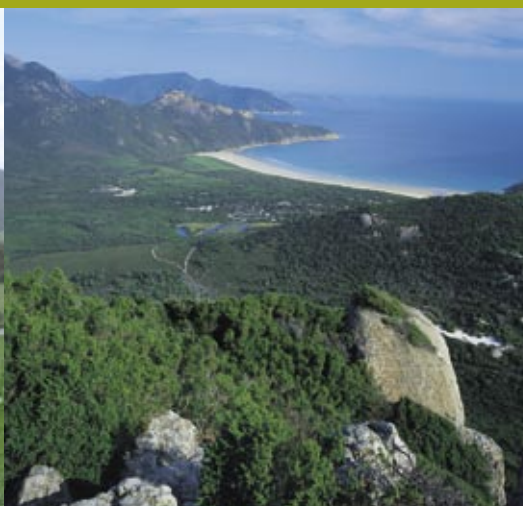


Land and biodiversity at a time of climate change

Green Paper



The Government of Victoria proudly acknowledges and pays its respects to Victoria's Native Title Holders and Traditional Owners and the rich culture and intrinsic connection they have to Country.

The Government also recognises and acknowledges the contribution and interest of other Indigenous people and organisations in the management of land and natural resources.

The Government acknowledges that the past injustices and continuing inequalities experienced by Indigenous peoples have limited, and continue to limit, their proper participation in land and natural resource management processes.



De Bortoli Wines in the Yarra Valley. Photo: DSE / Andrew Chapman

Published by the Victorian Government
Department of Sustainability and Environment
Melbourne, April 2008

© The State of Victoria Department of
Sustainability and Environment 2008

This publication is copyright. No part may be
reproduced by any process except in accordance
with the provisions of the *Copyright Act 1968*.

Authorised by the Victorian Government,
8 Nicholson Street, East Melbourne.

Printed by Stream Solutions
Printed on 100% Recycled paper

ISBN printed version 978-1-74208-255-4
ISBN online version 978-1-74208-256-1

For more information contact the
DSE Customer Service Centre 136 186

Disclaimer

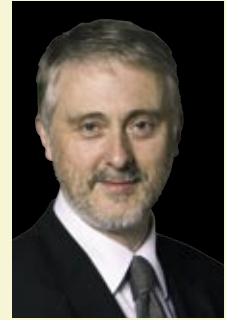
This publication may be of assistance to you
but the State of Victoria and its employees do
not guarantee that the publication is without
flaw of any kind or is wholly appropriate for your
particular purposes and therefore disclaims all
liability for any error, loss or other consequence
which may arise from you relying on any
information in this publication.

Accessibility

If you would like to receive this publication in
an accessible format, such as large print, please
telephone 138 186, 1800 122 969 (TTY), or
email customer.service@dse.vic.gov.au

This document is also available in
PDF format on the Internet at
www.dse.vic.gov.au/landwhitepaper

Minister's foreword



For its size the State of Victoria boasts the widest range of ecosystems in Australia. Victorians enjoy the benefits of our unique and varied landscape and diverse environment. The fertile plains support productive farmland, while our dramatic coastlines, rainforests and snow capped mountains appeal to tourists and Victorians alike.

Looking to the future, it is becoming increasingly clear that while we have a strong economy, vibrant communities and a healthy agricultural base, we are also witnessing some of the costs of that development. The ongoing decline in condition and extent of native plants and animals and natural resources such as our soil and water must be reversed. The productivity of agricultural farmland is vulnerable to salinity, erosion, pests, weeds and urban development. These are the same things that threaten our land health and biodiversity.

Climate change will further exacerbate these problems, as Victoria's future is expected to be hotter and drier with more variable weather patterns. Uncertainty over the likely impacts of climate change and where they will occur means we are facing a great threat to our livelihood. We need to focus on preparedness for different climate futures, as well as actions to build the resilience of Victoria's ecosystems.

This Green Paper sets out proposals for how we can ensure a sustainable environment for future generations.

It aims to build on the work already done. It sets out a cohesive and inclusive strategy that links the work of our world leading Landcare practices with the activities of our passionate and hard working environmentalists and scientists.

We can be smarter in our approach by integrating environmental strategies at the grass roots level of community as well as local and state government organisations. We need to have an open discussion about some of the tradeoffs that are likely, but with a strong resolve to identify win-win situations wherever we can. We need to recognise our dependence on biodiversity and ecosystems and the services they provide and factor this into our everyday decision making.

To achieve such clarity, we need to define our priorities and extensively monitor the state of our environment and our effectiveness in managing risk and restoring our land. As the rate of environmental change increases, accurate information will be paramount to allow us to adapt our responses accordingly.

While climate change impacts are adding further challenge and complexity to the ways in which we manage threats, they may also create opportunities for positive land use change and new industries to support mitigation and adaptation strategies.

The State's biodiversity is fundamental to the welfare and wellbeing of Victorians. Innovation, creativity and new knowledge will be critical in our future.

As Minister for Environment and Climate Change I seek and welcome your comments on the proposals in this Green Paper to inform the Government's thinking on how best to respond to these challenges together.

A handwritten signature in black ink that reads "Gavin Jennings". The signature is stylized and includes a large, sweeping flourish at the end.

Gavin Jennings MLC
Minister for Environment and Climate Change

Forewords



Message from the Scientific Reference Group Chair - Sir Gustav Nossal AC, CBE

It is with great pleasure that I have chaired the meetings of the Scientific Reference Group for the Land and Biodiversity White Paper process. I pay tribute to my colleagues and thank them for their time and efforts in the process to date. The Scientific Reference Group has engaged in robust debate which has informed the development of the ideas in this Green Paper.

Although many people aren't familiar with the term biodiversity we experience it everyday. The richness of the biodiversity of Victoria's land and aquatic systems has a direct influence on our lives and our wellbeing, right down to producing the clean air we need to breathe.

From the tallest Mountain Ash to the smallest marsupial; the unseen micro-organism; the crab on the beach; the migratory bird - all of these have a role to play. Even the bugs flying around on a summer night in the city are busy helping to keep an ecosystem functioning.

Loss of biodiversity has weakened our ecosystems. They are less resilient and able to adapt to change at a time when stresses on the Victorian landscape are increasing. Existing pressures such as demographic change are strengthening and new pressures such as climate change are emerging.

These add to existing biophysical pressures such as weeds, pest animals, salinity, poor soil function, erosion and reduced water quality and quantity, all of which impact productive land as well as native plants and animals.

The Green Paper is a call to action. Governments, the private sector and all facets of the Victorian community must work together if we are to arrest the decline of Victoria's unique natural heritage.

I commend the efforts of those Victorians who have done so much over the last 50 years to reverse land degradation and biodiversity loss. Everyone can make a difference from the very young to the young-at-heart.

I encourage you all to stop, look around and think about what biodiversity gives to you. If we all take responsibility and increase our efforts, we can ensure that ecosystems will continue to provide us, and future generations, the goods and services we need.



Message from the Stakeholder Reference Group Chair - Mick Murphy OAM

In my role as Chair of the Stakeholder Reference Group, I have met a wide range of people dedicated to Victoria and the health of its natural environment. The Stakeholder Reference Group consists of 26 representatives of various bodies: farmers, environmentalists, business leaders and others have come together to discuss issues and develop a vision to ensure a healthy future for Victoria's environment. The terms of reference for our group required members to act as a conduit for information both from the groups they represent, and back to those groups from our discussions. It has been very rewarding to oversee a process where individuals from diverse backgrounds have listened to each other and constructively discussed issues.

Last year I committed to read every public submission to the Consultation Paper. This turned out to be a bigger job than expected as over 360 submissions were received. What made an impression on me was the high degree of consistency in the issues of concern to individuals and groups.

After all the submissions on the initial Consultation Paper were received, I chaired a series of panel hearings which gave some of these submitters an opportunity to present more fully on their ideas. Alongside me sat Sir Gus Nossal (Chair of the Scientific Reference Group) and Kevin Love (DSE Deputy Secretary). The panel hearings each focused on a different issue: science; peri-urban and coastal issues; community involvement in natural resource management and sustainable land use. Many of the presenters told inspiring stories about the work they are doing on the ground, their struggles and successes and their ideas on how things can be done better.

It is clear to me and many others that Government alone cannot protect the environment from the challenges it faces. It requires a commitment from individuals, landholders, consumers, industry and business leaders as well as community groups. Government must lead the way and make it easier for the rest of us to do our bit.

As Chair of the Victorian Catchment Management Council, I am responsible for reporting on the state of Victoria's catchments every five years. The 2007 Victorian Catchment Condition Report showed that Victoria's land and biodiversity assets face many challenges and the looming threat of climate change will exacerbate these. More than ever we will need healthy and resilient ecosystems to provide us with clean air, fresh water and biodiversity as well as the food and fibre on which we depend. This has made it even more important for me to be involved in this White Paper process.

About the Green Paper

This Green Paper is the second phase in the development of the 'Land and biodiversity at a time of climate change' White Paper. It aims to promote discussion on the best ways to respond to the decline of Victoria's land and aquatic ecosystems and the biodiversity that supports them.

Background

The Victorian Government signalled the need for a new approach to land and biodiversity management in its 2006 *Our Environment, Our Future, Sustainability Action Statement*, where it committed to developing a White Paper on land and biodiversity (Action 7.1).

The Government confirmed its commitment during the 2006 election campaign and released an initial Consultation Paper in April 2007 seeking community input into a range of issues. Much of the Green Paper content has been based on an analysis of the submissions received from over 360 peak bodies, industry, conservation and farming groups, other government agencies and individuals who responded to the Consultation Paper. All submissions were analysed and the issues raised have guided the development of the Green Paper. An overview of key issues and themes raised in submissions can be found on page 89.

Scope

The Green Paper:

- outlines the nature and extent of the ecological problems and the policy issues we are facing
- outlines the role of Government and partners in dealing with the issues
- discusses suggested approaches for feedback that seek to address the issues.

References to 'land' in the Green Paper should be taken as including catchments and aquatic systems such as streams, rivers and lakes, as well as the coastal and marine systems that interact with them.

Process

Feedback and discussions generated by this Green Paper will inform the development of the White Paper. It is intended that the White Paper, planned for release in the first half of 2009, will establish policy and program directions, helping to set the Victorian Government's agenda and guide government investment decisions in land and biodiversity management over the next 20-50 years.

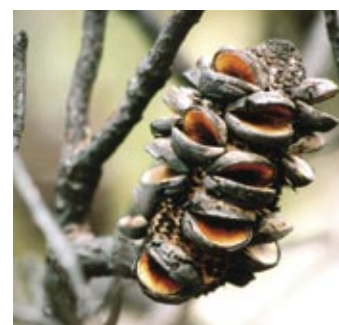
The White Paper process is one element of the Victorian Government's response to the challenges posed by climate change. The *Climate Change Framework for Victoria* will engage Victorians in considering solutions to the broader climate change problem.

Submissions to the Green Paper

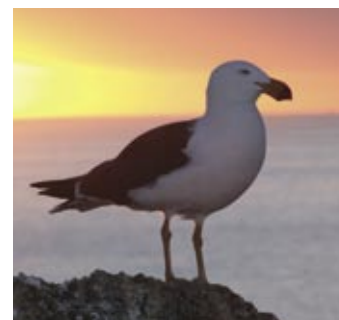
Public submissions on the Green Paper are due by 30 June 2008. Full details on the consultation and feedback process are available on the department's website at www.dse.vic.gov.au – click on the 'Land and biodiversity at a time of climate change' link or see page 96 in this document.



Cattle and vineyards. Photo: DPI



Banksia cone, after fire. Photo: David Lucas



Pacific Gull, *Larus pacificus*: classified as Near Threatened species in Victoria. Photo: Michael Sale

Contents

| | |
|-----------|---|
| 1 | Section 1 |
| 2 | 1.0 The case for change |
| 3 | 1.1 Defining the problem for Victoria |
| 6 | 2.0 Ecological values |
| 7 | 2.1 Victoria's unique ecosystems |
| 9 | 2.2 Services provided by healthy ecosystems |
| 11 | 3.0 Challenges and opportunities |
| 12 | 3.1 The legacy of our past |
| 14 | 3.2 Biodiversity and land-use in time |
| 15 | 3.3 Current condition |
| 20 | 3.4 Drivers of Change |
| 24 | 4.0 The responsibilities of Government |
| 25 | 4.1 The role of Government |
| 27 | 4.2 Changing paradigms |
| 29 | Section 2 |
| 30 | 5.0 The vision for Victoria's land and biodiversity |
| 31 | 5.1 Vision framework |
| 35 | 5.2 Achieving the vision |
| 37 | 5.3 Guiding principles |
| 40 | 6.0 The agenda for land and biodiversity management |
| 41 | 6.1 Working with the private sector to encourage investment in our natural assets |
| 43 | 6.2 Using carbon markets for biodiversity and land health |
| 44 | 6.3 Improving catchment management |
| 46 | 6.4 Managing water for multiple objectives |
| 47 | 6.5 Managing aquatic ecosystems |
| 49 | 6.6 Building ecological connectivity |
| 52 | 6.7 Enhancing public land values |
| 53 | 6.8 Supporting species and ecosystems to adapt to a changing climate |
| 54 | 6.9 Working towards a net gain in native vegetation |
| 55 | 6.10 Using and managing fire |
| 56 | 6.11 Improving management of pests and weeds |
| 57 | 7.0 Applying modern tools |
| 58 | 7.1 Prioritisation and risk assessment |
| 60 | 7.2 Using market based approaches |
| 61 | 7.3 Community expectations and the responsibilities of land managers |
| 62 | 7.4 Improving consistency in planning processes |
| 63 | 7.5 Education and behaviour change |
| 65 | 7.6 Towards best practice legislation and regulation |
| 66 | 8.0 Meeting our knowledge needs |
| 67 | 8.1 Expanding our knowledge base |
| 68 | 8.2 Better systems to share knowledge |
| 69 | 8.3 Understanding the impact of our actions |
| 71 | Section 3 |
| 72 | 9.0 Effective partnerships |
| 73 | 9.1 Landcare and volunteer organisations |
| 75 | 9.2 Australian Government |
| 76 | 9.3 Local government |
| 77 | 9.4 Indigenous communities |
| 79 | 9.5 Non-government partners |
| 80 | 10.0 What the approach means for communities |
| 81 | 10.1 Farmers |
| 82 | 10.2 Urban communities |
| 83 | 10.3 Victorians in Green-Wedge and peri-urban areas |
| 84 | 10.4 Public land users |
| 85 | 10.5 People near the coasts and sea |
| 86 | 11.0 Delivering outcomes |
| 87 | 11.1 The Integrated Catchment Management model |
| 88 | 11.2 Regional capability |
| 89 | Consultation Paper submissions |
| 90 | End notes |
| 91 | References |
| 93 | Glossary |
| 95 | Acronyms |
| 96 | How to have your say |

Throughout this document, the colour bar on the top of the page indicates the chapter heading within each section, while the bar down the side of the page indicates the chapter number within each section.

Section 1

| | | | |
|-----------------|--------------------|---------|--------------------------------|
| Case for Change | Ecosystem Services | Threats | Responsibilities of Government |
|-----------------|--------------------|---------|--------------------------------|

This section provides a context for addressing Victoria’s land and biodiversity challenges. It explains why the health of our land and aquatic ecosystems is so important and outlines how past uses and management of our natural resources, both positive and negative, have brought us to where we are today. It includes a discussion on the policy problem and the role of government.

1

2

3

4

Section 2

| | | | |
|--------|--------|-------|-----------|
| Vision | Agenda | Tools | Knowledge |
|--------|--------|-------|-----------|

This section outlines the Government’s 50-year vision for Victoria’s land and biodiversity. It proposes four outcomes and the goals required to achieve the vision as well as the principles to underpin all management actions. This section also outlines a proposed agenda and the tools available to address the problems identified. It articulates the knowledge and research requirements required to support the agenda.

5

6

7

8

Section 3

| | | |
|--------------|-------------|---------------------|
| Partnerships | Communities | Delivering Outcomes |
|--------------|-------------|---------------------|

This section emphasises the partnership approach that Government believes is necessary in order for Victoria to achieve the vision. It discusses what the approach might mean for various sectors within the community and outlines the current service delivery model.

9

10

11