Response to Parliamentary Inquiry into Ecosystem Decline in Victoria – ECA Vic submission

Submission prepared by Yasmin Kelsall, Andrea Canzano, Dr Melanie Birtchnell and Fiona Sutton, based on input from the Ecological Consultants Association of Victoria

Introduction

The Ecological Consultants Association of Victoria (ECA Vic) is the industry representative peak body for practicing ecological consultants, with a current membership of over 130 paid members and over 550 subscribers. Our members are skilled ecologists, most of whom have built their career working to observe, protect and enhance biodiversity across Victoria. Our consultant members and subscribers typically work with biodiversity in three ways:

- Mitigating impacts resulting from construction/development, including preparing impact assessments and construction management plans;
- Developing management plans for conservation reserves and offset sites to maintain and improve biodiversity values; and/or
- Monitoring biodiversity values such as vegetation/habitat condition and species population sizes and distributions.

To inform our submission to this Inquiry, the authors conducted a survey of ECA Vic members and subscribers. Responses were provided for questions targeting each of the seven Terms of Reference; the responses received informed this submission. Participation in the survey was anonymous, however 2/3 of respondents provided their details in case clarification of any responses was required. Analysis of the details of these respondents shows most have worked in the ecological industry for more than ten years. Of those, the majority have more than 20 years' experience, with many having more than 30 years' experience.

(a) the extent of the decline of Victoria's biodiversity and the likely impact on people, particularly First Peoples, and ecosystems, if more is not done to address this, including consideration of climate change impacts.

Impacts on people, particularly First Peoples

For decades, numerous studies have demonstrated the positive mental and physical health impacts of seeing and/or being in nature. The ECA Vic survey provided more evidence to support these studies.

To understand impacts of current (and potential future) ecosystem decline on people, we asked our respondents to rate the impacts of ecological decline on their mental health, physical health, and financial wellbeing. A staggering **89% of respondents said their mental health had suffered negative effects as a result of ecosystem declines**, of whom over two-thirds (equal to 60% of total respondents) said the negative impacts were substantial (Figure 1). The stress, anxiety and depression reported by our respondents has resulted in reduced productivity at work, increased pressures on the health system for professional support and medication, and increased reliance on Work Cover. Respondents provided comments including: not having faith in the human race; demoralisation and distress about environmental issues not being taken seriously by governments, businesses and the wider public; not being able to work in the industry as completing impact/mitigation projects would 'break' them; witnessing the 'death by a thousand cuts' by working in this industry 'drags you down after a while'; and 'it's all too heart-breaking to be able to carry on'. These comments demonstrate the severe toll on one's mental health resulting from working in the ecological industry. Yet, despite the personal toll, many ecologists persist in the industry because they consider protecting ecosystems and biodiversity is an important thing to do for the greater good.

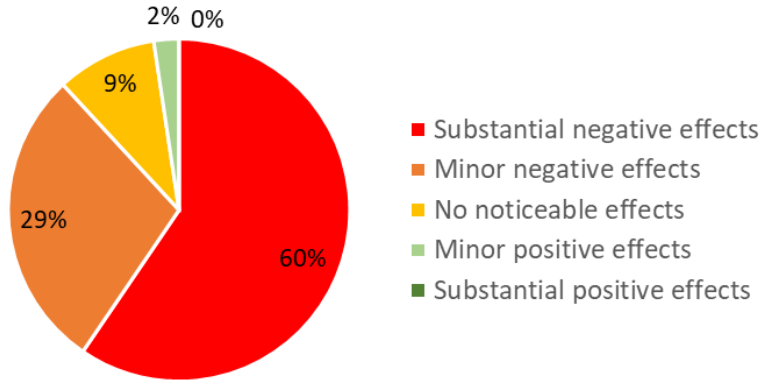

Figure 1. Effects of ecosystem decline on respondents' mental health.

Financial impacts resulting from current (and potential future) ecosystem decline were varied. Respondents stated ecological consultants often are employed to help obtain approvals for projects that impact nature/biodiversity. This role generally produced inner conflict and compromised respondents' morals (impacting mental health), but also provided them with an income (reducing financial stress). Thus, many respondents found they are financially related to ecosystem decline, which further impacts their mental health. However, respondents also tended to spend large sums of personal money and time restoring sites with biodiversity values, or opting for retreats/holidays to locations where the environment is less degraded (though increasingly being degraded), as a form of mental health recovery. It was identified the financial impacts of ecosystem decline extend to the wider community: as ecosystems decline, their function, diversity and stability also decline, destabilising the support systems on which humans and other life rely. Ecosystem decline results more obviously in contaminated soils and waterways that decrease food and water security, biodiversity losses including pollinator declines, and air quality declines. The financial cost required to mitigate these interwoven impacts and restore land and ecosystem services is very significant and becoming increasingly difficult to mitigate regardless of the level of financial investment.

The impacts of climate change have massive implications on our society's mental, physical and financial wellbeing. For example, as a result of increased bushfires, drought and floods, our water and food security is destabilised, which in turn significantly impacts the mental, physical and financial health of the general public, as well as those directly impacted.

Most respondents were not First Peoples. However, the responses of those who are First Peoples, and those who work closely with First Peoples, were consistent with the more

broadly observed impacts, and clearly demonstrate the impacts on First Peoples of ecosystem decline are particularly disturbing. One respondent commented:

> *"For a person whose totem is the turtle, for instance ...to have the decline of a wetland system and nowhere to show turtles to your children creates generational effects".*

Most Victorians have observed, and are saddened by, the disconnect of First Peoples from Country. Many ecologists acknowledge returning to traditional land management methods may be appropriate in cases where new threats (not present prior to European arrival) to ecosystems are not exacerbated by traditional land management methods.

Based on Victoria's (and global) current population growth and ecosystem impact trajectories, the continued degradation of nature will have exponentially-negative effects on the general public's mental, physical and financial health, substantially reducing Victorians' quality of life.

Impacts on ecosystems

Survey respondents were asked to consider how many of their projects had documented or contributed to *reversing* the decline of Victoria's biodiversity and ecosystems. An overwhelming majority of respondents (82%) indicated less than one quarter (<25%) of their projects managed to demonstrate a reversal of decline (Figure 2).

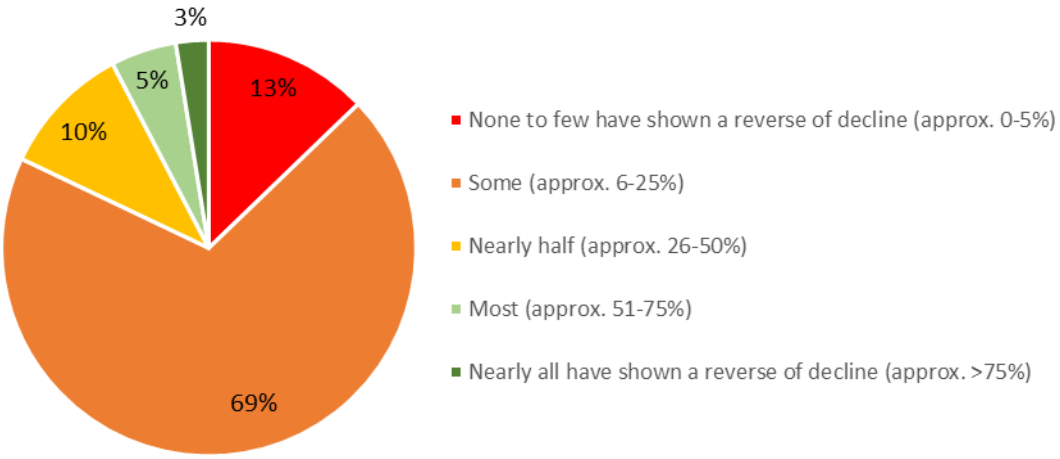

Figure 2. Proportion of respondents' projects documenting or contributing to reversing the decline of Victoria's biodiversity and ecosystems.

This figure is significant; the collective total of projects completed by the survey respondents would equate to many thousands. Of these projects, participants stated the level of decline was major (30%) or minor (43%) (Figure 3). No projects were considered to have generated major improvements and only 20% resulted in any minor improvements to Victoria's biodiversity and ecosystems. Given our members and subscribers are typical of the broader ecological consultants' industry, these results can be extrapolated to reliably infer that most projects in Victoria that have any effect on biodiversity and ecology, result in major or minor detrimental impacts. At best, a very small number may generate a minor improvement for Victoria's biodiversity and ecosystems. This clearly is not adequate to drive a *reversal of decline*; instead, these many thousands of projects are incrementally contributing to Victoria's significant and critical ecosystem declines.

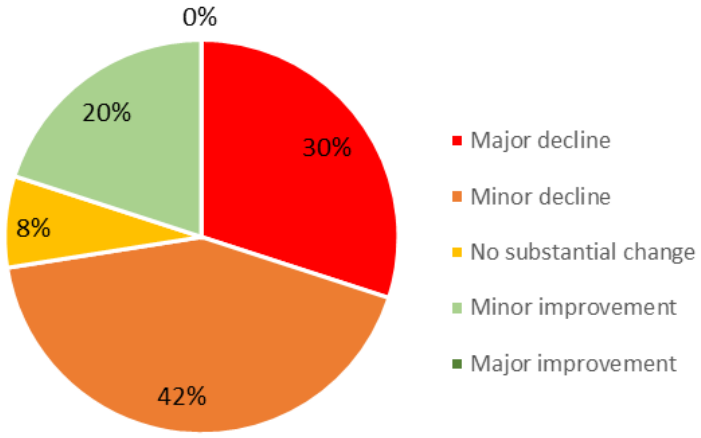

Figure 3. Proportion of respondents' projects documenting or contributing to the decline or improvement of Victoria's biodiversity and ecosystems.

As one might expect, biodiversity-impact mitigation projects (for example, impact assessments for developments/infrastructure, and associated construction management plans) result in the greatest negative impacts to biodiversity and ecosystems. Whilst such projects aim to mitigate substantial impacts, they typically cannot mitigate all impacts, so generate a residual net loss of extent and/or quality of vegetation and habitat, contributing to biodiversity- and ecosystem declines. Current systems to 'offset' these impacts do not *reverse* the extent of ecosystem decline, as vegetation (e.g. habitat) and environments (e.g.

water quality) still are impacted; there remains an overall ecological decline. In general, respondents noted proponents such as private companies regularly do 'bare minimum or less' to mitigate their projects' impacts or manage ecological assets for compliance. In addition, construction management plans (including designation of No-Go Zones) often are not implemented or adhered to on-ground. Consequently, impacts often are greater than those assessed or approved, and are not commensurate with calculated offsets. Further, respondents stated there often is minimal auditing and compliance of on-ground activities so impacts increase unabated, further contributing to ecosystem declines.

Concerningly, **almost three quarters of respondents noted more than half their biodiversity management projects resulted in biodiversity declines**, despite those projects aiming to improve biodiversity values. These projects included conservation management plans for parks and reserves, offset management plans, land management plans, and other biodiversity-related projects. The failure of these biodiversity-improving projects to prevent biodiversity decline were cited as primarily relating to: inadequate funding to address the countless threats (notably pest plants and animals), and short-sightedness of governments to provide long-term management and funding, including for follow-up monitoring and evaluation, and longer-term threat management. Also commonly cited was whether the management plans were implemented fully; this response included the willingness and ability of land managers to follow management plans and undertake the required actions, and contractors/managers being suitably skilled and trained to be able to implement works appropriately and effectively. For example, agricultural contractors often are engaged for biodiversity work as their charge-out rates are lower than Natural Resource Management-qualified contractors; however respondents observed this often results in perverse biodiversity outcomes such as from off-target herbicide damage and excessive disturbance during rabbit warren ripping. Further, biodiversity-enhancing activities such as weed removal often are considered by government as suitable for work for untrained workers (e.g. through programmes such as the COVID-19 Working for Victoria), despite the importance of professional skills such as accurate plant identification during weed removal.

Survey participants ranked a suite of ecological threats on their responsibility to ecosystem decline (current and future). The biggest drivers identified as being substantially or solely responsible for ecosystem decline include:

- land clearing, historical and future, as well as permitted, exempt and unpermitted (86% of respondents indicated it was substantially or solely responsible*);
- pest plants, animals and pathogens (77%);
- hydrology modifications such as altered flooding regimes, drainage modifications (e.g. swamp drainage), water extraction for irrigation and human use, river regulation and channelisation, and groundwater draw-down (77%);
- over-exploitation of natural resources, notably by logging, mining and fishing industries (70%);
- habitat fragmentation and reduced connectivity, which exacerbates edge effects and genetic isolation (65%); and
- climate change (59%).

(* Parentheses indicate the proportion of respondents indicating it was substantially or solely responsible)

Other natural, political or societal issues also were identified as having contributed to the ongoing and continued decline of ecosystems and biodiversity:

- Mismanagement of ecosystems and threatened species populations, for example:
    - inappropriate disturbance regimes such as fuel reduction ('ecological') burns, wildfire, flood events.
    - poor implementation of management plans.
    - inadequate funding and non-adaptive management.
    - poor quality management (e.g. off-target herbicide spray damage).
    - assumptions the best-case scenarios determined by impact assessments (and mitigation measures) will be fully and successfully implemented, approvals obtained, and offset requirements calculated accordingly. Regrettably and commonly, even implementation of best-case scenario mitigation measures yields, at best, a mediocre output, leaving a debt in the offset requirements and contributing to overall ecosystems declines.
    - illegal and over-collection of firewood.

  - intensification of agriculture. For example, equipment improvements such as pivots, linear irrigators and bigger cropping machinery often justify the removal of critical paddock trees and small remnants, further reducing connectivity. Also, increased grazing and cropping of suboptimal agricultural land for short-term gains contributes to ecosystem declines, as do increased water extraction, and fertiliser and pesticide inputs and associated contaminated runoff.
  - recreational fishing policies that promote over-exploitation (e.g. Spider Crab harvesting during their seasonal moult when they are most vulnerable), and spread and maintenance of exotic fish species (e.g. stocking of exotic trout that fill the ecological niche of native fish and predate native vertebrate and invertebrate species) and other outcomes that drive ecosystem declines.
- current and historic impacts that have long-term or indefinite consequential effects, for example:
  - loss of hollow-bearing trees – reducing breeding and feeding capacity of countless species (many of which are now listed threatened species). This is further compounded by the fact these hollow-utilising species also are critical pollinators of the hollow-bearing trees, producing long-term implications for the reproductive biology of these critical tree species and further driving long-term ecosystem declines.
  - loss of top-order predators and other functional keystone species, all of which play a vital role in maintaining ecosystem dynamics and functionality. The loss of these species demonstrates ecosystem declines however, their loss also contributes to further longer-term ecosystem declines.
  - genetic pollution of natural populations by introduced species, horticultural hybrids and non-local provenance individuals, thus reducing ecosystem resilience to local environmental conditions and future climate scenarios. This reduces the resilience of the ecosystem as species become locally (and more widely) extinct, ultimately resulting in the loss of yet more species as complex inter-relationships are broken.
  - pollution, in its many and varied forms, including air, soil and water pollution and contamination, noise and light pollution, oil spills, chemical runoff,

radioactive pollution, rubbish and microplastics, fertiliser eutrophication, and pesticides (e.g. off-target damage, secondary poisonings).

- lack of understanding of the complexities of ecosystems by the general community and resultant lack of Government interest, despite the fact healthy ecosystems provide essential services that are critical for our health and survival. The consequences of the environment holding such a low priority in government positions and policies ultimately contribute to the current (and future) ecosystem declines, particularly through poor regulation, inadequate funding for management, under-valuing of professional services and advice from ecosystem scientists and specialists, and over-simplification of highly-complex processes resulting in poor management implementation. For example, there is:
    - a severe over-simplification of the ecological processes associated with fuel reduction burn decision-making;
    - minimal and/or reducing ecological specialist expertise within government and agencies such as Parks Victoria, Councils, water authorities, Catchment Management Authorities and DELWP;
    - a perceived need to integrate multiple purposes and values when ranking biodiversity assets (e.g. recreational, economic, tourism, social, real estate prices, view-lines). This results in ecosystems being valued not for their contribution per se, but on social dynamics - these can be beneficial if the community perceives the ecosystem to be of benefit (e.g. bush reserves, low foreshore vegetation), or negative if perceived as subtracting (e.g. odorous swamps and saltmarsh, or trees obstructing ocean views).
    - reduced use of on-ground professionally-garnered ecological information and assessments, with increased reliance on modelled ecological data that is flawed by demonstrated and manifest errors;
    - reduced collection of on-ground ecological data that would improve current iterations of existing models or inform new models in future decades (resulting in more ‘rubbish in = rubbish out’ models), further driving ecosystem declines;
    - A lack of highly useful Bio-Site inventory data; once heavily relied upon by ecologists, these data are no longer available or used, leading to perverse implications for ecosystem health;

- a focus of conservation efforts on popular species and topics (e.g. 'cute and cuddly' fauna and beautiful flowers), while less appealing biodiversity such as fungi and invertebrates largely are overlooked, despite their significance underlying the integrity of ecosystems;
- a lack of effective delivery of biodiversity programs such as the Melbourne Strategic Assessment, that has resulted in mass removal of Critically Endangered ecosystems and species habitat and only very minimal delivery of the intended biodiversity benefits, resulting in a significant decline of a great range and extent of ecosystems;
- a lack of legal action against ecological-impact perpetrators (e.g. illegal removal of native vegetation, killing of indigenous wildlife, firewood collection) as it often is considered too costly to prosecute, particularly because the implications of these actions are not clearly understood or visible by decision-makers;
- a general lack of ecological literacy and respect for environmental values by the community, industry and governments; and
- commonly, a perception that environmental protections and management are costly and get in the way of 'progress' (notably: the notion of 'green tape').

Of these matters, fuel reduction burning is a highly complex and increasingly political issue, the implications of which have dire consequences for communities and ecosystem functionality. Fire-sensitive species (particularly fauna and moisture-dependent plants) and fire-tolerant species are heavily impacted (including to the point of local extinction) if fire frequency, duration, intensity and season are inappropriate (e.g. Hairpin Banksia *Banksia spinulosa*). There is much research on this topic which is beyond the scope of our submission. Respondents also noted, within the community there is a broad perception fuel reduction burns reduce fire risk; however, this reduction in fuel loads is commonly only short lived (e.g. observed to be just 12-18 months in some cases) and not informed by ecosystem ecology. Frequent burning benefits fire-adapted plant species that have evolved leaves and bark types that promote fire, thus these fire-promoting species become increasingly abundant in the landscape. The fire-sensitive and fire-supressing species with less flammable leaves commonly are exterminated in the process. Over time, this changes the floristic dynamics of an ecosystem, making it more fire prone. Further, this drives ecological changes that alter the interrelationships and species assemblages, irrevocably altering the

landscape and what species can survive. One respondent identified an example of inappropriate fuel reduction burning: in landscapes burnt in the 2019 wildfires, there are already plans in place to burn much of the small unburnt fragments where wildlife is still retreating, as well as reburning burnt areas less than five years after the wildfires. This is all being justified to provide a more varied age-class of the burn history, despite the significant impacts this will have on the ecosystem and its biodiversity. This political over-simplification of a highly complex issue is clearly having major negative impacts on our ecosystems and driving significant ecosystem decline.

The result of these threats is illumined in the increasing evidence that Victoria is in the active phase of a significant, sustained extinction event. Many once-common flora and fauna species have undergone dramatic declines in population size and distribution. This is particularly evident in woodland birds, reptiles and plants. Many species common in the 1990s are now rare regionally and/or across the state – they are not recognised nor listed as threatened and will increasingly become regionally extinct. As species become regionally extinct, their resilience and capacity to avoid extinction is significantly decreased. Further, shepherding such species back from the brink of extinction – restoring extensive habitat, managing threatening processes, sourcing material for genetic rescue, funding captive breeding programmes – becomes increasingly costly and difficult.

Evidently, the threats to biodiversity are many, varied, extensive and complex; the impacts of these threats on biodiversity are significant and, unless adequately mitigated, irreversible. These threats all coalesce as ‘death by a thousand cuts’ to our biodiversity and ecosystems. The impacts are not being mitigated, including by the current levels of funding. Persistence, commitment and big funding investment are the drivers of change, and these come only when government, corporate and community spheres are united.

Of course, underpinning these issues is human population growth, our exponential expansion into the habitat of other species, our exploitation of resources and our culture of human superiority – the white elephant in the room.

(b) the adequacy of the legislative framework protecting Victoria's environment, including grasslands, forests and the marine and coastal environment, and native species.

There are seven pieces of legislation respondents identify as being relevant in that their objective is at least partially to protect Victoria's environment. These include six Victorian Acts and one Commonwealth Act (Figure 4).

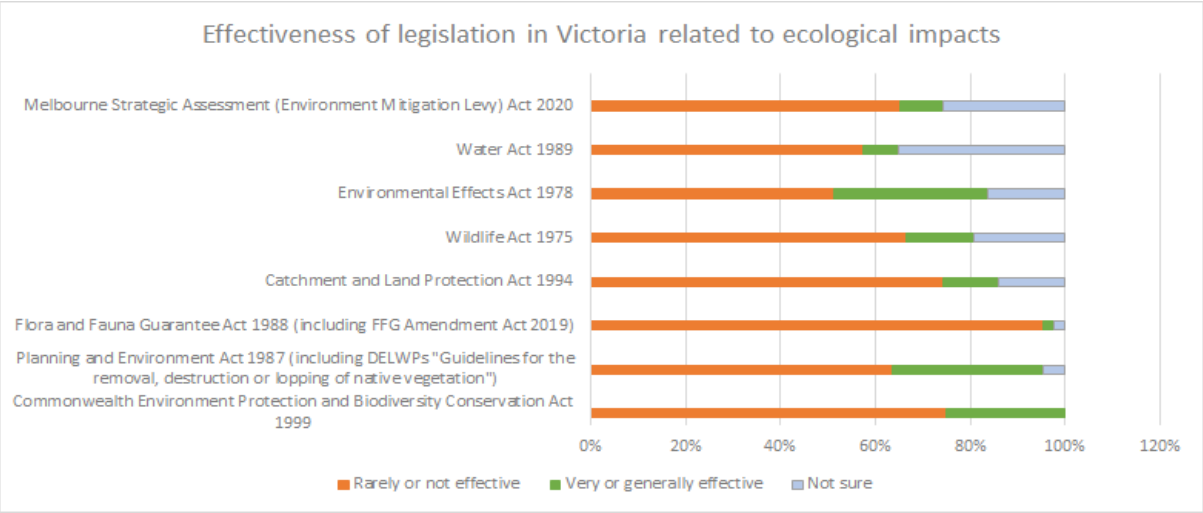

Figure 4. Survey responses: Effectiveness of legislation in Victoria related to ecological impacts.

Of the legislation relevant to the effective protection of Victorian ecology, ecological consultants consider the least effective is clearly the *Flora and Fauna Guarantee Act 1988* (FFG Act), followed by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Figure 4). Responses also show respondents felt most sure about their responses regarding the effectiveness of the EPBC Act and the FFG Act.

Conversely, the *Environment Effects Act 1978* and the *Planning and Environment Act 1987* (P&E Act) and its Native Vegetation Regulations are considered the most effective, with 33% and 32% respectively considering these Acts as being 'very or generally effective'.

The legislation that was least known were the *Water Act 1989* (36%) and the *Melbourne Strategic Assessment (Environment Mitigation Levy) Act 2020* (26%) with the highest responses of 'not sure' regarding their effectiveness. Considering the latter has only just

been introduced, with no clear results as to effectiveness yet, the results indicate ecological consultants historically have little to do with the Water Act in their work.

Respondents consistently reported the legislative processes that are in place to protect the environment are sometimes flawed, often neglected, rarely enforced, and undermined by political processes.

Comments mainly focused on the three Acts which were identified as being the least effective - whereas they should be the *most* effective: the Victorian FFG Act, Wildlife Act and the Commonwealth EPBC Act. Statements included:

- Most of our legislative requirements are just tick-box exercises with little real protection afforded to the environment.
- In addition to being onerous and confusing for many applicants, some are also unclear in how they will be consistently applied, in particular the EPBC Act, which does not have clear guidelines to guide applicants or ecological consultants advising clients and navigating the system. We have seen some very inconsistent application of the provisions under the legislation, leading to us having little faith in it.
- While these legislative instruments have provisions for restricting negative activities, there is less provision for encouraging positive activity such as stewardship.
- My only real comment here would be a rhetorical question - when was the last time a serious prosecution took place under these collective Acts that resulted in an enhanced biodiversity outcome? I suspect this has rarely happened under EPBC or FFG Act, and these acts are so woefully out of date anyway.

<u>EPBC Act 1999:</u>

The EPBC Act typically is the only legislative instrument that provides sufficient leverage to present the possibility of achieving good conservation outcomes; and this often is let down by poor compliance, monitoring and auditing. Furthermore, the Commonwealth does not provide consistent responses to administering the EPBC Act, observed via a mixed response to EPBC referrals, often to the detriment of the local environment.

Additionally, there are few examples of prosecutions or enforcement of the Act. For example, one respondent's experience: *I reported a developer who was destroying grassland in rural Victoria. DoEE and DELWP investigated, but no prosecutions. Similarly, I saw a corporate agricultural entity deliberately destroy three nationally-listed wetlands in the rural Victoria - again no DoEE prosecution.*

While ecological consultants have seen poor decisions and poor levels of compliance and enforcement under this Act, it also is acknowledged as being the main legislative trigger to which developers have to pay attention and respond. Ecological consultants have been able to work with our clients, using the framework of the EPBC Act, to ensure a more ecologically considered development plan is produced where threatened species and vegetation communities are present.

FFG Act 1988:

Respondents considered this Act has been under-utilised and under-resourced from its inception. It was noted there has been little or no use of key elements of this legislation such as the declaration of Interim Conservation Orders, rendering this legislation essentially ineffective, leaving consultants to rely on the EPBC Act for any type of protection for threatened species. Further, the lack of Action Statements for FFG-listed species often means that management occurs without coordinated direction.

There are many contradictory aspects between FFG-Act in concert with other legislation, for example, the Wildlife Act. Two key examples include:

- The use of lead shot in cartridges for the hunting of waterfowl has been listed as a potentially threatening process in Schedule 3 of the FFG Act 1988, yet waterbird hunting, including allowances for hunting threatened species is allowed under the Wildlife Act 1975.
- Sambar Deer are listed as a threatening process under the FFG Act 1998 but the Wildlife Act 1975 lists them as a ‘protected species’, along with other deer species and exotic game birds.

Wildlife Act, 1975:

It was considered this Act is ineffective at protecting Victoria's wildlife. For example:

- Weak penalties for the culling of Wedge-tailed Eagles whereby the 2016-2018 poisoning of 406 Wedge-tailed Eagles plus other protected fauna by an East Gippsland farmer resulted in the offender being jailed for only 14 days and fined $2,500 for a contravention of this Act. This penalty is a small fraction of the potential maximum penalty that could have been justly applied for killing so many eagles of more than $350,000 or six months' jail, according to the ABC (2020). Further, the penalty

demonstrates a lack of understanding of the ecological implications of the action and the ways in which such actions contribute to ecosystem decline in Victoria and further afield.

- The Wildlife Act seems to allow more for the controlled culling of indigenous species than for their protection and decisions often are based on false data and understanding.
- Conversely this Act lists exotic species such as deer and game birds as 'protected species', directly hampering efforts to manage them effectively and confusing the direction given via other Acts such as the FFG Act listing Sambar Deer as a 'threatening process'.

(c) the adequacy and effectiveness of government programs and funding protecting and restoring Victoria's ecosystems.

Ecological consultants have various touch-points with government programs and funding initiated to protect and restore Victoria's ecosystems. For example, ecologists may provide advice and specialised skills during the planning phase, be involved with implementation, monitoring or auditing, or undertake field-based assessments. Also, ecologists may observe the adequacy and effectiveness of these programs that aim to protect and restore Victoria's ecosystems, attempting to reconcile the benefits of such programs with their observations of ecosystem declines generated by other governmental environmental programs and policies, and society's approach to the environment. In this way, ecological consultants have a holistic overview of biodiversity programs in the broader context of the extent of ecosystem decline.

The adequacy of government programs and funding relating to ecosystem protection and restoration was considered by most consultants as poor – very poor (26 respondents; 65%) (Figure 5). Likewise, most respondents considered the efficiency of these programs and funding was poor – very poor (26 respondents; 63%) (Figure 5). Eleven respondents (28%) considered the adequacy 'good' whilst fewer (nine respondents; 22%) considered the effectiveness of these programs and funding 'good' (Figure 5). In contrast, only one respondent considered the adequacy 'very good' and only two considered the effectiveness 'very good'. No respondents considered adequacy or effectiveness, 'excellent'. Very few consultants felt they did not have adequate knowledge to respond (adequacy: two respondents 5%; efficiency: four respondents 10%) (Figure 5), indicating the extent to which consultants have skills, knowledge and experience to assess the adequacy and effectiveness of government programs and funding in addressing ecosystem declines.

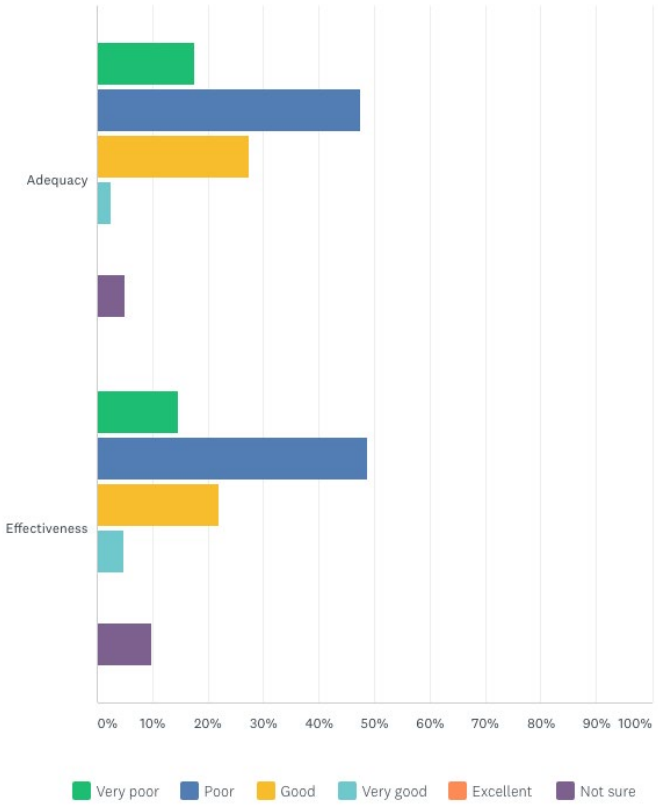

Figure 5. Ecological consultants' assessment of the adequacy and effectiveness of government programs and funding initiated to protect and restore Victoria's ecosystems.

A range of comments were received; many related to the duration of funding being insufficient (and therefore, inadequate) to achieve the initial aims of the program or maintain any long-term benefits of the program. It was noted programs vary quite considerably in adequacy and effectiveness, and that results were related to implementation and follow-through, rather than issues with the design of proposed works.

Specifically, consultants noted:

- funded programs provide only short-term benefit to threatened species. Implementation of the ongoing responsibilities often are not funded, so organisations (operating with limited funds) find it difficult to resource continued momentum beyond the program. Currently, investment is not adequate to achieve real change and prevent ecosystem decline. For example, the Biodiversity Response Fund is

heavily focused on control of pests yet does not fund actions for positive change, including through the reinstatement of habitat.

- The offset system is considered intellectually bankrupt and designed to fail, as it is impossible to maintain enhanced management *'in perpetuity*'. Further, consultants questioned what happens to offset sites after 10 years when management ceases, with one respondent stating: 'nothing'. One respondent noted many ecological consultants profit from preparing impact assessments and offset management plans (via native vegetation policies) that are based on this falsehood, potentially conflicting those consultants' ability to remedy this fundamental problem.
- Whilst the quality of the restoration plan for a site may be excellent, the quality of restoration *management* generally is appalling. Often, sites are damaged by inappropriate management and/or planting, and insufficient long-term funding. Sites may not recover after a poorly implemented program has finished. Mornington Reservoir was provided as one example.
- Some projects are really effective, in particular ones which result in actual protection or creation of more good quality habitat (e.g. Greening Australia, Landcare, Trust for Nature), but many (in particular, monitoring programs) gather more and more data but do not achieve enough action.
- Government funds committed to protecting and restoring Victoria's ecosystems were considered by most respondents as 'too little, too late', funding a few strategic projects 'without assessing the bigger issues and addressing them with adequate resources'. Once some programs are implemented, they are effective (e.g. Landcare or Good Neighbour programs) but 'they can't keep up with the degradation processes'.
- Programs put into place often are very good on paper, but are not supported for long enough to ensure they are effective. It was considered such programs are not policed well enough, either.
- The lack of adequate or effective investment means projects typically are small-scale, ineffective, and disappear over the medium-term. Data sets obtained during projects often are under-utilized and rarely are used to inform future projects. One respondent observed: 'It's a complete waste of money'. Another considered government projects 'a total joke and totally ineffective'.
- The various scales at which government programs and funding attempt to protect and restore ecosystems are hugely diverse, from Landcare and community group projects

to agencies like Melbourne Water and Parks Victoria. Consultants recognised this diversity of 'government programs' made it difficult to generalise as to the adequacy and/or effectiveness of such programs. However, consultants consistently considered there were funding shortfalls across the range and scale of government programs, noting Parks Victoria is greatly underfunded to achieve what it ought to, to slow or prevent ecosystem decline. It was also noted that organisations such as Port Philip and Westernport Catchment Management Authority (PPWCMA) and other CMAs appear to be relatively well-funded but their outputs and achievements were not evident, indicating there is an opportunity to improve communications of successes of government-funded programs and projects.

- Despite the many ways in which government programs might attempt to slow ecosystem decline, one respondent stated: 'Nothing is improving'. Another responded: 'What government programs?' This typifies a bleak, but widely-held, perspective amongst ecologists and land management practitioners, including our members and subscribers, and demonstrates the way in which the observed continual and accelerating ecosystem decline – and the failure of government programs to adequately and effectively address ecosystem decline – affects the mental health of those who care for the state of Victorian ecosystems.
- Programs of fuel reduction ('ecological', prescribed) burns were considered inadequate and ineffective at protecting or restoring ecosystems, with one respondent noting: 'Prescribed burning occurs at a rate of knots with the science and implementation of knowledge lagging behind'.
- Such programs are designed by people trying to do their best, but resourcing and enforcement of impacts elsewhere often is lacking, for example, following up on the effectiveness of mitigation measures for major road projects, which results in net ecosystem declines. A disconnect also was observed between the theory (e.g. writing management plans) and the implementation (e.g. thorough auctioning of these management plans), with one consultant noting there needs to be greater connection between theory and practice to avoid instances where actions prescribed in a management plan cannot easily be implemented on the ground due to constraints with resources, topography, capacity, and other constraints.

- Government programs that aim to protect and restore Victoria's ecosystems were considered to be few and far between, and were ‘typically a tiny fraction of government spending’.
- Some government programs, particularly community restoration projects, were acknowledged to have demonstrated significant, positive effects for the environment and community. One example cited was the Weed Action Plan (mapping and monitoring) developed by the Great Ocean Road Coast Committee (GORCC), which has a dedicated conservation team who are implementing the actions and monitoring. The project is generating really positive outcomes, including the removal of invasive plants to improve ecosystem dynamics. The respondent stated this is the ‘only one of many management plans I've seen that is actually [adequately and effectively] resourced and implemented on the ground.’ However, it was noted by other respondents the monitoring of such programs usually was poor in design, preventing the programs’ effectiveness to be properly measured (or celebrated).
- Attempts to protect and restore Melbourne's western grasslands over the last 10 years were regarded a catastrophic failure, in terms of the adequacy and effectiveness of planning, research, economics and implementation. The Western Grassland Reserve ‘offsetting’ program was viewed as a public policy failure that lacked transparency and rigour, and has not been effective at preventing significant ecosystem decline (nor protecting nor restoring ecosystems) despite its significant budget and funding. Indeed, one respondent stated: ‘the [Melbourne Strategic Assessment] MSA has been an unmitigated disaster - plenty of money contributed to the scheme but next to no ecological outcomes that I'm aware of.’ Another stated: ‘just look at the MSA and associated BCS conservation reserves. What a joke!! Look at [the] reference areas - used for absolutely nothing!’. For ecologists, such failures of programs to deliver any ecological benefits can be devastating, impacting ecologists’ mental and physical health. Such failings also are devastating for ecosystems.
- The Victorian Government's approach to managing noxious weeds under the CaLP Act was considered to be very poor. The legislative mechanism exists to enforce the management on invasive weeds on private land, however, it was considered ‘the use of this mechanism is poorly funded, sporadic, and rarely strategic with regards to reducing the worst impacts of weed invasion’.

- Some consultants based their responses on their experience of programs funded by grants. One respondent stated:

  > '*threatened species monitoring in Victoria used to have a government budget but now most of it has [transitioned] to grants or "go fund me". Most grants only [cover]…one year or two at the most and follow [financial] years rather than calendar years which is unlikely to be successful in the long term. An example of this was the one-off funding a few years ago of Blackberry spraying in our region ...all I observed six months later was dead swamp scrub and tree ferns while the blackberry was resprouting vigorously... The [government] also are more likely to give funds for spraying and tubestock, rather than restoration works and removal of threatening processes, and by the time you find out the grant was successful there is only nine months to complete it, which may not match seasonality for particular weeds or planting. There is an ongoing reliance on volunteer input, with groups having to provide their own insurance etc. Having said that the most successful projects are those where there is a small group of committed locals (mostly retired women) to provide the continuity, oversight and administration.*'

- In both marine and terrestrial ecology, significant corruption of scientific and oversight processes was reported by ECA Vic members. This was considered by some respondents to impact on the effectiveness of government programs, with one respondent noting: 'many of the 'oversight' scientists have conflicts of interest and/or have no interest in [providing] advice…without fear or favour in the interests of the environment. The advice is in the interest of keeping organisational funding or funnelling funds into publishing more papers.' The Reef Research Fund and Westernport Melbourne Water research program were among the cited examples of programs considered to have failed their purpose; the impact of funding diversions is significant, including ongoing critical knowledge gaps for the subject ecosystems, leading to unrecognized and unmitigated ecosystem decline.
- Often (senior, experienced) consultants are recruited to volunteer on committees, advisory panels and other technical positions, owing to their valuable experience, skills and knowledge, to support government programs. However, some respondents had observed they often were the only person not being paid, despite being the one

with professional skills and expertise. This highlights the ways in which government funds are not necessarily directed to achieve fair or effective outcomes for ecosystems, and how programs often rely on the goodwill of professional, highly qualified ecologists while funding less critical roles. This provides further evidence of the ways in which ecosystem decline can seriously impact mental and financial health.

- The competitive grants process means groups compete for funds irrespective of whether they know how best to do investigations. This means government programs designed to protect and restore ecosystems become 'all about money, not necessarily providing the best for the environment'.
- Government organisations are more concerned with public opinion than doing what is required to protect our ecosystems. The management of brumbies in the high country was presented as an example, with one respondent stating: 'all talk, no action. Sometimes, the right thing to do will get negative feedback from single interest groups…[nonetheless, it is critical to] do the right thing ecologically.'
- Melbourne Water's River Health program was identified by several respondents as one of the most successful long-term government programs, though it was acknowledged 'an ongoing and sustained effort is required to maintain the improvements that have been achieved'. Furthermore, it was highlighted that many government and statutory authority strategies have non-measurable outcomes, so cannot be tested for implementation or outcome performance.

(d) legislative, policy, program, governance and funding solutions to facilitate ecosystem and species protection, restoration and recovery in Victoria, in the context of climate change impacts.

Informed by their experience as professionals in the field of natural resource management, respondents were asked to identify effective solutions to facilitate improvements in ecosystem and species protection, restoration and recovery in Victoria, in the context of climate change impacts where appropriate. In general, respondents highlighted the need for the government to adopt the advice of ecologists, government scientists and natural resource managers to leverage their knowledge and skill-set in decision-making and determining solutions to the current ecosystem crisis. Other key themes were a focus on improved environmental education from an early age, better funding for land management agencies, reform for offsets policy, and incentives for change.

A summary of responses is provided below.

Legislative solutions

The key solution with regards to legislation is reform across both state and federal environmental law as a holistic approach to ecosystem recovery in Victoria.

- Recommend the changes recommended in the EPBC Act interim review to reverse ecosystem decline are adopted by the federal government and are not watered down under the guise of 'post-COVID economic recovery'.
- Improve planning controls so biodiversity and ecological processes are placed as a high priority. Ensure there is consistency across Victoria (and, ideally, Australia) with regards to planning and enforcement.
- Do not rely on Local Government to have the commitment to the environment - this MUST be undertaken by an overarching body or organisation, to ensure protection is afforded in all areas including regions that are primarily farming or logging regions as well as urban and peri-urban areas under development pressure. This will reduce local complacency and disregard that otherwise allows ecological destruction to occur largely unabated.
- Reduce vegetation clearing through legislation and provide stronger management of impact from clearing on threatened and common species and communities.
- Provide greater public education to increase knowledge, awareness and custodianship of native flora and fauna.

- The *Flora and Fauna Guarantee Act 1988*, if applied to all of Victoria (not just public land), with strengthened prosecution powers might facilitate active intervention at State government level (rather than leaving Local government as the Responsible Authority) for projects that have a significant impact (definition of significant as set out in the *Environmental Effects Act 1978*).
- Link Threatened Species Advisory Lists to the *Planning and Environment Act* and require avoid and minimise principles (as per the EPBC Act) for direct impacts on listed species, as well as offsets for habitat loss.

Policy and Program Solutions

Behaviour change through education was a central theme in respondents' solutions to ecosystem decline.

- Education is the key, from primary school to adulthood. Local government programs are best for on-ground community/ownership projects. Victoria needs better education, particularly at the secondary school level, so more people can get an understanding of ecological processes and the interrelatedness of ecosystems. Providing quality environmental education means the community understands and cares for the environment.
- Ecological education should be delivered by educators who are ecologists, or who are taught by ecologists.
- There is the need for effective compliance and very explicit laws combined with education.
- Educational courses and educators' knowledge must be improved e.g. increased plant identification, more field-based activities at TAFE.
- Specialised indigenous ranger and interpretation course must be developed based on what First Peoples need and how they see the environment, rather than modifying the current natural resource management course.
- Attitude change - if there's a will, there's a way. We live in Australia where there is enough money, policy and governance to improve biodiversity outcomes. Unfortunately, there are not a lot of land managers who possess the will to do this work (i.e. lack of education, lack of connection to country).

- Upper management/decision makers need to increase their knowledge and care for the environment; this could be improved by appointing people with an environment-related science background into executive/management positions.
- The problems are structural, political and social. The Dunning-Kruger effect is frequently at play across this spectrum. Some factors that may help could be requiring relevant ecological expertise at a senior management level, reliable funding for agencies and allocating increased resources for authentic ecological training to practitioners.
- It is critical to recognise natural resource management, biodiversity planning, ecology, conservation science and related fields are highly skilled roles requiring minimum-level training and experience; therefore, such roles are not suitable for unskilled worker programs such as Green Army, etc.

Policy reform for native vegetation offsets, prescribed burning and native forest logging were dominant themes in respondents' solutions to ecosystem decline in Victoria.

- Greater policy protection for threatened species. The Native Vegetation Removal Regulations do not adequately protect these species specifically, especially given the allocation of Species Offsets with loss seems almost arbitrary at times, and often these offsets are not available on the Native Vegetation Credit Register. The system pushes offset requirements to be satisfied away from the area of clearance, with existing registered remnants that were already being protected - few new areas are protected in such situations, little revegetation is undertaken meaning there is little habitat expansion, and almost no protection or revegetation near the site of the vegetated clearance is promoted. This model is not 'offsetting' losses, it is driving ecosystem decline. Furthermore, there are increasing incidences of deliberate unpermitted vegetation clearance and there rarely is any prosecution, as neither local government nor DELWP can justify funding the legal costs. Having a regulatory system without adequate enforcement is not effective.
- There is an urgent need for reforms on offsetting programs. Despite the 2013 attempt to reform offset regulation and enforcement in Victoria, the reforms did not improve offsetting outcomes on any level. The permitted clearing policy is failing at the no net loss process. The use of intangible, flawed and meaningless models of 'catchall' biodiversity value to quantify loss needs to be replaced with a more transparent

system. Achieving no net loss in Victoria is attempted with smoke and mirrors and there currently is no way to calculate actual losses and gains. There is sufficient evidence the current policy approach is not working as required and needs replacing. A new system must be developed by an independent and permanent panel which reports directly to the relevant Minister.

- The Offsets policy (under the NVR Guidelines) should revert to Net Gain, with like-for-like Offset considerations.
- Prescribed burning implementation is regionally based without adequate checks to determine necessity of burn.
- The definition of old growth forest needs to be reviewed as it excludes some real old growth forest in high altitude areas based upon 2.5m Diameter at Breast Height (DBH) instead of 2m DBH.
- Introduce a ‘pause and consider’ policy on fuel reduction burning and salvage logging. Protect water catchments from logging and vegetation clearance, and waterways from stock access and residential developments.
- Increase buffers to threatened species management.
- Increase efforts to remove threatening processes.
- Fund research into alternatives to herbicide application.
- A stronger 'avoidance' policy is required to prevent native vegetation removal and ecosystem decline in Victoria.

Adequately funded and designed Monitoring Programs are one of the key drivers of environmental protection in Victoria.

- Realistic budgets and science-based programs are required to control feral pests and to protect threatened species.
- Follow recommendations of the Invasive Species Council regarding serious control of feral deer and other emerging pest species.
- Much stronger monitoring and policing of environmental protection is required, including through more dedicated Rangers on the ground who are responsible for native vegetation areas and who can carry out scientific work and research.
- More biodiversity officers and support for data entry into the Victorian Biodiversity Atlas.

- Research and funding directed to address major information and knowledge gaps in ecosystem sciences. This would facilitate effective and sound decision-making, with systems in place to stop the diversion (subversion) of that funding.
- Management of our parks and reserves need to be given an ecological priority. Indeed, people need to use and value our parks but unless parks and reserves are managed for ecology and biodiversity first and people, second, they will continue to decline in condition.
- The effectiveness (or likely future effectiveness) of landscape-scale projects needs to be investigated to determine their role in helping flora and fauna disperse in response to climate change.
- There needs to be an immediate end to native forest logging.
- A monitoring program of biodiversity offset sites is required to determine their effectiveness and inform the need for change.

Governance and Funding Solutions

Respondents identified that sufficiently funding our NRM Agencies is an important step to addressing ecosystem decline in Victoria, particularly for the protection of threatened species and communities.

- Victorian natural resource management agencies (such as Catchment Management Authorities) need secure, long-term funding to implement and adapt their management plans.
- Victorian parks need to be separated from the annual budget process. They should be set up as separate financial entities with a capital base earning enough interest to fund essential works. In that way, they should function like a super fund because, ultimately, they are our biodiversity superannuation. Also, parks should be managed by ecologists rather than managers who pander to politicians and tour operators.
- More funding is required for Parks Victoria's land management. More funding is required for scientists (including real mathematical modellers) in Parks Victoria and DELWP. There must be better collaboration between those organisations and academia. Also, there is a need for greater transparency and honesty by DELWP regarding what they are doing and how ineffective it is, perhaps aided by a review of state-wide clearing controls and offsetting similar to the recent EPBC Act review.

- Celebrate and replicate wetland restoration efforts in Western Victoria, many of which are small-scale with small funding but are highly effective when done well. Projects run by Nature Glenelg Trust are an example.
- Implement the recommendations of the Victorian National Parks Association regarding adding to/upgrading our reserve system, including the Great Forest National Park, Wombat-Lerderderg National Park, etc.
- Increase funding for research and monitoring of threatened species to improve conservation management and determine what actions are required to prevent these species going extinct. Develop and enforce new policies around these actions.

Incentives for change was focused on education and funding opportunities for landholders, with strengthened compliance for lawbreakers.

- Introduce more incentives for land managers to manage ecological values (especially for grasslands and grassy woodlands). *In situ* biodiversity needs a dollar value (e.g. some kind of spatial block chain) with incentives to land managers paid relative to maintaining or improvement of their block chain environmental value.
- Increase compliance, with serious consequences for failing to comply; this needs to apply to public and private land managers.
- Funding for targeted and surveillance monitoring needs to increase, then appropriate and funded governance is required to report on monitoring findings.
- There needs to be continuity of people undertaking projects who are champions for projects, and appropriately skilled people undertaking the work. Formal recognition/certification/professional standards need to be developed and introduced for ecologists as it the case for other professionals, e.g. Chartered status like in the UK. This would ensure only appropriately qualified people undertake particular tasks.
- Implement regular and independent audits that are funded and transparent, with funds for action and persons named and responsible for outcomes.

Environmental regulation

- Increase accountability around Construction Environmental Management. All mitigation measures should aim to *improve* the environment post-construction, not meet previous standards – that is, projects should be aiming for *better* best practice.
- Impact assessments and regulations should focus more on ecosystem level services and impacts, rather than just threatened matters.

- The uncertainty principle should be more appropriately considered, both in assessing potential impacts of actions, as well as the broader context of the ecosystems, and future trajectories, including crucially, climatic change.
- Introduce a carbon tax or equivalent, and a container deposit scheme.

Other general solutions offered by respondents are presented below:

- The environment needs to be measured like Gross Domestic Product and human health indicators, and funded at a similar scale.
- A change in perception regarding the role of weeds in modified landscapes may be beneficial. In disturbed ecosystems, weeds occupy niches in the absence of indigenous species, potentially improving ecosystem resilience. In some areas, we may need to consider whether novel ecosystems may be appropriate (e.g. Bandicoots living in Blackberries in the Koo Wee Rup Swamp).
- There must be better funding for biocontrol research (Keith Turnbull Research Institute is a major loss) rather than genetic/chemical manipulation technologies.
- Scientists and managers must be held accountable for progress in ecosystem protection matters – currently there is reduced rigour in the marine space and corruption is evident.

(e) opportunities to restore Victoria's environment while upholding First Peoples' connection to country, and increasing and diversifying employment opportunities in Victoria.

The work of ecological consultants sometimes merges with the interests of First Peoples and more could - and should - be occurring to increase the recognition of the cultural value of Victoria's ecosystems. Some consultants have considerable experience working with and alongside Indigenous people, and felt more comfortable providing insights. Others felt they were not qualified to respond, and some suggested more engagement with each Indigenous community would be appropriate to glean the aspirations and level of involvement that each would like to see. In summary, results identified significant opportunities to increase the avenues for First Peoples to be involved in the planning and implementation of ecological projects and land management.

We also see opportunities for better recognition and integration of Indigenous Traditional Ecological Knowledge and rights within some of the legislative structures that exist. For example:

- By ensuring our ecologically-focussed legislation mandates engagement with our First Nations peoples and provides them with the ability to input, veto and appeal decisions.

  This would help ensure elements of the EPBC Act that are rarely utilised in Victoria, such as recognising Indigenous cultural heritage and seeking to engage with Indigenous groups on matters such as new listings or large impact proposals, were actually enacted. This potential is long overdue. Ecological consultants have observed Victorian Indigenous groups rarely are engaged in these processes at present. For example, the Melbourne Strategic Assessment process went ahead, affecting large areas of Wurundjeri, Woi Wurrung, Boon Wurrung and Wathaurung country without adequate engagement with appropriate representatives of these groups during critical decision-making processes.

- By linking the *Aboriginal Heritage Act 2006* to ecology more directly, i.e. assessments for cultural heritage should allow for ecological assessments in line with First Peoples' understanding and connection to ecological values.

- By seeking to establish meaningful land use or land management agreements with relevant Traditional Owner groups. For example, Land Use Activity Agreements, under the *Traditional Owner Settlement Act 2010,* although the establishment of these agreements with the Victorian government only applies to Crown land and comes with the proviso that it negates any current or future Native Title claim. Aboriginal Cultural Heritage Land Management agreements are another option under the *Aboriginal Heritage Act 2006*. These are voluntary agreements and don't have the same restrictions as those associated with the Traditional Owner Settlement Act.
- By including cultural heritage values in a more meaningful way into the Native Vegetation Regulations within the Victoria Planning Provisions. At present cultural heritage values are not properly recognised.
- The State Government's Biodiversity Plan: *Protecting* Victoria's *Environment – Biodiversity 2037* seeks more engagement with Victoria's Traditional Owners, which is a good step, but this has not been seen to result in any concrete outcomes as yet.

We consider there are many opportunities for taking meaningful steps towards Indigenous engagement in restoration of Victoria's environment, involving employment opportunities. These include:

- Ensuring First People's first right to work on, and improve, their country. Ensuring First Peoples are given a strong and leading voice on matters connecting country (e.g. via biolinks), waterway protection and enhancement and other elements of caring for 'country'. This 'right' should be enshrined within an appropriate Treaty, first and foremost.
- Ensuring more First Nations/Traditional Owners are on country and managing reserves either in management positions or co-management. This will require a number of supporting programs that address the current gaps to see this become a reality. Supporting programs should include:
    - Appropriate education, training and support.

      Ideally this would be state-wide, indigenous led and include follow-on opportunities to move into work and management.

      There are current examples, like the course running on the Mornington Peninsula with Trust for Nature, Mornington Peninsula Shire Council, SPIFFA & Holmesglen TAFE. While a step in the right direction, this course is based

on the standard Natural Resource Management course which starts with OH&S and Chem Cert. This denies First Nation knowledge, science and community.

- Ensuring there is joint management with DELWP, Parks Victoria, Local Government, water authorities and other managers of existing reserves. Also, ensuring there is land set aside or provided for communities to be able to carry out cultural practices and manage land.

  One consultant states: '*I am encouraged by the cultural connections to land the First People groups are returning to and strengthening and would like to see the groups get granted more land and more rights to co-manage public land.*'

- Some respondents emphasised the need for indigenous-led management via traditional burning techniques, especially of ecosystems such as grasslands and grassy woodlands that are most adapted to frequent fire. To some extent, this is happening on small scales but needs to be more widespread. In support of this, one respondent states: '*I have been taught by several indigenous people about cultural fire*.'
- Via inclusion of an Indigenous cultural component in all ecological grant applications (Cultural Heritage Management Plans (CHMPs), workshops, interpretation).
- Provide start-up funds for transition into work and local Registered Aboriginal Parties (RAPs) via regional agreements.
- First Peoples should have a predominant stewardship role supported by other groups of people. This would work well as part of a collaborative team of interacting groups of people: expert scientists to assess and monitor ecosystem condition (at present most funding is to citizen science); citizen science that provides information support to expert assessments and on-ground maintenance; managers that provide actions and responses to improve the ecosystem; and stewards that oversee the status and the programs.
- Other direct employment opportunities, if they are also of interest to First Nations people, may involve revegetation of Government land such as cleared or degraded state forests and reserves. Establishment of dedicated and mentored indigenous plant nurseries whose sole purpose is non-commercial conservation-based plant production. Development of seed production areas for key/core and difficult to collect species.

- EPBC Act Offset Sites could include components of active management by Aboriginal parties (perhaps through the RAP parties).
- Team up with Indigenous groups to enable engagement and transition into ecological stewardship. Examples of these initiatives are provided by Trust for Nature and other groups like the Merri Creek Management Committee and Bush Heritage.
- Establishing projects that support First Nations groups to research and promote the products that form a focus of Indigenous Traditional Ecological Knowledge, such as indigenous foods including Kangaroo Grass, Yam Daisy, Weeping Grass and Native Raspberry. Studies on indigenous grasses for food by people such as Bruce Pascoe are providing interesting results. These studies could be built upon and similar initiatives supported by government.

(f) any other related matters.

Other points of interest that were raised include:

- Seedbanks in Victoria are very limited and run on a very small budget. Some seed stocks have questionable viability, provenance and identification. The Herbarium has a good repository and guidelines, and some (largely privately-funded) regional seed reserves exist. A coordinated seed 'bank' for revegetation projects is needed, building on the Herbarium's guidelines and providing regional facilities.
- There is a significant bias in the way ecological values are assessed and considered:
    - Listing processes for threatened species under the EPBC Act and FFG Act rely on people nominating them.
    - Research funding focuses on popular topics and taxonomic groups such as 'cute' and 'fluffy' species and existing recognised threatened species.
    - Freshwater and marine ecosystem impacts are not subject to the same level of impact assessment and mitigation compared to terrestrial ecosystems, with significant systemic issues that result in a lack of detection and reaction to important impacts or events particularly for marine environments.
- Conservation statuses need regular revisions to adjust to temporal changes as populations and suitable habitat decline. The Common Assessment Method (CAM) recently introduced by the Commonwealth to standardise assessment and listing of threatened species is a good step in the right direction. However, the CAM only considers species already classified as threatened. Given the rapid rate at which many common species' populations are declining across Victoria, delays recognising their decline or increases in effects exerted by threatening processes, will result in increased costs associated with managing their population recovery and risk of local-, regional- or state-wide extinction. This is particularly pertinent after events such as significant bushfires, droughts and floods.
- Consequences for unauthorised environmental impacts are miniscule compared to the degradation they cause. For example, the farmer that poisoned 406 Wedge-tailed Eagles and many other birds of prey, catastrophically affecting their regional population security, was imprisoned for just 14 days and fined just $2,500; there are no consequences for inadequate monitoring of the causes of eutrophication of western Port Phillip Bay and Moorpanyal beach in Geelong; there are also many other known examples of illegal vegetation removal that have resulted in either no

evictions or miniscule fines, however they are tied with confidentiality which also protects the perpetrator's personal and business reputation.

- Compliance of environmental regulations is poorly enforced, affected by a lack of compliance officers and resources to conduct audits and investigate complaints within DELWP, local government, the Environment Protection Authority and other regulatory bodies.

- State significant projects are major contributors to ecosystem decline owing to the typical scale of related vegetation impacts. Many projects operate under existing exemptions and Memorandum of Understandings (MoUs), suspending the need to demonstrate avoidance, minimisation and/or offsetting. In this way, there is no great driver for alternative design solutions to be sought that could reduce the ecosystem impacts of these significant-scale projects. Ecosystems can be better protected on government projects by prioritising ecosystem protection, improving and implementing Best Practice ('Better Best Practice'), and demonstrating genuine steps to avoid, minimise and offset vegetation/ecosystem impacts for all State Government initiatives, such as road and rail projects.

- Some respondents have observed decision-making with regards to environmental impacts and approvals can be compromised by conflicting priorities and influences. For example:
    - Ecological impacts proposed or undertaken without approvals by politicians/councillors and their families are known to still occur on occasion, with impacts either overlooked or given less stringent approval conditions.
    - Impact assessments prepared by ecological consultants can, on rare occasions, be biased by their paying clients. This was one of the considerations driving the formation of the Ecological Consultants Association of Victoria. As the industry body for ecological consultants in Victoria, we aim to provide continuous professional development to improve the quality of work produced by our members, and require members to sign our **Members' Code of Conduct,** which details a number of ethical and professional requirements in this space. Our aim is to increase recognition for our recently-formed (nearly three years ago) organisation with Clients and Local, State and Federal Governments; encouraging more ecological consultants to sign our Code of Conduct, and hence reduce the prevalence of actual,

potential or perceived corruption and conflicts of interest occurring in the ecological consultant industry. Better government oversight of the industry with support, training, professional standards and certification requirements would further help address this issue.