invasive species council

KEEPING NATURE SAFE FROM INVASIVE SPECIES

A 2030 strategy to prevent invasive species led extinction and loss
A plan of action for 2025

Walls of Jerusalem National Park. Photo: John Sampson

Our challenge

COVID-19 has taught the world a lesson about invasive species – their ability to spread, create havoc and evolve to exploit our vulnerabilities. It has also demonstrated that we can overcome major invasive threats when there is strong political commitment, community mobilisation and scientific endeavour.

Our mega-biodiverse country – one of only a few on the planet – is in the grips of an extinction crisis. As an island nation Australia is vulnerable to biological invasions. They've caused most of the species extinctions over the past 230 years and of the 5 animals lost since 2009, 4 were due to invasive species. More than half of all nationally-listed threatened species, are imperilled by invasive species. This threat typically operates alongside other major threats and is exacerbated by extreme weather events. CSIRO reports a new wave of mammal extinctions is looming across northern Australia and invasive species are the main driver.

The economic costs of invasive species are also staggering – an estimated $25 billion a year, more than 1% of Australia's GDP. The stakes are high and solving this crisis is an enormous challenge. Indeed, the scale of this challenge is why many resist confronting it.


Chris Humfrey


Linda Groom

20 years ago, a small but courageous group of people rose to this challenge and the Invasive Species Council was born. Since then, we've punched above our weight and have had many successes. But the risk to nature increases as the drivers of loss grow. The invaders keep arriving and establishing at an alarming rate. Australia's biosecurity system has gaps. And those in power are slow to act on the lessons learnt.

The science tells us we're running out of time to solve this crisis. Thankfully, the problems are not insurmountable.

To effectively tackle the growing threat, we must grow into a stronger organisation to intervene more quickly and in more dramatic ways. Having led this organisation for 10 years I'm convinced that better biosecurity is biodiversity's best chance. I'm excited to launch our most ambitious impact strategy yet – one that will protect against further extinctions – allowing species, ecological communities and important biodiversity and cultural sites to recover, and enabling much greater natural resilience to the impacts of climate change.

As Australia's only environmental organisation dedicated to strategically tackling Australia's extinction crisis by stopping invasive species, we have the solutions, powerful alliances and a willing government.
This moment offers an unprecedented mix of ambition, promise and opportunity. I dare say, we are on the verge of changing the course of history. We now seek investment from forward thinking philanthropists to fund this ambitious strategy and scale up our impact to achieve a strong biosecurity system and create a future for Australia where nature is safe from invasive species. Please join me.

Andrew Cox, CEO

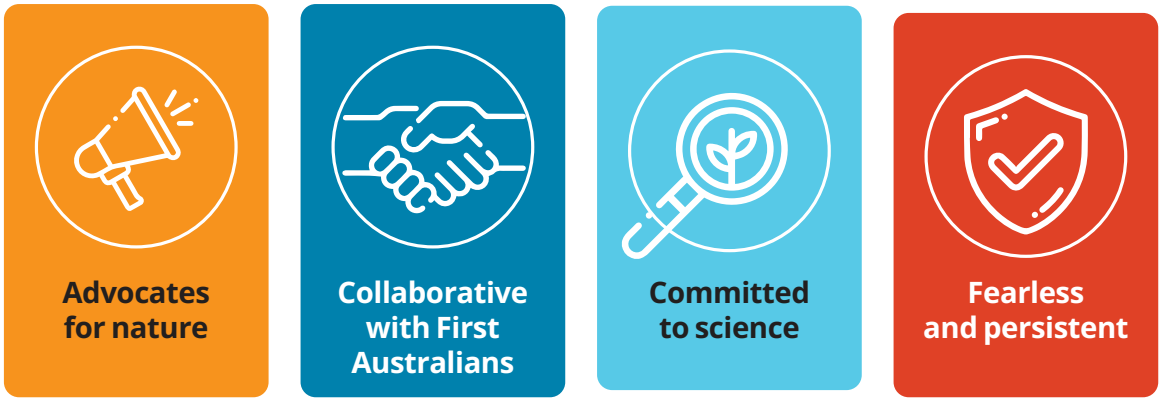
About us

The Invasive Species Council is an independent organisation that safeguards the Australian environment from invasive pests, weeds and diseases. In 2002, inspired by the revelatory book Feral Future, a small group of people formed the Invasive Species Council to fill a gap in conservation advocacy in Australia. Since then, we have been at the forefront of efforts to strengthen biosecurity in Australia to better safeguard our land and seas from invasive species.

Our remit is broad and includes all categories of invasive species – plants, animals, fungi, microbes – across terrestrial, freshwater and marine ecosystems. Although our primary focus is Australia and its territories, when opportunities arise, we support international efforts that benefit Australia, our region and the world.

The Invasive Species Council is striving for a future in which invasive species are no longer a major cause of environmental decline and extinctions. Achieving this ambitious goal will allow species, ecological communities, and important biodiversity and cultural sites imperilled by invasive species to recover and enable much greater natural resilience to the impacts of climate change and other threats.

We value being...



Our vision

An Australia where wildlife and ecosystems are safe from invasive species. By 2050, invasive species are no longer a major driver of biodiversity loss and ecosystem degradation in Australia.

Our mission

We catalyse strong, collaborative biosecurity to protect and restore what makes Australia extraordinary — our unique wildlife and ecosystems.

2030 goals

By 2030, Australia has a much stronger environmental biosecurity system, enabling more effective:

Prevention: The establishment of new invasive species in Australia has substantially slowed, and no new very-high-risk species have permanently established.

Eradications: Priority invasive species are being systematically eliminated from the Australian mainland and islands.

Containment and control: Invasive species have not caused any more extinctions, high priority invasive species are being effectively contained or controlled, and priority

Driving progressive change

To achieve our vision and 2030 goals we must build a stronger, collaborative biosecurity system.

To do that we must intervene to create the conditions for progressive change.

ANALYSIS: We investigate, evaluate and work with experts to identify deficiencies in current approaches and devise strategic long-term solutions to inform and guide the aims of our interventions.

ALLIANCES: We build trusted partnerships and cross-sector collaborations with industry bodies, researchers, environmental NGOs, governments, Traditional Owners and other land managers and philanthropists to powerfully negotiate and bolster interventions to advance shared objectives.

ADVOCACY: To achieve this change, we fearlessly advocate to persuade governments and others through evidence-based arguments, compelling communications for strong community support.

ACTION: We step in when others won't step up – to undertake critical research, surveillance, eradications and control projects, to support the community and add value to the work of others.

Figure 1: Our theory of change

How to tackle the mega threat of invasive species

While stopping invasive species is often difficult, past achievements such as controlling prickly pear, eradicating several cattle diseases, and eliminating invaders from dozens of islands show that, with dedication and resources, Australia can achieve world-leading results. But biosecurity efforts for the environment have been patchy, and invasive species are running riot across much of Australia, including in protected areas.

To protect and restore Australia's ecosystems, we need ambitious action at all stages of the 'invasion curve'. Prevention and early action to eradicate recently established species is highly cost-effective. As an invasive species spreads, it becomes much harder and more expensive to control. For many widespread species, the best that can be done with current control methods is protect high-value 'assets' such as threatened species. However, there is potential for Australia to reverse that trajectory for certain high-impact invasive species by investing in promising emerging control technologies.

We need stronger, more collaborative and better funded biosecurity to prevent and eradicate new invaders and stop the spread of others. Prevention, eradication and management goals cannot be achieved without it. We need a much more concerted effort to contain and control the most harmful invaders already here, including by developing and funding innovative and promising control technologies and improving habitats (e.g. management of fire and grazing to limit invasion impacts).

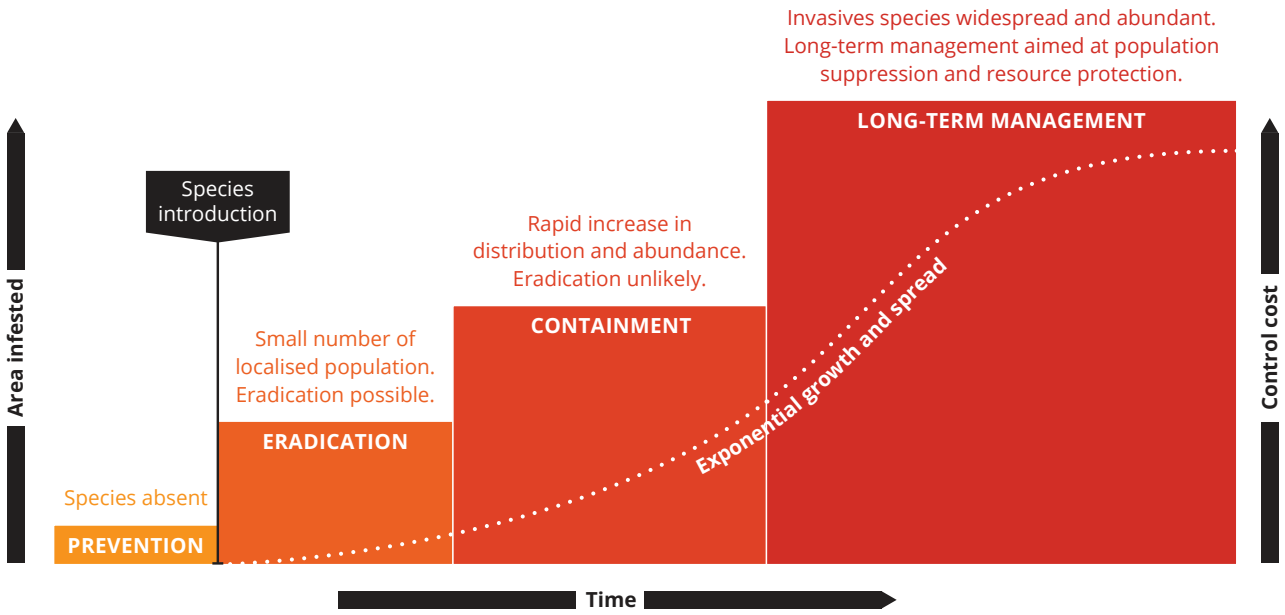


Figure 2: The invasion curve. It applies at all geographical scales – national, state and local

Biosecurity – biodiversity's best chance

Strengthening environmental biosecurity – to prevent new invasive species arriving and establishing, stop the harm caused by established invaders, and restore healthy ecosystems – is the required remedy to the invasive species mega threat. Pivotal to success to all efforts will be inspiring and mobilising the Australian community and industries and developing a market based economic solution to fund the increased cost of environmental biosecurity.

We are not alone in this feat. Invasive species also threaten our economy and way of life, responsible for devastating crop failures and livestock diseases. The many additional benefits of stronger biosecurity – for our Indigenous heritage, human health and wellbeing, and the agricultural and tourism industries – create opportunities to form cross-sectoral partnerships and motivate all Australians to participate in biosecurity and support sustainable agriculture.

Our leadership in ensuring that the 2020s will become the 'Decade of Biosecurity' is an unprecedented opportunity to involve all Australians in creating a stronger biosecurity system – as important for conservation as it will be for primary industries and human health.

The development of the State of Environmental Biosecurity Report 2022, to be published by the Invasive Species Council will benchmark progress, identify system weakness and refine direction for the investment of resources.

Industry, community and government partners launch the Decade of Biosecurity at the Australian Biosecurity Symposium, May 2022. The Invasive Species Council is a co-founder and hosts the coordinator role

Decade of Biosecurity ambassador Costa Georgiadis and inaugural coordinator, Nicky Fitzgibbon

Decade of Biosecurity 2030 Project opportunity

This decade is our major opportunity. Four organisations – Animal Health Australia, Invasive Species Council, Centre for Invasive Species Solutions and Plant Health Australia – representing agricultural and environmental interests, have been working as the Biosecurity Collective to advance the Biosecurity 2030 Project - an ambitious and critical initiative to transform our national biosecurity system to effectively protect our farms and bushland, people and wildlife.

The project builds a powerful alliance to confront these unprecedented challenges of invasive species and win strong leadership, broader collaborations and innovation. The Collective has since secured support for one of its initiatives – the Decade of Biosecurity – from strategic partners including Landcare Australia, National Farmers' Federation, NRM Regions Australia and National Landcare Network state and territory governments and the federal government.

Continuing 20 years of impact

The Invasive Species Council is the only advocacy-focused environmental NGO committed to stopping invasive species led extinction. We can successfully fight this battle against invasive species but only if we rapidly grow into a larger, stronger organisation capable of scaling our impact. ISC has punched above its weight and can demonstrate strong impact over 20 years. Your investment can help continue this success for nature. Here are some of our successes:

Northern Corroboree Frog. Image: Zak Atkins

- **In 2022 secured a commitment** from all federal, state and territory government and seven industry and research partners **to declare the 2020s the Decade of Biosecurity.**
- **In 2022 protected Tasmanian Wilderness World Heritage Area** from feral deer by securing a commitment in the Tasmanian governments deer strategy to keep the WHA deer free.
- **From 2016-2022 protecting Queensland's Wet Tropics World Heritage Area** by securing funding for eradicating yellow crazy ants.
- **In 2021 protected Kosciuszko National Park** by winning a new NSW plan to actively manage feral horses from 14,000 to 3000 by 2026.
- **In 2021 won a stronger feral horse plan for Victoria's Alpine National Park.**
- **In 2020 secured a new Victorian deer management strategy** that prioritises the environment including **$18M over 4 years for on-ground feral deer control**.
- **In 2019 protected NSW from feral deer.** Had protected status removed from feral deer and officially recognised as a priority pest allowing for effective management.
- **In 2018 secured the appointment of a Chief Environmental Biosecurity Officer**.
- **In 2017 protected SE Queensland and Australia** by securing $411 million in a 10-year commitment to eradicate red fire ants.
- **In 2013 protected NSW national parks** by defeating a proposal for recreational hunting in national parks and brought about the abolition of the NSW Game Council, working with National Parks Association of NSW.
- **In 2012 prevented prospective industries** from being able to grow invasive weeds or farming pest animals.
- **In 2011 successfully lobbied to protect South Australia from research trials of giant reed**.
- **In 2009 the federal government rejected an application to import bumblebees for horticulture**.
- **In 2005 won a declaration and banning of two of Australia's worst weeds** – bushfire causing gamba grass and Cecropia – and greater caution with giant reed as a biofuel.
- **In 2004 exposed a major loophole in Australia's weed quarantine rules**, which was later forced to be closed.

Summary of 2025 plan

This table summarises campaigns and programs to advance the 2030 goals during 2022–2025. These are ambitious while embedded in reality.

An important change to our strategy is that we are now working at all stages of this invasion curve and we have a new priority focus on protected and high conservation areas. The protected areas focus is reflected by the shaded campaigns segments in the table. Such a national focus on invasive species has not yet been attempted in Australia.

As we grow, we will be able to tackle a greater number of threats and priority areas. Potential campaigns to tackle additional major invasive species threats including foxes, marine, weeds and hard-hoofed feral animals in northern Australia (see *). These campaigns will be considered for inclusion and subject to additional funding being successfully secured.

After the completion of the 2022 State of Environmental Biosecurity Report, our campaigns and projects will be refined to ensure we are maximising our impact.

STRONGER ENVIRONMENTAL BIOSECURITY Systems change projects	**PREVENTION AND ERADICATIONS** Eradication and research projects	**CONTAINMENT AND CONTROL** Critical advocacy campaigns	**ENABLING ACTION** Community mobilisation

Stronger biosecurity
• Decade of Biosecurity 2021-2030
• State of Environmental Biosecurity Report
• 'Biosecurity collective' initiatives
• Biennial Australian Biosecurity Symposium
• Limit pathways
	Islands
	• National islands Invasives initiative
	• Norfolk Island rodents and cats
	• Lord Howe Island weeds*
		Hard-hoofed herbivores
		• Horses
		  • Australian Alps
		  • Barrington Tops
		• Deer
		  • Tassie World Heritage
		  • Victoria
		  • National
		• Northern Australia*
			Education and awareness
			• Social research to win social license
			• Increase awareness of damage
			• Build public support for strong biosecurity measures

Economic solutions • Develop new models • Secure new funding	**Frightening fungi** • Conduct research	**Pervasive predators** • Cats • Foxes*	**Citizen science** • Guidelines • Community biosecurity reporting
Threats to nature • Policy and law reform • Concerted national action on key threats	**Invasive insects** • Risk assessments • Pathway management	**Worst weeds** • Pasture grasses* • Cactuses* • Responsible nurseries*	**Indigenous** engagement • Indigenous pledge • Invasives network
Marine • Biofouling*	**Alarming ants** • Yellow Crazy Ants • Red Fire Ants	**Freshwater** • Invasive fish*	**Community and industry initiatives and alliances** • Community pledges

Table 1: Summary of 2025 Plan

Shaded boxes: protected area and high conservation area focus. * areas for potential inclusion subject to additional funding

Programs, objectives and targets for 2022-2025

1 Systems change for a **stronger, collaborative biosecurity system**

By 2030, Australia has a much stronger environmental biosecurity system.	
OBJECTIVE	**TARGETS 2022 – 2025**
Strengthen the biosecurity collective and associated collaborations	• By September 2022, the Decade of Biosecurity Project 2030 business plan has been developed and 3-year funding secured. • By 2023, new national biosecurity governance is in place that meaningfully involves the community. • In 2024, the Australian Biosecurity Symposium is held which an increased number of delegates and key decision makers. • By 2025, all 5 Biosecurity 2030 Project objectives have been achieved.
Identify gaps, priorities and solutions for stronger biosecurity	• By 2022, publish and launch an independent State of Environmental Biosecurity Report • By 2023, the Invasive Species Council's State of Environmental Biosecurity Report is regarded as an authoritative assessment, as indicated by positive peer reviews. • By 2025 incorporation of environmental impacts into import risk assessments is improved to prevent new invaders.
Develop economic solutions and funding options	• By 2023, at least $5m/year of new funding has been secured for environmental biosecurity R&I priorities identified in the 2025 RD&E plan. • By June 2024, funding for the federal Environmental Biosecurity Office is triple that of 2021–22 levels. • By 2025, the federal, state and territory governments have committed sufficient funding to implement threat abatement plans for 5 high-priority invasive threats listed as key threatening processes.
Strengthens the national threat abatement system	• By 2024, the federal government has adopted reforms to the threat abatement system, including systematic threat listing, improved planning and a robust monitoring and reporting framework. • By 2025, invasive species threats that qualify as key threatening processes have been assessed and prioritised for a national threat abatement response.
KPI 1.1: Funding needed to achieve effective environmental biosecurity has been assessed, sustainable funding and transparent prioritisation mechanisms are in place, and public funding for environmental biosecurity is at least triple that of 2022 levels. **KPI 1.2:** All biosecurity agencies explicitly recognise the natural environment in their mission statements and have biodiversity-specific targets in their biosecurity strategies and plans. **KPI 1.3:** The federal government invests at least an additional $10 million a year (compared to 2022 levels) into biodiversity-focused biosecurity research and innovation across all stages of the invasion curve. **KPI 1.4:** The Biosecurity Collective has fully implemented the Biosecurity 2030 Project Plan.	

2 Research and programs **Prevention and Eradication**

Prevention is best, as it is often very hard to eradicate an invasive species unless it is detected soon after arrival. The window of opportunity for some species (e.g. wind-borne pathogens) may be no more than a few weeks.

Every effort should be made to prevent and eradicate very high-risk species to our environment, as would be the case for very high-risk threats to industry such as foot and mouth disease.

An ambitious goal reflecting global biodiversity targets is needed to reflect the importance of prevention, with both a substantial overall reduction in new invasive species and concerted action to stop the establishment of new highly damaging species – the likes of myrtle rust and red fire ants.

The eradication of invasive species is often the most desirable and cost-effective outcome because it eliminates the need for costly, never-ending management. The frequently long lag period before invasive species 'take off' is an opportunity to prevent a problem yet it is becoming more urgent with climate change, which is likely to facilitate the spread of many more species. Eradications on islands are one of Australia's great success stories, protecting endemic island wildlife and creating havens for species threatened on the mainland. The eradication focus here is on invasive species that have been established for years (sometimes decades) but not yet spread far ('sleepers') and invasive species on islands. These 2 eradication categories should be the focus of national programs (with cost-sharing by the federal and relevant state/territory governments) that systematically identify, prioritise and pursue the eradication opportunities.

Feral cat feeding on a galah in the Darling Scarp, Western Australia. Feral cats are the single biggest cause of animal extinctions in Australia, having been a major contributor to the loss of at least 25 native animal species and threaten the survival of more than a further 100

By 2030, the establishment of new invasive species in Australia has substantially slowed and no new very-high-risk species have permanently established. **By 2030, priority invasive species are being systematically eliminated from the Australian mainland and islands.**	
OBJECTIVES	**TARGETS 2022 – 2025**
Conserve islands	• By 2024, funding has been secured for the Lord Howe Island 10-year weed eradication program. • By 2024, the majority of Norfolk Island residents support eradication of rodents and cats. • By 2025, feral cat eradication programs are underway on 1–3 high priority islands (e.g. Norfolk and Christmas Island). • By 2025 there is political support for a national island eradication program.
Close off pathways for major insects and fungi threats	• By 2024, partnerships and funding for an invasive fungi risks and pathways project have been secured. • By 2025, significant progress is made on insect prevention and data platform areas of the invasive insects recommendations. • By 2025, there is commitment and resources to implement the national invasive ants biosecurity plan.
Eradicate ants – yellow crazy ants, red fire ants	• By 2023 increased funding is secured for full eradication of red fire ants from south-eastern Queensland. • By 2025, sufficient funding to eradicate yellow crazy ants and electric ants from the Cairns, Townsville and Whitsundays regions has been secured (approx. $10-12m/year over 7–10 years).
KPI 2.1: The rate of establishment of new invasive species in Australia in 2030 is reduced by at least 50% (compared to the 2012–2022 rate). Reflects draft target 6 in the post-2020 global biodiversity framework. **KPI 2.2:** By 2030, 100% of new, very high-risk invasive taxa arriving in Australia, escaping into the wild or transported to an island from the mainland are prevented from establishing in the wild or are subject to eradication. **KPI 2.3:** By 2030, 20 'sleeper' invasive species have been eliminated from the mainland or are the targets of well-resourced eradication programs. **KPI 2.4:** Priority invasive species have been eradicated or are subject to eradication programs on 10 islands (additional since 2022) with high conservation values.	

Yellow crazy ants are a threat to north Queensland's beautiful native butterflies and caterpillars, being just one of the many small native animals killed by these highly aggressive invasive ant Photo: David Wilson

3 Limiting loss and destruction **Containment and Control**

Reducing the impacts of high-impact invasive species (those driving species declines and ecosystem degradation) and protecting high-biodiversity sites from the impacts of invasive species are both essential for conservation. The twin focus here on priority invasive species and priority places is consistent with the draft Conservation Biological Diversity targets.

The KPI place focus on protected areas is in recognition of the extremely high values of many protected areas, the frequent deficiencies of management and the good potential for improving management on conservation tenures. We include a KPI on stopping extinctions in recognition that this should be fundamental to any improved management of invasive species.

Since 2009, invasive species have been the primary cause of 2 extinctions (a bat and a lizard) and 2 extinctions in the wild (2 lizards). These extinctions were all of island endemic species, illustrating the susceptibility of islands and the need to improve biosecurity on priority islands.

The numbat is officially listed as endangered with less than 1000 mature individuals left. The main threats to its survival are feral cats and foxes

By 2030, invasive species have not caused any more extinctions, high priority invasive species are being effectively contained or controlled, and priority biodiversity sites are being protected from the impacts of invasive species.	
OBJECTIVES	**TARGETS 2022 – 2025**
Reduce hard-hoofed herbivores – deer and horses **Remove hard-hoofed herbivores – deer and horses from high value conservation areas**	• By 2022, a control program begins in the Tasmanian Wilderness World Heritage Area, Tarkine, Tasman Peninsula, Bruny Island and key national parks. • By 2023, a national deer containment plan is adopted by federal, state and territory governments, with evidence of progress by 2025. • By 2025, numbers of feral horses in Kosciuszko National Park are reduced by one third and effective horse control is in place in 3 other NSW protected areas, including Barrington Tops. • By 2025, horses are removed from Bogong High Plains and Barmah Forest, and numbers in Alpine National Park are reduced by one third. • By 2023, the protected status for deer is abolished in Victoria and by 2025 in Tasmania. • By 2025, the Tasmanian feral deer plan is implemented. Deer numbers have dramatically reduced in the Tasmanian Wilderness World Heritage Area and outlier populations.
Secure owned cats indoors **Implement effective feral cat control in high priority areas**	• By 2023, federal government increases funding for innovative and effective cat control methods. • By 2024, barriers to 24-hour pet cat containment are removed in an additional state or territory. • By 2025, at least 5 local government areas with high biodiversity values are transitioning to effective domestic cat containment policies. • By 2025, feral cat numbers are being reduced in high priority areas (where threatened species are at serious risk). • By 2025, broad political support (federal, state and territory) is secured for improved domestic cat containment policies and effective feral cat control.
Protecting national parks and protected areas	• By 2024, a national park /world heritage funding needs analysis has been completed. • By 2025, the invasive species control budget is increased by 20% in at least one major jurisdiction to move closer to a minimum base-level of invasive species control.
KPI 3.1: During 2022-2030, invasive species have not contributed to any new species extinctions. **KPI 3.2:** 10 priority invasive species are being effectively contained or controlled and the measurable impacts have been reduced. **KPI 3.3:** The measurable impacts of invasive species have been reduced in at least 10% of Australia's protected area estate (public and private lands).	

4 Community mobilisation to **Enable Action**

Pivotal to success to all efforts will be inspiring and mobilising the Australian community and developing a market based economic solution to fund the increased cost of environmental biosecurity.

To mobilise Australians and reduce opposition, we must invest in social research and develop powerful messaging to build social licence for biosecurity control methods.

In 2018, over 36 days, 790,000 steps and 560 kilometres, five walkers protesting legislation that protects feral horses in Kosciuszko National Park were joined on the summit of Mt Kosciuszko by around 200 enthusiastic supporters

The Sentinel in spring, Kosciuszko National Park. Photo: Tony Brown

By 2030 Australians are mobilised around a stronger environment biosecurity system and support the best available control methods	
OBJECTIVES	**TARGETS 2022 – 2025**
Build social licence	• By Dec 2022 a baseline of community understanding of biosecurity is established via social research • By 2025, no further restrictions on 1080 and glyphosate for environmental use. • By 2025, the benefits of humane invasive animal control are well understood by the Australian community (this indicator is difficult to measure). • There is an increased number of Australians with a sound understanding of damage caused by invasive species by 2025, off a 2022 baseline.
Support citizen science	• By 2025, invasive species surveillance guidelines have been developed and adopted by major citizen science programs. • By 2025, iNaturalist and other popular citizen science apps are a major source (>30%) of reports of species of environmental biosecurity concern.
Indigenous engagement	• By 2025, the Indigenous invasive species pledge is supported by at least 50 Indigenous organisations. • By 2024, an invasive species network of indigenous land managers is formed.
Secure community pledges	• By 2025, a community invasive species pledge supported by at least 100 community groups.
KPI 4.1: By 2026, 80% of Australians are aware of the harmful impact of invasive species. **KPI 4.2:** By 2028, 40% of Australians support most biosecurity methods. **KPI 4.3:** By 2030, 40% of Australians are taking actions to prevent or manage invasive species. **KPI 4.4:** By 2030, 60% of Australians support humane culling by 2030.	

As Australia's only environmental organisation dedicated to strategically tackling Australia's extinction crisis by stopping invasive species, we have the solutions, powerful alliances and a willing government.

Join us in supporting this ambitious strategy and scale up our impact to achieve a strong biosecurity system and create a future where nature is safe from invasive species.

Website: invasives.org.au

Donate: invasives.org.au/donate

The Invasive Species Council is a registered charity and has DGR 1 status (deductible gift recipient).

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invasive species council

ABN: 27 101 522 829

The nationally endangered Norfolk Island green parrot is threatened with predation by cats and rats. The Invasive Species Council has created the first island-wide vegetation map to assist with future pest and weed control.

Photo: Luis Ortiz-Catedral

March 2023