2. Numbers are rounded to the nearest five hectares.
3. Barmah State Forest is subsumed by the recommended Barmah National Park.
4. Natural features reserve includes the River Murray Reserve which is currently 16,060 hectares and recommended to be incorporated in the Murray River Park and other public land use categories.

Indigenous involvement in public land management

Australian jurisdictions are increasingly adopting various forms of shared land management as a means of reconciling Aboriginal claims to land and, in some cases, addressing legal requirements to accommodate native title interests. Victoria has not so far taken the formal steps that most other states and territories have taken in providing for direct Aboriginal participation in land management.

There is a clear need for resourcing and capacity building to support increased involvement of Traditional Owner groups in public land management and decision-making. A range of approaches are recommended for increasing Traditional Owner engagement and decision-making within shared management arrangements, including co-management of the new Barmah National Park and the Nyah–Vinifera Park through Boards of Management with majority Aboriginal membership. Other arrangements for shared management include Aboriginal Advisory Committees. Amendments to legislation are recommended within five years to provide for a process to enable handback/leaseback of national parks in the future. Clarification of provisions for Aboriginal traditional cultural practice by Traditional Owners across public land is also recommended.

Recreation and tourism

The sustainable promotion and maintenance of recreation and tourism is an important factor for the River Red Gum Forests investigation area. After reviewing visitor data and following the changes below, VEAC considers implementation of its recommendations will result in increased recreation and tourism. VEAC recommends dispersed camping as the predominant form of camping across all land categories. Solid fuel fires and associated firewood collection on most public land are recommended to be retained except during the high fire danger period when fires would be banned. Camping with dogs is recommended to continue in regional parks including the Murray River Park. The development of a River Murray Strategy will provide a long term framework for sustainable recreation, tourism, commerce and similar uses along the length of the River Murray.

Domestic stock grazing

Significant changes are recommended for domestic stock grazing in the investigation area including the exclusion of broadacre domestic stock grazing across public land, other than unused roads, and a five year phase out of grazing on public land water frontages. While there will be an adjustment period, in many places infrastructure is currently in place to exclude stock. The critical function of riparian land and adjoining corridors for conservation of native flora and fauna and for river health is well known, and condition is currently declining due to grazing pressure. The benefits to waterways and water quality—particularly with climate change already affecting run off and stream inflows—are likely to be significant and of both environmental and economic benefit, especially in the lower catchment areas.

Summary of uses and implications

The independent social and economic assessment commissioned by VEAC found that VEAC's recommendations would result in a net increase in economic value to Victoria of \$37.3 million per year, or \$107 million per year (excluding water costs) if additional environmental water is provided. Most of the benefits result from the values people ascribe to environmental protection, some of which are dependent on adequate environmental water. Providing adequate environmental water for identified natural assets—in particular, flood-dependent vegetation and threatened species—is likely to have substantial costs, but is currently the subject of a number of rapidly developing national and state water programs. Accordingly it was beyond the scope of the consultants' benefit-cost analysis and regional impact analysis.

By their nature, environmental benefits are provided to the whole population and to future generations. The environmental benefits therefore would accrue mostly to people outside the investigation area, as they are calculated on a 'per household' basis, and their distribution largely corresponds to population. Accordingly large centres including Melbourne and regional cities inside and outside the investigation area receive major environmental benefits. The costs would be largely borne within the investigation area particularly in areas where public land timber harvesting and grazing are focussed. The smaller towns of Cohuna, Koondrook, Nathalia and Picola are likely to be most sensitive to these effects and VEAC is recommending that government provide assistance if required to address negative impacts.

Nature conservation

The investigation area largely follows the riverine corridors through an essentially semi-arid environment but also encompasses grasslands of the Victorian Riverina and fertile mountain valleys in the east. This corridor supports a diverse range of ecosystems and habitats, and many threatened plants and animals. In developing its recommendations, VEAC has used ecological vegetation classes (EVCs) as surrogates for ecosystems, and nationally agreed criteria for establishing a comprehensive, adequate and representative reserve system (also known as the 'JANIS criteria'). Protection of ecosystems in secure conservation reserves is a key element of this approach.

VEAC's recommendations more than double the total area in secure conservation reserves from 69,640 hectares to 173,240 hectares. These new reserves satisfy JANIS criteria for the majority of ecosystems and important threatened or depleted EVCs such as Riverine Grassy Woodland, Floodplain Riparian Woodland, Grassy Riverine Forest, Lignum Swampy Woodland, Plains Woodland, Plains Grassland, Semi-arid Chenopod Woodland, Chenopod Mallee, Woorinen Mallee and Riverine Chenopod Woodland.

The new conservation reserve system provides for many threatened species, including essential protection for the last Victorian breeding site of the threatened Superb Parrot (in the new Barmah National Park) and reduces threats to the endangered Mueller Daisy at two of the most important sites for this species in Victoria.

Consolidation of these areas into large and well connected reserves is an important component ensuring long term viability and allowing for species movement across the landscape. Strong habitat linkages also provide a buffer for the future effects of climate change. The north–south links in the Warby Range–Ovens River and Lower Goulburn River National Parks and the consolidated Murray River Park will be particularly important habitat corridors or links.

However, environmental flooding is the most critical requirement for biodiversity conservation in the investigation area. Without adequate water, public land use changes will reduce some threats but will not be sufficient for the long term sustainability of the River Red Gum forests flood-dependent ecosystems.

Environmental water

The most urgent and serious environmental problem in the investigation area is the imminent loss or degradation of large areas of wetlands and riverine forests as a result of greatly reduced frequency of flooding. This reduced frequency of flooding is already having substantial negative impacts on natural values (especially biodiversity), Aboriginal associations with the land, recreational values and the sustainability of timber harvesting, and these impacts are likely to become severe without prompt and significant action. Many tens of thousands of hectares of forests and wetlands habitats may be lost without adequate water in the near future.

Changes to public land use categories alone will not be sufficient to address this problem. As a result, VEAC's approach goes beyond such changes to identify the approximate frequency and extent of watering required to maintain riverine forests and wetlands in a healthy condition and highlights the need for such watering to be brought about.

Since the Draft Proposals Paper was published in July 2007 many aspects of environmental water management have changed significantly. For example, announcements have been made on new proposals to provide more environmental water, and new arrangements between the Commonwealth and the states for the Murray Darling Basin are in place. Over the same time period, new information has been published by CSIRO and DSE quantifying dramatic reductions in water yields under climate change scenarios. Such a dynamic setting emphasises the need for recommendations on environmental water that will remain relevant in the face of such changes in the future. To this end VEAC has directed its focus to the central issue: highlighting the natural values that depend on watering other than local rainfall for their existence.

VEAC has mapped areas of flood-dependent natural values and ascribed a watering requirement (minimum frequency and duration) for their maintenance in an ecologically healthy state. Expert scientific knowledge has been used to identify the water requirements of ecological vegetation classes (EVCs) as a surrogate for ecosystem diversity, and for threatened species. The resultant maps provide a comprehensive account of the required flood frequency across the entire floodplain. This approach is independent of delivery methods—artificial or natural. It establishes benchmarks across the entire floodplain enabling comparisons under different watering scenarios;

creates a consolidated baseline or reference set that can develop as new data are incorporated; and provides a basis for increasing community engagement in environmental water management.

This approach differs from that taken in the Draft Proposals Paper which focussed on achieving adequate overbank flooding and an estimated required volume (4000 gigalitres every five years; 800 gigalitres annualised). While overbank flooding is the optimal method of delivery for many ecosystems, if the current reduced water yields continue, targeted works may be the most feasible. While the approach has changed, the need for significant volumes of water to sustain the natural assets of the floodplain remains as the major environmental issue for the River Red Gum Forests Investigation area.

Other issues addressed in recommendations on environmental water include inappropriate summer flooding of Barmah forest and deteriorating levee banks.

Indigenous involvement

VEAC has recommended increased involvement of Aboriginal people and Traditional Owners in public land management. A number of recommendations have been made to increase Aboriginal community capacity and enhance involvement in management, including a program that will facilitate Traditional Owner identification, registration, and the establishment of internal decision-making processes and informed consent protocols.

A range of approaches are recommended for increasing Traditional Owner engagement and decision-making within shared management arrangements. The new Barmah National Park and Nyah–Vinifera Park are recommended to be co-managed through a new arrangement involving Boards of Management with a majority of members of the relevant Traditional Owner group or groups. Other arrangements are also recommended including Aboriginal Advisory Committees for the west Wallpolla Island area of the Murray–Sunset National Park, Hattah–Kulkyne National Park and Murray–Kulkyne Park, Bumbang Island Historic and Cultural Features Reserve and the new Gunbower National Park. A number of flexible arrangements acknowledge the different aspirations of different Traditional Owner groups at this time and provides for future changes in arrangements for particular areas.

Traditional cultural practice is viewed as one of the key ways that Aboriginal people may keep their culture alive and teach younger generations. VEAC has recommended changes to allow for traditional cultural practice by Traditional Owners across public land in the investigation area through a consent or permit system involving Traditional Owners in decision-making.

Recreation and tourism

Recreation and tourism are significant contributors to the economy of the investigation area, with around five million visitor days and \$868 million being spent each year in the region, based on 2005 and 2006 Tourism Victoria data for the Murray Region. This is the second highest Victorian regional total after the Great Ocean Road Region. Most people are drawn to the rivers and streams for recreation events and activities—notably along the Murray and Goulburn Rivers—particularly for low cost and relatively

unregulated camping holidays. Around 0.24 million people a year visit River Red Gum forests in the investigation area, with a strong trend towards increasing numbers. Designation of additional national parks and associated promotion has the potential to increase visitation by up to 20 percent.

The increasing popularity of camping in the investigation area has led VEAC to recommend dispersed camping (independent camping without facilities) as the predominant form of camping across all riverine parks and state forest areas, as well as recommending some areas be established for designated campsites and remote campsites. Camping with dogs is recommended as a permitted use for regional parks including the Murray River Park, which together cover some 75 percent of the frontage to the River Murray. To accommodate a range of visitor experiences whilst increasing the camping capacity in a sustainable manner, VEAC recommends land managers develop a recreation and camping strategy in consultation with the community. To help reduce the environmental impacts of camping, a ban on solid fuel fires and firewood collection is recommended for the designated high fire danger period on all public land in the investigation area. Campfires and associated firewood collection are recommended to continue for the remainder of the year in national parks, regional parks and state forest areas. Land managers will determine suitable sites for firewood collection that will minimise loss of habitat for ground dwelling animals.

VEAC's recommendations reduce the number and area of wetlands available for recreational duck hunting. A potential reduction in duck hunters visiting the investigation area is estimated to lead to a net economic cost of up to \$0.49 million and 15 (equivalent) jobs in the region, particularly in the Kerang area. This is largely due to reduced spending on fuel, accommodation and other retail services in the region. Recommended improvements to environmental water regimes will enhance many wetlands and therefore improve hunting opportunities for available areas, potentially reducing the estimated economic effects. The net economic gain for wetland protection is estimated at about \$0.66 million.

Integrated planning along the whole of the River Murray corridor is desirable and should take into account activities on the river itself and adjacent private land, as well as on public land. VEAC recommends that a co-ordinated River Murray Strategy be undertaken to provide a long term framework for sustainable recreation, tourism, commerce and other uses.

Timber industry

State forests in the investigation area are a major source of River Red Gum timber products, as well as supporting biodiversity and providing for a broad range of recreational activities. VEAC's recommendations significantly reduce the area of state forest—from 106,910 hectares to 12,290 hectares. Commercial timber harvesting in the investigation area is largely from Barmah, Gunbower and the Lower Goulburn forests. The area available for harvesting (not counting areas where harvesting is uneconomic, nonviable or prohibited) would reduce significantly under VEAC's recommendations. This will

greatly decrease the volume of wood produced and, consequently, the size of the River Red Gum timber industry.

Based on new predicted growth rates, estimates of sustainable yield show that with existing environmental water commitments delivered, no additional water and the current available area (the 'base case'), the sustainable sawlog harvest volume is likely to be reduced to 71 percent of the current sawlog allocation (based on 6070 m³/year). Countering this loss somewhat, improved environmental watering that increases forest flooding will increase current timber growth rates as River Red Gum forest health depends on water supplied by regular winter–spring flooding. However, the recommended reduction in state forest area and significantly greater floodplain inundation are estimated to result in a sustainable harvest equivalent to 22.5 percent of the current sawlog allocation but 32 percent of estimated 'base case' harvest volumes.

In financial terms, these changes would reduce the net economic contribution of the timber industry to the Victorian economy from \$1.83 million per annum currently to \$0.58 million per annum. The industry currently represents 0.08 percent of the regional economy. Employment in the industry would reduce by around 57 direct jobs (fulltime equivalents) in the investigation area with a flow on reduction of an additional 22 indirect jobs.

Domestic stock grazing

The critical ecological role and ecosystem services supplied by vegetated public land in this depleted and fragmented landscape, and particularly riparian land, cannot be underestimated. The uncertainty of climate change elevates the important role of waterways and adjoining corridors for conservation. VEAC has considered a range of information and opinions in forming the view that while domestic stock grazing can be an effective tool to address specific land management problems at particular locations and times, scientific evidence indicates that in general it adversely affects natural values especially biodiversity, water quality and soil condition. Accordingly, VEAC recommends that domestic stock grazing be generally excluded from public land in the investigation area with the exception of approximately 4600 hectares of licensed unused road reserves. The recommendations allow for grazing as a targeted management tool, to address particular environmental or management problems, such as controlling particular weed infestations or maintaining a specific grassy habitat structure.

These recommendations are a significant shift in public land management priorities and will see the cessation of some 1725 licences over an area of approximately 83,885 hectares. VEAC acknowledges that excluding stock grazing from riparian public land water frontages—comprising 1260 licences of about 8000 hectares extent—is likely to require considerable fencing and the installation of offstream water points. At current rates of riparian fencing reported by some catchment management authorities in the investigation area, stock exclusion from licensed frontages is achievable within only a few years, depending upon the resources allocated. The estimated cost to complete fencing along the Crown/freehold boundary and stock watering point installation is \$0.87 million for the entire investigation area. A phase-out period of five years is recommended for removal of grazing from public land water frontages.

Broadacre grazing and grazing outside unused roads and public land water frontages is recommended to cease immediately. This includes 29,600 hectares of Barmah forest, which provides an estimated economic contribution of \$140,000 and 1 fulltime equivalent job, across about 38 permit holders. Licensed domestic stock grazing on public land across the entire investigation area has an estimated economic contribution of approximately \$0.76 million and supports 4 to 5 fulltime equivalent jobs.

Cultivation and cropping on public land, both licensed and unauthorised, are also recommended to cease immediately.

Commercial and domestic firewood

The percentage reductions in timber availability resulting from VEAC's recommendations are likely to apply with reasonable reliability to firewood, especially waste timber following commercial sawlog harvesting activities and thinning operations. These reductions are included in the quantification of timber industry impacts summarised above.

Domestic firewood is largely obtained from harvested wood, and is largely constrained by accessibility. Local firewood strategies such as those implemented following acceptance of the ECC Box–Ironbark Forests and Woodlands Investigation recommendations may be appropriate in parts of the River Red Gum Forests Investigation area to guide the transition to new domestic firewood arrangements. To cater for areas with few affordable alternatives (especially reticulated gas) and where little state forest remains, zones for domestic firewood collection are recommended in the Murray River Park in the Mildura, Robinvale, Boundary Bend, Swan Hill, Barmah, Cobram and Rutherglen areas and parts of the Shepparton Regional Park. State forests at Gunbower, Benwell and Guttram will also remain available for domestic firewood collection.



A

Introduction



1 Introduction

The River Red Gum forests and wetlands of the River Murray are characterised by a diversity of natural values and attributes. These values include biodiversity, history, geology, cultural significance, scenery, as well as many other qualities. People also use the area for a range of activities, such as recreation, grazing, forestry and community education. These natural values and activities are described in detail in the Discussion Paper, the first report for the River Red Gum Forests Investigation, released in October 2006.

The Victorian government asked the Victorian Environmental Assessment Council (VEAC) to undertake an investigation into the River Red Gum Forests of the River Murray and its Victorian tributaries in 2005. A Draft Proposals Paper was released for public comment in July 2007. This Final Report, the third report of the investigation, outlines VEAC's final recommendations—including general recommendations, thematic recommendations and recommendations for public land categories. The report also includes Council's response to issues raised in submissions and during community consultation, as well as a section exploring the social, economic and environmental implications of the final recommendations.

Scope of the investigation

Legislation and Terms of Reference

VEAC conducts its investigations at the request of the Minister in accordance with the *Victorian Environmental Assessment Council Act 2001* (the VEAC Act) and the Terms of Reference provided by the Minister. Together these determine how VEAC conducts its investigations, including the reports that are required and public consultation timelines. The River Red Gum Forests Investigation began in April 2005.

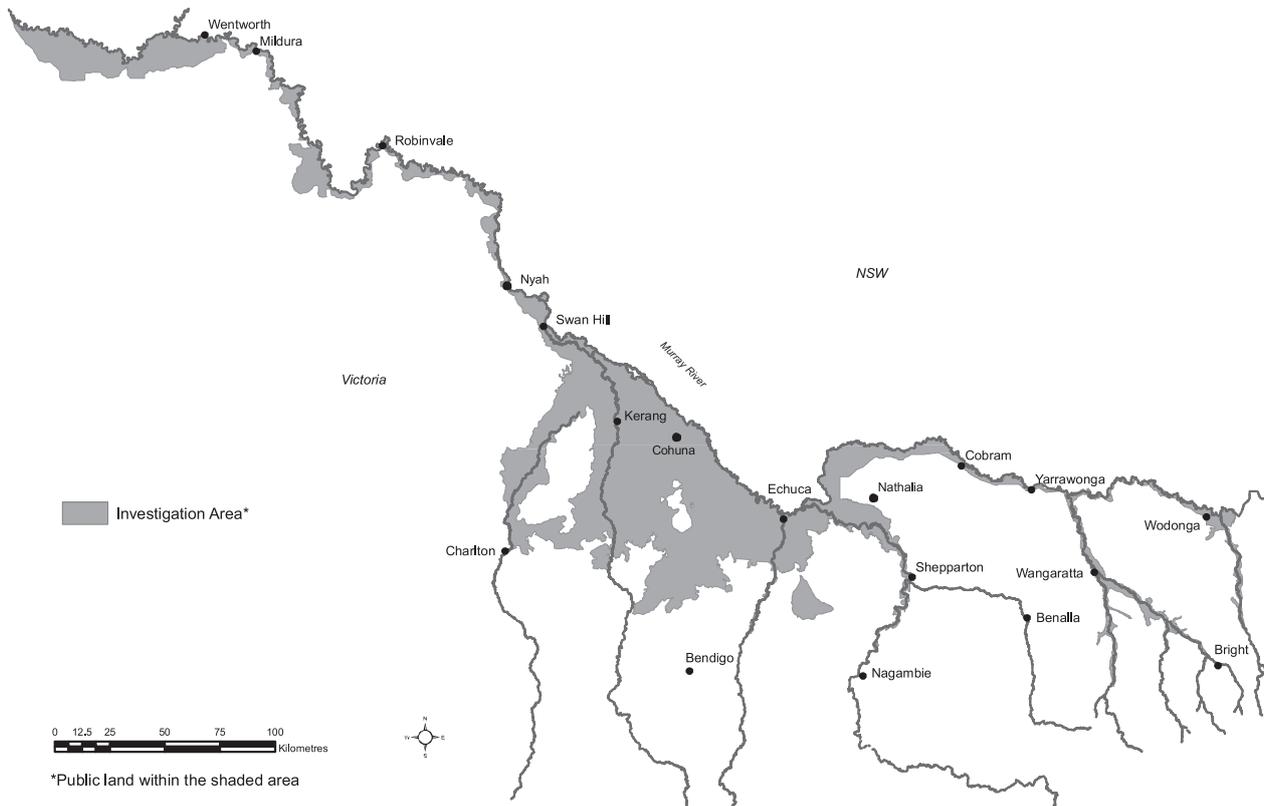
Investigation boundary

Public land comprises 269,444 hectares of the River Red Gum Forests Investigation area (within a total area of 1,220,095 hectares) extending from Lake Hume to the South Australian border. It also includes public land along a number of Victorian river tributaries. The investigation area, including boundaries and the distribution of public land in the area, is shown in map 1.

Timeframe for the investigation

This Final Report has been submitted to the Minister for Environment and Climate Change, and marks the conclusion of VEAC's role in the River Red Gum Forests Investigation. The Minister must make the report available to the public within seven days, and the Government is required to respond to the report within approximately six months. Appendix 4 contains the timeframe for the entire River Red Gum Forests Investigation.

Map 1: River Red Gum Forests Investigation Area



Requirements under the VEAC Act

Under Section 18 of the VEAC Act, the Council must have regard to the following considerations in carrying out an investigation and in making recommendations to the Minister:

- the principles of ecologically sustainable development
- the need to conserve and protect biological diversity
- the need to conserve and protect any areas which have ecological, natural, landscape or cultural interest or significance, recreational value or geological or geomorphological significance
- the need to provide for the creation and preservation of a comprehensive, adequate and representative system of parks and reserves within the State of Victoria
- the existence of any international treaty ratified by the Commonwealth of Australia which is relevant to the investigation
- any agreement at a national, interstate or local government level into which the Government of Victoria has entered, or under which the Government of Victoria has undertaken any obligation in conjunction with the Commonwealth, a State, Territory or municipal council, which relates to the subject matter of the investigation
- the potential environmental, social and economic consequences of implementing the proposed recommendations
- any existing or proposed use of the environment or natural resources.

Terms of Reference

The purposes of the Investigation as described in the Terms of Reference are to:

- (a) Identify and evaluate the extent, condition, values, management, resources and uses of riverine red gum forests and associated fauna, wetlands, floodplain ecosystems and vegetation communities¹; and

- (b) Make recommendations relating to the conservation, protection and ecological sustainable use of public land as specified in Section 18 of the *Victorian Environmental Assessment Council Act 2001*.

In addition to the considerations specified in Section 18 of the VEAC Act, the Council must also take into consideration the following matters:

- Policies, programs and reports, as well as obligations, resulting from International, Commonwealth-State and Interstate agreements or arrangements, as they relate to the investigation
- Existing State Government policies, programs, strategies and Ministerial Statements, as they relate to the investigation
- Regional programs, strategies and plans, as they relate to the investigation
- Possible opportunities for indigenous management involvement
- The Yorta Yorta Co-operative Management Agreement
- Appropriate access for commercial opportunities (e.g. timber, grazing, apiaries, and other resource industries), for appropriate recreation activities, and for community values and uses
- Nationally agreed criteria for a comprehensive, adequate and representative reserve system, and
- Opportunities for a joint management regime with the New South Wales Government for the Murray River and public land on its floodplains.

The Council is required to release a Discussion Paper, a Draft Proposals Paper, and submit a Final Report on the results of its Investigation. The Final Report must be submitted by 31 July 2008².

1 This includes all Ecological Vegetation Classes (EVCs) occurring within the investigation area boundary

2 Originally 1 February 2008

Structure of the Final Report

This Final Report is divided into three main parts:

- Part A includes chapter 1 covering introductory material, a summary of the major changes to recommendations in the Draft Proposals Paper, and VEAC's response to the main issues or proposals raised in submissions to the Draft Proposals Paper
- Part B outlines the final recommendations including the general recommendations, thematic recommendations and recommendations for public land categories and includes chapters 2 and 3
- Part C includes chapter 4 and describes the social, economic and environmental implications of the recommendations outlined in part B.

More comprehensive and detailed information on the values and uses of public land in the investigation area can be found in the River Red Gum Forests Investigation Discussion Paper. Copies of the Discussion Paper and Draft Proposals Paper as well as this Final Report can be accessed through the VEAC website www.veac.vic.gov.au.

Information sources

In preparing this Final Report, VEAC has drawn on many sources including relevant existing studies, material from the Discussion Paper, submissions responding to the Discussion Paper and Draft Proposals Paper, information from the community, land and water managers, VEAC's own research and, where necessary, commissioned consultancies. All the reports prepared specifically for this investigation are available on VEAC's website.

In making its final recommendations, VEAC acknowledges that some users of public land may benefit whilst there may be social or economic burdens placed on others. To identify the distribution of costs and benefits, VEAC commissioned a social and economic assessment of its final recommendations and their implications. A discussion of this analysis is included in chapter 4 of this document, and the consultants' report is included at appendix 1.

Community and stakeholder consultation

Consultation plays a central role in VEAC investigations. Under its legislation VEAC is required to consult with the community. Three consultation methods have been used for this investigation: the use of advisory groups for the provision of information and advice; direct consultation with individuals, groups and organisations; and a formal submission process based on the release of documents for public comment. The major issues and themes arising from consultation are discussed later in this chapter, along with Council's response. Specific descriptions and discussion of community views are also incorporated into the discussion of the final recommendations for each land category, found in chapter 3 of the report.

Advisory groups

As required under Section 13 of the VEAC Act, the Council established a Community Reference Group for the investigation. The Community Reference Group was made up of representatives of a broad range of interests related to the investigation, and provides advice and input to VEAC on many issues.

The Council also established an Indigenous Steering Committee under section 12 of the VEAC Act, comprising representatives from across the investigation area to provide advice on consultation processes and methods for gaining Indigenous communities' views on involvement in public land management.

A Government Contact Group consisting of a range of representatives from government agencies provided technical advice to VEAC.

A list of members of the Community Reference Group and the Indigenous Steering Committee along with the Government contact agencies is provided at appendix 2.

Direct consultation

Since the release of the Discussion Paper and Draft Proposals Paper, VEAC has met with a range of individuals and groups to hear their views and to gain greater insights into their positions on public land use in the investigation area. VEAC also met with a diverse range of individuals at the six community forums which were held following the release of the Discussion Paper and the nine community forums following the Draft Proposals Paper. These forums provided an opportunity for people to learn about the investigation, discuss relevant issues and draft proposals and meet with Council members and staff in an informal setting. Approximately 900 people attended these events. The forums were accompanied by an extensive communications program including both print and radio media. Four briefing sessions were also held for government agency representatives following the release of the Discussion Paper and a further four following the release of the Draft Proposals Paper.

The Indigenous consultation process involved 17 workshops at 13 locations within and near the investigation area, with a total attendance of 117 people. Other people who could not attend made comments by telephone. Views gained from each of these workshops were considered as part of the process of developing recommendations for

Indigenous involvement in public land management. A copy of the consultant's report on the Indigenous consultation is included at appendix 3.

Formal submission process

Three formal submission periods have been completed, the first following the Notice of Investigation being advertised, the second following release of the Discussion Paper in October 2006, and the third following the release of the Draft Proposals Paper in July 2007. More than 580 submissions were received in the first stage, more than 1350 submissions were received in response to the Discussion Paper and a further 6800 submissions were received following the release of the Draft Proposals Paper. These submissions were from individuals, interest groups and organisations representing a broad cross-section of the community. There is a complete list of all those who made submissions for the three periods on the VEAC website: www.veac.vic.gov.au. Most of the submissions on the Draft Proposals Paper are also available on the VEAC website.

Response to major issues or proposals raised in submissions

Introduction

Almost 9000 written submissions were received during the course of the River Red Gum Forests Investigation, indicating a strong interest within northern Victoria and throughout the broader community. VEAC appreciates this high level of participation.

Submissions covered a very broad range of views and information. A number of submissions provided detailed information including technical reports and references to support various opinions or proposals, particularly during the two earlier submission periods. Some submissions provided information to correct what was seen as errors or omissions. Where new information or corrections to factual information was provided, it was incorporated into decision-making processes. Council members and staff have read every submission and analysed and considered relevant issues, comments and proposals during the development of the Discussion Paper, the Draft Proposals Paper and this Final Report.

This section outlines the main issues raised during the River Red Gum Forests Investigation. As well as an overall summary of issues, a summary of each of the major issues raised throughout the investigation is provided below together with VEAC's response.

Overview of issues

Draft proposals viewed as restricting access for recreational activities, such as camping, fishing, horse-riding, four-wheel driving and activities with dogs, caused the most concern. A very large number of submissions opposed any change to current recreational activities or access. In particular, a significant number of submissions disagreed with proposed changes to patterns of camping, campfire (solid fuel fire) bans, and other restrictions such as no camping overnight in national parks with dogs or horses. Other submissions expressed support for the proposed campfire changes, with many people supporting a modification of the draft proposals to align a summer

campfire ban with New South Wales regulations, rather than a complete exclusion in national parks. Many submitters requested that VEAC provide more detail on proposed camping management changes that may affect them, by describing the changes and specific locations. In general these submitters also opposed any change to public land use categories, and sought to retain access for traditional recreational pursuits.

Recreational hunters strongly opposed proposed changes to public land use which would lead to a reduction in the area available for duck hunting. Substantial economic loss was predicted with no hunting in the north-west portion of the investigation area and reduced opportunities in the popular Kerang lakes region. Comments related to recreational hunting are discussed in more detail below, but generally it is clear in submissions that the predicted impacts of the draft proposals on hunters were disputed, and the contribution of recreational hunters to management and purchase of wildlife areas (state game reserves) for duck hunting highlighted.

A significant number of submissions commented on the proposed increase in area of national parks and conservation reserves and the economic impact this would have on resource uses such as timber harvesting and domestic stock grazing on public land. Submitters viewed the proposed decrease in state forest area—and commensurate increase in conservation reserves—as significantly reducing timber industry jobs, in turn concentrating the social and economic impacts of the recommendations on small towns. A general view from submissions expressing concern about changes affecting timber availability was that VEAC had underestimated the economic importance of the timber industry to the regional economy in the investigation area. Many submitters put the view that multiple use—that is resource use, recreation and conservation—does not damage forests or biodiversity and that VEAC had not provided sufficient evidence to justify an increase in national park areas.

Improved management of biodiversity and other environmental values—by expanding protected areas such as national parks to meet nationally agreed criteria—was strongly supported by other submitters throughout the investigation. The need for protected areas such as national parks was important to many people, from both within and outside the investigation area. Many submissions called for an increase in national parks, particularly focussing on expansion of Gunbower National Park to include the entire area of Gunbower Island. Many of these submitters also promoted a reduction in resource use (timber and stock grazing) and greater involvement for Aboriginal people in public land management. An immediate phase-out of timber harvesting in proposed national and other parks was also suggested.

Many submitters called for domestic stock grazing to be retained; mostly these also opposed any changes to existing public land use categories and national parks. The proposed removal of stock grazing from most public land was seen as the loss of a long-standing right with cultural as well as economic impacts. Fencing costs and ongoing land management difficulties were given as reasons why stock should not be excluded from public land water frontages in particular. Some submitters claimed that VEAC had not put forward sufficient evidence that grazing

caused environmental damage. There was just as much support for excluding stock and recognising the importance of wetlands and waterway frontages as refuges for flora or fauna, and for absorbing nutrients, erosion control, protecting soil structure and other ecosystem services.

A substantial number of submitters expressed strong opposition to the predicted adverse regional economic effects. Many people considered that the cost of change to their industries or recreation interests were undervalued. Some submitters framed the economic and social effects as city versus country, with the costs incurred within the investigation area and the benefits enjoyed by residents of metropolitan Melbourne. The benefits of protected areas and biodiversity and the economic analysis supporting these results, were dismissed by some submitters as not 'real money'. Adjustment to changes that would result from implementation of the draft proposals was beyond the ability of some communities already stressed by drought, according to some submissions.

The environmental water overbank flood draft proposal attracted a number of comments in submissions and at community forums. In general, those who saw a need for increases in conservation reserves and improved management, including many recreational users, were very supportive of the environmental water draft proposals. The proposal was seen as a necessary management tool if the natural values of the forests were to be retained for all to enjoy into the future. Some submitters disagreed with the need for environmental water, with many focussing on the difficulty of storing and delivering the volume of water proposed. The impacts of the environmental overbank flow on private property and infrastructure, particularly levees, were raised as reasons why the environmental water should not be delivered.

There was both support for, and opposition to, increased opportunities for Indigenous involvement in public land management and co-management of some parks. A significant number of people who also supported conservation or national park proposals, supported increased involvement by Aboriginal Traditional Owners in public land management and shared management. Many submissions promoted an increased role for specific areas and both the proposed Barmah National Park and Nyah-Vinifera Park were suggested as potential areas for "handback/leaseback" arrangements. Some people viewed the draft proposals as excluding other groups from having a role in management of public land. While some Aboriginal people supported the proposals for traditional cultural practice, there was some opposition from the wider community, particularly to hunting in protected areas.

The reduced availability of domestic firewood was raised in many submissions and there was clearly uncertainty about access to firewood under the draft proposals. Also there was confusion regarding the retention of coarse woody debris as habitat and to which public land use categories this applied. For many people, the availability of domestic firewood would be limited with no cheap fuel alternatives (such as reticulated gas) in many locations. Many submissions promoted the continuance of the timber industry as a means to supply firewood. Others proposed the establishment of plantations to provide the future supply of firewood.

A recurring theme throughout the investigation was both general and specific concerns related to management of public land, particularly for wildfire prevention and suppression, and adequate on-ground works. Parks Victoria was seen by many as a poor land manager because of a perceived lack of resources within the investigation area. It was assumed by some that the additional areas proposed as national and other parks would be managed with existing resources, leading to a decrease in fire suppression, weed and feral animal control and recreational access. State forests were seen as well managed by submitters supporting multiple uses of public land.

VEAC's investigation process and, in particular, community consultation received some criticism. The independence of VEAC and the transparency of the process were questioned in some submissions. The Indigenous community consultation process was also questioned and the role of the Indigenous Steering Committee raised. The role and responsibilities of the Community Reference Group in the investigation process attracted comments.

Recreational access and camping

Many submissions emphasised the importance of traditional camping along river frontages, with families and friends returning year after year to their favourite campsites. They emphasised that campfires, camping with dogs and associated activities such as boating and fishing are integral parts of the experience. Some submissions expressed the view that the draft proposals would prevent these activities from continuing and that many existing areas would not be accessible as tracks and boat launching sites would be closed and recreational uses banned.

VEAC's use of the term 'dispersed camping' was viewed as a method of moving people out of existing camping sites for 'dispersal' to other areas. Others interpreted the draft proposals as excluding the option of informal camping and thought they would be limited to designated camping grounds only. Many submissions wanted no changes to current practices in relation to campfires, dogs, fishing, boat launching, duck hunting, horseriding and track access. The main views relating to campfires and hunting are presented separately below.

Other submissions indicated that camping should be permitted along narrow frontages if consideration was given to access and hygiene issues. Others expressed concern about the lack of an effective rubbish collection service. A number of submissions indicated that access for duck hunting and horseriding had been reduced.

Response

Most recreational activities can continue in all land categories. Fishing, horseriding and camping are all permitted uses in national and other parks (refer to the relevant public land use category sections of the Final Report). Detailed planning for recreation and camping uses at specific sites is not the role of VEAC and will be undertaken by the land manager in close consultation with the community, user groups, tourism bodies and local government following government acceptance and implementation of specific recommendations.

Given the concerns relating to draft proposals for camping and management of the impacts of camping on the riverine environment in particular, VEAC has presented a clearer and detailed explanation of the terminology used in the final recommendations. To summarise, the term 'dispersed camping' means camping at sites that are self-selected, and generally have no facilities other than access tracks. The popular activity of dispersed camping with dogs is not permitted in national parks but is permitted in the other park categories, notably along the Murray frontage. This activity in particular has been accommodated with an increase in the area of Murray River Park (recommendation B3) and removal of the proposed camping ban for areas of river frontage that are less than 100 metres wide.

VEAC has changed and amended recommendations to provide a greater level of clarity about camping and recreation uses, as follows:

- dispersed camping is acknowledged as the predominant camping style and will continue across all park categories
- opportunities for designated campsites (campsites with basic facilities) and remote campsites will be investigated by the land manager in consultation with the community
- camping with dogs is permitted in the Murray River Park and regional parks and additions to these parks have been recommended to provide further dog camping areas
- traditional recreational uses such as four-wheel-driving, motorbike riding, horseriding on roads and tracks, fishing, and boat launching are allowable uses in parks and will continue
- areas for duck hunting have been expanded to include Reedy Swamp and McNab Bend near Koondrook
- detailed planning for recreation and camping uses is not the role of VEAC. This will be undertaken by the land manager in close consultation with the community, user groups, tourism bodies and local government
- camping is permitted on river frontages less than 100 metres wide where access and hygiene issues can be resolved.

Campfires

There were many written submissions and comments received about the proposed campfire (solid fuel fire) ban in national parks and nature conservation reserves, and the fire ban during the high fire danger period for other public land areas in the investigation area. Many submissions argued that campfires should be allowed all year round. People considered that there was little risk of campfire escape and the proposed target of retaining 50 tonnes per hectare coarse woody debris on the forest floor as habitat would be a major fire hazard.

Other submissions stated campfires should not be allowed during the high fire danger period in line with the restrictions on the New South Wales side of the River Murray. Many acknowledged the potential impact of firewood collection on ground habitat (coarse woody debris) and suggested that campers be encouraged to bring wood from home or purchase firewood or collect it from less sensitive areas.

Response

The final recommendations acknowledge the importance of campfires to recreational users, particularly campers, in River Red Gum forests but maintain that there is a need for a ban during the high fire danger period throughout all public land. Future climate change is likely to increase the risk of bushfires, and this recommendation aligns Victoria with similar bans in New South Wales and South Australia.

VEAC has changed and amended the recommendations to allow campfires in national parks except in the high fire danger period. The collection of firewood for campfires is permitted at the land manager's discretion where a mosaic of accumulated coarse woody debris can be retained for ground-dwelling fauna.

VEAC acknowledges that protection of visitors and forests from fire is a fundamental and ongoing responsibility of land managers. VEAC has indicated that the distribution of coarse woody debris should be based on appropriate research and be consistent with fire protection strategies.

Recreational hunting

Access for recreational shooting, especially duck hunting, drew a large number of submissions, the majority opposing any loss of access to hunting opportunities and protesting restrictions on family traditions. Opposition mainly focussed at a broad level and, in general, did not specify individual wetlands. Specifically mentioned hunting areas described as important included Johnsons Swamp, Goulburn River, Reedy Swamp, Loch Garry, Koorangie (The Marshes), Lake Bael Bael, Lake Elizabeth, Gunbower, Barmah forest, the River Murray and Kerang lakes more generally.

Submissions often mistakenly stated that 23 wildlife areas (including state game reserves) out of a total of 32 (181 statewide) were lost to hunting under the draft proposals. It was also suggested that many of these wetlands were purchased with game licence fees established in the 1950s and that such areas were supposed to be retained for duck hunting in perpetuity. Many submissions highlighted the role of hunting groups, and duck hunters generally, in lobbying for wetland protection and environmental water over many decades. The role of local hunting groups in on-ground management of wildlife areas, control of feral animals and public land more generally were also highlighted, and it was stated that the first environmental water initiatives in this region were established after lobbying by hunting organisations. Permanent reservation of state game reserves was taken to mean that no changes could be recommended to this public land use.

The socio-economic assessment in VEAC's draft proposals paper relating to the contribution of duck hunters to the regional economy was considered flawed and based on data from poor seasons or other states by some submissions. Both the number of hunters and the amount typically spent in the investigation area were disputed. In addition, the draft proposals were interpreted as being at odds with the Victorian Game Management Initiative (2007).

Some submitters claimed that no evidence was presented that duck hunting compromises biodiversity values or the environment and that in fact state game reserves are managed as national parks but with hunting permitted during a limited season. On the other hand, some submissions called for a permanent duck hunting ban citing cruelty with high wounding rates, an estimated 82 percent decline in waterbird numbers in south-eastern Australia and a dramatic reduction in licensed shooter numbers in the last 20 years, indicating a diminishing need for state game reserves. These submissions also noted bans on recreational shooting of waterbirds in Western Australia, New South Wales and Queensland. Other submissions noted the lack of strict protected areas for wetlands in the investigation area, particularly for the Kerang lakes and were either satisfied with the draft proposals or suggested increasing wetland reservation.

Response

VEAC acknowledges the role of hunting groups in the conservation and management of wetlands, and particularly state game reserves (wildlife areas). In this final report 23 wildlife areas are proposed to remain available for hunting, while 12 existing state game reserves are recommended to be added to conservation land use categories which exclude hunting. Two areas highlighted as important for duck hunting have been retained in the final recommendations, notably Reedy Swamp State Game Reserve near Shepparton and areas of state forest on Gunbower Creek (McNab Bend). Hunting opportunities remain on popular creeklines where recommended as public land water frontage reserves (such as much of Gunbower Creek), and on a number of water storage lakes and state forest. Adequate environmental water allocated to wetlands in areas such as the Kerang and Corop lakes will provide further hunting opportunities on wetlands which are currently dry.

Wetlands are currently under-represented in protected areas in the investigation area. VEAC is required under its Terms of Reference for this investigation and the VEAC Act to have regard for the need to provide for the creation and preservation of a comprehensive, adequate and representative system of parks and reserves. The inclusion of a number of wetlands in conservation reserves to meet this requirement was undertaken using a 'paired approach' to spread both the impact on, and opportunities for, recreational hunting and nature conservation across the investigation area.

The number of state game reserves and area purchased with game licence fees was often overstated in submissions. Some small areas were purchased for addition to Crown land, while others were existing Crown land reserves prior to reservation as state game reserves. For example, Johnsons Swamp (467 hectares) consists of 459 hectares of former timber and water reserve (reserved in 1882) and eight hectares of purchased freehold. This area was gazetted as a state game reserve in 1984.

Both the number of duck hunters and opportunities for hunting have significantly reduced in recent years in the investigation area. Ten out of the last 13 seasons have been modified in response to environmental conditions and included the cancellation of duck hunting seasons in 1995, 2003 and 2007. The economic value of this recreation activity to the investigation area has been re-examined in the economic assessment of the final recommendations. Updated and more comprehensive information of duck hunter numbers has been provided by DSE for the economic assessments presented in appendix 1 and chapter 4. Fundamentally, water is required to achieve a more reliable and sustainable level of duck hunting—something which is unlikely to happen naturally given climate change predictions for northern Victoria.

Nature conservation

A large number of submissions promoting biodiversity conservation in parks and reserves were received, particularly following release of the Discussion Paper. Connected corridors and habitat links (through contiguous parks and reserves) were promoted as methods for mitigating the impact of climate change on natural ecosystems.

Many submissions supported VEAC's draft proposals for new national parks and reserves. A number of submissions suggested that not enough land was recommended to be included in the parks and reserves system. Most of these submissions suggested that the whole of Gunbower forest should be made a national park, given its large size, Ramsar wetland values and importance for colonial nesting waterbirds. Others suggested further additions of wetlands to the Leaghur-Koorangie National Park near Kerang. Many submissions emphasised the need for adequate environmental water to ensure the survival of floodplain ecosystems and supported the removal of grazing from public land in the study area.

In contrast, a large number of submissions considered national parks and other reserves to place restrictions on their current use of public land. Many submitters felt the parks and reserves proposed were going to limit their access for camping, fishing, duck hunting, four-wheel driving, trailbike riding and firewood collecting. Some submissions suggested that biodiversity conservation could be achieved through existing public land use categories, particularly state forest, and there was no need to change them. Others suggested that parks and reserves would have a negative impact on biodiversity by increasing weeds, pests and the risk of wildfire.

Response

As part of the Terms of Reference for this investigation and under its legislation, VEAC is required to have regard for the need to provide for the creation of a comprehensive, adequate and representative (CAR) system of parks and reserves in line with nationally agreed criteria. These criteria, and the need for more robust and connected protected areas to mitigate the impacts of climate change, were important in determining the conservation reserve system proposed in the draft proposals. VEAC has sought to accommodate many of the issues raised in a large number of submissions by adjusting the boundaries of a number of national parks and reserves to provide for a wider range of recreational activities in popular river frontage areas while still seeking to meet the CAR criteria. A number of extractive activities which some submissions have suggested could coexist with protected area principles, do in fact place avoidable stress on biodiversity, and thus are not consistent with protected area objectives.

Although the Gunbower forest was considered to have values that could warrant national park status, VEAC wants to retain areas of state forest available for the timber industry, for firewood and for duck hunting. Known breeding sites for colonial nesting waterbirds in the proposed Gunbower State Forest will be protected by special management zones. Likewise, while a number of wetlands in the Kerang district have international significance, VEAC has sought to balance conservation and duck hunting opportunities in these areas.

Timber harvesting

Timber harvesting was frequently mentioned throughout the public consultation process. Commonly, comments in written submissions were made in the context of other activities on public land. For example, most conservation-oriented submissions proposed that several other activities, such as grazing, also cease or be better managed. Timber harvesting was seen as a threat to biodiversity and at odds with initiatives to conserve natural values (such as The Living Murray program)—costs which were seen as significantly outweighing the benefits of timber harvesting. Similarly, support for continued timber harvesting mostly came from people who saw it as one of many existing activities on public land that should continue much as at present. Typically timber harvesting was seen as an important tool in the “working forest” model, where active management is required to keep the forest healthy. Some also saw it as part of the status quo which has kept the forest healthy and should continue to do so. Submissions from the timber industry raised issues including the importance to local economies and small town viability, the availability of timber workers and machinery for fire fighting, the role of sawlog harvesting in generating domestic firewood as a by-product and the unique value of Red Gum timber products to many consumers—including consumers in Melbourne. Several people mentioned the long family histories of many timber workers in the industry. Some submitters questioned the figures used and the analysis of the effects of the draft proposals on long-term resource availability—in particular the exclusion of special management zones from calculations, and the use of recent slow tree growth rates.

Response

VEAC is very conscious of the consequences of its recommendations for the timber industry and dependent communities and families. At the same time, there are immense pressures on the natural values of the investigation area, and there is inadequate representation and protection of these riverine ecosystems in the current conservation reserve system. Adequate representation of ecosystems is a key element of the Terms of Reference given to VEAC for this investigation. Council has looked closely for opportunities to modify the draft proposals and satisfy both these concerns. However, no significant opportunities were found and there remains a substantial impact on the timber industry from the final recommendations. Boundary changes and other measures address the domestic firewood issue. A new recommendation to improve the implementation of approved recommendations is intended to provide certainty for affected workers and communities.

The analysis of the implications of the final recommendations takes on board several of the issues raised in relation to the analysis of the draft proposals, as well as updated timber resource information from DSE.

Domestic stock grazing

There were a substantial number of comments relating to the removal of stock grazing from public land in the investigation area. Many submitters agreed with the removal of all grazing on public land, especially in wetlands and riparian land, while many others expressed a range of other views such as continuing current practices to maintain forest values and prevent wildfire. There were a number of submissions from graziers who currently agist stock in Barmah forest and other forested areas, as well as from public water frontage licensees. Some graziers indicated that public land grazing was a significant part of their business and were very concerned about the impact that cessation of grazing would have on their viability. Many of the licensees said that they would like to retain grazing and management responsibilities, although some indicated that this was for land management purposes rather than for financial reasons. The desirability of maintaining a stewardship role for adjoining landowners was suggested. Many submissions incorporated comments on the exclusion of grazing from recommended additions to parks and conservation reserves, both supporting and opposing these recommendations.

In addition, some submitters specifically commented on removing grazing from public land water frontages and public riparian land and the perceived difficulties with ongoing management of extensive long and narrow areas. The estimated extent and cost of fencing and off-stream watering points was seen as an impediment to removal of stock grazing. Some submissions encouraged a progressive and incentive-based approach to phasing out grazing as a way of speeding up the phase out in priority areas. Focussing on areas with high values, diminishing assistance package over the phase-out period and increasing incentives for early stock removal were all presented as ways of prioritising sites.

Response

The critical function of riparian land in this investigation area cannot be overestimated. and a number of government initiatives support management practices such as the removal of stock grazing along riparian public land. Waterways and adjoining riparian vegetation are important for biodiversity conservation in providing corridors for movement of fauna, and habitat in their own right. The water in these creeklines is also, in many instances, important for the viability of adjoining farms. Riparian corridors will become increasingly important with the impacts of climate change.

VEAC notes that the cessation of grazing and fencing of water frontages is a successful program currently undertaken by the catchment management authorities, guided by the Victorian River Health Strategy and Commonwealth government programs. Although fencing and off-stream watering points will be required in some places, a substantial proportion of the required infrastructure already exists for much of the investigation area, particularly in areas proposed as parks. For national and other parks, grazing is recommended to cease immediately. However, VEAC believes that the removal of domestic stock grazing along public land water frontages and other narrow riparian strips will require a phase-out period of up to five years. During this time, a detailed implementation process will be required to prioritise fencing and establish new arrangements with the public land manager. VEAC's primary emphasis is on areas of highest environmental value, which are more directly threatened by grazing and which should be the first priority for the removal of grazing during the phase-out period.

For many licensees who currently participate in stock management and riparian conservation, the draft proposals were considered to offer a limited role in future management. Voluntary participation in implementing the recommendations and ongoing management by adjoining land owners can be encouraged. Accordingly, VEAC is recommending a licensing arrangement for public land water frontages that provides for a level of stewardship in the absence of grazing—a voluntary Riparian Conservation licence—and has objectives for conservation management.

Socio-economic impacts on local communities

Many people believed that the social and economic effects of the draft proposals would be worse than that suggested. Some felt that fewer recreational visitors would come to the area, resulting in a loss of tourism income. Others felt that the loss of timber industry jobs would have substantial and negative flow-on effects to the local and regional economies. The cost of purchasing and delivering environmental water was also a concern, as was the cost of fencing public land stream frontages and park boundaries to exclude domestic stock grazing.

Numerous submitters considered that the cost of changes to their industries or recreation interests was undervalued. Some submitters did not agree with the methodology used to measure the contribution of each element to the Victorian economy was flawed. Some submissions argued that the benefit–cost analysis flowed in one direction, with the costs impacting on the regional and local economies of the investigation area, and the benefits flowing only to residents of Melbourne. The methodology of the analysis was also criticised with the economic assessment of the benefits of protected areas and biodiversity dismissed as not ‘real money’. The economic adjustment resulting from the draft proposals was seen as beyond the capacity of many communities already stressed by drought.

The values of forests to local people were considered to be under-estimated, and a bias was perceived towards the values to people outside the region, especially residents of Melbourne. Social disruption and impacts on quality of life or family traditions of many people in the investigation area were often raised, particularly with presumed changes to access for informal recreation activities such as dog walking, horseriding, camping (especially with dogs and horses), and reduction in hunting and access for fishing. These issues are also described above and greater clarification is provided throughout this final report in relation to recreation. Aspects of the regional assessment relating to possible long-term social impacts were criticised, with some submitters stating that the impacts were at odds with the Victorian government policy “A Fairer Victoria”.

Response

The economic studies, conducted for VEAC by independent consultants for both the draft proposals and final recommendations, consist of a benefit–cost analysis and a regional assessment. The benefit–cost analysis gauges the net benefit to the Victorian economy that would result from VEAC’s proposals, if implemented. It is necessarily partial, as full costing of environmental water is beyond the scope of this Victorian investigation, requiring the involvement of the Commonwealth and three other states.

The regional assessment appraised the impacts of the recommendations within the investigation area, in particular on specific small communities. The purpose of the regional assessment was to identify affected industries and locations, so as to inform government about communities that may require specific adjustment programs. To highlight this potential need, the consultants mentioned the long-term difficulties that could hypothetically face small, very isolated communities in extreme circumstances. This was not included in the report as a statement of what would happen as a result of the proposals, but what might potentially happen in the worst case if impacts were not addressed. VEAC also understands that many regional communities are currently experiencing hardship and stress related to the drought. These matters reinforce the need for appropriate government adjustment programs that include adequate resources, community engagement and education.

The perception that some uses were under-valued requires some explanation of the methodology. Benefit-cost analysis does not use ‘total economic value’ methods and, to enable valid comparisons, all uses must be valued at the same level. For both reasons, flow-ons are generally excluded.

The final report’s economic studies incorporate the effects of changes to both general recommendations and the areas recommended in each public land use category, and revisit the approach to tourism and recreation. VEAC and the consultants have reviewed data sources and revised assumptions and estimates where appropriate to better characterise benefits, costs and regional effects. The 2006 Census results have also been included in the assessment of the final recommendations.

In relation to the geographic distribution of benefits, the net benefits accrue to all Victorians, but the distribution of benefits relates to population density, so that Mildura, Swan Hill, Echuca, Shepparton, Wangaratta, Wodonga and other regional towns all benefit, as well as Melbourne. Regarding the benefits of protected areas and biodiversity and the economic analysis supporting these results, although they are valued by the community, these environmental values are not priced by normal markets. The choice modelling method used is an established, respected way to estimate prices for such non-market features.

Environmental water

The provision of adequate water for the environment, and especially floodplain forests and wetlands, was given prominence in the Draft Proposals Paper. However, although a large number of submissions mentioned environmental water, there were several issues that received more attention in public consultations.

Most people who commented on environmental water broadly supported the draft proposals. Some proposed measures additional to those proposed by VEAC, such as larger volumes and smaller, more frequent flows, as well as the large extensive overbank flows emphasised by the draft proposals. Several argued for factoring in climate change predictions of significantly reduced overall water availability into VEAC's model for the water needs of the floodplain.

The most common concerns expressed about the draft proposals for water were related to:

- *The social and economic implications and how they are calculated.* Most people raised this issue on the basis that the estimated volume of water required (4000 gigalitres every 5 years) was in addition to existing environmental commitments (ie. all 'new' water for the environment). They believed it would all be sourced from Victoria's consumptive allocation (very largely from Victorian irrigators), and/or be required every year, rather than every five years. None of these fears are the case, although this may not have been made sufficiently clear in the draft proposals paper—see below for further details. Others maintained however that any loss of water from irrigation would have an unacceptable impact on the regional economy and communities, that the water market would be distorted by government purchase of water for the environment, and/or that obtaining the water from efficiency or infrastructure improvements would be a waste of government money and may not provide sufficient water.
- *The practicalities and administrative issues of implementation.* Many stakeholders questioned whether other states and the Commonwealth would agree to the proposals and whether such a large volume of water (4000 gigalitres) could be obtained, held in storages and delivered to the floodplain as proposed given current physical, operational and administrative constraints—including current rules for the allocation of water to the environment and consumptive users. Some questioned the basis, precision and reliability of the 4000 gigalitres estimate. Others were concerned about the potential liability associated with planned releases of water (particularly inundation of private land by artificially generated floods), aspects of the social and economic assessment and the potential use of environmental water for consumptive use. Some submitters believe that engineering solutions (rather than just non-engineering solutions) may make a useful contribution to reducing summer flooding in Barmah forest and maximising the ecological benefits of environmental watering.
- *The benefits of the proposals and how they would be measured, given the significant costs.* While the social and economic assessment quantified the environmental benefits that would result from adequate watering for comparison with the costs, many stakeholders did not link that approach to on-ground environmental health.

Many saw the benefits going to Melbourne residents at the expense of residents of northern Victoria in the middle of a drought.

Response

Clearly there is a need for greater clarity from VEAC about its environmental water recommendations. While specifying overbank flooding and an estimated required water volume in the Draft Proposals Paper was helpful in framing the discussion, it also raised many associated questions outside VEAC's scope. Council's response is detailed in chapter 2. In summary, VEAC has focussed its attention on comprehensively specifying the natural values (or ecological assets such as flood-dependent ecosystems) to be maintained by watering. This approach highlights key assets and clarifies the gains and losses that would occur under a range of water regimes.

Although VEAC's focus has shifted from the volumes of water required for adequate overbank flows, some explanation is required regarding the earlier 4000 gigalitres/5 years estimate. Firstly, a large proportion of that water could be met under existing commitments either from the jurisdictions involved in the Murray Darling Basin or from the Victorian government. The Living Murray First Step Decision committed to 500 gigalitres per year; there are existing environmental water reserves of 100 gigalitres per year for Barmah–Millewa and 27.6 gigalitres per year for other Victorian wetlands. Stage one of the Foodbowl Modernisation Project is predicted to provide 75 gigalitres per year of environmental water for northern Victoria. These existing commitments amount to an annual total of around 700 gigalitres compared to 800 gigalitres which is the annualised conversion of 4000 gigalitres every five years. Secondly, this figure does not include the Commonwealth's recently announced \$3 billion program *Restoring the Balance in the Murray Darling Basin* to purchase water for the environment over the next 10 years. Nor does it include potential contributions from New South Wales or from Stage two of Victoria's Foodbowl Modernisation Project (estimated at 100 gigalitres per year). Finally any shortfall between existing commitments and the estimated volume would not necessarily be met at the expense of existing consumptive uses, given that there could be further infrastructure and efficiency improvements.

In addition to the recently announced programs and projects already mentioned, there have been other recent developments pertinent to the environmental water recommendations. In particular, Victoria's Northern Region Sustainable Water Strategy Discussion Paper and the CSIRO Sustainable Yields project reports, released in early 2008, have highlighted the likelihood of significant reductions of water availability under climate change.

These projected and actual changes highlight the dynamic nature of the environmental water debate at present. They illustrate the rationale for VEAC's current approach which focuses on the location and requirements of floodplain assets to be protected—parameters that remain largely unchanged regardless of the amount of water available and how it is delivered. Nor is this focus changed by the physical, operational and administrative issues associated with watering events. The goals remain the same, no matter how far or close we are to achieving them.

Indigenous involvement

Indigenous land issues were raised in a significant proportion of submissions throughout the entire investigation period. Those that supported increased involvement of Indigenous people, also generally supported the draft proposals. In addition, handback/leaseback and joint management for those areas identified for co-management in the draft proposals was raised—notably for the new Barmah National Park and Nyah–Vinifera Park. Land management options for Aboriginal people, especially the Yorta Yorta, was an important issue raised largely by stakeholders who also proposed biodiversity conservation through larger national parks and cessation of timber harvesting. Existing arrangements between Traditional Owners and public land managers were also highlighted. Some proposals were less specific, suggesting broadly that Traditional Owners be more engaged in decision-making. Some submitters were concerned that the hand-back lease-back proposals had no timeframe or specific areas for implementation. For other submitters, there was a perception that the draft proposals downgraded current levels of Indigenous involvement at some locations such as west Wallpolla Island. There was also a perception that VEAC had supported specific Aboriginal groups above others.

A relatively small number of written submissions were received from people and organisations identifying as Traditional Owners. Some Aboriginal people and others called for a greater role than that provided for in the draft proposals. Indigenous capacity and increased involvement proposals were considered too detailed and prescriptive by some. To supplement the Indigenous views received through the formal consultation process, VEAC employed a consultant to undertake workshops within Aboriginal communities across the investigation area to specifically seek people's views on future public land use and management. The consultant's report is available on VEAC's website and in appendix 3.

Although not unanimous, there was widespread support for the draft proposals from Indigenous community workshop participants. In particular, the need for funding and other resources was supported to assist Traditional Owner groups and other Indigenous stakeholders to be more actively involved in the proposed co-management and advisory board structures. At the same time, more employment and training opportunities for local Indigenous people in public land management tasks and activities as was seen as a positive and direct way of engaging and involving Indigenous people.

Some opposition was expressed to Aboriginal people having a special role in public land management over other community or user groups. There was an overall desire for greater clarification of Aboriginal traditional cultural practice. A number of people supported the general principle of traditional cultural practice, provided this did not include modern technology such as firearms, exclusive access to areas or involve hunting in protected areas. A number of submissions raised a perceived inconsistency in allowing Indigenous hunting and campfires while banning non-Indigenous hunting and campfires for the same area.

Response

VEAC has included additional advisory committees in the final recommendations, reflecting the aspirations of some Traditional Owner groups to have a greater role in management of public land. A timeframe of five years from government acceptance has been included in the final recommendation for establishment of legislation establishing joint management provisions. Shared management models have been broadened to include other parks under the *National Parks Act 1975* in the final recommendations.

Clarification of traditional cultural practice has been included in the relevant recommendation notes to address some of the community concerns raised. These relate to licensing for use of firearms, the exclusive use of areas as a temporary measure, and the use of fire. VEAC believes that traditional cultural practice is extremely important to many Aboriginal people and is not simply a form of recreation. Details of any future arrangements between public land managers and Traditional Owners relating to specific traditional cultural practices is outside VEAC's role and investigation timeframes but Council notes that protocols and agreements have been successfully negotiated for the management and sustainable cultural use of natural resources in many places throughout Australia and internationally.

Domestic firewood

Many submitters felt that the draft proposals would reduce their access to firewood for heating and cooking, and this would particularly affect residents and pensioners in small towns that are not connected to natural gas. Others identified an impact on other users such as the Echuca paddlesteamer fleet and households with supplementary wood heating. A concern was expressed that illegal firewood collection could escalate and that there would be a reduction in firewood from commercial timber harvesting areas. Some submissions offered suggestions about alternative sources of firewood that could be supplied from public land, such as silvicultural thinning or ecological thinning and from plantations dedicated to the production of firewood.

Response

VEAC has provided for continuity of supply to local communities, by identifying additional firewood areas within the Murray River Park. It has recommended that land managers investigate alternative firewood sources such as access to currently unthinned state forest areas at Benwell and Guttram forests and update firewood licensing and management systems. It has also recommended further investigation of future plantation firewood supplies.

Fire protection and suppression

Some submissions expressed concern that a build up of fuel on the ground as a result of retaining a target of 50 tonnes/hectare of coarse woody debris for habitat purposes would create a fire risk, and that tracks used for firefighting would be closed as a result of changes to public land use categories. Others were concerned that fuel will build up following the cessation of timber harvesting and grazing, causing a significant fire hazard for adjacent populations. Fire protection agencies were supportive of recommended restrictions on the use of campfires during the high fire danger period.

Response

The Department of Sustainability and Environment manages fire on Victoria's public land, including the forests of the investigation area. This management includes reducing the risk of fire, containing outbreaks and managing environmental effects. The department works closely with the Department of Primary Industries and Parks Victoria during fire suppression and prevention practices on public land, with the Country Fire Authority on the rural/urban interface, and with all municipalities. Fire Protection Plans and Fire Operations Plans are prepared for all fire districts including the investigation area and incorporate a public consultation phase. These plans specify fuel reduction operations, such as where strategic fuel reduction burns are to take place, and specific visitor protection strategies, such as mowing around campsites. These responsibilities are unchanged by the recommendations.

VEAC considers that land managers will address any fire risks associated with the new parks and increased visitor use, as part of fire protection planning, and ensure the continuance of a track network suitable for fire protection and suppression. VEAC's recommendations do not specify that any tracks should be closed. The additional volume of coarse woody debris to be retained as habitat in riverine parks and state forest areas will be made up of larger sized timber. This is not the same as the build up of fine fuels that are periodically removed by fire protection burns. VEAC's expectation is that all fire risks will be evaluated and managed within the above arrangements.

Public land management

Some stakeholders, with many years of experience working in River Red Gum forests, offered their experience and views on public land management. Others suggested that Traditional Owners would be better land managers than the current government agencies. Perceived under-resourcing of public land management attracted a significant number of comments in submissions. In particular, management of weeds and fire on public land drew much comment and criticism. For some people, the economic impact of any increase in pest plants and animals, or any increase in the incidence of wildfire on neighbouring public land was important.

Response

VEAC recognises the wealth of land and natural resources management experience and knowledge within the investigation area and wider community. It is important that the community is involved and engaged in the planning and decision-making of public land management agencies. VEAC is recommending that government allocates additional resources to address current and future public land management requirements, particularly in the areas of fire protection, pests plant and animal control, track maintenance, on-ground staff presence and recreation facilities.

VEAC process and independence

The consultation and investigation process undertaken by VEAC was raised by some groups and individuals. Some people considered that the consultation process and submission timeframes were inadequate for the community to consider the information and particularly the draft proposals in detail. A few stakeholders indicated that they had not been notified or sufficiently made aware of the investigation.

Some members of the Community Reference Group and other stakeholders considered that VEAC's approach was out of step with rural communities, and that there was a lack of meaningful consultation. In particular the socio-economic analysis presented in the Draft Proposals Paper, it was felt, failed to give proper consideration to the effects of the proposed changes on regional communities. This was framed within declining regional economic circumstances due to prolonged drought throughout much of the investigation area.

Some people expressed their view that the investigation outcomes were pre-determined and that the Council was not independent. It was also argued in some submissions that there was a lack of scientific evidence supporting the draft proposals.

The role and responsibilities of the Indigenous Steering Committee and the representation of specific Aboriginal groups in consultation were raised as issues. A few people considered that too much emphasis was given to the opinions of Aboriginal people or specific Aboriginal groups.

Response

VEAC investigations are structured processes initiated when the Victorian government formally provides terms of reference. The Council is requested to provide independent strategic advice in response to the terms of reference and in accordance with the VEAC Act. The legislation provides very specific roles for the Minister and the Council during the conduct of an investigation, and for the Minister following the submission of VEAC's final report.

Formal written submission periods established under the VEAC Act are for a minimum of 60 days. The submission period following release of the draft proposals paper was extended to 81 days in response to requests for more time by many individuals and organisations. In addition VEAC staff and Council members attended a number of community meetings during the consultation period and published information material outlining the draft proposals for specific locations and activities. During the consultation period following release of the Draft Proposals Paper, Council members and staff met directly with more than 700 people across the investigation area.

Both the Community Reference Group and Indigenous Steering Committee were invited to comment and help formulate the consultation schedule during major community consultation stages of the investigation (membership of these groups is listed in appendix 2). VEAC accepted advice for the location and number of community forums or workshops as well as ways to raise awareness of the investigation within the community and seek comments. For the most part, community participation was high, with well attended forums and workshops. The large number of submissions is also indicative of the high level of awareness of the investigation process.

The role of the Community Reference Group is to provide advice to VEAC on issues associated with the investigation and, where possible, to assist with resolution of issues in an atmosphere that appreciates and respects the interests and viewpoints of all stakeholders. In establishing the reference group, VEAC strives to achieve a balance between broad community representation without creating an unworkably large group. Although the reference group makes an important contribution to the investigation, it is not a decision-making group. VEAC is grateful for the involvement of the Community Reference Group members and for their expertise and insights.

The role of the Indigenous Steering Committee established part way through the investigation was specifically to provide advice on matters relating to VEAC's Indigenous consultation program. VEAC appreciates the assistance provided by members of the Indigenous Steering Committee.

Locality-specific comments or proposals

Relatively few comments or concerns were raised about specific sites or detailed boundary issues. Some submitters proposed that specific locations outside the investigation area be included in the investigation, or a new public land use category be erected.

A number of submissions, during the earlier consultation periods predominantly, provided detailed information including technical reports and references to support specific proposals or points of view. This information was utilised and included in Council's deliberations. It should be noted that some submissions provided information that was viewed as correcting errors or omissions, mostly in response to the Discussion Paper.

Response

Any detailed comments have been considered during the process of developing the final report, and VEAC has made changes where appropriate to accommodate concerns or comments (see the next section: Changes to the Draft Proposals). Where appropriate, new information or corrections to factual information have been taken into account in the process of preparing the final report.

Changes to the Draft Proposals

Following public consultation on the Draft Proposals Paper, VEAC has made some significant changes to its recommendations as well as a number of smaller changes. The major changes are summarised in the text below, followed by a full list of changes in table 2. Many of the changes and the reasons for them are covered in more detail in the relevant sections of the report.

Implementation

VEAC is recommending the Victorian government establish a project team to implement approved recommendations. As an important part of that process, consultation with local government, relevant industries, stakeholder groups and communities should be undertaken.

Nature conservation

Compared to the draft proposals, there has been a net decrease in the area of public land recommended as part of the conservation reserve system (from 178,923 hectares to 173,379 hectares). This primarily results from a reduction in the areas of Murray-Sunset, Gunbower, Lower Goulburn River and Barmah National Parks to allow for increased recreational opportunities along major river frontages, specifically camping with dogs, and to provide additional zones in four of the above five parks for domestic firewood collection. The areas removed from these proposed national parks generally receive higher intensity use or are close to regional population centres.

The area of two national parks has increased slightly compared to the draft proposals:

- Terrick Terrick National Park incorporates a grassland reserve recently purchased by the Victorian Government.
- Warby Range-Ovens River National Park incorporates water authority land (not previously identified as public land) near the junction of the Murray and Ovens Rivers.

Environmental water

A key overall theme from public consultation was a lack of clarity on a number of aspects relating to environmental water—particularly the sourcing and delivery of the estimated 4000 gigalitres every five years for overbank flooding, and the explanation of benefits in the context of the potential significant costs associated with the draft proposals. Since release of the Draft Proposals Paper, there has been significant new information published about the likely impact of climate change on water availability.

In response, VEAC has refocused its approach to include documenting and mapping of flood-dependent natural assets to be protected on public land along with their flooding requirements. This approach covers the whole system—not only “icon sites”—and enables a clear and comprehensive evaluation of assets that would be maintained under a variety of environmental watering scenarios covering whatever delivery mechanisms, environmental conditions and administrative arrangements are appropriate or feasible.

VEAC has also clarified that a large proportion of the estimated environmental water requirements can be met from existing environmental water commitments from

the Murray Darling Basin Commission’s “Living Murray” program and a number of Victorian government programs.

Indigenous involvement

Recommendations designed to increase Indigenous community capacity and engagement in public land management have been simplified to allow for greater flexibility in delivery. VEAC has also recommended additional advisory committees for Hattah-Kulkyne National Park and Murray-Kulkyne Park, and the new Gunbower National Park. In addition areas recommended for co-management have been broadened to include other parks under the *National Parks Act 1975* and provisions to enable joint management in the future are recommended to be established within five years from Government acceptance. Aboriginal traditional cultural practice recommendations have been clarified to address concerns raised about traditional cultural practice and native title rights and interests.

Recreational access

The proposed ban on winter campfires in national parks that was outlined in the Draft Proposals Paper has been removed in response to strong community representations. Campfires are now recommended to be allowed in the winter period on public land but not in the high fire danger period. Restrictions on the use of campfires during the high fire danger period will assist with fire protection strategies.

More areas along the Murray and Goulburn Rivers have been made available for camping with dogs. These additional stretches total some 80 kilometres and occur in popular camping areas in the large forest blocks, including parts of eastern Wallpolla Island, McNab Bend and Torrumbarry in the Gunbower forest, Barmah Island, and in the Goulburn River forests around Shepparton. These areas were previously recommended as national park in the Draft Proposals Paper, and are now recommended as Murray River Park, Shepparton Regional Park or state forest.

The proposed recommendation to ban camping on narrow river frontages has been removed. Instead it is recommended that land managers review the capacity of narrow stretches of public land along the Murray, Ovens and Goulburn Rivers which are less than 100 metres wide from the top of the bank and determine whether camping is an appropriate use.

Clarification of VEAC’s recommendations relating to dispersed camping is provided. Dispersed camping is acknowledged as the predominant camping style and will continue across all park categories.

Recreational hunting

VEAC has sought to balance opportunities for duck hunting with the conservation of waterfowl and other wetland fauna across the investigation area by adding significant areas to the national parks and nature conservation reserves. The final report has been changed from the Draft Proposals Paper so that Reedy Swamp near Shepparton and the Gunbower Creek around McNab Bend remain available for duck hunting. A further change is that wildlife areas are recommended to be reserved as state game reserves under the *Wildlife Act 1975*. Some 23 wildlife areas (state game reserves) are now proposed, with 12 former wildlife areas added to the parks and reserves system.

Timber harvesting

A minor net increase has been made to the area recommended to remain available for timber harvesting. However, while the land base remains essentially unchanged, further analysis of the timber resource by DSE has reduced estimates of timber availability to 22.5 percent of the current yield (compared to 36 percent in the Draft Proposals Paper). This is due to reduced forest flooding leading to slower tree growth rates.

Domestic stock grazing

A new recommendation has been introduced for the establishment of a new type of water frontage licence – the Riparian Conservation Licence. The licences could be granted to those licensees who agree to manage a public land water frontage in accordance with the recommendations for those public land categories, and thereby maintain a stewardship role in relation to the licence area.

Domestic firewood

New domestic firewood zones within the Murray River Park (to be identified by the land manager and the community) are recommended near Boundary Bend, Swan Hill, Barmah, Cobram and Rutherglen. This is in addition to areas near Mildura and Robinvale previously recommended in the draft proposals paper. In particular, the removal of Barmah Island from the proposed Barmah National Park, and a stretch of east Wallpolla Island from the Murray-Sunset National Park, increases access to domestic firewood. Zones within the expanded Shepparton Regional Park (as identified by the land manager and the community) may also provide domestic firewood for Shepparton and district.

A strategic and coordinated approach to delivery of regional firewood requirements, including the establishment of a regional committee consisting of the land managers, catchment management authorities, local government, industry and the community, has run successfully in northeast Victoria. A similar model is proposed for delivery of firewood requirements in the River Red Gum Forests Investigation area.

Socio-economic impacts

The implications of VEAC's draft proposals were assessed by independent consultants, who prepared a benefit–cost analysis and a regional assessment. The benefit–cost analysis gauged the net benefit to the Victorian economy that would result from VEAC's proposals if implemented. It was necessarily partial, because full costing of environmental water was beyond the scope of this investigation and would require co-operation with the Commonwealth and three other states. The regional assessment appraised effects of the draft proposals within the investigation area, in particular in specific small communities.

While the approach and methodology for the final report remain the same as that for the Draft Proposals Paper, there have been numerous changes that have resulted in changes to specific valuations, as a consequence of reviewing and refining the data and responding to issues raised in submissions. For the final report the consultants have:

- revised the benefit–cost analysis scenarios which compare current conditions with VEAC's recommendations, with and without adequate environmental water. These now reflect VEAC's focus on the flooding requirements of ecosystems and threatened species, and climate change
- revisited the previous assumption there would be no net benefit from recreation and tourism. Clarification of the recommendations affecting camping, boundary and other changes regarding campfires and traditional camping, and more detailed analysis of visitor data, will result in no reduction in existing camper numbers, and more visitors bringing a net tourism benefit to the region
- incorporated more comprehensive data provided by DSE on duck hunting locations and numbers, and refined the analysis of wetland benefits
- reviewed the timber data, with new resource data for Gunbower forest, new growth rate data, and inclusion of special management zones
- added a new, accurate estimate of the length and hence cost of licensed public land water frontage requiring fencing
- included a new assessment of the value of protecting riparian areas
- added a new cost reflecting society's willingness to pay to maintain rural communities
- incorporated recently released data from the 2006 Census, revised industry and recreation data in the regional assessment "input-output model", and re-run this model.

Other changes

There are a large number of detailed area-specific changes, many of which are summarised in the following table. Other changes are detailed in relevant sections of the report. Some changes have resulted in notes added to recommendations throughout the report for large and small parcels of land.

There is a new appendix outlining the process for identifying flood-dependent natural assets along the Murray, Goulburn and Ovens Rivers (appendix 11).

Table 2. Changes since the Draft Proposals Paper

GENERAL RECOMMENDATIONS		
Final Report recommendations	Change	Reason
Implementation	New recommendation for the establishment of a project team to implement approved recommendations.	Provides certainty to community about steps that follow government response to the recommendations.
Nature conservation	New recommendation for ongoing scientific research into terrestrial floodplain ecology.	Improves knowledge of floodplain ecology and provide a basis for adaptive management of floodplain watering.
	New recommendation to review the conservation status of flood-dependent Ecological Vegetation Classes and flora and fauna.	Review required in light of threats posed by insufficient floodplain watering.
Environmental water	Shifted emphasis from required water volumes for overbank flows to specifying flood-dependent natural values. This approach highlights key assets and clarifies gains and losses that would occur under a range of water regimes.	Ensures recommendations on environmental water remain relevant and workable in the face of changing climate and water management in the future. Ensures focus on the core issue – protection of values, rather than volumes, delivery methods and administrative issues. Maximises effectiveness of environmental watering.
Indigenous involvement	Additional Indigenous advisory committees recommended for A2 Hattah-Kulkyne National Park and B5 Murray-Kulkyne Park, and A4 Gunbower National Park.	Responds to Indigenous community aspirations and values raised in submissions and workshops.
	Simplification of detail in capacity building and engagement recommendations R21 and R22.	Clarification of recommendations.
	Clarification of traditional hunting provisions.	Addresses concerns raised in submissions and at Indigenous community workshops.
Recreation	New recommendation to clarify dispersed camping as predominant camping style in riverine parks and forests.	Responds to concerns raised in submissions and addresses misinformation, particularly related to ‘dispersed camping’ and access.
	Allow campfires in national parks outside high fire danger period (formerly all year ban).	Recognises the importance of campfires to the camping experience.
	Allow firewood collection for the purpose of campfires in national parks outside the high fire danger period where targets for coarse woody debris retention can be met and at the land manager’s discretion.	Accepting suggestions that campfire wood can be provided in ways that retain woody debris in riverine parks and state forest areas.
	Additional areas of the Murray and Goulburn River frontages available for camping with dogs in parts of Wallpolla, Gunbower, Barmah and Lower Goulburn forests (now recommended as B3 Murray River Park and B2 Shepparton Regional Park).	Responds to stakeholder concerns about exclusion of camping with dogs in parts of large forest blocks.

Final Report recommendations	Change	Reason
Recreation (continued)	Additional areas available for duck hunting at Reedy Swamp near Shepparton and McNab Bend in Gunbower Forest.	Reduces impacts on duck hunters.
	New recommendation includes reservation as state game reserve under the <i>Wildlife Act 1975</i> .	Responds to comments from stakeholders about confusion regarding the wildlife area classification
	Removing the ban on camping on narrow river frontages.	Responds to issues raised in public consultation.
	Additional areas for camping (without dogs) in the large Lambert Island and Murrumbidgee Junction Nature Conservation Reserves (D1 and D4). Camping and campfires will be allowed at these reserves at the land manager's discretion.	Provides for existing camping to continue at the land manager's discretion.
Domestic stock grazing	Additional recommendation to establish Riparian Conservation Licences along public land water frontages.	Allows adjoining landholders to maintain a stewardship role and assist in ongoing management for nature conservation.
	Clarification that grazing phase out includes public land water frontages and public land stream beds and banks. A phase-out incentive scheme is recommended.	Removes ambiguity and improves implementation.
Domestic firewood	New zones to be identified in the Murray River Park at Boundary Bend, Swan Hill, Barmah, Cobram and Rutherglen. Some areas previously recommended as national park (Wallpolla Island, Barmah, Lower Goulburn River) are now Murray River Park or regional park to accommodate this use.	Provides additional domestic firewood for communities reliant on it for heating and cooking.
	Recommendation for a coordinated approach and specific regional actions to manage firewood demand and supply.	Maximises the effectiveness of firewood supply in the context of declining availability.

AREA RECOMMENDATIONS

Final Report recommendations	Change	Reason
National parks		
A1 Murray-Sunset National Park	Removal of 543 ha (now B3 Murray River Park and Community Use Area near Lake Cullulleraine).	Provides additional opportunities for camping with dogs and horses in West Wallpolla Island and provides additional area for firewood in Mildura area. Boundary change near Lake Cullulleraine to include land in community use area.
A4 Gunbower National Park	Removal of 682 ha (now C3 Gunbower State Forest and B3 Murray River Park) near McNab Bend and Torrumbarry.	Provides for greater recreational opportunities including duck hunting, camping with dogs and horses.
A5 Terrick Terrick National Park	Addition of 130 ha of the recently purchased Roslynmead East Nature Conservation Reserve and formerly proposed Bickford Rd Grassland Bushland Area.	Protects a new parcel of land recently purchased by the government for the conservation of native grasslands and small adjoining block of public land.
A6 Lower Goulburn River National Park	Exclusion of 2564 ha (now B2 Shepparton Regional Park, G103 Reedy Swamp Wildlife Area and I7 Moira Park Community Use Area).	Provide for greater recreational opportunities, including duck hunting at Reedy Swamp and camping with dogs in the Goulburn River forests upstream of Shepparton. Also provides for continued use of Moira Park as a scout camp and for dog sled racing.
A7 Barmah National Park	Removal of 1421 ha (now B3 Murray River Park).	Provide additional opportunities for camping with dogs and horses. Responds to concerns raised about domestic firewood availability in the Nathalia and Barmah areas.
A8 Warby Range-Ovens River National Park	Addition of 144 ha (not previously identified as public land).	Incorporates small vegetated and river parcels adjoining or within the Park not previously mapped as public land.
A2, A3, A9	No change	
Regional and other parks		
B3 Murray River Park	Addition of 2567 ha (formerly parts of A1, A4 and A7)	Responds to concerns raised about domestic firewood availability and/or reduced opportunities for camping with dogs and horses.
B2 Shepparton Regional Park	Addition of 2813 ha (formerly A6 Lower Goulburn River National Park and public land water frontage)	Provides additional opportunities for domestic firewood collection and camping with dogs and horses near Shepparton.
B7 Nyah-Vinifera Park	Removal of 16 ha (Nyah Golf Course)	Golf course inadvertently included in this park in draft proposals.
State forest		
C1-C3 State forests	Minor change in state forest area (12,205 ha to 12,292 ha). Reduced volumes of timber availability.	Reappraisal of growth rates and stand quality by DSE (from 2249 to 1366).
C3 Gunbower State Forest	Addition of 147 ha (former A4 Gunbower National Park) along Gunbower Creek and McNab Bend.	Allows increased opportunities for hunting and camping with dogs and horses.

Final Report recommendations	Change	Reason
Nature conservation reserves		
D1-45, D47-D50	No change.	
D46 Gemmill Swamp Nature Conservation Reserve	Reverts to existing reserve (formerly A6 Lower Goulburn River National Park).	Retains high-level of protection for this wetland and allows for continuation of dog walking on leads on formed tracks. Adjoining public land is now Shepparton Regional Park (B2) and not Lower Goulburn River National Park (A6).
Historic and cultural features reserves		
E, E1-E13	No change.	
Reference areas and heritage river areas		
F, F1-F2	No change.	
Natural features reserves		
G, G1-G81, G105-G107, G109-G112	No change.	
G82-G104	New recommendation includes reservation as state game reserve under the <i>Wildlife Act 1975</i> .	Responds to comments from stakeholders about confusion regarding wildlife area classification.
G103 Reedy Swamp Wildlife Area	Reverts to existing reserve (formerly A6 Lower Goulburn River National Park).	Reduces impacts on duck hunters.
G108 Goulburn River Reserve	New recommendation includes renaming of public land water frontage along the Goulburn River as 'Goulburn River Reserve'.	Responds to comments in submissions and reflects values.
G113	Public land stream beds and banks, which were not mapped as part of the draft proposals, have now been mapped and classified as public land water frontages.	Increases clarity as to where recommendations for this land use apply.
Former G33 Bickford Rd Grassland Bushland Area	Now included within A5 Terrick Terrick National Park.	Adjoins recently purchased land to be added to Terrick Terrick National Park
Water production, distribution and drainage areas		
H2 Lake Hawthorn	Addition of 214 ha (not previously identified as public land).	Addresses comments made in submissions and new information.
Community use areas		
I1	31 ha becomes part of Lake Cullulleraine community use area (formerly A1 Murray-Sunset National Park).	Corrects an inaccuracy in mapping and includes additional land in the community use area adjacent to Lake Cullulleraine township.
I7 Moir Park Community Use Area	5.8 ha reverts to community use area (formerly A6 Lower Goulburn National Park).	Responds to new information on existing uses of this area.