VICTORIAN NATIONAL PARKS ASSOCIATION
Be part of nature

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VICTORIA: HABITAT TRENDS & NATIVE VEGETATION

Native vegetation in Victoria can be described as existing within a 'two track' landscape – part of it is made up of largely 'intact' native vegetation, often protected within national parks, while the rest is 'fragmented', and found in small patches of native bushland on roadsides, within private property, along creeks, streams and riverways.

The largely-intact landscapes are contiguous areas of native vegetation greater than 20,000ha in size where native vegetation is generally considered to be in a stable, natural or semi-natural condition. These areas make up 21.4% of Victoria, almost 5 million hectares, and correspond closely with Victoria's major parks and state forests, and are mostly public land.

Significant areas outside of national parks and protected areas such as state forest in eastern Victoria continue to be commercially logged. This is not considered 'clearing', though it does have significant impacts on vegetation structure, habitat condition and quality.

Fragmented landscapes are areas where there has been widespread removal and/or on-going use of native vegetation, and make up 78.6% of Victoria, almost 18 million hectares. They consist largely of private land with small pockets of public land.

Despite the fact that Victoria has cleared about 70% of its land mass for agriculture, mining and development, these cleared areas continue to retain close to 54% of the state's remaining native vegetation. Roughly half of this native vegetation is found on public land (smaller forested areas less than 20,000ha in size, roadsides and along waterways), while the rest is on private land.

The native vegetation surviving within these fragmented landscapes supports the majority of the state's biodiversity. Close to 40% of our native vertebrate land species (mammals, bird, amphibians, reptiles and fish not confined to marine or coastal habitats) live solely within these fragmented landscapes, and a further 45% rely on them as a major part of their habitat distribution.

These figures underline the importance of healthy native habitat within Victoria's fragmented landscapes as a cornerstone of a healthy natural environment. However, according to VEAC's 2011 Remnant Native Vegetation investigation:

- The history of significant decline in the biodiversity of Victoria's fragmented landscapes is continuing.
- The surviving landscapes nevertheless support significant and highly valued natural assets, especially in terms of their biodiversity values.
- There is considerable regional variation in this overall picture.
- While there are some important new findings, the broad picture revealed in this analysis has been well known for many years.
- Retaining existing habitat is the most cost-effective strategy and is the key determinant of the trajectory of change in ecological connectivity in any given landscape.

The 2010 VEAC discussion paper contains detailed summaries of each bioregion. Key points include:

- The most cleared parts of the state tend to cover larger areas of land.
- Nine of the 10 most cleared landscapes have relatively flat terrain and fertile soils, and retain less than 40% of their original native vegetation.
- Moderately cleared bioregions have between 40-70% of native vegetation remaining and are characteristically foothills or less fertile flatter country.
- More cleared bioregions tend to have a lower proportion of native vegetation on public land.
- In four of the fragmented bioregions, road reserves account for more than 5% of total remnant native vegetation (Murray-Mallee 9.4%, Warrambool Plain 6.8%, Wimmera 6.3% and Victorian Riverina 5.7%).
- The proportion of native vegetation in conservation reserves significantly reduces in more cleared landscapes to between 16% and 18% in 'most' and 'moderately' cleared landscapes compared with 44% in 'least cleared' landscapes (VEAC 2010).

These fragmented landscapes are challenging for wildlife, which often need to move across the countryside if

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Victorian bush, a journey through time

1750

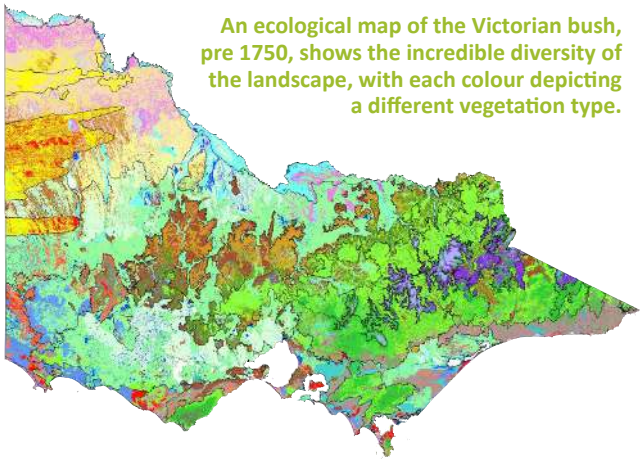
way back when

Back in 1750 Victoria was a very different place from what it is now.

Forests, woodlands, deserts and wetlands were filled with an extraordinary mix of native plants and wildlife.

One of the most striking feature of this landscape was the grasslands, which stretched all the way from what's now the edge of Melbourne to the South Australian border.

So rich was this ecological tapestry that if depicted on a map it would have formed a fabulous carpet of colours.



An ecological map of the Victorian bush, pre 1750, shows the incredible diversity of the landscape, with each colour depicting a different vegetation type.

MAP LEGEND

- Coastal Scrubs Grasslands and Woodlands
- Heathy Woodlands
- Lowland forests
- Box Ironbark Forests or dry/lower fertility Woodlands
- Lower Slopes or Hills Woodlands
- Dry forests – Exposed and/or lower altitude
- Dry forests – Sheltered and/or lower altitude
- Wet or Damp Forests
- Riparian Scrubs or Swampy Scrubs and Woodlands
- Riparian Forests or woodlands
- Rainforests
- Montane Grasslands, Shrublands or Woodlands
- Sub-alpine Grasslands, Shrublands or Woodlands
- Plains Grasslands and Chenopods Shrublands
- Plains Woodlands or Forests
- Plains Woodlands or Forests – Semi-arid (non-Eucalypt)
- Riverine Grassy Woodlands or Forests
- Herb-rich Woodlands
- Heathlands
- Mallee – Siliceous sands
- Mallee – Calcareous dunefields
- Mallee – Clay plains
- Mallee – Sandstone ridges and rises
- Wetlands
- Salt-tolerant and/or succulent Shrublands
- Rocky Outcrop or Escarpment Scrubs
- Rocky Outcrop or Escarpment Scrubs

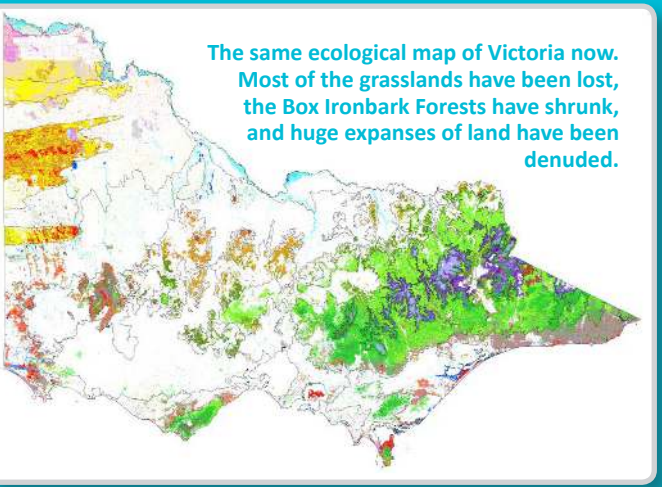
2011

the picture today

Now, 260 years on, Victoria is the most cleared state in Australia.

We have lost at least half of our original native vegetation, and every year another 4000ha of bushland is lost.

Our grasslands have all but vanished and our Box Ironbark Forests, honeypots for many of our birds in winter, have been devastated.



The same ecological map of Victoria now. Most of the grasslands have been lost, the Box Ironbark Forests have shrunk, and huge expanses of land have been denuded.

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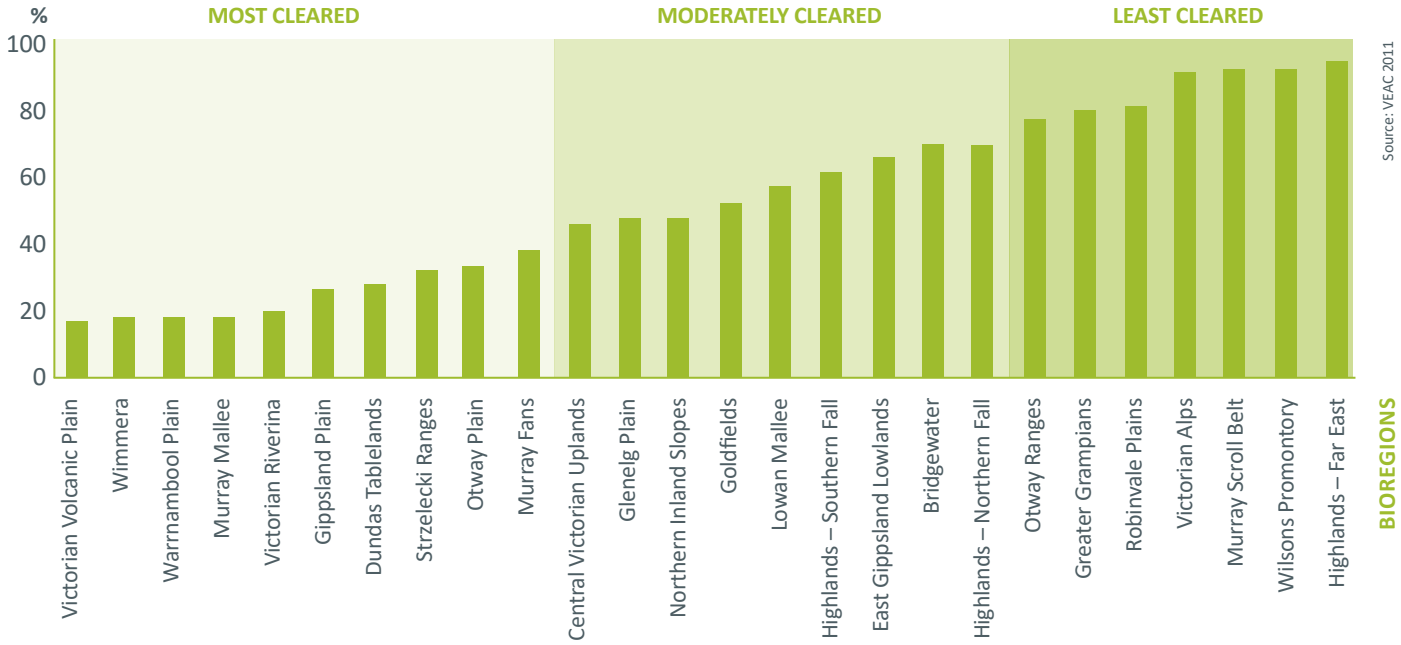
Brown Treecreeper

Superb Fairywren. Source: Wiki

Many woodland birds rely on small patches of bushland found on private land for survival.

Proportion of native vegetation in fragmented landscapes in each of Victoria's bioregions



Source: VEAC 2011

Native vegetation in Victoria is often considered in terms of the biogeographical region (bioregion) in which it occurs. Bioregions are a landscape-scale classification of the environment using a range of attributes such as climate, geomorphology, geology, soils and vegetation. There are 28 terrestrial bioregions identified within Victoria.

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they are to survive and flourish. We need to keep what remains and build connections using wildlife corridors, 'stepping stones', and retaining important paddock trees.

This can often be done as part of good farm planning or urban design, by using roadsides, streamways and fence lines.

>> The full VEAC report can be downloaded from www.veac.vic.gov.au

STEPPING STONES FOR SURVIVAL

Building connectivity in the bush

What does 'reconnecting the landscape' mean? In cleared landscapes, vegetation or habitat have been pulled apart by different types of land-use either for farms, houses, roads, railway lines or similar. These fragmented landscapes are bad for wildlife, which often need to be able to move across the countryside if they are to survive and flourish.

This does not mean everywhere needs to be covered in trees, rather we need to keep what remains and build connections using wildlife corridors, 'stepping stones', and retaining important paddock trees. This can often be done as part of good farm planning or urban design, by using roadsides, streamways and fence lines.

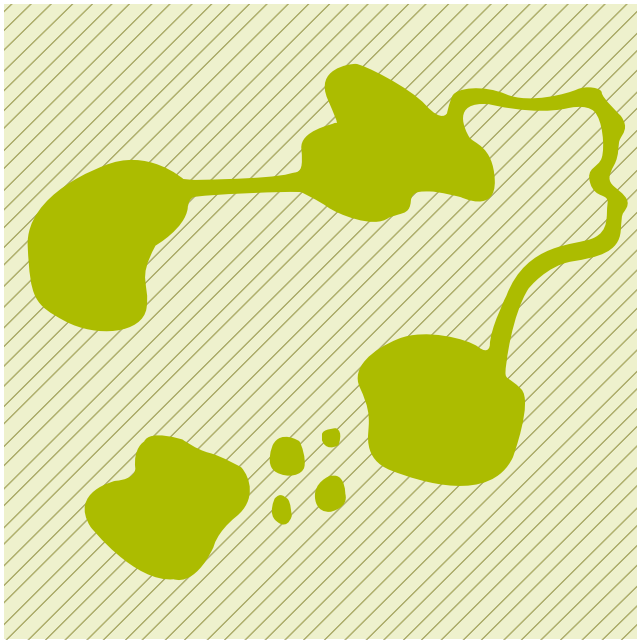
Vegetation is not just for wildlife, it can help stop erosion and salinity, provide shelter for stock, help with crop pollination by attracting bees, and aid pest control by nurturing insect-eating birds and bats.

It is well documented that landscapes in which vegetation is connected – often through wildlife corridors and stepping stones, are thought to be more likely to maintain populations of the various species that once occupied the original landscape.

Various studies have suggested that we need at least 20-30% vegetation in cleared landscapes to maintain healthy wildlife populations (though this can be different, depending on the species).

These connections, or 'connectivity', prevent and reverse local extinctions by enabling the re-colonisation of empty patches. Connectivity promotes the exchange of genes between populations of animals and plants, and prevents the extinction of local populations by suppressing inbreeding.

A schematic representation of corridors



In modified landscapes many species use a matrix as habitat. Scattered trees in the matrix are used by bats, woodland birds and reptiles. Despite the potential value of the matrix for some species, such as birds, the matrix will be inhospitable to many other wildlife. VEAC, 2011

Corridors may be direct between two patches of vegetation [A-B], a non-direct route such as along a riparian or water side zone [B-C], or a series of structurally non-connected habitat stepping stone corridors [C-D].

Corridors: Linear or linear-like features that connect core areas of habitat. The effectiveness of vegetation corridors will be dependent on their width and quality, and is species-specific.

Stepping stones: Like corridors, stepping stones can provide additional habitat to those species that are not area sensitive.

Although a small patch may not support the diversity of larger patches, their cumulative conservation value is substantial and studies show that up to three-quarters of native bird species may use patches of less than 1 hectare in some way.

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