Aggravating extinction investigation

How the Australian government approves the destruction of threatened species habitat

AUSTRALIAN CONSERVATION FOUNDATION

ACF investigation

Aggravating extinction

How the Australian government is greenlighting destruction of the habitat our threatened species need to survive

Introduction

Australians love nature - it's part of who we are. Australia is one of only 17 megadiverse nations on earth and home to some of the most unique and remarkable plants and animals on the planet.

Yet Australia is also a world leader in nature destruction. We're the only developed nation on the list of global deforestation hotspots and we've caused the extinction of more mammals than any other nation. We rank third in the world on the total number of extinct and threatened animals, and eighth in the world on extinct and threatened species.

Consecutive State of the Environment reports have warned Australia is losing biodiversity at an alarming rate and habitat destruction is a leading driver of nature decline and extinction. Habitat destruction describes the loss, fragmentation and degradation of forests, grasslands and woodlands, mountains and deserts, rivers and wetlands, coastlines and seas where plants and animals that are threatened with extinction live. Despite clear warnings that habitat destruction is a key driver of extinction and compounds the effects of other key threats (including invasive species, fire, and climate change), this investigation has uncovered evidence that the destruction of legally-protected threatened species habitat is not only ongoing, but accelerating.

This is no accident. The Federal Government has knowingly approved this destruction under our flawed national nature law, the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

This investigation reveals how the Federal Government has been intensifying, rather than abating, the extinction pressure faced by Australian threatened species (1,210 species).

To do this, we painstakingly compiled ten years' worth of publicly-available (but difficult to obtain) information on all EPBC decisions that approved the destruction of threatened species habitat. We then compared these findings with a national-scale dataset of threats faced by Australia's nationally-protected fauna and flora. We focussed on wildlife for which habitat destruction is recognised by experts as a high-impact or medium-impact threat.

In this investigation, we highlight five case studies of iconic EPBC-listed threatened animals – the koala, greater glider, swift parrot, forest red-tailed black-cockatoo and spot-tailed quoll – that have had tens of thousands of hectares of precious habitat approved for destruction, despite the fact habitat destruction is one of the most dangerous threats to their survival.

We uncover what the Federal Government has failed to disclose: the cumulative impact of the government's individual decisions to willfully greenlight the destruction of the habitat our threatened species need to survive. We show how over the last decade, rather than protecting our most vulnerable and beloved native animals, the Federal Government has been aggravating extinction.

In addition to presenting key findings and case studies from this investigation, we have released the full dataset as a public resource, because there are many more stories and examples to be uncovered.

Cover. Spot-tail quoll *Photo*. David Gallan

Key findings

- **Over the last ten years, the Federal Government has knowingly approved the destruction of more than 200,000 hectares of threatened species habitat.** For comparison, that's an area equivalent to approximately 100,000 MCG football fields, or larger than Fraser Island (K'gari) in Queensland or Adelaide's entire metropolitan region.
- **The rate of destruction is increasing.** During the five year period from 2011 to 2016 the government approved the destruction of 80,000 hectares of threatened species habitat. Despite the worsening trajectory for threatened species outlined in the 2016 State of the Environment Report, the rate of habitat destruction accelerated by 50% in the following five years. Between 2016 and 2021, more than 120,000 hectares of threatened species habitat was approved for destruction.
- The 200,000 hectares approved for destruction over the last decade includes habitat for more than **400 unique threatened species,** cleared to make way for over 500 actions (or projects) relating to 18 different industries across public and private sectors.
- The 200,000 hectares includes more than **6,500 hectares** of habitat for species listed as Critically Endangered at the time of approval – one of which, the Christmas Island Pipistrelle, is now extinct – and more than **50,000 hectares** for species listed as Endangered at the time of approval.
- **The koala lost more habitat to federally-approved destruction than any other animal.** Since it was listed as vulnerable, the Federal Government has approved the destruction of more than 25,000 hectares of koala habitat, about a fifth of which was for a single project: the Olive Downs coal mine. At the same time, the government's policies and underfunded compliance areas have allowed at least a further 160,000 hectares of koala habitat to be destroyed without federal oversight.
- **The greater glider, swift parrot, forest red-tailed black-cockatoo and spot-tailed quoll** have also had concerning amounts of high-impact habitat destruction approved (more than 7,400, 2,500, 1,800, and 1,200 hectares respectively).
- **States and Territories:** More habitat destruction was approved in Queensland than in all the other states or territories combined. While WA lost the second-highest area of habitat, a larger area of high-impact destruction (that is, destruction impacting a species for which habitat loss is a medium- or high-impact threat) was approved in NSW than in WA.
- **Industries responsible:** the mining industry was responsible for 75% of high-impact destruction approved through the EPBC Act and 72% of the total habitat destruction approved under the EPBC Act. It is important to note that the destruction of habitat for the vast majority of Australian agriculture is not captured in this data. According to Queensland Government data, 680,688 hectares of vegetation was destroyed in Queensland in 2018-19, with 93% of that associated with 'conversion to pasture' and almost all of that was done without federal approval. According to NSW Government data, the permanent clearing of native woody vegetation in NSW has increased about three-fold since 2015 and stands at an average of 35,000 hectares cleared each year, with the vast majority cleared for agriculture. Likewise, habitat destruction from native forest logging is not captured in this data because logging in Regional Forest Agreement areas is exempt from assessment and approval under the EPBC Act.

Key figures

In the table below, we've combined data on habitat destruction approvals with data from experts about which species are most badly impacted by habitat destruction. The impact scores come from research by Michelle Ward and colleagues. Essentially, high-impact threats affect the whole or majority of the species and are rapid or very rapid in severity. Medium-impact threats are either rapid but apply to a limited scope of the species, or affect a wide range of the population but are not as rapid.

rank	species	number of approvals	hectares approved to be destroyed	impact of habitat destruction
1	Koala	94	25,525	Medium
2	Red goshawk	6	24,270	Medium
3	Southern squatter pigeon	30	17,622	High
4	Ornamental snake	20	10,066	High
5	Greater glider	17	7,437	Medium
6	Grey-headed flying-fox	50	4,626	Medium
7	Corben's long-eared bat	10	4,089	Medium
8	Malleefowl	6	2,608	Medium
11	Southern black-throated finch	7	2,588	High
10	Swift parrot	36	2,521	High
9	Regent honeyeater	33	2,320	High
12	Forest red-tailed black-cockatoo	73	1,834	High
13	Plains rat, Palyoora	2	1,740	Medium
14	Baudin's black-cockatoo	59	1,316	High
15	Spot-tailed quoll, Spotted-tail quoll, Tiger quoll (South eastern mainland population)	19	1,298	Medium
16	Gouldian finch	4	922	Medium
17	Bare-rumped sheath-tailed bat, bare-rumped sheathtail bat	12	908	High
18	Golden sun moth	50	731	Medium
19	Slaty red gum	2	386	Medium
20	Northern masked owl	2	326	Medium

Figure 1: The 20 threatened species worst impacted by federally-approved habitat destruction over the last ten years

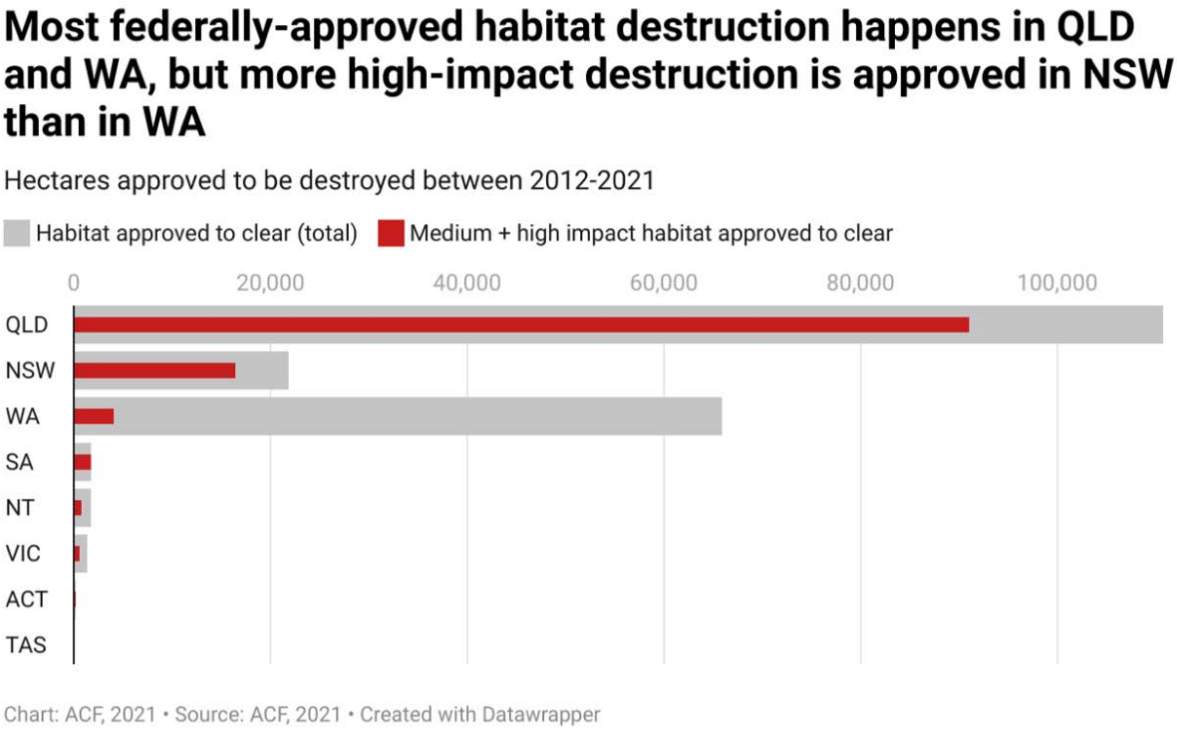


Figure 2: Habitat destruction approvals by state

Responsible industries (according to this data)

Industries obtaining EPBC approval to destroy habitat of threatened species.

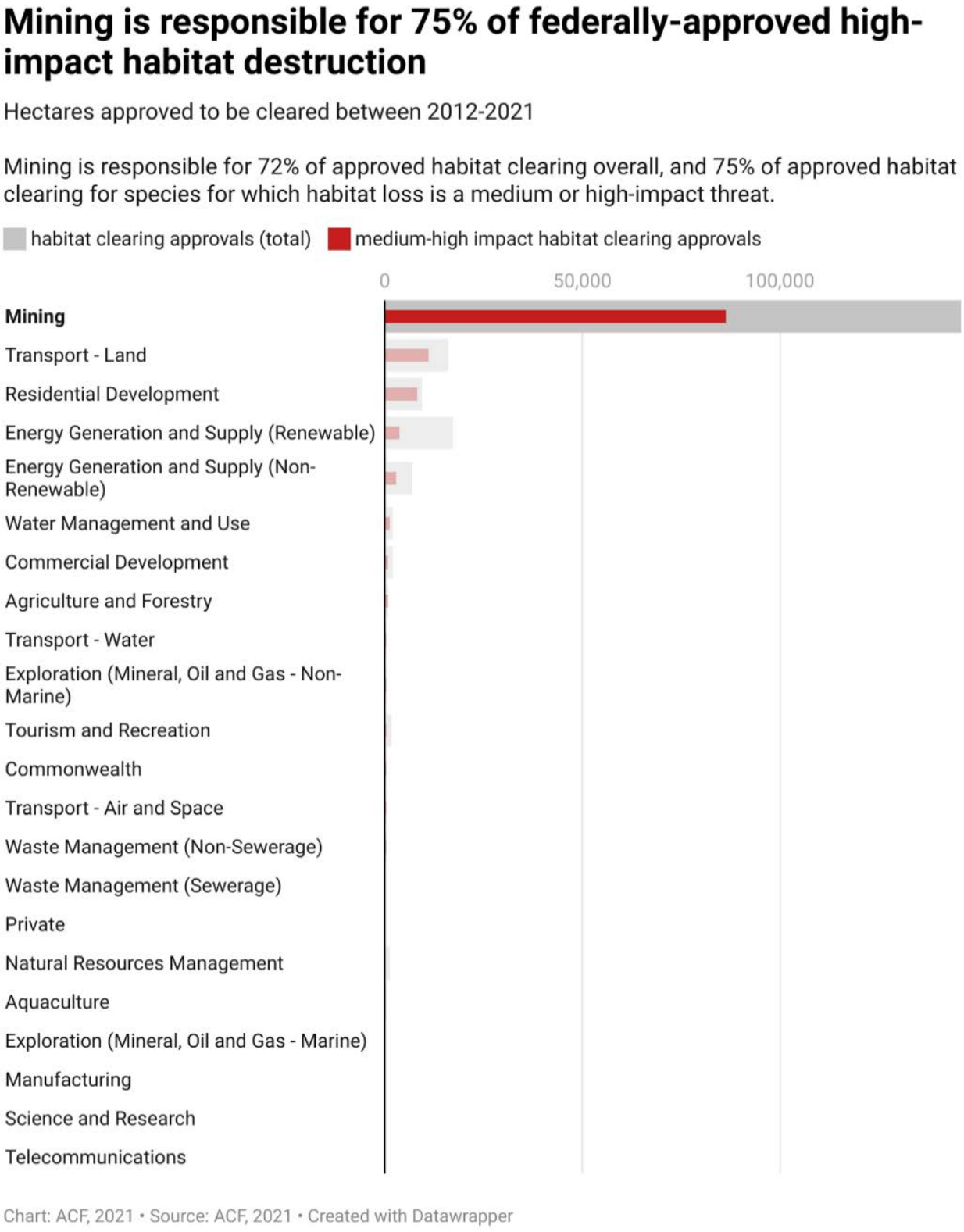


Figure 3: Mining is responsible for 72% of approved habitat destruction overall, and 75% of approved habitat destruction where habitat loss is a medium- or high-impact threat.

The 5 industries responsible for 95% of all federally-approved threatened species habitat clearing

Hectares approved to be cleared between 2012-2021

	Industry	medium-high impact habitat clearing approvals	% of medium-high impact habitat clearing approvals	habitat clearing approvals (total)	% of total habitat clearing approvals
1	Mining	86,241	75%	145,904	72%
2	Transport - Land	11,011	10%	16,012	8%
3	Residential Development	8,060	7%	9,406	5%
4	Energy Generation and Supply (Renewable)	3,516	3%	17,182	8%
5	Energy Generation and Supply (Non-Renewable)	2,674	2%	6,788	3%

Table: ACF, 2021 • Source: ACF, 2021 • Created with Datawrapper

Figure 4: The five industries responsible for 95% of federally-approved habitat destruction

Nature in crisis

Around 95% of Australians agree it's important to protect nature for future generations to enjoy. But few Australians realise how bad the situation is for nature in Australia. Around 84% of Australians think Australia's nature is in excellent, good or fair shape.

But the data tells a very different story.

The last State of the Environment report in 2016 ranked our biodiversity as poor and getting worse. Indeed, consecutive State of the Environment Reports have mapped the downward and declining health of the ecosystems that our wildlife and people need to survive. The picture in the soon-to-be-released 2021/22 State of the Environment report is expected to be even worse.

Habitat destruction compounds the extinction pressures our wildlife will continue to face from climate-crisis-fuelled catastrophic bushfires and drought, as well as invasive species. Across Australia, the rate of decline is accelerating. The most recent update to the IUCN International Red List of threatened species saw an additional 124 Australian species added. The once ubiquitous Bogong moth, which migrated from the plains to the Australian Alps in the billions a few years ago, is now listed as endangered with a population crash of 99.5% in just five years.

The current State of the Environment report was handed to the Federal Environment Minister in December 2021. ACF urges the Minister to make the report public as soon as possible so Australians can understand just how dire the situation is for nature in our country and the government can implement solutions at the scale needed to turn around this crisis.

The Federal Government must do what its very own Independent Review of the EPBC Act recommended – publish a response to the State of the Environment report that provides "a strategic national plan for the environment, including annual reporting on the implementation of the plan." The plan should align with the Global Goal for Nature in aiming to make Australia nature positive by 2030. This means not only halting but reversing nature destruction by the end of the decade and fully recovering nature by 2050.

Out of step with international commitments

When the Federal Environment Minister Sussan Ley signed the Kunming Declaration at the launch of the UN Convention on Biological Diversity's fifteenth Conference of the Parties (COP15) in October 2021, Australia committed to "reverse the current loss of biodiversity and ensure that biodiversity is put on a path to recovery by 2030 at the latest."

A month later at COP26, the UN Climate Change Conference, Prime Minister Scott Morrison announced that Australia had signed the Glasgow Leaders' Declaration on Forests and Land Use, committing to "halt and reverse forest loss and land degradation by 2030." The declaration recognised how critical land degradation and forest loss are to addressing climate change, reversing biodiversity decline and achieving the Sustainable Development Goals.

These are ambitious, admirable and important commitments. But governments and commercial industries cannot continue with business as usual if we are going to meet our international obligations. We must end the intentional destruction of threatened species habitat, especially species for which habitat destruction has been identified by experts as a major threat.

Fundamental change is needed, including a complete overhaul of Australia's failing national environment law and significant investment in species recovery and habitat restoration.

Overhaul national nature law

This investigation has highlighted the ongoing 'death by a thousand cuts' faced by threatened species in Australia under the flawed EPBC Act. Under the Act it is not only acceptable for the government to approve the destruction of the habitat threatened species need to survive, it is legal for the government to knowingly send a threatened species to extinction. This is clearly unacceptable.

It has been more than a year since Professor Graeme Samuel presented the Final Report of the Independent Review of the EPBC Act. The review found that "the environment and our iconic places are in decline and under increasing threat." It found the EPBC Act is "ineffective [and] not fit for current or future environmental challenges."

Among 38 interconnected recommendations Graeme Samuel called for the implementation of legally enforceable outcome-focused National Environmental Standards; the independent oversight of decisions made under the Act by appointing a well-resourced Environment Assurance Commissioner; and a pathway to modernise our environment laws to make them capable of tackling the significant environmental challenges we face.

Rather than embrace the opportunity for comprehensive environmental law reform, the government has cherry picked recommendations, despite the review's specific warning not to do so. For example, the government introduced a Bill to create a framework for national environmental standards, yet the Bill leaves the detail of those standards to the discretion of the Environment Minister – a feature of the existing law Professor Samuel identified as problematic.

The review also found "the information systems supporting the EPBC Act are inefficient, disorganised and incomplete." It found "decision-makers, proponents and the community do not have access to the best available data, information and science." The difficulty of obtaining the supposedly publicly-available information used in this investigation is testament to this failing.

In a noteworthy first, ACF has decided to publish and make freely available the database we've compiled for this investigation for others to interrogate. The Federal Government must improve access to information about the environment and the decisions it makes about the environment, so communities and businesses can understand how nature is being damaged, locally and cumulatively.

Unregulated destruction

The habitat destruction uncovered in this investigation is the tip of the iceberg. The vast majority of land clearing for agriculture in Australia is never referred for assessment under national environment law. For example, previous research by ACF has shown the size of koala habitat actually destroyed in a five-year period was ten times more than what was approved for destruction.

If unregulated destruction has continued at the same rate relative to EPBC-regulated destruction, as much as 280,000 hectares of koala habitat could have been destroyed across NSW and Queensland since that study was completed.

The Samuel review found compliance with the Act was poor (as illustrated by previous research showing 93% of threatened species habitat clearing is not regulated) and enforcement was weak and ineffective. The review recommended the creation of an Independent Office of Compliance and Enforcement to begin to address this significant failing.

Destruction of threatened species habitat from native forest logging is also effectively unregulated because logging in a Regional Forest Agreement area is exempt from the EPBC Act. As a result, the Federal Government has no available data on how much habitat for threatened species has been destroyed by the logging industry. This is despite decades of evidence that native forest logging is pushing threatened species – like the swift parrot, Leadbeater's possum, greater glider and others – to the brink of extinction.

The review recommended removing the logging industry's special exemption from national environment law. It recommended logging of native forests be subject to the same binding national standards as other industries. This would deliver significant environmental outcomes by protecting valuable habitat within Regional Forest Agreement areas that are increasingly relied upon as habitat for threatened species.

Ineffective offsets

As the Federal Government was quick to point out in response to public outcry following the initial release of our findings on koala habitat destruction, many of the approvals highlighted in this investigation were facilitated by biodiversity offsets.

Under the EPBC Act, the offsets scheme allows proponents who destroy threatened species habitat as part of their mine, road or port to protect or restore habitat elsewhere, or donate money to conservation, in order to supposedly 'offset' the harm done. In practice, offsets are being used as a default to facilitate unsustainable development, rather than as a last resort when all other options for avoiding and mitigating habitat destruction have been exhausted.

In several instances, projects have been allowed to proceed before offsets were even secured. A 2021 ACF investigation found at least nine coal mines in NSW received special permission from federal regulators to avoid penalties for failing to secure permanent protection of habitat within the time required in their original EPBC approvals. At the time of that investigation, Glencore and Yancoal had still not completely secured offsets and were non-compliant with their EPBC approvals.

Excessive reliance on biodiversity offsets undermines biodiversity protection – at best, offsets are ineffective at protecting biodiversity, at worst offsetting systems facilitate the destruction of irreplaceable habitat. The Samuel review found environmental offsets were ineffective as they "do not offset impacts of developments" and contribute to environmental decline. It recommended immediate and fundamental changes to the offset policy.

The widespread destruction of threatened species habitat uncovered by this investigation was facilitated by offsets on paper. Many of the approvals in this dataset concern habitat that is difficult to offset and projects that were approved with offsets that were in breach of the department's own policy. For example, a previous ACF investigation uncovered the case of a Queensland developer who turned an important koala habitat into a housing estate, even though the offsets did not meet the requirements set by the government.

For other threatened species, such as the forest red-tailed black-cockatoo, offsetting habitat destruction is virtually impossible. Research suggests forest red-tailed black-cockatoos need food trees at least eight years old and "the slow and patchy flowering and seeding of marri trees highlights the need for foraging habitat to consist of a mosaic of tree species and age classes."

The most pressing threat for endangered populations is a shortage of nest hollows, which take around 100 years to form. No amount of replanted trees can make up for destroying old trees with nest hollows, unless companies start revegetating offsets a hundred years before they plan to clear habitat. Despite this fact, the Federal Government has approved the destruction of nearly 2,000 hectares of forest red-tailed black-cockatoo habitat over the last decade – an area four-and-a-half times the size of Perth's Kings Park and Botanic Garden.

Solutions

This investigation has exposed the gross failure of Australia's national nature laws to protect our most vulnerable species and the habitat they need to survive. We can turn this around by creating strong national nature protection laws, enforced by an independent regulator, and by investing in the recovery of threatened species and the restoration of threatened species habitat.

To do this, the Federal Government should:

- Set strong national environmental standards enshrined in law.
- Create an independent and well-resourced national Environment Protection Authority responsible for compliance and enforcement to safeguard Australia's environment.
- Create an independent and well-resourced national Environment Assurance Commission to audit performance and oversee implementation of national environmental standards.
- Improve the collection, coordination, compilation and accessibility of data so that communities, businesses and government policy and decision-makers have access to up-to-date and accurate environmental information.
- Provide community access to justice and participation in environmental decision making.
- Ensure Indigenous knowledge, customs and interest are recognised, valued and respected under national environmental laws.
- Invest in the recovery of threatened species by allocating adequate funding to restore and protect habitat and ecosystems, including $1.69 billion per year for threatened species.

Case Studies

Over the next 10 pages, ACF highlights five case studies of iconic EPBC-listed threatened animals that that have had tens of thousands of hectares of precious habitat approved for destruction, despite the fact habitat destruction is one of the most dangerous threats to their survival.

For each of these iconic animals we look at key facts, list our key findings, and illustrate the cumulative destruction of habitat.

1. Koala
2. Greater glider
3. Swift parrot
4. Forest red-tailed black-cockatoo
5. Spot-tailed quoll

Use ACF's data to create your own case study

Generate key findings and a cumulative habitat destruction approval chart for any threatened species. Access the data here.

1. Koala
(combined populations of Queensland, NSW and the ACT)

Key facts

- This endangered subset of the koala population lives in eastern Australia, throughout New South Wales, the Australian Capital Territory and Queensland.
- Koala populations in Queensland have fallen 50% in 20 years and koala populations in NSW have fallen by more than 60% in 20 years.
- A recent expert study suggests as few as 300,000 adult koalas may be left in the wild across Australia.
- The koalas was listed as Endangered under the EPBC Act on 12 February 2022 (listed as Vulnerable on 2 May 2012).
- A recovery plan for the koala was supposed to commence in 2014 but was never made or adopted.

Major threats

- Destruction and fragmentation of habitat
- Drought, bushfire and extreme heat fuelled by climate change
- Vehicle strike
- Dog attack
- Disease

Key threatening industries according to this data

- Mining (61%)
- Transport - Land (12%)
- Residential Development (11%)
- Land-clearing for agriculture and forestry is a key threat to the koala. However, industrial forestry activities are exempted from the EPBC Act and therefore not represented in the EPBC-approved data. Likewise the bulk of land-clearing for agriculture is not referred for EPBC assessment or approval.

Koala sleeping *Photo*. David Clode

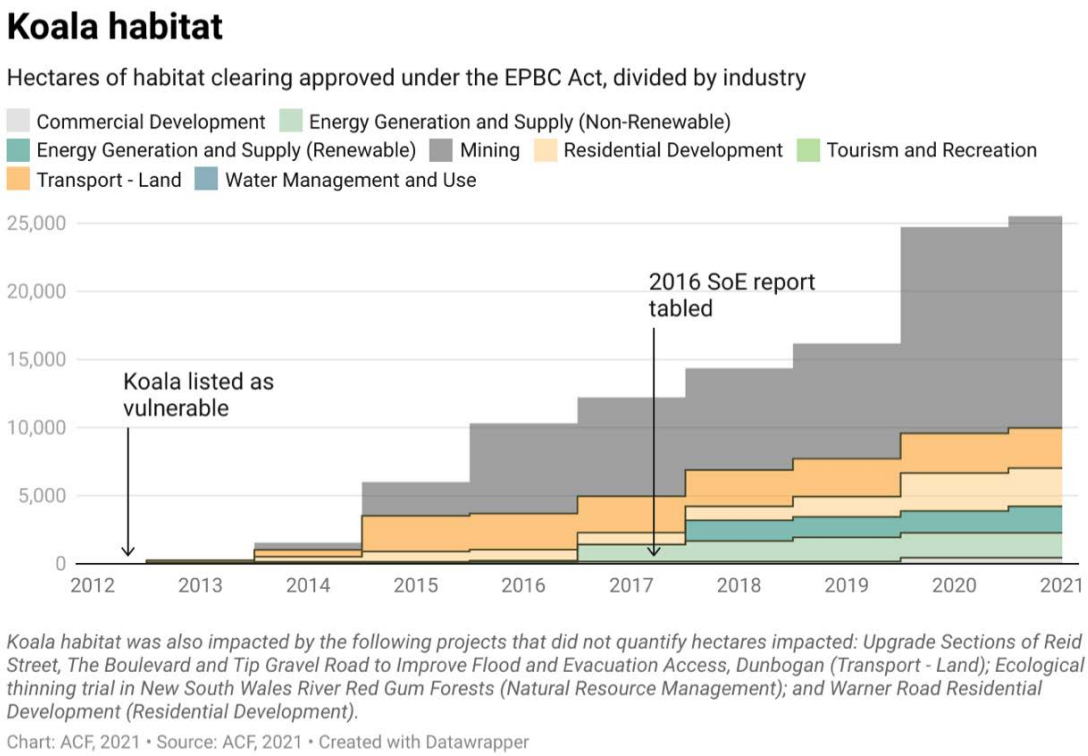


Figure 5: Cumulative approved destruction of koala habitat

	number of approvals	hectares approved to be destroyed
Total (last ten years)	94	25,525
<2016 SoE tabled (20 March 2017)	33	10,311
>2016 SoE	61	15,214
ACT	0	0
NSW	27	1,528
NT	0	0
Qld	66	23,930
SA	0	0
TAS	0	0
VIC	0	0
WA	1	66

Figure 6: Summary of federally-approved koala habitat destruction

2. Greater glider

Key facts

- Greater gliders live along the eastern coast of Australia, from the central highland forests northeast of Melbourne right up to the Daintree National Park in north Queensland.
- There is no reliable data on populations, but estimates range from 50,000 to 500,000 individuals left in the wild.
- Population estimated to have declined by 80% in the last 20 years alone.
- In central Queensland, the abundance of greater gliders has declined by as much as 89% since the 1970s.
- In 2021, after successive bushfires, droughts and heatwaves in 2019-20, the Blue Mountains' greater glider population was found to have crashed by an estimated 60%.
- Listed as Vulnerable under the EPBC Act on 5 May 2016, roughly coinciding with the end date of data used in the 2016 State of the Environment report. Currently nominated to be split into a southern and northern population, with the southern population considered for uplisting to endangered.
- No recovery plan yet.

Threats

- Habitat destruction and fragmentation through land-clearing, forestry and the destruction of hollow-bearing trees during prescribed burning.
- Changing fire regimes
- Climate change

Key threatening industries according to this data

- Mining (95%)
- Energy generation & supply (non renewable) (3.5%)
- Energy generation & supply (renewable) (1.5%).

Greater Glider *Photo.* Matt Wright.

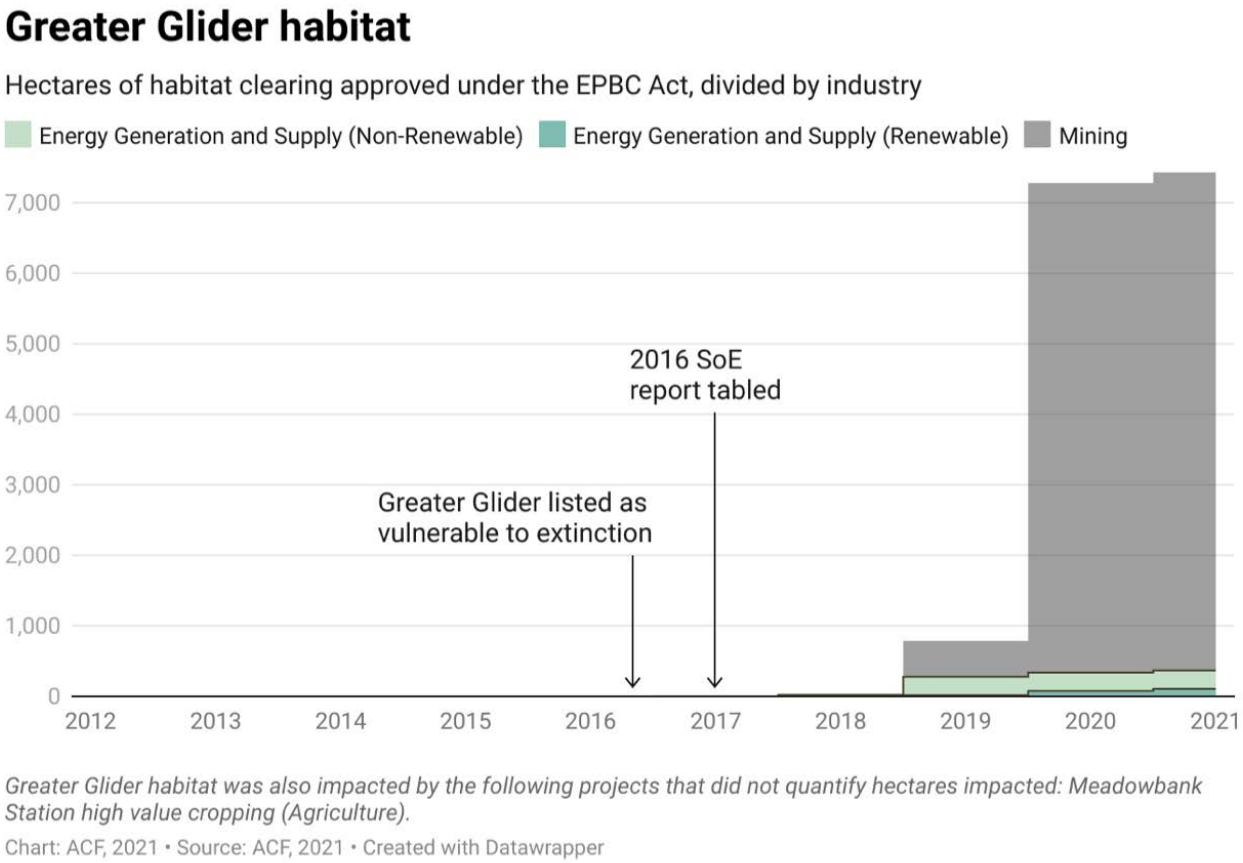


Figure 13: Cumulative approved destruction of swift parrot habitat

	number of approvals	hectares approved to be destroyed
Total (last ten years)	17	7,437
<2016 SoE tabled (20 March 2017)	0	0
>2016 SoE	17	7,437
ACT	0	0
NSW	0	0
NT	0	0
Qld	17	7,437
SA	0	0
TAS	0	0
VIC	0	0
WA	0	0

Figure 8: Summary of federally-approved greater glider habitat destruction

3. Swift Parrot

Key facts

- In the breeding season, swift parrots nest in Tasmania, but every year they fly north to forage, and can be seen across most of Victoria, the eastern half of NSW and as far as the Sunshine Coast in southeast Queensland.
- As few as 2000 adult swift parrots are left in the wild.
- National Recovery Plan adopted in 2011.
- Listed as Critically Endangered effective 5 May 2016.

Threats

- Predation by sugar gliders
- Habitat destruction from logging, firewood collection and plantation development
- Collisions

Key threatening industries according to this data

- Mining (54%)
- Energy Generation and Supply (Renewable) (17%)
- Residential Development (16.5%)

Cover. Swift Parrot *Photo*. Karel Bartik / Shutterstock

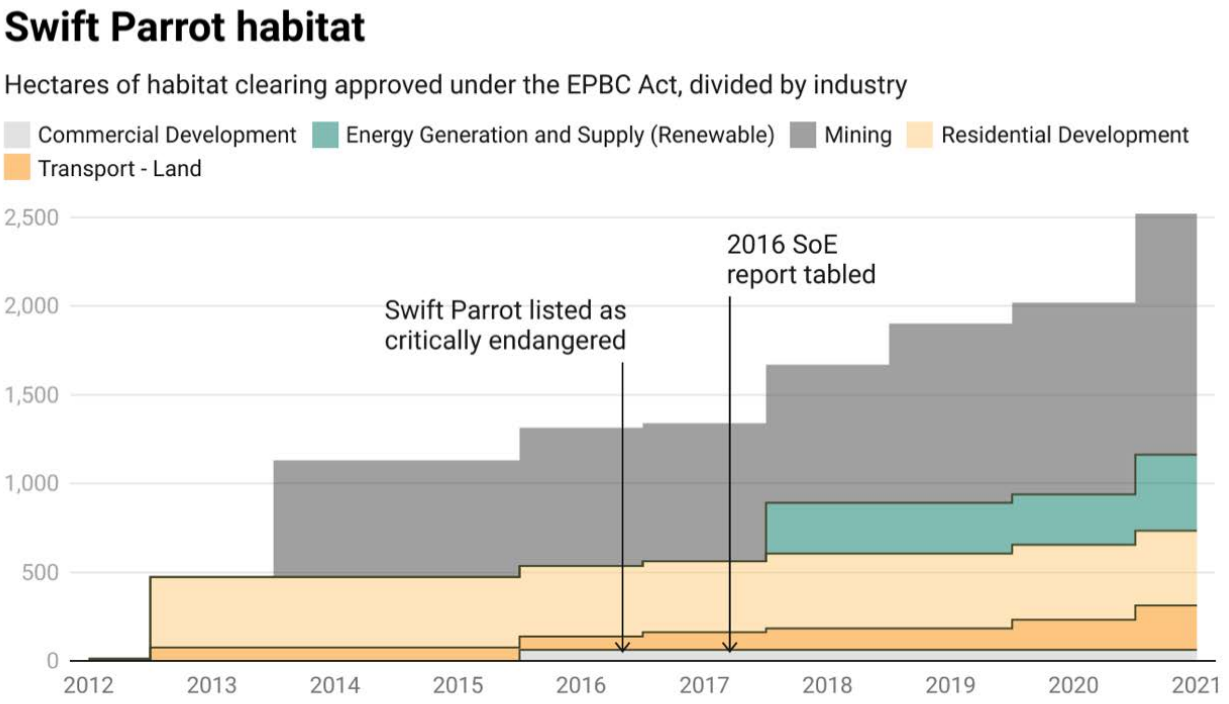


Figure 9: Cumulative approved destruction of swift parrot habitat

	number of approvals	**hectares approved to be destroyed**
Total (last ten years)	33	2,521
<2016 SoE tabled (20 March 2017)	13	1,314
>2016 SoE	20	1,207
ACT	0	0
NSW	26	2,456
NT	0	0
Qld	2	63
SA	0	0
TAS	1	2
VIC	4	1
WA	0	0

Figure 10: Summary of federally-approved swift parrot habitat destruction

4. Forest red-tailed black-cockatoo, Karrak

Key facts

- Forest red-tailed black-cockatoos only live in the south-west corner of WA, roughly between Perth to Albany. This is a different subspecies than the south-eastern red-tailed black-cockatoo found in Victoria and South Australia.
- 15,000 birds left in the wild, according to Australian government data.
- Listed as Vulnerable 11 June 2009.
- Recovery plan required but never made or adopted.

Threats

- Nest hollow shortage
- Habitat destruction from agriculture, logging and mining.

Key threatening industries according to this data

- Transport - Land (48%)
- Residential Development (22%)
- Mining (15%).

Female Forest Red-tailed Black-Cockatoo - Taken at Churchman Brook Dam, Armadale, Perth, Australia
Photo. Merrillie Redden/shutterstock.com

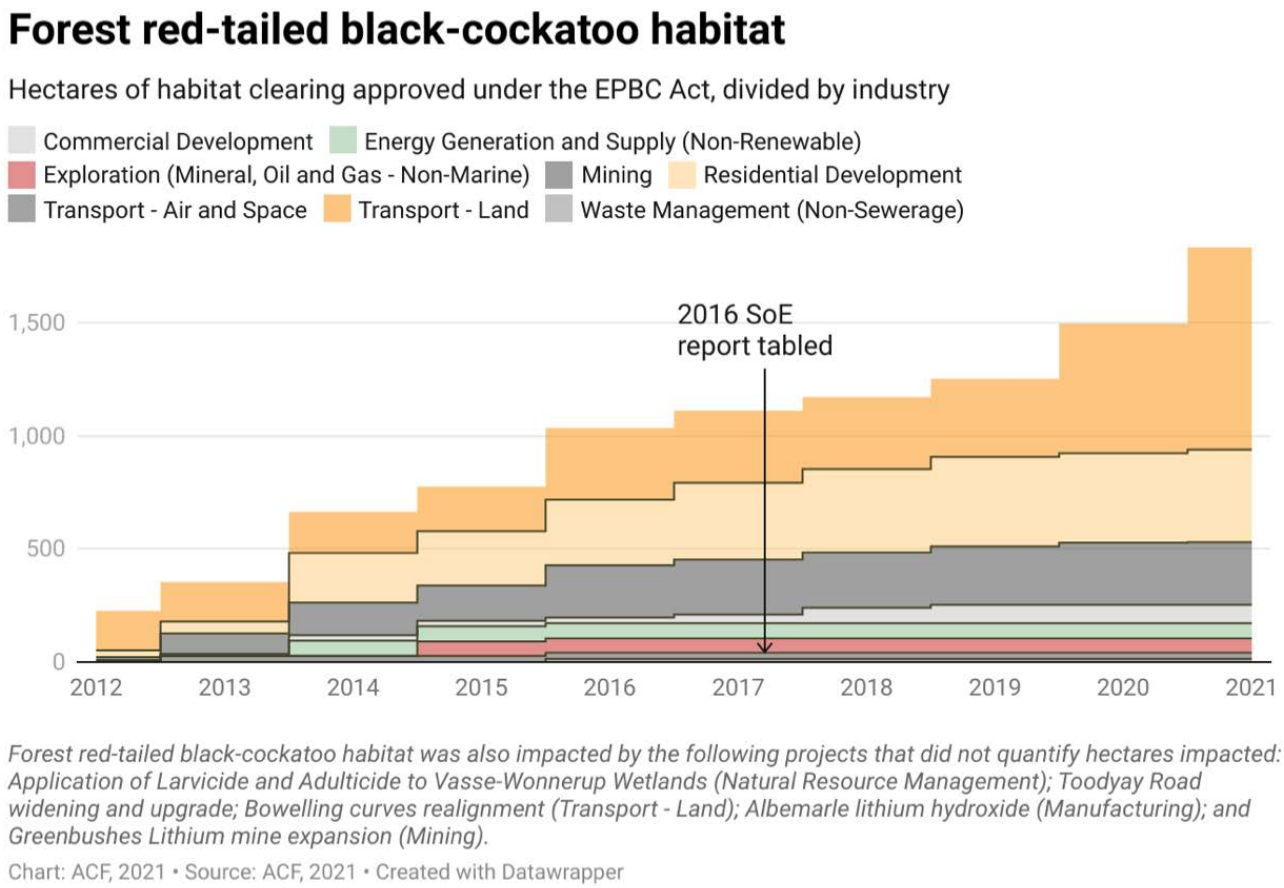


Figure 11: Cumulative approved destruction of forest red-tailed black-cockatoo habitat

	number of approvals	hectares approved to be destroyed
Total (last ten years)	61	1,834
<2016 SoE tabled (20 March 2017)	30	1,049
>2016 SoE	31	785
ACT	0	0
NSW	0	0
NT	0	0
Qld	0	0
SA	0	0
TAS	0	0
VIC	0	0
WA	61	1,834

Figure 12: Summary of federally-approved forest red-tailed black-cockatoo habitat destruction

5. Spot-tailed quoll
(southeastern mainland population)

Key facts

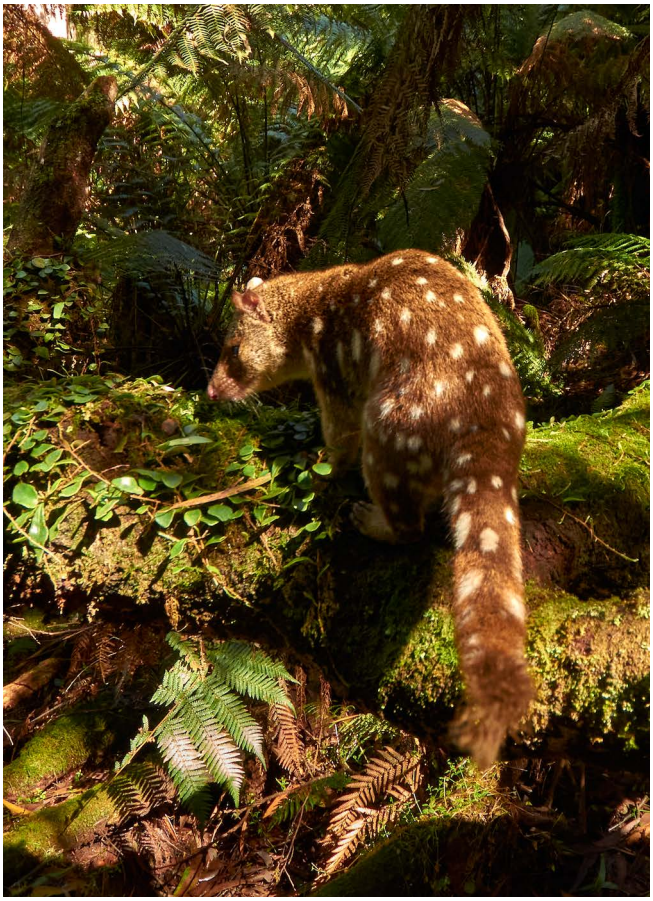
- These spot-tailed quolls live in the southeastern corner of Australia, from Portland in Victoria right up to Bundaberg in Queensland.
- On the mainland, spot-tailed quoll populations have fallen between 50-90%.
- There are as few as 10,000 spot-tailed quolls left in the wild.
- Listed as Endangered on 14 May 2004.
- National recovery plan adopted 2016.

Threats

- Habitat destruction and fragmentation
- Logging
- Car strike

Key threatening industries according to this data

- Mining (45%)
- Transport - Land (38%)
- Energy Generation and Supply (Renewable) (6.5%).



Cover. Spot-tail quoll *Photo*. David Gallan

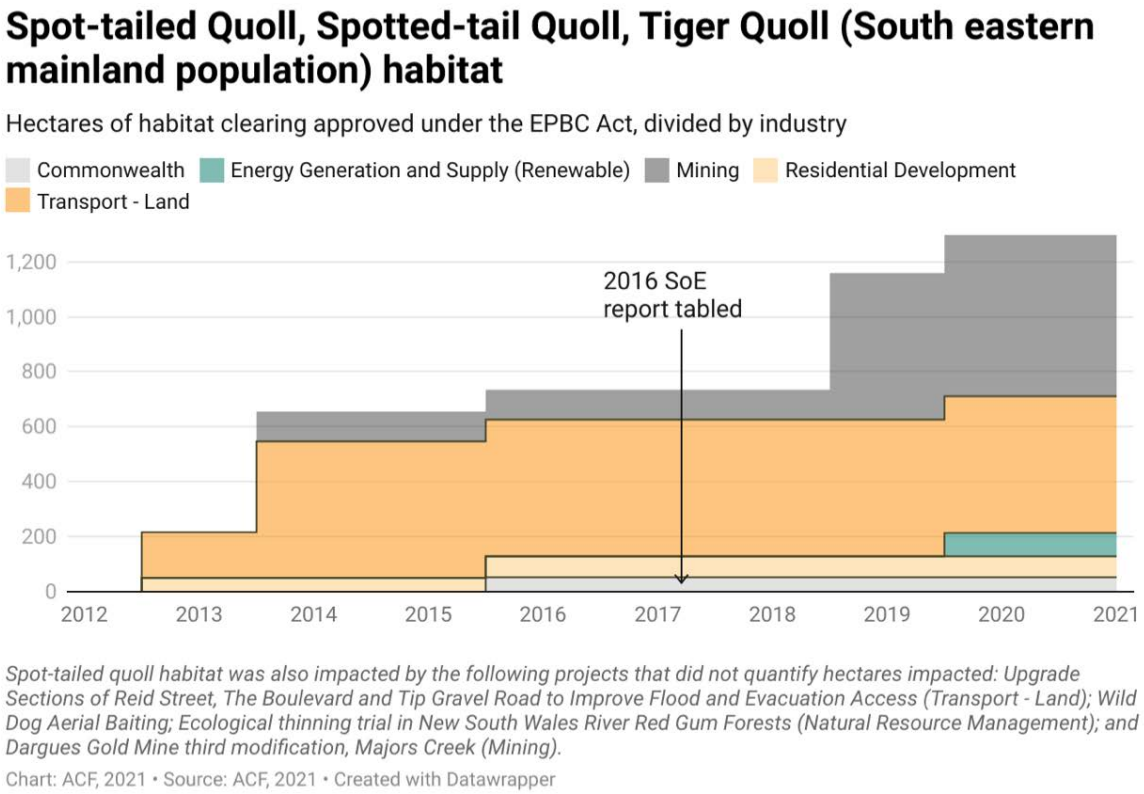


Figure 13: Cumulative approved destruction of spot-tailed quoll habitat

	number of approvals	**hectares approved to be destroyed**
Total (last ten years)	19	1,298
<2016 SoE tabled (20 March 2017)	14	735
>2016 SoE	5	563
ACT	0	0
NSW	16	1,221
NT	0	0
Qld	2	76
SA	0	0
TAS	0	0
VIC	1	0
WA	0	0

Figure 14: Summary of federally-approved spot-tailed quoll habitat destruction

Methodology

Scope

ACF's dataset contains all EPBC referrals from 1 January 2012 to 31 December 2021 for which:

- The project was approved
- The approval notice mentions impacts to EPBC-listed (threatened) species
- The approval notice quantifies destruction or impact in hectares (E.g. "the proponent shall not clear more than 100 ha Greater glider habitat"). The dataset we have created also includes clearing and impact that has been quantified some other way (E.g. "the proponent shall not destroy more than 100 Greater Glider habitat trees") or for which impact is implied but not quantifiable. However, we have only analysed the impacts which have been quantified in hectares.

Where we have said "in the last ten years", we refer to referrals approved between 1 January 2012 and 31 December 2021.

The 2016 State of the Environment Report contains data and information up to 30 June 2016, except where otherwise noted. It was tabled in Parliament on 20 March 2017.

Data Source

ACF obtained recommendation report data from 2012-2016. Recommendation reports do not always match the finalised approval conditions exactly. For example, EPBC referral number 2013/6916 is approved to clear 74.7 or 81.1 hectares of black cockatoo habitat according to the recommendation report data obtained from the government, but the final approval is to clear "no more than 75 hectares". Since recommendation reports are not usually public, we cannot confirm the data obtained from the government. Recommendation reports are meant to be publicly available and used to be, but are now only available on request. This speaks to a problem with transparency, access to environmental data and accessibility for the community.

All data from 1 January 2017 onwards was extracted manually by ACF from data accessed directly from the public EPBC referral public notices portal.

Data on broad-level threat and threat impact level was obtained from Michelle Ward et al's "National-scale dataset for threats impacting Australia's imperiled flora and fauna". Full citation: Ward, M., Carwardine, J., Yong, C. J., Watson, J. E. M., Silcock, J., Taylor, G. S., Lintermans, M., Gillespie, G. R., Garnett, S. T., Woinarski, J., Tingley, R., Fensham, R. J., Hoskin, C. J., Hines, H. B., Roberts, J. D., Kennard, M. J., Harvey, M. S., Chapple, D. G., & Reside, A. E. (2021). A national-scale dataset for threats impacting Australia's imperiled flora and fauna. Ecology and Evolution, 11, 11749– 11761. https://doi.org/10.1002/ece3.7920.

Ward "engaged taxonomic experts in generating taxon-specific threat and threat impact information to consistently apply the IUCN Threat Classification Scheme and Threat Impact Scoring System to produce the most up-to-date data on currently recognized threatening processes affecting all nationally listed threatened taxa in Australia." High-impact threats threaten the whole or majority of the species, and are rapid or very rapid in severity. Medium-impact threats are either rapid but apply to a limited scope of the species, or apply widely but are not as rapid. Ward et al's threat impact scoring system is reproduced below, with permission.

Data on the current threat status of species and ecological communities was taken from the Commonwealth, State and Territory listed threatened species report.

	Ongoing threat (3)				Future threat (1)			
Scope \ Severity	Very rapid (3)	Rapid (2)	Slow (1)	Negligible (0)	Very rapid (3)	Rapid (2)	Slow (1)	Negligible (0)
Whole (3)	9	8	7	6	7	6	5	4
Majority (2)	8	7	6	5	6	5	4	3
Minority (1)	7	6	5	4	5	4	3	2
Negligible (0)	6	5	4	3	4	3	2	1

High impact	Medium impact	Low impact	Negligible/No impact

Data limitations

Note that total area (in hectares) of habitat approved to be cleared for any one referred action, state or industry does not equal actual total land approved to be cleared. This is because habitats of different taxa overlap — a patch of bush might be home to both koalas and greater gliders, for example. On the other hand, the total habitat approved to be cleared for each threatened species does equal an actual total area in hectares approved to be cleared.

The way we sourced the data means that we're talking about habitat approved to be cleared under the EPBC Act. In practice, a proponent may clear less than the maximum they are allowed to clear, or more. We also have data on habitat approved to be cleared in ways that can't be quantified into hectares, for example: rare flowers approved to be destroyed or translocated with no guarantee of success or numbers of individual habitat trees approved to be destroyed. Nor can we quantify the impact of the many approvals that approve more nebulous habitat degradation, especially for aquatic and amphibious taxa.

This study has scraped together data from approval decisions over a ten year period, but this information was hard to obtain, imprecise and incomplete. As a result the findings in this investigation are likely to be underestimates, and the actual figures much higher.

As we discuss in the introduction, much (probably most) threatened habitat destruction in Australia is unregulated. To ACF's knowledge there is no federal data on the annual total loss of threatened species habitat.

We did not check variations to approvals. A variation is a change in the rules that the project operator must follow. Occasionally these variations vary the impacts on threatened species. For example, one variation in 2016 removed the requirement for the Port Macquarie-Hastings Council to plant koala food trees along fauna underpasses built to mitigate the impacts of the "Upgrade Sections of Reid Street, The Boulevard and Gravel Tip Road to Improve Flood and Evacuation Access" project in Dunbogan, NSW (See EPBC Act referral 2013/6757). It is likely that some variations altered the number of hectares of threatened habitat permitted to be cleared, and our dataset does not include those changes.

Ward et al's analysis is confined to 1,795 terrestrial and aquatic taxa listed as threatened (Vulnerable, Endangered, or Critically Endangered) under Australian Commonwealth law. ACF's dataset also includes other EPBC-protected taxa and places, including threatened ecological communities, migratory birds, marine mammals, and wetlands. For these entries, the threat and threat impacts as defined by Ward's research are not applicable.

We love **our beautiful planet**

Australian Conservation Foundation
Level 1, 60 Leicester Street
Carlton VIC 3053

Phone 1800 223 669
Email acf@acf.org.au
Web www.acf.org.au
Australian Conservation Foundation
@AusConservation
ABN 22 007 498 482

ACF publications can be found at:
www.acf.org.au/reports

Printed on 100% post-consumer recycled paper

AUSTRALIAN CONSERVATION FOUNDATION