



# NATURE CONSERVATION REVIEW: TERRESTRIAL ECOSYSTEMS

**Six years in the making, the VNPA's fourth Nature Conservation Review, Natural Victoria – Conservation priorities for Victoria's natural heritage, 2014 was released.**

The focus of chapter 3 (82 pages, fully referenced, tables and graphics) is terrestrial biodiversity – animals and plants that live on land – particularly native vegetation and the national park and conservation system. The chapter highlights the high natural, social and economic values of Victoria's terrestrial ecosystems, and describes the major habitat types. It also:

- Outlines the current state of biodiversity, native vegetation and public and private protected areas.
- Includes a gap analysis of the national park and conservation system in terms of its protection of subregional habitat types (ecological vegetation classes).
- Describes and exemplifies four major categories of threat to terrestrial biodiversity and ecological processes – climate change, habitat loss and degradation, invasive species and altered fire regimes.

Finally, it identifies major policy gaps and high priority reforms in the following areas: the national park and conservation system (public, private and Indigenous), protection of native vegetation, including forests, and the management of bushfires and invasive species.

## TERRESTRIAL SNAPSHOT

From sprawling salt-sprayed coastal scrubs to high alpine herbfields, from grasslands and heathlands of intricate beauty to rainforests of mossy lushness, from stunted mallee woodlands to wet eucalypt forests of towering grandeur, Victoria offers an abundance of natural diversity and beauty. The state's 23 million hectares of climatically, geographically and geologically diverse landscapes are inhabited by a multitude of different life forms.

Victoria's terrestrial ecosystems have suffered grievous losses:

- More than 80 species are extinct, more than 1000 threatened and another 1000 or so rare, near threatened or with their status unknown (according

to government advisory lists).

- About a fifth of Victoria's mammals, birds, reptiles, frogs (terrestrial vertebrates) and plants are threatened.
- More than half the state's habitat types (ecological vegetation classes) are threatened.
- Eleven habitats (ecological communities) are listed nationally as endangered or critically endangered.
- Mammals have suffered the greatest losses, with 19 species extinct and another 19 threatened.
- The need for habitat restoration is highlighted by the fact that about 40% of Victoria's land vertebrate species are totally reliant on fragmented landscapes.

## KEY THREATS

**Climate change:** Climate change is already affecting biodiversity through higher temperatures, drier conditions and more frequent extreme events (although the degree of contribution by climate change to specific events is difficult to quantify). At particular risk in the near term are alpine, wetland and coastal habitats. Species with low ecological tolerances and specialised requirements, low genetic variability, long generation times, poor dispersal ability and narrow geographic range are likely to have the greatest difficulties adapting to climate change.

**Dysfunction of biological interactions:** invasive species: The cornucopia of exotic plants and animals inhabiting Victoria causes immense damage to terrestrial biodiversity and ecological processes, as reflected in the 17 listings of various invasive species as potentially threatening processes under the Flora and Fauna Guarantee Act.

**Habitat loss and degradation:** The clearing of more than half of Victoria's native vegetation cover has been the major cause of biodiversity decline. The losses have been compounded by their concentration on the most fertile and productive soils and the destruction

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of particular habitat elements such as tree hollows and logs. Some of Victoria's most valuable remnants are on roadsides, road reserves and stream reserves, which are highly fragmented and vulnerable to degradation, including from fuel reduction burning, ploughing to create firebreaks, invasive species, grazing, firewood collection and climate change. Victoria's 2.4 million patches of native vegetation of less than one hectare in size are at great risk.

Although now at considerably lower scale than historical rates, logging is occurring in forest ecosystems already much depleted by past logging and fires, affecting habitats for a growing number of threatened species and undermining ecological processes (such as fire regimes, hydrology and climate).

## Changes to disturbance regimes – fire regimes:

Destructive fire regimes are a major threat for many species and habitats in Victoria. This is especially true for fragmented or isolated ecosystems, where post-fire recolonisation by species can be impeded and invasion by weeds and feral animals exacerbated. Inappropriate fire regimes can radically change vegetation structure and distribution, reduce resources for particular species, and alter soil structure and chemistry (nutrient availability, pH, moisture) and water run-off. Current threats arise from a lack of fire management or poorly informed management (due to a lack of research on fire impacts on most organisms) or fire management that ignores ecological goals (e.g. Victoria's annual burning target of 5% of public land and frequent burning to protect assets).

## KEY GAPS

**Private land conservation:** Because of the historical tendency to establish national parks in 'leftover' areas – mostly rugged, dry or infertile land not favoured for development and retained in public ownership – the most cleared subregions of Victoria generally have the lowest proportion of native vegetation in protected areas, the highest numbers of endangered vegetation communities and high rates of private land ownership.

The gap analysis shows the importance of private land conservation in Victoria. Achieving the protection targets will require a strong focus on incentives for private landholders, perpetual conservation covenants and purchases for the public estate.

The Victorian Environmental Assessment Council (VEAC) should be tasked with an investigation into how to overcome barriers to conservation on private

land. Essential measures include greater incentives for landholders to enter into Trust for Nature covenants, and support for conservation on Indigenous lands.

**National park and conservation system:** Completing the national park and conservation system is more important than ever as a core conservation strategy. About three-quarters of Victoria's subregions remain poorly protected, with fewer than half their ecological vegetation classes meeting the reservation targets adopted in this review

Unless shortcomings in invasive species management in the national park estate are addressed, inexorable deterioration in some of the state's finest natural places will result. Reliable recurrent funding for long-term multi-species control programs is essential.

**Native vegetation:** With more than half the state cleared of native vegetation and much of the rest degraded, the priority must be to protect what remains and work to reverse degrading processes, while embarking on restoration of high priority areas.

Enforcement of vegetation laws is poor and the extent of illegal clearing is unknown. The system of vegetation management is opaque, with no public reporting on permits issued, permit conditions, offsets, compliance and monitoring. The area of native vegetation protected and restored through offsets is small and far exceeded by what has been lost. Victoria needs an independent regulator with stand-alone legislation to give force to the native vegetation management framework.

**Land stewardship and restoration:** Victoria faces an immense restoration task. Natural regeneration on abandoned or little-used farmland is believed to account for most gains in native vegetation extent. Many thousands of Victorians are engaged in restoration, mostly on private property, under programs including Landcare, Bushcare and various incentive schemes.

**Forests:** There are compelling conservation, economic and social reasons for Victoria to transition from logging of native forests to plantation forestry.

**Fire management:** With both human safety and biodiversity at stake, it is vital that bushfire management in Victoria is based on sound science and takes account of future climate change. There is no credible evidence that the state's current minimum annual burning target of 5% of public land can achieve the goal of significantly reducing risks to life and property. There is significant evidence that it is doing severe ecological damage.

**Invasive species:** Victoria's already dire invasive species problems will continue to worsen unless there is substantial reform of laws, policies and programs to prevent the introduction of new harmful species, eradicate newly established species, and more effectively contain and control established threats. New stand-alone biosecurity legislation is required.

## SUMMARY OF KEY DIRECTIONS AND RECOMMENDATIONS

The full report contains 61 detailed recommendations around Victoria's national park and conservation system, native vegetation protection, bushfire management, invasive species management and biosecurity.

Selected key directions and recommendations are outlined below.

### Victoria's national park and conservation system

- Commission VEAC (or a similar body) to investigate how to most effectively achieve a comprehensive, adequate and representative national park and conservation system in Victoria across both public and private lands.
- Develop a strategic plan to guide the future of Victoria's national park estate that also communicates its role and importance.
- Review existing state charges and levies, such as the parks and waterways levy, to identify funding options for improving management of the national park and conservation system.
- Safeguard national parks and reserves from damaging activities, including cattle grazing, mineral exploration and fossicking, commercial scale logging ('ecological thinning'), and private commercial developments.
- Implement expanded long-term weed and feral animal control programs and monitor their effectiveness.
- Provide dedicated funding for management and monitoring of national parks, with a specific budget line to allow tracking of spending levels.
- Promote conservation on private land: exempt properties with Trust for Nature (TFN) covenants from local government rates and sales of such properties from stamp duty, pay for TFN covenants in priority

areas through the BushTender program, fund a base transaction fee for all new TFN covenants, establish a land improvement fund for conservation management on covenanted properties, and ban mining on TFN covenanted areas.

### Native vegetation protection

- Improve protection with new vegetation laws to establish an independent 'native vegetation regulator' to oversee management and monitoring of native vegetation, conduct enforcement, administer offset schemes and provide expert advice for assessments and policy.
- Strengthen the native vegetation management framework: revert to a state-wide objective of 'net gain'; reinstate the three-step hierarchical approach of avoid, minimise and offset; assess indirect impacts from agricultural activities and impacts on hydrological regimes; and develop a knowledge base to predict likely responses of vegetation types to climate change.
- Implement a systematic approach to monitoring and enforcement of vegetation rules: establish a vegetation monitoring program overseen by the native vegetation regulator, establish a public register, audit the performance of permit holders, establish environmental monitors for developments, publish all relevant information online, and regularly audit and report on the effectiveness of the system.

### Forestry

- Transition Victoria's wood products industry from native forests to plantations.
- Immediately ban logging in western Victoria and cancel the regional forest agreement applying to south-west Victoria.
- Apply the federal Environment Protection and Biodiversity Conservation Act to all relevant forestry activities by removing the exemption for forestry conducted under regional forest agreements.
- Introduce a new approach to managing firewood in Victoria that ensures continued supply and protection of public lands by providing incentives to support private farm forestry growers to provide firewood, phasing out firewood collection from public land and, in the interim, requiring all collection from public land to be licensed, with stringent conditions to protect conservation values.

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## Bushfire management

- Replace any annual state-wide target (5% or otherwise) for prescribed burning with a risk based approach that is focused on meeting local objectives to reduce risks to life, property and biodiversity.
- Assess the need for burning programs at a local level in the context of other potentially more useful public safety measures, such as building designs and regulations, and fire shelters. Do cost-benefit assessments of a range of safety measures when planning fire management. Give priority in fuel reduction programs to prescribed burns that are (a) critical for public safety and (b) beneficial to both public safety and biodiversity.

## Invasive species/ biosecurity

- Develop biosecurity legislation to strengthen the approach to harmful invasive species (see Environmental Governance section).
- Establish regional weed committees across Victoria, involving local governments, other land managers and community representatives, to develop strategies and allocate resources for weed eradication and control.
- Expand programs facilitating community engagement in pest plant and animal management and ecological monitoring.
- Reclassify feral deer, at present a 'game' species protected under the Wildlife Act, as a pest species, map current populations and implement coordinated control programs, eradicating populations where feasible.