

## New Submission to Inquiry into Ecosystem Decline in Victoria

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Inquiry Name: Inquiry into Ecosystem Decline in Victoria

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### **SUBMISSION CONTENT:**

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#### CONTEXT

Victoria is home to a diverse range of flora, fauna and ecological communities. Many species are endemic to the State, some occur in only one location in the world. Tragically, the past 270 years of European land use has caused the loss of over 60 percent of the State's native vegetation. 41 plant and 9 animal species have been irretrievably lost to extinction. In addition to this, threatening processes such as disease, inappropriate fire regimes, wildfire, drought, inbreeding depression, timber harvesting and pest plants and animals are driving many more in the same direction. The 2019/20 bushfires devastated the Nation's wildlife killing over a billion animals and threatening hundreds of plants and numerous ecological communities (Hughes et al. 2020).

Australia is facing an extinction crisis of unprecedented magnitude since European occupation. Over 1,890 species are listed as threatened under Australia's Environment Protection and Biodiversity Conservation Act 1999. Yet, this is a conservative tally as many more are yet to be listed. Most of Australia's threatened species occur nowhere else in the world. Over the past 20 years, 7.7 million hectares of threatened species habitat has been destroyed in Australia, constituting 85% of terrestrial threatened species habitat. These losses are catastrophic, yet this situation will only worsen as Australia heads further into climate breakdown.

We are allowing our natural heritage to be lost forever.

The Threatened Species Conservancy is a not-for-profit organisation with a mission to save Australia's flora and fauna from extinction. We are ecological specialists who have the expertise to help threatened species to thrive. The Threatened Species Conservancy is the only not-for-profit organisation in Australia dedicated solely to the recovery of the Nation's threatened species. Our work is tenure-blind and we collaborate widely with scientists, governments and communities to design and implement threatened species recovery programs.

#### HISTORY OF THREATENED SPECIES FUNDING

Over the past 10 years, there has been little political impetus from State and Federal Governments to act to protect the majority of non-iconic threatened species in Victoria. This is despite the impacts of increasing global temperatures on our native ecosystems and the recent catastrophic bushfires.

There has never been a more critical time in Victoria's history to invest in threatened species recovery programs than now.

The Victorian Government is to be commended for funding programs for a small number of the State's iconic threatened species (such as Victoria's faunal emblems). However, little support has been available for the implementation of recovery programs for non-iconic species. Some threatened species programs operate today through Zoos Victoria and the Royal Botanic Gardens Victoria. These valuable programs are focussed largely on ex-situ programs (rather than in-situ habitat restoration which is also vitally important).

Victorian Government-run threatened species recovery programs have operated to a greater extent in the past (albeit intermittently) commencing approximately 25 years ago and terminating 17 years later. Most were resourced by the Federal Government with minimal support from the Victorian Government. Over that time, funding fluctuated as State and Federal Governments came and went. Cutbacks ultimately led to the cancellation of all programs and the subsequent loss of corporate knowledge and skills within Government departments.

These cost cutting exercises also took a human toll, as most staff struggled with ongoing job insecurity, low wages, highly politicised and dysfunctional workplaces and ultimately unemployment. Although these programs led to some beneficial outcomes for threatened species, they lacked centralised coordination (with the exception of the reporting component), a strategic approach and adequate budgets to implement on-ground works. Furthermore, the objective of preventing further extinctions was not shared across Government departments leading to internal tensions around land use practices (such as timber harvesting and fuel reduction burning).

By contrast, the Victorian State Government continues to invest substantial energy and resources into the development of policy, information systems, species prioritisation tools, spatial modelling and reporting to improve the allocation of resources and the delivery of biodiversity conservation. Yet for threatened species, this investment has not been matched to deliver programs that lead to on-ground benefits for the majority of the State's threatened species. Considerable thought has been given to how best to allocate resources for threatened species without these resources ever materialising.

As population monitoring was discontinued years ago, few data exist that describe the current size and extent of threatened species populations. Consequently, survivorship of most of Victoria's threatened species populations is almost impossible to track. However, some anecdotal information suggests that a number of species have undergone substantial declines in population health and size and some face imminent extinction. For example, a number of taxa within the Holly-leaf Grevillea complex have declined across their range, with some populations now extinct (Neil Marriott, pers. com.). Other species, such as the Grampians pincushion lily (*Borya mirabilis*) teeter on the brink of extinction (Noushka Reiter, pers. com.).

#### SINGLE SPECIES VERSUS LANDSCAPE SCALE APPROACHES

Across Australia, investment in threatened species recovery has rarely been adequate, resulting in significant cost inefficiencies in program delivery (McCarthy et al. 2008). This was indeed the case in Victoria where poorly resourced programs were unable to substantially ameliorate threatened species declines. This situation is likely to have led to a perception within the natural resources

management community that threatened species recovery projects are ineffective and investment is better focussed at the landscape scale.

These attitudes reflect the current approach by the Victorian State government to focus resourcing on programs that address landscape scale restoration at the expense of single species recovery. The rationale seems reasonable, to benefit the greatest number of species with a single set of threat mitigation actions. For example, the NCCMA 2013-19 North Central Regional Catchment Strategy states:

“As the number of species at risk grows, implementing individual species management programs has become increasingly challenging. While this method is appropriate for some species, approaches that benefit a range of species (both threatened and those that may yet become vulnerable) will be preferred. The traditional approach of conserving species in their current locations and environments must be broadened to better encompass climate adaptation and the maintenance of ecosystems under changed conditions. This can be achieved through programs aimed at achieving broader, landscape-scale outcomes through threat mitigation and the maintenance of ecological and evolutionary processes.”

At the core of this approach, is the assumption that these actions will reverse declines in the conservation status of threatened species. This may appear to be an effective and cost-efficient approach. However, the reality for threatened species on the ground is far from the picture this paints.

Actions that bring about landscape scale benefits (such as revegetation, removal of stock and legal protection) may bring some benefits to threatened species populations, but rarely prevent plant and animal extinctions on their own. This is because processes that often have the greatest deleterious impact on threatened species tend to be different to those of more common species. For example, small population size and isolation has led to genetic inbreeding depression in many plants and animals. Consequently, the actions required to ameliorate these threats are species-specific rather than at the landscape scale.

In addition to this, those processes that do impact both common and threatened species frequently require more intensive management to mitigate threats for threatened species. This is because threatened species populations are generally smaller and more vulnerable to extirpation. For example, the benefits of installing exclosure fencing to protect threatened species populations from herbivore browsing is far more effective (and cost efficient) than controlling herbivores across an entire landscape.

The recovery of Victoria's threatened species is achievable (Garnett et al. 2018). There are a range of new, innovative and cost effective approaches to threatened species recovery. For example, recent research has shown that carefully managed supplementation of animal populations that introduce individuals from distant populations (genetic rescue) can dramatically reduce the risk of extinction. This has been clearly demonstrated in mountain pygmy possum (*Burramys parvus*) populations in the Victorian Alps. In this instance, supplementation of genetically depauperate populations using mountain pygmy possums from distant sites, led to significant increases in the size and fitness of individuals as well as an increase in the population itself (Weeks et al. 2017). Elsewhere, these techniques have been applied to a wide range of other animal and plant populations with similar positive outcomes (Frankham 2019).

In summary, funding landscape scale restoration programs with the expectation of recovering the majority of threatened species is unrealistic, poorly supported by scientific research and will likely result in a number of extinctions. Sadly, the paucity of monitoring data in Victoria due to the cessation of threatened species programs, will mean that these extinctions are likely to go

unnoticed. The Threatened Species Conservancy believes that both threatened species and landscape scale biodiversity conservation projects are equally important and that neither should be funded at the expense of the other.

In fact, we believe that increasing overall spending for both threatened species recovery and landscape scale biodiversity conservation is essential if we consider the potentially catastrophic scenarios that are likely to unfold under climate breakdown. In addition to this, both initiatives bring about enormous social, economic and environmental benefits by creating employment, sequestering carbon, preserving our natural heritage and bringing communities together to interact with nature. The economic benefits of increasing funding for biodiversity conservation (including threatened species recovery) are so well recognised that they have formed the basis of the international Green New Deal movement (Pettifor 2019; H.Res. 109 — 116th Congress 2020).

#### CAN WE AFFORD TO FUND A VICTORIAN THREATENED SPECIES RECOVERY PROGRAM?

Funding a Victorian threatened species program has often been perceived as a service the Victorian community cannot afford. However, when compared to other sectors, funding for threatened species programs makes up only a tiny proportion of Victoria's State Budget. For example, the 2018/19 Victorian State Budget committed \$36.6 million to the Australian Centre for the Moving Image and \$13 million to establish pedestrian and cycling links from Melbourne's Shrine of Remembrance to Port Phillip Bay. This contrasts starkly against only \$3 million committed to Victoria's (threatened) faunal emblems. It also typifies the approach by Government to fund well recognised species (faunal emblems) while lesser known species (with little or no monitoring data) acquiesce. Australia lags behind other developed nations in this regard. For example, Australia would need a 10 fold increase in threatened species recovery funding to be on par with that of the USA and an increase of 15% to adequately address the extinction crisis (Wintle et al 2019). By refusing to fully fund these programs, we are committing to widespread plant and animal extinctions on our watch.

In 2016, the NSW state Liberal/National Coalition government committed \$100 million to a five year threatened species recovery program (Saving our Species) which has been a resounding success. It has achieved this by recovering threatened plants and animals across NSW and involving local communities in on-ground recovery, citizen science projects and nature based community education. It has also produced numerous 'good news stories' for the NSW government. The success of this program demonstrates that the costs of preventing extinction are far from exorbitant and fully funding threatened species recovery is entirely feasible.

The Threatened Species Conservancy has drafted a five-year Threatened Species Eco-Stimulus Program for Victoria. This program aims to implement well-designed threatened species recovery projects and improve the conservation status of the State's threatened species. The estimated cost of the program is approximately \$102 million over five years. Our estimates are consistent with funding allocated by the NSW Government for the five-year Saving our Species program.

Additional investment is also needed to build capacity for captive breeding programs for Zoos Victoria and ex-situ plant conservation programs for the Royal Botanic Gardens Victoria. Resources are also required by the tertiary education sector and the Arthur Rylah Institute (DELWP) to continue vital ecological research that will lead to improvements in the effectiveness and efficiency of recovery approaches.

The program we propose would implement scientifically validated threatened species recovery methodologies to deliver on-ground works to reverse threatened species declines. Benefits to the border community would include:

- \* increased investment in the economies of struggling regional communities (including First Nations peoples);
- \* the creation of new, good jobs;
- \* growth in the skill set of senior and entry level employees in the program; and
- \* new education and citizen science opportunities for the broader community that build greater connections with the State's treasured biodiversity.

## RECOMMENDATIONS

The Threatened Species Conservancy makes the following recommendations to the Standing Committee on Environment and Planning:

1. That the Victorian State Government funds a comprehensive Statewide threatened species recovery program.

This program would work with government, scientists and communities to reverse the current trajectory of Victoria's threatened species toward extinction.

2. That State Government funded threatened species recovery programs are run by an independent non-government body such as the Threatened Species Conservancy.

The Threatened Species Conservancy is perfectly positioned and ready to roll out a comprehensive Statewide program. Being an independent organisation, we are not subject to political perturbations at a State and Federal level. Furthermore, we have established, wide ranging partnerships with government agencies, researchers, private land managers, corporate supporters and the broader community.

3. That Zoos Victoria and the Royal Botanic Gardens Victoria are adequately funded to run and maintain ex-situ conservation programs.

Captive breeding programs, plant propagation, plant germplasm (seed and tissue) collection and storage play a crucial role in threatened species recovery. This is because they provide insurance against sudden, stochastic impacts such as the 2019/20 bushfires. Furthermore, Zoos Victoria and the Royal Botanic Gardens Victoria run outstanding community engagement programs which have received resounding support from the Victorian community.

4. That funding for the recovery of Victoria's threatened species is ongoing so that the Government can address Victoria's extinction crisis into the long term.

This will ensure continuity of programming and mitigate against any loss of investment resulting from the cancellation of recovery programs part way through. Ongoing resourcing will also instil confidence in the broader community that the Victorian State Government has a genuine commitment to addressing the extinction crisis. Finally, secure ongoing funding will provide good and meaningful employment opportunities for Victorians and stimulate regional economies. In particular, this will benefit communities that were hard hit by the 2019/20 bushfires and suffered economic losses resulting from recent downturns in tourism due to the Covid-19 pandemic.

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#### PERSONAL COMMUNICATIONS

Neil Marriott (2018) Botanist, White Gums Environmental Consultancy, Stawell Victoria.

Noushka Reiter (2018) Research Scientist (Orchid Conservation), Royal Botanic Gardens, South Yarra, Victoria.

#### GLOSSARY

conservation status: a category that indicates the likelihood that a species or taxon will become extinct.

captive breeding: the breeding of wild animals in places such as zoos, especially animals which have become rare in the wild.

ex-situ: located outside the habitat of a species.

in-situ: located inside the habitat of a species.

germplasm conservation: the collection of seed and reproductive plant material for long term storage to mitigate extinction.

propagation: the cultivation of plants.

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File1:

File2:

File3: