



31 August 2020

Port Phillip EcoCentre Submission
RE: Parliamentary Inquiry into Ecosystem Decline in Victoria

Inquiry Terms of Reference

On 30 October 2019 the Legislative Council agreed to the following motion:

That this House requires the Environment and Planning Committee to inquire into, consider and report, within 12 months, on the decline of Victoria's ecosystems and measures to restore habitats and populations of threatened and endangered species, including but not limited to –

(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;

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

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

(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;

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

(f) any other related matters.

Introduction

Thank you for the opportunity to submit to this critical Parliamentary Inquiry into Ecosystem Decline in Victoria. **Port Phillip EcoCentre** is a community-managed environmental hub with a dedicated team of scientists, educators and volunteers who design and implement innovative environmental programs across Greater Melbourne and Port Phillip Bay. We bring together people of all ages and backgrounds through a wide partnership network of expertise and action including 20,000 environmental volunteer hours per year. Our 250+ collaborators include schools, community groups and NFPs, government and government agencies, artists and media, businesses, healthcare and social service providers, universities and research institutions.

Together we conduct original research, spark solutions and inspire environmental leadership in landscapes, legislation, daily living, classrooms and boardrooms. Our expertise areas include urban ecology, Port Phillip Bay, plastic pollution, citizen science and education.

This submission draws on our experience and a range of scientific, practical and strategic ecological, waterway and wildlife projects, panels and multi-year studies we've led or been part of since our founding in 1999. Our responses to the Terms of Reference are as follows:

(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;

Alarmingly, ecosystem health in Victoria is declining across a third of indicators¹. Australia has the worst record in the world for mammal extinction. The loss of quality and extent of flora, fauna and fungi is impactful. It drives Australia's shocking extinction rate, represents a loss of First People's cultural heritage and iconic natural heritage, correlates to economic risk, and triggers health and wellbeing impacts for humans as negative impacts accrue and compound. Climate change will compound ecosystem decline, and ecosystem decline will exacerbate human health threats tied to climate change.

The decline of ecosystems in Victoria may be attributed to a range of missteps and missed opportunities. In this submission, the Port Phillip EcoCentre shares observations on current conditions in water, land and human systems; and suggests positive points for leverage.

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

Forests: Old-growth forests are a crucial and limited resource that cannot be recovered once lost. Victoria has forest ecosystems rated 'critically endangered' under IUCN standards. State Government must formally recognise that forests provide a range of natural and cultural heritage values and ecosystem services, including habitat, carbon storage and clean water. Transition plans are required for communities currently reliant on unsustainable forestry, with assurance that logging is not entitled to special exceptions through Regional Forest Agreements (RFAs) that compromise our flora, fauna, climate and waterways (with impacts well beyond the forest boundaries). State-endorsed forestry that fails Forest Stewardship Council certification and relies on legal exemptions via RFAs is unacceptable.

Protect native forests from logging, including through the creation of the Great National Forest and Emerald Link as endorsed by diverse sectors and groups². Areas of permitted, farmed forestry must be clearly demarcated in detailed maps that prevent the ambiguity defense claimed by VicForest for logging illegal areas³. Victoria is becoming a leader in transitioning coal-based communities to renewables communities - we need similar rapid transition plans to assist communities while taking urgent action to protect our native forests. This will end up win-win for people and the environment -- Victoria's proposed Great Forest National Park could 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, according to a 2018 report by the Nous Group.

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

Despite the commendable efforts of a range of government agency programs, we submit that greater investment is needed to address the following threats to marine, coastal and aquatic ecosystems.

¹ https://www.ces.vic.gov.au/sites/default/files/SoE2018_SummaryReport.pdf, p3

² <https://www.greatforestnationalpark.com.au/support.html>

³ <https://www.abc.net.au/news/2019-12-19/vicforests-plan-to-log-native-ash-trees-on-public-land-maps-show/11805812?nw=9>

Stormwater quality: Victoria's increasing human population has been addressed primarily through urban consolidation, with higher density housing, industry, transport systems and human activity. Urban areas that have previously been undeveloped land with permeable surfaces are increasingly being developed for housing and business, with less and less permeable surface area to filter stormwater run-off. This run-off can include air-borne particulates, a variety of illegally disposed waste, hydrocarbons from roadways, faeces of domestic and wild animals; and construction wastes in the form of off-cuts and 'saw-dust' from synthetic materials. Each of these contaminants impacts water quality in our stormwater system, ultimately reducing the capacity of our creeks and rivers to support the range of aquatic organisms they once did.

Plastic and microplastics: The ubiquitous and unrestrained use of plastics for food packaging, construction and everyday recreation, combined with the failure of our recycling infrastructure and human behavior (anti-litter) programs has resulted in an exponentially increasing influx of plastics into our natural waterways and soils. Although the ability of plastics to adsorb and carry chemical contaminants and to be ingested by a wide range of aquatic species has been widely acknowledged, the human health implications of this in relation to our food chain are yet to be sufficiently studied.

The EcoCentre's Clean Bay Blueprint project from 2017-2020 was Australia's first litter research to monitor and map microplastic litter holistically across streets, river surface and coast, to tailor localised source reduction plans. Data was collected through river and bay trawls, street and beach surveys. More than 20,000 microplastics were meticulously measured and categorised. This led to the first quantification of microplastics in Melbourne's two urban rivers and has identified a trend of plastic pollution more than doubling in the last five years. The forthcoming report, including statistical analysis by RMIT University, calculates that over 2.4 billion litter items are carried on the surface of the Yarra and Maribyrnong each year to the Bay and over 80% of this is microplastics.⁴

Coastal squeeze: Incremental sea level rise combined with increasing frequency of severe storms is exacerbating coastal erosion, displacing terrestrial and inter-tidal habitats. 'Ecosystem decline' impacts particularly apply to areas where natural systems are unable to migrate inland due to the presence of urban infrastructure such as constructed seawalls, roads, commercial buildings and housing development. Hence, areas of coastal open space with vegetation that provides habitat for a suite of sedentary and migratory native wildlife are incrementally being lost.⁵

At the base of these food chains and carbon sink ecosystems are invertebrates, which are understudied in Port Phillip Bay. The mollusc communities living on and in the seabed are acknowledged as playing a fundamental role in converting nutrients into food that supports higher order species such as fish, seabirds, dolphins, seals and people. As shells on beaches are the remains of molluscs likely to have lived nearby offshore, their presence provides insights into the diversity of species in the local area. Due to changing seasonal conditions and fluctuating human uses and catchment inputs that influence life in Port Phillip Bay, random anecdotal observations and short-term studies provide limited value towards understanding shellfish populations in intertidal ecosystems and what threatens them. The Port Phillip EcoCentre's 'Port Phillip Baykeeper' program conducts citizen science monitoring of intertidal mollusc populations, as well as the size and abundance of shoreline shells, and the profile of beach sands as they accrete and erode.

⁴ Numbers approximate at time of writing. 'Clean Bay Blueprint – Plastics and Microplastics Final Report' is currently in editorial review to be published by November 2020.

⁵ <https://www.ces.vic.gov.au/sites/default/files/SoE-2018-scientific-assessments.pdf>

An ongoing monitoring program that uses a consistent data collection method could ultimately inform Bay management policy and actions. However, considering the large scale and ongoing nature of the exercise, a significant volunteer citizen science contribution is required to maintain the study. Regularly repeated surveys provide a longer-term data-set from which conclusions can be made as to composition of local shell communities and relative abundance of individual species. From 2009-2019, 171 surveys were conducted of 58 separate locations, primarily on a voluntary basis due to lack of funding and lack of profile around the value of intertidal ecosystems and molluscs. With appropriate resourcing, the EcoCentre and our partners such as Scouts, eco-tourism operators, bayside schools, Friends of foreshores, corporate volunteers, and coastal holiday parks could contribute further to this data more systematically and long term.

Disposal of dredged contaminated sediments: The practice of periodically dumping contaminated dredged sediments from the Lower Yarra into Port Phillip Bay is problematic in that the 'dump' is out-of-sight-out-of-mind; and there are no publicly available assessments to verify that the practice is not adversely impacting on biodiversity on the Bay. The timing of maintenance dredging in the Yarra is also problematic for seasonally migratory fish species such as Australian Grayling. Similarly, there appears to have been no attempt to study and publicise the effects of maintenance dredging on this species.

Despite the commendable efforts of a range of government agency programs, we submit that greater investment is needed to address the following threats to terrestrial ecosystems.

Habitat fragmentation, and lack of 'green and blue' corridors: Fragmentation of habitat as a result of in-fill development (consolidation) to support human population growth, is incrementally impacting on the ability of local wildlife populations to breed with their wider population, which has implications for retention of a healthy gene pool. Genetic diversity helps a species adapt to new threats, which scientists show are interconnected⁶ -- for example, habitat loss contributes to climate change which in turn compounds threats to the species suffering from the habitat clearcutting. In cities, the remnant or replacement landscapes often are designed for amenity value rather than ecosystem function. Effects include the paving over of waterways into subterranean drains, loss of tree hollows for fauna breeding, and the direct introduction of pest flora/fauna or landscape features that disproportionately benefit exotic and pest species (without the controls of a naturally formed ecosystem). An increase of ecologically flourishing parkland, waterway corridors and biodiversity provides an additional range of co-benefits to urban residents including climate cooling and positive mental health⁷; current COVID-19 lockdown restrictions of a 5km radius raised concerns that 340,000 Melbournians have little or no park access near their home.⁸

Highly modified urban / suburban landscapes omit key habitat elements:

According to CSIRO, 'Australian biodiversity science has expended too little effort on the urban environment, and information on which to base urban biodiversity strategies is generally lacking.'⁹ However the EcoCentre's research and citizen science projects such as NatureSpot, Elster Creek Wildlife Challenge, and collation of naturalist data for the *Elsternwick Park Nature Reserve: Fauna Strategy* (2019) has collected records of over 1000 resident or migratory fauna species.

⁶ <https://theconversation.com/lets-get-this-straight-habitat-loss-is-the-number-one-threat-to-australias-species-85674>

⁷ <https://pdfs.semanticscholar.org/30a1/900cc7f560ff20f47f35ba360c3a2c85db2a.pdf>

⁸ <https://theconversation.com/340-000-melburnians-have-little-or-no-parkland-within-5km-of-their-home-144069>

⁹ https://www.publish.csiro.au/ebook/chapter/9781486302062_Chapter_8

While restoration of original (pre-European colonisation) vegetation communities is not practicable in highly modified settings with a variety of uses, the practice of revegetation with 'local native' plants is well accepted as a cost-effective approach to contemporary open space management. Threlfall *et al.* found that increasing the volume of understory vegetation and percentage of native vegetation had uniformly positive effects: 30-120% higher occupancy for bats, native birds, beetles and bugs with an increase in understory volume from 10% to 30%, and 10-40% higher occupancy across all native taxa with an increase in the proportion of native vegetation from 10% to 30%.¹⁰

Soil degradation: A healthy soil is its own living ecosystem, and the base of many others. Life below ground is critical to life above ground yet soil ecology is under-researched¹¹. In every handful of healthy soil, billions of microbes, fungi and microorganisms support plant life, which in turn store carbon dioxide, clean and cool our air and water, and enable our [human] food chain. We are losing the critical ingredients of healthy soil faster than they are replaced, and this has implications for climate change, food security and human health.¹² Despite the ecological importance of fungi to mediate interactions between species, there are few qualified mycologists funded in Australasia, no undergraduate course on fungi in Australia, and therefore almost no state of environment reporting or consideration of fungi in biodiversity legislation or conservation management¹³. Faulty landscaping designs, in both public and private realm, allow soil to erode.

Additionally, we are increasingly contaminating soils. In 2016, an RMIT study recorded elevated concentrations of vehicle-emitted heavy metals have accumulated in Melbourne's roadside soils, known to result in long term environmental damage¹⁴. Plastic pollution also carries and leaches potentially toxic substances into soils¹⁵ and EcoCentre surveys of Melbourne catchments indicate a steep increase in microplastic litter (additional to any direct pollution such as pre-production pellet spillage at plastic manufacturing facilities).

(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;

The current array of legislation, policy, infrastructure, and management programs across a complex array of government agencies make it difficult for everyday people to clearly understand which agency is responsible for what, particularly as the updated Victorian Environment Protection Act has been deferred.

Volunteerisation: A range of litter and dumped waste items contaminate ecosystems already under threat. There is a tendency to target individuals in waste-prevention messaging, to treat litter as an amenity issue (rather than ecosystem threat) and to 'volunteerise' responsibility for litter removal. While volunteering is an incredible force for positive impact, the 'volunteerisation' of responsibility for litter misallocates people power -- for it overlooks manufacturer accountability (the 'polluter pays' principle) and product stewardship. Furthermore, it misses opportunities for larger-scale preventative interventions, ranging from gross pollutant traps to legislating extended producer/brand responsibility.

¹⁰ *Increasing biodiversity in urban green spaces through simple vegetation interventions.* Caragh G. Threlfall, Luis Mata, Jessica A. Mackie, Amy K. Hahs, Nigel E. Stork, Nicholas S. G. Williams, and Stephen J. Livesley. *Journal of Applied Ecology*, 2017.

¹¹ <https://www.pnas.org/content/113/28/7682>

¹² <https://pursuit.unimelb.edu.au/articles/save-our-soils-why-dirt-matters>

¹³ <https://fungimap.org.au/about-fungi/how-well-are-they-conserved/>

¹⁴ <https://www.sciencedirect.com/science/article/abs/pii/S026974911530083X>

¹⁵ <https://www.sciencedaily.com/releases/2018/02/180205125728.htm>

Management silos: A diverse range of organisations have statutory responsibilities that directly or indirectly affect ecosystems of Port Phillip Bay and its catchments. There are thirty local municipalities, the Department of Environment Land Water and Planning, the Victorian Environmental Protection Authority, Parks Victoria, Melbourne Water, Port of Melbourne Authority, Port Phillip and Westernport Catchment Management Authority and Corangamite Catchment Management Authority. Management decisions by infrastructure authorities such as VicRoads have flow-on ecological impacts. No institution holds responsibility for the ecological and human systems of the Bay catchments holistically, and indeed this can result in illogical and abstract distinctions such as DELWP's *Port Phillip Bay Environment Management Plan 2017-2027* which serves the vision 'A healthy Port Phillip Bay...' yet excludes strategies and actions around boats, fish stock and ports as these are managed by other Departments.

Community-government links needed: Across Greater Melbourne, there are numerous non-government organisations (NGOs) ranging from those with a national or state-wide focus to local 'Friends' groups whose area of interest may be just a few hectares of natural bushland. The national/state-wide NGOs usually have highly skilled staff paid engaging in high level research and advocacy initiatives which aim to influence government policy. However, their resources generally don't provide for detailed dialogue with the many volunteer 'Friends' groups, who have detailed local knowledge but often lack the capacity to communicate more widely, either knowledge sharing in affinity groups or representing concerns and data to land managers and policy makers. They also may not be receiving benefits of the newest developments from research institutions, which often lack community attention, networks or outreach plans to share knowledge to community stakeholders.

A significant role of Port Phillip EcoCentre is as a network and hub for community expertise and action, to strategically link stakeholders, scientists and decision-makers, and helping connect each local node into the bigger picture. (*We note the EcoCentre's engagement and training capacity is currently constrained by our facilities and that City of Port Phillip is currently seeking matching funding for redevelopment into a EcoCentre hub for the region.*)

Failure of protection laws, and under-funded enforcement: Professor Graeme Samuel's interim review (June 2020) of the national *Environmental Protection and Biodiversity Conservation Act* (EPBC Act) considered over 3000 submissions, and tabled concerns shared by on-ground environmental experts and scientists, including:

- 'The EPBC Act is ineffective. It is not fit for current or future environmental challenges, such as climate change.'
- 'The EPBC Act has failed to fulfil its objectives as they relate to Indigenous Australians.'
- 'The EPBC Act is duplicative, inefficient and costly for the environment, business and the community.'

Australia has not updated its critical habitat register in 15 years¹⁶ and in fact holds only five entries since the EPBC Act creation in 1999. None of these are situated in Victoria.

A range of reforms to the EPBC Act, if achieved through the current review¹⁷, stand to benefit Victorian ecosystems through stronger protection and enforcement, including transparency of approvals and monitoring data (removing the commercial-in-confidence 'cloak' that can block the public and scientists from seeing monitoring data collected under EPBC Act permits).

¹⁶ <https://www.theguardian.com/environment/2018/mar/06/australia-has-1800-threatened-species-but-has-not-listed-critical-habitat-in-10-years>

¹⁷ NB: The EcoCentre does not support all the of Professor Samuel's Interim Review recommendations.

These complement the benefits of the new *EPA Act Victoria 2018*, notably the introduction of general environmental duty and third party enforcement rights.

However full (expanded) resourcing of professional monitoring and enforcement by EPA Victoria, Parks Victoria and other officers is critical to investigate pollution events, monitor ecosystem health, apply the *Flora and Fauna Guarantee Act 1988*, and ultimately prevent costly losses and devastating emergencies that contaminate communities and natural ecosystems, such as the toxic 2018 West Footscray industrial fires where firefighting chemicals washed into Stony Creek and killed fish and wildlife¹⁸.

Under-researched species/systems are effected without measuring the impact: Many potential environmental impact assessments are limited by an absence of baseline data due to a lack of species profile, lack of local expertise or lack of funding. For example, there is incomplete knowledge on the impacts of climate change on intertidal molluscs, the danger levels of microplastic bioaccumulation in food chains, the overfishing risks to a species like Spider Crabs in Port Phillip Bay, or the opportunities to improve revegetation success by restoring fungal and microbial guilds in soils. Yet decisions impacting these species and systems continue both directly or by implication.

The Victorian *State of the Environment Report 2018* notes the need for strategic capabilities in 'Data, monitoring, spatial information and analytics' as well as 'Scientific impact' or "knowing what we need to know, when we need to know it" in a format that is useful for scientists, regulators, managers, economists and the community.' The report identified citizen science and community education as tools to improve policy and ecology outcomes.

In 2019, the Port Phillip EcoCentre prepared a report for Bayside City Council '*Elsternwick Park Nature Reserve: Fauna Strategy*' which drew on data gathered from sites across the inner SE Melbourne region over the past 30 years by voluntary naturalists. EcoCentre staff conducted interviews and collated large sets of meticulous data, negotiating a diversity of formats. This case study suggests there is a wealth of data within community, which may be stored outside of systems like iNaturalist, Victorian Biodiversity Atlas or the Atlas of Living Australia. There is scope to better leverage the expertise of community, including paying for evaluation of existing datasets 'in the wild' outside master databases, and funding *new* citizen science that is well-designed to feed central, user-friendly platforms. Citizen science is not free, but can be invaluable -- if carefully designed¹⁹, collated by scientists, applied by decision-makers and celebrated by science communicators.

Scarce career pathways, integrated environmental training or nature experiences during learning: Engineers, landscapers, builders, town planners, doctors, hospitality managers and school principals are all example 'non-environmental' careers with significant potential to directly impact Victorian ecosystems through their work, should environmental training be integrated into all study courses. Few funded roles for science journalists and science communicators in Australia leave gaps in the public understanding of science, and many missed opportunities for new scientific understandings to be widely understood and applied. Investment in environmental education curriculum, including time in local ecosystems, may improve eco-literacy across a range of occupations, while also delivering wellbeing benefits to the students. Further, during pandemic recovery, such reports as the *Climate Council Clean Jobs Plan* (July 2020) prove how 76,000 new jobs can rebuild our economy now and tackle climate change, providing a robust pathway to economic recovery and Australian natural and community resilience.

¹⁸ <https://www.theage.com.au/national/victoria/scores-of-dead-fish-eels-wash-up-after-melbourne-factory-fire-20180831-p500z5.html>

¹⁹ [EcoCentre Citizen Science Evaluation Rubric](#)

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

We offer the following suggestions as positive avenues to address ecosystem decline.

- a. The environmental citizenship and volunteering sector is innovative, effective and delivers a high return in terms of environmental improvement and community satisfaction and health for every dollar invested.** Yet it can be ad hoc and participants can face significant challenges through overwhelming workloads, lack of resources, changing environmental conditions, and perceived political and societal disengagement that lead to burnout and a sense of powerlessness. The incredible volunteer-based knowledge and skill base for waterways, wildlife and ecosystem protection currently faces significant risks as current leadership ages without succession planning and knowledge sharing.

There is opportunity to enhance a proactive and positive community of practitioners who all have the capacity to address their local needs, plan ahead, build on their resources and work in partnership to achieve their goals. The ability to do this across the network is critical to nurturing sustainable, well-funded organisations that achieve the best environmental outcomes for their areas. It is also important in achieving engaged communities and collaboration between community, industry and government. The Port Phillip EcoCentre, Yarra Riverkeeper, Werribee Riverkeeper and community centres like Hobsons Bay Wetland Centre are well-structured exemplars and trusted community-institutional connectors, though vulnerable to economic volatility.

Recommendation: Fund strategic “keystone” organisations and community environment hubs to foster ongoing connections between community groups, research institutions, and decision-makers who care for ecosystems, and to “translate” between contexts.

- b. The growing sophistication and popularity of citizen science offers opportunity to improve scientific understanding and public appreciation of understudied ecosystems.** Studying large-scale patterns in nature requires a vast amount of data to be collected across an array of locations over long timespans, for which citizen science is a suitable research method²⁰. Port Phillip EcoCentre's scientists and educators coordinate approximately 20,000 environmental volunteer hours annually, with over 1/3 being citizen science initiatives. We have developed and delivered projects such as Clean Bay Blueprint and NatureSpot, and co-designed and delivered citizen science for a range of cutting-edge research such as Sunscreen and Bay Marine Life with RMIT University, Drain Detectives with EPA Victoria, Street2Bay with Scouts Victoria, and mollusc surveys near living breakwaters for National Centre for Coasts and Climate Change. From our learnings, we have improved equity and inclusion to support youth and culturally diverse communities, and produced an open-source *Citizen Science Evaluation Rubric* to guide scientific contribution, volunteer recruitment and retention, and communications in project design. Resulting datasets have been cited in a range of Victorian reports including the *State of the Yarra River and Parklands* and *Values of Victoria's Marine Environment*, discussed on radio, in *The Age* newspaper, and cited in election platforms by the three major parties. Citizen science with astute science communications can produce effective data while

²⁰ <https://academic.oup.com/bioscience/article/59/11/977/251421>

simultaneously improving ecological literacy and provide individual wellbeing benefits of volunteering²¹ and sense of place. Citizen science requires appropriate resourcing for success.

Recommendation: *Fund joint citizen science projects between community groups and research institutes, including qualified science communicators.*

- c. **Invest, implement and enforce.** Victoria has existing legal instruments such as the *Flora and Fauna Guarantee Act 1988* and *EPA Act 2018*, comprehensive plans such as *Biodiversity 2037*, and technical provisions like *Planning Amendment VC154 – Stormwater Management*. However, the implementation and enforcement is often subject to political discretion, under-resourced, or un-audited until/unless formally challenged.

Recommendation: *Develop funding streams, including the Sustainability Fund and developer schemes, to assure the urgent and ongoing implementation and enforcement of ecological laws and plans.*

Concluding comments

“... we should not destroy living things that are not harmful to us, as we hope to avoid harmful things ourselves....” Prompted by evidence of the appalling wastage of fauna and flora during the brief period since colonial settlement in Australia, this was written for the Australian Museum Magazine *in 1936*.

Despite the ‘common sense’ as expressed above and the various Commonwealth and State Government policies and legislations to protect the environment, numerous Australian fauna and flora species have become critically endangered or extinct since 1936. Port Phillip EcoCentre contends that such decline is accepted by many people due to the perception that the natural world is merely a commodity for use; rather than retained for its inherent value. A major cultural shift is required to change this prevailing view; and may be achieved by connecting people to nature where they live through a range of programs.

In recent years, there has been a significant shift by government and environmental managers to apply participatory democracy and co-design principles. Successful examples include the *Port Phillip Bay Environmental Management Plan (2017)* and *Melbourne Water Healthy Waterway Strategy (2018)*. This heralds better links for community expertise and institutional management, and to lift local issues into cohesive, regional strategies.

Designed well, the investments and protections noted throughout our submission will benefit flora, fauna, fungi and Victorians for generations to come. Thank you for the opportunity to contribute to this Inquiry, and please don’t hesitate to contact the Port Phillip EcoCentre team for further clarity on the content. We look forward to bold commitments and rapid implementation, matching the urgency of Victoria’s ecological crisis.

Yours sincerely,



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²¹https://www.vichealth.vic.gov.au/~media/ResourceCentre/PublicationsandResources/Social%20connection/opportunities_for_Social_Connection_Summary_Nov10.ashx