

# VNPA Submission on Commonwealth and Victorian government's joint consultations on Victorian Regional Forest Agreement (RFA) modernisation 28/6/2019

The five Victorian Regional Forest Agreements (RFAs), set up almost 20 years ago, are agreements between the Victorian and Australian governments to essentially log our native forests and give special treatment to the logging industry, without the need for assessment of threatened species or natural heritage under national environmental protection laws.

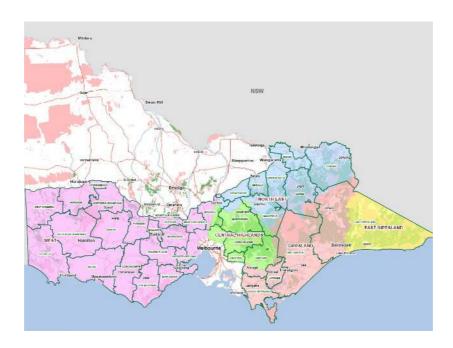
There are five RFAs in Victoria – East Gippsland, Central Highlands, North East, Gippsland, and West Victoria. *None* of the RFAs have met their objectives – our native forests and wildlife are worse off, and even the logging industry is in decline.

This submission is split into two main sections commenting first on:

- A) WEST VICTORIAN REGIONAL FOREST AGREEMENT
- **B) VICTORIA'S REGIONAL FOREST AGREEMENTS**

There are also two supporting appendices

- Appendix I for more Details of National Parks creation in Western RFA & gaps
- Appendix II Conservation Significance of Portland and Horsham FMAs



#### A) WEST VICTORIAN REGIONAL FOREST AGREEMENT

The West Victorian Regional Forest Agreement is environmentally damaging, unnecessary, and should not be renewed for the west of Victoria.

The West Victorian Regional Forest Agreement (Western RFA), set up almost 20 years ago, is an agreement between the Victorian and Commonwealth governments that mostly deals with commercial native forest logging on public land (state forests) in the west of Victoria. Essentially it is an agreement to log our native forests, but without the need for assessment of threatened species or natural heritage.

Two decades on, the state and federal governments are attempting to renew the agreement to lock in a further 20 years of logging for the west of Victoria. This is an already fragmented landscape containing some of the most cleared ecosystems in the whole state – essentially where there is very little remaining to be logged.

The Western RFA promised a lot but delivered very little. It is based on a false premise, is obsolete, and should be cancelled because:

- There is little native forestry industry left in the west;
- It was originally set up due to the export of woodchips, but there is no longer native forest export from the west of the state;
- It is largely state-funded and unprofitable;
- Independent reviews have recommended the Western RFA be cancelled;
- It is ecological-damaging, and has delivered little to protect native forests since its inception, as it promised it would do;
- There are still significant gaps in the protected area and reserve system in western Victoria;
- The west is an area rich in threatened species and endangered habitats.

The Western RFA covers a huge area – everything west of the Hume Highway to the South Australian border, and north to the Little Desert (pink area of map above).

Essentially, the Western RFS removes federal oversight of native forest logging and approval by removing the need for the assessment of native forest timber products which are exported, or where there is a matter of national environmental significance under national environment laws, such as threatened species or national heritage.

It is now out of date and seems completely unnecessary, disproportionate and damaging to renew such an agreement where the economic and ecological context has changed dramatically in the last 20 years. Yet the state and federal governments are planning to renew the agreement, and to expand it to cover not just native forest but also plantations.

SOME OF THE KEY REASONS WHY AN RFA IS NOT NEEDED FOR THE WEST INCLUDE:

# 1) There is very little native forestry industry left in the west, and it is not profitable and financially reckless.

The state government-owned logging agency VicForests has proposed commercial logging of around 50-60 state forests and woodlands in the west of Victoria, under its current Timber Utilisation Plan. On paper, they want logging of some shape or form in almost 40,000 hectares of what are the most cleared landscapes in the state, under the guise of "Community Forestry". However, in reality, there is very little native forest industry left in the west of Victoria:

According to the 2017–2018 VicForests Annual Report:

- Total revenue from Western forests in 2017–2018 was \$700,000 (yes, less than \$1 million).
- State funding to VicForests managed western "Community Forestry" in 2017–2018 was \$678,000 (yes, that's a surplus of \$22,000 per annum).
- Total volume of timber generated from native forests was 21,000 cubic metres, or 1.5 per cent of total state production. It was for mostly low grade uses such as firewood.
- According to VicForest's own consultants, Deloitte Access Economics 2017 report, "... the volume of native forest harvested across western Victoria is minimal".
- There is no longer export of woodchips or other products from native forests in western Victoria, which was one of the key reasons the RFA was set up in the first place.
- South-west Victoria contains one of the largest plantation sectors in Australia, but this is not mentioned in the current RFA. Including plantations in the new RFA, which is essentially a type of farming, will give special treatment to one type of farming enterprise over another.

### 2) The Western RFA is an obsolete regulatory relic and should not be renewed.

- In 2010 the *Independent Review on Progress with Implementation of the Victorian Regional Forest Agreements Final Report* recommended that the Western RFA be cancelled.<sup>vii</sup>
- The western forests are not included in most recent allocation orders for VicForests<sup>viii</sup>, making the legal status of logging uncertain.
- There is a growing recreation need to deal with Melbourne's population growth. Many of these are popular recreation areas, such as the famous Beeripmo Walk at Mount Cole. ix
- There is no mention of climate change or carbon reduction value of forests in any of the RFAs.
- Most of the commitments for pest plant and animal control in the RFA have not been delivered.

# 3) The Western RFA is ecologically damaging and delivered very little protection for native forests as promised.

• The RFA has not delivered a comprehensive, adequate or representative reserve protected area system in the west of the state, as it promised it would. The ecological criteria used in

the RFA are now out of date and inconsistent with various international and national agreements and strategies that have been signed by the Australian Government.

- Significant new national parks in the region, such as the Otways and Cobbobbonee near Portland, were instead the result of community campaigns achieved in spite of the RFA, not because of it.<sup>x</sup>
- There has been little native forest logging in Wombat forest in central Victoria for over a
  decade
- There is no evidence that RFA has led to improved pest plant and animal control or treatment in western forests, even though this is promised.

#### 4) There are still significant gaps in the protected area and reserve system in western Victoria.

 There is now an active Victorian Environmental Assessment Council (VEAC) investigation in the central west, looking at the future of Wombat, Pyrenees, Wellsford (not in the RFA area) and Mount Cole state forests to fill well-recognised gaps in the representativeness of Victoria's reserve system.xi

The final VEAC Report was released 21 June 2019. \*iThe report recommends additional 50,146 hectares of area protected under the National Parks Act 1975, which includes new or additions to national or state parks, including:

- Wombat–Lerderderg National Park establishment of a large new national park from existing state park and state forest capturing a significant amount of the largely-intact landscape and high strategic biodiversity values of the Wombat forest (addition of 29,079 ha, combined with existing park of to be total of 49,553 ha).
- Pyrenees National Park establishment of a new national park from existing nature reserves and state forest over the southern flanks of the Pyrenees range (15,126 ha).
- Mount Buangor National Park establishment of a new national park from existing state park and some adjoining state forest (addition of 2784 ha).
- Greater Bendigo National Park addition of a substantial proportion of the Wellsford forest to the existing national park nearby but outside the investigation area (addition of 3152 ha) and addition of 3950 ha to the Bendigo regional park.
- Hepburn (2714 ha) and Cobaw (2532ha) Conservation Parks establishment of two new conservation parks from state forest northwest of Daylesford and at Cobaw.
- Thirty new smaller conservation reserves (5246 ha), nature reserves (1348 ha) bushland reserves (1761 ha)
- New heritage river designation upper reaches of the Wimmera River in Mount Cole.
- Additional 19,728 ha of regional park public land being managed primarily for recreation, generally in the areas of highest recreational activity near towns.

VEAC has also recommended on two occasions that areas be protected to fill significant gaps in the reserve system in the south-west (between the Grampians and the South Australian border). These recommendations were accepted by the Victorian Government and are consistent with Andrews Government Biodiversity Strategy.

# See Appendix I – for more Details of National Parks creation in Western RFA & gaps

#### 5) The west is an area rich in threatened species and endangered habitats.

- In the Portland and Horsham Forest Management Areas (FMAs) alone there are at least 52 threatened vascular plant species, and 81 threatened fauna species that have been recorded in or close to state forests.
- South-eastern red-tailed black-cockatoo, for example, is found on some of the most cleared areas of the state in south-west Victoria. Remaining public land vegetation, particularly in stringybark forests, provide critical food resources as well as nesting habitats for the bird.
   Many of these areas are either State Forests or other public land blocks with minimal legislative protections in place.
- The south-eastern red-tailed black-cockatoo is a nationally endangered species, listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It is vulnerable to climate change and threatening processes currently allowable in State Forests, including resource extraction and inappropriate fire regimes, which can impact on the availability of critical food resources and nesting hollows for the bird.
- The Wombat forest is a large and beautiful forest with a diverse range of fauna and flora
  with over 360 indigenous plant and 180 native animal species. The Wombat is home to two
  plant species Wombat bossiaea and Wombat bush-pea which occur nowhere else.
  Fifteen threatened fauna species have been recorded in the Wombat, including spot tail
  quoll, growling grass frog, masked owl, powerful owls, brush-tail phascogale and greater
  gliders.
- Few of these species are listed or mentioned in the 2000 version of the RFA (other than some of the orchids) and few have relevant prescriptions in forestry codes or forest management plans.
- Much emphasis is placed on old growth in the RFA's and forest management systems. This is particularly an issue in the east of the state, however, this is less relevant in the west of the state for areas outside the formal reserve system.
- Due to the cleared and fragmented nature of remnant native vegetation in the west of the state any remnant vegetation has high conservation value. DELWP modelling, while it remains disputed by many conservationists, shows that approximately 350,000 hectares of old growth forest may currently exist in Victoria, almost all in state forests and protected areas east of the Hume Highway. Around 300,000 hectares of old growth has been lost in the last two decades.xvi If old growth exists in west it should be protected but in the west the focus in many depleted vegetation types should be on individual large old trees, as these are often rare and not part of larger old growth patches.
- There has been insufficient survey effort to have good knowledge of what species are present in the area or their range and population. State flora and fauna databases do not

provide adequate data about most areas that would be covered by the Western RFA.

Based on VNPA 2017 analysis of proposed logging in the west by VicForests<sup>xvii</sup>:

- Across western Victorian forests, 70 per cent of the area targeted for logging contains native vegetation types that are either endangered (19 per cent) vulnerable (11 per cent) or depleted (40 per cent).
- In the Horsham Forest Management Area, 54 per cent of the vegetation proposed for logging is endangered.
- More than 20 threatened native animals and 14 threatened native plants were found in or closely adjacent to a third of all proposed logging areas.
- Proposed logging coupes in the north-west of the RFA contain forest types where most trees
  do not grow large enough for sawn timber or fence posts or river red gums around wetlands
  where they provide crucial habitat for those species dependent on larger trees.

#### **FUTURE OPTIONS**

- The Western RFA should be cancelled, allowing national environmental laws to apply to protect threatened species and habitats.
- VicForests, the Victorian Government's commercial native forestry business, should be removed from the west of the state.
- The national parks and reserve system on public land should be completed in the west to international benchmarks, following an appropriate assessment and consultation process.
- If the small amount of commercial native forest logging continues, it should be managed by the government environment department (as is current domestic firewood).
- The timber industry should be based entirely on plantations established on previously cleared private land.
- Pricing and cost of access to public owned native forest should be reviewed so as not to disadvantage private growers of woodlots.
- Western forest should be assessed for economically and socially for all uses and values including water, carbon storage, recreation and biodiversity.
- Forest management systems need to be developed specifically for the habitats and species
  of the west and impacts of climate change (more fragmented, drier climates, smaller
  vegetation patches, many slow-growing species, large numbers of endangered species and
  habitat types)
- Traditional Owners land rights, ownership and management should be recognised and encouraged.

#### **B) VICTORIA'S REGIONAL FOREST AGREEMENTS**

The failures and the problems with renewing for another 20 years.

Regional Forest Agreements (RFAs) are twenty-year-long agreements between the Victorian and Commonwealth Governments and provide special treatment to the native forest industry.

There are five RFAs in Victoria: East Gippsland, Central Highlands, North East, Gippsland, and West Victoria.

Essentially, they are agreements to log our native forests, but without the need for assessment of threatened species or natural heritage under national environment protection laws.

Two decades on, the state and federal governments are attempting to renew the agreements to lock in a further 20 years of logging for Victoria – continuing their exemption from national environmental protection laws.

None off the Victorian RFAs have met their objectives. Numbers of forest-dependent species listed as threatened continue to rise, and forest health is declining and will only get worse under climate change. Even the native forest industry is stagnating and in decline as their main resource runs out or is reduced through landscape-scale fire.xviii

See more detailed background here at www.vnpa.org.au/regional-forest-agreements

Now, the Victorian and Commonwealth governments are seeking community input to inform the modernisation of the five Victorian RFAs.

An independent consultation paper has been produced which they are inviting comment on: <a href="https://www2.delwp.vic.gov.au/futureforests/get-involved/joint-rfa-consultation-with-commonwealth/independent-consultation-paper">www2.delwp.vic.gov.au/futureforests/get-involved/joint-rfa-consultation-with-commonwealth/independent-consultation-paper</a>

The Independent Consultation Paper - Modernisation of the Victorian Regional Forest Agreements paints a rosy picture of the success of RFAs in Victoria, but key elements of it are unfounded and misleading.

The RFAs make big claims that logging is ok because it also protects the environment through the establishment of parks and reserves. But this is largely a myth. The RFA process has had little to do with the establishment of new national parks and reserves in Victoria, and has been a block rather than a driver to the creation of protected areas.

- The RFAs are not responsible for the bulk of Victoria's reserve system
- The RFAs ignore key criteria in national agreed policy for formal protection
- The RFAs are a block to better protection and new national parks
- The RFAs ecological criteria are outdated and inconsistent
- The RFA review fails to recognise that there are still significant gaps in Victoria's reserve system

- The RFAs ignore climate change implications
- The RFAs ignore bushfire impacts
- The RFAs ignore other forest values

See below for more detail on all these points. There are many well-recognised problems with RFAs; you can read more about them here: <a href="www.vnpa.org.au/regional-forest-agreements">www.vnpa.org.au/regional-forest-agreements</a>

#### 1) The RFAs are not responsible for the bulk of Victoria's reserve system

The *Independent Consultation Paper* concludes: "Satisfactory – The Victorian RFA process successfully identified areas to be included in the state's CAR reserve system. Today, Victoria has 3 million hectares of forest within the formal reserve system. The modernisation of the RFAs will need to take into consideration the targets within Victoria's biodiversity plan, including supporting collaboration between stakeholders to drive improvement in biodiversity conservation (see, Department of Environment, Land, Water and Planning 2017). There is a need for better information on the effectiveness of the informal reserve system and forests on private land in protecting biodiversity, and for this information to be made available to the public."

The first two sentences above give the impression that the RFAs have been in some way responsible for the bulk of the formal reserve and park system. This is unfounded and misleading.

The report notes that all the changes to land tenure identified through this process were implemented in Victoria's RFA regions between 1999 and 2004. The report also notes that Victoria has 3.68 million hectares of parks and conservation reserves.

However, of the 3.68 million hectares of parks and conservation reserves cited, 84 per cent or roughly 3,077,000 hectares of land was protected under the *National Parks Act 1975* in Victoria *before* 1999 – before the RFAs started. This does not include the significant areas protected in other public land tenures such the *Crown Land (Reserves) Act 1978*.

The RFAs have largely been a block to the creation of formal protected areas.

#### **Key points:**

84 per cent of the reserve system was in place before the RFAs. Many of newer parks were
created either outside the RFA areas, or were created due to extensive community
campaigns in spite of the RFAs.

### 2) The RFAs ignore key criteria in national agreed policy for formal protection

Further, the *Independent Consultation Paper* states: "In Victoria, the information developed through the Comprehensive Regional Assessments was used to identify changes to public land tenure and changes to the management of State forests. All the changes to land tenure identified through this process were implemented in Victoria's RFA regions between 1999 and 2004. The outcome was an expansion of Victoria's CAR reserve system, and a corresponding reduction in the area of State forest and other Crown lands."xx

The statement that "By 2003, 900,000 hectares of forest had been added to the existing reserve system in Victoria through the RFA process" is quite misleading.

The bulk of this 900,000 hectares is in the *informal* reserve system, and not formally or permanently protected. According to the 2018 *Victorian State of the Forests* report, 828,000 hectares of special protection zones (actually informal and impermanent reserves) were established in Victoria in 2004. xxi

Between 1999 and 2004, there were roughly 102,165 hectares (excluding marine national parks and sanctuaries) protected under the National Parks Act. A large proportion of this was box-Ironbark parks in central Victoria following a long running community campaign and extensive investigation by the Environment Conservation Council (now VEAC). Most of this forest and woodland is also outside the West Regional Forest Agreement area. There were some small additions to the formal reserve system, but not a lot in RFA areas.

This approach is inconsistent with a key passage of the JANIS criteria, and by default the National Forest Policy. JANIS criteria required that "all reasonable efforts should be made to provide for biodiversity ... in the dedicated reserve system on public land" and an informal reserve system should only be used if it "is demonstrated that it is not possible or practicable to meet the criteria in the Dedicated Reserve system".

The key passages in JANIS is:

"All reasonable effort should be made to provide for biodiversity and old-growth forest conservation and wilderness in the Dedicated Reserve system on public land. However, where it is demonstrated that it is not possible or practicable\_to meet the criteria in the Dedicated Reserve system, other approaches will be required. For example, conservation zones in approved forest management plans and covenants on private land that bind successors in title could be used, in conjunction with Dedicated Reserves, to define the CAR reserve system for a particular region"xxiii (emphasis added).

Around 92 per cent of so-called reserves created under all the Victorian RFAs are informal (special protection zones etc.). Only 8 per cent of reserves related to RFAs are protected in formal reserves.

This is in contrast to other jurisdictions such as NSW, which protected 23 per cent of the area in formal or dedicated reserves and less than 4 per cent in informal reserves (either as reserves or by prescription) in its RFAs.\*XXIII

There is no evidence in the *Independent Consultation Paper*, or elsewhere, that Victoria has "demonstrated that it is not possible or practicable" to establish formal reserves.

The Victorian RFAs created a forest zoning system and did not deliver a CAR reserve system as described in the national agreed JANIS criteria (see point 4).

#### **Key points**

- The Victorian RFAs have embedded the 'informal' reserve system.
- Only 8 per cent of areas identified for protection in the Victorian RFAs were formally protected in parks and reserves.
- All, or at a minimum, a significant proportion of the informal reserve system should be included in the formal reserve system and protected under the National Parks Act.

#### 3) The RFAs are a block to better protection and new national parks

There is no demonstrable link between RFAs and increase in the national parks and conservation estate.

The *Independent Consultation Paper* also states: "Whilst the area of Victoria's formal reserve system is relatively stable, and indeed has grown over the 20-year time frame of the RFAs, the informal reserve system relies on an adaptive management approach, having flexible boundaries that can change over time to reflect new information and forest dynamics."xxiv

Between 2000 and 2014, the total area of parks and conservation reserves increased by around 400,000 hectares<sup>xxv</sup>, due to reserves creation either outside the RFA areas (e.g. Red Gum Parks), or due to community campaigns and other assessment processes in spite of the RFA (see below).

Formal park creation in roughly the last 10 years is at its lowest in 50-60 years.xxvi

The most updated information shows informal reserves in 2016 total 761,100 ha<sup>xxvii</sup>. Based on these figures, the informal reserve system has reduced by 66,900 hectares over the last 12 years, or 8 per cent of the total protected area.

Much of this reduction is likely due to the 2008 additions to the reserve system in East Gippsland, which in many cases included areas which had no value for commercial logging. In total, the Brumby Government committed to protect 41,000 hectares of old growth and icon sites in 25 areas scattered across East Gippsland. Of these:

- o almost 40 per cent is not old growth and of no commercial value to the logging industry
- Some of the areas identified included previously cleared areas and others exhibiting post logging regeneration failure<sup>xxviii</sup>

Much of this package swapped existing informal reserve zones into dedicated or formal protected areas, and industry was compensated by being allowed access to previous temporary protection zones. Many of these areas have now been logged.

An extensive community campaign in the 1980s and 1990s led to commitments to establish a new Great Otway National Park. This was in spite of the RFA, rather than because of it\*xix. The Great Otway National Park was legislated in 2005 adding around 53,732 hectares to the formal reserve system.

Like the Otways, formal protection of forest in the Portland Forest Management Area occurred largely due to long running community campaigns, again, in spite of the RFA rather than because of it. The campaign for the protection of the Cobboboonee Forest and the rest of the State Forests of the Portland Forest Management Area began in early 1996 after repeated accounts by the community over many years of the deliberate ringbarking and poisoning of significant numbers of old-growth hollow-bearing trees by government forestry departments. Cobboboonee National Park (18 510 hectares) was finally created on 9 November 2008.

#### Private land protection mechanisms

The *Independent Consultation Paper* notes other mechanisms for protection, including: Conservation covenants under the *Victorian Conservation Trust Act 1972* (Vic): Land Management Cooperative

Agreements under the *Conservation Forests and Lands Act 1987* (Vic), and provisions of the *Planning and Environment Act 1987* (Vic).

There have been repeated calls for increased funding for private land conservation, over the last decade, such as covenants under Trust for Nature and the creation of a revolving fund for high priority land, but none of these initiatives have been funded by either state or federal governments.\*\*

Likewise, other mechanisms, such as a land management cooperative arrangements and provisions of the Planning Environment Act, are largely only used as part of the offset arrangements under the *Guidelines for the removal, destruction or lopping of native vegetation*, December 2017.\*\*xxi

Native vegetation regulations and policy state: "The objective for the regulation of native vegetation clearing is to ensure that there is no 'net loss' to biodiversity as a result of the permitted clearing of native vegetation. This is achieved by applying the three step approach: avoid, minimise and offset. At a broader level, the Victorian Government is committed to achieving an overall 'net gain', expressed as an improvement in the overall extent and condition of native habitats across terrestrial, waterway and marine environments. Not all habitats or vegetation types will need to be improved or increased in order to achieve this goal, but overall gains will need to outweigh losses. Such gains will be the result of investment and other efforts by government, community and land managers. The most important places to achieve gains and to avoid losses are locations with higher relative contribution to biodiversity benefit."

#### **Key points**

- There is no demonstrable link between the RFAs and an increase in the conservation estate.
- The formal creation of national parks in the last decade is at its lowest in the last 50–60 years.
- There is no evidence that the RFAs either promoted or provided any funding for private land conservation.
- The RFAs seem to claim the reserve system as some sort of 'pair' or 'offset' for continued native forest logging. Victorian government policy also assumes the same for loss of native vegetation across the state, which is in reality a sort of policy double counting.

#### 4) The RFA ecological criteria are outdated and inconsistent

It should also be noted the JANIS criteria is now outdated and inconsistent with a range of other international agreements and national strategies. For example, through the Convention on Biological Diversity, the Australian and Victorian governments are committed to establishing a representative protected area system. For terrestrial areas, this is largely achieved through the National Reserve System (NRS). The NRS is a formally-recognised, national network of protected areas which cover terrestrial and inland freshwater ecosystems. It is complemented in marine environments by the National Representative System of Marine Protected Areas (NRSMPA).

The NRS and the NRSMPA processes incorporate the broad requirement for a comprehensive, adequate and representative protected area system. This is commonly referred to as the 'CAR' system. The CAR criteria set targets at the ecosystem level; for terrestrial areas in Victoria, Ecological Vegetation Classes (EVCs) are used as ecosystem surrogates, they are however different to the JANIS criteria embedded in the RFAs.

Importantly, in 2010, at the tenth meeting of signatories to the Convention on Biological Diversity in Nagoya, Japan, a revised strategic plan for biodiversity in the 2011-2020 period was adopted. This plan is often referred to as the Aichi Biodiversity Targets. Target 11 is particularly relevant to protected areas:

"By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape."

The current JANIS target is not directly comparable to the 15 per cent minimum target on ecosystem representation of the JANIS criteria used in the RFAs with the 17 per cent figure in the Convention on Biological Diversity.

In applying preliminary assessment of aspects of Aichi targets, VEAC identified representation shortfalls in the Central Victorian Uplands, Goldfields and Highlands–Northern Fall bioregions. This is however without considering other elements of the Aichi target such as "well connected systems of protected areas" or elements of the National Reserve System strategy such as "... core areas established for the long-term survival of threatened ecosystems and threatened species habitats in each of Australia's bioregions" or "... critical areas for climate change resilience ..."

JANIS criteria for determining the CAR reserve system are now ecologically poor and more ecologically appropriate criteria should be used. For example, the CAR reserve system uses JANIS and Bioregional Conservation Status (BCS) criteria for determining the endangered status of ecosystems. The JANIS and BCS criteria consider only the aerial extent of an ecosystem and nothing about the structure or function of an ecosystem. That is completely inadequate for determining an ecosystem's endangered status. Many animals require trees with hollows and such trees are only present if they are relatively old. Young forests, without such hollows, may occupy a large percentage of the original extent of that forest type, so they would not be considered endangered by JANIS or BCS criteria, but the absence of hollows and hollow-dependent species would mean that ecologically, those forest ecosystems are endangered. This is precisely the situation with mountain ash forests in the Central Highlands, which are considered endangered by the IUCN, but not JANIS.

#### **Key points:**

- The ecological criteria (JANIS criteria) is now outdated and inconsistent with a range of other international agreements and national strategies
- The JANIS criteria should be reviewed against new international and national strategies and new science, before the RFAs are renewed.

**5)** The RFA review fails to recognise that there are still significant gaps in Victoria's reserve system The *Independent Consultation Paper* concludes: "Satisfactory – Victoria's CAR reserve system covers all bioregions and EVDs, although the level of coverage of individual bioregions/EVDs varies. Whilst there may be remaining opportunities to incorporate EVCs that have low levels of representation into the CAR reserve system, other strategies including restoration and improving connectivity between fragmented EVCs and working with private landholders to conserve under-represented EVCs may also provide effective conservation outcomes."xxxxvi

The *Independent Consultation Paper* does not adequately address the gaps in Victoria's reserve system. This is in contrast to the stated objectives in the Victorian Government's *Biodiversity 2037* strategy. The *Independent Consultation Paper* also fails to identify how the objectives of this strategy will be addressed.

The *Biodiversity 2037* strategy states:

- "...many ecosystems, habitats and threatened species are inadequately represented in the reserve system and need increased protection."
- "...the estimated gap in additional protected areas required to meet Australia's criteria for a comprehensive, adequate and representative reserve system is 2.1 million hectares..."
- "A comprehensive, adequate and representative protected area system across public land, private land and Indigenous protected areas, that continues to be the cornerstone of conserving biodiversity."

"Priority 18: Review the extent, representativeness and adequacy of the reserve system to identify key gaps and additional complementary measures required to improve the reserve system on public and private land."xxxvii

An analysis undertaken by Victorian Environment Assessment Council (VEAC) shows there are three regions of Victoria where under-represented Ecological Vegetation Classes (EVCs) form a distinct cluster, including the 'south west cluster'.

The core of the 'south west cluster' cluster is the Glenelg Plain bioregion, the Dundas Tablelands bioregion (particularly the Cherrypool link between the Grampians National Park and Black Range State Park) and the western part of the Wimmera bioregion, especially south of the Little Desert. Adjoining areas with large shortfalls that may be readily included in an assessment of this cluster are the Warrnambool Plain bioregion and the western part of the Victorian Volcanic Plain bioregion. According to analysis in a supplement to the VEAC *Statewide Assessment of Public Land Discussion Paper*, there is a "shortfall" of approximately 205,047 hectares on public land in the south west cluster of the bioregion, though the area looked at is larger than the current forest management areas or the area covered by the West Victoria RFA. xxxxviii

Further, the RFAs tend to use the larger bioregional unit than the Interim Biogeographic Regionalisation for Australia (IBRA) sub regions now used in many assessments, which would paint a different picture if applied in RFA regions.

As stated previously, there is no evidence that the RFAs have done anything for private land conservation.

# **Key points:**

- Other state government policy clearly states that there is a gap of over 2 million hectares in the formal reserve system in Victoria.
- The RFA review does not adequately address the gaps in the reserve system.
- This is in contrast to the stated objectives in the Victorian Government's *Biodiversity 2037* strategy.

#### 6) The RFAs ignore climate change implications

The current RFAs do not even mention climate change and its potential impacts. Yet climate change has long been recognised as a stressor that adds to, and interacts with, a range of existing stressors that have already significantly changed and diminished Australia's biodiversity.\*\*xxxix

The *Independent Consultation Paper* does flag "Improvement needed" for climate change and climate-related invasive species and fire.

At a national level, the most important proximate drivers of change in Australia's biodiversity that will interact with climate change are considered to include:

- loss and fragmentation of habitat associated with land clearing
- redistribution of water resources
- changes in nutrient distributions in soil and water
- changes in fire regimes, mining and salinity
- the introduction of exotic species and diseases.xl

The Victorian Environmental Assessment Council (VEAC) *Fibre and Wood Supply Assessment 2017, Appendix A Consultants' Report* makes a series of points about the implications of climate change for wood supply.<sup>xii</sup>

The expert consultants found for Mountain Ash, the most valuable source of timber for the logging industry that:

- A 3°C increase in mean annual temperature (MAT) from 9.5°C to 12.5°C, which is consistent with expectations for MATs in south-eastern Victoria by the end of this century) leads to a reduction in the total number of trees (i.e. stand density) at a given mean tree diameter.
- A 3°C increase above current MAT leads to a decrease of 15 per cent in tree volume per hectare, although there is substantial variability among different stands.
- Future harvest volumes are expected to decline due to increasing MAT in south-eastern Australia. Current growth and yield models do not account for the potential reduction in future harvest volume.
- The total area suitable for regeneration of mountain ash could decrease by up to 80 per cent under a 3º climate change scenario by 2080.

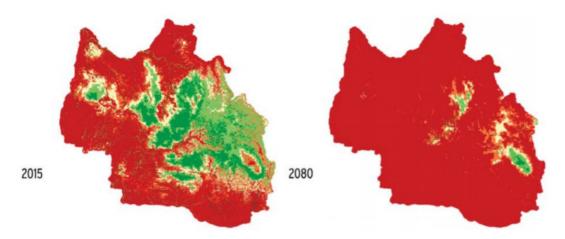


Figure 24: Regeneration suitability of mountain ash (*Eucalytpus regnans*) across the Central Highlands under current climate conditions (left panel) and a future climate that is  $3^{\circ}$ C warmer (right panel). The colour scale runs from unsuitable for natural regeneration (red) to well suited for natural regeneration (green). The total area suitable for regeneration of mountain ash decreases by  $\sim$ 80% between the two scenarios.

Source: www.veac.vic.gov.au/documents/Appendix%20A%20-%20Consultants'%20Report.pdf

Forest management systems need to be developed specifically for the habitats and species of the west and impacts of climate change (more fragmentation, drier climates, smaller vegetation patches, many slow-growing species, large numbers of endangered species and habitat types).

Other than in the alpine regions, most climate models have not been adequately assessed to scale. This assessment should be made for all regions of Victoria. There should be an assessment of each forest management area to identify the broader trends. Each park or patch of public land/forest should have a climate strategy which attempts to translate the potential implications of climate change to management.

#### **Key points**

- Any new RFAs must include climate change triggers, and in the case of climate related events, lead to:
  - A ceasing of logging in effected areas
  - A comprehensive re-assessment of values and appropriateness of RFAs and sustainable harvest levels
  - An agreed carbon method for assessing avoided logging in native forests should be completed urgently
  - Climate models should be completed at a finer scale and climate plans developed for each key patch of public forest.

# 7) The RFAs ignore bushfire impacts

RFAs ignore the successive or cumulative impact of bushfire, even though there have been extensive fires in the last 10 years. The issue of fire is complex, yet the RFAs ignore both the impact on extent and structure of the forest and also resource availability for industry.

Research on the 2009 Black Saturday fires showed that recent logging increased the probability of a crown fire in a range of forest types. \*lii Logging can increase the susceptibility of moist forests to fire —such as those found in all of the RFA regions—due to several factors:

- 1. Altering the microclimate by removing the canopy
- 2. Altering stand structure and composition
- 3. Altering fuel characteristics (e.g. via adding fine fuel for ignition)
- 4. Increasing or altering ignition points (e.g. via road creation providing access to forests)
- 5. Altering the spatial pattern of stands which can influence fire spread xliii

Estimates from Department of Environment, Land, Water and Planning show that at least 40–60 per cent of state forest has since 1960 already been logged or burnt or is proposed to be logged in the next few years. Assuming that many of the easier and non-constrained areas of forest have been logged first, there is limited resource left, particularly if future fires are taken into account. There is no clear provision in the RFAs to consider the impacts or cumulative implications of these scales and rates of fire plus logging.

Regional Forest Agreement Area	State forest in RFA that has been logged since 1960 or is on TRP or has been burnt (ha)	State forest in RFA that has been logged since 1960 or is on TRP or has been burnt (%)
Central Highlands	177,271	44
East Gippsland	233,997	40
Gippsland	461,710	57
North East	320,118	46

The Victorian Environmental Assessment Council's *Fibre and Wood Supply Assessment 2017, Appendix A Consultants' Report* makes a series of points about the implication of fire for wood supply:

"The mean proportion of the commercially valuable 1939 regrowth ash forests from the Central Highlands that was lost in simulated fires over the next 20 years was 20 per cent, ranging from 3-47 per cent. These results were consistent with the historical data on fire activity."

"It is unclear how much, if any, buffer is included to account for unexpected future events, such as fires. The process, by which these scenarios are aggregated, evaluated and analysed, and then combined with other information to select a single annual sustainable harvest level, is not documented and is the least transparent part of the process." xiliv

#### **Key points**

- Any new RFAs must include fire triggers and lead to:
  - A cease of logging in effected areas
  - A comprehensive re-assessment of values and appropriateness of RFA and sustainable harvest levels.

#### 8) The RFAs ignore other forest values

The RFAs do not recognise, include or account for non-wood forest values (such as water, ecosystem services, recreation and tourism) that are contributing significant sums to the state's economy, and could contribute further.

A study *Experimental Ecosystem Accounts for the Central Highlands of Victoria - Summary document,* July 2017 found that the value of key regional industries far outweighs that of the native timber industry. xiv Key findings include:



**Economic contribution (Industry Value Added)** of key regional industries substantially outweighs that of native timber harvesting in Victorian Central Highlands study area. Note: carbon sequestration is estimated as a potential value, as Federal Government regulation currently excludes native forests from the carbon market.

Source: www.tsrhub.worldsecuresystems.com/Ecosystem%20Summary%20Report\_V3b\_low.pdf

According to an economic assessment by leading economic consultants the Nous Group, for an investment of just \$45 million, Victoria's proposed Great Forest National Park would draw almost 380,000 extra visitors a year to the Central Highlands, add \$71 million annually to the local economy and generate 750 jobs with a little private investment.xivi

Even without private investment, the state government, by simply declaring the national park, improving park infrastructure and visitor management, and establishing the Healesville-to-Eildon hiking trail, could generate 520 jobs, attract an extra 242,000 visitors a year and add \$48 million annually to the economy in 10 years time and growing.

PROJECTS	ESTABLISHMENT COST ESTIMATES	ADDED ANNUAL ECONOMIC BENEFIT	ADDED JOBS	ADDED ANNUAL VISITORS
Establish national park, boundaries and management board, and conservation management	\$8.1 million	\$7.5 million	80 new jobs	24,000 extra
Improved facilities and visi- tor management, establish Healesville-to-Eildon hiking trail	\$17.9 million	\$31.1 million	440 new jobs	218,000 extra
Tree-top walk, zip-line and eco-lodge	\$19.2 million	\$22.5 million	240 new jobs	137,000 extra
TOTAL	\$45.2 million	\$71.1 million	760 new jobs	379,000 extra

Source: www.vnpa.org.au/wp-content/uploads/2017/02/Nous-GFNP-economic-contribution-study-3-February-2017.pdf

The *Independent Consultation Paper* notes that "Improvement needed – Victoria's forests generate a wide range of values that provide substantial environmental and socio-economic benefits. In addition to providing material values for the benefit of people, such as water, wood, fibre and recreational opportunities, Victoria's forests have important cultural and historical heritage values".xivii

But it provides no mechanisms to better assess these values and uses, other than to try to encourage more forestry graduates.

The native forest logging industry has no social licence and is deeply unpopular in the general community. Polling consistently shows less than 10 per cent of the population support native forest logging. The native forest industry is declining – why would a young person choose this as a career as it has no future? Most remaining forestry courses have only survived with government subsidies.

#### **Key points**

• Forest should be managed for multiple values, which could be done without RFAs like in many other parts of the state. Why should the native forest logging industry get special treatment and exemptions from national environmental laws?

#### **COMENTS ON FUTURE DIRECTIONS**

Section 4 of the *Independent Consultation Paper* suggests that a new vision for managing Victoria's forests should seek to:

"Support the goals of Australia's National Forest Policy Statement, including conservation, water supply and catchment management, tourism and other economic and social opportunities, wood production and industry development, and integrated and coordinated decision making and management."

A worthy goal, but no clear direction is given other than for forestry. As demonstrated above, the RFAs claim a lot but have delivered very little in terms of conservation, tourism, water supply, etc.

"Promote partnerships between the Victorian Government and Traditional Owners."

Traditional Owners' land rights and management rights should be recognised and encouraged. We note that currently, most co- or joint-management arrangements in Victoria have been delivered in areas protected under the National Parks Act, with no relationship to the RFAs or state forests.

"Encourage a coordinated, proactive and transparent approach to involving local communities in forest management issues."

Why only local community involvement? The public forests of Victoria belong to all Victorians, who should be allowed to have a say in their management. Many people who are not local also have an interest in, and ownership of, our forests; this is a narrow and poorly defined objective.

"Build resilience of Victoria's forests to climate change and other large-scale disturbances."

Focus should be reducing disturbance. Fire and logging are currently very large disturbances.

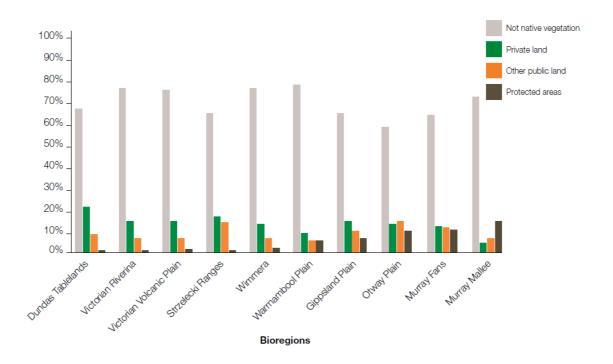
### "Consider all public forests."

The RFA process should have nothing to do with all public forests. They have had little impact in creating new conservation reserves. If they are to exist at all they should be constrained to deal with production forest only.

The National Parks Act in Victoria provides for park planning and is a legislated requirement. Logging is not allowed in areas protected under the National Parks Act. The RFAs and so-called forest planning have no sustainable or effective role and are a duplication of existing or future national park planning processes, and are likely to create conflicting objectives.

# Appendix I – Details of National Parks creation in Western RFA and Gaps in the reserve system.

Key bioregions in the west of the state Dundas Table Lands, Wimmera, Victorian Volcanic Plains are some of the most cleared parts of the Victoria, the most cleared state in Australia.

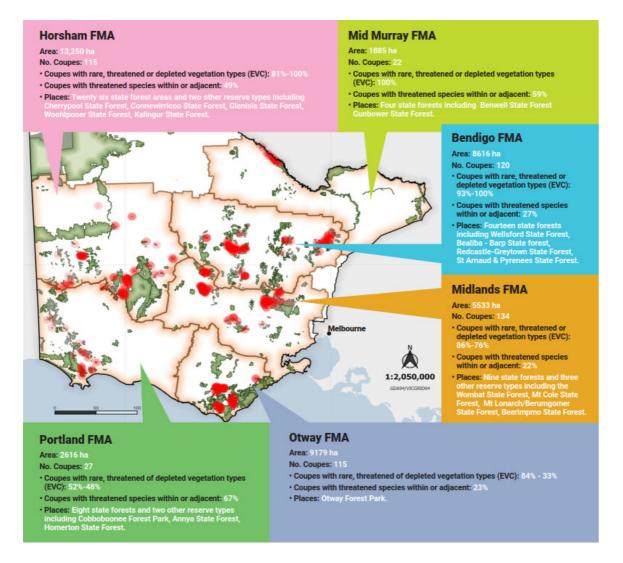


#### Sources:

http://www.veac.vic.gov.au/documents/SAPL%20Discussion%20Paper\_online\_o.pdf

A 2017 investigation by the Victorian National Parks Association into new logging plans for Victoria's western forests and woodlands reveals they would be ecologically damaging and take place in areas known to harbour more than 20 threatened native animals and 14 threatened native plants. https://vnpa.org.au/publications/western-forests-at-risk/

While there were some changes in the final Timber Utilisation Plan, mostly in the Portland FMA, the analysis demonstrates the potential significant impacts on threatened species and depleted vegetation type sin most cleared landscape in Victoria. (see below)



#### Otway's Fortes Management Area – Game Changer

Pre RFA, between 1978 -1997, 39 933 ha of parks and reserves where created in what is now the Greater Otway National Park. An extensive community campaign in the 1980s' and 1990s lead to commitments to establish a new Greater Otway National Park. This was in spite of the Regional Forest Agreement rather than because of it (see <a href="http://www.oren.org.au/">http://www.oren.org.au/</a>)

The Victorian Environmental Assessment Council (VEAC) commenced an investigation relating to Angahook–Lorne State Park in 2002. The purpose of the investigation was later expanded to include the investigation of a single national park in the Otway Ranges and the addition of State forest areas to the protected area network

The VEACs final report was released in November 2004 after extensive research, analysis and community consultation. The majority of the final recommendations were accepted by the Victorian Government; including the creation of a large new national park, a forest park and three new reference areas (Porcupine Creek, Aquila Creek and Painkalac Creek). Land at Ironbark Basin, Sabine Falls and multiple areas formerly owned and managed by water corporations were added to the park in 2006. 53 732 ha of State forest were added to the national parks estate, to make up a consolidated 102,690 ha national park. In addition there were 39,000 ha of Forest Park declared. Further small addition to parks were made in 2006, 2009, 2013 and most recently 6,367 ha of the Anglesea Heath land (treeless vegetation type) were added making up a total Great Otway National Park of approximately 109,628 ha, today.

It was even decaled in response to a Question without notice in the Victorian Parliament ( *Hansard*, 5 October 2004, Page 593) by the ALP Premier Steve Brack's that the West Regional Forest Agreement had been cancelled, unfortunately this appears never to have happened officially, even though ALP was in power for further 6 years till to 2010 and again 2014 onwards, though under different leadership.

#### Hansard, 5 October 2004, Page 593

#### **BRACKS (Premier) --**

.....We took action to cancel one of our regional forest agreements here in Victoria, which I committed to at the last election when I committed to creating a new national park in the Otway Ranges

Mr BRACKS -- In relation to the regional forest agreements, we cancelled the agreement associated with the Otway National Park, and we are proceeding with the national park through a reference to the Victorian Environmental Assessment Committee.....

http://hansard.parliament.vic.gov.au/isysquery/2e40fbe6-73b6-4452-af08-05947b38e659/8/doc/

#### Gaps in the Horsham and Portland Forest Management Areas

Like the Otways, formal protection of forest in the Portland FMA occurred largely due to long running community campaigns, in spite of the RFA rather than because of it. The campaign for the protection of the Cobboboonee Forest and the rest of the State Forests of the Portland Forest Management Area began in early 1996 after repeated accounts over many years by community of the deliberate ringbarking and poisoning of significant numbers of old-growth hollow-bearing trees by government forestry departments.

The Cobboboonee State Forest, at around 27,000 hectares, represents the most westerly occurrence of the 'Lowland Forest' Ecological Vegetation Class, many wetlands, endangered and vulnerable vegetation types as well as threatened species, including large forest owls, yellow bellied gliders, small marsupials and a species of skink. The fact that this forest directly adjoins the Lower Glenelg National Park only serves to emphasise the high strategic conservation value of this block of native vegetation. Cobboboonee National Park (18,510 ha) was finally created on 9 November 2008.

The Western RFA itself Clause 46. Victoria undertakes to: West Victoria Regional Forest Agreement Page 11 (a) continue to manage the Dedicated Reserves within the CAR Reserve System in accordance with the relevant government approved recommendations of the Land Conservation Council or Environment Conservation Council;

www.agriculture.gov.au/SiteCollectionDocuments/rfa/regions/vic-west/rfa/vic\_west\_rfa.pdf

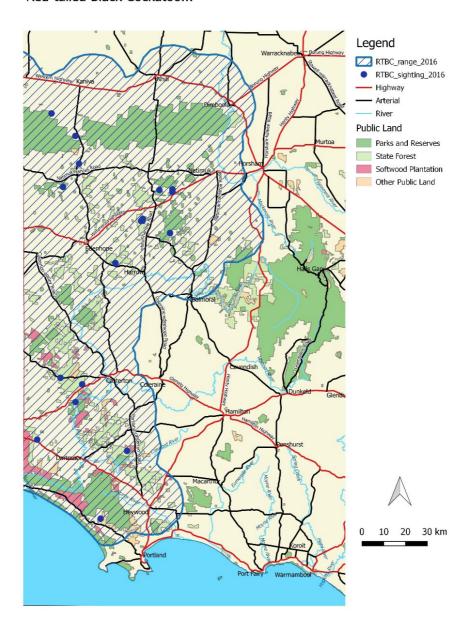
#### **Threatened species**

In the Portland and Horsham FMAs at least 52 threatened vascular plant species and 81 threatened fauna species have been recorded in State forest or on land in close proximity to State forest.

The distribution range of the South-eastern Red-tailed Black-Cockatoo encompasses some of the most cleared areas of the state. Remaining public land vegetation, particularly in Stringybark forests, provide critical food resources as well as nesting habitats for the bird. Many of these areas are either State Forests or other public land blocks with minimal legislative protections in place.

The South-eastern Red-tailed Black-Cockatoo is a nationally endangered species, listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It is vulnerable to climate change and threatening processes currently allowable in State Forests, including resource extraction and inappropriate fire regimes, which can impact on the availability of critical food resources and nesting hollows for the bird.

#### Red-tailed Black Cockatoo...



The public land forest habitats of the South-eastern Red-tailed Black-Cockatoo will also benefit the Long-nosed Potoroo (vulnerable under EPBC Act) and the Southern Brown Bandicoot (endangered under EPBC Act), species that are supported by the very same forest habitats used by the cockatoo.

Within and adjacent to the range of the South-eastern Red-tailed Black-Cockatoo there are a number of endangered, vulnerable and depleted vegetation types many of which have Stringybark overstorey components or other values such as large hollow bearing trees supplying critical nesting habitat. There are also many threatened fauna species including the Powerful Owl, Barking Owl,

Masked Owl, Grey-crowned Babbler, Hooded Robin, Lace Monitor, Brush-tailed Phascogale, Diamond Firetail, Growling Grass Frog and the Fiery Jewel Butterfly to name a few. Additionally there are a range of threatened flora species including a number of unique terrestrial native orchids, many of them found within or adjacent to Stringybark forests.

None of these species are listed or mentioned in the 2000 version of the RFA (other than some of the Orchids) and few have relevant prescriptions in forestry codes or forest management plans.

#### See also Appendix II – Conservation Significance of Portland and Horsham FMAs

#### **Midlands Forest Management Area**

Similar to the Otway's and Portland Forest Management areas, debate in the 1990s about industrial forestry in western Victoria lead to a relatively new ALP Victorian government in 2002 to commit to "... a cut of at least 70 per cent in logging in the Wombat forest, around Daylesford, and would probably ensure the end of woodchipping in the central Victorian forest by the end of the year" xiviii

In addition, immediately after the November 2002 state election, the Bracks ALP Government stopped the sale of residual logs for wood chipping in response to concerted campaigns by local environmentalists over many years.

There were a number of small scale experimental Collaborative or community forest management (CFM scheme attempted in the early 2000's but these ended in 2006 with limited public support and little to show for it.xlix

Board scale logging has largely been on hold in the Wombat Forest since mat least the mid 2000s. The 2017-2020 Vic Forest Timber Utilisation Plan has 62 coupes in the Wombat–Macedon block listed totaling 4115 hectares. Of these, 59 coupes are scheduled for multi-aged stand management, two are scheduled for forest management operations, and one is scheduled for even-aged stand management (clear-fell). <sup>1</sup>

In May 2010, the Victorian National Parks Association, with the assistance of local groups, produced a report *Better Protection for Special Places* which documents the natural values of more than 100,000 hectares of state forest across Central Victoria and calls for a dramatic increase in government spending and greater protection for these areas. Areas assessed included the current VEAC investigation area. The aim of the report was to highlight the gaps in the current state-wide reserve system and highlight the value of these specials places.<sup>||</sup>

The Victorian National Parks Association (VNPA) has also run an active citizen science project, NatureWatch, in the Wombat Forest for 10 years. This has been in part to build community interest and awareness but also build the knowledge base around the forest.<sup>||||</sup>

At a similar time a range of other conservation groups produced a landscape assessment "Conservation Values of the Mount Cole & Pyrenees Landscape: An assessment by The Wilderness Society, Ballarat Environment Network, Wombat Forestcare and Bendigo and District Environment Council, 2010" [iii.

Gaps in the comprehensiveness, adequacy and representativeness in Victoria's reserve system, including central Victoria were identified in the 2008 *State of the Environment Report*. Slightly later, the 2011 Victorian Environmental Assessment Council Remnant Native Vegetation Investigation recommended that the government "... *initiate investigations of public land use*," including in central Victoria (central Victorian uplands bioregion). This recommendation was not supported by the then

conservative government in November 2011. Iv Draft terms of reference for the current VEAC Central West Investigation were subject to community consultation and the final terms of reference were released in March 2017. Iv

VEAC released a *Draft Proposal Paper for the Central West Investigation* on the 31 August 2018 and submissions in response to the draft proposal closed in December 2018. VEAC received 2,700 written submissions. There were significant community debate during this period and VNPA was active in encouraging submissions and highlighting that the majority of the draft recommendations would be effective in protecting the natural values of the central west region. A final report is expected to be delivered to the Victorian Government in June 2019.

The final VEAC Report was released 21 June 2019. <sup>№</sup>The report recommends an additional 50,146 hectares of area protected under the *National Parks Act 1975*, which includes new or additions to national or state parks.

vii "There are a number of key issues that I have recommended the Parties consider for the continued implementation of the RFAs. The most critical of these is consideration of cancelling the West Victoria RFA or substantially amending the RFA given the significant additions to reserves and reduction in timber availability made since the agreement was signed."

www2.delwp.vic.gov.au/\_\_data/assets/pdf\_file/0018/412380/Victorian-RFAs-period-1-2-Independent-Review-of-progress.pdf, page 9

#### web.pdf?la=en&hash=BEF9F12E090F6CD65AF2FFB80ECDADCC5269E041

i www.agriculture.gov.au/SiteCollectionDocuments/rfa/regions/vic-west/rfa/vic west rfa.pdf

ii www.vicforests.com.au/sales-supply/community-forestry-western-victoria-1/approved-timber-utilisation-plan

www.vicforests.com.au/static/uploads/files/report-vicforests-annual-report-2018-wfccxhsjgpfj.pdf, page 13

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 $<sup>^{\</sup>rm v}$  www.vicforests.com.au/static/uploads/files/report-vf-2017-deloitte-report-final-wfmtrpbbmtwu.pdf, page 11

 $<sup>^{</sup>m vi}$  www.vicforests.com.au/static/uploads/files/report-vf-2017-deloitte-report-final-wfmtrpbbmtwu.pdf, page 11

viii www.gazette.vic.gov.au/gazette/Gazettes2019/GG2019S153.pdf#page=2

ix www.vnpa.org.au/logging-to-impact-one-of-victorias-most-popular-bush-walks-at-mount-cole/

<sup>&</sup>lt;sup>x</sup> More information on Otway campaign www.oren.org.au/campaign/politics/westrfadead.htm

xi www.veac.vic.gov.au/investigation/central-west-investigation

xii www.veac.vic.gov.au/documents/VEAC%20Central%20West%20report(LR).pdf

www.veac.vic.gov.au/investigation/statewide-assessment-of-public-land

xiv www.gazette.vic.gov.au/gazette/Gazettes2019/GG2019S153.pdf#page=2

<sup>&</sup>lt;sup>xv</sup> www.environment.vic.gov.au/biodiversity/biodiversity-plan page 49. The estimated gap in additional protected areas required to meet Australia's criteria for a comprehensive, adequate and representative reserve system is 2.1 million hectares.

xvi www.veac.vic.gov.au/documents/supplement.pdf

xvii www.vnpa.org.au/publications/western-forests-at-risk

xviii www.vnpa.org.au/victorias-forests-are-not-magic-puddings/

xix www2.delwp.vic.gov.au/futureforests/get-involved/joint-rfa-consultation-with-commonwealth/independent-consultation-paper, page 14

xx www2.delwp.vic.gov.au/futureforests/get-involved/joint-rfa-consultation-with-commonwealth/independent-consultation-paper, page 14

xxi www.ces.vic.gov.au/sites/default/files/State%20of%20the%20Forests%20Report%202019.pdf, page 60

xxii www.agriculture.gov.au/SiteCollectionDocuments/rfa/publications/nat\_nac.pdf, page 7

xxiii See Appendix J www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/forestagreements/17p0296-nsw-rfa-implementation-review-period-2-and-3-

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xxxiii www.cbd.int/sp/targets/

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xxxviii www.environment.vic.gov.au/biodiversity/biodiversity-plan, page 49

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- xxxix Steffen W, Burbidge AA, Hughes L, Kitching R, Lindenmayer D, Musgrave W, Stafford Smith M, Werner PA (2009) Australia's biodiversity and climate change: A strategic assessment of the vulnerability of Australia's biodiversity to climate change, Report to the Natural Resource Management Ministerial Council commissioned by the Australian Government. CSIRO Publishing
- xl Hughes L, Hobbs R, Hopkins A, McDonald J, Stafford Smith M, Steffen W, Williams S, 2010: *National climate change adaptation Research plan for terrestrial biodiversity*, National Climate Change Adaptation Research Facility, Gold Coast.
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- klii Bradstock, R. A., and O. F. Price. 2014. Logging and Fire in Australian Forests: errors by Attiwill et al. (2014). Conservation Letters 7:419-420. & Price, O. F., and R. A. Bradstock. 2012. The efficacy of fuel treatment in mitigating property loss during wildfires: Insights from analysis of the severity of the catastrophic fires in 2009 in Victoria, Australia. Journal of Environmental Management 113:146-157.
- xiiii Lindenmayer, D. B., M. L. Hunter, P. J. Burton, and P. Gibbons. 2009. Effects of logging on fire regimes in moist forests. Conservation Letters 2:271-277.
- xliv www.veac.vic.gov.au/documents/Appendix%20A%20-%20Consultants'%20Report.pdf
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