

Wildlife Conservation Master Plan

2019–2024



Contents

Minister's Forward and a Message from the Chair	2	Southern Corroboree Frog	40	Bubbles not Balloons and Beyond	79
Fighting Extinction Commitment	3	Spotted Tree Frog	41	Safe Cat, Safe Wildlife	80
Executive Summary	4	Stuttering Barred Frog	42	A wildlife-friendly bean	82
About Zoos Victoria	6	Future-proofing Victoria's Amphibians	43	Harvesting and Homes	83
On Climate Change	7	World Class Chytrid Research	44	They're Calling on You	84
Projects	9	Reptiles	45	Seal the Loop	85
Partners	10	Alpine She-oak Skink	46	Beads for Wildlife	86
Mammals	13	Grassland Earless Dragon	47	Under the magnifying glass	87
Brush-tailed Rock-wallaby	14	Guthega Skink	48	Education for Conservation	89
Eastern Barred Bandicoot	15	Invertebrates	49	Fighting Extinction Schools	90
Lowland Leadbeater's Possum	16	Golden-rayed Blue	50	Youth at the Zoo and Teacher Members	91
Mountain Pygmy-possum	17	Key's Matchstick Grasshopper	51	Zoos Victoria's Volunteers	92
New Holland Mouse	19	Lord Howe Island Stick Insect	53	Conservation Technology	93
Smoky Mouse	20	Watch List Species	56	Cryopreservation	94
Southern Bent-wing Bat	21	Wildlife Health	59	Love Your Locals	97
Tasmanian Devil	22	Building neighbourhoods for Victoria's Faunal Emblems	60	Building Capacity	98
Fighting Extinction Dog Squad	24	Expanding our threatened species alliance	62	Endowment Fund	99
Birds	27	Engaging with Victorian Aboriginal communities	63	Our commitment 2019-24	100
Helmeted Honeyeater	28	International Conservation	64	Five Year Project Timelines	101
Mallee Emu-wren	29	Conservation in Oceania	68		
Orange-bellied Parrot	30	Conservation in South-east Asia	70		
Plains-wanderer	31	Conservation in Sub-Saharan Africa	72		
Regent Honeyeater	32	International Conservation Grants	75		
Swift Parrot	33	Campaigns	76		
Amphibians	35	Don't Palm Us Off	78		
Baw Baw Frog	36				
Giant Burrowing Frog	37				
Large Brown Tree Frog	38				
Northern Corroboree Frog	39				

From the Minister

From the Chair

Zoos Victoria's Wildlife Conservation Master Plan 2019-24 supports the Victorian State Government's Protecting Victoria's Environment - Biodiversity 2037 plan. The Master Plan demonstrates Zoos Victoria's commitment to threatened species recovery programs. Zoos Victoria also plays a critical role in educating the community about the importance of protecting our natural environment for future generations.

For the first time, the Master Plan presents Zoos Victoria's biological and social science projects as an integrated strategy. This approach complements the overall vision and shared goals of the State Government to achieve a healthy environment and to help Victorians value nature.

The Victorian State Government and Zoos Victoria share a commitment to protecting the State's biodiversity using evidence-based approaches and cutting edge technology. Zoos Victoria has made great strides towards the recovery of Critically Endangered species in the wild, such as the Helmeted Honeyeater. I would like to congratulate Zoos Victoria on their unwavering commitment to securing a wildlife-friendly future, and on a brave and inspiring Master Plan that tackles the challenges wildlife face both locally and abroad.

I am delighted to present to you Zoos Victoria's second Wildlife Conservation Master Plan 2019-24. A considerable amount of work and extensive stakeholder consultation has gone into preparing this document. As a result, Zoos Victoria has been able to craft a five year plan that draws on the best conservation minds from across south-eastern Australia.

It is nearly double the size of its predecessor plan, for we are now fighting the extinction of 27 threatened native fauna species. There is also the addition of a species 'Watch List', and, inspired by our Government's ambition to ensure that *all Victorians are connected to nature*, we have integrated our community conservation programs.

At Zoos Victoria, we do not work alone. We work with many partners and are a foundation member of the Victorian Government-led VicEnvironments Forum. We understand the need for multifaceted solutions and effective partnerships to solve complex conservation problems together, locally and globally.

As you will read in these pages, Victoria's precious wildlife is facing many and persistent threatening processes. To mitigate these, this is our plan to undertake a combination of biological and social projects, ensuring that each one is evidenced-based and has targeted and measurable objectives.

While we are so proud of the projects articulated in this plan, we know that we can only fight extinction together. Collectively, we can ensure that we don't lose any more species - not on our watch.

We hope you will join us.



Lily D'Ambrosio

MINISTER FOR ENERGY,
ENVIRONMENT AND CLIMATE CHANGE



Kate Vinot

CHAIR,
ZOOS VICTORIA BOARD

Zoos Victoria's Fighting Extinction Commitment

No Victorian Terrestrial Vertebrate Species will go extinct on our watch.

The aim of Zoos Victoria's *Fighting Extinction* strategy is to secure and recover species at risk of extinction before it is too late. Consequently, Zoos Victoria's Wildlife Conservation and Science unit has prioritised 27 native threatened species that urgently require conservation interventions due to their likelihood of extinction over the next 20 years. Threatened species conservation priorities are determined based on the following criteria:

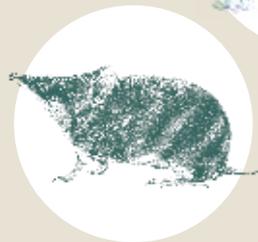
- Small population size
- Declining population trend
- Restricted distribution
- Key threatening process

PLEASE NOTE:

Zoos Victoria extends conservation capacity to an additional four south-east Australian native threatened species found outside of Victoria due to their urgent situation and current trajectory towards extinction.

All Victorians value wildlife and take the actions necessary to fight their extinction.

Zoos Victoria will connect people to wildlife, helping to shape wildlife-friendly attitudes and beliefs. We will continue to run targeted and measurable campaigns that facilitate behaviours that alleviate specific threatening processes to wildlife. These behaviours can be simple, one-off or everyday actions that, when undertaken by all of us, could have large-scale impact and even change the trajectory of species in decline.



Executive Summary

Zoos Victoria is fighting extinction to secure a future rich in wildlife.

ZOOS VICTORIA

In 2014, prior to embarking on our previous Wildlife Conservation Master Plan, we dreamed of securing Victoria's elusive and Critically Endangered Baw Baw Frog. Our hope was to find and breed the species within our care before the pressures threatening its survival became too great. Our first rescue mission failed, and we had to wait an entire year before those rare, little brown frogs could be detected again.

Now, as we present this Wildlife Conservation Master Plan 2019-24, not only have we found Victoria's only endemic frog species, we have had our first season of breeding success within the insurance population and there is more genetic diversity secured within Melbourne Zoo's Baw Baw Frog bunker than remains in the wild.

Significantly, we also find ourselves at the threshold of recovery success for the Eastern Barred Bandicoot, which not so long ago was listed as Extinct in the Wild across the state. Through extensive

partnerships, practical on ground action and a suite of innovative projects underpinned by science, Zoos Victoria has been able to lead the charge in bringing the mainland Eastern Barred Bandicoot back from the brink. The years following the initiation of our Master Plan 2014-19 have certainly taught us that each success brings great responsibility, with the fate of these species now firmly within our charge.

While our ultimate successes will always be measured by our ability to demonstrate gains in the wild, it is important to reflect on the species that would now be either Extinct in the Wild or functionally extinct had Zoos Victoria and other partners not intervened. The Southern Corroboree Frog, Orange-bellied Parrot and Helmeted Honeyeater are among those that have not been lost to this world largely thanks to zoo-based conservation.

This Wildlife Conservation Master Plan 2019-24 is an affirmation of our unwavering dedication to those

species, and marks an extension of our reach to assist others in need. In these pages, you will find our plans to lead the way for *in-situ* and *ex-situ* interventions that aim to recover species in the wild. To achieve this, we work with more than 100 partners to secure measurable conservation outcomes. Whilst our Fighting Extinction commitment focuses primarily on terrestrial vertebrate species, we have recognised the breadth and depth of our specialised expertise and extended our scope to assist more threatened Victorian invertebrates.

This document outlines many individual projects under the species and taxa which they most benefit. As is often the case, ecological interventions may benefit multiple species. As such, a representative species has been selected to capture project intent. In an attempt to distil complex programs, each description aims to provide a summary of its motivations, an update on what has been achieved since our previous

Master Plan (where appropriate) and estimated costs for each project. More detailed cost breakdowns and project timelines can be found on the back pages.

The 27 species that Zoos Victoria have prioritised in our Fighting Extinction efforts are both those in dire need and those whose current trajectory is of concern. As Australian terrestrial species, they are all interconnected.

With this in mind, and couched in the broader context of the Victorian Government's *Protecting Victoria's Environment - Biodiversity 2037* plan, many of the *in-situ* conservation actions contained within this document focus on balancing efforts for improved ecological processes that favour multiple species and the shared ecosystems to which they belong. This approach is particularly crucial in the face of challenges presented by climate change, and, where we reasonably can, Zoos Victoria will invest in landscape-scale conservation.

In addition to this, Zoos Victoria will capitalise on our staff members' considerable expertise in the *ex-situ* conservation. For those species that are Critically Endangered such as the Helmeted Honeyeater and Alpine She-oak Skink, the Victorian Government recognises that specialised interventions are required over landscape-scale approaches. In collaboration with others and as a statutory entity of the Victorian State Government, Zoos Victoria will continue to provide a unique offering through world class *ex-situ* wildlife management and animal husbandry and aim to provide insurance to species and populations so that they can thrive in their natural environments.

At Zoos Victoria, we know that conservation is as much about people as it is about wildlife. Our community conservation campaigns and education initiatives seek to reach and influence diverse audiences near and far, and this is the first time we have integrated our social projects and biological interventions into one plan. Together with our partners, we will strive to inspire others to join us and empower the community to take meaningful action for conservation. We believe in strength through diversity, and Zoos Victoria is enriched by the range of personalities, skillsets and backgrounds that make up our community.

Conscious never to remain static, we are constantly evolving in our application of technologies and new approaches for conservation gain. Zoos Victoria understands the need for conservation practitioners to progress the development and use of new technologies, and to capitalise on opportunities available to us that support conservation actions. Beyond our properties, Zoos Victoria is becoming increasingly involved in the citizen science landscape, and intends to invest further in breaking down the real and perceived barriers between conservation science and members of the public. We will know that we have been successful when Victoria's threatened species are on the road to recovery, and when all Victorians *value wildlife and take the actions necessary to fight extinction*.

We are global citizens, and Zoos Victoria recognises our responsibility to extend our conservation efforts and help build capacity and capability beyond Australia's borders in globally renowned biodiversity hotspots. We have reframed our thinking around international programs and are proud to update you on our new and

expanded sister zoo approach to help support Critically Endangered species in Oceania, South-east Asia and Sub-Saharan Africa. This aligns with the respective focuses of our three world class properties; Healesville Sanctuary, Melbourne Zoo and Werribee Open Range Zoo.

We know that people who work together achieve better results and we thank the many partners who have contributed to the development of this Master Plan, Quite simply, Zoos Victoria could not do any of the work it does without our partners. With this in mind, we have made it a priority to extend our network, nurture existing relationships and seek out new ones beyond the 'traditional' conservation sector. Working with Indigenous communities, we will seek guidance from Aboriginal people to help inform our approach to conserving threatened species and habitats.

While there have been many successes worth celebrating since we launched our first Master Plan in 2014, the fight against wildlife extinction remains mighty, and the time for our intervention is now.

We are energised, we are equipped and we are fiercely determined to live up to our promise.

Our threatened species deserve nothing but our best, and each and every one of us has a role to play.

About Zoos Victoria

Zoos Victoria is a not for profit, zoo-based conservation organisation, delivering conservation outcomes through our three zoos - Melbourne Zoo, Healesville Sanctuary and Werribee Open Range Zoo.

Melbourne Zoo was founded in 1862. While this makes it the oldest zoo in Australia, a couple of centuries is a blip in time. For thousands of years before this date and for all time after, the Wurundjeri and Wathaurung peoples remain the custodians of the land on which our properties are located. There is a great synergy between the traditional ways of Aboriginal and Torres Strait Islander people and what Zoos Victoria's vision aims to achieve. We appreciate that their knowledge, their interests and their contributions will add considerably to our mission. We look forward to working with Indigenous custodians of these lands and understand it is a privilege to do so.

Zoos Victoria aims to be the world's leading zoo-based conservation organisation. Underpinning this is our mission to fight extinction and secure a future rich in wildlife. We strive to do this by focussing our strategy and efforts on five action areas, these are:

1. Conservation
2. Our Animals
3. Our Visitors
4. Our People
5. Financial Sustainability

Determined as we are to fight wildlife extinction, we also recognise that the world is facing challenges of momentous proportions. Climate change is not something that we and our partners can solve on our own. But we can strive to predict and mitigate the risks posed by changing landscapes and do everything possible to future-proof species in this rapidly evolving world. Zoos Victoria's Wildlife Conservation and Science team hosts experts across the social and biological sciences and, together with partners, works hard to address human driven threats to wildlife under an integrated one-plan approach to conservation.

Zoos Victoria raises more than 70 per cent of our operating budget through zoo-based activities, driven by generous philanthropists, corporate partners and by the millions of people who want to experience the animals in our care. We always strive for excellence in animal welfare and to provide environments wherein species can thrive. Compassionate conservation is a cornerstone of what we do. This means that we ensure our work is always justified, that we take the most humane approach to fighting wildlife extinction and that we strive to ensure that our approach is effective.

Over the five years of this plan, we will increase our commitment to conservation on all fronts, appreciating that sound financial sustainability is key to success.

On Fighting Extinction in a changing climate

In 2018, the United Nation's Intergovernmental Panel on Climate Change (IPCC) released its special report on the impacts of global warming of 1.5°C above pre-industrial levels. This report was authored by more than 90 scientists and provided an ear-splitting warning about the limit to which humans can continue to release carbon into the atmosphere.

Zoos Victoria takes this report and all scientifically rigorous reporting on climate change very seriously. We recognise the unprecedented complexities posed by climate change-related challenges to our mission of Fighting Extinction. Drying landscapes, extreme weather events, altered flowering regimes, altitudinal and latitudinal shifting of ecological communities and increased competition from migrating species are all factors being considered when planning our activities.

That said, people, their livelihoods, habitats and wildlife are already suffering the consequences of a warming planet.

Half a Degree is a Big Deal

Climate change is the defining issue of our time. The five year period of this very document represents the only window of opportunity we have to rapidly reduce carbon emissions towards net zero.

The United Nations has highlighted a number of devastating impacts that could be lessened by limiting global warming to 1.5°C as compared to 2°C; 420 million fewer people suffering the direct effects of a changed climate, up to 30% greater survival of coral reefs and reduced loss of terrestrial ecosystems. These are all worth fighting for.

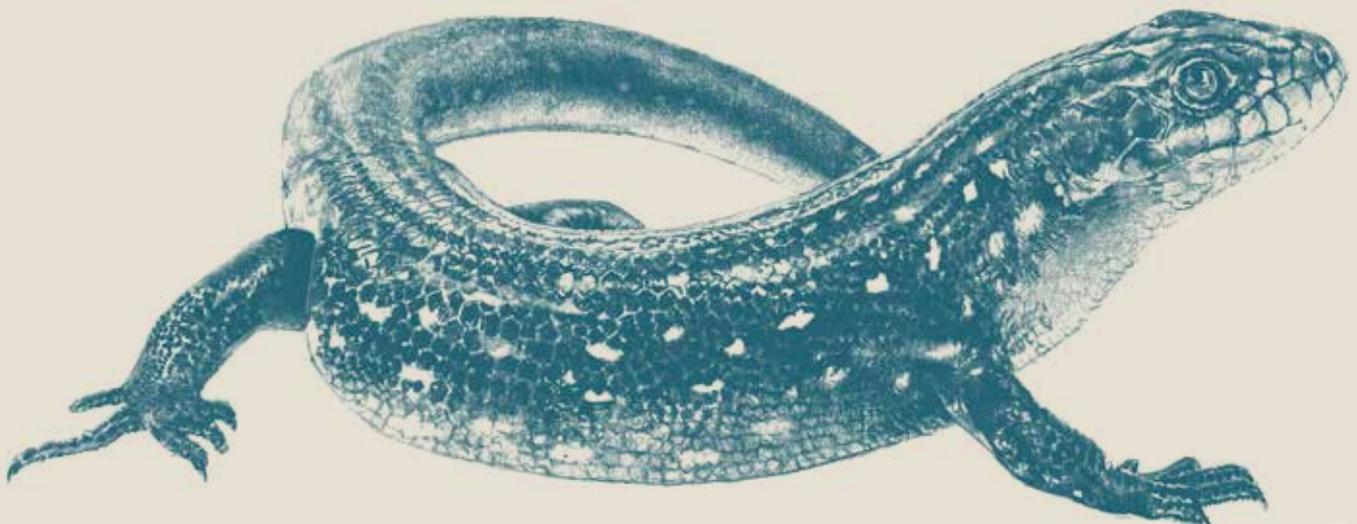
In order to limit the increase in global temperature to 1.5°C, humanity must halve its emissions of carbon dioxide by 2030 and reach net zero by 2050.

This requires unprecedented mass-scale behaviour change and all governments, businesses and communities have a role to play.

On Carbon Emissions

As a zoo-based conservation organisation, Zoos Victoria works hard to reduce carbon. We were the first zoo in the world to be independently certified as carbon neutral. This milestone signals our commitment to showing other organisations internationally what they can do to reduce their environmental footprint, and to inspiring our millions of visitors to live more sustainably.

As a species, this is our responsibility to each other, to the planet we call home, and to the incredible wildlife we share it with.



A portrait of Dr. Jenny Gray, a woman with shoulder-length blonde hair, smiling. She is wearing a black cardigan and a necklace with a dragonfly pendant. The background is a lush green wall of foliage.

Our vision is of a future rich in wildlife. Addressing the many threats to animals and the environment necessitates brave and thoughtful plans; plans that align resources and science and make sure that we support each other in our combined efforts. Together we can make a difference.

Dr Jenny Gray

CHIEF EXECUTIVE OFFICER
ZOOS VICTORIA

Projects

This Plan is a strategic and integrated package of projects, spanning a range of approaches across the biological and social sciences. This marks a departure from our previous Master Plan and is reflective of both the expansion we have undergone and the increasingly diverse range of tools we use in fighting extinction. All initiatives, including Zoos Victoria's campaigns, education programs and applications of technology are underpinned by scientific rigour and are selected to address specific threatening processes.

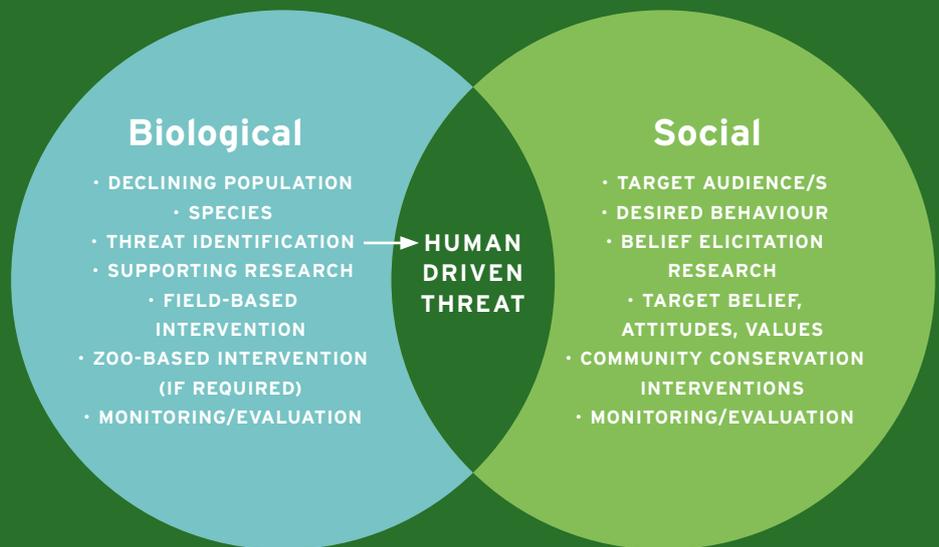
Zoos Victoria's conservation projects include:

- Threatened species monitoring
- Translocation of threatened species
- *Ex-situ* conservation through captive breeding of Critically Endangered species
- Research programs
- Community engagement
- Citizen Science
- Community conservation campaigns
- Education programs; onsite and school-based
- International conservation
- Novel approaches such as the Conservation Dog Squad and cryopreservation
- Indigenous engagement

Zoos Victoria's integrated planning approach

Whilst great effort has been made to ensure an integrated plan, Zoos Victoria will explore opportunities to expand our reach and impact as a consequence of this investment. This will involve leveraging behavioural change programs to promote spill over effect, from onsite to offsite, within and across various behaviours as well as in mobilising community and political will to support policy changes that benefit wildlife and wild places.

Since Zoos Victoria's previous Wildlife Conservation Master Plan 2014-19, we have significantly increased the numbers of partners with whom we work. Each and every project articulated in this plan is undertaken in partnership with others from within and beyond the conservation sector.



Projects that involve research and citizen science are identified by these icons



| Thanks to our partners

Zoos Victoria is incredibly grateful for the support and guidance that we receive from our partners. The fight against extinction is far too great for one, but not too great for many.

ZOOS VICTORIA



ACT Parks and Conservation Land	Department of Education and Training	Monash University	Save the Tasmanian Devil Program
Amphibian Research Centre	Department of Environment, Land, Water and Planning (VIC)	Moonlit Sanctuary	Societe´ d'Ornithologie de Polynesie-
Amphibian Survival Alliance	Department of Primary Industries, Parks, Water and Environment (Tas)	Mountain Pygmy-possum Recovery Team	Southern Cross University
Animal Welfare Science Centre	Devil Ark	Mt Baw Baw Alpine Resort	Spotted Tree Frog Recovery Team
Arthur Rylah Institute	Dian Fossey Gorilla Fund	Mt Hotham Alpine Resort Management Board	Tangaroa Blue
Australian National University	Dunkeld Pastoral Company	Mt Rothwell Biodiversity Interpretation Centre	Taronga Conservation Society Australia
Australian Trout Foundation	Eastern Barred Bandicoot Recovery Team	Murray Catchment Management Authority	The Carnivore Conservancy
Australian Veterinary Association	Elanus Consulting	Museums Victoria	The Threatened Mallee Bird Advisory Committee
Australian Volunteers International	Fauna and Flora International	National Geographic	Tidbinbilla Nature Reserve
Bass Coast Shire	Fauna Research Alliance	National Trust Victoria	Tiverton Property Partners
Baw Baw Frog Recovery Team	FaunaBank	Native Fish Australia	Tree Kangaroo Conservation Program
Baw Baw Shire	Federation University	Natural Resources SA Murray-Darling Basin	Trust for Nature
BirdLife Australia	Friends of Helmeted Honeyeaters	Odonata	Uganda Wildlife Education Centre
Brush-tailed Rock-wallaby Recovery Team	Friends of Leadbeater's Possum	Office of Environment and Heritage (NSW)	University of Melbourne
Bush Heritage	Greening Australia	Orange-bellied Parrot Recovery Team	University of Newcastle
Canidae Development	Gorilla Doctors	Parks Victoria	University of Queensland
Catholic Education Commission of Victoria	Helmeted Honeyeater Recovery Team	Philippines Department of Environment & Natural Resources	University of Sydney
Catholic Education Melbourne	James Cook University	Phillip Island Nature Parks	University of South Australia
Coastcare Victoria	La Trobe University	Phone Cycle	University of Tasmania
Conservation Planning Specialist Group	Leadbeater's Possum Recovery Team	Port Moresby Nature Park	University of Wollongong
Conservation Volunteers Australia	Lord Howe Island Board	Port Phillip and Western Port Catchment Management Authority	Victoria University
Corroboree Frog Recovery Team	Mabuwaya Foundation	Rhino Fund Uganda	VR Fish
Deakin University	Manila Zoo	RMIT	World Association of Zoos and Aquariums Wildlife Profiles
Department for Environment and Water (SA)	Melbourne Water	RSPCA Australia	Wildlife Unlimited
	Monash Frozen Zoo	RSPCA Victoria	YMCA Victoria
	Monash Sustainable Development Institute - BehaviourWorks	San Mariano Municipal Government	Zoo and Aquarium Association
			Zoos SA

YOUNG EASTERN BARRED BANDICOOT
WERRIBEE OPEN RANGE ZOO



Even mammals that are extinct in the wild, like the mainland Eastern Barred Bandicoot, can be returned to the wild and have a strong future when we work with amazing partners to fight extinction.

Dr Marissa Parrott

REPRODUCTIVE BIOLOGIST
ZOOS VICTORIA

Mammals

CREATING THE FUTURE THEY DESERVE

Ours is an island of special mammals. Eighty-seven percent of Australia's mammal species can be found *nowhere* else.

Sadly, Australia is also home to the unenviable record of the highest mammalian extinction rate in the world. Since the arrival of Europeans 34 Australian mammal species, including the iconic Thylacine and Lesser Bilby, have disappeared forever. As recently as 2009, some of our own staff witnessed the extinction of the last Christmas Island Pipistrelle before their very eyes.

A decade on from this tragedy, we are fiercely determined to ensure it never happens again.

Outlined in this section are our plans for eight mammals on the brink. We are proud to provide updates on what we have achieved for these species in the last five years and to set out clear targets and next steps for securing their future.

BRINGING BACK 'THE SHADOW'

Victoria's Brush-tailed Rock-wallaby

Using a thick long tail for balance, padded feet for grip and rufous-coloured fur for camouflage, the Brush-tailed Rock-wallaby (*Petrogale penicillata*) is expertly adapted to life on the rocky escarpments and granite outcrops of south-eastern Australia.

Sadly, predation, coupled with changing climate and vegetation patterns across its range, has resulted in fewer than 100 Brush-tailed Rock-wallabies remaining in the wild and captivity in Victoria, making it our state's most Critically Endangered mammal.

In Victoria, the last known population of wild Brush-tailed Rock-wallaby is isolated to a single gorge in a remote part of East Gippsland. In 2008, this population was thought to contain fewer than 20 individuals. Thanks to the dedicated efforts of several project partners, including DELWP, the Recovery Team and Parks Victoria, these wallabies have been protected from introduced predators and slowly their numbers have

increased to about 40 individuals. There is also a small number of reintroduced animals at one site in the Grampians. Given these low numbers, the cornerstone for the recovery of this species is the increased production of young. A captive-breeding program has been in place for more than a decade, involving Tidbinbilla Nature Reserve, Adelaide Zoo, Adelaide University and Mt Rothwell. Conservation geneticists are guiding the population management strategy to alleviate inbreeding in the wild and captive populations. One free-ranging Victorian population in a predator-exclusion compound, at the Mt Rothwell Biodiversity Interpretation Centre, is showing a high rate of reproduction. Together with partners, Zoos Victoria is determined to build on this success and assist in the creation of robust insurance populations in Victoria.

Over the coming five years, priority actions are to:

BIOLOGICAL

DESIGN, IMPLEMENT AND MONITOR A TRANSLOCATION STRATEGY to support the wild population and establish at least one new wild population.

\$715,000

ASSIST PARTNERS TO MAINTAIN AND STRENGTHEN THE FREE-RANGING INSURANCE POPULATION at Tidbinbilla Nature Reserve & Mt Rothwell and produce young for release to the wild.

\$150,000

SEARCH FOR remnant populations.

\$60,000

SOCIAL

INTEGRATE THE PLIGHT OF THE WALLABY THROUGH THE ANNUAL 'HOP FEST' EVENT to increase community care and knowledge of the species and generate support for the conservation projects.

\$10,000

TOTAL OVER FIVE YEARS

\$935,000



Photograph by
Rick Hammond

The mainland Eastern Barred Bandicoot

A SECURE FUTURE IS JUST AROUND THE CORNER



Photograph by
Will Watt

The Eastern Barred Bandicoot (*Perameles gunnii*) is a long-nosed insectivorous marsupial that once dotted the nighttime landscape of south-western Victoria. As a nocturnal forager, an Eastern Barred Bandicoot (EBB) can turn over up to 13 kilograms of earth a night; playing an important role in maintaining the soil structure of grasslands and woodlands. Since the arrival of Europeans, this small and mighty ecological engineer has faced overwhelming threats from feral predation and habitat loss, particularly on the mainland.

Today, the EBB persists in Tasmania and is on the verge of recovery in Victoria where it would have disappeared forever without captive breeding programs and predator-free fenced reserves.

In 1991, Zoos Victoria joined the recovery program and took on managing captive breeding for this species. Since then, we have successfully bred over 670 EBBs and released zoo-bred animals into 10 different sites (including at Hamilton,

the last known location of this species in the wild).

Throughout the course of our first Master Plan, Zoos Victoria and partners made significant progress in the recovery of EBBs. In partnership with the Phillip Island Nature Park, we established free-ranging populations on Churchill and Phillip Islands, began trialing the effectiveness of guardian dogs to keep EBBs safe and contributed significant funding to build a predator-proof fence at Tiverton, the largest fenced reserve in Victoria.

During this Master Plan, we will continue to work closely with the French Island community to foster its support for releasing EBBs on the island. With a strong focus on establishing and maintaining a self-sustaining population, we have a clear target of increasing the current total number of EBBs from 1,200 to over 2,500 individuals, ultimately recovering this species in the wild.

To do this, over the next five years we will:

BIOLOGICAL

ESTABLISH AND MAINTAIN A POPULATION OF EBBs ON FRENCH ISLAND.

\$270,000

ASSIST THE ERADICATION OF FERAL CATS from French Island.

\$460,000

SUPPORT THE GENETIC HEALTH of EBB populations.

\$20,000 p.a

SUPPORT EBB FENCED RESERVES to maintain fox-free status.

\$60,000 p.a

MAINTAIN ZOOS VICTORIA'S CAPTIVE INSURANCE POPULATIONS.

\$850,000

EMPLOY AN EBB PROJECT OFFICER to coordinate recovery efforts across Victoria.

\$91,000 p.a

SOCIAL

ENGAGE FRENCH ISLAND COMMUNITY WHERE EBBs MAY BE RELEASED.

\$90,000

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of the species and generate support for the conservation projects.

\$10,000

TOTAL COST (OVER FIVE YEARS)

\$2,535,000

Saving the Lowland Leadbeater's Possum

NOW OR NEVER

There are fewer than 40 Lowland Leadbeater's Possums (*Gymnobelideus leadbeateri*) left in the wild. They are restricted to a narrow parcel of precious land at Yellingbo Nature Conservation Reserve. Without drastic intervention, the extinction of this genetically distinct population is imminent.

The key threat to the Lowland Leadbeater's Possum relates to the limited amount of high quality floodplain forest on which they depend. Habitat was cleared in the past and existing areas continue to be degraded. During the past five years, Zoos Victoria's recovery strategy has focused on habitat restoration and attempted captive-breeding at Healesville Sanctuary. Despite significant effort, difficulties have been encountered with both endeavours.

Time is running out for the Lowland Leadbeater's Possum. It is absolutely critical that the population size is increased. A revised recovery strategy during the coming five years will focus on enhancing protection of the most critical habitat supporting the only remaining possums at Yellingbo. We will also attempt to establish a new population by translocating possums from Yellingbo to a suitable area of intact habitat, and work to restore the forest around our own Healesville Sanctuary and at Haining Farm in the Yarra Valley to provide future release sites. In captivity, we will continue to work to crack the code of how to breed Lowland Leadbeater's Possums and apply other strategies to alleviate inbreeding.

The next urgent steps are to:

BIOLOGICAL

DESIGN AND IMPLEMENT A TRANSLOCATION STRATEGY to support the wild population and establish a new population.

\$175,000 p.a

DESIGN AND IMPLEMENT A GENETIC RESCUE STRATEGY for the wild population.

\$5,000 p.a

MAINTAIN POPULATION MONITORING AND NEST BOX MONITORING throughout the species' range to determine its condition and inform necessary interventions.

\$220,000

MAINTAIN ZOOS VICTORIA'S CAPTIVE BREEDING PROGRAM with a focus on overcoming barriers to breeding.

\$850,000

INVESTIGATE EXTENT OF CAT AND FOX PREDATION on wild LPBs and control feral predators.

\$120,000

EMPLOY A SPECIES (LOWLAND) COORDINATOR for the Leadbeater's Possum recovery.

YEAR 1

\$122,000

SOCIAL

PARTNER WITH THE "YARRA4LIFE" PROGRAM run by the Port Phillip and Westernport Catchment Management Authorities to increase community engagement, with a focus on habitat restoration on private land.

\$10,000 p.a

COLLECT A COMPILATION OF VIDEO & IMAGES to share the rare and magical experience of meeting a "forest fairy" - aiming to increase increase species care, knowledge of and support for the key biological conservation actions required to conserve LPBs.

\$40,000

ERECT ROADSIDE SIGNAGE NEAR LBP POPULATION SITES to build community connection to local species and increase support for new and existing projects to manage critical habitat.

\$60,000

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of Victoria's faunal emblems and generate support for the conservation projects (note: also for Helmeted Honeyeater).

\$40,000

COMMUNITY AND TARGETED STAKEHOLDER ENGAGEMENT to obtain support for the establishment of new release sites (note: also for Helmeted Honeyeater).

\$5,000 p.a

TOTAL COST OVER FIVE YEARS

\$2,427,000



Photograph by
Will Watt

Protecting the Possum in the Snow

The Mountain Pygmy-possum (*Burramys parvus*) is Australia's only hibernating marsupial.

Found in the deep alpine and subalpine boulder fields of Victoria, it can spend up to seven months of the year in hibernation under the snow. But a changing climate, predation by feral animals, and habitat destruction for the development of infrastructure are seriously threatening the last three remaining populations.

Since 2007, Zoos Victoria has been working with the Mountain Pygmy-possum Recovery Team to better understand this tiny and unique species. We have developed the husbandry protocols for looking after Mountain Pygmy-possums (MPPs) in captivity and successfully bred over 100 joeys. In 2013, Zoos Victoria released a small number of possums into the wild at Mt Buller and witnessed their successful breeding and survival. We have also assisted our partners in the construction and monitoring of a tunnel beneath the Great Alpine Road at Mt Little Higginbotham for the improved travel and breeding opportunities of previously separated possums. With only around 2000 possums, there is a way to go in recovering this species for the long term. Over the next five years, we will focus our efforts on assessing the success of captive breeding as a conservation tool for this species. We will also provide support to wild populations by working with partners to monitor and connect fragmented groups of possums, and explore and map new habitat. At our properties, we will facilitate visitor encounters with possums, deliver education programs, and make every effort to raise much needed awareness for this little alpine battler.

Specific steps over the next five years are to:

BIOLOGICAL

UNDERTAKE DETAILED POPULATION MONITORING at sites such as Mount Loch and investigate the loss of pouch young in a changing climate.

\$130,000

TIMMS SPUR TUNNEL OF LOVE: Connect MPPs via new corridors with inbuilt monitoring systems, and restore native vegetation.

\$260,000

ASSESS THE EFFICACY OF THE TUNNEL OF LOVE AT MT LITTLE HIGGINBOTHAM through population surveys and monitoring.

\$10,000 p.a

CONDUCT MPP BEHAVIOUR RESEARCH IN CAPTIVITY by building new enrichment enclosures and installing infrared cameras.

\$40,000

SURVEY POTENTIAL MPP HABITAT TO FIND UNDISCOVERED POPULATIONS, determine carrying capacity and map for protection and recovery.

\$12,000 p.a

SOCIAL

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of the species and generate support for the conservation projects.

\$20,000

CREATE NEW ENRICHMENT AND DISPLAY TUNNELS for MPPs in the Nocturnal House at Healesville Sanctuary.

\$80,000

BIOLOGICAL

MAINTAIN ZOOS VICTORIA'S CAPTIVE BRED POPULATION OF MPPS for research, education and encounters.

\$1,150,000

TOTAL COST (OVER FIVE YEARS)

\$1,790,000



Photograph by Rick Hammond

BRUSH-TAILED ROCK-WALLABY
Photograph by Sarah Summers



Bringing the New Holland Mouse home

With its large eyes, big rounded ears and bi-coloured pink and dusky-brown tail, the New Holland Mouse (*Pseudomys novaehollandiae*) is a beautiful rodent native to small areas of the heathlands, woodlands and vegetated sand dunes of south-eastern Australia

Sadly, New Holland Mouse (NHM) populations are declining rapidly in all states, with a 99% reduction in mice in Tasmania, and seven out of 12 known Victorian populations now extinct. Key threatening processes for NHM include habitat loss and fragmentation, genetic isolation of fragmented populations, inappropriate fire regimes and habitat management, die-back of vegetation due to Cinnamon Fungus and the introduction of feral predators. With such small numbers, local events such as wildfire or high densities of foxes and feral cats can swiftly wipe out entire populations.

In the past five years, and working with a number of partners and PhD students, Zoos Victoria redefined the species' distribution and

estimated population numbers and genetic differences within and among populations. In particular, Victoria-wide surveys illustrated the frightening decline in the distribution and numbers of NHM. Excitingly, however, NHM were found at Wilsons Promontory National Park after five years without sightings and in the Lakes National Park after 20 years without sightings. A project using cryopreserved tissue from a locally extinct population is underway to help resurrect lost genetic diversity in the wild.

Critical steps in assisting the recovery of NHM include continued surveys of wild populations, the development of long-term habitat and population management strategies; and the reintroduction of NHM back into safe areas of their former range. By boosting NHM numbers and the number of populations, and inspiring people to learn and care about them, we can secure a bright future for this tiny rodent.

To do this, we need to:



Photograph by
Phoebe Burns

BIOLOGICAL

MONITOR THE NEW HOLLAND MOUSE IN THE WILD - including pre and post collection for translocations to new sites.
\$180,000

REINTRODUCE THE NEW HOLLAND MOUSE TO THE MORNINGTON PENINSULA at Cranbourne Botanic Gardens.
\$220,000

DEVELOP A LONG-TERM MONITORING PROGRAM and define triggers for New Holland Mouse rescue through a multi-state workshop and reporting.
\$20,000

RESTORE GENETIC DIVERSITY LOST FROM AN EXTINCT POPULATION back to the New Holland Mouse.
\$20,000 p.a

COMMENCE CAPTIVE BREEDING (*if required) for reintroduction.
\$80,000

HELP PEOPLE GET TO KNOW AND LOVE THE NEW HOLLAND MOUSE on display at Zoos Victoria.
\$40,000

NEW SITES FOR NEW HOLLAND MOUSE: investigate additional locations for reintroduction in the future.
\$60,000

SOCIAL

DEVELOP AND DELIVER A COMMUNITY ENGAGEMENT PLAN that integrates traditional custodians and communities from current and locally extinct NHM sites.
\$10,000

RAISE AWARENESS AND FACILITATE USE OF BOOT CLEANING STATIONS for mitigation of Cinnamon Fungus to help Mouse habitat.
\$20,000

TOTAL OVER FIVE YEARS
\$730,000

Searching for the Smoky Mouse



Photograph by
Phoebe Burns

The Smoky Mouse (*Pseudomys fumeus*) is a small soft-furred rodent endemic to mainland south-eastern Australia. While taking its name from the pale colouring of its body, the Smoky Mouse is better known for its characteristic 15 centimetre long two-toned tail, which it raises up and down and bangs loudly when it feels threatened.

Although once widespread, only two out of four known Victorian locations of this species still contain Smoky Mouse populations, and they are likely to be small and fragmented. Key threatening processes for the Smoky Mouse include habitat loss and fragmentation, changes to fire regimes and the introduction of feral predators. In particular, it is believed that cats and foxes are responsible for localised extinctions of some populations.

Classified as Endangered, and with mounting evidence from field data of continuing and potentially catastrophic population decline, Zoos Victoria believes that we are well positioned to work with partners to help recover the Smoky Mouse. The first step is determining distribution and abundance of this species.

During our first Master Plan, and working with partners including Museums Victoria and the Arthur Rylah Institute, Zoos Victoria undertook new habitat modelling of the Central Highlands and revealed locations suitable for the Smoky Mouse upon which to focus survey efforts. Camera surveys of these locations and the Grampians-Gariwerd National Park raised major concern. Smoky Mouse were found in only five of the 100 surveyed locations. We are still looking, however, and aim to find over 100 sites with the Smoky Mouse to set up a long-term monitoring program and management plan to help recover the species. This will allow us to determine whether captive breeding or reintroduction programs are needed in Victoria in the future.

We will also work with partners in NSW who are undertaking the first breed and release program for the Smoky Mouse. From here, we plan to display a small number of mice, so that our visitors can see their grey smoky fur, bi-coloured tails and snubby noses, and fall in love with the Smoky Mouse, just as we have.

Projects include:

BIOLOGICAL

A SONG OF MICE AND FIRE: monitoring the Smoky Mouse in the Central Highlands and Grampians-Gariwerd National Park.

\$180,000

DEVELOPING A LONG-TERM MANAGEMENT PROGRAM and triggers for Smoky Mouse rescue through workshops and written plans.

\$20,000

RESEARCHING THE FIRST RELEASE OF THE SMOKY MOUSE FROM CAPTIVITY TO NULLICA (south coast of NSW).

\$50,000

BRINGING OUR MICE BACK TO WHERE THEY BELONG - investigate locations for Smoky Mouse reintroduction.

\$60,000

HELPING PEOPLE GET TO KNOW AND LOVE THE SMOKY MOUSE on display at Zoos Victoria.

\$35,000

COMMENCING CAPTIVE BREEDING (*if required) for future reintroduction.

\$80,000

SOCIAL

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of Smoky and New Holland Mouse and generate support for the conservation projects.

\$10,000

RAISING AWARENESS AND FACILITATING USE OF BOOT CLEANING STATIONS for mitigation of Cinnamon Fungus to help Mouse habitat.

\$20,000

TOTAL OVER FIVE YEARS

\$455,000

APPLYING CUTTING EDGE TECHNOLOGY

The Southern Bent-wing Bat

Equipped with echolocation for finding insectivorous prey at night, the Southern Bent-wing Bat (*Miniopterus orianae bassanii*) is an ancient cave dweller of Victoria and South Australia.

The population of the Southern Bent-wing Bat remains a concern. Once numbering in the hundreds of thousands across southern Australia, the current Victorian population is estimated to comprise fewer than 50,000 individuals. Significantly, the breeding sites of Southern Bent-wing Bats now appear to be isolated to a maternity cave in Naracoorte (South Australia) and to a cave near Warrnambool in Victoria.

Over the term of our first Master Plan, Zoos Victoria supported efforts by research scientists at Arthur Rylah Institute to determine population dynamics for Southern Bent-wing Bats and assess breeding and rearing success. Given the challenging coastal location of the Victorian maternity site and difficulty in counting thousands of bats streaming out of the cave at dusk, monitoring work was carried out using thermal imaging cameras linked with cutting edge missile tracking technology. This monitoring revealed significant variations in the nightly roosting numbers and has raised further questions

about the habits and behaviours of Southern Bent-wing Bats. Further monitoring at the maternity cave will take place to help answer these questions. Ensuring the protection and maintaining the integrity of the cave and the special micro-climate it provides for rearing young is a priority of this recovery program and Zoos Victoria will invest accordingly

Beyond the maternity cave, other refuge sites will also be monitored and research conducted into the threats facing Southern Bent-wing Bats and their critical habitats. In light of the known threat posed to bats globally by White-nose Syndrome, Zoos Victoria will encourage, as a matter of urgency, investment in disease investigations with our partners. While other caves are used by this species for roosting outside of the breeding season, some have been used as rubbish dumps by landowners and rendered unsuitable for the Bent-wing Bats. Removing rubbish and restoring these caves to their natural state will improve the quality of these important non-breeding refuges.

The following actions are urgently required to improve our understanding and management of Victoria's only maternity site for the Southern Bent-wing Bat:

BIOLOGICAL

PROTECTING Victoria's maternity site.
\$400,000

UNDERSTANDING THE POPULATION DYNAMICS OF THE SPECIES.
\$425,000

CONTRIBUTING TO AN AUSTRALIAN RESEARCH COUNCIL (ARC) FUNDED STUDY OF WHITE-NOSE SYNDROME.
\$80,000

HABITAT RESTORATION of maternity cave surrounds.
\$10,000 p.a

INVESTIGATING THREATS FACING SOUTHERN BENT-WING BAT HABITAT.
\$80,000

SOCIAL

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of Southern Bent-wing Bats and generate support for the conservation projects.
\$10,000

TOTAL OVER FIVE YEARS

\$1,045,000

Photograph by
Rick Hammond



Working hard for the Devil

IN THE LAB, IN THE WILD AND IN THE PUBLIC SPHERE

The Tasmanian Devil (*Sarcophilus harrisii*) is one of the most iconic of all Australian species. Since the demise of the Thylacine, the Devil has served as the apex predator at the top of the food chain in the Tasmanian bush and is essential for keeping the natural balance of its island ecosystem.

While seemingly fierce, the Tasmanian Devil is seriously threatened by Devil Facial Tumour Disease (DFTD). Sightings of Devils have declined by more than 80% across their range, and up to 97% of Devils have been lost in some populations. As an additional driver towards extinction, Devils also fall victim to road mortality. In 2006, at the request of the Tasmanian Government and the Zoo and Aquarium Association, Zoos Victoria commenced a captive breeding program for the Tasmanian Devil, joining a network of Zoos and Sanctuaries throughout Australia. Healesville Sanctuary currently holds the second largest group of Devils on mainland Australia and has produced over 130 young. Consequently, Zoos Victoria plays a critical role in providing insurance against the extinction of the Tasmanian Devil.

Throughout the course of our 2014-19 Master Plan, we saw successes from captive breeding efforts, conducted cutting edge research both in captivity and the wild, and raised awareness of the plight of the Devil. In the immediate future, Zoos Victoria will assist the recovery of the Tasmanian Devil on four fronts. Firstly, we will continue to manage a robust insurance population in captivity and conduct research to assist conservation efforts. In the lab, we will work with partners on an innovative project examining DFTD and the possibility of finding and promoting disease resistance

or tolerance in wild Devils. In the wild, we will use new technologies to determine Devil behaviour and decrease road mortality through 'virtual fences' that use sound and light to temporarily frighten animals away from roads when car headlights approach. Finally, we will continue to act in the public sphere to promote community understanding and care for this charismatic carnivore.

Next steps include:

BIOLOGICAL

NEW INTENSIVE BREEDING ENCLOSURES and monitoring systems to maximise Zoos Victoria's breeding efforts. \$650,000

INSTALLING VIRTUAL ROAD FENCES WITH THE SAVE THE TASMANIAN DEVIL PROGRAM to protect Devils, Quolls, Bandicoots and other species from cars. \$300,000

 **MOLECULAR RESEARCH** into resistance and tolerance to Devil Facial Tumour Disease. \$30,000

INVEST IN NEW CRITTERCAM CAMERA and drone technology to reveal the Devil's wild secrets. \$120,000

 **RESEARCH AND MANAGEMENT OF DEVILS** in mainland free-ranging enclosures to investigate maintenance of natural behaviours, foraging and breeding. \$420,000

COLLECTING NEW DEVILS FROM THE WILD to incorporate missing genetic diversity into the captive population. \$30,000

CONSTRUCTING NEW LARGE GROUP ENCLOSURES to maintain natural behaviours in the Coranderrk. \$300,000

UNDERSTANDING THE ENDOCRINOLOGY of Devil breeding and lactation. \$45,000

MAINTAINING Zoos Victoria's Tasmanian Devil captive breeding efforts and displays \$2,300,000

SOCIAL

INSTALLING SIGNAGE and providing support to assist in road kill hotspots with new virtual fencing. \$30,000

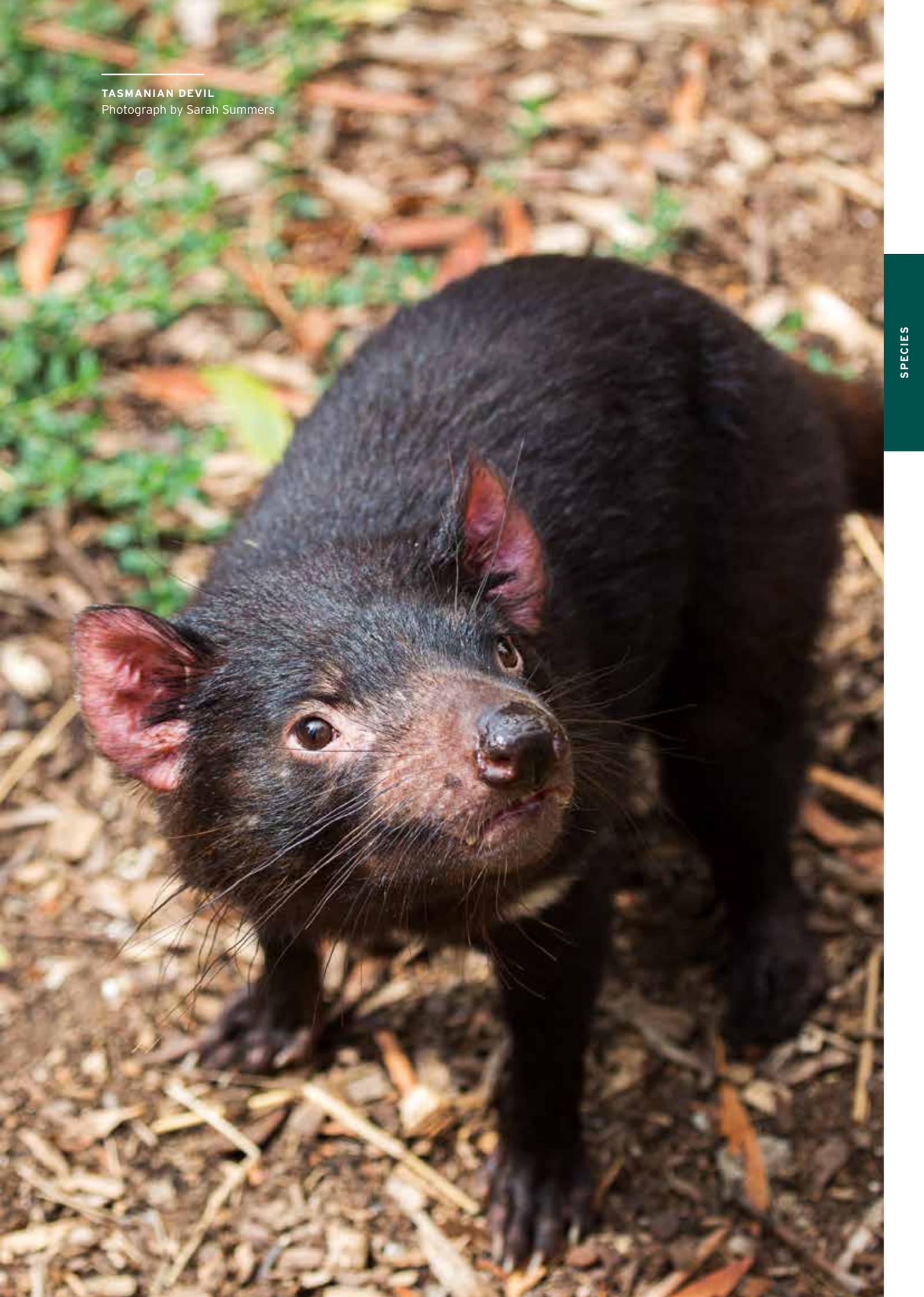
ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of the species and generate support for the conservation projects. \$20,000

TOTAL COST OVER FIVE YEARS

\$4,245,000

TASMANIAN DEVIL

Photograph by Sarah Summers



Zoos Victoria Fighting Extinction Dog Squad

Our Dog Squad harnesses the relationship between humans and dogs that has been forged over thousands of years and applies the very latest advances in animal training and care. We are continuing to trial the deployment of Guardian Dogs to protect Eastern Barred Bandicoots from introduced predators and our Detection Dog team will help us find species that are cryptic and at low density.

Detection Dogs

In early 2018, Zoos Victoria finalised Phase 1 of a trial to test the effectiveness of Detection Dogs in locating Critically Endangered species such as the Baw Baw Frog and the Plains-wanderer. We found that Detection Dogs have the capacity to survey large areas efficiently, and in many cases, have proven to be more accurate and less invasive than traditional survey methods. Their keen senses allow the dogs to locate both live target species and indications of their presence, such as scats. This provides opportunities to conduct broad-scale surveys across a species' historical distribution, to secure diverse genetics for critical *ex-situ* interventions, and to provide insights into the prevalence and movements of introduced predators across the landscape. We are now poised to launch Phase 2 of our Fighting Extinction Dog Squad, expanding the Detection Dog program alongside our current Guardian Dog Program.

To do this we will undertake:



BIOLOGICAL

DOG TRAINING AND *IN-SITU* SURVEYS to complement monitoring and collections.

\$150,000

MAINTENANCE of Zoos Victoria's Detection Dogs program.

\$1,105,000

TRAINING AND DEVELOPMENT for detection of additional Fighting Extinction target species.

\$55,000 p.a

DEVELOPMENT AND LAUNCH OF A DETECTION DOGS program at Healesville Sanctuary.

\$45,000

FERAL PREDATOR scat detection surveys.

\$115,000

SOCIAL

COMMUNITY AND PRIVATE LAND ENGAGEMENT - Detection Dogs as a novel vehicle for telling the stories of Fighting Extinction Species and finding common ground with community members and private land holders.

\$10,000 p.a

ESTABLISH FIGHTING EXTINCTION SCHOOLS DETECTION DOG SCIENCE INCURSIONS - aiming to increase care for and knowledge of our most Critically Endangered species and boost community support for the use of conservation dogs as tools for saving wildlife.

\$20,000

TOTAL COST OVER FIVE YEARS

\$1,760,000

Guardian Dogs

Predation by foxes and cats represents a key threat to Victoria's native species, and attempts to reintroduce threatened species to their original habitats often fail where introduced predators persist. Successful reintroduction has been achieved on predator-free islands and into reserves with predator exclusion fencing, requiring substantial funding and resources. In light of this, Zoos Victoria and partners are investigating the use of Guardian Dogs as an alternative approach to protecting Eastern Barred Bandicoots from introduced predators at multiple trial sites in western Victoria. We will also investigate this technique for other threatened species. Throughout the years of this plan, we will complete this research trial and, depending on the outcomes, potentially expand the size of these sites so they can accommodate additional bandicoot populations, while exploring benefits for other species threatened by feral cat and fox predation. Additionally, we will investigate the use of Guardian Dogs to suppress the activities of native and introduced herbivores that are inhibiting the success of habitat revegetation projects.

Next steps for this program include:



Photograph by
Will Watt

BIOLOGICAL

COMPLETING THE TRIAL USE OF GUARDIAN DOGS for the protection of Eastern Barred Bandicoots (and potentially for other species).

\$250,000

MAINTAINING THE GUARDIAN DOG TRAINING program at Werribee Open Range Zoo.

\$170,000

EXPANDING THE SIZE OF CURRENT TRIAL SITES TO ALLOW THE GROWTH OF EBB POPULATIONS.

\$120,000

INVESTIGATING ADDITIONAL APPLICATIONS for Guardian Dogs in conservation, including habitat restoration.

\$200,000

TOTAL OVER FIVE YEARS

\$740,000

ORANGE-BELLIED PARROT
Photograph by Sarah Summers



The recovery of most threatened Victorian species is entirely achievable. But it requires knowledge, innovation, adequate resources, and determination. Why would we not try?

Dr Michael Magrath

SENIOR RESEARCH MANAGER
ZOOS VICTORIA

| Birds

HOPE IS ON THE HORIZON

Victoria is home to more than 450 bird species. From tiny wrens, squawking parrots, long-legged waders and majestic eagles, this avian biodiversity reflects the varied landscapes that make up our state. Under serious threat from habitat loss, some Victorian birds have suffered rapid declines. Zoos Victoria has plans in place to ensure six local bird species continue to spread their wings and thrive. Among these is the Helmeted Honeyeater, one of Victoria's Faunal Emblems. Together with our partners, we are thrilled to have helped grow the population of this Critically Endangered Victorian bird to its largest size in decades. We have also joined a multi-state effort to build numbers of Critically Endangered Plains-wanderers in the wild, and will invest in restoring its habitat across the state. This Master Plan also details the addition of two new species to the Fighting Extinction list; the Mallee Emu-wren and Swift Parrot, and earmarks our concern for the Black-eared Miner and Red-tailed Black-Cockatoo on our Watch List.

The Helmeted Honeyeater

ON THE BRINK OF RECOVERY SUCCESS



Photograph by Sarah Summers

Since 2013, the number of Helmeted Honeyeaters (*Lichenostomus melanops cassidix*) in the wild has increased from 50 to approximately 200 birds. Despite this, there remains much to do. The wild population remains confined to Yellingbo Nature Conservation Reserve and is heavily dependent on an *in-situ* supplementary feeding program led by the Friends of the Helmeted Honeyeater.

The amount of suitable habitat at Yellingbo and beyond is limiting recovery, and several significant habitat restoration projects are underway to address this. Melbourne Water has undertaken significant work in an attempt to improve the hydrology and vegetation condition in this area. Conducting translocations to establish a new Helmeted Honeyeater population beyond Yellingbo is an urgent priority, and will provide risk-spreading against bushfire.

Healesville Sanctuary has continued to refine and improve its captive-breeding program for the Helmeted Honeyeater, which has been underway since 1989. Annual releases to the wild will continue to bolster numbers. This is one of the best examples in Australia of genetic management that integrates the wild and captive populations through transfer of individuals. Under the guidance of geneticists at Monash and La Trobe Universities, our efforts are currently focused on alleviating inbreeding and restoring some of the lost genetic diversity within the population.

This long-standing program is underpinned by strong partnerships within a large and multi-disciplinary recovery team. Zoos Victoria, along with the recovery team, has developed a strong vision for success and there is considerable momentum towards achieving recovery in the wild.

Next steps include:

BIOLOGICAL

MAINTAINING ZOOS VICTORIA'S CAPTIVE BREEDING PROGRAM with a focus on gene-pool mixing.

\$1,400,000

TRANSLOCATIONS TO SUPPORT THE WILD POPULATION and establish at least one new population.

\$320,000

DESIGNING AND IMPLEMENTING A GENETIC RESCUE strategy for the wild population.

\$15,000 p.a

RELEASING HELMETED HONEYEATERS into Coranderrk Bushland.

\$175,000

ASSESSING AND DEVELOPING APPROACHES TO ADDRESS FERTILITY CONCERNS.

\$80,000

SUPPORTING MONITORING of breeding season.

\$100,000

DATABASE development and maintenance.

\$5,000 p.a

PRE-RELEASE predator avoidance training as required.

\$5,000 p.a

TOTAL COST OVER FIVE YEARS

\$2,200,000

The Mallee Emu-wren

RESTORING THE WREN TO ITS FORMER RANGE

The Endangered Mallee Emu-wren (*Stipiturus mallee*), despite having a name that calls to mind Australia's largest bird, is a diminutive songbird, weighing just 4 grams. The male's sky blue face and bib, contrasting with a rufous-orange cap, provides a fleeting flash of colour as these tiny, elusive birds dart between patches of dense Mallee spinifex.

The Mallee Emu-wren is particularly vulnerable to the impacts of wildfire. The species is currently found in three fragmented populations across Victoria's largest Mallee parks and, following local extinction in South Australia due to bush fires, has been successfully translocated and returned to its former range there. This significant risk posed by fire, coupled with its restriction to a small number of locations, has prompted Zoos Victoria to include the Mallee Emu-wren on our Fighting Extinction Species' list. Consequently, we are working with several partners who together form The Threatened Mallee Bird Advisory Committee and support dedicated recovery efforts to re-establish populations. An increase in the number of populations is essential to countering the high risk of extinction. If required, we are prepared to establish an insurance population in captivity.

The Mallee Emu-wren is a new addition to Zoos Victoria's Fighting Extinction Species' list. To kick start our commitment to this bird in the wild we will:

BIOLOGICAL

SUPPORT WILD-TO-WILD TRANSLOCATION within the species' former range.

\$280,000

INVESTIGATE CAPTIVE BREEDING AND HUSBANDRY, AS REQUIRED.

\$100,000

SOCIAL

WELCOME THIS NEW SPECIES INTO ZOOS VICTORIA'S PRIORITY LIST.

Establishing the Mallee Emu-wren's presence at our zoos and online as part of our local threatened species commitment.

\$15,000

TOTAL COST OVER FIVE YEARS

\$395,000



Photograph by
Rohan Clarke

NEW HOPE FOR RECOVERY

BIRDS

The Critically Engangered Orange-bellied Parrot

Not much larger than a budgerigar, the Orange-bellied Parrot (*Neophema chrysogaster*) is one of Australia's most threatened species. The wild population has been in decline for at least the last century, and there are currently estimated to be fewer than 50 birds in the wild. Without intervention, recent modelling estimates the likelihood of extinction in the next 20 years to be almost 90%.

The Orange-bellied Parrot (OBP) is also one of the world's only two migratory parrots, breeding in south-western Tasmania during the summer months and migrating to the south-eastern coast of mainland Australia for the non-breeding period. In recent decades, breeding has been confined largely to one location, around Melaleuca in Tasmania, while most of the very few birds seen on the mainland have been observed along the western coastline of Port Phillip Bay.

Supported by a broad range of partners, recovery actions for the OBP have diversified over recent years. During the term of Zoos Victoria's previous Master Plan, we funded the expansion of breeding and holding facilities at multiple locations and contributed to annual spring releases to the wild. New actions have also been initiated to improve the survival of released birds and the breeding performance of the wild population. These include over-winter holding (or ranching) of birds collected from the wild, trial releases on the mainland, cross-fostering of eggs and chicks, and the use of controlled habitat burns to promote food availability around the breeding site. Attempts are also underway to establish a second breeding site to grow the wild population and mitigate the risk of wildfire. We are optimistic that this suite of actions will translate to a sustained increase in the wild population, but the next five years will be a critical period to evaluate their effectiveness.

While support for these actions will be central to Zoos Victoria's investment in the OBP over the course of this Master Plan, we will also engage in new initiatives including trials to improve egg fertility in the captive program, vaccine development for the problematic beak and feather disease, and exploration of options for improving genetic health of the population.

This mix of current and new management and research activities is as follows:

BIOLOGICAL

MAINTAIN ZOOS VICTORIA'S CAPTIVE POPULATIONS at Healesville Sanctuary and Werribee Open Range Zoo.

\$1,700,000

PROVIDE SUPPORT FOR ANNUAL RELEASES and over-winter ranching.

\$40,000 p.a

CONSTRUCT AND MAINTAIN A NEW CAPTIVE BREEDING RESEARCH FACILITY at Healesville Sanctuary.

\$855,000

PROVIDE SUPPORT for development and implementation of a vaccine for Beak and Feather Disease Virus.

\$120,000

INVESTIGATE the feasibility and desirability of a resident mainland population.

\$20,000 p.a

SUPPORT OPERATION OF AN AUTOMATED MONITORING SYSTEM at the breeding sites.

\$10,000 p.a

SOCIAL

INVESTIGATE A PARTNERSHIP TO SUPPORT CITIZEN SCIENCE approaches for monitoring OBPs and habitat restoration.

\$10,000

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of OBPs and generate support for the conservation projects

\$20,000

TOTAL OVER FIVE YEARS

\$3,055,000



Photograph by
Rick Hammond

WORKING WITH PARTNERS TO BOOST NUMBERS IN THE WILD

Plains-wanderer

The Plains-wanderer (*Pedionomus torquatus*) is a ground-dwelling bird standing at just 20 centimetres tall and weighing fewer than 100 grams.

Historically, Plains-wanderers were once widely distributed throughout the native grasslands of eastern Australia with records from Queensland, South Australia, NSW and Victoria. Due to the widespread loss of its sparse grassland habitat however, the species has undergone dramatic and rapid population declines. Today, it is estimated that fewer than 1,000 birds persist in the wild, primarily in the two remaining strongholds of Victoria's Northern Plains and the NSW Riverina.

In 2015, following severe population declines in Victoria and NSW, the Federal Government upgraded the conservation status of the Plains-wanderer to Critically Endangered. As a result, a number of government and non-government organisations made the significant decision to initiate a national captive breeding program to provide insurance against extinction in the wild. In 2017, Zoos Victoria joined the program and has since constructed 22 purpose-built aviaries at Werribee Open Range Zoo to house Plains-wanderers. Interstate, birds are also held by Taronga Conservation Society Australia, Featherdale Wildlife Park and Zoos SA. Here in Victoria, there have been dedicated efforts by several of our project partners including DELWP, Parks Victoria, Trust for Nature and local farmers to actively manage habitat and monitor bird numbers in the wild. A combination of improved land management, captive breeding and release forms the basis of our recovery model.

Over the next 20 years, we aim to secure a Victorian population of at least 500 pairs of Plains-wanderers across a well-managed network of sites providing high quality habitat.

Crucial next steps include:

BIOLOGICAL

EXPANDING ZOOS VICTORIA'S CAPTIVE BREEDING population to support release to the wild.
\$800,000

INCREASING THE NUMBER OF ENCLOSURES to expand the captive breeding program to accommodate 15 pairs and chick clusters (in single-sex groups).
\$640,000

MAINTAINING POPULATION MONITORING IN THE WILD.
\$25,000 p.a

IDENTIFYING RELEASE SITE.
\$12,000 p.a

UNDERTAKING GENETIC MONITORING to inform population management.
\$5,000 p.a

UNDERTAKING HABITAT MONITORING and management to provide release sites for captive-bred birds.
\$620,000

INCREASING THE AREA OF HABITAT protected through acquisition and covenanting.
\$130,000 p.a

CONDUCTING TRIAL RELEASE of captive birds.
\$115,000

UNDERTAKING SURVEYS AT ADDITIONAL LOCALITIES to identify new founders for captive breeding.
\$45,000

SOCIAL

INCREASING COMMUNITY ENGAGEMENT in partnership with the Conservation Management Network and Friends of Terrick Terrick.
\$100,000

ERECTING SIGNAGE AT STRATEGIC LOCATIONS along major roads to raise awareness in the local community about critical habitat areas.
\$60,000

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of Plains-wanderer and generate support for the conservation projects.
\$20,000

TOTAL OVER FIVE YEARS

\$3,260,000



Photograph by Rick Hammond

SECURING A WOODLAND NOMAD

The Regent Honeyeater

Fewer than 500 Regent Honeyeaters are thought to occur in the wild, the result of ongoing declines over the past 30 years. Population modelling indicates a higher than 50% probability of extinction during the coming two decades, placing it among Australia's most imperiled birds.

As woodland nomads, Regent Honeyeaters follow the flowering of their favourite eucalypts. The unpredictability of their movement and the vast distances they travel make it difficult to obtain reliable population estimates and, at times, the whereabouts of much of the population is unknown.

There are several key threats impacting this species, including the clearing, degradation and fragmentation of woodlands for agriculture, increased competition for nectar resources, and high rates of nest predation. The small size of the wild population is also a major concern.

A successful captive-breeding and release program, led by Taronga Conservation Society Australia, Birdlife Australia and the Victorian Department of Environment, Land, Water and Planning has been underway since 1995 to bolster the wild population. The role of Zoos Victoria is to support these partners by increasing the holding and breeding capacity of Regent Honeyeaters across the captive-breeding program. The ongoing declines in the wild indicate that

it is time to expand the captive program to provide a greater level of insurance against extinction. This will include representing more of the wild genetics in captive breeding.

Halting the declining trend for this iconic honeyeater requires the dedicated efforts of many partners. Strong foundations are in place, but it will take time to increase the extent and quality of Regent Honeyeater habitat. Importantly, critical support measures are in place, including field surveys, while efforts to mitigate threats in the wild take effect.

We will support the recovery of this species by:

BIOLOGICAL

EXPANDING ZOOS VICTORIA'S CAPTIVE BREEDING PROGRAM to support releases to the wild with a new complex at Werribee Open Range Zoo.
\$690,000

BUILDING THE CAPACITY of our partners to undertake captive breeding.
\$80,000

SUPPORT FIELD ACTIONS TO IDENTIFY IMPORTANT HABITAT and enhance breeding performance.
\$30,000 p.a

TOTAL COST OVER FIVE YEARS

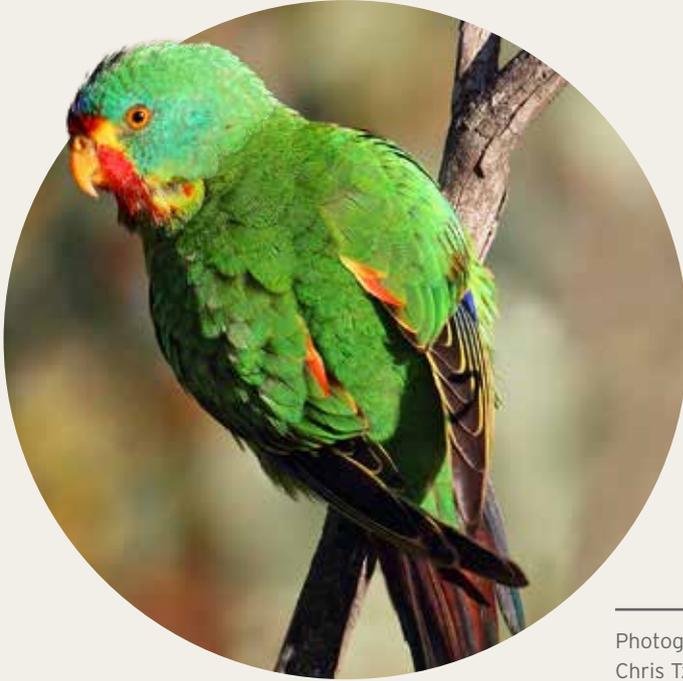
\$920,000



Photograph by
Rick Hammond

HALTING THE DECLINE OF A TASMANIAN MIGRANT

The Critically Endangered Swift Parrot



Photograph by
Chris Tzaros

The Swift Parrot (*Lathamus discolor*) is a small, brightly-coloured, nectarivorous parrot that is streamlined for speed.

Restricted to forests and woodlands in south-eastern Australia, it is one of only two truly migratory parrots in the world (the other being the Orange-bellied Parrot). Each autumn, the entire wild population migrates from their main summer breeding grounds in eastern Tasmania across the Bass Strait to the Australian mainland. During winter, birds disperse throughout Victoria and NSW in search of nectar from flowering eucalypts. In Victoria, most Swift Parrots forage in the dry forests and woodlands associated with the inland slopes of the Great Dividing Range. More than 70% of the forests and woodlands that the species once relied upon for foraging during winter and nesting over summer is no longer present.

Swift Parrots breed in tree hollows, generally in close proximity to flowering eucalypts. The extent of eucalypt flowering can be an important determinant of breeding

success. Recent research has identified that nest predation by the Sugar Glider, which was introduced to Tasmania, is resulting in high rates of nesting failure and elevated mortality rates for adult females sitting on eggs.

A recent population viability analysis by researchers at the Australian National University predicted severe population declines due to the poor nesting success. These findings prompted the Australian Government to upgrade the species' conservation status to Critically Endangered in 2016. Unless measures to elevate nesting success can be found, the most recent modelling results indicate a 31% likelihood of extinction over the next 20 years. In addition to supporting actions in the field to locate the most important habitat for these parrots and minimise the threat from Sugar Gliders, we will also assess the need for a captive insurance population and construct a breeding facility if required.

Next steps for the Swift Parrot are to:

BIOLOGICAL

SUPPORT FIELD ACTIONS TO INCREASE NESTING SUCCESS by reducing predation from Sugar Gliders.
\$40,000 p.a

IDENTIFY IMPORTANT MAINLAND HABITAT though modelling and implementation of new survey methods.
\$160,000

INVESTIGATE THE NEED FOR CAPTIVE BREEDING and initiate a program if required.
\$880,000

SOCIAL

WELCOME THIS NEW SPECIES ONTO ZOOS VICTORIA'S PRIORITY LIST Establishing the Swift Parrot's presence at our zoos and online as part of our local threatened species commitment.
\$15,000

TOTAL COST OVER FIVE YEARS

\$1,255,000

When I sit alone in these ancient forests,
dwarfed by giants hundreds of years old,
I feel as small as the little brown things
we are trying to save.
I close my eyes and try to hear the chorus.

Nothing.

The sound of extinction.

We have driven this loss, but it doesn't
have to be this way if we choose....

If we choose to do something.

If we choose to work together.

If we choose to acknowledge that what
seems insignificant to most has a place.

If we choose to fight, we *will* recover
what is lost.

Deon Gilbert

THREATENED SPECIES OFFICER
ZOOS VICTORIA



SOUTHERN CORROBOREE FROG
Photograph by Rick Hammond

| Amphibians

SITUATION CRITICAL

Amphibians are highly sensitive to environmental changes, making them great barometers of ecological health. Tragically, one third of the world's 6,200+ amphibian species is facing extinction. They are declining faster than any other vertebrate group. As detailed in this Master Plan, we have successes from our previous endeavours to celebrate, but there is so much more to do, and it must be done now. Over the next five years we will focus on a targeted species-level approach to find answers to the devastating disease posed by Amphibian Chytrid Fungus. A future without frogs? A tomorrow without toadlets? Not on our watch.

CELEBRATING SUCCESSES AND RECOVERING The Baw Baw Frog



Photograph by Rick Hammond

The Baw Baw Frog (*Philoria frosti*) is the only frog endemic to Victoria. It is a fascinating species which lays its translucent eggs on a foam nest.

Over the past 25 years, Baw Baw Frog populations have suffered terrible declines due to the spread of the deadly Amphibian Chytrid Fungus and threats by introduced species and climate change.

As detailed in our first Master Plan, Zoos Victoria led urgent conservation intervention for the Baw Baw Frog and initiated steps to secure this species from extinction. During the intervening five years, we set out to crack the code of breeding this cryptic species - and - we have done just that. Now armed with a deep understanding of this species' biology, Zoos Victoria cares for a genetically robust captive insurance population that will support the Baw Baw Frog's wild recovery. As a result, the program is three years ahead of objectives. This means we can begin investigating reintroduction techniques and forge

ahead with developing a second facility to support this species and spread risk.

An important element of the program will be engaging the local community and ensuring they are supportive of the reintroduction of the Baw Baw Frog. Working with key local stakeholders and creating a caring and informed local community will ensure that released frogs are given the best chance to establish themselves. A combination of ongoing engagement strategies and initiatives as well as one-off events will grow awareness and appreciation of the Baw Baw Frog.

Capitalising on the achievements of the captive recovery program, it is now critical that we meet biodiversity targets. By focusing our efforts on establishing the species back into the wild, we will once again hear the frogs' chorus in the Mt Baw Baw soundscape.

Clear next steps are to:

BIOLOGICAL

MAINTAIN THE CAPTIVE INSURANCE POPULATION at Melbourne Zoo.

\$85,000 p.a

CONDUCT FIELD MONITORING to better inform conservation actions.

\$290,000

IDENTIFY AN ENVIRONMENTAL REFUGE for reintroducing Baw Baw Frogs to their wild habitat.

\$110,000

CREATE DISEASE-FREE SAFE HAVENS in wild habitat for re-introduction.

YEAR 4 & 5

\$100,000 p.a.

SOCIAL

ASSIST THE MT BAW BAW ALPINE RESORT to run programs with visitors to increase care and knowledge of the Baw Baw Frog and facilitate behaviours that prevent the spread of chytrid fungus.

\$10,000 p.a

BUILD ON AND CELEBRATE THE ANNUAL BAW BAW FROG DAY (November 18) aiming to measure an increase in community care and knowledge of the species and generate support for the conservation projects

\$5,000 p.a

TOTAL OVER FIVE YEARS

\$1,100,000

Giant Burrowing Frog

FILLING IN THE GAPS

As we develop strategies to halt biodiversity decline in Victoria, some of our lesser known species continue to challenge us. The Giant Burrowing Frog (*Heleioporus australiacus*) remains among Victoria's most poorly understood species. Critical data collection is needed to effectively assess the status of this species in Victoria.

Over the next five years, we will collaborate with stakeholders to collect population data and establish long term monitoring programs to inform conservation actions for this rare species. We will utilise ground-breaking environmental DNA survey techniques to assess remote habitat in a thorough and cost-effective way. These data will inform critical actions in the later part of the Plan and contribute to developing husbandry knowledge for the Giant Burrowing Frog.

The first steps towards improving our knowledge of this species are to:

BIOLOGICAL

CONDUCT ON-GROUND SURVEYS in key habitat.

\$160,000

ESTABLISH GIANT BURROWING FROG HUSBANDRY PROTOCOLS and secure individuals in our care.

\$70,000

 **UNDERTAKE eDNA SURVEY** of key streams.

\$140,000

SOCIAL

WELCOME THIS NEW SPECIES ONTO ZOOS VICTORIA'S PRIORITY LIST - establishing the GBF's presence at our zoos and online as part of our local threatened species commitment.

\$15,000

TOTAL COST OVER FIVE YEARS

\$385,000



Photograph by Rohan Bilney

LEARNING ABOUT The Large Brown Tree Frog



Photograph by Michael McFadden

The Large Brown Tree Frog (*Litoria littlejohni*) is another of the most poorly understood amphibian species in Victoria. Until recently, the species had not been observed in our state since 1996 with only a handful of observations made at heavily disturbed sites. During the course of the next five years, we will build our current knowledge of this species within Victoria and develop *in-situ* habitat management to improve wild populations.

In order to do this, we will:

BIOLOGICAL
<p>DEVELOP A LONG-TERM MONITORING PROGRAM from recently discovered populations. \$180,000</p>
<p>CONDUCT <i>IN-SITU</i> HABITAT AUGMENTATION to improve recruitment. \$260,000</p>
<p>ESTABLISH HUSBANDRY PROTOCOLS FOR THE LARGE BROWN TREE FROG and secure individuals in our care. \$80,000</p>
<p>TOTAL OVER FIVE YEARS \$520,000</p>

RESEARCHING RESISTANCE IN THE Northern Corroboree Frog

Northern Corroboree Frog (NCFs), like their southern counterparts, are experiencing continued population decline across their historic range. Chytrid fungus is once again driving decline with no sign of abating under wild conditions.

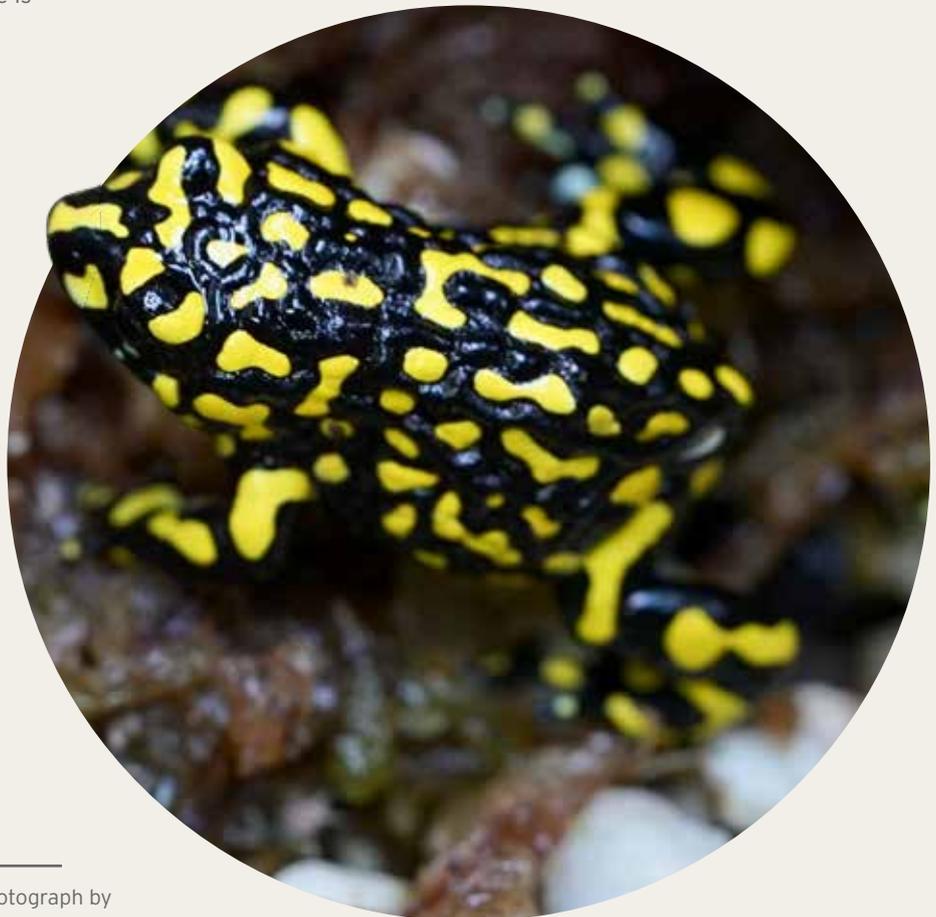
Unlike the Southern Corroboree Frog, NCFs appear to have a higher thermal tolerance, which may provide unique opportunities for developmental plasticity. During the course of this Master Plan, Zoos Victoria will work with our partners at the ACT Environment and Sustainable Development Directorate to conduct research into life history growth and development in response to threatening processes. This novel research may provide valuable insights for reintroduction sites where disease and climate change is limiting success.

We will support the recovery of this species by:

BIOLOGICAL

- CONTINUING CAPTIVE BREEDING** efforts for the NCF.
264,000
- CONDUCTING THERMAL DEVELOPMENT RESEARCH ON NCF** from high and low elevation populations.
\$300,000
- REVIEWING AND ANALYSING GENETICS** of captive breeding program.
\$100,000

TOTAL OVER FIVE YEARS
\$664,000



Photograph by
Rick Hammond

KEEP THE CHORUS GOING

Southern Corroboree Frog

This tiny, brilliantly coloured icon of the Australian Alps, the Southern Corroboree Frog (*Pseudophryne corroboree*), is one of Australia's most threatened frogs. Once common and very much at home in the Snowy Mountains, the threat of the deadly Chytrid fungus has created tremendous concern for its future.

As Chytrid fungus continues to drive global amphibian extinction, it is critical that we develop strategies to ensure the survival of susceptible species in wild habitat. During our first Master Plan, Zoos Victoria helped to secure funding to develop disease-free enclosures in Mount Kosciuszko National Park in NSW where Southern Corroboree Frogs (SCFs) can thrive under wild conditions free from infection. Under this strategy, SCFs are able to complete all life stages and successfully reproduce demonstrating that, despite catastrophic population decline, we can fight back. Establishing additional disease-free enclosures is a priority for SCFs under this Plan and will help secure semi-wild populations.

Thinking outside of the enclosure, we will also establish SCFs at key marginal sites where habitat can be manipulated to support small populations. These sites are identified to be less suitable for Chytrid and should provide important steps towards species recovery.

We will support the recovery of this species by:

BIOLOGICAL

CREATING AN ENVIRONMENTAL REFUGE for SCF in Mt Kosciuszko National Park.
\$400,000

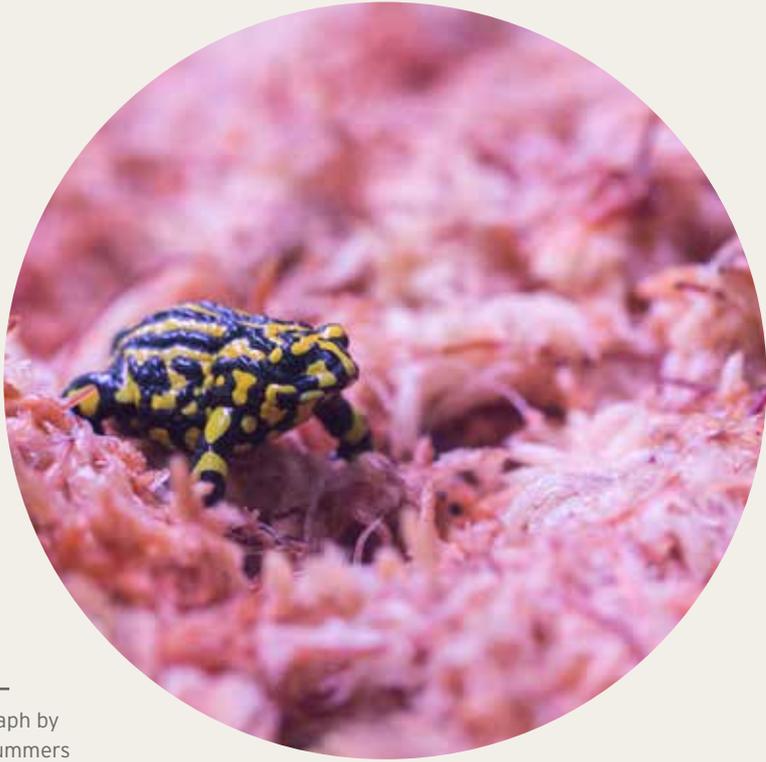
CONSTRUCTING ADDITIONAL DISEASE-FREE FIELD ENCLOSURES within Mt Kosciuszko National Park.
\$200,000

CONTINUING ZOOS VICTORIA'S CAPTIVE BREEDING efforts for SCFs.
\$621,000

SOCIAL

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of the species and generate support for the conservation projects
\$20,000

TOTAL OVER FIVE YEARS
\$1,241,000



Photograph by Sarah Summers

BIOLOGICAL AND COMMUNITY DRIVEN CONSERVATION

The Spotted Tree Frog



Photograph by Sarah Summers

One of Victoria's most charismatic amphibians, the Spotted Tree Frog (*Litoria spenceri*), has suffered massive and ongoing population declines. The Amphibian Chytrid Fungus and the introduction of non-native predatory fish causes decline in natural populations. Zoos Victoria has been involved in the recovery program for Spotted Tree Frogs since 1991, and Healesville Sanctuary maintains a small captive population.

Recent conservation actions have provided a unique position to create healthy environmental refuges for Spotted Tree Frogs. This has been driven through breakthrough partnerships with the Victorian angling community.

We have come a long way, and we still have a way to go. Over the course of this Master Plan, Zoos Victoria, along with our partners, will establish and manage Spotted Tree Frog populations at key sites within Victoria and aim to increase wild populations by 20%. We will also develop a strategy for reintroduction into its wild environment. To achieve this, we will work collaboratively with stakeholders on key conservation actions that are underpinned by long-term research, captive husbandry and citizen science.

We will undertake:

BIOLOGICAL

ANNUAL MONITORING TO SUPPORT KEY MANAGEMENT ACTIONS in partnership with the Threatened Species Hub of The National Environmental Science Program (NESP).

\$685,000

ESTABLISH NEW WILD SAFE HAVENS AND BOLSTER POPULATIONS through reintroduction or translocation.

\$125,000

USE GROUND BREAKING SCIENTIFIC TECHNIQUES SUCH AS eDNA AND ACOUSTIC RECORDING, TO SECURE THE SPOTTED TREE FROG.

\$205,000

MAINTAIN CAPTIVE POPULATION to support recovery objectives.

\$286,000

SOCIAL

ASSIST OUR ALLIES TO RUN COMMUNITY PROJECTS IN AND AROUND CRITICAL HABITAT - aiming to increase care for and knowledge of the species and facilitate individual behaviours that protect the frogs and waterways.

\$10,000 p.a

CREATION OF WILD SAFE HAVENS via non-native fish management in partnership with recreational fishing industry and broader community.

\$315,000

TOTAL OVER FIVE YEARS

\$1,666,000

SURVEYING VICTORIA FOR The Stuttering Barred Frog



Photograph by
Damian Goodall

With a call like a Kookaburra's and distinctive stripes on its arms and legs, the Stuttering Barred Frog (*Mixophyes balbus*) is an extraordinary amphibian. Found at a range of altitudes, it has only been located in Victoria on three occasions. Unfortunately, the Stuttering Barred Frog has not been sighted in our state since 1983 and may well already be extinct here.

Possible reasons for its decline include changes in habitat from logging and grazing, introduced fish species which prey upon its eggs and tadpoles and the devastating Amphibian Chytrid Fungus. We need to find out more about the Stuttering Barred Frog and will work with partners to survey historic and newly identified habitat. Over the five years of this plan, we will also develop environmental DNA techniques to further boost survey output.

In this Plan we will:

BIOLOGICAL

SURVEY NEWLY IDENTIFIED HABITAT.

\$160,000

CONDUCT eDNA SURVEY OF CURRENT STREAMS

\$90,000

TOTAL COST OVER FIVE YEARS

\$250,000

Future-proofing Victoria's Amphibians

Over 40% of global amphibian species are threatened with extinction, and Australia's native frogs are not immune. Zoos Victoria is clear about its commitment to Fighting Extinction and a quarter of our threatened species programs focus on amphibians. With the help of program partners, we have made significant leaps for some of Australia's most threatened amphibian species. We also know however, that as disease continues to threaten many of Victoria's amphibian species, captive intervention can make the difference between survival and extinction. To support wild recovery we must ensure that we maintain healthy and diverse captive populations and mitigate risk by housing them across multiple locations.

Zoos Victoria employs world class amphibian experts who support multiple amphibian recovery programs. In order to future-proof Victoria's amphibian species, we need to invest significantly in our *ex-situ* facilities across both Melbourne Zoo and Healesville Sanctuary. This will support genetically robust populations of our Critically Endangered amphibian species, mitigate risk of loss from disease or equipment failure, boost recovery output and allow more progressive objectives to ultimately fight extinction in a more efficient and cost-effective way.

Our focus is to:

BIOLOGICAL

FUTURE-PROOF ZOOS VICTORIA'S FIGHTING EXTINCTION AMPHIBIAN PROGRAM - Via Healesville infrastructure and staff support.

YEAR 1
\$985,000

YEARS 2 TO 5
\$85,000 pa.

TOTAL COST OVER FIVE YEARS
\$1,325,000



Photograph by Rick Hammond

Supporting World Class Chytrid Research

Amphibians are declining faster than any other vertebrate. Changes to ecosystem function due to climate change and habitat destruction, as well as the continuing spread of Amphibian Chytrid Fungus are driving this catastrophic loss of biodiversity. Mitigating population-level effects of Chytrid fungus remains one of the most challenging problems for amphibian conservation. Our ability to re-establish populations of many of our Fighting Extinction amphibian species is compromised while Chytrid remains pervasive in natural habitat. Under Zoos Victoria's first

Master Plan, we provided critical lifelines for species such as the Baw Baw Frog and continued to refine and develop breeding techniques for others such as Southern and Northern Corroborees. Over the next five years, we will focus on a targeted species-level approach to find answers to this devastating disease. Zoos Victoria will bring together leading regional and international Chytrid researchers and provide funding for species-specific research of our most critical amphibians.

Critical steps include:

BIOLOGICAL

TARGETED CHYTRID MITIGATION IN FIGHTING EXTINCTION SPECIES.
\$250,000 p.a

INTERNATIONAL SYMPOSIUM ON AMPHIBIAN CHYTRID FUNGUS.
\$90,000

TOTAL OVER FIVE YEARS
\$1,340,000



Photograph by Rick Hammond

Reptiles

CONFRONTING THE CHALLENGES OF CLIMATE CHANGE

While reptiles are incredibly well adapted to their environments, they too are under pressure from human-made threats. In Victoria, the delicate alpine habitats of Guthega and Alpine She-oak Skinks are already suffering from the effects of climate change and skink populations have been left isolated due to catastrophic events such as bush fires. We are proud to report that we have deepened our understanding of the biology, threats to and conservation needs of these two skink species. During the course of the previous Master Plan, we witnessed the first ever captive birth of a Guthega Skink at Healesville Sanctuary. Over the next five years, we want every Victorian to have heard of Guthega and Alpine She-oak Skinks. We will focus on raising their public profiles and channel our efforts into their long term recovery. We will also continue the search party for the Grassland Earless Dragon, not sighted in our state since 1969.

WORKING *IN-SITU*

Alpine She-oak Skink

The Alpine She-oak Skink (*Cyclodomorphus praealtus*) remains one of Victoria's most threatened reptiles. Despite the risk of catastrophic environmental events posing an ever-present threat, we now have a deeper understanding of the species, with clear conservation actions that will support its populations into the future.

Work undertaken previously by Zoos Victoria, in conjunction with the Arthur Rylah Institute has been critical for these alpine dwellers. Targeted long-term monitoring grids were established allowing us to better understand population dynamics of Alpine She-oak Skinks. Zoos Victoria aims to further develop critical actions by facilitating *in-situ* genetic rescue of the Alpine She-Oak Skink and better mitigating the risk of environmental threats.

The following critical next steps will enable Zoos Victoria, along with our partners to move forward knowing that we are doing everything we can to prevent the extinction of this species:

BIOLOGICAL

WILD MONITORING of known populations.

\$160,000

SURVEY NEW HABITAT TO BETTER UNDERSTAND VICTORIAN DISTRIBUTION OF SPECIES, including on the Wellington Plains.

\$220,000

ANALYSE ALPINE SHE-OAK SKINK GENETIC SAMPLES to determine feasibility of short-distance translocation for genetic rescue.

\$20,000

ANALYSE DATA TO DETERMINE POPULATION TRENDS.

\$5,000 p.a

DEVELOP AND IMPLEMENT A TRANSLOCATION/RECOVERY STRATEGY.

\$110,000

SOCIAL

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of the skink and generate support for the conservation projects

\$10,000

TOTAL COST OVER FIVE YEARS

\$545,000



Photograph by Andrew Griffiths

KEEPING OUR EYES PEELED

Grassland Earless Dragon



Despite persisting in the ACT and adjoining areas of NSW, the last confirmed sighting of the Grassland Earless Dragon (*Tympanocryptis pinguicolla*) in Victoria was in 1969. We hold grave concerns that this species may already be extinct in our state, but we haven't given up. We are still hopeful of locating the Grassland Earless Dragon in remnant patches of native grassland in Victoria's Western Volcanic Plains. Indeed it is quite possible that the Victorian Grassland Earless Dragon is a distinct species, underscoring the significance of continuing a search until all possible survey options are exhausted. We will also assist partners in the ACT to develop captive husbandry protocols for this cryptic dragon in the hope they are rediscovered in our state.

On the search for the Grassland Earless Dragon we will:

BIOLOGICAL**CONDUCT SURVEYS FOR EXTANT POPULATION.**

\$40,000 p.a

ASSIST PARTNERS TO DEVELOP GRASSLAND EARLESS DRAGON HUSBANDRY.

\$70,000

CONSTRUCT BREEDING FACILITIES AT MELBOURNE ZOO.

\$70,000

SOCIAL**CREATE ACTIVATIONS AT OUR ZOOS AND ONLINE** that aim to increase community care and knowledge of the species and generate support for the conservation projects

\$10,000

TOTAL COST OVER FIVE YEARS

\$350,000

GETTING AHEAD OF THE DECLINE

Guthega Skink

The Guthega Skink (*Liopholis guthega*) is Australia's highest altitude reptile and in Victoria is restricted to a few small rocky outcrops in the Bogong High Plains. Unfortunately, alpine habitats experience the full and rapid effect of anthropomorphic climate change causing reduced habitat and further isolating specialist alpine species like the Guthega Skink. Recent increased severity of wildfire and the spread of feral animals such as deer and horse have only exacerbated stress on Guthega Skink colonies.

Thanks to groundbreaking research conducted by La Trobe University with assistance from Zoos Victoria, we now have a detailed understanding of the species' life history, ecology and phylogeography, which has provided us with clear conservation actions for the next five years.

Work undertaken during our first Master Plan led to the first ever captive birth of a Guthega Skink, at Healesville Sanctuary. We will now capitalise on this success and focus conservation efforts on establishing a resilient, genetically diverse captive population. While we continue to monitor wild populations, Zoos Victoria, in collaboration with program partners, will also work to determine whether genetic rescue can improve the long-term viability of Victorian Guthega Skink populations.

The newly built Alpine Skink Facility at Healesville Sanctuary will help us to answer critical research questions to support wild Guthega Skink populations and integrate *in-situ* and *ex-situ* conservation management

Projects that we must undertake to secure the Guthega Skink are:

BIOLOGICAL

WILD MONITORING plus targeted collection of animals for the captive breeding program.

\$270,000

DETERMINING THROUGH CAPTIVE TRIALS WHETHER 'GENETIC RESCUE' IS A VIABLE OPTION to enhance the extremely low genetic diversity observed in the Victorian Guthega Skink population.

\$300,000

MAINTAINING THE CAPTIVE POPULATION.

\$466,000

DEVELOPING AND IMPLEMENTING A PLAN TO BUILD NUMBERS OF SKINKS IN THE WILD

\$110,000

SOCIAL

ACTIVATIONS AT OUR ZOOS AND ONLINE that aim to increase community care and knowledge of the skink and generate support for the conservation projects.

\$10,000

TOTAL COST OVER FIVE YEARS

\$1,156,000



Photograph by
Rick Hammond

Invertebrates

STEPPING UP OUR SUPPORT

Melbourne Zoo is famous for its Butterfly House, which is home to hundreds of Australian tropical and subtropical butterflies. The skills required to maintain this much loved experience are highly specialised, and have been harnessed in the past to help save the Lord Howe Island Stick Insect from extinction.

Since 2003, Zoos Victoria has successfully maintained a breeding population of the Critically Endangered Lord Howe Island Stick Insect. Plucked from an ancient volcanic outcrop in the Tasman Sea, the arrival of the initial breeding pair signaled the start of our involvement in the conservation of invertebrates, and we have not looked back. In the years since, the program has gone from strength to strength and we have made significant progress towards returning the stick insect to its rightful home on Lord Howe Island.

While we are determined to see the recovery of this species, we are equally aware that it is just one of many under serious threat. Indeed, one in five of the world's invertebrates is likely to be threatened with extinction, yet less than 1% has been assessed by the International Union for Conservation of Nature (IUCN) for inclusion on its Red List. Zoos Victoria recognises and values the role invertebrates play in ecosystem services and the severity of the threats they are facing. But we won't turn our back on them, and to demonstrate this commitment we have expanded the Fighting Extinction program to include two more threatened invertebrate species.

A HIDDEN VICTORIAN GEM

Golden-rayed Blue Butterfly

Found exclusively in the Wimmera, the Golden-rayed Blue (*Candalides noelkeri*) is the only butterfly known to be endemic to Victoria. Its distribution is largely restricted to narrow bands of remnant flood-plain habitat that border just a handful of salt-lakes in the west of the state. It appears to be an ecological specialist, relying on only one species of host plant known commonly as Creeping Boobiolla (*Myoporum parvifolium*).

Because of its very restricted distribution, identified threats, and likelihood of on-going population decline, it is listed as Critically Endangered on Victoria's threatened invertebrate advisory list.

The most significant threat to this species is habitat loss and degradation. The required larval host plant is restricted to the margins of ephemeral salt-lakes and most of this habitat has been lost over time through cropping and grazing activities. At the location where this species was originally found (Lake Wyn Wyn Reserve) its habitat is threatened by an invasive paperbark species, which displaces the food plant and reduces the extent of open sunny microhabitat preferred by the

adult butterflies. Management of this paperbark to aid the Golden-rayed Blue has occurred in the past, but on-going management will be required.

Opposite we list a range of actions aimed at reducing the risk of extinction for this species. We will work with partners to gain an improved understanding of its distribution and ecological requirements through surveys and research. We will also help explore opportunities and support the restoration or creation of additional habitat through fencing and/or revegetation. Further to this, we will make use of our expertise to develop the husbandry requirements for captive breeding and improve our knowledge of the butterfly's biology. This information will assist field conservation actions, including the establishment of new populations in existing or restored habitat. Finally, we will display the species in an innovative exhibit and raise its public profile to enhance awareness of the need for temperate butterfly and invertebrate conservation more generally.

To kick-start our commitment to this species we will:



Photograph by Kate Peace

BIOLOGICAL

UNDERTAKE SYSTEMATIC FIELD SURVEYS to better understand this butterfly's distribution and threats in the wild.

\$35,000

SUPPORT PROTECTION and restoration through management and revegetation.

\$120,000

INVESTIGATE WILD-TO-WILD TRANSLOCATION to secure populations and implement, as required.

\$90,000

INVESTIGATE THE REQUIREMENTS OF CAPTIVE DISPLAY AND BREEDING FOR REINTRODUCTION.

\$250,000

CONSTRUCT AND MAINTAIN AN EXHIBIT FOR THE GOLDEN-RAYED BLUE.

\$250,000

SOCIAL

WELCOME THIS NEW SPECIES ONTO ZOOS VICTORIA'S PRIORITY LIST.

Establishing the butterfly's presence at our zoos and online as part of our local threatened species commitment.

\$15,000

TOTAL COST OVER FIVE YEARS

\$760,000

Key's Matchstick Grasshopper

RE-ESTABLISHING THE GRASSHOPPER IN VICTORIA



Photograph by
Michael Kearney

Key's Matchstick Grasshopper (*Keyacris scurra*) with its distinctive elongated body shape, was once common in the native grassland and grassy woodlands across inland south-eastern Australia. However, these habitats fall within the wheat and grazing belt which is one of the most heavily modified regions in the country and almost no original habitat remains.

Sadly, the species has not been reported in Victoria for decades. It is currently only known for a hand-full of locations in southern NSW and the ACT.

The species is generally found in habitat dominated by the tall perennial grass *Themeda australis*, which it does not eat, but may rely on for protection from predators and weather extremes. Like other members of the family, the Key's Matchstick Grasshopper is flightless which has likely impaired its ability to persist across a fragmented landscape. It is possible that the

species may still occur in Victoria, so the first activities supported by this Master Plan will be systematic surveys and citizen science projects to identify any remnant populations or suitable but unoccupied habitat patches within Victoria.

Current work by researchers at the University of Melbourne aims to discover more about the genetic characteristics of remaining and extinct populations. Among other insights, this work will inform options for potential translocations of the grasshopper into or within Victoria. Any re-introductions are likely to require habitat management and/or restoration and also benefit from captive breeding to provide a source of animals for release. Under this Master Plan we will support research to investigate habitat needs and refine methods for captive breeding and re-introduction, with the aim of securing a long-term future for this species in the wild.

Our plan is to:

BIOLOGICAL

UNDERTAKE FIELD SURVEYS to identify any remaining Victorian populations.

\$60,000

PROVIDE SUPPORT FOR HABITAT RESTORATION AND RE-INTRODUCTION

\$90,000

INITIATE AND MAINTAIN CAPTIVE BREEDING FOR PUBLIC DISPLAY AND RE-INTRODUCTION, AS REQUIRED.

\$130,000

SOCIAL

WELCOME THIS NEW SPECIES ONTO ZOOS VICTORIA'S PRIORITY LIST.

Establishing the grasshopper's presence at our zoos and online as part of our local threatened species commitment.

\$15,000

CITIZEN SCIENCE - CREATING INVERTEBRATE INVESTIGATORS:

a community-led search for Key's Matchstick Grasshopper, a species unobserved in Victoria for 40 years.

YEAR 3

\$40,000

YEAR 4-5

\$30,000 p.a.

TOTAL COST OVER FIVE YEARS

\$395,000

It is estimated that 97% of life on Earth is invertebrate, and of those around 80% are insects.

Insects provide essential ecosystem services but are often overlooked. What a privilege it is to work for an organisation that is dedicated to insect conservation. Zoos Victoria is committed to increasing the profile of this amazing group of animals and we have proven success in breeding threatened species.

The next major challenge for the charismatic Lord Howe Island Stick Insect is returning them to their paradise home.

Kate Pearce

INVERTEBRATE KEEPER
MELBOURNE ZOO



Lord Howe Island Stick Insect

RETURNING THE SPECIES TO THE WILD

The remarkable story of the Lord Howe Island Stick Insect (*Dryococelus australis*) is one of loss, rediscovery, and hope. Considered extinct for almost half a century, it is still regarded as one of the world's rarest insects. However, there is growing optimism that it is on track to recovery in the wild.

Upon the rediscovery of the Lord Howe Island Stick Insect, a rescue team climbed the steep and rocky outcrops of Ball's Pyramid and returned with two breeding pairs for Melbourne Zoo to learn how to breed and care for this species. This one dramatic intervention has ultimately reversed the species' fate.

Thanks to the highly specialised skills of our invertebrate keepers, and a great deal of patience and determination, a population has been maintained at Melbourne Zoo since 2003, and is now in its fifteenth generation. This insurance population is critical to ensuring that the species evades extinction and that animals will be available for release to the wild when the opportunity arises.

A key challenge is the low and declining genetic variability in this captive population, which appears to be contributing to declines in reproductive performance. So in 2017, an expedition was undertaken to secure new founders from Ball's Pyramid. Despite a comprehensive survey, very few stick insects were found, with only a single individual collected. Consequently, further collection trips remain a high priority.

Returning the species back to Lord Howe Island is the ultimate aim of this program and this opportunity may soon be approaching. A program to eradicate the Island's introduced rodents is set to start in 2019. If that eradication is successful, reintroduction of the Lord Howe Island Stick Insect could potentially commence a few years later. The actions identified below all aim to support the recovery effort for this remarkable species and secure its long-term future in the wild where it belongs.

Project details and costs are as follows:

BIOLOGICAL

MAINTAIN EXISTING CAPTIVE INSURANCE POPULATION at Melbourne Zoo.

\$500,000

SURVEY THE WILD POPULATION and, if appropriate, collect new founders from Ball's Pyramid.

\$100,000

EXPAND THE MELBOURNE ZOO POPULATION to support re-introductions to the wild.

\$250,000

 **GENETIC RESEARCH** to guide captive management and re-introduction planning.

\$120,000

ESTABLISH A SECOND wild population on Blackburn Island.

\$60,000

SUPPORT FOR RE-INTRODUCTION to Lord Howe Island.

\$70,000

SOCIAL

ACTIVATIONS AT OUR ZOOS, ONLINE AND ON LORD HOWE ISLAND that aim to increase community care and knowledge of the insect and generate support for the conservation projects

\$20,000

SUPPORT COMMUNITY ENGAGEMENT ON LHI AND PROMOTE COMMUNITY SUPPORT for re-introduction on Lord Howe Island, as required.

\$30,000

TOTAL COST OVER FIVE YEARS

\$1,150,000

HELMETED HONEYEATER
Photograph by Sarah Summers



Victoria is blessed with unique wildlife and beautiful places.

As custodians of Victoria's zoological parks and gardens, we are committed to preserving and enhancing the animal diversity of Victoria, as well as the beautiful parks and gardens in which they flourish, and where they can be enjoyed and valued. Our nature-based experiences facilitate connections and understanding that leads to actions and to impactful behaviour change. Our skills and resources enable specialist interventions to help the most endangered Victorian species to thrive.

Kate Vinot

CHAIR OF THE BOARD
ZOOS VICTORIA

Watch List Species

Alongside our Fighting Extinction Species is a suite of Victorian wildlife about which we do not have enough information to reliably determine conservation status. Or, these species have been assessed as not yet requiring zoo-based conservation intervention, but may if current trends continue. These are Zoos Victoria's Watch List Species.

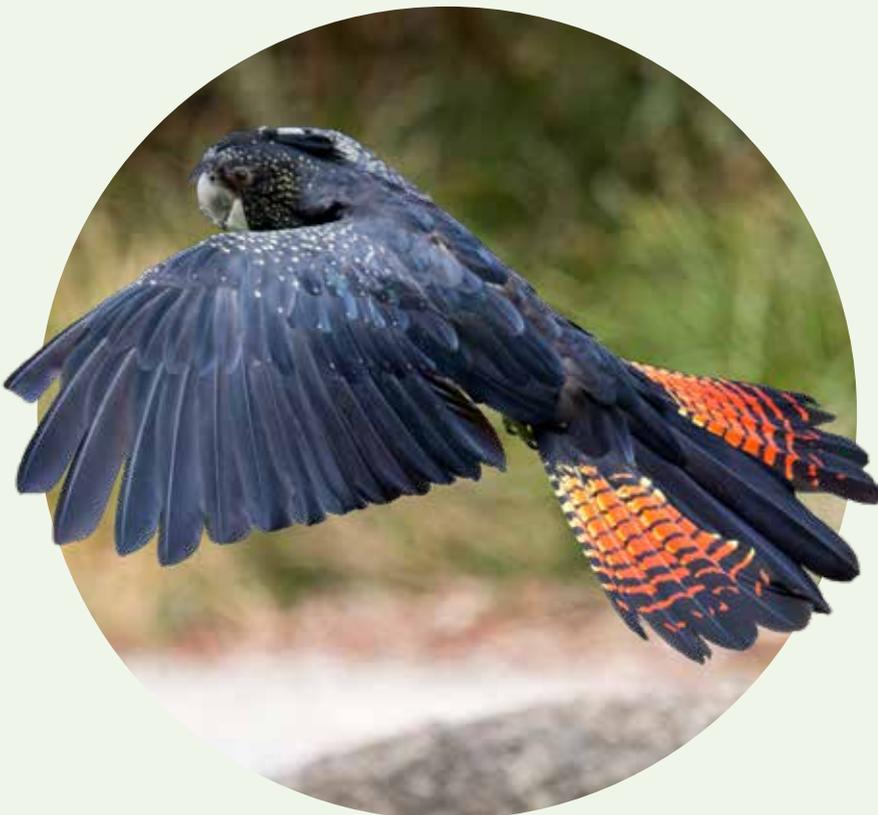
The concept of the Watch List was introduced during the term of the previous Master Plan and is now formalised within this document. Keeping our finger on the pulse, some species contained in the initial Watch List (such as the Plains-wanderer, Giant Burrowing Frog and Swift Parrot) have been elevated to priority status based on recent data from the wild.

While each of the Fighting Extinction Species has some targeted intervention planned over the life of this Master Plan, the Watch List Species will receive funding and investment incidentally or opportunistically. Where third parties are interested in undertaking some investigation either *in-situ*, through genetic or threat analyses, Zoos Victoria will consider granting support. Zoos Victoria is also open to possibilities of displaying, raising awareness and developing husbandry protocols for Watch List Species.

Should investigation indicate a need for urgent or critical intervention, we will not hesitate to elevate the species on the Watch List to Fighting Extinction status and will invest in a targeted fashion.

The species on the Watch List are considered at risk, but potentially not in as grave or imminent danger as those prioritised on the Fighting Extinction Species list.

They are as follows:



Alpine Tree Frog

(*Litoria verreauxii alpina*)

Highly susceptible to Amphibian Chytrid Fungus, the Alpine Tree Frog is all but gone from the Victorian high country. During this Plan we will assist partners to investigate this frog's abundance in Victoria.

Martin's Toadlet

(*Uperoleia martini*)

Little is known about this striking ground dwelling frog. Over the coming years, we will work with partners to get a better understanding of the species' status and ecology in Victoria.

Masters' Snake

(*Drysdalia mastersii*)

Once abundant in Victoria's Big Desert, the Masters' Snake is considered rare and has been infrequently encountered since 2002. We will assist our partners to increase knowledge of the species' biology, ecology or management requirements.

Black-eared Miner

(*Manorina melanotis*)

This bird species is restricted to a small number of localities with intact mallee near the border of Victoria, South Australia and NSW. Habitat fragmentation, bushfire and genetic introgression continue to threaten its populations. Modelling has estimated a 47% probability of extinction over the coming 20 years. We will work with partners to monitor, protect and strengthen the remaining populations.

Red-tailed Black Cockatoo

(*Calyptorhynchus banksii graptogyne*)

Confined to a restricted area of south-western Victoria and south-east South Australia, the loss and fragmentation of foraging and nesting habitat for agriculture has led to past declines for this subspecies. Flock composition data have raised concerns about breeding success and adult female survival, and this requires further investigation. A recent Population Viability Analyses predicts a declining trend.

Eastern Quoll

(*Dasyurus viverrinus*)

Extinct on mainland Australia since the 1960s, Tasmania has provided the last refuge for the Eastern Quoll. Serious declines have been reported in Tasmania over the past decade and are possibly related to an increase in feral cats (which is in turn tied to reductions in the abundance of Tasmanian Devils). It is critical that population trends and the impact of various threats are quantified. Re-introductions to the mainland are being undertaken in the ACT and NSW.

Broad-toothed Rat

(*Mastacomys fuscus*)

Typically found in wet habitats with dense ground cover across south-eastern Australia, recent surveys indicate that the Broad-toothed Rat has disappeared from 53% of Victorian sites since 1990. Several threats are thought to be impacting populations, including bushfire and predation from foxes and feral cats. The species and its habitat are highly susceptible to climate change. It is

possible that Victoria supports a distinct species to those found in other States and Territories, and relationships among populations warrants further investigation.

Golden Sun Moth

(*Synemon plana*)

The Golden Sun Moth is a medium-sized, day-flying moth found in the grasslands to the north and west of Melbourne. The primary threat is dramatic loss and ongoing degradation of Wallaby Grass-dominated native temperate grasslands within the species' historical and current range.

WATCH LIST SPECIES - our approach is to have a pool of funding available each year so that we can modestly invest in initiatives being undertaken by third parties to conserve species on the Watch List.

\$200,000 p.a

Patches of land are the unit where conservation takes effect, and where species survive or are lost.

Our work to recover threatened species in the wild has far-reaching benefits for land management. We aim to inspire people about wildlife in the hope that this will lead to greater caring for and connection to country.

Dr Dan Harley

THREATENED SPECIES BIOLOGIST
ZOOS VICTORIA

Wildlife Health

The health and well-being of the animals in Zoos Victoria's care are paramount. Fundamental to our compassionate approach to conservation, we seek to provide environments in which animals are not only healthy, but can thrive. Our investment in wildlife health will provide greater support to our three veterinary hospitals to ensure that all animals within Zoos Victoria's care are in peak condition. This also applies to the threatened species in our care, maximising their chances of survival in the wild.

Beyond our hospitals, we will build our capacity to monitor the health of and investigate disease in wild populations. To this end,

our veterinary departments - in collaboration with their external networks of health specialists - will be supported in continuing their investigations of health issues that impact our Fighting Extinction Species. As an essential component of this, we will focus on quantifying risks posed by pathogens to the success of captive release and translocation operations. This important investment will enable our veterinary departments to lead the undertaking of disease risk analyses to assist decisions regarding the management of Fighting Extinction Species.

Wildlife Health projects will include:

BIOLOGICAL

FIGHTING EXTINCTION SPECIES HEALTH MONITORING to focus on pathology and health studies, such as wild and captive microbiome analyses and kidney disease in MPPs and LBPs.

\$140,000 p.a

UNDERTAKING DISEASE RISK ANALYSES for nominated species.

\$50,000 p.a

TOTAL COST OVER FIVE YEARS

\$950,000



Photograph by
Cormac Hanrahan

HABITAT RESTORATION

Building neighbourhoods for Victoria's Faunal Emblems

A lack of high quality habitat remains the key factor restricting populations of Lowland Leadbeater's Possum and Helmeted Honeyeater at Yellingbo and beyond. Both populations are currently confined to a single locality, and there is an urgent need to establish new populations. Following extensive habitat modelling and ground-truthing, several priority areas have been identified for habitat restoration. Providing consolidated areas of high quality habitat capable of supporting strong Helmeted Honeyeater and Lowland Leadbeater's Possum 'neighbourhoods' is key - town planning 101.

Since 2013, more than 750,000 seedlings have been planted - but there remains much to do. Since 2015, wild Helmeted Honeyeaters have started foraging and nesting in some of the revegetation at Yellingbo. The Coranderrk Bushland

Reserve that adjoins Healesville Sanctuary is also one of the priority areas, together with neighbouring properties in the valley of the Yarra River managed by Traditional Owners and private landholders. Habitat provision is an essential foundation for successful recovery of the Helmeted Honeyeater and Lowland Leadbeater's Possum. These habitat restoration projects build on the long-standing work of several partners, including the Friends of the Helmeted Honeyeater, Greening Australia and Port Phillip and Westernport Catchment Management Authority. There will be opportunities for the public to visit these sites and participate in the on-ground works.

To provide habitat over the course of this Master Plan, we will focus on:

BIOLOGICAL

YELLINGBO NATURE CONSERVATION RESERVE - habitat protection and restoration.

\$750,000

HAINING FARM AND SURROUNDS - habitat restoration.

\$440,000

YARRA VALLEY - habitat restoration.

\$470,000

CORANDERRK BUSHLAND RESERVE - habitat restoration.

\$240,000 p.a

CORANDERRK TO YARRA - habitat restoration.

\$65,000 p.a

HABITAT RESTORATION ON PRIVATE LAND.

\$120,000 p.a

TOTAL COST OVER FIVE YEARS

\$3,785,000



LEADBEATER'S POSSUM
Photograph by Tim Bawden

CONNECTING THE DOTS

Expanding our threatened species alliances

ZOOS VICTORIA



Photograph by Rick Hammond

Humans can influence the state of the planet more than any other species. Despite our capability to inflict harm, people are also the key to wildlife conservation. We also know that people who work together achieve better results and, quite simply, Zoos Victoria could not do any of the work it does without our partners. To this end we are transitioning to the Open Standards, an increasingly universal system to enhance planning, implementation and monitoring and ultimately adapt and improve our efforts.

With this in mind, we have made it a priority to extend our network. Throughout the course of this Master Plan we will work strategically to nurture existing relationships and to seek out new ones beyond the 'traditional' conservation sector. By

working across areas such as (but not restricted to) government policy, business, education, philanthropy, media and agriculture we can give ourselves the best chance of effectively pursuing solutions to problems facing species under threat and of staying ahead of the game to prevent other species from getting there. Within the community, our citizen science initiatives will spark individual fascination with the natural world and contribute to the societal scale of change necessary in the fight against extinction. We are weaving a web of allies and the tie that binds us is the one we all rely on - a diverse, resilient and healthy environment.

Projects to build our alliances include:

BIOLOGICAL

APPOINTING AN ADMINISTRATION AND COMPLIANCE PROJECT OFFICER to oversee the transition to Open Standards for conservation planning projects at Zoos Victoria.

\$425,000

TRANSITIONING TO HEALTHY COUNTRY/OPEN STANDARDS for conservation planning projects at Zoos Victoria.

\$120,000

A BIENNIAL FORUM on predators and rewilding for practitioners and researchers.

\$40,000

SOCIAL

EMPLOYING A CITIZEN SCIENCE & OUTREACH COORDINATOR to support our Fighting Extinction Species and conservation outcomes.

\$500,000

EXPANDING OUR REACH AND IMPACT through engaging and supporting private land conservation networks in the conservation protection of Victoria's threatened species.

\$60,000

TOTAL COST OVER FIVE YEARS

\$1,145,000

Engaging with Victorian Aboriginal communities

For tens of thousands of years before Europeans came to these shores, Aboriginal and Torres Strait Islander peoples have been employing investigative methods to better understand the natural world. As planet Earth's oldest continuous living cultures, Indigenous Australians are unparalleled in their historic knowledge of the Australian landscape. Working with Indigenous communities, we will seek guidance from Aboriginal people with their local understanding to help inform our approach to conserving threatened species.

To engage with Victorian Aboriginal communities around Fighting Extinction, we will:

SOCIAL

INITIATE CONVERSATIONS WITH VICTORIAN ABORIGINAL GROUPS to help guide our engagement with their communities around threatened species conservation.

\$40,000

SUPPORT THE DEVELOPMENT AND UNDERSTANDING OF ABORIGINAL KNOWLEDGE IN threatened species management in partnership with Indigenous communities.

\$340,000

TOTAL COST OVER FIVE YEARS

\$380,000



Photograph by
Cormac Hanrahan

International conservation



As human populations increase, wildlife and wild places across the globe are increasingly under threat. We are global citizens, and Zoos Victoria recognises our responsibility to extend our conservation efforts and help build capacity and capability beyond Australia's borders. As such, we have supported holistic wildlife conservation in other countries since 1992. Over the subsequent years, our conservation efforts abroad have expanded and our strategy has evolved. We now focus on deeper engagement to secure measurable benefits for both people and wildlife around the world.

Tier 1

Through the *Tier 1* partnerships outlined in the following pages, we will continue our engagement in Papua New Guinea, The Philippines and Uganda; strengthening our commitment to protecting Matschie's Tree-kangaroos, Philippine Crocodiles and Southern White Rhinos as flagship species with our respective partners. Signaling a new approach and building on the world-leading collaboration with Port Moresby Nature Park, each field conservation partnership will be aligned with a sister zoo or other reputable conservation organisation. These will act as platforms for telling our conservation partners' stories in-country and enhance engagement with governments. Increasing our sister zoo relationships will also allow for improved animal welfare outcomes, building further on our commitment to this important objective. This approach enables Zoos Victoria to build the capacity of sister zoos and support their growth towards being zoo-based conservation organisations.

Tier 2

Further to these are three new *Tier 2* partnerships in our priority regions of Oceania, South-east Asia and Sub-Saharan Africa. Underpinning their selection was an evaluation against our international program criteria and assessment of their corresponding presence within Zoos Victoria's animal population. We have also opted to support these projects because they seek to both mitigate key threats *and* deliver social outcomes. Through the Tier 2 partnerships, we are proud to support our partners in Vietnam in their efforts to conserve Northern White-cheeked Gibbons in their last stronghold. In Rwanda, we will partner with the Dian Fossey Gorilla Fund to support Eastern Gorillas and the people living close to them. And in our region of the Pacific, we will work with the Ornithological Society of Polynesia to recover up to ten species of threatened birds on the Marquesas Archipelago.

Tier 3

Tier 3 of Zoos Victoria's international conservation strategy is our grants program. From small Alligator Lizards in Guatemala to Lemurs in Madagascar and Snow Leopards in Pakistan and Nepal, our grants have enhanced measurable outcomes for people and threatened wildlife since 2013.

To support the overall deepened international conservation approach, we will:

Engage an International Conservation Project Officer.

\$400,000

TOTAL COST OVER FIVE YEARS

\$400,000

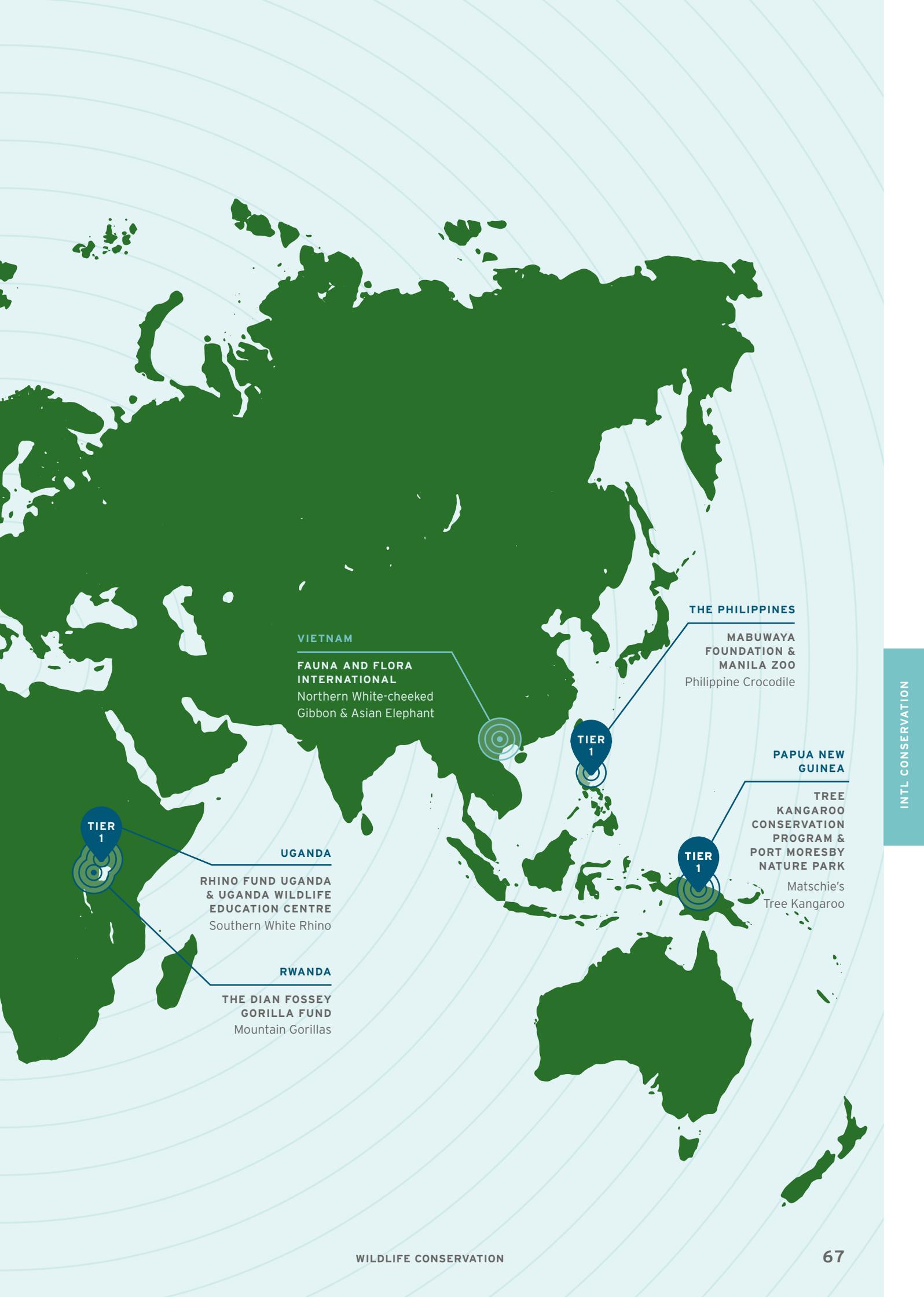
International conservation

ZOO'S VICTORIA



MARQUESAS ISLANDS

SOCIÉTÉ D'ORNITHOLOGIE
DE POLYNÉSIE-MANU
Pacific Island birds



VIETNAM

FAUNA AND FLORA INTERNATIONAL
Northern White-cheeked
Gibbon & Asian Elephant

THE PHILIPPINES

MABUWAYA FOUNDATION & MANILA ZOO
Philippine Crocodile

PAPUA NEW GUINEA

TREE KANGAROO CONSERVATION PROGRAM & PORT MORESBY NATURE PARK
Matschie's
Tree Kangaroo

UGANDA

RHINO FUND UGANDA & UGANDA WILDLIFE EDUCATION CENTRE
Southern White Rhino

RWANDA

THE DIAN FOSSEY GORILLA FUND
Mountain Gorillas

Oceania

CONSERVATION AND ENGAGEMENT WITH AUSTRALIA'S NORTHERN NEIGHBOUR



ZOOS VICTORIA

Papua New Guinea's rugged and remote Huon Peninsula is the only place on earth where wild **Matschie's Tree-kangaroos** (*Dendrolagus matschei*) are found. An Endangered species, the tree-kangaroo has suffered a marked decline from hunting and habitat loss, with the total wild population now comprising just over 2,000 individuals. The Huon Peninsula is also home to the 720km² protected YUS Conservation Area and the **Tree Kangaroo Conservation Program** - one of only two holistic community-based conservation programs in the country.

Zoos Victoria is proud to support the Program's *YUS Conservation Coffee*, a product that generates measurable benefits for both wildlife and people. Upon joining the Coffee Program, villagers pledge land to the YUS Conservation Area, increasing wildlife and habitat protection. In turn, local people gain increased access to healthcare and education. More than 600 families participate in the Coffee Program and are enthusiastic members of the officially-registered Coffee Cooperative. Matschie's Tree-kangaroo, Dwarf Cassowary, Forest Wallaby and many other species in the area are on the rise. Since 2009, Zoos Victoria has engaged Jasper Coffee to import, roast and sell YUS Conservation Coffee in Australia. Over ten tonnes of the product have been imported and more than 140kg sold in our retail shops.

In Papua New Guinea's capital, Zoos Victoria's partnership with **Port Moresby Nature Park** has proven to be a very successful sister zoo relationship. More than 30 staff at both organisations have participated in training, skill share and project development and the staff Green Team (the first of any business in PNG) is driving a 30% reduction

in onsite water consumption and electricity use. Since our partnership began, student attendance in the Park's education program has grown by more than 850%.

Developing campaigns that engage the Port Moresby community in behaviour change to alleviate key threats to wildlife is a key objective for Port Moresby Nature Park. It also prioritises capacity building among its staff to manage research and conservation projects. Zoos Victoria is committed to supporting such projects for PNG frogs, many of which are potentially at risk from Amphibian Chytrid Fungus. Establishing preventative mechanisms before the disease arrives in the Pacific nation has been identified as a priority by the IUCN Amphibian Survival Alliance, and Zoos Victoria is proud to support this work.

"We have always sold 50kg bags of parchment coffee for PNG Kina 30-50 at the local market. It takes many funds to mobilise enough funds for our children's school fees and many parents had given up. Now, with TKCP's livelihoods program we receive about PNG Kina 300 per bag and we can send our kids to high school (and even college)."

Dono Ogate

Sapmanga Village

Tree Kangaroo Conservation Program Conservation Officer

Next, our support will:

BIOLOGICAL

ENABLE TKCP COMMUNITY LIVELIHOODS PROGRAM MANAGER

to manage the YUS Conservation Coffee program.

\$150,000

COFFEE PROGRAM IN-FIELD SUPPORT.

\$35,000

ENHANCE ANIMAL MANAGEMENT AND WELFARE OUTCOMES for Life Sciences staff at Port Moresby Nature Park.

\$40,000

ESTABLISH STAFF SKILLS AT PORT MORESBY NATURE PARK TO FUTURE-PROOF PNG FROGS against Amphibian Chytrid Fungus.

\$50,000

INCREASE CAPACITY AND SKILLS of other Park Department staff to sustain Nature Park growth.

\$13,000

SOCIAL

STRENGTHEN EDUCATION AND INTERPRETATION STAFF CAPACITY at Port Moresby Nature Park.

\$15,000

DEVELOP CAMPAIGNS TO ENGAGE THE PORT MORESBY COMMUNITY in environment and wildlife protection.

\$30,000

TOTAL COST OVER FIVE YEARS

\$333,000

Oceania

RECOVERING THREATENED POLYNESIAN BIRDS



The Marquesas Islands are some of the most remote in the world. Lying north-west of Tahiti, the group comprises 15 islands mostly of volcanic origin. The flora and fauna of this part of French Polynesia has been devastated by introduced species such as cats and rats, and 13 species of Marquesan birds are listed as Critically Endangered or Endangered by the IUCN. Almost all of these are endemic to single islands.

As part of our commitment to the Oceania region, Zoos Victoria will partner with the **Société d'Ornithologie de Polynésie-Manu** (MANU SOP - "Manu" is Tahitian for bird) to support the recovery and protection of up to **10 species of threatened birds**. All of the focus species have drastically reduced populations, with latest estimates of wild numbers for the Fatu Hiva Monarch (*Pomarea whitneyi*) Polynesian Ground-dove (*Aleopecoenas erythropterus*) and Marquesas Kingfisher (*Todiramphus gambieri*) totaling as few as 40, 180 and 350 individuals respectively.

With Zoos Victoria's support, MANU-SOP is implementing action plans for three species of Monarchs, which will be extended to other species and have catalytic benefits to other threatened birds. These plans include the removal of cats via a range of techniques and the development of sustainable alternative income

streams for villagers. Local communities on the respective islands are integral to the long-term success of this initiative and will benefit from skills and activities such as bee-keeping for honey production, growing endemic Sandalwood trees and improving appropriate tourism ventures.

The action plans and MANU-SOP's extended programs are endorsed by the IUCN and the French Polynesia local government, and strong associations have been established with local community groups.

We aim to inspire our visitors with amazing recovery efforts on the Marquesas Islands through engagement activities based around a range of analogue bird species at Healesville Sanctuary.

Projects that support recovering Pacific Island birds through on-ground action and community engagement on the Marquesas Islands are to:

BIOLOGICAL

DEFINE AND DEVELOP PARTNERSHIP AGREEMENT WITH MANU-SOP.

\$20,000

REDUCE THE IMPACTS OF INTRODUCED PREDATORS (cats and rats) on Polynesian birds and other wildlife.

\$125,000

PROVIDE IN-KIND MATERIALS AND EQUIPMENT to increase conservation outcomes.

\$30,000

SOCIAL

EXPAND MANU-SOP'S SUSTAINABLE ALTERNATIVE INCOME PROJECTS.

\$55,000

STRENGTHEN MANU-SOP COMMUNITY PROGRAMS/EDUCATION.

\$65,000

TOTAL COST OVER FIVE YEARS

\$295,000



Photograph by
Thomas Ghestemme

South-east Asia

SECURING A FUTURE FOR THE WORLD'S MOST THREATENED CROCODILE



ZOOS VICTORIA

Having worked together since 2000, the **Mabuwaya Foundation Inc.** is Zoo's Victoria's longest standing international conservation partner. Operating in Isabela Province in northern Philippines, the Foundation is primarily focused on conserving the **Philippine Crocodile** (*Crocodylus mindorensis*) - recognised as the most threatened species of crocodile in the world. The Foundation's conservation program in the **Northern Sierra Madre Natural Park** is key to the wild survival of this Critically Endangered species. Threatened by habitat destruction and practices such as dynamite fishing, the Philippine Crocodile was confirmed in the area in 2000. Since then, its numbers increased from just 20 individuals to over 100 in 2017.

Zoos Victoria's partnership with the Mabuwaya Foundation has been critical for its growth and development. Among its suite of initiatives is a community awareness program that engages villagers in the protection of dedicated crocodile and fish sanctuaries. This has not only expanded local people's food options, but supported the monitoring and protection of crocodile numbers. The program also engages community members in joint research and survey projects with Isabela State University and has founded a very successful annual Crocodile Festival Day. Another vitally important initiative is

the Philippine Crocodile Conservation Centre, which will enable breeding of crocodiles for wild release. Boosting the wild population and equipping it to cope with stochastic events, such as severe typhoons, is essential for sustaining this freshwater species into the future.

The Philippines is ranked in the top five countries globally for numbers of threatened endemic species, yet most Filipinos have very little knowledge of their native flora and fauna. Zoos Victoria believes that **Manila Zoo**, a small city zoo located at the heart of the sprawling metropolis of the Filipino capital, has significant potential as a centre for conservation education to help address this. Like so many other zoos in the Philippines, Manila Zoo has not received sufficient resourcing and guidance to enable it to provide quality animal care and contribute to supporting wildlife conservation. By establishing a sister zoo relationship, Zoos Victoria will work with Manila City's Public Recreation Bureau and other stakeholders to develop a framework that will most effectively improve animal welfare and conservation education outcomes at Manila Zoo.

To support our partner to conserve the Philippine Crocodile and improve animal welfare and management outcomes at Manila Zoo, we will:



Photograph by Rick Hammond

BIOLOGICAL

SUPPORT PHILIPPINE CROCODILE SURVEYS AND PROTECTION.

\$120,000

INCREASE MABUWAYA FOUNDATION STAFF CAPACITY AND SKILLS to manage the Philippine Crocodile Conservation Centre.

\$30,000

ESTABLISH ZOOS VICTORIA - MANILA ZOO RELATIONSHIP AND SUPPORT FRAMEWORK.

\$30,000

IMPROVE ANIMAL MANAGEMENT AND WELFARE AT MANILA ZOO.

\$50,000

SOCIAL

SUPPORT COMMUNITY ENGAGEMENT and ISU student projects to strengthen outcomes for wildlife in San Mariano Municipality.

\$35,000

DEVELOP AND SUPPORT IMPLEMENTATION OF CONSERVATION EDUCATION AT MANILA ZOO.

\$40,000

TOTAL COST OVER FIVE YEARS

\$305,000

"Zoos Victoria's commitment and faith in us has been so valuable to Mabuwaya as we have grown and worked to secure a future for the Philippine Crocodile in San Mariano"

Marites Balbas

Chief Operating Officer
Mabuwaya Foundation

South-east Asia

SUPPORTING GIBBONS AND ELEPHANTS IN VIETNAM



Included on the IUCN's Red List are two awe-inspiring species that are native to the forests of Vietnam. The **Northern White-cheeked Gibbon** (*Nomascus leucogenys*) and **Asian Elephant** (*Elephas maximus*) are listed as Critically Endangered and Endangered respectively and populations of both are decreasing.

While the Vietnamese Government has endorsed protection for both species, effective on-ground support is needed to achieve sustained outcomes. As such, Zoos Victoria will develop a conservation partnership with **Flora and Fauna International (FFI)** and support their essential work protecting elephants and gibbons in Vietnam's 90,000ha **Pu Mat National Park**.

With hunting having reduced the population of Northern White-cheeked Gibbon to about 1,000, Pu Mat has become the species' last stronghold - home to about 500 individuals. With no protection and conservation projects for Asian Elephants in Vietnam, FFI's work in the Park is also immensely important for this species.

In order to secure Northern White-cheeked Gibbons and protect an identified Asian Elephant group within Pu Mat, Zoos Victoria will

support FFI in the expansion of various interventions. These include the removal of snares from the park and the provision of support to government rangers to apprehend poachers. FFI will also provide training for villagers to track wildlife and collect data and work to mitigate human-elephant conflict by establishing sustainable alternative projects for local people.

Zoos Victoria's participation will strengthen regional zoo support for the Northern White-cheeked Gibbon, building on existing efforts for this species from Taronga, Perth and Wellington Zoos. Partnering with FFI in Pu Mat National Park provides additional opportunities to extend our engagement with other organisations, including Save Vietnam's Wildlife, Animals Asia and Education for Nature Vietnam. We will work together with these stakeholders to extend Zoos Victoria's reach and influence with government and communities and to enhance animal welfare at the Pu Mat Wildlife Rescue Centre in the National Park.

Projects that support community-based conservation of the Northern White-cheeked Gibbon and Asian Elephant in Pu Mat National Park, Vietnam are to:

BIOLOGICAL

Define and develop a Partnership Agreement with FFI.

\$18,000

Support human-elephant conflict mitigation.

\$100,000

Provide in-kind support (materials, etc.) to strengthen protection of gibbons and elephants.

\$37,000

Support increased welfare for captive wild animals in Pu Mat National Park.

\$20,000

SOCIAL

Support FFI-Vietnam's Community Conservation Teams.

\$85,000

Strengthen community programs and engagement.

\$49,000

TOTAL COST OVER FIVE YEARS

\$309,000

Sub-Saharan Africa

RHINO FUND UGANDA AND UGANDA WILDLIFE EDUCATION CENTRE



The goal of **Rhino Fund Uganda** is to re-establish the **Southern White Rhino** (*Ceratotherium simum*) in the wild in Uganda. Civil conflict caused the loss of White Rhinos from Uganda in 1983, and elsewhere it has since been heavily impacted by poaching for its horn. Rhino Fund Uganda (RFU) was established in 1997 and manages the 7,000ha Ziwa Rhino Sanctuary in the centre of the country. The founding group of six rhinos has grown to 24, with the family groups monitored around the clock by trained rangers.

Zoos Victoria's partnership with RFU is focused on supporting the ranger patrols in the Sanctuary, monitoring the rhinos, responding to reports of hunters in the area and improving accommodation. We also provide in-kind assistance such as night vision equipment to enhance evening patrols and pouches to carry first aid packs, and support the education program through advice, training and materials.

A major factor in Zoos Victoria's decision to partner with RFU is their active engagement with the surrounding communities. RFU has effective agreements with farmers that benefit the cattle, the farmers and RFU, as the farmers act as additional protection by warning RFU about poachers and hunters in the area. Rangers' families are supported through the Hakuna Matata Primary School in the Sanctuary, which is also benefiting children from the surrounding communities. Rhino Fund Uganda is also assisting village communities on each side of a large swamp on the boundary of the Sanctuary through the removal of water weed that grows across stretches of open water and prevents transport over the swamp.

The **Uganda Wildlife Education Centre** (UWEC) in Entebbe is

Uganda's premier zoo, located on the shores of Lake Victoria. It was established as Entebbe Zoo in 1952 and is managed by the UWEC Trust. There is strong interest in extending its well-developed education program to enhance education outcomes at RFU. Zoos Victoria will work with UWEC, its governing trust and other stakeholders (including RFU) to investigate organisational and/or management needs at UWEC and identify how Zoos Victoria can most effectively address them. This may include sharing our Connect-Understand-Act model and expertise to strengthen community engagement, and actions to the benefit of Uganda's wildlife more broadly; particularly recognising that UWEC has a mandate for supporting zoos and education across Uganda and neighbouring countries.

Projects to build sustainable community-based conservation of Southern White Rhinos in Uganda and enhance conservation at Uganda Wildlife Education Centre include:

BIOLOGICAL

SUPPORTING RFU RANGER PATROLS and monitoring.

\$175,000

IN-KIND SUPPORT FOR RFU RANGERS.

\$25,000

SISTER ZOO: Establishing Zoos Victoria - UWEC relationship and support framework.

\$15,000

ENHANCING ANIMAL MANAGEMENT AND WELFARE through UWEC Life Sciences staff training/support, extending to other African zoos as opportunities arise.

\$50,000

SOCIAL

STRENGTHENING EDUCATION DELIVERY AND OUTCOMES at the Ziwa Rhino Sanctuary and adjacent communities.

\$25,000

DEVELOPING UWEC EDUCATION SUPPORT WITH RFU AND COMMUNITIES.

\$45,000

STRENGTHENING UWEC COMMUNITY ENGAGEMENT through campaign initiatives.

\$45,000

TOTAL COST OVER FIVE YEARS

\$380,000

To travel to Uganda and experience firsthand the absolute commitment of the Rhino Fund team to the animals they are working to protect and the strength of their relationships with the surrounding communities is simply awesome. I feel so proud that Zoos Victoria supports this vital conservation work.

Chris Banks

CONSERVATION PARTNERSHIPS
MANAGER
ZOOS VICTORIA

Sub-Saharan Africa:

SUSTAINING PROTECTION FOR EASTERN GORILLAS IN RWANDA



Humans and gorillas share 98% of the same DNA. But sadly, it is mainly human-created threats that are driving this great African ape towards extinction.

Split into two subspecies, the **Eastern Gorilla** is listed as Critically Endangered. The Grauer's Gorilla (*Gorilla beringei graueri*) of the Democratic Republic of Congo numbers about 4,000 individuals and declining, while the Mountain Gorilla (*Gorilla beringei beringei*) of the border region between the DRC, Rwanda and Uganda is slowly increasing from just 1,100 individuals.

Eastern Gorillas are being hunted by poachers, fall victim to snares set to catch other wildlife and are even suffering from the impacts of disease from surrounding human communities that enter their habitat to access timber and other forest resources. **The Dian Fossey Gorilla Fund** is addressing these threats through integrated programs that provide direct protection for gorillas and community engagement with schools, communities and local government across much of the species' range. Recognising unpredictable security in some areas of the DRC and Uganda's western border regions, Zoos Victoria will partner with the Dian Fossey Gorilla Fund to primarily support its gorilla conservation efforts in the Volcanoes National Park and Karisoke Research Centre in **Rwanda**. Developing the partnership may also allow for our financial support to apply to Grauer's Gorillas in the DRC.

Important among The Dian Fossey Gorilla Fund's efforts is the development of projects that provide sustainable alternatives to hunting wildlife and extracting timber from the forests. These projects, such as the allocation of land and training in sustainable farming, have proven to be directly beneficial to gorillas and already resulted in a 70% reduction in snares within the project area. The Dian Fossey Gorilla Fund has achieved outstanding success for Mountain Gorillas and Zoos Victoria's support will bolster continued efforts and strengthen their impact for Grauer's Gorillas.

We will work with the Dian Fossey Gorilla Fund to protect Mountain Gorillas (in Rwanda and Uganda) and Grauer's Gorillas (in the DRC) through threat mitigation and community engagement.

Next steps are to:

BIOLOGICAL

DEFINE AND DEVELOP A PARTNERSHIP AGREEMENT with Dian Fossey Gorilla Fund.

\$17,000

SUPPORT DIAN FOSSEY GORILLA FUND FIELD PATROLS and mitigate threats to gorillas.

\$180,000

PROVIDE IN-KIND SUPPORT (materials, etc.) to strengthen social and biological outcomes.

\$25,000

SOCIAL

STRENGTHEN COMMUNITY PROGRAMS AND ENGAGEMENT.

\$60,000

TOTAL COST OVER FIVE YEARS

\$282,000



International Conservation Grants



Photograph by
Gemma Ortlip

The aims of Zoos Victoria's International Conservation Grants program, as well as to contribute to the conservation of threatened species, are to (i) extend our conservation reach and impact globally, (ii) to help profile Zoos Victoria as a world leading zoo-based conservation organisation, and (iii) to increase our knowledge and understanding of conservation projects being undertaken around the world.

Reflecting our twin focuses of wildlife and community conservation, and emphasising the need to address people-driven threats, the criteria which guides the selection of successful grants focuses on the delivery of measurable biological and social outcomes. We are kept apprised of progress with delivery of grant objectives by mid-term and final reports from the recipients.

Since the grants program commenced in 2013, 19 projects

have been supported for 15 threatened species and nearby human communities in 15 countries. Critically Endangered species that have benefited include Golden-crowned Lemurs in Madagascar, Bornean Orang-utans and Campbell's Alligator Lizard in Guatemala.

Just under \$289,692 has been awarded in total since 2013.

A review of the effectiveness of the grants in 2017 revealed that 87% of respondents considered that they would either have not been able to implement their project without the Zoos Victoria grant, or that the grant had made a significant difference to their project.

The international conservation grants support a range of threatened species and human communities around the world and will continue to be an important feature of our international conservation strategy.

BIOLOGICAL

SOCIAL

INTERNATIONAL CONSERVATION GRANTS: supporting projects that generate measurable outcomes for wildlife and people in other countries.

\$570,000

TOTAL COST OVER FIVE YEARS

\$570,000

SUMATRAN TIGER

Photograph by Cormac Hanrahan

ZOO'S VICTORIA

Conservation is as much a social issue as it is a biological issue.

More often than not, in order to save a species we need a determined and informed community that is willing to dig deep to make it happen.

Rachel Lowry

CHIEF CONSERVATION OFFICER
WWF AUSTRALIA

| Campaigns

Humans are privileged to share this planet with the most amazing plants and animals. Yet it is our behaviours that are driving a vast majority of threats to wildlife around the world. Conservation is as much about people as it is about wildlife and with an ever-growing list of disappearing species, we are presented with a choice. At Zoos Victoria, we have made our choice. We will not stand idly by and watch as species slide towards extinction. We will not contribute to the threats that are driving them there. Over the next five years and beyond, we will strive to inspire others to join us in making this choice.

As a zoo-based conservation organisation visited by more than 2.4 million people each year, with the ambition to increase this visitation to more than 3 million people by 2021, we are in a unique position to engage with and empower our community to take meaningful action for conservation. Zoos Victoria's mandate is to run targeted and measureable campaigns that facilitate behaviours that alleviate specific threatening processes to wildlife. These behaviours can be simple, one-off or everyday actions that, when undertaken by all of us, could have large-scale impact and even change the trajectory of species in decline.

Together, we can fall in love with wildlife.
Together, we can fight extinction.

Don't Palm Us Off

MOTIVATING THE PRODUCTION OF CERTIFIED SUSTAINABLE PALM OIL



Have you ever shopped at a supermarket? Then you play a role in the unfolding story of palm oil. Sumatra and Borneo might seem like a world away, but Australian shoppers could be unknowingly contributing to the daily destruction of forest on these Southeast Asian islands. Australian consumers deserve the right to choose products that do not drive species towards extinction. That is why we campaign for clear labelling on products and support companies that source Certified Sustainable Palm Oil (CSPO). While palm oil itself is a useful ingredient, the issue lies with how some of it is produced.

Malaysia and Indonesia are home to Critically Endangered species of tigers, rhinos and primates and are also the two countries that produce 86% of the world's palm oil (WWF). The resultant land-clearing is an environmental catastrophe that has contributed to the IUCN predicting an 80% decline in both Bornean (*Pongo*

pygmaeus) and Sumatran Orang-utan (*Pongo abelii*) populations over three generations. (IUCN Red List for *Pongo pygmaeus* and *Pongo abelii*).

In the first seven years of our *Don't Palm Us Off* campaign, Zoos Victoria amplified the voices of more than 450,000 Australians, influencing the introduction of parliamentary labelling bills and keeping this pressing issue front of mind for legislatures. We will not give up. Australians deserve the right to choose products as informed consumers that do not drive deforestation. Over the five years of this plan, we will continue to act as a platform for our community to drive changes that benefit wildlife and stand up for fair and transparent labelling. We will think globally and act locally to strive for a future where CSPO is the norm in Australian supermarket products.

The next phase in this campaign will focus on:



Photograph by Sarah Summers

SOCIAL

BETTER UNDERSTANDING OUR COMMUNITY - research to understand our impact in shifting attitudes, beliefs and behaviours.

\$2,000 p.a.

KEEPING OUR COMMUNITY INFORMED AND ACTIVE - onsite, offsite and online activation of campaign and collection of signatures.

\$50,000 p.a.

BEYOND LABELLING - designing and implementing an approach that places this issue front of mind for the decision makers.

YEAR 1 & 2

\$25,000 p.a.

PROVIDING LEADERSHIP - for a regional initiative with ZAA that promotes the production of CSPO with members and the community.

\$5,000 p.a.

AMPLIFYING THE VOICE OF YOUNG PEOPLE ACROSS AUSTRALIA - support through resources to assist schools in running education units and advocacy in favour of palm oil labelling and CSPO.

\$10,000 p.a.

ANNUAL DAY OF SCHOOL ACTION - Turn Orange for World Rainforest Day.

\$10,000 p.a.

TOTAL COST OVER FIVE YEARS

\$435,000

Bubbles not Balloons and Beyond

PROTECTING WILDLIFE FROM OUR WASTE

In a carefree moment at a birthday or sporting event, the simple act of releasing balloons can seem innocuous. But a study by the CSIRO found that balloons are among the top three most harmful pollutants to marine life. Balloons let go on mainland Australia are even floating their way up to 600km off the coast to Lord Howe Island, where 100% of Flesh-footed Shearwater chicks have been found to have ingested rubbish. Throughout many years of study, balloons and their attachments have persisted as some of the most identifiable culprits found in these birds.

Zoos Victoria's *When Balloons Fly, Seabirds Die* initiative was launched in February 2017. In its first 18 months, the campaign saw over 140,000 people and 128 schools, councils and businesses pledge to replace balloons with wildlife-friendly alternatives at outdoor events.

Where to next? We'll continue to reduce the threat that balloons and their attachments pose to the marine environment, and will seek a nationwide ban on the outdoor release of balloons. We will also invest in uncovering and facilitating the next waste-related human behaviour that could help save a species. We know that one organisation will never resolve the world's waste problem alone, which is why we will work to lead this campaign whilst actively supporting the initiatives of others.

To expand our campaign against waste, we need to:

BIOLOGICAL

CONDUCT BIOLOGICAL RESEARCH into the impact of single use plastics on wildlife, including ongoing seabirds data sets and how balloons respond to environmental conditions.

\$10,000 p.a

SOCIAL

CONDUCT SOCIAL RESEARCH every 12 months to understand our impact in shifting attitudes, beliefs and behaviours over time.

\$16,000

SECURE SUPPORT of collaborators, supporters and key organisations that can assist in supporting a social movement towards using bubbles, not balloons.

\$20,000

TAKE 'BUBBLES NOT BALLOONS' TO THE COMMUNITY through support for existing or special medium-large scale outdoor community events.

\$40,000

The success of the When Balloons Fly campaign can be attributed in large part to the success of the partnership between Zoos Victoria and Phillip Island Nature Parks. Working together allowed us to engage with the community more meaningfully and more effectively than if we had been working in isolation. This partnership resulted in over 140,000 community members showing their support for wildlife and pledging to tackle plastic pollution which poses a serious threat to marine biodiversity.

Peter Dann

Phillip Island Nature Parks

KEEP OUR COMMUNITY INFORMED AND ACTIVE - onsite, offsite and online activation of campaign and collection of pledges.

\$35,000p.a

INVESTIGATE OUR NEXT ISSUE TO TACKLE - balloons are just the beginning when it comes to the impact of waste on wildlife.

\$20,000

GRAND GESTURE - Melbourne's biggest wildlife-friendly party.

\$125,000

SUPPORT EXISTING SOCIAL MOVEMENTS to eliminate plastic waste for wildlife.

\$10,000 p.a

BRING 'BUBBLES NOT BALLOONS' INTO OUR FIGHTING EXTINCTION SCHOOLS - resources to activate the program in schools.

\$35,000

SUPPORT CITIZEN SCIENCE IN GETTING TO THE SOURCE - initiatives that contribute to the Australian Marine Debris Database to better inform trends in waste and identify where future zoo-based intervention may be required.

\$10,000 p.a.

TOTAL COST OVER FIVE YEARS

\$581,000



Photograph by Gemma Ortlip

Safe Cat, Safe Wildlife

COMPASSION FOR PET CATS IS A WIN FOR NATIVE ANIMALS



Together with our partners at the RSPCA Victoria, Zoos Victoria is focussed on giving pet cats and wildlife the best chance at life by asking Victorians to keep their cats safe at home. Given the important roles that pet cats play in so many households, we believe they deserve a safe and happy home life. We also believe that Australia's native wildlife deserves every chance it can get to flourish. Many Victorians agree, and in the first six months of the campaign 8,5000 people signed up to become members of the *Safe Cat, Safe Wildlife* community.

Each roaming pet cat in Australia is estimated to kill on average 71.3 individual animals per year.

In Victoria alone, around two thirds of all cats are allowed to roam, which equates to 14 million animals killed annually. While these statistics are shocking, we understand that demonising pet cats is not an effective way towards an agreed, effective and humane strategy to save native animals. Similarly, pet cats who roam face very real welfare risks due to road trauma, fighting and disease. In fact 9 in 10 cats that

go missing are never reunited with their owners. Therefore, the solution is compassion towards pet cats and a win for wildlife.

Over the next five years we will continue work with other welfare and conservation organisations in an educational intervention that provides pet owners with tips and tools to give both their cats and wildlife the best chance. Of course, the most critical threat to the decline of wildlife stems from unowned and feral cat populations. However, for as long as it is normal for owned cats to roam, they remain interrelated to unowned populations - both socially and biologically - limiting the effectiveness of management to save threatened species. Throughout the course of this Master Plan, the *Safe Cat, Safe Wildlife* campaign will continue to build its community base and contribute to a broader strategy that will see Zoos Victoria support its partners in their efforts to better understand and effectively mitigate the risk that cats pose to native wildlife.

The following actions are required:

“Explaining the Safe Cat Safe Wildlife program and our choice to have indoor cats has helped friends to understand it is possible to have cats contained indoors, happy and not a threat to birds’ and animals’ lives outside.”

Safe Cat, Safe Wildlife participant



BIOLOGICAL

SUPPORT ONGOING BIOLOGICAL RESEARCH into the impact of domestic cats on wildlife.

\$10,000 p.a

SOCIAL

SOCIAL RESEARCH to understand our impact in shifting attitudes, beliefs and behaviours.

\$24,000

KEEP OUR COMMUNITY INFORMED AND ACTIVE - onsite, offsite and online activation of campaign.

\$30,000 p.a

CONNECT WITH CAT OWNERS - extend the reach and impact each year with one online/community activation.

\$40,000 p.a.

COLLABORATE WITH PARTNERS to investigate next phase approach to tackling the impact of feral cats on wildlife.

YEARS 2 TO 5

\$15,000 p.a.

SAFE CAT, SAFE WILDLIFE IN OUR FIGHTING EXTINCTION SCHOOLS

- resources to activate the program in schools.

\$5,000 p.a

CITIZEN SCIENCE - support for schools and the community to contribute data to BirdLife Australia's 'Birds in Schoolyards' and 'Birds in Backyards' census.

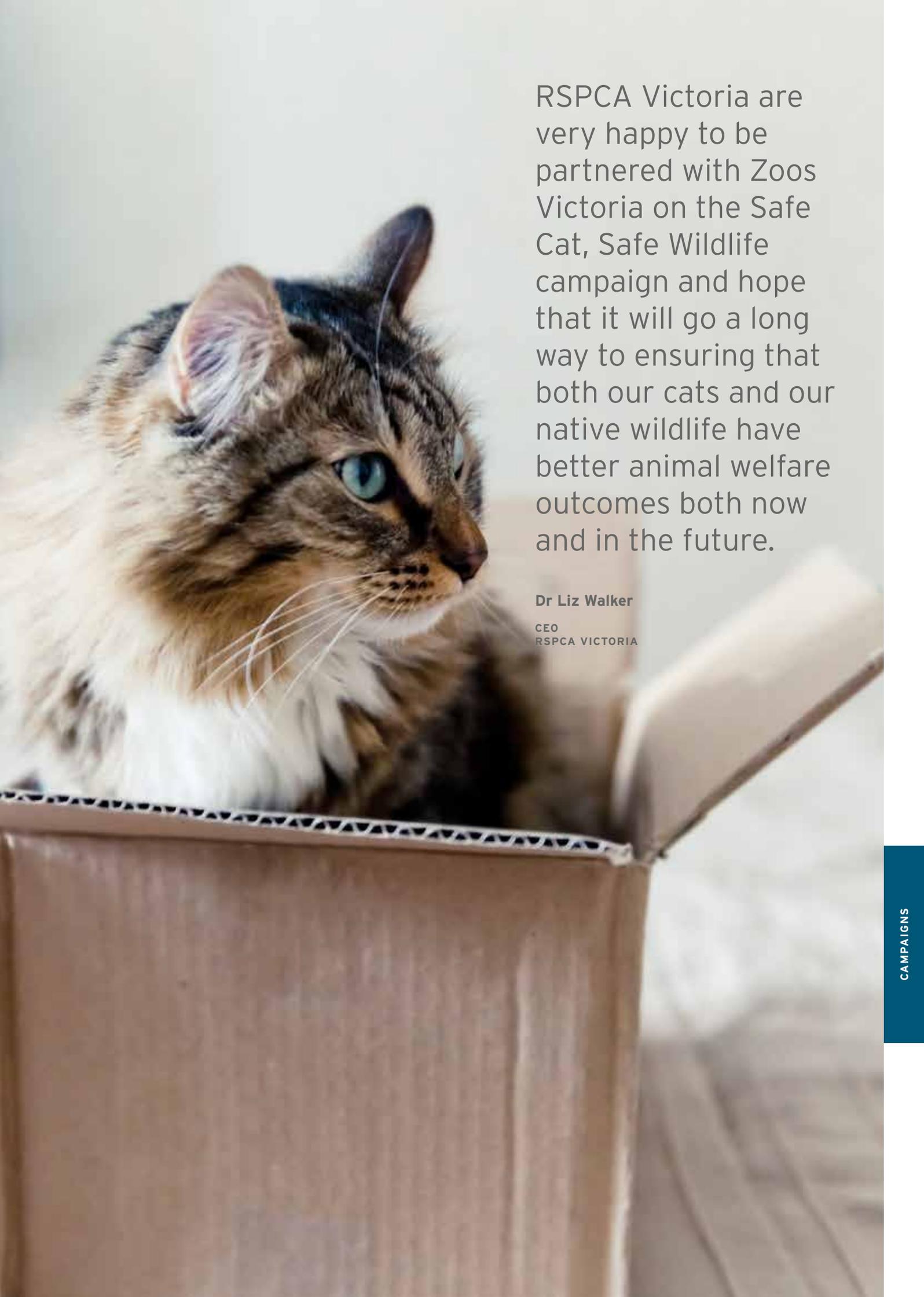
\$30,000

SUPPORT A REGIONAL INITIATIVE THROUGH ZAA that extends reach and impact of the *Safe Cat, Safe Wildlife* campaign.

\$110,000

TOTAL COST OVER FIVE YEARS

\$649,000



RSPCA Victoria are very happy to be partnered with Zoos Victoria on the Safe Cat, Safe Wildlife campaign and hope that it will go a long way to ensuring that both our cats and our native wildlife have better animal welfare outcomes both now and in the future.

Dr Liz Walker

CEO
RSPCA VICTORIA

INFLUENCING COFFEE CULTURE for a wildlife-friendly bean



ZOOS VICTORIA

Coffee is grown in some of the most biodiverse subtropical and equatorial regions on Earth. With plantations in over 70 countries across five continents, this beloved bean is a truly global commodity with far reaching impacts on millions of people and numerous species of wildlife.

The demand for coffee is growing, and corresponding increases in production is having negative consequences for biodiversity in parts of Asia, South America and Africa. The amount of land dedicated to plantations is also expanding, and a common practice is to clear forested areas to achieve sunlight reaching coffee plants. This method increases productivity, but also threatens local biodiversity.

Currently, wildlife-friendly coffee makes up around only 10% of production globally. A major challenge is to increase consumer awareness and demand for this product. Melbourne has a vibrant coffee drinking culture and many

of the city's cafés have developed relationships with small-scale plantations, adopted fair trade policies and become active members of waste combatting initiatives such as the reusable cup movement. However, one area where coffee consumers and perhaps even providers fall short is awareness of coffee's biodiversity footprint. This makes Melbourne an ideal testing ground for strategies to increase demand for wildlife-friendly coffee. Capitalising on Melbourne's rich coffee culture and seizing the opportunity to highlight the impact of coffee production, Zoos Victoria will work to shift standards for potentially large-scale environmental benefit. Over the course of this Master Plan, we will do this by developing a campaign that promotes a robust certification scheme and creates a consumer-driven market for shade-grown coffee.

To get this campaign off the ground we will:

BIOLOGICAL

SUPPORT ONGOING BIOLOGICAL RESEARCH into the impact of unsustainable coffee production on wildlife.

\$95,000

SOCIAL

CONDUCT SOCIAL RESEARCH to understand our impact in shifting attitudes, beliefs and behaviours.

\$60,000

KEEP OUR COMMUNITY INFORMED AND ACTIVE - onsite, offsite and online activation of campaign and conservation action.

\$400,000

COLLABORATE WITH VICTORIA'S COFFEE COMMUNITY - collaborate with local cafes to provide their customers the opportunity to be informed and active with wildlife-friendly coffee.

\$120,000

COFFEE FOR WILDLIFE - work with a coffee supplier to brand a zoo blend of wildlife-friendly coffee.

\$120,000

GRAND GESTURE - take wildlife-friendly coffee to the streets via offsite/online stunt to extend the reach and impact of wildlife-friendly coffee message.

\$125,000

TOTAL COST OVER FIVE YEARS

\$920,000

Harvesting and Homes

STRIKING A BALANCE IN OUR NATIVE FORESTS



Trees provide homes for local wildlife, but increasingly our lifestyle and consumer choices are placing this important habitat under threat. Zoos Victoria has begun to address this issue by encouraging our community to change their purchasing behaviour and *Wipe for Wildlife*. In the first seven years of the initiative, more than 220,000 people have promised to make the switch to 100% recycled toilet paper products.

Over the next five years, we will continue to ask our community to look out for wildlife-friendly toilet paper. Meanwhile, we will

also take time to explore how we can best expand our focus to other paper and timber products, mobilising members of the public to make further forest-friendly consumer choices.

We will utilise leading social science methodology to facilitate post-visit communication in a way that promotes action for wildlife whilst reinforcing people's self-identity as one that is committed to driving change for threatened species and nature more broadly.

Critical next steps include:

SOCIAL

LOOKING BEYOND TOILET PAPER - 'chain of custody' research to inform next phase approach to alleviate the threat of native timber harvesting on local wildlife. \$50,000

KEEPING OUR COMMUNITY INFORMED AND ACTIVE - onsite and online activation to promote purchase of products made from 100% recycled paper. \$90,000

COLLABORATING WITH PARTNERS to boost reach and impact of forest-friendly consumer behaviours. \$35,000

UNDERTAKING A GRAND GESTURE - An offsite/online stunt to increase reach of forest-friendly messaging and influence consumer behaviour. \$125,000

FIGHTING EXTINCTION SCHOOLS - supporting and resourcing for schools to share the message and switch to products made from 100% recycled paper. \$40,000

TOTAL COST OVER FIVE YEARS

\$340,000



Photograph by
Cormac Hanrahan

They're Calling on You

COMMUNITIES CONSERVING GORILLAS UNDER THREAT

ZOOS VICTORIA



Photograph by
Cormac Hanrahan

Eastern Lowland Gorillas (*Gorilla beringei*) are under threat as mining continues within their forest homes. This results in human-wildlife conflict, disease transmission and habitat loss. One of the key minerals mined in gorilla habitat is coltan, a mineral found in many mobile phones and other electronic devices.

Zoos Victoria's *They're Calling On You* campaign aims to highlight the threats posed to gorillas by illegal mining and to facilitate conservation action. Participants can donate their old mobile phones, in turn diverting them from landfill and raising money for wild gorillas. Half the funds raised are donated to our international conservation partners to support their essential *in-situ* conservation work in Africa. In this campaign's first ten years, thousands of Australians have

answered the call of wild gorillas, donating more than 164,000 mobile phones and raising over \$271,000 in funds - half of which support projects in Africa to protect gorillas from poaching and disease and half contributing to Zoos Victoria's conservation efforts.

Looking to the future, a focus on engaging and supporting workplaces, schools and community groups to run phone collection drives will increase efficiency and phone collection rates. We will be working to identify future public drop-off points and grow the number of ongoing donors to allow Zoos Victoria and our conservation partners to continue undertaking important conservation work for Critically Endangered Eastern Lowland Gorillas.

Critical next steps include:

SOCIAL

SEARCH SOCIAL RESEARCH to understand our impact in shifting attitudes, beliefs and behaviours.

\$15,000

COLLABORATION WITH MAJOR STOCKIST/RETAILER to facilitate phone collection and extend reach and impact into the community.

\$18,000

KEEPING OUR COMMUNITY INFORMED AND ACTIVE - onsite, offsite and online activation to facilitate action.

\$60,000

CONNECTING WITH COMMUNITY - 'April' Zoos Victorias annual phone recycling drive to grow the list of supporting institutions taking part in bulk phone donation.

\$10,000 p.a.

BOOSTING PHONE RECYCLING through 15 year campaign celebration and new donor recruitment drive.

\$10,000

COLLABORATION WITH OTHER ORGANISATIONS to promote mobile phone recycling through their existing e-waste initiatives.

\$5,000 p.a

FIGHTING EXTINCTION SCHOOLS - supporting and resourcing for schools to develop mobile phone recycling drives.

\$5,000 p.a

GETTING TO THE SOURCE - a community advocacy campaign calling for source transparency for electronic components entering Australia to weaken our link to illegally mined coltan.

\$60,000

TOTAL COST OVER FIVE YEARS

\$263,000

Seal the Loop

REELING IN THE INCIDENCE AND IMPACT OF DISCARDED FISHING LINE ENTANGLEMENTS



Each year thousands of marine birds, mammals and fish are killed or injured due to discarded fishing line in the environment. More than 80% of the wildlife entanglement victims requiring veterinary care through Zoos Victoria's Marine Response Unit involve recreational fishing line. This threat to marine wildlife can be reduced by placing used fishing waste into a *Seal the Loop* bin. Throughout the course of this Master Plan, Zoos Victoria will continue to invest in our Marine Response Unit as part of our conservation commitment to animal welfare.

Between 2010 and 2018, an estimated 60km of fishing line were captured in *Seal the Loop* bins. By 2018, there were over 270 bins throughout Victoria being monitored by over 70 community groups who share our

commitment to reducing the amount of fishing line in the environment.

A stronger offsite network, developed with our campaign partners, Coastcare Victoria, will allow more data to be collected on the impact of the bins, piecing together a more accurate picture of the impact that *Seal the Loop* is having. We will work to secure support of Coastcare as a long term partner to actively promote and monitor the *Seal the Loop* bins.

By 2025, we plan to have installed over 500 bins in total, collected more than 100km of fishing line and will have investigated expanding the program into commercial fishing charters.

We will concentrate on:

BIOLOGICAL

COMMERCIAL FISHING INITIATIVES - extending reach and impact by developing and testing new bin for commercial ventures, i.e. charter boats
\$11,000

SOCIAL

PRODUCING BINS AND CAMPAIGN MATERIALS.
\$27,000

OFFSITE COMMUNITY ENGAGEMENT - call to action through integration into community programs
\$1,000 p.a

 **CITIZEN SCIENCE** - getting to the source through support for initiatives that contribute data to the Australian Marine Debris Database.
\$2,000 p.a

TOTAL COST OVER FIVE YEARS

\$53,000



Photograph by Cormac Hanrahan

Beads for Wildlife

CREATING A MODERN MARKET FOR AN ANCIENT PRODUCT

BEADS FOR WILDLIFE



Photograph by Paula Simpson

ZOO VICTORIA

Livestock is relied upon as the primary source of income for many people throughout Kenya. This reliance is at its greatest during times of drought. It is during these times of hardship that the natural balance between wildlife, people and livestock can be disrupted as competition intensifies. With demands for food and water at a high, wildlife such as the endangered Grevy's Zebra face additional pressures for survival.

BeadWORKS is working to maintain the natural balance in over 42,000 square kilometres of land and support women in local communities to provide a source of income through the sale of traditional beaded products. The income is ongoing and reduces the reliance on livestock and other income sources that threaten wildlife and northern Kenya's hardy ecosystems.

When *Beads for Wildlife* launched in 2009, the annual campaign push was critical in providing a market outside of Africa to help alleviate a human-

driven threatening process. By 2011, Zoos Victoria sourced more than 80% of BeadWORKS stock produced. In recent years, we have worked hard to secure additional revenue outlets to support this important community trade campaign. Today, BeadWORKS enjoys support from around 50 other zoos and organisations from across the world and is no longer reliant on Zoos Victoria's campaigning to maintain the benefit to people and wildlife in Kenya through bead sales. In year one and two of this Master Plan, *Beads for Wildlife* will run as a Christmas campaign. In our third year we will continue to support BeadWORKS through the sale of beads at our properties, however we will shift our campaigning efforts so that past success achieved alongside our conservation partners at the Northern Rangelands Trust can be replicated to reduce human-wildlife conflict in high need areas.

In the coming years we will:

SOCIAL

KEEP OUR COMMUNITY UP-TO-DATE AND INFORMED.

YEARS 1 & 2

\$10,000 p.a.

BOOST THE INVOLVEMENT OF OTHER ZOOS.

\$10,000

CELEBRATE THE SUCCESS OF THIS PROGRAM AND THANK OUR PARTNERS AS WE CONCLUDE OUR INVOLVEMENT - enact exit strategy in year 3 and continue bead sales as long as financially viable.

\$20,000

TOTAL COST OVER FIVE YEARS

\$50,000

"I love beading. With the income from my beadwork, my kids are comfortable and able to go to school. I also don't need to sell goats for money anymore, which means more milk for my family. But it's not all about the money. With BeadWORKS, I'm able to use my skills, I feel smart. It's about your skill and production."

Naisimari Lokorukoru

from Ngutuk Women's Group,
Westgate Community Conservancy

Under the magnifying glass

UNEARTHING THE WONDERS OF VICTORIA'S INVERTEBRATES

Despite the importance of invertebrates in the majority of ecosystem processes, the conservation of this group has received little attention in Victoria. With some exceptions, there is a general lack of systematic survey data of invertebrates in our state.

Zoos Victoria will lead a citizen science program to better understand the current state of invertebrates in the state and call on the community to help us search for some species that have not been seen for some time.

We will also investigate and develop a community campaign that benefits a priority Victorian Fighting Extinction invertebrate species. The initiative will encourage Victorians to take action to help save this species on the brink.

Next steps are to:



Photograph by Cormac Hanrahan

BIOLOGICAL

CONDUCT BIOLOGICAL RESEARCH into Victorian threatened invertebrates.

YEAR 3 TO 5
\$10,000 p.a.

SOCIAL

INVESTIGATE THE BEST APPROACH FOR AN INVERTEBRATE CONSERVATION CAMPAIGN that fosters pro-wildlife attitudes, beliefs and behaviours to progress the conservation of a threatened Victorian invertebrate species.

YEAR 1 TO 3
\$5,000 p.a.

UNDERTAKE SOCIAL RESEARCH to understand our impact in shifting attitudes, beliefs and behaviours.

YEAR 3
\$20,000 p.a.

YEAR 4 & 5
\$10,000 p.a.

KEEP OUR COMMUNITY INFORMED AND ACTIVE - onsite, offsite and online activation of campaign and conservation action.

\$350,000

ENGAGING COMMUNITY AND PARTNERS.

YEAR 3 & 4
\$40,000 p.a.

YEAR 5
\$20,000 p.a.

A GRAND GESTURE - an offsite/online event that engages a wide reach of Victorians in understanding and taking up invertebrate-friendly behaviours.

\$125,000

SUPPORT INVERTEBRATE-FRIENDLY SCHOOLS - resourcing for schools to develop initiatives that support target Victorian invertebrate.

YEAR 3 & 4
\$10,000 p.a.

YEAR 5
\$5,000 p.a.

TOTAL COST OVER FIVE YEARS

\$685,000

In order to mobilise Victorians to care and act for our wildlife, it's essential we understand what drives individuals. We must build initiatives that engage communities based on this understanding, and evaluate the effectiveness of these initiatives. This is where our social science research comes in.

Photograph by Cormac Hanrahan

Emily McLeod

SENIOR SOCIAL SCIENCE
RESEARCH MANAGER
ZOOS VICTORIA



Education for Conservation

Zoos Victoria aspires to be a part of every Victorian child's education. Over 160,000 students visit Zoos Victoria annually to participate in powerful conservation-inspired education experiences. By engaging young people in specially designed Education for Conservation programs, we believe that students can develop the skills, knowledge and dispositions necessary to solve complex problems facing the natural world. Each year on World Rainforest Day, more than 200 schools from across the country join Zoos Victoria to call for mandatory labelling of palm oil to help save orang-utans. This is just one example we have seen first-hand how students can shape the future of their communities and become champions for wildlife.

To continue providing these opportunities we will take these steps:

SOCIAL

CONSERVATION EDUCATION PROGRAMS using inquiry learning.

\$1.6 million p.a*

EDUCATION FOR CONSERVATION ANNUAL STEM CHALLENGE SERIES

to build engagement and skills in young people needed to solve the conservation challenges they will face now and in the future.

\$45,000 p.a

ACTIVATION OF VIRTUAL REALITY and Augmented Reality innovation.

\$380,000

SUPPORT EDUCATION FOR CONSERVATION INNOVATION TRIALS

- planning, testing and evaluation of new educational offerings.

\$665,000

CONSERVATION BASED TEACHING AND LEARNING RESOURCES.

\$15,000 p.a.

SUPPORT SCHOOL FRIENDLY CITIZEN SCIENCE PROJECTS

that engage students in science-based conservation activities within their local community, i.e. Frog ID project, Seal Spotter, Birds in Schoolyards, Australian Marine Debris Database.

\$20,000 p.a

FIGHTING EXTINCTION SCHOOL

READERS to be rolled out in all Victorian Schools.

\$170,000

TOTAL COST OVER FIVE YEARS

\$9,615,000

Case Study

BERWICK FIELDS PRIMARY SCHOOL

For the Year 5 students at Berwick Fields Primary School, what started as a small idea grew into a three-year conservation project that has made its way into classrooms across Victoria. On an excursion to Healesville Sanctuary, the class learned about the Critically Endangered Southern Corroboree Frog. After further research about the plight of Australian frog species, the students decided they wanted to do something. Together, they designed and developed 'Survival' - a card game that draws on current conservation science to return stable populations of frog species to the wild. Players conduct research, manage threats and take positive actions while learning about the life cycles of and threats to frogs. As well as being educational, the students decided that Survival should be cooperative (because organisations must work together in real life) and difficult to win (because conserving a species is an extremely challenging thing to do!) Over the course of the following year, the students met with Zoos Victoria and other amphibian experts to help refine the game. They then worked in collaboration with Streets Ice Cream to professionally produce Survival, resulting in copies of the game being shared with schools and students across the state. For their efforts, the students went on to win the Young Advocate of the Year award at the Zoos Victoria Hall of Fame.

* We acknowledge and thank our significant funding partners Department of Education and Training and Catholic Education Melbourne for their support of the conservation education programs.

Fighting Extinction Schools

The Education for Conservation programs work to create **Fighting Extinction Schools** that act as satellites throughout the community to drive and inspire wildlife conservation. Initially, these schools join the community by visiting one of Zoos Victoria's three great zoos, and supporting one of Zoos Victoria's conservation campaigns. From this foundation, they take Education for Conservation to the next level - acting as mentors within their own networks and communities, driving support for Zoos Victoria's conservation initiatives, or creating their own initiatives that are relevant to their passions and/or region.

With more than 500 Victorian schools already awarded Fighting Extinction School status by 2018, we believe that Zoos Victoria can play a significant part in every Victorian's education journey. Our aim is to support 70% of Victorian schools in becoming part of the Fighting Extinction Schools' community by 2024.

Critical next steps include:

SOCIAL

MOBILISING A VICTORIAN SCHOOL COMMUNITY committed to Fighting Extinction through online and onsite initiatives.

\$110,000

EVENTS THAT CELEBRATE, recognise and share how schools are Fighting Extinction, including an awards program.

\$225,000

RESOURCES AND SUPPORT FOR SCHOOLS to activate conservation projects, including building capacity for teachers to embed conservation in their school and community.

\$225,000

EMPLOYING A FIGHTING EXTINCTION SCHOOLS COORDINATOR.

\$450,000

TOTAL COST OVER FIVE YEARS

\$1,010,000



Youth at the Zoo and Teacher Members

YATZ is our human insurance program, it ensures that our future will have leaders that champion wildlife conservation.

The Youth at the Zoo (YATZ) membership program helps young people, aged 13-18, develop the skills, knowledge and confidence to take action for conservation and inspire change throughout the community. These young leaders are immersed in conservation-inspired activities and development opportunities across the course of a year that tap into their passions and connect them to the staff, animals and the work of Zoos Victoria. Building upon this initiative and bridging the gap for younger school aged children, we will focus on developing and implementing a program for 8-12 year olds. By extending the YATZ program to these primary school students, we can create another generation of passionate wildlife advocates and deepen the involvement of younger children in the Zoos Victoria community.

Our Teacher Membership program is creating a community of practice and provides highly engaged teachers with professional development that builds their capacity as educators to use curriculum as a tool for change. A range of workshops and conferences connecting to conservation-inspired education opportunities will support teachers to engage young learners in adapting to and thriving in our quickly changing world.

To extend our YATZ and Teacher Membership programs, steps include:

SOCIAL

YOUTH CONSERVATION HACK EVENT - for young people to develop and initiate design-thinking and problem solving skills that lead to innovative solutions to complex wildlife conservation problems.

\$90,000

YOUTH LEADERSHIP PROGRAM - a sequenced range of youth-led and inspired development opportunities across the course of a year that develop the leadership qualities within YATZ members.

\$170,000

VICTORIAN YOUTH CONSERVATION ENGAGEMENT - supporting initiatives that extend the reach and impact of YATZ beyond the membership program to youth audience across the State.

\$15,000 p.a.

ESTABLISHING JUNIOR YATZ - develop and implement a program that supports 8-12 years olds to build their wildlife understanding and be advocates for wildlife.

\$145,000

TEACHER WILDLIFE CONSERVATION 'HACK' EVENT - an annual event for Victorian teachers to co-create solutions to wildlife conservation education problems that can then be expanded to schools across the state through Zoos Victoria's networks and partnerships.

\$130,000

CONSERVATION-INSPIRED MARQUEE TEACHER CONFERENCES - supporting up to three large initiatives each year that engage Victorian teachers to teach the Victorian Curriculum through Zoos Victoria conservation-inspired initiatives.

\$280,000

DIGITAL PROFESSIONAL DEVELOPMENT SERIES - for Zoos Victoria teacher members to enhance their capacity to engage learners in conservation-inspired learning opportunities.

\$65,000

TOTAL COST OVER FIVE YEARS

\$955,000



Zoos Victoria's volunteers

OUR CONSERVATION AMBASSADORS

ZOOS VICTORIA



Photograph by
Cormac Hanrahan

Zoos Victoria's 890 volunteers contribute over 65,000 hours a year across our three properties.

We believe in strength through diversity, and Zoos Victoria is enriched by the range of personalities, skillsets and backgrounds that make up our volunteer group. When visitors enter the gates, our volunteers are often the first people to greet them, adding value to their day out and helping to form all-important first impressions of Zoos Victoria. The power of our volunteers as advocates shows in campaign results. Mobile phone collections through *They're Calling On You* experienced a seven-fold increase purely because of the introduction of face-to-face interaction with volunteers who explained the campaign.

Beyond the Visitor Experience roles, volunteers contribute behind the scenes to ensure that Zoos Victoria maintains the best possible standard for every program we deliver and every animal in our care.

Volunteering is based on reciprocity and, as such, Zoos Victoria will focus not only on growing the number of participants in the program, but on deepening the level of engagement of each of our volunteers. Relationships are important, and we want to ensure that we are providing opportunities for members of the community to get involved with Zoos Victoria at all stages of life.

To support our volunteers and nurture pathways for their ongoing engagement with us, we will pursue the following:

SOCIAL

NEXT GEN VOLUNTEER PROGRAM - targeted recruitment of volunteers with new and special skill sets to support the growth and reach of our conservation programs.

\$61,000

VOLUNTEER ENGAGEMENT AND RELATIONSHIP PROGRAM - develop and implement a range of engagement and support opportunities for all volunteers to deepen their connection with Zoos Victoria.

\$250,000

CONSERVATION AMBASSADORS PROGRAM - expand the Conservation Ambassadors role to engage the Victorian community beyond the walls of our three Zoos.

\$10,000 p.a.

VOLUNTEER RECOGNITION PROGRAM - a range of annual events and opportunities across the organisation that recognise and celebrate the significant contribution of all volunteers in supporting the work of Zoos Victoria.

\$170,000

TOTAL COST OVER FIVE YEARS

531,000

Conservation Technology

Zoos Victoria understands the need for conservation practitioners to progress the development and application of new technologies, and to capitalise on opportunities available to us that support conservation actions.

This project provides for the early adoption of conservation technologies that enhance our abilities to monitor habitat condition and wildlife trends for the mitigation of threats. It also focuses on preparing Zoos Victoria to engage with emerging possibilities in biotechnology and genetics and the growing fields of open source hardware and software. This will allow us to continue to effectively pursue proven technologies such as cryopreservation.

In alignment with Zoos Victoria's vision of being a world leading zoo-based conservation organisation, we will investigate how the blending of digital and physical worlds can extend the impact and reach of the zoo experience beyond our walls. This is no small feat, and we will work closely with technology partners to pursue these avenues.

To advance our application of technology we will:



BIOLOGICAL

EMPLOY CURRENT AND ADOPT EMERGING TECHNOLOGIES for tracking and monitoring Fighting Extinction Species, prioritised each year including acoustic monitoring and later generation cameras.

\$475,000

INVESTIGATE AUTOMATED COLLECTION OF CAPTIVE ANIMAL BEHAVIOURAL DATA for health, welfare and breeding applications.

\$60,000 p.a

APPLY GENETIC TECHNOLOGY to aid Fighting Extinction Species' recovery.

\$120,000

CONDUCT A BIENNIAL REVIEW of conservation technology for application in Fighting Extinction and other Zoos Victoria programs.

\$45,000

HOST A BIENNIAL CONSERVATION TECHNOLOGY WORKSHOP/SYMPOSIUM.

\$30,000

SOCIAL

TATTOO KEEPER - scope project to use augmented reality to foster engagement with and compassion for key species.

\$30,000

TOTAL OVER FIVE YEARS

\$1,000,000

Photograph by Sarah Summers

Tattoo Keeper!

Imagine applying a temporary animal tattoo to your skin, and then bringing it to life with a mobile phone app. Tattoo Keeper is a gamified augmented reality experience that brings users closer to the animals of Zoos Victoria. By performing care events at nominated intervals in the app and fulfilling commitments within a 48 hour period, the augmented reality animal is successfully released into the 'wild'- giving the user digital agency over an analogue of the conservation work done by Zoos Victoria and its partners in Fighting Extinction. Zoos Victoria will work with partners at Google Creative Labs to ensure the quality of the user experience and to identify a high calibre of external agencies in delivering the Tattoo Zoo App build. WWF Australia will also come on board as an engagement partner to extend the reach of the message.

Cryopreservation

SECURING A FUTURE BY FREEZING THE PAST & PRESENT

A key threat to each of our priority threatened species is a loss of genetic diversity and subsequent fitness. Once genetic diversity is lost, it is usually irretrievable and significantly decreases recovery potential. By storing genetic material, including reproductive material (gametes), there is potential to reinstate lost diversity in the future, and to track changes over time that assist with recovery planning.

Zoos Victoria has already made some progress in this space involving the New Holland Mouse. Together with our partners at Monash Frozen Zoo, we have cryopreserved live tissue material from this mammal and now have an innovative project underway to bring back the genetic diversity that was lost when a key population became extinct. An Australian first!

By preserving genetic material in an ultra-low temperature freezer from Endangered species within our care (prioritising our Fighting Extinction Species, but also including globally threatened taxa such as tree kangaroos, broad-headed snakes, gorillas and rhinoceros) Zoos Victoria has the potential to demonstrate a level of forward planning and tangible commitment to long-term conservation.

By working with our partners at Monash Frozen Zoo, Museums Victoria and FAUNABank, we hope to secure a future rich in wildlife with healthy genetic diversity.

To do this we must:

BIOLOGICAL

MAINTAIN A FROZEN RESEARCH HUB at Zoos Victoria.

\$5,000 p.a

SUPPORT MONASH FROZEN ZOO and cryopreservation research.

\$10,000 p.a

INCORPORATE GENETIC SAMPLES, including the development of live cell lines, from the highest priority Fighting Extinction Species into the Frozen Zoo.

\$30,000 p.a

SUPPORT INTERNATIONAL FAUNABANK WORKSHOP and research bringing together our partners for a national strategy and support of wildlife banks.

\$40,000

TOTAL COST OVER FIVE YEARS

\$265,000





TASMANIAN DEVIL
Photograph by Sarah Summers

Rapidly evolving technologies provide us with options for conservation actions that we couldn't otherwise consider in our fight against extinction. Being an early adopter of the best technologies requires an open mind and a degree of boldness enabled by effective leadership.

Professor Ken Hinchcliff

ZOOS VICTORIA BOARD MEMBER, CHAIR
SCIENCE ADVISORY COMMITTEE.



MOUNTAIN PYGMY-POSSUMS
Photograph by Amie Hindson

Love Your Locals

HELPING ALL VICTORIANS TO VALUE WILDLIFE AND TAKE THE ACTIONS NECESSARY TO FIGHT THEIR EXTINCTION



In south-east Australia alone, 27 species could disappear within the next decade without our assistance. These species are facing imminent threats resulting from human activities, and we feel it is all of our responsibilities to ensure their futures. Zoos Victoria has developed this five year Master Plan that includes projects that are dedicated to reaching all Victorians and empowering each of us to take action for those most in need.

Our focus is on new audiences and shifting their attitudes, beliefs and behaviours for the benefit of wildlife. To do this, we will build the public profiles of our Fighting Extinction Species, and we will foster Victorians' deeper engagement with them through initiatives including targeted citizen science. Citizen science is the collection and analysis of data relating to the natural world by members of the general public. By breaking down the traditional barriers that have existed between scientists and members of the broader community, we can create opportunities for children and adults alike to get involved with local conservation efforts.

Steps to encourage Victorians to Love Your Locals include:

SOCIAL

FIGHTING EXTINCTION LEGO INITIATIVE.

\$110,000

PARTNERSHIP WITH VIC ENVIRONMENTS NATURE FESTIVAL AND MOOMBA to reach a mainstream audience.

YEAR 1

\$140,000

YEARS 2 TO 5

\$50,000

PARTNER WITH BEHAVIOURWORKS AUSTRALIA to run behavioural identification prioritisation workshop to bolster the rigour and integration of the Love Your Locals program.

YEAR 1

\$15,000

COMMUNITY ACTION TO SAVE OUR MOST IN NEED - large scale fundraising initiative where community can donate (pledge amount or purchase Fighting Extinction related item) with all funds going towards a designated threatened species or project.

YEAR 1

\$150,000

YEARS 2 TO 5

\$50,000

 **PROJECT SPOTLIGHT** - using citizen science to survey for threatened species in Victoria's forests, including in the Central Highlands.

\$140,000

 **INVERTEBRATE INVESTIGATORS** - using citizen science to search for Key's Matchstick Grasshopper, a species not observed in Victoria for 40 years. *Note: scope included on species' page.

TOTAL COST OVER FIVE YEARS

\$955,000

Building Capacity

EXTENDING OUR REACH FOR CONSERVATION IMPACT

Since the founding of Melbourne Zoo in 1862, Zoos Victoria has grown across three properties and matured into a world-leading zoo-based conservation organisation. Now into our third century of existence and consolidating on this position, we are focused on extending our strategic reach for more measureable conservation impact.

Ensuring that Zoos Victoria's Fighting Extinction efforts are grounded in science is critical, and requires a significant investment to secure scientists that are experts within their respective field.

In a bid to better understand the social fabric of the world around us, we will increase investment in research expertise and projects that examine a diverse range of areas such as perceptions of wildlife tourism and the impacts of zoo visits on human health and

wellbeing. In the public sphere, we will increasingly shine a spotlight on our scientific talents, ensuring that our female and male scientists are celebrated and profiled to young boys and girls.

We are also looking close to home, striving for operational excellence across our three properties and equipping Zoos Victoria's valuable staff with the tools they need to embed our Connect-Understand-Act model in their roles and be ambassadors for our vision. Ensuring that we continue to demonstrate leadership in high quality training programs for both our staff and members of the conservation community more broadly, we will conduct a cost analysis and scope out the potential for developing an onsite Centre for Conservation Excellence.

Critical next steps are to:



BIOLOGICAL

ENSURE SCIENTIFIC EXCELLENCE - Zoos Victoria's Wildlife Conservation and Science Team.

\$8,182,000

ENLIST THE SERVICES OF A BIRD SPECIALIST TO SUPPORT OUR INVESTMENT IN BIRD SPECIES.

\$400,000

PROVIDE SMALL GRANTS PROGRAM for research on the Fighting Extinction Species.

\$210,000

SOCIAL

Establish and implement the **ZOOS VICTORIA TRAINING AND CONSULTANCY** program to share the zoo-based conservation organisation model worldwide to benefit conservation and the zoo community.

YEAR 1

\$266,000

AND YEAR 2

\$294,000

EMPLOY A COMMUNITY CONSERVATION CAMPAIGNER to extend the reach and impact of behaviour change campaigns, and support delivery of new campaigns.

\$90,000 p.a

Provide training and support for our people to embed **CONNECT-UNDERSTAND-ACT** in their roles

\$10,000 p.a

GROW OUR SOCIAL RESEARCH PROGRAM, enabling us to increase our efficacy in generating positive conservation outcomes.

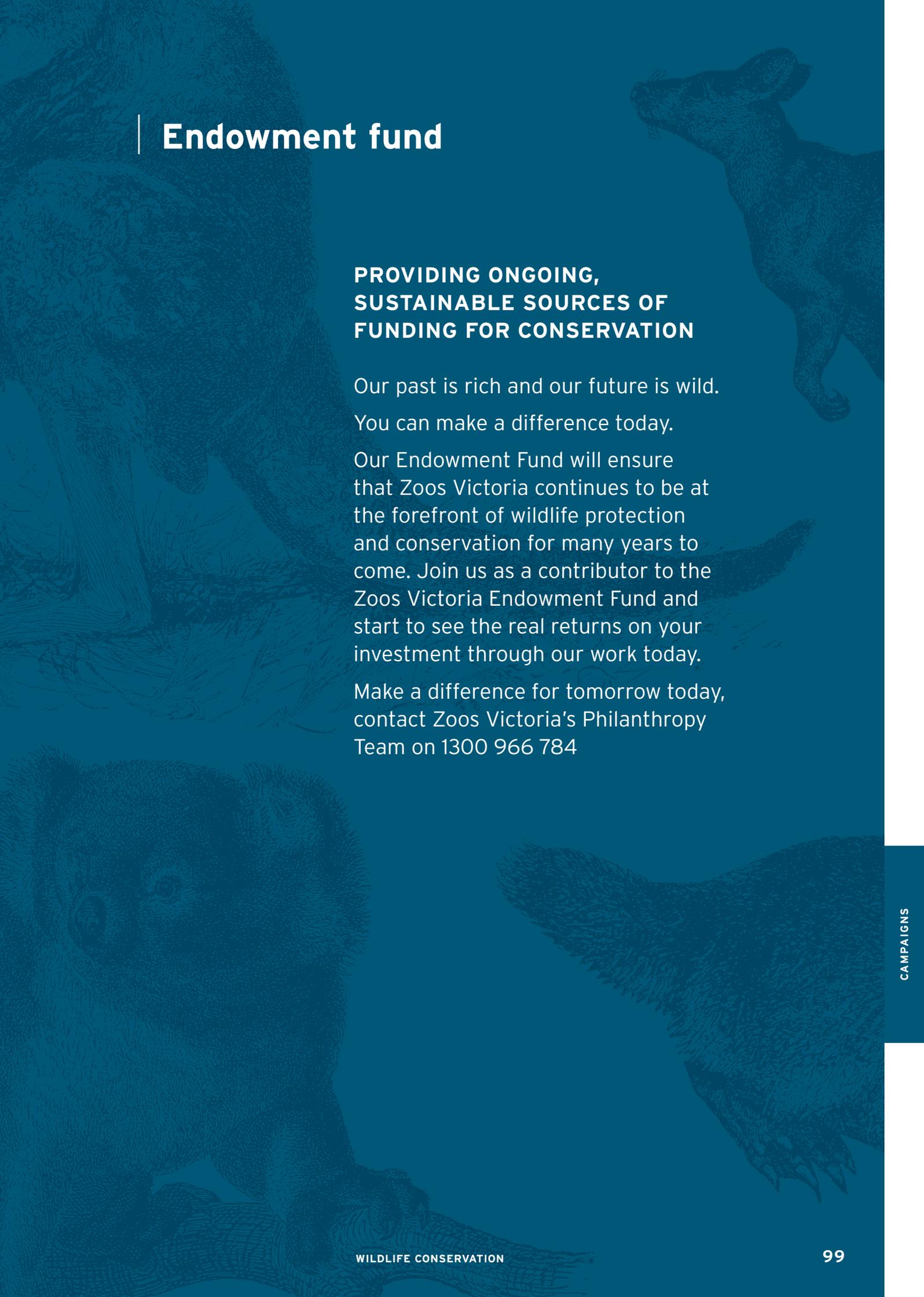
\$505,000

CENTRE FOR CONSERVATION EXCELLENCE - develop a high level concept design, including cost analysis.

\$40,000

TOTAL COST OVER FIVE YEARS

\$10,397,000



| Endowment fund

PROVIDING ONGOING, SUSTAINABLE SOURCES OF FUNDING FOR CONSERVATION

Our past is rich and our future is wild.
You can make a difference today.

Our Endowment Fund will ensure that Zoos Victoria continues to be at the forefront of wildlife protection and conservation for many years to come. Join us as a contributor to the Zoos Victoria Endowment Fund and start to see the real returns on your investment through our work today.

Make a difference for tomorrow today, contact Zoos Victoria's Philanthropy Team on 1300 966 784

Our commitment 2019–24

PROJECT TIMELINE SUMMARIES

ZOO'S VICTORIA

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL \$
PROJECT						
Fighting Extinction & Watch List Species	8,732,000	8,630,000	8,014,000	8,172,000	8,046,000	41,594,000
Wildlife Health	190,000	190,000	190,000	190,000	190,000	950,000
Habitat Restoration	685,000	940,000	700,000	750,000	710,000	3,785,000
Building Threatened Species Alliances	255,000	270,000	305,000	325,000	370,000	1,525,000
International Conservation	522,000	605,000	608,000	574,000	565,000	2,874,000
Campaigns	767,000	874,000	856,000	808,000	671,000	3,976,000
Education for Conservation, Youth and Teacher Members*	2,400,000	2,470,000	2,230,000	2,240,000	2,240,000	11,580,000*
Volunteers - Our Conservation Ambassadors	100,000	100,000	105,000	108,000	118,000	531,000
Conservation Technology	205,000	205,000	285,000	285,000	285,000	1,265,000
Love Your Locals	415,000	170,000	170,000	100,000	100,000	955,000
Building Capacity	2,064,000	2,338,000	1,979,000	2,012,000	2,004,000	10,397,000
TOTAL	16,335,000	16,792,000	15,442,000	15,564,000	15,299,000	79,432,000

* We acknowledge and thank our significant funding partners Department of Education and Training and Catholic Education Melbourne for their support of the conservation education programs.

Project Timelines

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL \$
BRUSH-TAILED ROCK-WALLABY						
Design, implement and monitor a translocation strategy to support the wild population and establish at least one new wild population	60,000	75,000	100,000	240,000	240,000	715,000
Assist partners to maintain and strengthen the free-ranging insurance population at Tidbinbilla Nature Reserve & Mt Rothwell and produce young for release to the wild	30,000	30,000	30,000	30,000	30,000	150,000
Search for remnant populations	30,000	30,000				60,000
Integrate the plight of the wallaby through the annual 'Hop Fest' event to increase community care and knowledge of the species and generate support for the conservation projects	10,000					10,000
SUBTOTAL	130,000	135,000	130,000	270,000	270,000	935,000
EASTERN BARRED BANDICOOT						
Design and implement a translocation strategy to support wild population and establish a new population	70,000	50,000	50,000	50,000	50,000	270,000
Assist the eradication of feral cats from French Island	130,000	130,000	100,000	100,000		460,000
Support the genetic health of EBB populations	20,000	20,000	20,000	20,000	20,000	100,000
Support EBB fenced reserves to maintain fox-free status	60,000	60,000	60,000	60,000	60,000	300,000
Maintain Zoos Victoria's captive insurance populations	160,000	165,000	170,000	175,000	180,000	850,000
EBB Project Officer to coordinate recovery efforts across Victoria	91,000	91,000	91,000	91,000	91,000	455,000
Engage French Island community where EBBS may be released	20,000	20,000	20,000	20,000	10,000	90,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects				10,000		10,000
SUB TOTAL	551,000	536,000	511,000	526,000	411,000	2,535,000

LOWLAND LEADBEATER'S POSSUM

Design and implement a translocation strategy so support wild population and establish a new population	175,000	175,000	175,000	175,000	175,000	875,000
Design and implement a genetic rescue strategy for the wild population	5,000	5,000	5,000	5,000	5,000	25,000
Maintain population monitoring and nest box monitoring throughout range to determine its condition and inform necessary interventions	30,000	85,000	45,000	30,000	30,000	220,000
Maintain Zoos Victoria's captive breeding program with a focus on overcoming barriers to breeding	160,000	165,000	170,000	175,000	180,000	850,000
Investigate extent of cat and fox predation on wild LBPs and control feral predators		30,000	30,000	30,000	30,000	120,000
Species (Lowland) Coordinator for the Leadbeater's Possum recovery	122,000					122,000
Partner with the "Yarra4Life" program run by the PPWCMA to increase community engagement, with a focus on habitat restoration on private land	10,000	10,000	10,000	10,000	10,000	50,000
Collect a compilation of video and images to share the rare and magical experience of meeting a "forest fairy"	10,000	30,000				40,000
Erect roadside signage near LBP population sites to build community connection and support		60,000				60,000
Activations at our zoos and online that aim to increase community care and knowledge of Victoria's faunal emblems and generate support for the conservation projects (note: also for Helmeted Honeyeater)	40,000					40,000
Community and targeted stakeholder engagement to obtain support for the establishment of new release sites (note: also for Helmeted Honeyeater)	5,000	5,000	5,000	5,000	5,000	25,000
SUB TOTAL	557,000	565,000	440,000	430,000	435,000	2,427,000

PROTECTING THE POSSUM IN THE SNOW

Undertake detailed population monitoring at sites such as Mount Loch and investigate the loss of pouch young in a changing climate	50,000	20,000	20,000	20,000	20,000	130,000
Timms Spur Tunnel of Love: Connect MPPs via new corridors with inbuilt monitoring systems and restore native vegetation		260,000				260,000
Assess the efficacy of the Tunnel of Love at Mt Little Higginbotham through population surveys and monitoring	10,000	10,000	10,000	10,000	10,000	50,000

Conduct MPP behaviour research in captivity by building new enrichment enclosures and installing infrared cameras		40,000					40,000
Survey potential MPP habitat to find undiscovered populations, determine carrying capacity and map for protection and recovery	12,000	12,000	12,000	12,000	12,000	12,000	60,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects				20,000			20,000
Create new enrichment and display tunnel for MPPs in Nocturnal House at Healesville Sanctuary				80,000			80,000
Maintain Zoos Victoria's captive bred population of MPPs for research, education and regular encounters	220,000	225,000	230,000	235,000	240,000		1,150,000
SUB TOTAL	292,000	567,000	272,000	377,000	282,000		1,790,000

NEW HOLLAND MOUSE

Monitor the New Holland Mouse in the wild - including pre and post collection for translocations to new sites	30,000	30,000	30,000	30,000	60,000		180,000
Reintroduce the New Holland Mouse to the Mornington Peninsula (at Cranbourne Botanic Gardens)	40,000	60,000	40,000	40,000	40,000		220,000
Develop a long-term monitoring program and triggers for New Holland Mouse rescue through a multi-state workshop and reporting	20,000						20,000
Restore genetic diversity lost from an extinct population back to the New Holland Mouse	20,000	20,000	20,000	20,000	20,000		100,000
Commence captive breeding (*if required) for reintroduction				50,000	30,000		80,000
Help people get to know and love the New Holland Mouse - on display at Zoos Victoria			20,000	10,000	10,000		40,000
New sites for New Holland Mouse: investigate additional locations for reintroductions in the future				30,000	30,000		60,000
Develop and deliver a community engagement plan that integrates traditional custodians and communities from current and locally extinct NHM sites		10,000					10,000
Raise awareness and facilitate use of boot cleaning stations for mitigation of Cinnamon Fungus to help Mouse habitat		10,000	5,000	5,000			20,000
SUB TOTAL	110,000	130,000	115,000	185,000	190,000		730,000

SMOKY MOUSE

A song of mice and fire - monitoring the Smoky Mouse in the Central Highlands and Grampians-Gariwerd National Park	30,000	30,000	30,000	30,000	60,000	180,000
Develop a long-term management program and triggers for Smoky Mouse rescue through workshops and written plans				20,000		20,000
Research the first release of Smoky Mice from captivity to Nullica	30,000	5,000	5,000	5,000	5,000	50,000
Bringing our mice back to where they belong - investigate locations for Smoky Mouse reintroduction				30,000	30,000	60,000
Help people get to know and love the Smoky Mouse - on display at Zoos Victoria			15,000	10,000	10,000	35,000
Commence captive breeding (*if required) for reintroduction				50,000	30,000	80,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects		10,000				10,000
Raise awareness and facilitate use of boot cleaning stations for mitigation of Cinnamon Fungus to help Mouse habitat		10,000	5,000	5,000		20,000
SUB TOTAL	60,000	55,000	55,000	150,000	135,000	455,000

SOUTHERN BENT-WING BAT

Protecting Victoria's maternity site	400,000					400,000
Understand the population dynamics of the species	100,000	100,000	75,000	75,000	75,000	425,000
Contribute to Australian Research Council (ARC) funded study of White-nose Syndrome	40,000	20,000	20,000			80,000
Habitat restoration of maternity cave surrounds	10,000	10,000	10,000	10,000	10,000	50,000
Investigate threats facing SBWB habitat	20,000	20,000	20,000	10,000	10,000	80,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects				10,000		10,000
SUB TOTAL	570,000	150,000	125,000	105,000	95,000	1,045,000

TASMANIAN DEVIL

New intensive breeding enclosures and monitoring system to maximise Zoos Victoria's breeding efforts	650,000					650,000
Install virtual road fences with the Save the Tasmanian Devil Program to protect devils, quolls, bandicoots and other species from cars		100,000	100,000		100,000	300,000

Molecular research into resistance and tolerance to Devil Facial Tumour Disease	15,000	15,000					30,000
Invest in new Crittercam camera and drone technology to reveal the devil's wild secrets	32,000	22,000	22,000	22,000	22,000		120,000
Research and management of devils in mainland free ranging population enclosures to investigate maintenance of natural behaviours, foraging and breeding	200,000	130,000	30,000	30,000	30,000		420,000
Collect new devils from the wild to incorporate missing genetic diversity into the captive population		30,000					30,000
Constructing new large group enclosures to maintain natural behaviours in the Coranderrk				300,000			300,000
Understand the endocrinology of devil breeding and lactation			15,000	15,000	15,000		45,000
Maintain Zoos Victoria's Tasmanian Devil captive breeding efforts and displays	440,000	450,000	460,000	470,000	480,000		2,300,000
Install signage and provide support to assist in road kill hotspots with new virtual fencing		10,000	10,000		10,000		30,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects					20,000		20,000
SUB TOTAL	1,337,000	757,000	637,000	837,000	677,000		4,245,000

ZOOS VICTORIA'S FIGHTING EXTINCTION DOG SQUAD

Dog training and in-situ surveys to complement monitoring and collections	40,000	40,000	30,000	20,000	20,000		150,000
Maintenance of the ZV Detection Dogs program	211,000	216,000	221,000	226,000	231,000		1,105,000
Training & development for detection of additional Fighting Extinction target species	55,000	55,000	55,000	55,000	55,000		275,000
Support for development & launch of a Detection Dogs program at Healesville Sanctuary	30,000	15,000					45,000
Feral predator scat detection surveys	35,000	35,000	15,000	15,000	15,000		115,000
Community and private land engagement	10,000	10,000	10,000	10,000	10,000		50,000
Fighting Extinction Schools Detection Dog science incursions	10,000	10,000					20,000
Complete the trial use of Guardian Dogs for the protection of Eastern Barred Bandicoots	100,000	100,000	50,000				250,000
Maintain the Guardian Dog training program at Werribee Open Range Zoo	30,000	32,000	34,000	36,000	38,000		170,000

Expand the size of current trial sites to allow the growth of EBB populations			50,000	50,000	20,000	120,000
Investigate additional applications for Guardian Dogs in conservation, including habitat restoration		50,000	50,000	50,000	50,000	200,000
SUB TOTAL	521,000	563,000	515,000	462,000	439,000	2,500,000

HELMETED HONEYEATER

Maintain Zoos Victoria's captive breeding program with a focus on gene-pool mixing	260,000	270,000	280,000	290,000	300,000	1,400,000
Translocations to support the wild population and establish at least one new population		80,000	80,000	80,000	80,000	320,000
Design and implement a genetic rescue strategy for the wild population	15,000	15,000	15,000	15,000	15,000	75,000
Release HeHos into Coranderrk Bushland			55,000	85,000	35,000	175,000
Assess and develop approaches to address fertility concerns	35,000	15,000	10,000	10,000	10,000	80,000
Support monitoring of breeding season		25,000	25,000	25,000	25,000	100,000
Database development and maintenance	5,000	5,000	5,000	5,000	5,000	25,000
Pre-release predator avoidance training as required	5,000	5,000	5,000	5,000	5,000	25,000
SUB TOTAL	320,000	415,000	475,000	515,000	475,000	2,200,000

MALLEE EMU-WREN

Support wild to wild translocation within the species' former range in South Australia		140,000	140,000			280,000
Investigate captive breeding and husbandry as required				50,000	50,000	100,000
Welcome this new species onto Zoos Victoria's Priority List. Establishing the Mallee Emu-wren's presence at our zoos and online as part of our local threatened species commitment	10,000	5,000				15,000
SUB TOTAL	10,000	145,000	140,000	50,000	50,000	395,000

ORANGE-BELLIED PARROT

Maintain Zoos Victoria's captive populations at Healesville Sanctuary and Werribee Open Range Zoo	320,000	330,000	340,000	350,000	360,000	1,700,000
Provide support for annual releases and over-winter ranching	40,000	40,000	40,000	40,000	40,000	200,000
Construct and maintain a new captive breeding research facility at Healesville Sanctuary		600,000	80,000	85,000	90,000	855,000
Provide support for development and implementation of a vaccine for Beak and Feather Disease Virus	30,000	30,000	20,000	20,000	20,000	120,000

Investigate the feasibility and desirability of a resident mainland population	20,000	20,000	20,000	20,000	20,000	100,000
Support operation of an automated monitoring system at the breeding sites	10,000	10,000	10,000	10,000	10,000	50,000
Investigate a partnership to support citizen science approaches for monitoring OBPs and habitat restoration		10,000				10,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects	5,000	15,000				20,000
SUB TOTAL	425,000	1,055,000	510,000	525,000	540,000	3,055,000

PLAINS-WANDERER

Expand Zoos Victoria's captive breeding population to support release to the wild	150,000	155,000	160,000	165,000	170,000	800,000
Increase the number of enclosures to accommodate 15 pairs and chick clusters (in single-sex groups)		40,000	600,000			640,000
Maintain population monitoring in the wild	25,000	25,000	25,000	25,000	25,000	125,000
Identify release sites	12,000	12,000	12,000	12,000	12,000	60,000
Undertake genetic monitoring to inform population management	5,000	5,000	5,000	5,000	5,000	25,000
Undertake habitat monitoring and management to provide release sites for captive-bred birds	100,000	130,000	130,000	130,000	130,000	620,000
Increase the area of habitat protected through acquisition and covenanting	130,000	130,000	130,000	130,000	130,000	650,000
Conduct trial release of captive birds	25,000	25,000	25,000	20,000	20,000	115,000
Undertake surveys at additional localities to identify new founders for captive breeding	15,000	15,000	15,000			45,000
Increase community engagement in partnership with the CMN and Friends of Terrick Terrick	40,000	15,000	15,000	15,000	15,000	100,000
Erect signage at strategic locations along major roads to raise awareness in the local community about critical habitat areas			60,000			60,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects			20,000			20,000
SUB TOTAL	502,000	552,000	1,197,000	502,000	507,000	3,260,000

REGENT HONEYEATER

Expanding Zoos Victoria's captive breeding program to support releases to the wild with a new complex at Werribee Open Range Zoo			40,000	650,000		690,000
--	--	--	--------	---------	--	----------------

Building the capacity of our partners to undertake captive breeding		80,000					80,000
Support field actions to identify important habitat and enhance breeding performance	30,000	30,000	30,000	30,000	30,000	30,000	150,000
SUBTOTAL	30,000	110,000	70,000	680,000	30,000		920,000

SWIFT PARROT

Support field actions to increase nesting success by reducing predation from Sugar Gliders	40,000	40,000	40,000	40,000	40,000		200,000
Identify important mainland habitat through modelling and implementation of new survey methods	40,000	30,000	30,000	30,000	30,000		160,000
Investigate the need for captive breeding and initiate a program if required					30,000	850,000	880,000
Welcome this new species onto Zoos Victoria's Priority List. Establishing the Swift Parrot's presence at our zoos and online as part of our local threatened species commitment	10,000	5,000					15,000
SUB TOTAL	90,000	75,000	70,000	100,000	920,000		1,255,000

BAW BAW FROG

Maintain the captive insurance population at Melbourne Zoo	85,000	85,000	85,000	85,000	85,000		425,000
Conduct field monitoring to better inform conservation actions	50,000	60,000	60,000	60,000	60,000		290,000
Identify an environmental refuge for reintroducing Baw Baw frogs to their wild habitat	10,000	10,000	10,000	40,000	40,000		110,000
Create disease free safe havens in wild habitat for re-introduction					100,000	100,000	200,000
Assist the Mt Baw Baw Alpine Resort to engage with the community	10,000	10,000	10,000	10,000	10,000		50,000
Build on and celebrate the annual Baw Baw Frog day	5,000	5,000	5,000	5,000	5,000		25,000
SUB TOTAL	160,000	170,000	170,000	300,000	300,000		1,100,000

GIANT BURROWING FROG

Conduct on-ground surveys in key habitat	50,000	50,000	20,000	20,000	20,000		160,000
Establish Giant Burrowing Frog husbandry protocols	30,000	10,000	10,000	10,000	10,000		70,000
Undertake eDNA survey of key streams		50,000	50,000	20,000	20,000		140,000
Welcome this new species onto Zoos Victoria's Priority List. Establishing the GBF's presence at our zoos and online as part of our local threatened species commitment	10,000	5,000					15,000
SUB TOTAL	90,000	115,000	80,000	50,000	50,000		385,000

LARGE BROWN TREE FROG

Develop a long-term monitoring program from recently discovered populations	60,000	30,000	30,000	30,000	30,000	180,000
Conduct in-situ habitat augmentation to improve recruitment		100,000	100,000	30,000	30,000	260,000
Establish husbandry protocols for Large Brown Tree Frog and secure individuals in our care	30,000	15,000	15,000	10,000	10,000	80,000
SUB TOTAL	90,000	145,000	145,000	70,000	70,000	520,000

NORTHERN CORROBOREE FROG

Continue captive breeding efforts for the NCF	52,000	52,000	53,000	53,000	54,000	264,000
Conduct thermal development research on NCF from high and low elevation populations	100,000	50,000	50,000	50,000	50,000	300,000
Review and analyse genetics of captive breeding program	70,000	30,000				100,000
SUB TOTAL	222,000	132,000	103,000	103,000	104,000	664,000

SOUTHERN CORROBOREE FROG

Create an environmental refuge for SCF in Mt Kosciuszko National Park		100,000	100,000	100,000	100,000	400,000
Construct additional disease free field enclosures within Mt Kosciuszko National Park				100,000	100,000	200,000
Continue Zoos Victoria's captive breeding efforts for SCFs	121,000	122,000	124,000	126,000	128,000	621,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects					20,000	20,000
SUB TOTAL	121,000	222,000	224,000	326,000	348,000	1,241,000

SPOTTED TREE FROG

Annual monitoring to support key management actions in partnership with the Threatened Species Hub of NESP	145,000	145,000	145,000	125,000	125,000	685,000
Creation of wild safe havens via non-native fish management in partnership with recreational fishing industry and broader community	45,000	160,000	30,000	50,000	30,000	315,000
Establish new wild safe havens and bolster populations through reintroduction or translocation	15,000	35,000	25,000	25,000	25,000	125,000
Use ground breaking scientific techniques to secure the Spotted Tree Frog			95,000	65,000	45,000	205,000
Maintain captive population to support recovery objectives	54,000	55,000	57,000	59,000	61,000	286,000

Assist our allies to run community projects in and around critical STF habitat	10,000	10,000	10,000	10,000	10,000	50,000
SUB TOTAL	269,000	405,000	362,000	334,000	296,000	1,666,000

STUTTERING BARRED FROG

Survey newly identified habitat	50,000	50,000	20,000	20,000	20,000	160,000
Conduct eDNA survey of key streams			50,000	20,000	20,000	90,000
SUB TOTAL	50,000	50,000	70,000	40,000	40,000	250,000

FUTURE PROOFING VICTORIA'S AMPHIBIANS

Future proof ZV Fighting Extinction amphibian program - Healesville infrastructure and staff support	985,000	85,000	85,000	85,000	85,000	1,325,000
--	---------	--------	--------	--------	--------	------------------

ESTABLISHING A CHYTRID RESEARCH FUNDING PROGRAM

Targeted chytrid mitigation in Fighting Extinction species	250,000	250,000	250,000	250,000	250,000	1,250,000
International symposium on Amphibian Chytrid Fungus	10,000	40,000			40,000	90,000
SUB TOTAL	260,000	290,000	250,000	250,000	290,000	1,340,000

ALPINE SHE-OAK SKINK

Wild monitoring of known populations	30,000	30,000	30,000	35,000	35,000	160,000
Survey new habitat to better understand Victorian distribution of species, including on the Wellington Plains	60,000	80,000	80,000			220,000
Analyse Alpine She-oak Skink genetic samples to determine feasibility of short-distance translocation for genetic rescue		20,000				20,000
Analyse data to determine population trends	5,000	5,000	5,000	5,000	5,000	25,000
Develop and implement a translocation/recovery strategy				30,000	80,000	110,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects		10,000				10,000
SUB TOTAL	95,000	145,000	115,000	70,000	120,000	545,000

GRASSLAND EARLESS DRAGON

Conduct surveys for extant population	40,000	40,000	40,000	40,000	40,000	200,000
Assist partners to develop GED husbandry	20,000	20,000	10,000	10,000	10,000	70,000
Constructing breeding facilities at Melbourne Zoo		70,000				70,000

Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects	10,000						10,000
SUB TOTAL	70,000	130,000	50,000	50,000	50,000	50,000	350,000

GUTHEGA SKINK

Wild monitoring plus targeted collection of animals for the captive breeding program	30,000	55,000	60,000	60,000	65,000		270,000
Determine through captive trials whether 'genetic rescue' is a viable option to enhance the extremely low genetic diversity of Victorian Guthega Skink population	100,000	50,000	50,000	50,000	50,000		300,000
Maintain Captive population	90,000	91,000	93,000	95,000	97,000		466,000
Develop and implement a plan to build numbers of skinks in the wild		30,000	80,000				110,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects		10,000					10,000
SUB TOTAL	220,000	236,000	283,000	205,000	212,000	212,000	1,156,000

GOLDEN-RAYED BLUE

Undertake systematic field surveys	15,000	5,000	5,000	5,000	5,000		35,000
Support protection and restoration through management and revegetation	40,000		40,000		40,000		120,000
Investigate wild-to-wild translocation to secure populations and implement, as required			30,000	30,000	30,000		90,000
Investigate the requirements for display and reintroduction	60,000	190,000					190,000
Construct and maintain an exhibit			150,000	50,000	50,000		250,000
Welcome this new species onto Zoos Victoria's Priority List. Establishing the butterfly's presence at our zoos and online as part of our local threatened species commitment	10,000	5,000					15,000
SUB TOTAL	125,000	200,000	225,000	85,000	125,000	125,000	760,000

KEY'S MATCHSTICK GRASSHOPPER

Undertake field surveys to identify any remaining Victorian populations	20,000	20,000	20,000				60,000
Provide support for habitat restoration and reintroduction			30,000	30,000	30,000		90,000
Initiate and maintain captive breeding for reintroduction, as required			50,000	40,000	40,000		130,000

Welcome this new species onto Zoos Victoria's Priority List. Establishing the grasshopper's presence at our zoos and online as part of our local threatened species commitment	10,000	5,000					15,000
Citizen science - creating invertebrate investigators, a community-led search for Key's Matchstick Grasshopper, a species unobserved in Victoria for 40 years			40,000	30,000	30,000		100,000
SUB TOTAL	30,000	25,000	140,000	100,000	100,000		395,000

LORD HOWE ISLAND STICK INSECT

Maintain existing captive insurance population at Melbourne Zoo	90,000	95,000	100,000	105,000	110,000		500,000
Survey the wild population and, if appropriate, collect new founders from Ball's Pyramid	50,000	50,000					100,000
Expand the Melbourne Zoo population to support re-introductions to the wild	40,000	45,000	50,000	55,000	60,000		250,000
Genetic research to guide captive management and reintroduction planning	40,000	40,000	40,000				120,000
Establish a second wild population on Blackburn Island	20,000	10,000	10,000	10,000	10,000		60,000
Support for reintroduction to Lord Howe Island			30,000	20,000	20,000		70,000
Activations at our zoos and online that aim to increase community care and knowledge of the species and generate support for the conservation projects			20,000				20,000
Support community engagement on LHI, and promote community support for reintroduction as required		30,000					30,000
SUB TOTAL	240,000	270,000	250,000	190,000	200,000		1,150,000

WATCH LIST SPECIES

Invest in initiatives being undertaken by third parties to conserve Watch List species	200,000	200,000	200,000	200,000	200,000		1,000,000
--	---------	---------	---------	---------	---------	--	------------------

WILDLIFE HEALTH

Fighting Extinction species health monitoring to focus on pathology and health studies, such as wild and captive microbiome analyses and kidney disease in MPPs and LBPs	140,000	140,000	140,000	140,000	140,000		700,000
Undertake Disease Risk Analyses for nominated species	50,000	50,000	50,000	50,000	50,000		250,000
SUB TOTAL	190,000	190,000	190,000	190,000	190,000		950,000

HABITAT RESTORATION

Yellingbo Nature Conservation Reserve - habitat protection and restoration	180,000	125,000	195,000	125,000	125,000	750,000
Haining Farm and surrounds - habitat restoration	40,000	40,000	40,000	160,000	160,000	440,000
Yarra Valley - habitat restoration	40,000	350,000	40,000	40,000		470,000
Coranderrk Bushland Reserve- habitat restoration	240,000	240,000	240,000	240,000	240,000	1,200,000
Coranderrk to Yarra - habitat restoration	65,000	65,000	65,000	65,000	65,000	325,000
Habitat restoration on private land	120,000	120,000	120,000	120,000	120,000	600,000
SUB TOTAL	685,000	940,000	700,000	750,000	710,000	3,785,000

BUILDING THREATENED SPECIES ALLIANCES

Appoint an Administration and Compliance Project Officer to oversee the transition to Open Standards for conservation planning projects at Zoos Victoria	85,000	85,000	85,000	85,000	85,000	425,000
Transition to Healthy Country/Open Standards for conservation planning projects at Zoos Victoria	20,000	20,000	25,000	25,000	30,000	120,000
Biannual forum on predators and rewilding for practitioners and researchers			20,000		20,000	40,000
Employ a Citizen Science & Outreach Coordinator to support our Fighting Extinction species and conservation outcomes	100,000	100,000	100,000	100,000	100,000	500,000
Expand our reach and impact through engaging and supporting private land conservation networks in the conservation protection of Victoria's threatened species	10,000	20,000	10,000	10,000	10,000	60,000
Initiate conversations with Aboriginal and Torres Strait Islander groups to help guide our engagement with their communities around threatened species conservation	20,000	5,000	5,000	5,000	5,000	40,000
Support the development and understanding of Aboriginal knowledge in threatened species management in partnership with indigenous communities	20,000	40,000	60,000	100,000	120,000	340,000
SUB TOTAL	255,000	270,000	305,000	325,000	370,000	1,525,000

INTERNATIONAL CONSERVATION

Engage an International Conservation Project Officer		100,000	100,000	100,000	100,000	400,000
Tree Kangaroo Conservation Program: Enable TKCP Community Livelihoods Program Manager to manage the YUS Conservation Coffee program	40,000	40,000	40,000	20,000	10,000	150,000

Tree Kangaroo Conservation Program: Coffee program in-field support	10,000	10,000	10,000	5,000		35,000
Port Moresby Nature Park Sister Zoo: Enhance animal management and welfare outcomes for Life Science staff	13,000	10,000	7,000	5,000	5,000	40,000
Port Moresby Nature Park Sister Zoo: Strengthen education and interpretation staff capacity	5,000	3,000	4,000		3,000	15,000
Port Moresby Nature Park Sister Zoo: Develop campaigns to engage the Port Moresby community in environment and wildlife protection	5,000	10,000	5,000	5,000	5,000	30,000
Port Moresby Nature Park Sister Zoo: Establish staff skills to future proof PNG frogs against amphibian chytrid fungus	10,000	10,000	10,000	15,000	5,000	50,000
Port Moresby Nature Park Sister Zoo: Increase capacity and skills of other Park Department staff to sustain Nature Park growth	4,000	2,000	4,000		3,000	13,000
SUB TOTAL	87,000	85,000	80,000	50,000	31,000	333,000
Oceania: Define and develop Partnership Agreement with MANU-SOP	10,000		5,000		5,000	20,000
Oceania: Reduce the impacts of introduced predators (cats and rats) on Polynesian birds and other wildlife	20,000	25,000	20,000	30,000	30,000	125,000
Oceania: Expand MANU-SOP's sustainable alternative income projects	10,000	10,000	15,000	10,000	10,000	55,000
Oceania: Strengthen MANU-SOP community programs/education	15,000	10,000	10,000	15,000	15,000	65,000
Oceania: Provide in-kind materials and equipment to increase conservation outcomes	10,000	5,000	5,000	5,000	5,000	30,000
SUB TOTAL	65,000	50,000	55,000	60,000	65,000	295,000
Philippine Crocodile surveys and protection	35,000	35,000	35,000	10,000	5,000	120,000
Support community engagement and ISU student projects to strengthen outcomes for wildlife in San Mariano Municipality	10,000	10,000	10,000	5,000		35,000
Increase Mabuwaya Foundation staff capacity and skills to manage the Philippine Crocodile Conservation Centre	5,000	10,000	5,000	5,000	5,000	30,000
Manila Zoo sister Zoo: Establish ZV- Manila Zoo relationship and support framework	10,000	5,000	5,000	5,000	5,000	30,000
Manila Zoo sister Zoo: Improve animal management and welfare at Manila Zoo	15,000	15,000	10,000	5,000	5,000	50,000
Manila Zoo sister Zoo: Develop and support implementation of conservation education at Manila Zoo	5,000	10,000	10,000	10,000	5,000	40,000
SUB TOTAL	80,000	85,000	75,000	40,000	25,000	305,000

South-east Asia: Define/develop Partnership Agreement with FFI	8,000		5,000		5,000	18,000
South-east Asia: Support Human-Elephant Conflict mitigation	10,000	15,000	15,000	30,000	30,000	100,000
South-east Asia: Provide in-kind support (materials, etc.) to strengthen protection of gibbons and elephants	10,000	7,000	5,000	10,000	5,000	37,000
South-east Asia: Support increased welfare for captive wild animals in Pu Mat National Park	4,000	5,000	3,000	4,000	4,000	20,000
South-east Asia: Support FFI-Vietnam's Community Conservation Teams	15,000	15,000	15,000	20,000	20,000	85,000
South-east Asia: Strengthen community programs and engagement	6,000	13,000	10,000	10,000	10,000	49,000
SUB TOTAL	53,000	55,000	53,000	54,000	54,000	269,000
Rhino Fund Uganda: Support RFU ranger patrols and monitoring	40,000	40,000	40,000	30,000	25,000	175,000
Rhino Fund Uganda: In-kind support for RFU rangers	5,000	5,000	5,000	5,000	5,000	25,000
Rhino Fund Uganda: Strengthen education delivery and outcomes at the Ziwa Rhino Sanctuary and adjacent communities	5,000	5,000	5,000	5,000	5,000	25,000
Uganda Wildlife Education Centre Sister Zoo: Establish ZV-UWEC relationship and support framework	5,000		5,000		5,000	15,000
Uganda Wildlife Education Centre Sister Zoo: Enhance animal management and welfare through UWEC Life Science staff training/support, extending to other African zoos as opportunities arise	10,000	10,000	10,000	10,000	10,000	50,000
Uganda Wildlife Education Centre Sister Zoo: Develop UWEC education support with RFU and communities	10,000	10,000	10,000	10,000	5,000	45,000
Uganda Wildlife Education Centre Sister Zoo: Strengthen UWEC community engagement through campaign initiatives	10,000	10,000	10,000	10,000	5,000	45,000
SUB TOTAL	85,000	80,000	85,000	70,000	60,000	380,000
Dian Fossey Gorilla Fund: Define/develop Partnership Agreement with DFGF	7,000		5,000		5,000	17,000
Dian Fossey Gorilla Fund: Support DFGF field patrols and mitigate threats to gorillas	30,000	35,000	30,000	40,000	45,000	180,000
Dian Fossey Gorilla Fund: Provide in-kind support (materials, etc.) to strengthen social and biological outcomes	5,000	5,000	5,000	5,000	5,000	25,000
Dian Fossey Gorilla Fund: Strengthen community programs and engagement	10,000	10,000	10,000	15,000	15,000	60,000
SUB TOTAL	52,000	50,000	50,000	60,000	70,000	282,000

International conservation grant projects	100,000	100,000	110,000	120,000	140,000	570,000
INTERNATIONAL SUB TOTAL	522,000	605,000	608,000	574,000	565,000	2,874,000

DON'T PALM US OFF

Social research to understand our impact in shifting attitudes, beliefs and behaviours	2,000	2,000	2,000	2,000	2,000	10,000
Keeping our community informed and active - onsite, offsite and online activation of campaign and collection of signatures	50,000	50,000	50,000	50,000	50,000	250,000
Beyond labelling - designing and implementing our next phase of approach	25,000	25,000				50,000
Provide leadership - for a regional initiative with ZAA that promotes the production of CSPO with members and the community	5,000	5,000	5,000	5,000	5,000	25,000
Amplify the voice of young people across Australia - support through resources to assist schools in running education units and advocacy in favour of palm oil labelling and CSPO	10,000	10,000	10,000	10,000	10,000	50,000
Annual day of school action - Turn Orange for World Rainforest Day	10,000	10,000	10,000	10,000	10,000	50,000
SUB TOTAL	102,000	102,000	77,000	77,000	77,000	435,000

BUBBLES NOT BALLOONS

Biological research into the impact of single use plastics on wildlife, including ongoing seabirds data sets and how balloons respond to environmental conditions	10,000	10,000	10,000	10,000	10,000	50,000
Social research to understand our impact in shifting attitudes, beliefs and behaviours	5,000	5,000	2,000	2,000	2,000	16,000
Secure support of collaborators, supporters and key organisations that can assist in supporting a social movement towards using bubbles not balloons	10,000	10,000				20,000
Take 'bubbles not balloons' to the community through support for existing or special medium-large scale outdoor community events	20,000	20,000				40,000
Keep our community informed and active - onsite, offsite and online activation of campaign and collection of pledges	35,000	35,000	35,000	35,000	35,000	175,000
Investigate our next issue to tackle - balloons are just the beginning when it comes to the impact of waste on wildlife		5,000	5,000	5,000	5,000	20,000

Grand gesture - Melbourne's biggest wildlife-friendly party; on the scale of Turn Melbourne Orange event and Guinness World Record attempt		125,000					125,000
Support existing social movements to eliminate plastic waste for wildlife	10,000	10,000	10,000	10,000	10,000	10,000	50,000
Bring 'bubbles not balloons' into our Fighting Extinction Schools - resources to activate the program in schools	10,000	10,000	5,000	5,000	5,000	5,000	35,000
Support citizen science in getting to the source - initiatives that contribute to the Australian Marine Debris Database to better inform trends in waste and identify where future zoo-based intervention may be required	10,000	10,000	10,000	10,000	10,000	10,000	50,000
SUB TOTAL	110,000	240,000	77,000	77,000	77,000	77,000	581,000

SAFE CAT, SAFE WILDLIFE

Support ongoing biological research into the impact of domestic cats on wildlife	10,000	10,000	10,000	10,000	10,000	10,000	50,000
Social research to understand our impact in shifting attitudes, beliefs and behaviours	10,000	2,000	5,000	2,000	5,000	5,000	24,000
Keep our community informed and active - onsite, offsite and online activation of campaign	30,000	30,000	30,000	30,000	30,000	30,000	150,000
Connect with cat owners - extend the reach and impact each year with one online/community activation	40,000	40,000	40,000	40,000	40,000	40,000	200,000
Collaborate with partners to investigate next phase approach to tackling the impact of feral cats on wildlife		15,000	15,000	15,000	15,000	15,000	60,000
Safe Cat, Safe Wildlife in our Fighting Extinction schools - resources to activate the program in schools	5,000	5,000	5,000	5,000	5,000	5,000	25,000
Citizen Science - support for schools and the community to contribute data to BirdLife Australia's 'Birds in Schoolyards' and 'Birds in Backyards' census	10,000	5,000	5,000	5,000	5,000	5,000	30,000
Support a regional initiative through ZAA that extends reach and impact of the Safe Cat, Safe Wildlife campaign	55,000	55,000					110,000
SUB TOTAL	160,000	162,000	110,000	107,000	110,000	110,000	649,000

WILDLIFE-FRIENDLY COFFEE

Support ongoing biological research into the impact of unsustainable coffee production on wildlife	25,000	25,000	15,000	15,000	15,000	15,000	95,000
Social research to understand our impact in shifting attitudes, beliefs and behaviours	30,000	10,000	10,000	5,000	5,000	5,000	60,000

Keep our community informed and active - onsite, offsite and online activation of campaign and conservation action	150,000	120,000	50,000	40,000	40,000	400,000
Collaborate with Victoria's coffee community - collaborate with local cafes to provide their customers the opportunity to be informed and active with wildlife-friendly coffee	20,000	30,000	30,000	20,000	20,000	120,000
Coffee for Wildlife - work with a coffee supplier to brand a blend of shade grown coffee as wildlife-friendly	60,000	60,000				120,000
Grand gesture - take wildlife friendly coffee to the streets offsite/online stunt to extend the reach and impact of wildlife-friendly coffee message			125,000			125,000
SUB TOTAL	285,000	245,000	230,000	80,000	80,000	920,000

HARVESTING AND HOMES

Looking beyond toilet paper - 'chain of custody' research to inform next phase approach to alleviate the threat of native timber harvesting on local wildlife	20,000	15,000	5,000	5,000	5,000	50,000
Keeping our community informed and active - onsite and online activation to promote purchase of products made from 100% recycled paper	10,000	10,000	30,000	30,000	10,000	90,000
Collaborating with partners to boost reach and impact of forest friendly consumer behaviours		5,000	10,000	10,000	10,000	35,000
Undertaking a grand gesture - an offsite/online stunt to increase reach of forest friendly messaging and influence consumer behaviours				125,000		125,000
Fighting Extinction Schools - supporting and resourcing for schools to share the message and switch to products made from 100% recycled paper	5,000	5,000	10,000	10,000	10,000	40,000
SUB TOTAL	35,000	35,000	55,000	180,000	35,000	340,000

THEY'RE CALLING ON YOU

Social research to understand our impact in shifting attitudes, beliefs and behaviours	5,000		5,000		5,000	15,000
Collaborate with other key organisations to facilitate bulk mobile phone collection and extend reach and impact into the community	10,000	2,000	2,000	2,000	2,000	18,000
Keeping our community informed and active - onsite, offsite and online activation to facilitate action	10,000	15,000	15,000	15,000	5,000	60,000

Connecting with community - 'Ape-riil' Zoos Victorias annual phone recycling drive to grow the list of supporting institutions taking part in bulk phone donation	10,000	10,000	10,000	10,000	10,000	50,000
Boosting phone recycling through 15 year campaign celebration and new donor recruitment drive					10,000	10,000
Collaboration with other organisations to promote mobile phone recycling through their existing e-waste initiatives	5,000	5,000	5,000	5,000	5,000	25,000
Fighting Extinction schools - supporting and resourcing for schools to develop mobile phone recycling drives	5,000	5,000	5,000	5,000	5,000	25,000
Getting to the source - a community advocacy campaign calling for source transparency for electronic components entering Australia to weaken our link to illegally mined coltan			20,000	20,000	20,000	60,000
SUB TOTAL	45,000	37,000	62,000	57,000	62,000	263,000

SEAL THE LOOP

Producing bins and campaign materials	7,000	5,000	5,000	5,000	5,000	27,000
Offsite community engagement - call to action through integration into community programs	1,000	1,000	1,000	1,000	1,000	5,000
Citizen Science - getting to the source through support for initiatives that contribute data to the Australian Marine Debris Database	2,000	2,000	2,000	2,000	2,000	10,000
Commercial fishing initiative - extending reach and impact by developing and testing new bin for commercial ventures, i.e. charter boats		5,000	2,000	2,000	2,000	11,000
SUB TOTAL	10,000	13,000	10,000	10,000	10,000	53,000

BEADS FOR WILDLIFE

Keep our community up-to-date and informed	10,000	10,000				20,000
Boost the involvement of other zoos	5,000	5,000				10,000
Celebrate the success of this program and thank our partners as we conclude our involvement - enact exit strategy in year 3 and continue bead sales as long as financially viable		20,000				20,000
SUB TOTAL	15,000	35,000				50,000

INVERTEBRATE CAMPAIGN

Investigate the best approach for an invertebrate conservation campaign that fosters pro-wildlife attitudes, beliefs and behaviours to progress the conservation of a threatened Victorian invertebrate species	5,000	5,000	5,000			15,000
---	-------	-------	-------	--	--	---------------

Conduct biological research into Victoria threatened invertebrates			10,000	10,000	10,000	30,000
Undertake social research to understand our impact in shifting attitudes, beliefs and behaviours			20,000	10,000	10,000	40,000
Keep our community informed and active - onsite, offsite and online activation of campaign and conservation action			150,000	150,000	50,000	350,000
Engaging community and partners			40,000	40,000	20,000	100,000
A grand gesture - offsite/online event that engages a wide reach of Victorians in understanding and taking up invertebrate friendly behaviours					125,000	125,000
Support invertebrate-friendly schools - resourcing for schools to develop initiatives that support target Victorian invertebrate			10,000	10,000	5,000	25,000
SUB TOTAL	5,000	5,000	235,000	220,000	220,000	685,000

EDUCATION FOR CONSERVATION

Conservation education programs using inquiry learning	1,600,000	1,600,000	1,600,000	1,600,000	1,600,000	8,000,000
Education for Conservation annual STEM challenge series to build engagement and skills in young people needed to solve the conservation challenges they will face now and in the future	45,000	45,000	45,000	45,000	45,000	225,000
Activation of Virtual Reality and Augmented Reality innovation	80,000	80,000	100,000	60,000	60,000	380,000
Support Education for Conservation innovation trials - planning, testing and evaluation of new educational offerings	305,000	240,000	40,000	40,000	40,000	665,000
Conservation based teaching and learning resources	15,000	15,000	15,000	15,000	15,000	75,000
Support school friendly citizen science projects that engage students in science-based conservation activities within their local community, i.e. Frog ID project, Seal Spotter, Birds in Schoolyards, Australian Marine Debris Database	20,000	20,000	20,000	20,000	20,000	100,000
Fighting Extinction School Readers to be rolled out in all Victorian Schools	60,000	110,000				170,000
SUBTOTAL	2,125,000	2,110,000	1,820,000	1,780,000	1,780,000	9,615,000

FIGHTING EXTINCTION SCHOOLS

Mobilising a Victorian school community committed to Fighting Extinction through online and onsite initiatives	15,000	15,000	20,000	30,000	30,000	110,000
Events that celebrate, recognise and share how schools are Fighting Extinction, including an awards program	30,000	30,000	45,000	60,000	60,000	225,000

Resources and support for schools to activate conservation projects, including building capacity for teachers to embed conservation in their school and community	30,000	30,000	45,000	60,000	60,000	225,000
Employ a Fighting Extinction Schools Coordinator	50,000	100,000	100,000	100,000	100,000	450,000
SUB TOTAL	125,000	175,000	210,000	250,000	250,000	1,010,000

YOUTH AT THE ZOO AND TEACHER MEMBERS

Youth Conservation Hack Event - for young people to develop and initiate design-thinking and problem solving skills that lead to innovative solutions to complex wildlife conservation problems	10,000	20,000	20,000	20,000	20,000	90,000
Youth Leadership Program - a sequenced range of youth-led and inspired development opportunities across the course of a year that develop the leadership qualities within YATZ members	30,000	30,000	30,000	40,000	40,000	170,000
Victorian Youth Conservation Engagement - supporting initiatives that extend the reach and impact of YATZ beyond the membership program to youth audience across the State	15,000	15,000	15,000	15,000	15,000	75,000
Establish Junior YATZ - develop and implement a program that supports 8-12 years olds to build their wildlife understanding and be advocates for wildlife	15,000	40,000	30,000	30,000	30,000	145,000
Teacher Wildlife Conservation 'Hack' Event - an annual event for Victorian teachers to co-create solutions to wildlife conservation education problems that can then be expanded to schools across the state through Zoos Victoria's networks and partnerships	20,000	20,000	30,000	30,000	30,000	130,000
Conservation-inspired Marquee Teacher Conferences - supporting up to three large initiatives each year that engage Victorian teachers to teach the Victorian Curriculum through Zoos Victoria conservation-inspired initiatives	50,000	50,000	60,000	60,000	60,000	280,000
Digital Professional Development Series - for Zoos Victoria teacher members to enhance their capacity to engage learners in conservation-inspired learning opportunities	10,000	10,000	15,000	15,000	15,000	65,000
SUB TOTAL	150,000	185,000	200,000	210,000	210,000	955,000

VOLUNTEERS

Next Gen Volunteer Program - targeted recruitment of volunteers with new and special skill sets to support the growth and reach in our conservation programs	20,000	15,000	10,000	8,000	8,000	61,000
Volunteer Engagement and Relationship Program - develop and implement a range of engagement and support opportunities for all volunteers to deepen their connection with Zoos Victoria	40,000	45,000	50,000	55,000	60,000	250,000
Conservation Ambassadors Program - expand the Conservation Ambassadors role to engage the Victorian community beyond the walls of our three Zoos	10,000	10,000	10,000	10,000	10,000	50,000
Volunteer Recognition Program - a range of annual events and opportunities across the organisation that recognise and celebrate the significant contribution of all volunteers in supporting the work of Zoos Victoria	30,000	30,000	35,000	35,000	40,000	170,000
SUB TOTAL	100,000	100,000	105,000	108,000	118,000	531,000

CONSERVATION TECHNOLOGY

Employ current and adopt emerging technologies for tracking and monitoring Fighting Extinction species	50,000	50,000	125,000	125,000	125,000	475,000
Investigate automated collection of captive animal behavioural data for health, welfare and breeding applications	60,000	60,000	60,000	60,000	60,000	300,000
Apply genetic technology to aid Fighting Extinction species' recovery		15,000	35,000	35,000	35,000	120,000
Conduct a biennial review of Conservation technology for application in Fighting Extinction and other Zoos Victoria program	15,000		15,000		15,000	45,000
Host a biennial conservation technology workshop/symposium		15,000		15,000		30,000
Tattoo Keeper - scoping using augmented reality to foster engagement with and compassion for key species	30,000					30,000
SUB TOTAL	155,000	140,000	235,000	235,000	235,000	1,000,000

CRYOPRESERVATION

Maintain a frozen research hub at Zoos Victoria	5,000	5,000	5,000	5,000	5,000	25,000
Support Monash Frozen Zoo and cryopreservation research	10,000	10,000	10,000	10,000	10,000	50,000
Incorporate genetic samples, including the development of live cell lines, from the highest priority Fighting Extinction species into the Frozen Zoo	30,000	30,000	30,000	30,000	30,000	150,000

Support international FAUNABank workshop and research bringing together our partners for a national strategy and support of wildlife banks	5,000	20,000	5,000	5,000	5,000	40,000
SUB TOTAL	50,000	65,000	50,000	50,000	50,000	265,000

LOVE YOUR LOCALS

Fighting Extinction LEGO initiative	50,000	30,000	30,000			110,000
Partnership with Vic Environments Nature festival and Moomba to reach a mainstream audience	140,000	50,000	50,000	50,000	50,000	340,000
Partner with BehaviourWorks Australia to run behavioural identification prioritisation workshop to bolster the rigour and integration of the Love Your Locals program	15,000					15,000
Community action to save our most in need - large scale fundraising initiative where community can donate (pledge amount or purchase Fighting Extinction related item) with all funds going towards a designated threatened species or project	150,000	50,000	50,000	50,000	50,000	350,000
Project spotlight - using citizen science to survey for threatened species in Victoria's forests, including in the Central Highlands	60,000	40,000	40,000			140,000
Invertebrate Investigators - using citizen science to search for Key's Matchstick Grasshopper, a species not observed in Victoria for 40 years. *Note: scope included under species page						
SUB TOTAL	415,000	170,000	170,000	100,000	100,000	955,000

BUILDING CAPACITY

Ensure Scientific Excellence - Zoos Victoria's Wildlife Conservation and Science Team	1,590,000	1,648,000	1,648,000	1,648,000	1,648,000	8,182,000
Enlist the services of a bird specialist to support our investment in our bird projects		100,000	100,000	100,000	100,000	400,000
Employ a Community Conservation Campaigner to extend the reach and impact of behaviour change campaigns, and support delivery of new campaigns	90,000	90,000	90,000	90,000	90,000	450,000
Training and support for our people to embed Connect-Understand-Act in their roles	10,000	10,000	10,000	10,000	10,000	50,000
Grow our social research program, enabling us to increase our efficacy in generating positive conservation outcomes	78,000	116,000	91,000	114,000	106,000	505,000

Establish and implement the Zoos Victoria Conservation Consultancy program to share the Zoos Victoria ZBCO model worldwide to benefit conservation and the zoo community	266,000	294,000				560,000
Centre for Conservation Excellence - develop a high level concept design, including cost analysis		40,000				40,000
Provide small grants program for research on the Fighting Extinction species	30,000	40,000	40,000	50,000	50,000	210,000
SUB TOTAL	2,064,000	2,338,000	1,979,000	2,012,000	2,004,000	10,937,000
TOTAL	16,335,000	16,792,000	15,442,000	15,564,000	15,299,000	79,432,000



ZOOS

VICTORIA
Fighting Extinction

PO Box 74
Parkville, Vic. 3052
Elliot Avenue
Parkville Victoria
www.zoo.org.au

MELBOURNE ZOO

Elliott Avenue
Parkville, Vic. 3052
Tel: 1300 966 784
Fax: 61-3-9285 9350

HEALESVILLE SANCTUARY

Badger Creek Road
Healesville, Vic. 3777
Tel: 1300 966 784
Fax: 61-3-5957 2870

WERRIBEE OPEN RANGE ZOO

K Road
Werribee, Vic. 3030
Tel: 1300 966 784
Fax: 61-3-9731 9606