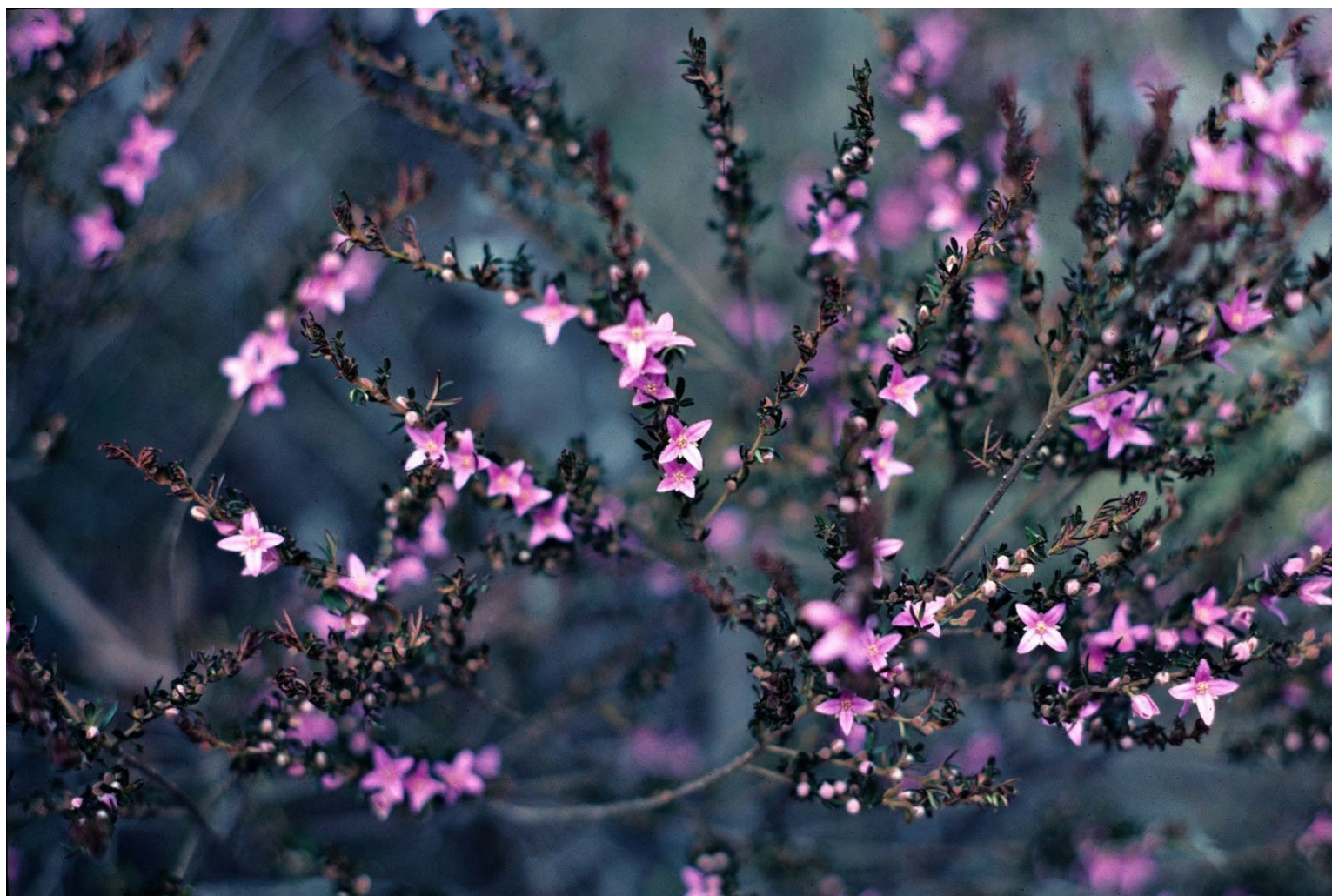




NSW National Parks and Wildlife Service

# Threatened species status report

2021–22 and 2022–23



## Acknowledgement of Country

Department of Climate Change, Energy, the Environment and Water acknowledges the Traditional Custodians of the lands where we work and live.

We pay our respects to Elders past, present and emerging.

This resource may contain images or names of deceased persons in photographs or historical content.

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Artist and designer Nikita Ridgeway from Aboriginal design agency – Boss Lady Creative Designs, created the People and Community symbol.

Cover photo: *Boronia boliviensis*, Bolivia Hill Nature Reserve. Peter Croft/DCCEEW

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## Introduction

In New South Wales nearly 85% of threatened plant and animal species (excluding marine mammals, invertebrates and fungi) are represented in the NSW national parks system, highlighting the critical role of protected areas in threatened species conservation.

The NSW National Parks and Wildlife Service (NPWS) Threatened Species Framework (the framework) is designed to secure and restore threatened species populations on the national park estate. This framework commits to:

- ensuring zero extinctions on the national park estate
- stabilising or improving the on-park trajectory of all threatened species by June 2030
- as an interim target, stabilising or improving the on-park trajectory of 300 threatened species by June 2026.

The threatened species status report demonstrates initial efforts in building a rigorous, long-term and comprehensive threatened species reporting framework, and is the first attempt by any protected area agency in Australia to generate a data-based assessment of the trajectory for threatened species within a protected area network.

The NPWS aims to publish regular data and results on threatened species population estimates or an alternative metric. Given this is the first status report, it is not possible to provide a considered, data-based assessment of species population trajectory. However, where the survey or monitoring design has been consistent between monitoring periods, a recent data trend has been determined and reported in this report. Over time, assessing these population trends will help to determine species trajectories.



Numbat, *Myrmecobius fasciatus*. Photo: Wayne Lawler/AWC

## Threatened species status report, 2021–22 and 2022–23

Regularly reporting on this information is essential for the NPWS to:

- track progress and demonstrate accountability in meeting its commitment to stabilise or improve the on-park trajectory of all threatened species by 2030
- increase transparency to the NSW public by providing information about the state of NSW's threatened species within NSW national parks and reserves
- inform the prioritisation and continual review and improvement of threatened species management, including the design and delivery of landscape-scale park management activities such as feral animal control, weed control and fire management.

### Acknowledgements

This work has been compiled by the NSW National Parks and Wildlife Service (NPWS) Threatened Species Unit, part of the Department of Climate Change, Energy, the Environment and Water.

Information from multiple NSW Government programs – such as Assets of Intergenerational Significance, feral predator-free areas, Saving Our Species – has been collated to contribute to this initial threatened species status report, as has information sourced from final determinations of the Threatened Species Scientific Committee and from consultation with species experts.



Buttercup doubletail (*Diuris aequali*). Photo: Laura Canackle/DCCEEW

## Summary of results

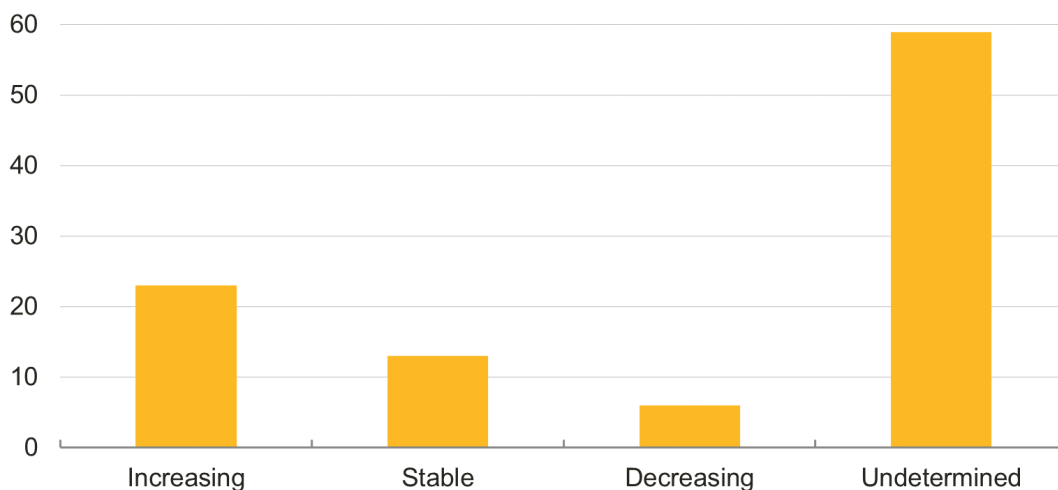
This initial report is a collation of population survey or monitoring data for 101 threatened species found on the national park estate for the 2022–23 financial year, or the most recent year available. The latest prior results to that year, where available, are also reported and used to determine a data trend

In summary, the number of species reported within each data trend category is:

- 23 species were determined as increasing
- 13 species as stable
- 6 species as decreasing
- 59 species as undetermined (Figure 1).

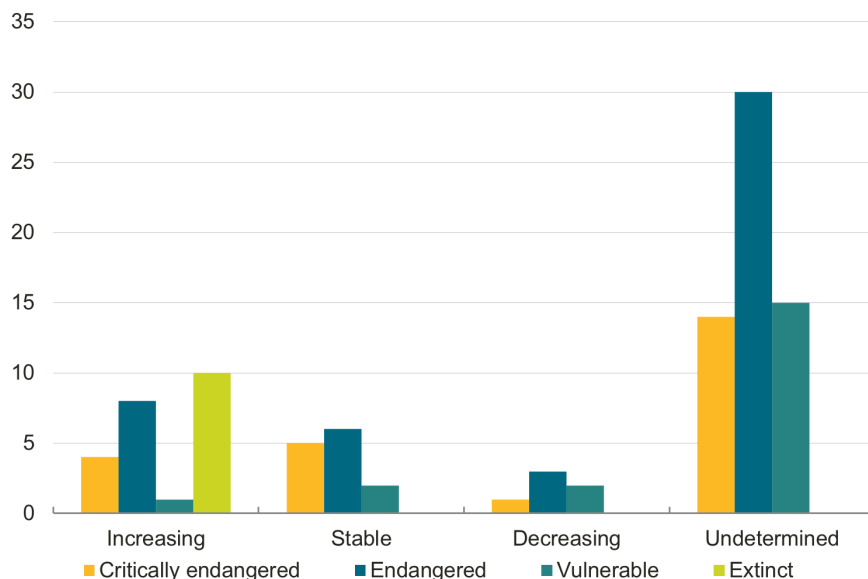
The breakdown of *Biodiversity Conservation Act 2016* (NSW) listing status for species in each data trend category is shown in Figure 2.

This threatened species status report will be updated annually, with additional species included each year to demonstrate the work towards achieving the framework objectives.



**Figure 1** The number of species reported within each data trend category

## Threatened species status report, 2021–22 and 2022–23



**Figure 2 Breakdown of Biodiversity Conservation Act listing status for each species reported in each trend category**

### Additional considerations

When reviewing this status report, there are several factors to consider:

- There are inherent challenges involved in monitoring and collating data for elusive or rare species.
- This report draws on the best available population data, including estimates, census information (or other suitable metric) for each species from multiple programs.
- In cases where there is low confidence in the survey or monitoring design for this purpose, methods for future surveys will be improved to ensure the following key questions are addressed:
  - What is the estimated species population in the national park estate?
  - What is the population data trend of that species over time, which will inform the species trajectory?
- To ensure consistent, scientifically rigorous and fit for purpose data, future threatened species monitoring on the national park estate will need to meet the standards and requirements set out in the NPWS threatened species monitoring protocols (in preparation).
- Data from surveys or monitoring that occurred across park boundaries have been extracted to only report the on-park component where feasible. Therefore, the information produced in this report may differ from results published in other reports for some species.
- Monitoring and survey results were aggregated if the same monitoring metric and methodology were applied in the same year, otherwise the results remained split.
- Limitations on the availability and relevance of some historic data have restricted the species included in this initial report. However, this report provides a foundation for development and inclusion of additional species in future publications.



## Glossary of key terms and acronyms

The table below provides a glossary of frequently used terms within the NPWS threatened species status report.

Term	Definition
Biodiversity Conservation Act	<i>Biodiversity Conservation Act 2016</i> (NSW)
CAP	Conservation action plan, prepared in accordance with the <i>National Parks and Wildlife Regulation 2019</i> , which identifies: <ul style="list-style-type: none"> <li>the environmental and cultural values of the land</li> <li>key risks to those values</li> <li>management activities to address and mitigate risks</li> <li>requirements for measuring and reporting on the health and condition of the declared land.</li> </ul>
confidence	An assessment of scientific rigour of the survey or monitoring methods, generally expressed as high, medium or low confidence. Example: direct quantitative measure ranging from statistically powerful sampling design (high) to a simple estimate (low).
CR	conservation reserve
data trend	The direction of change in the data reported between survey or monitoring periods.
monitoring design	Species population monitoring is the systematic observation and assessment of a species population(s) that is consistent over time, geographic location and methodology. Repeat sampling is critical to ensure consistency in data collection, enabling the comparison of population trends.
NP	national park
NR	nature reserve
population census	A complete count of all individuals within the known on-park population.
population estimate	An estimate of the total population size for a species, which has been extrapolated from survey or monitoring data recorded within the species' known range on-park.
population index	Data collected from a representative sample of a species population that, when measured consistently, can be used to indicate a trend in the overall population.
quadrat	A quadrat is a frame used to isolate a standard unit of area (e.g. 25 x 25 cm) to sample or observe plants for a study of their distribution over a large area.
recruitment	In population dynamics, recruitment is the process by which new individuals are added to a population, whether by birth, propagation, translocation or reintroduction.
RP	regional park

## Threatened species status report, 2021–22 and 2022–23

Term	Definition
SCA	state conservation area
SE	The 'standard error' (SE) of a statistic is the standard deviation (that is, the amount of variation from the mean) of its sampling distribution or an estimate of that standard deviation.
survey design	A species population survey is a systematic method used to estimate the number of individuals of a particular species within a specific geographic area. Where there is a variance in sampling effort or locations between years (e.g. surveying 2 locations one year and 3 locations the next), a trend is unable to be determined because the data is not comparable between those periods.



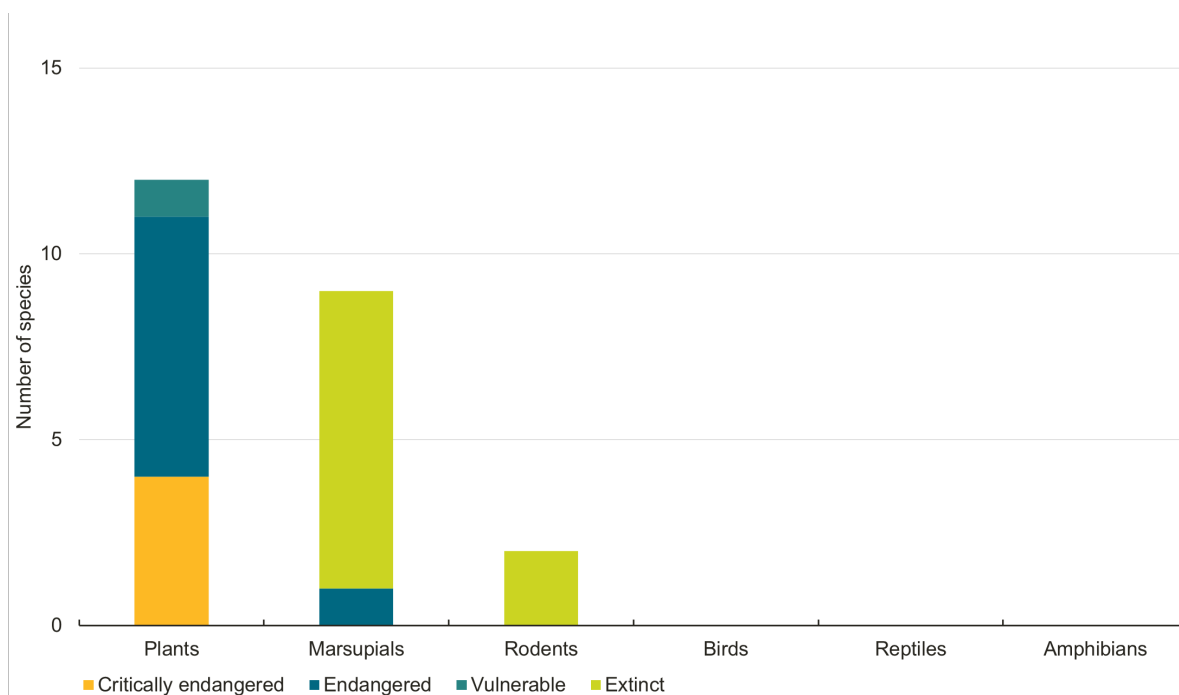
Red-tailed phascogale (*Phascogale calura*). Photo: Lawrence Berry/AWC

## Species with an increasing trend between reported results (23)



An increasing trend is determined when there is an increase in the data reported in the latest result, from the prior reported result, and this should not be interpreted as a trajectory of the species population in this initial report.

Of the 101 species reported, 23 species were assessed as increasing of which **12 are plants** (4 critically endangered, 7 endangered, 1 vulnerable), **9 are marsupials** (1 endangered, 8 extinct in the wild) and **2 are rodents** (both extinct in the wild) (Figure 3). The 10 species listed as extinct in the wild are species that have been reintroduced as part of the feral predator-free area project.



**Figure 3** Number of species, by taxa and Biodiversity Conservation Act listing status, with an increasing data trend

**Table 1 Critically endangered species with an increasing trend (4)**

↑ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Summer leek orchid <i>Prasophyllum canaliculatum</i>	Flora	Population census Survey within known range	High	63 plants 2022–23	46 plants 2021–22	This species was surveyed throughout its known range in South East Forests NP, as per the CAP requirements. Despite favourable conditions, the population remains low. However, as there has been an increase in the number of individuals reported between the years data was collected, an increasing trend has been determined for this species.
Wee Jasper grevillea <i>Grevillea iaspicula</i>	Flora	Population index Survey within known range	Moderate	168 plants 2021–22	164 plants 2020–21	This species is surveyed annually throughout its known range in Burrinjuck NR. Its susceptibility to climatic variation means there was significant decline in the population during a recent drought. However, ongoing favourable conditions since the drought broke in March 2020 has led to an increasing population size recorded at this site over the last few years, so an increasing trend has been determined for this species.
<i>Zieria odorifera</i> subsp. <i>copelandii</i>	Flora	Population census Survey within known range	High	501 mature plants; 195 seedlings 2022–23	393 mature plants; 609 seedlings 2021–22	This species is restricted to Mount Kaputar NP and Warrabah NP. At Mount Kaputar NP, it was surveyed via a count of all mature plants and seedlings within the 4 known sites occupied by the species, as per the CAP requirements. As there was an increase in the number of individuals reported between the years data was collected, an increasing trend has been determined for this species.
<i>Zieria odorifera</i> subsp. <i>warrabahensis</i>	Flora	Population census Survey within known range	High	256 plants 2022–23	226 plants 2021–22	This species is restricted to Warrabah NP, it was surveyed throughout its known range, as per the CAP requirements. In addition, 30 plants have been tagged to monitor plant growth and 6 plants have been enclosed in herbivore-proof cages. As there was an increase in the number of individuals reported between the years data was collected, an increasing trend has been determined for this species.

**Table 2 Endangered species with an increasing trend (8)**

↑ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
<i>Diuris eborensis</i>	Flora	Population index Survey within known range	High	336 flowering plants 2022–23	17 flowering plants 2021–22	This species was surveyed throughout its known range in Oxley Wild Rivers NP and Werrikimbe NP. As there was an increase in the number of flowering plants reported between the years data was collected, an increasing trend has been determined for this species.
Moombahlene mint-bush <i>Prostanthera staurophylla</i>	Flora	Population index Permanent monitoring plots	High	154 mature plants; 939 juvenile plants 2022–23	115 mature plants 2021–22	This species is restricted to Mount Mackenzie NR and was monitored using a count of mature individuals and juveniles in 5 permanent monitoring plots, as per the CAP requirements. As there was an increase in the number of mature plants reported between the years data was collected, an increasing trend has been determined for this species.
<i>Persoonia hindii</i>	Flora	Population index Survey within known range	Moderate	22,045 stems 2022–23	16,620 stems 2021–22	This species was surveyed within the Gardens of Stone SCA, using a count of the total number of stems and occupancy rate, at 30 discrete locations within the species known range. As there was an increase in the number of stems reported between the years data was collected, an increasing trend has been determined for this species.
cc <i>Eriocaulon carsonii</i>	Flora	Population index Survey within known range	Moderate	13 mounds occupied 2022–23	4 mounds occupied 2021–22	This species was surveyed in Paroo–Darling NP using a count of occupied artesian mound springs. In 2022–23, 13 mounds were occupied, which is the highest occupancy rate recorded since 2007, and therefore an increasing trend has been determined for this species. Future monitoring will also calculate the total area of occupancy, as per the CAP requirements.

## Threatened species status report, 2021–22 and 2022–23

↑ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
<i>Senecio linearifolius</i> var. <i>dangarensis</i>	Flora	Population estimate Permanent monitoring plots	Moderate	27,500 plants 2020–21	25,000 plants 2017–18	This species is restricted to Goulburn River NP and Wollemi NP. It was monitored using a count within two 20 m x 20 m to determine the area of occupancy and calculate the population estimate, as per the CAP requirements. In 2020–21 Mount Danger in Goulburn River NP was estimated to have 5,000 mature plants; Woodlands in northern Wollemi NP had 22,500 plants and the area of occupancy of the combined sites is 8 km <sup>2</sup> . An increasing trend has been determined for this species based on an increase in the population estimate between the current monitoring period and the published population estimate in the NSW Threatened Species Scientific Committee final determination.
Tranquility mintbush <i>Prostanthera askania</i>	Flora	Population index Permanent monitoring plots	High	71 plants 2021–22	69 plants 2020–21	This species is monitored annually in Bouddi NP using a count of plants within one 20 m x 20 m permanent monitoring plot. As there was an increase in the number of individuals reported between the years data was collected, an increasing trend has been determined for this species.
Warra broad-leaved sally <i>Eucalyptus camphora</i> subsp. <i>relicta</i>	Flora	Population census Survey within known range	High	608 plants 2021–22	559 plants 2020–21	This species was surveyed throughout its known range in Warra NP, as per the CAP requirements. As there was an increase in the number of individuals reported between the years data was collected following the 2019–20 bushfires, an increasing trend has been determined for this species. However, this reported increase is likely to stabilise in the coming years with the natural attrition rate.

↑ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Yellow-footed rock-wallaby <i>Petrogale xanthopus</i>	Fauna	Population index Survey within known range	Low	144 individuals 2022–23	75 individuals 2020–21	This species is surveyed annually in Mutawintji NP, Mutawintji NR and Mutawintji SCA, using individual counts from aerial surveys throughout its known range, as per the CAP requirements. The estimated wallaby population has doubled in numbers based on aerial survey results from 2020 to 2022, possibly reflecting a positive response to the high annual rainfall during these years, and therefore this species is considered to have an increasing trend.

**Table 3 Vulnerable species with an increasing trend (1)**

↑ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Anemone buttercup <i>Ranunculus anemoneus</i>	Flora	Population index Permanent plot and photo point monitoring	Moderate	5,308 stems 2021–22	2,904 stems 2019–20	This species was monitored in Kosciuszko NP using a count of stems in 10 m x 10 m permanent monitoring plots and fixed photo points. All sites were monitored in 2022–23 and results show that there was a 45% increase in the in the number of stems counted compared to the 2019–20 monitoring; therefore, an increasing trend has been determined for this species.

**Table 4 Extinct species with an increasing trend (10)**

↑ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Bilby <i>Macrotis lagotis</i> (A)	Fauna	Population estimate Capture–mark–recapture monitoring	High	181 ± 27 individuals 2022–23	> 120 individuals 2021–22	In 2019, 50 individuals were released into the feral predator-free area in Mallee Cliffs NP. In 2021–22 an additional 73 individuals were known to have transferred into the wider fenced area, providing an estimate of > 120 individuals. A spatially explicit capture–mark–recapture model was used to assess the population in 2022–23, showing an estimated increase of 43%, and therefore an increasing trend has been determined from the baseline of zero animals.
Bilby <i>Macrotis lagotis</i> (B)	Fauna	Population estimate Capture–mark–recapture monitoring	High	176 individuals 2022–23	155 individuals 2021–22	In 2018, 50 individuals were released into the feral predator-free area in Pilliga SCA. A spatially explicit capture–mark–recapture model was used to estimate the population, showing an increase in the founder population. The animals that have been caught are found to be healthy and there is evidence of breeding, and therefore an increasing trend has been determined from the baseline of zero animals.
Bilby <i>Macrotis lagotis</i> (C)	Fauna	Population estimate Capture–mark–recapture monitoring	High	Thipa: 46 ± 17 Mingku: 117 ± 51 2022–23	60 individuals (count) 2021–22	In 2020, 10 individuals were released across the feral predator-free Mingku and Thipa enclosure areas in Sturt NP; and in 2021 an additional 30 individuals were released across the 2 areas. A spatially explicit capture–mark–recapture model was used to estimate the population, with the results showing an increasing trend at both sites from the baseline of zero animals.



## Threatened species status report, 2021–22 and 2022–23

↑ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Bridled nailtail wallaby <i>Onychogalea fraenata</i>	Fauna	Population estimate Capture–mark–recapture monitoring	High	89 individuals 2022–23	148 individuals 2021–22	In 2019, 42 individuals were released into a breeding area within the feral predator-free area in Pilliga SCA. These are being monitored using a spatially explicit capture–mark–recapture model was used to estimate the population. An increasing trend has been determined as the initial translocation of individuals has increased the population from a baseline of zero. The recent monitoring result is not representative of the entire population due to the species recently moving into a wider fenced area, resulting in a more dispersed capture effort that influences the model.
Brush-tailed bettong <i>Bettongia penicillata</i> (A)	Fauna	Population estimate Capture–mark–recapture monitoring	High	324 individuals 2022–23	70 individuals released 2021	In 2021, 70 individuals were released into the feral predator-free area in Mallee Cliffs NP. Spatially explicit capture–mark–recapture models were used to estimate the population and results have shown signs of both successful breeding and population growth; therefore, an increasing trend has been determined from the baseline of zero animals.
Brush-tailed bettong <i>Bettongia penicillata</i> (B)	Fauna	Population census Reintroduced individuals	High	55 individuals released 2022–23	0 individuals	In 2022, 55 individuals were released into the feral predator-free area in Pilliga SCA. Spatially explicit capture–mark–recapture models will be used to estimate the population. Although capture rates are currently too low to estimate a population, an increasing trend has been determined as the translocation of individuals has increased the population from zero.

## Threatened species status report, 2021–22 and 2022–23

↑ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Crest-tailed mulgara <i>Dasycercus cristicauda</i>	Fauna	Population estimate	High	121 ± 20 individuals 2022–23	19 individuals released 2020–21	In 2020, 19 individuals were released into the feral predator-free Mingku enclosure area in Sturt NP. A spatially explicit capture–mark–recapture model was used to estimate the population. The population is estimated to have increased 6-fold from the initial population released, and therefore an increasing trend has been determined for this species from the baseline of zero animals. The survey detected 29 individuals in the Thipa enclosure that have not been included in the result reported as these are thought to have dispersed into the area from the founder population. Future surveys will include the Thipa enclosure population.
Golden bandicoot <i>Isoodon auratus auratus</i>	Fauna	Population estimate Capture–mark–recapture monitoring	High	75 ± 33 individuals 2022–23	27 individuals released 2022	In 2022, 27 individuals were released into the feral predator-free Thipa enclosure area in Sturt NP. A spatially explicit capture–mark–recapture model was used to assess the population, which is estimated to have tripled in size based on results in early 2023. These results suggest that the species is establishing a sustainable and viable population, and therefore an increasing trend has been determined for this species from the baseline of zero animals.
Greater stick-nest rat <i>Leporillus conditor</i>	Fauna	Population census Reintroduced individuals	High	100 individuals released 2021–22	0 individuals	Between 2020 and 2022, 100 individuals were released into the feral predator-free area in Mallee Cliffs NP. Currently capture rates are too low to estimate the population. However, in future, a spatially explicit capture–mark–recapture model will be used to estimate the population. An increasing trend has been determined as the translocation of individuals has increased the population from a baseline of zero.

## Threatened species status report, 2021–22 and 2022–23

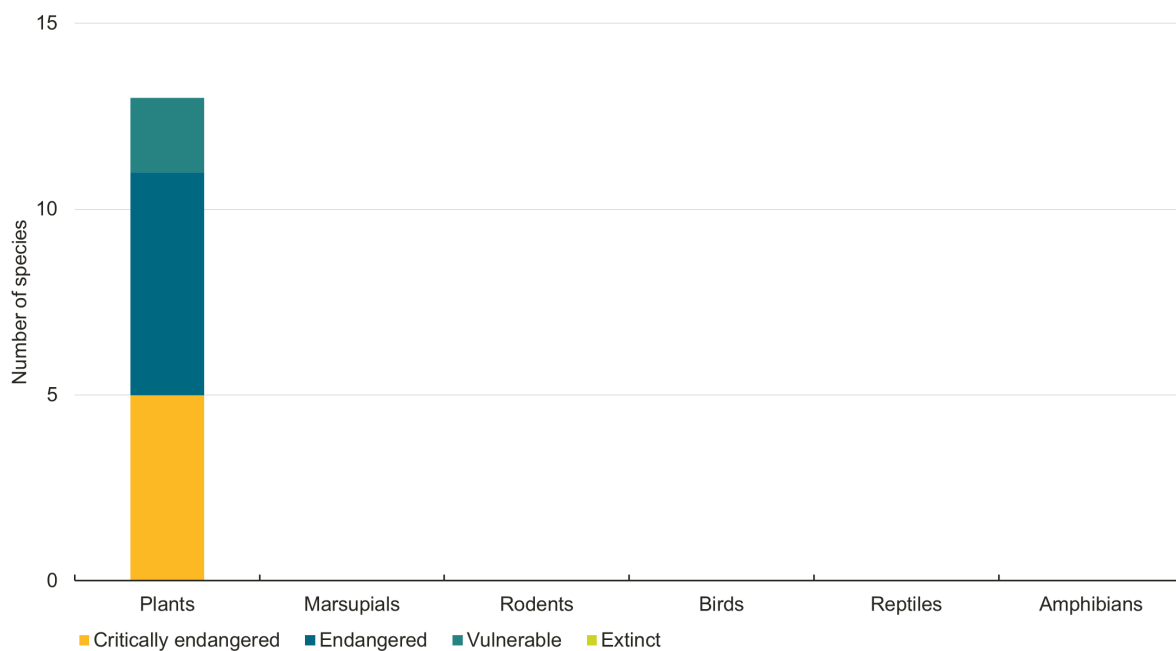
↑ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Mitchell's hopping mouse <i>Notomys mitchellii</i>	Fauna	Population census Reintroduced individuals	High	156 individuals released 2022–23	0 individuals	Between 2021 and 2023, 156 individuals were released into the feral predator-free area in Mallee Cliffs NP. Currently capture rates are too low to estimate the population. However, in future, a spatially explicit capture–mark–recapture model will be used to estimate the population. An increasing trend has been determined as the translocation of individuals has increased the population from a baseline of zero.
Numbat <i>Myrmecobius fasciatus</i>	Fauna	Population census Reintroduced individuals	High	46 individuals released 2022–23	0 individuals	In 2022–23, 46 individuals were released into the feral predator-free area in Mallee Cliffs NP. Currently capture rates are too low to estimate the population. However, in future, a spatially explicit capture–mark–recapture model will be used to estimate the population. An increasing trend has been determined as the translocation of individuals has increased the population from a baseline of zero.
Red-tailed phascogale <i>Phascogale calura</i>	Fauna	Population census Reintroduced individuals	High	114 individuals released 2022–23	0 individuals	Between 2021 and 2023, 114 individuals were released into the feral predator-free area in Mallee Cliffs NP. Currently capture rates are too low to estimate the population. However, in future, a spatially explicit capture–mark–recapture model will be used to estimate the population. An increasing trend has been determined as the translocation of individuals has increased the population from a baseline of zero.
Shark Bay bandicoot <i>Perameles bougainville</i>	Fauna	Population estimate Capture–mark–recapture monitoring	High	90 ± 25 individuals 2021–22	20 individuals released 2021–22	In 2021–22, 20 individuals were released into the feral predator-free Mingku enclosure area in Sturt NP. Spatially explicit capture–mark–recapture models were used to estimate the population. An increasing trend was determined by comparing the current estimated population size with the number of individuals initially released into the area and considering the baseline of zero animals.

## Species with a stable trend between reported results (13)



A stable trend is determined when the data reported in the latest reported result remains relatively consistent with the prior reported result. This should not be interpreted as a trajectory of the species population.

Of the 101 species reported, 13 species were assessed as stable, of which all 13 are plants. Of those plants, 5 are critically endangered, 6 are endangered, and 2 are vulnerable.



**Figure 4** Number of species, by taxa and Biodiversity Conservation Act listing status, with a stable data trend

**Table 5 Critically endangered species with a stable trend (5)**

↔ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Carrington Falls pomaderris <i>Pomaderris walshii</i>	Flora	Population census Survey within known range	High	122 plants 2022	130 plants 2021	This species was surveyed throughout its known range in Budderoo NP. A stable trend has been determined for this species due to the minimal differences in counts of plants between survey years. Future surveys will provide an estimate of the number of mature plants and seedlings in the population, as per the CAP requirements.
Imlay mallee <i>Eucalyptus imlayensis</i>	Flora	Population index Monitoring of tagged plants	High	48 plants 2022–23	48 plants 2021–22	This species was monitored in Mount Imlay NP by a count of tagged plants. During the 2019–20 bushfires, all 48 plants were burnt but they have since resprouted, indicating survival; therefore, a stable trend has been determined for this species. Plants that were part of the translocation program for the species, undertaken in 2011 and 2018, did not survive the 2019–20 bushfires. Future surveys will help to determine a full population estimate, as per the CAP requirements.
<i>Leionema westonii</i>	Flora	Population census Survey within known range	High	156 plants 2022–23	151 plants 2021–22	This species is restricted to Oxley Wild Rivers NP where it was surveyed throughout its known range (area: 100 x 40 m), as per the CAP requirements. The species is still recovering from the 2019–20 bushfires, with the first resprouts found in 2021–22. Based on the consistent results reported between the years data was collected, a stable trend has been determined for this species.

## Threatened species status report, 2021–22 and 2022–23

←→ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Genowlan Point bush-pea <i>Pultenaea praecipua</i> subsp. <i>praecipua</i>	Flora	Population census Population census monitoring	High	33 plants 2022–23	35 plants 2021–22	This species was monitored using a count of all known individuals in Mugii Murum-ban SCA, as per the CAP requirements. A stable trend has been determined for this species as the number of individuals reported between the years data was collected has remained stable.
Wollemi pine <i>Wollemia nobilis</i> (A)	Flora	Population census Survey within known range	High	46 mature plants; 43 juvenile plants 2020–21	48 mature plants; 156 juvenile plants 2019–20	This species has a highly restricted geographic range and was surveyed via a count of mature and juvenile plants. There is evidence of a long-term, gradual and continuing population decline. During the 2019–20 bushfires, the wild population was impacted to varying degrees. The population is being closely monitored and will need to be protected from fire for an extended period to facilitate recovery. Despite the evidence of long-term decline, the current trend has been determined as stable due to the consistent counts of individual plants reported between the years data was collected.
Wollemi pine <i>Wollemia nobilis</i> (B)	Flora	Population census Survey within known range	High	507 juvenile plants 2022	565 juvenile plants 2019–20	To support the small population of this species, a translocation of juveniles to 2 sites was undertaken in 2019. Both translocated populations underwent significant declines soon after their establishment due to the 2019–20 bushfires, with 30% of plants escaping burning at site 1 and 3% of plants escaped burning at site 2. Both populations were augmented with around 250 saplings each in 2021. A stable trend has been determined for this species due to the consistent counts of individual plants reported between the years data was collected.

**Table 6 Endangered species with a stable trend (6)**

↔ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Bolivia homoranthus <i>Homoranthus croftianus</i>	Flora	Population estimate Survey within known range	Moderate	1,500 plants 2022–23	1,500 plants 2021–22	This species was surveyed throughout its known range in Boliva Hill NR, as per the CAP requirements. Although this species has limited recruitment, a stable trend has been determined for this species due to the consistent counts of individual plants reported between the years data was collected.
Border mallee <i>Eucalyptus microcodon</i>	Flora	Population estimate Permanent monitoring plots	Moderate	284 mature plants; 34 seedlings 2020–21	284 mature plants 2018–19	This species was monitored in Border Ranges NP using a count of mature plants and seedlings in permanent monitoring plots, as per the CAP requirements. In 2018–19, 284 mature plants were counted. Since then, seedlings were the subject of counts after a prescribed ecological burn in 2020–21. Due to the consistent counts of individual plants reported between the years data was collected, a stable trend has been determined for this species.
Buttercup doubletail <i>Diuris aequalis</i>	Flora	Population index Permanent monitoring plots	Low	275 plants 2022–23	293 plants 2021–22	This species was monitored in Mares Forest NP and Kanangra–Boyd NP, using counts in 31 1 m x 1 m permanent, caged monitoring plots that protect the species from grazing, as per the CAP requirements. In 2022–23, 72 plants were counted in Mares Forest NP and 203 plants were counted in Kanangra–Boyd NP. Despite the slight decline in the number of individual plants reported between the years data was collected, a stable trend has been determined as the results represent the naturally occurring fluctuation in individuals for this species.

## Threatened species status report, 2021–22 and 2022–23

←→ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Nielsen Park she-oak <i>Allocasuarina portuensis</i>	Flora	Population census Survey within known range	High	72 plants 2022–23	72 plants 2021–22	This species was surveyed throughout its known range in Sydney Harbour NP, as per the CAP requirements. In 2022–23 the counts were 5 trees on Goat Island/Me-Mel, 21 trees at Middle Head/Gubbuh Gubbuh, 39 trees at Nielsen Park and 7 trees at Gap Bluff. There has been no natural recruitment observed for this species; however, the population is supported by an ongoing translocation program and therefore a stable trend has been determined for this species.
Nightcap oak <i>Eidothea hardeniana</i>	Flora	Population census Survey within known range	Moderate	346 plants 2021–22	346 plants 2020–21	This species was surveyed throughout its known range in Nightcap NP. In 2021–22, a total of 346 individual plants were alive and of this 156 are considered adults (> 10 cm diameter at breast height). Due to the consistent counts of individual plants reported between the years data was collected, a stable trend has been determined for this species. Future monitoring will occur more frequently, as per the CAP requirements.
Nodding geebung <i>Persoonia nutans</i>	Flora	Population index Permanent monitoring plots	High	302 plants 2022–23	226 plants 2021–22	This species was monitored in Agnes Banks NR, Wianamatta NR, Castlereagh NR, and Windsor Downs NR using a count of individuals in 43 permanent monitoring plots. In 2022–23, monitoring showed a total of 302 individual plants, an increase from 226 plants recorded in 2021–22. Despite an increase in the number of plants recorded it is expected that these will naturally decline over time as the count includes seedlings; therefore, a stable trend has been determined for this species.



**Table 7 Vulnerable species with a stable trend (2)**

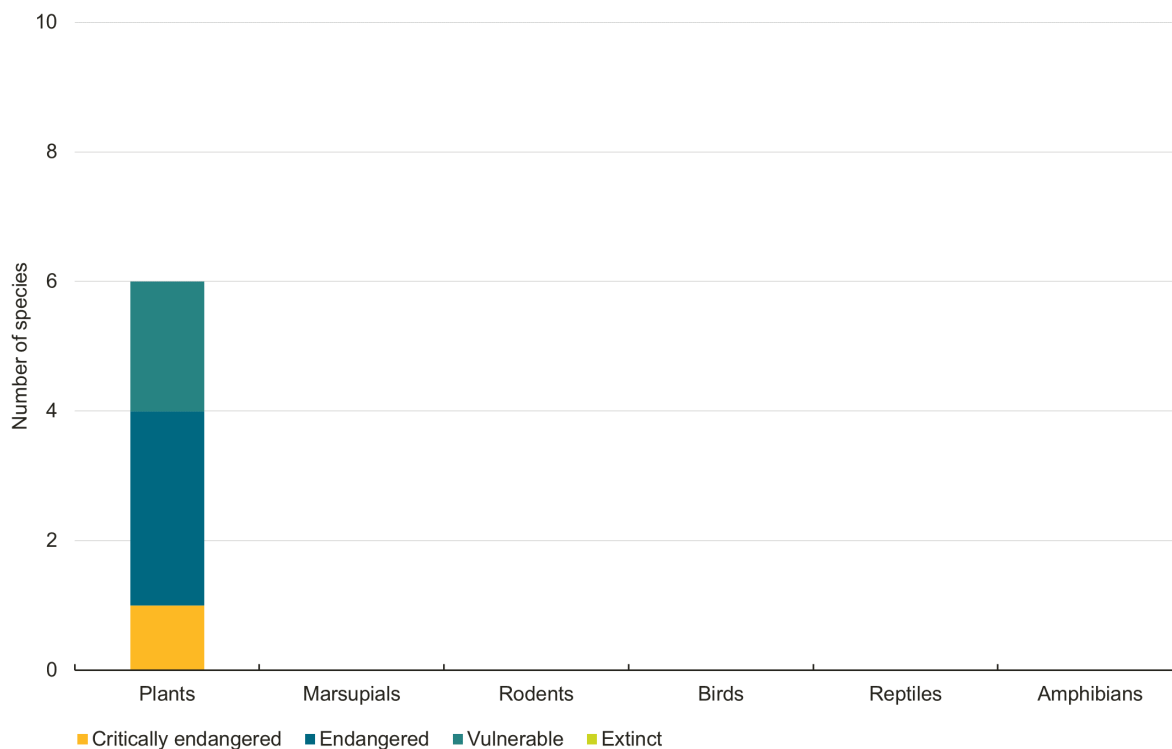
↔ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Feldmark grass <i>Rytidosperma pumilum</i>	Flora	Population index Transects and monitoring plots	Moderate	781 plants 2021–22	788 plants 2019–20	This species was monitored in Kosciuszko NP using a count of individuals along 20 permanent transects within 3 monitoring plots. Due to the consistent counts of individual plants reported between the years data was collected, a stable trend has been determined for this species.
Onion cedar <i>Owenia cepiodora</i>	Flora	Population index Permanent monitoring plots	Moderate	553 plants 2020–21	553 plants 2019–20	This species is restricted to Nightcap NP and was monitored using a count of individuals in 20 m x 20 m permanent monitoring plots. The plots were established in 2018–19 to sample a portion of each subpopulation's individuals (Boomerang Creek 38%, Rocky Creek 8% and Minyon Falls 15%). Monitoring in 2020–21 counted 553 individuals across all quadrats and monitoring conducted in 2022–23 indicates no changes in individuals across all quadrats; therefore, a stable trend has been determined for this species.

## Species with a decreasing trend between reported results (6)



A decreasing trend is determined when there is a decline in the data reported in the latest result, from the prior reported result. This should not be interpreted as a trajectory of the species population.

Of the 101 species reported, 6 species were assessed as decreasing of which **all 6 are plants**. Of those plants, **1 is critically endangered**, **3 are endangered**, and **2 are vulnerable**.



**Figure 5** Number of species, by taxa and Biodiversity Conservation Act listing status, with a decreasing data trend

**Table 8 Critically endangered species with a decreasing trend (1)**

↓ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Gorge rice-flower <i>Pimelea cremnophila</i>	Flora	Population census Survey within known range	High	44 plants 2022–23	93 plants 2021–22	The range of this species is restricted to Oxley Wild Rivers NP and was surveyed via a count of individuals at sites in which the species is known to occur, as per the CAP requirements. In 2022–23 the counts were 22 plants at Redman Creek Gorge, 22 plants at Spring Creek Gorge, and zero plants at Steep Drop Falls where the species has been historically recorded. As there was a decrease in the number of individuals reported between the years data was collected, a decreasing trend has been determined for this species.

**Table 9 Endangered species with a decreasing trend (3)**

↓ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Bomaderry zieria <i>Zieria baeuerlenii</i>	Flora	Population census Survey within known range	High	460 plants 2020–21	660 plants 2018–19	This species was surveyed throughout its known range in Bomaderry Creek RP to determine a population census, as per the CAP requirements. As there was a 35% decrease in the population between the years data was collected, a decreasing trend has been determined for this species.
Metcalfe's greenhood <i>Pterostylis metcalfei</i>	Flora	Population index Survey within known range	High	32 flowering plants 2022–23	103 flowering plants 2021–22	This species was surveyed throughout its known range in Guy Fawkes River NP. In 2022–23, a total of 32 flowering plants were counted in the 2 known locations for this species. As there was a decrease in the number of plants reported between the years data was collected, a decreasing trend has been determined for this species.

## Threatened species status report, 2021–22 and 2022–23

↓ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Sublime Point pomaderris <i>Pomaderris adnata</i>	Flora	Population index Permanent monitoring plots	High	506 plants 2022–23	1,523 plants 2020–21	This species is monitored in Illawarra Escarpment SCA using a count of individuals in 8 permanent monitoring plots designed to capture the entire population, as per the CAP requirements. In 2022–23, 102 plants were found outside of these monitoring plots; however, to maintain consistency in monitoring across years and to accurately identify a trend, these plants were not included in the results. As there was a decline in individuals reported between the years data was collected, a decreasing trend has been determined for this species.

**Table 10. Vulnerable species with a decreasing trend (2)**

↓ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Mittagong geebung <i>Persoonia glaucescens</i>	Flora	Population index Permanent monitoring plots	High	112 mature plants; 249 seedlings 2020–21	135 mature plants; 2 seedlings 2019–20	This species was monitored in Bargo SCA and Upper Nepean SCA using a count of individuals in permanent monitoring plots. In 2020–21, 112 mature individuals and 249 seedlings were counted across the monitoring plots, while in 2019–20, 135 mature individuals and 2 seedlings were counted. As there was a decrease in the number of mature individuals reported between the years data was collected, a decreasing trend has been determined for this species. Future monitoring will provide an estimate of the number of mature plants in the population and the area of occupancy, as per the CAP requirements.

## Threatened species status report, 2021–22 and 2022–23

↓ Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Phantom wattle <i>Acacia phasmoides</i>	Flora	Population estimate Survey within known range	Moderate	> 2,000 plants 2019–20	> 2,500 plants 2017–18	This species is surveyed biannually throughout its known range in Woomargama NP. The 2019–20 bushfires were estimated to have impacted 50% of the population; however, in a baseline survey conducted in 2019–20, after the fires, more sites were discovered. As the current population is estimated to have reduced from 2,500 to approximately 2,000 plants between the years data was collected, a decreasing trend has been determined for this species.



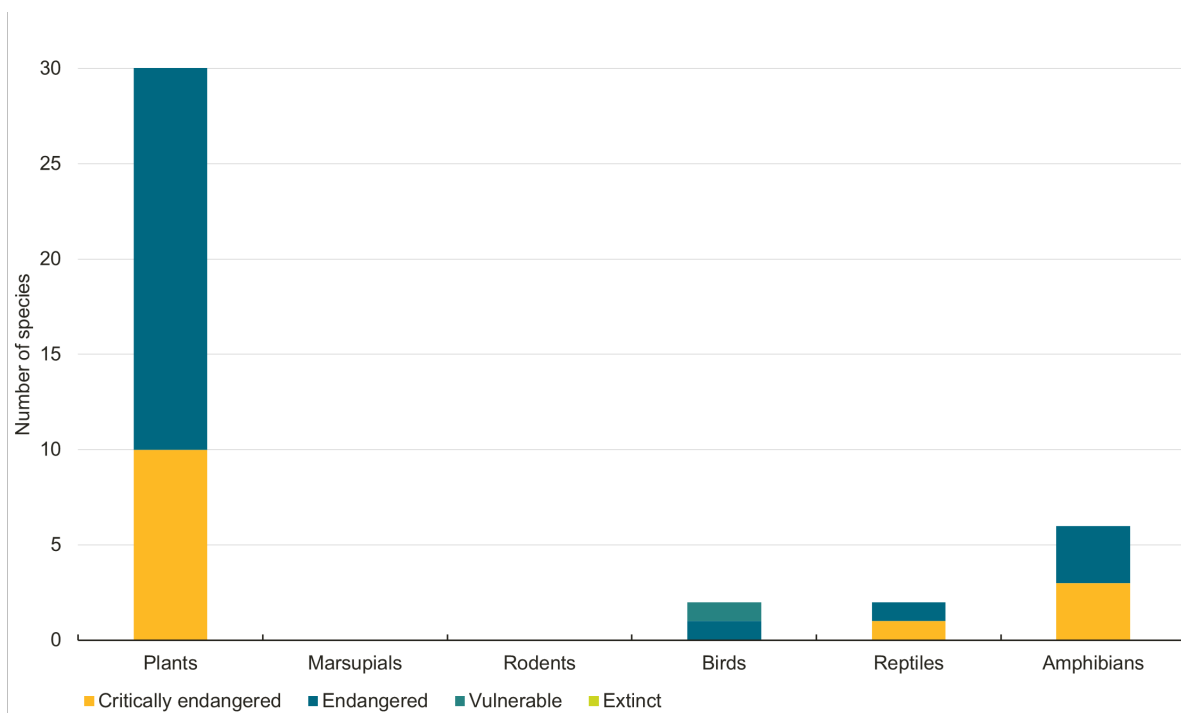
Phantom wattle (*Acacia phasmoides*). Photo: John Briggs/DCCEEW

## Species with an undetermined trend between results (59)



A trend could not be determined for some species because no prior data was available or there was inconsistency in the applied methodology and monitoring metric between reporting periods. These species will require subsequent monitoring that is consistent with the NPWS threatened species monitoring protocols (in preparation) to enable a trend to be determined between reported survey or monitoring results.

Of the 101 species reported, 59 species were assessed to have an undetermined trend, of which **49 are plants** (10 critically endangered, 25 endangered, 14 vulnerable), **2 are birds** (1 endangered, 1 vulnerable), **2 are reptiles** (1 critically endangered, 1 endangered) and **6 are amphibians** (3 critically endangered, 3 endangered).



**Figure 6** Number of species, by taxa and Biodiversity Conservation Act listing status, where the data trend was unable to be determined

**Table 11 Critically endangered species with an undetermined trend (14)**

Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Bolivia Hill boronia <i>Boronia boliviensis</i>	Flora	Population census Survey within known range	Low	3,000 seedlings and mature plants 2021–22	> 5,000 seedlings; unknown number of mature plants 2020–21	This species was surveyed throughout its known range in Bolivia Hill NP. There was an extreme decline in species abundance during the recent drought; however, the subsequent rains allowed for high levels of seeding germination and recruitment at some sites. The growth of new recruits appears slow, so full maturation and recovery species abundance may take years. As per the CAP requirements, the monitoring for this species includes both seedlings and mature individuals; however, the monitoring prior to CAP implementation was restricted to mature individuals, and therefore a population trend is currently unable to be determined for the species.
<i>Bossiaea fragrans</i>	Flora	Population census Survey within known range	Moderate	936 plants 2021–22	58 mature plants; 185 seedlings (tagged) 2020–21	This species was surveyed in Abercrombie Karst CR using tagged plants across 8 sites, where both mature plants and seedlings are included. Despite an increase reported between the years data was collected, a trend for this species is currently unable to be determined as 2022–23 was the first year a total population census was undertaken. However, future surveys will provide an annual estimate of the number of mature plants and seedlings in the population, as per the CAP requirements.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Budawang wallaby grass <i>Plinthanthesis rodwayi</i>	Flora	Population index Permanent monitoring plots	Moderate	43.6% (average cover) 2022–23	Prior data unavailable	This species is restricted to Budawang NP and was monitored using the percentage cover of plants recorded in 35 m x 10 m permanent monitoring plots, then calculated to estimate the population with a 20% standard error in density, as per the CAP requirements. In 2022–23 an average cover of 43.6% was found. Suitable habitat at Mt Currockbilly was also surveyed for this species; however, only 20–50 plants were found. As a newly monitored species, a trend is currently unable to be determined. Due to the nature of the species, it is difficult to count individual plants, therefore best practice methods for this species are still being determined.
	Carrington Falls grevillea <i>Grevillea rivularis</i>	Flora	Population index Survey within known range	Moderate	105.5 ha (area of occupancy) 2019–20	952 plants 2016–17	This species was surveyed throughout its suitable habitat in Budderoo NP. Surveys of the species after the 2019–20 bushfires showed high levels of recruitment; however, a trend for the species is currently unable to be determined due to the variation in monitoring techniques prior to CAP implementation. Future monitoring will include a count of individuals and a calculation of area of occupancy, as per the CAP requirements.
	Delicate pomaderris <i>Pomaderris delicata</i>	Flora	Population index Permanent monitoring plots	Moderate	337 plants 2022–23	100 plants 2020–21	This species was monitored in Pomaderris NR and Nadgigomar NR using a count of plants in, respectively, 5 permanent monitoring plots measuring 10 m x 10 m, and 2 fenced translocated areas. In 2022–23, 188 plants were recorded in the monitoring plots in Pomaderris NR and 129 plants were recorded across the 2 translocation sites in Nadgigomar NR. Due to the inconsistent survey design and efforts across monitoring years, a trend is currently unable to be determined for this species. Future surveys will provide an estimate of recruitment in the population, as per the CAP requirements.



## Threatened species status report, 2021–22 and 2022–23

? Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Holly-leaf grevillea <i>Grevillea ilicifolia</i> subsp. <i>ilicifolia</i>	Flora	Population census Survey within known range	High	2 plants 2022–23	Prior data unavailable	This species is currently only known from one population of 2 individuals at Round Hill NR and a trend is currently unable to be determined for this species. Future actions to support a translocation of this species into NSW national parks will help secure this species from extinction.
Kaputar rock skink <i>Egernia roomi</i>	Fauna	Population index Survey within known range	High	145 individuals 2022–23	Prior data unavailable	This species is restricted to Mount Kaputar NP and was surveyed using a mixed method count of individuals within suitable habitat. This survey process will help determine the best practice for future surveys to fulfil the CAP monitoring requirements. A trend for this species is currently unavailable as this is the first year of monitoring.
Kowmung hakea <i>Hakea dohertyi</i>	Flora	Population estimate Survey within known range	Moderate	2,500 to 4,000 plants 2022–23	Prior data unavailable	This species was surveyed throughout its known range in Kanangra–Boyd NP, as per the CAP requirements. The current population largely consists of juveniles as a result of the 2019–20 bushfires. As this is the first year in which a population estimate was undertaken, a trend is unable to be determined for this species.
Mount Dangar wattle <i>Acacia dangarensis</i>	Flora	Population index Permanent monitoring plots	Moderate	30 stems 2022–23	30 seedlings 2021–22	This species is restricted to Goulburn River NP and was monitored in five 20 m x 20 m permanent monitoring plots. A trend for this species is currently unable to be determined due to a change in the type of data collected between the years. However, future surveys will provide an estimate of the number of mature plants, senescing individuals, and number of seedlings in the population, as per the CAP requirements.
New England gentian <i>Gentiana wissmannii</i>	Flora	Population index Survey within known range	Moderate	80 plants 2022–23	90 plants 2021–22	This species was surveyed annually throughout its known range in Cathedral Rock NP. Due to the inconsistency in survey efforts between the years data was collected, a trend for this species is unable to be determined.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Northern corroboree frog <i>Pseudophryne pengilleyi</i>	Fauna	Population index Monitoring using playback	Moderate	452 calling males 2022–23	416 calling males 2021–22	This species was monitored in Kosciuszko NP and Brindabella NP using a call and response method to count the males in local patches that are representative of the remaining population. In 2022–23, 442 males were recorded calling at the Fiery Range site in Kosciuszko NP and 10 males were recorded at the Brindabella site. Due to the partial impact of the 2019–20 bushfires to the species' known range and the uncertainty as to how the population is recovering, a trend is currently unable to be determined for this species. However, future surveys will provide a total population estimate, as per the CAP requirements.
	<i>Prostanthera gilesii</i>	Flora	Population index Permanent monitoring plots	High	45.8 m <sup>2</sup> area of occupancy, 25.1 m <sup>3</sup> clump volume 2022–23	105 plants 2020–21	This species was monitored in Mount Canobolas SCA, where in 2022–23 a new monitoring metric was implemented due to the clumping nature of the species, and as per the CAP requirement. This new metric calculates the volume of plants within permanent monitoring plots. As this is the first year this metric has been used, a trend for this species was unable to be determined.
	Southern corroboree frog <i>Pseudophryne corroboree</i>	Fauna	Population index Monitoring using playback	Moderate	29 calling males 2022–23	35 calling males 2021–22	This species was monitored in Kosciuszko NP using a call and response method, where calling males were identified and flagged, at 40 monitoring sites. In the most recent monitoring 223 viable eggs were observed. Despite the decrease in the number of males identified between reporting periods, the population index used means an accurate trend for this species is currently unable to be determined. However, future surveys will provide an estimate of the number of individuals in the population, as per the CAP requirements.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Spotted tree frog <i>Litoria spenceri</i>	Fauna	Population index Capture–mark–recapture monitoring	Moderate	49 individuals 2022–23	6 individuals 2021–22	This species was monitored in Kosciuszko NP using a capture–mark–recapture method at known sites, as per the CAP requirements. In 2021, after monitoring indicating a significant decline in the population following the 2019–20 bushfires, 80 one-year-old frogs were released at the site. Monitoring results in 2022–23 show a high survivorship of the juvenile frogs released, and a large number of tadpoles/metamorphs have naturally recruited into the system, suggesting that the population may recover from the recent decline. However, due to the recent release of individuals, a trend is unable to be determined at this time.



Kaputar rock skink (*Egernia roomi*). Photo: Jodi Rowley/DCCEEW

**Table 12 Endangered species with an undetermined trend (30)**

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	<i>Asterolasia elegans</i> (A)	Flora	Population index Transect monitoring	High	37.88 plants (SE ± 10.98) 2020–21	46.5 plants (SE ± 12.08) 2017–18	This species was monitored in Maroota Historic Site and Marramarra NP (A), and in Parr SCA and Yengo NP (B), using different methods across reserves. At Maroota Historic Site and Marramarra NP, plants were counted and averaged across permanent monitoring transect lines. In 2020–21, an average of 37.88 (± 10.98 SE) plants were recorded along each transect, which is a small decline from the previous reporting period, likely the result of natural fluctuation. However, due to the inconsistency in monitoring metrics across sites, a trend for this species is currently unable to be determined. Future monitoring will be designed and implemented every 3 years to provide an estimate of the total population, as per the CAP requirements.
	<i>Asterolasia elegans</i> (B)	Flora	Population index Survey within known range and monitoring plots	High	750 plants 2022–23	0 mature plants; 1,218 juvenile plants 2020–21	At Parr SCA and Yengo NP, the species was surveyed via a count of mature and juvenile individuals throughout its known range. In 2022–23 the total number of post-fire recruits had decreased from 1,218 juveniles recorded in 2021, to approximately 750 plants. However, surveys of suitable habitat across the broader locations detected thousands of previously unrecorded plants. As stated above, due to the inconsistency in monitoring metrics across sites, a trend for this species is currently unable to be determined. Future monitoring will provide an estimate of the total population, as per the CAP requirements.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Banyabba shiny-barked gum <i>Eucalyptus pachycalyx</i> <i>subsp. banyabba</i> (A)	Flora	Population index Survey within known range	High	90 mature plants; 88 juvenile plants 2022–23	7,144 stems	This species was surveyed throughout its known range in Banyabba NR (A) and Yuraygir SCA (B). At Banyabba NR in 2022–23, 90 mature plants and 88 juvenile plants were counted across 2 monitoring locations. The decrease in counts between monitoring years is attributed to the impact of the 2019–20 bushfires, which saw a sharp increase in numbers due to post-fire regeneration, followed by an expected thinning of plants. Due to the changes in monitoring metric between reporting periods and across sites, a trend for this species at this location is currently unable to be determined; however, future surveys will provide a total population estimate, as per the CAP requirements.
	Banyabba shiny-barked gum <i>Eucalyptus pachycalyx</i> <i>subsp. banyabba</i> (B)	Flora	Population index Survey within known range	High	378 mature plants; 80 juvenile plants 2022–23	176 plants 2021–22	At Yuraygir SCA this species was surveyed via a count of mature and juvenile plants throughout its range. This is a new location recorded for the species in 2021, in which a total of 176 plants were found. In 2022–23, 458 single-stem individuals (378 adults and 80 juveniles) were counted at the same survey area. As stated above, due to the changes in monitoring metric between reporting periods and across sites, a trend for this species at this location is currently unable to be determined; however, future surveys will provide a total population estimate, as per the CAP requirements.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Binghi <i>Homoranthus binghiensis</i>	Flora	Population estimate Permanent monitoring plots	High	15,000 to 20,000 plants 2022–23	Prior data unavailable	This species was monitored in Torrington SCA using a count of individuals within permanent monitoring plots to establish a population estimate by extrapolating across the species' known area of occupancy, as per the CAP requirements. In 2022–23, 2,112 mature individuals and 1,744 seedlings were recorded within the monitoring plots and a population estimate of 15,000 to 20,000 individuals was established. However, a trend is currently unavailable as monitoring prior to CAP implementation did not occur.
	Bird orchid <i>Chiloglottis anaticeps</i>	Flora	Population index Permanent monitoring plots	High	2,911 plants 2020–21	Prior data unavailable	This species was monitored in Werrikimbe NP, and Cathedral Rock NP, using 3 permanent plots that were set up when the species began to flower. In 2021–22 estimates were 849 plants at the north-east Werrikimbe site, 1,566 plants at the Mooraback site in Werrikimbe NP, and 496 plants at the Cathedral Rock site. As this is the first year of monitoring, a trend is currently unavailable for this species. Future monitoring will occur twice annually and provide a population estimate, as per the CAP requirements.
	Bog grevillea <i>Grevillea acanthifolia</i> subsp. <i>paludosa</i>	Flora	Population estimate Permanent monitoring plots	Moderate	81,870 plants 2022–23	Prior data unavailable	This species was monitored in South East Forest NP and Wadbilliga NP using a count of individuals in permanent 1 m x 1 m monitoring plots, which is then extrapolated across the species' known area of occupancy to establish a population estimate, as per the CAP requirements. In 2022–23, 180 monitoring plots were established in South East Forest NP and 203 monitoring plots were established in Wadbilliga NP. The population was estimated to be 81,870 plants. A trend for this species is unavailable as monitoring did not occur prior to CAP implementation.

## Threatened species status report, 2021–22 and 2022–23

? Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Byron Bay diuris <i>Diuris byronensis</i>	Flora	Population index Survey within known range	Moderate	0 plants 2022–23	2 plants 2019–20	This species was surveyed using a total count of the few known individuals in Arakwal NP. This species is cryptic and therefore difficult to detect with monitoring. In 2022–23 results were inconclusive and therefore a trend for this species is currently unable to be determined; however, future surveys will increase in frequency, as per the CAP requirements.
<i>Chambigne bertya</i> ( <i>Bertya</i> sp. ( <i>Chambigne</i> NR, <i>M. Fatemi</i> 24))	Flora	Population index Survey within known range	High	334 mature plants; 1,693 seedlings 2022–23	153 mature plants; 1,572 seedlings 2021–22	This species was surveyed annually throughout its known range in Chambigne NR and Yuraygir SCA, as per the CAP requirements. In 2022–23, 181 mature plants were recorded in a newly found site in Yuraygir SCA and 153 mature individuals were recorded at known locations in Chambigne NR. Across both sites 1,693 seedlings were counted (2,027 total plants). However, the trend for this species is currently unable to be determined as the sampling efforts are inconsistent across monitoring periods.
Coast euodia <i>Melicope vitiflora</i>	Flora	Population index Survey within known range	Moderate	278 plants 2022–23	Prior data unavailable	This species was surveyed throughout its known range in Nightcap NP and Snows Gully NR, as per the CAP requirements. In 2022–23, 124 individuals were recorded in Nightcap NP (85 adults, 32 juveniles and 7 seedlings) and 154 individuals were recorded in Snows Gully NR (77 adults, 65 juveniles and 12 seedlings). However, as this is the first survey conducted under the recently implemented CAP, a trend for this species is currently unavailable.

## Threatened species status report, 2021–22 and 2022–23

? Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Cocoparra pomaderris <i>Pomaderris cocoparrana</i>	Flora	Population index Survey within known range	Low	> 1,000 plants 2022–23	350 plants 2021–22	This species was surveyed at 5 sites within its known range in Cocoparra NR and Cocoparra NP. A trend for this species is currently unable to be determined due to the inconsistent survey effort across the monitoring years. However, future surveys will provide an estimate of the number of plants in the population every 2 years, as per the CAP requirements.
Crimson spider orchid <i>Caladenia concolor</i> (A)	Flora	Population index Permanent monitoring plots	High	81 plants 2020–21	91 plants 2019–20	This species was monitored in Benambra NP (A), Burrinjuck NR (B), and Woomargama NP and Woomargama SCA (C) using different methods at each location. At Benambra NP the species was monitored using a count of plants in permanent monitoring plots. In 2020–21, 81 plants were counted at this location; however, a trend is currently unable to be determined for this species due to the inconsistent monitoring methods used across sites. Future monitoring will be designed and implemented every 2 years to generate an estimate of the total population, as per the CAP requirements.
Crimson spider orchid <i>Caladenia concolor</i> (B)	Flora	Population index Survey within known range	Moderate	108 plants 2022–23	180 plants 2020–21	At Burrinjuck NR this species was surveyed throughout its known range. In 2022–23, 108 flowering plants were counted at this location; however, as stated above, trend is currently unable to be determined for this species due to the inconsistent monitoring methods used across sites and future monitoring will provide an estimate of the total population, as per the CAP requirements.
Crimson spider orchid <i>Caladenia concolor</i> (C)	Flora	Population census Survey within known range	High	431 plants 2022–23	Prior data unavailable	Woomargama NP and Woomargama SCA hold a recently translocated population of this species. In 2022–23, 431 plants were successfully translocated and are currently thriving.



## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Dwarf mountain pine <i>Pherosphaera fitzgeraldii</i>	Flora	Population estimate Survey within known range	Moderate	768 plants 2022–23	714 plants 2020–21	This species was surveyed throughout its known range in Blue Mountains NP, as per the CAP requirement. The existing population continues to exhibit low levels of seed recruitment and increased plant mortality, which will be addressed in consultation with experts. In 2022–23, 768 plants were counted across all 26 locations; however, in 2020–21 only a partial survey was conducted. Given this inconsistency in survey effort between monitoring periods, a trend is currently unable to be determined for this species.
	Fleay's barred frog <i>Mixophyes fleayi</i>	Fauna	Population index Capture–mark–recapture monitoring	High	270 individuals 2019–20	252 individuals 2018–19	This species was surveyed using a capture–mark–recapture method in Nightcap NP. In 2019–20, 73 individuals were caught at Turntable Creek and 44 individuals at Terania Creek. Through the analysis of the capture–mark–recapture data, the population is thought to have recovered post chytrid-associated declines and is considered relatively stable. However, a trend for this species is currently unable to be determined as the survey sites are thought to not accurately represent extent of the species range. Future surveys will include Tooloom NP, where the species is known to occur, and will generate an estimate of the total population, as per the CAP requirements.
	Floyd's zieria <i>Zieria floydii</i>	Flora	Population index Survey within known range	High	836 mature plants; 850 juvenile plants 2022–23	900 seedlings and resprouts 2019–20	This species was surveyed at 4 known locations in Guy Fawkes River NP. This species was heavily impacted by the 2019–20 bushfires, and the post-fire surveys only recorded seedlings and resprouts, therefore a trend is currently unable to be determined. However, future surveys will provide annual estimates of the number of mature plants in the population, which will allow a trend to be determined, as per the CAP requirements.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Genoa River correa <i>Correa lawrenceana</i> var. <i>genoensis</i>	Flora	Population index Survey within known range	High	2,121 seedlings 2022–23	2,000 plants 2021–22	This species is restricted to South East Forest NP and was surveyed throughout its known range, as per the CAP requirements. A trend for this species is currently unable to be determined due to the inconsistencies in the monitoring metrics measured across years.
	Green waxberry <i>Gaultheria viridicarpa</i>	Flora	Population index Survey within known range	Moderate	2,191 plants 2022–23	Prior data unavailable	This species was surveyed throughout its known range in New England NP and Limpinwood NR. In 2022–23, 998 plants were recorded at the Mt Merino site in Limpinwood NR, 632 plants at Point Lookout, and 561 plants between Darkie Point and Majors Point in New England NP. As this is the initial survey for this species, a trend is currently unavailable; however, future surveys will provide an estimate of the number of mature plants in the population every 3 years and the area of occupancy every 5 years, as per the CAP requirements.
	Grey grasswren <i>Amytornis barbatus barbatus</i>	Fauna	Population index Monitoring using playback and observation	Moderate	0.337 detection rate 2021–22	0.136 detection rate 2019–20	This species was monitored in Narriearra Caryapundy Swamp NP using a combination of call playback and observation to determine a detection rate. In 2021–22, the species was detected at 29 of the 86 sites; however, a trend is unable to be determined due to the current population index used, which is a coarse measure of occurrence. Future monitoring for the species will report an area of occupancy for the entire population and a population estimate, as per the CAP requirements.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	<i>Guthega skink</i> <i>Liopholis guthega</i>	Fauna	Population index Permanent monitoring plots	High	22 individuals; 206 active burrows 2022–23	18 individuals; 236 active burrows 2021–22	This species is restricted to Kosciuszko NP and was monitored using a count of individuals and active burrows at 4 permanent monitoring plots that are representative of the species' known range. A trend for this species is currently unable to be determined due to the discrepancy in the direction of change between the results for count of individuals and the results for count of active burrows; however, future surveys will provide an estimate of the population, as per the CAP requirements.
	Guthrie's grevillea <i>Grevillea guthrieana</i>	Flora	Population index Survey within known range	High	1,436 plants 2021–22	305 plants 2019–20	This species was surveyed across its known range in Carrai NP and Myall Lakes NP, as per the CAP requirements. In 2021–22, 1,436 plants were counted at 4 locations within these national parks with a significant number of seedlings in the Myall Lakes location, indicating that the species is still likely to be stable and in reasonable health. A trend for this species is currently unable to be determined due to the inconsistent monitoring efforts and locations across years.
	<i>Gyrostemon thesioides</i>	Flora	Population estimate Survey within known range	Moderate	> 251 plants 2022–23	Prior data unavailable	This species was surveyed throughout parts of its known range in Burragorang SCA, which was then extrapolated to provide a population estimate. In 2022–23, 144 plants were counted at the Warragamba site in Burragorang SCA, which resulted in a population estimate of 251 plants. A trend for the species is unavailable due to the limited monitoring data available from prior years.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	<i>Haloragodendron lucasii</i>	Flora	Population index Survey within known range	Moderate	590 stems 2020–21	> 1,000 stems 2019–20	This species was surveyed using a count of stems throughout its known range in Ku-Ring-Gai Chase NP and Garigal NP, as per the CAP requirements. In 2020–21 counts were 42 stems at the Murrua Track (south) site, 13 stems at the Murrua Track (north) site, and 535 stems at the Bobbin Head site. Additionally, 2 new locations were discovered within the Bobbin Head site, while no stems were located at the Garigal NP site. A trend is currently unable to be determined, as the previous monitoring period is considered an initial population estimate and increased survey efforts between monitoring years have resulted in new locations for the species.
	Lemon zieria <i>Zieria citriodora</i>	Flora	Population index Survey within known range	Moderate	1,550 mature plants 2022–23	855 mature plants 2021–22	This species was surveyed throughout its known range in Kybeyan NR. Despite the increase in the number of mature individuals, a trend for this species is unable to be currently determined due to inconsistency in site locations between survey years.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	<i>Phyloria richmondensis</i>	Fauna	Population index Survey of site occupancy	High	0.55 proportion of sites occupied 2020–21	0.46 proportion of sites occupied 2019–20	This species was surveyed up to 3 times during the mating season in Richmond Range NP. A call and response method was used along 100 m transects at 50 survey sites, including 13 sites that had been burnt in the 2019–20 bushfires. There has been a decline recorded in the population since monitoring in 2012–13 when the proportion of sites occupied was 0.61%. This is thought to be a result of fires and drought in the area. Although a trend is currently unable to be determined using the most recent monitoring results, future surveys will provide an estimate of the number of mature individuals in the population every 3 years and the area of occupancy every 3 years, as per the CAP requirements.
	Rough eyebright <i>Euphrasia scabra</i>	Flora	Population census Survey within known range	High	5,250 plants 2022–23	Prior data unavailable	This species was surveyed throughout its known range in South East Forest NP. It is known to be present at 3 swamp sites, and monitoring in 2022–23 showed that Parkers Swamp had the greatest count of individuals, Dragon Swamp had a record high count of individuals, while Devils Swamp had a low count of individuals due to unsuitable habitat conditions. Monitoring prior to CAP implementation did not previously occur, therefore a trend is unavailable for this species.

## Threatened species status report, 2021–22 and 2022–23

? Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Sand doubletail <i>Diuris arenaria</i> (A)	Flora	Population index Survey within known range	Moderate	1,624 plants 2022–23	1,600 plants 2021–22	This species was surveyed throughout its known range in Tomaree NP and Worimi NP. In 2022–23, at the North Tomaree site (A), 1,624 flowering plants were counted; however, surveys did not occur at the other sites. As such, a trend is currently unable to be determined for this species due to the inconsistency of sites and survey years. Future monitoring will be designed and implemented every 2 to 3 years and will provide a total number of flowering individuals in the population as well as the species area of occupancy, as per the CAP requirements.
Sand doubletail <i>Diuris arenaria</i> (B)	Flora	Population index Survey within known range	Moderate	4,495 plants 2020–21	448 plants 2019–20	At the South Tomaree site and in Worimi NP (B), in 2020–21, 4,495 flowering plants were counted. This is an increase in the counts recorded from previous monitoring periods. However, as stated above, due to the inconsistency of sites and survey years, a trend is currently unable to be determined. Future monitoring will provide a total number of flowering individuals in the population as well as the species area of occupancy, as per the CAP requirements.
Severn River heath-myrtle <i>Micromyrtus grandis</i>	Flora	Population index Survey within known range	High	2,690 mature plants; 459 juvenile plants 2022–23	992 plants 2020–21	This species was surveyed using a count of individuals and clusters throughout its known range in Severn River NR, as per the CAP requirements. In 2022–23, the survey recorded 3,149 individual plants from 322 clusters, including 2,690 mature plants and 459 juvenile plants. Given this is the first year a breakdown of mature and juvenile plants has been reported, a trend was unable to be determined.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Soft grevillea <i>Grevillea mollis</i>	Flora	Population estimate Survey within known range	High	1,778 mature plants; 1,685 juvenile plants 2022–23	Prior data unavailable	This was species surveyed throughout its known range in Gibraltar Range NP using a count of mature and juvenile individuals to establish a baseline population estimate. A trend for this species is currently unavailable as this is the first year of monitoring. Future surveys will establish an area of occupancy for the species, as per the CAP requirements.
	Somersby mintbush <i>Prostanthera junonis</i>	Flora	Population estimate Transect monitoring	Moderate	2,700 plants 2022–23	1,353 plants 2019–20	This species was monitored in Brisbane Water NP using a count of plants along permanent monitoring transect lines, which was compared to a baseline population census from 2016 to derive a population estimate, as per the CAP requirements. This calculation was done for each sub-site and then aggregated to account for differing levels of disturbance. In 2022–23 counts were 1,800 plants at the West Kariong site, 600 plants at the Konda site and 300 plants at the Reservoir Road site. Despite the increase in plants counted between years, a trend is currently unable to be determined for this species, due to the inconsistent monitoring efforts across years data was collected for this species.
	Suggan Buggan mallee <i>Eucalyptus saxatilis</i>	Flora	Population index Monitoring of tagged plants	Moderate	174 plants 2022–23	191 plants 2020–21	This species was monitored using a count of tagged plants in Kosciuszko NP, as per the CAP requirements. There are 58 out of 60 tagged plants alive at Blackjack site, 88 out of 90 tagged plants alive at the Windmill Hill site, and 28 out of 30 tagged plants alive at the Pilot site. However, a trend is currently unable to be determined for this species due to the inconsistency in monitoring frequency across sites during the years data was collected for this species.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Watson's tree frog <i>Litoria watsoni</i>	Fauna	Population index Transect monitoring	High	48 individuals 2022–23	Prior data unavailable	This species was monitored in Jerrawangala NP, Nadgee NR and Parma Creek NR. It was monitored using a survey of individuals that are either seen or heard along systematic transects in Jerrawangala NP and Parma Creek NR, and by using drone surveys and ground truthing in Nadgee NR which has identified 6 active breeding sites. The survey areas were burnt during the 2019–20 bushfires, but recent counts indicate numbers are slowly recovering. As initial surveys are still being carried out in suitable habitat across the park estate, a trend is currently unable to be determined.
	Willi Willi zieria <i>Zieria lasiocaulis</i>	Flora	Population index Permanent monitoring plots	High	22 plants 2022–23	1,884 plants 2020–21	This species was surveyed using a count of individuals within 8 permanent monitoring plots in Willi Willi NP. Due to differing accessibility issues between monitoring periods, not all plots were counted consistently across years, meaning a trend is currently unable to be determined. However, future surveys will provide an estimate of the number of mature plants and seedlings in the population, as per the CAP requirements.



**Table 13 Vulnerable species with an undetermined trend (15)**

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Fletcher's drumsticks <i>Isopogon fletcheri</i>	Flora	Population census Survey within known range	Moderate	549 mature plants 2022–23	Prior data unavailable	This species was surveyed throughout its known range both on the ground and using drones in Blue Mountains NP. In 2022–23 counts were 465 mature individuals at the Grose Valley site and 84 mature individuals at the Kedumba Valley site. A trend is unavailable for this species due to lack of data collection in prior years.
	Gibraltar mallee <i>Eucalyptus dissita</i>	Flora	Population index Count surveys and remote sensing	Moderate	5,600 stems 2019–20	3,200 stems 2017–18	This species was surveyed throughout its known range both on the ground and using drones in Gibraltar Range NP. In 2019–20 counts were 600 stems at Surveyors Creek, 2,500 stems in the Valley of the Mallees, and 2,500 stems at Dragonfly swamp. Despite the increase in stems between monitoring years, a trend is currently unable to be determined for this species as the high number of resprouts immediately after the 2019–20 bushfires are expected to experience a natural decrease and therefore do not represent an increase in the population at these sites.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	Gould's petrel <i>Pterodroma leucoptera leucoptera</i> (A)	Fauna	Population index Monitoring by census of nests	High	616 breeding pairs 2022–23	596 breeding pairs 2021–22	This species breeds on Boondelbah NR, John Gould NR, Little Broughton Island NR (A) and Barunguba Montague Island NR (B) and was monitored using various metrics across sites. At the Boondelbah NR, John Gould NR and Little Broughton Island NR sites, nocturnal and diurnal surveys to count the number of breeding pairs were used. In 2022–23 counts were 613 breeding pairs at John Gould NR and 3 breeding pairs across both Boondelbah NR and Little Broughton Island NR. A trend is currently unable to be determined for this species due to monitoring years and survey methods being inconsistent (often driven by weather). However, future surveys will provide a population estimate, along with the area of occupancy and recruitment success rate, as per the CAP requirements.
	Gould's petrel <i>Pterodroma leucoptera leucoptera</i> (B)	Fauna	Population index Monitoring by census of nests	Moderate	20 active nests 2019–20	39 active nests 2018–19	At the Barunguba Montague Island NR this species was monitored using nocturnal and diurnal surveys to count the number of active nests across the islands. In 2019–20, 20 active nests were counted; however, this is a relatively new nesting site and as such the number of breeding pairs continues to fluctuate. As stated above, a trend is currently unable to be determined for this species due to the inconsistency in survey years and metrics used across sites. Future surveys will provide a population estimate, along with the area of occupancy and recruitment success rate, as per the CAP requirements.

## Threatened species status report, 2021–22 and 2022–23

?	Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
	<i>Lasiopetalum joyceae</i> (A)	Flora	Population index Permanent monitoring plots	High	167 mature plants; 55 juvenile plants 2022–23	93 mature plants; 124 juvenile plants 2020–21	This species was monitored in Parr SCA and Yengo NP (A), and Berowra Valley NP, Ku-ring-gai Chase NP, Marramarra NP, Mount Kuring-gai Aboriginal Area and Muogamarra NR (B), using different methods across sites. In Parr SCA and Yengo NP this species was monitored using counts of individuals within 12 permanent monitoring plots. In 2022–23, 167 adult and 55 juvenile plants were recorded (an average of 18.5 plants per plot). Of the 167 adults, 98 (approximately 60%) individuals exhibited signs of reproduction (buds, old fruit). The changes in the numbers of mature adults and juveniles across monitoring years represent the natural fluctuation expected for this species. A trend is currently unable to be determined for the species due to the inconsistent monitoring methods implemented across sites and monitoring years.
	<i>Lasiopetalum joyceae</i> (B)	Flora	Population index Transect monitoring	Moderate	219 plants 2020–21	1,864 plants 2017–18	At Berowra Valley NP, Ku-ring-gai Chase NP, Marramarra NP, Mount Kuring-gai Aboriginal Area and Muogamarra NR, this species was monitored using a count of individuals across transect lines. In 2017–18, 1,864 plants were counted across 6 monitoring transects. In 2020–21, 219 plants were counted across 12 transects (on average 18.25 plants per transect), with 95% of plants in a healthy condition and 93% showing evidence of reproduction (including 23% fruiting). Despite the decrease in count results between monitoring years, a trend is currently unable to be determined for the species at these reserves due to the increase in monitoring effort between the reported years.

## Threatened species status report, 2021–22 and 2022–23

? Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
<i>Micromyrtus blakelyi</i>	Flora	Population index Permanent monitoring plots	Moderate	1,909 plants 2022–23	30.8 average plants per plot 2021–22	This species was monitored using a count of individuals in permanent monitoring plots in Ku-ring-gai Chase NP, Marramarra NP, Muogamarra NR and Maroota Ridge SCA. In 2022–23 counts were 181 plants in Ku-Ring-Gai Chase NP and Muogamarra NR, 1,363 plants in Maroota Ridge SCA, and 365 plants in Marramarra NP. A trend is currently unable to be determined due to the difference in metrics being measured across years data was collected for this species.
Parris' bush-pea <i>Pultenaea parrisiae</i>	Flora	Population index Survey within known range	Moderate	5,787 plants 2022–23	2,124 plants 2021–22	This species was surveyed in Wadbilliga NP and South East Forest NP to identify new areas and map the area of occupancy. Occupancy was recorded in all survey areas and plants were counted in a subset of the occupied areas. In 2022–23 counts were 1,069 plants at the Imay Rd site in South East Forest NP and 4,718 plants at the Wadbilliga site. The surveys identified new areas that have not previously been recorded; therefore, a trend is currently unable to be determined for this species.
<i>Philotheca papillata</i>	Flora	Population census Survey within known range	High	559 plants 2022–23	486 plants 2021–22	This species is restricted to Sherwood NR and was surveyed throughout its known range. A trend for this species is currently unable to be determined due to an increase in the survey areas and sampling effort across monitoring years.

## Threatened species status report, 2021–22 and 2022–23

Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
<i>Prostanthera discolor</i>	Flora	Population estimate Survey within known range	Low	10,000 to 100,000 plants 2022–23	21 mature plants; 5,200 juvenile plants 2021–22	This species was surveyed throughout its known range in Wollemi NP. In 2022–23 the population was estimated to be between 10,000 and 100,000 plants. In 2021–22 a survey recorded 21 mature individuals and 5,200 juvenile plants. Survey effort suggests new populations are still being discovered and a mass germination event led to an increase in numbers; however, a trend is currently unable to be determined due to the change in data metric reported across the years.
Silver sword lily <i>Neoastelia spectabilis</i>	Flora	Population index Survey within known range	Moderate	188 plants 2021–22	464 plants 2019–20	This species was surveyed throughout its known range in New England NP. Results from the 2 main areas surveyed, Cascades Walking Track and Ambleside, have shown that both populations remain stable with slight growth between years. However, due to only a partial survey being conducted in 2021–22, a trend is currently unable to be determined.
Sparse heath <i>Epacris sparsa</i>	Flora	Population estimate Transect monitoring	Moderate	> 3,800 plants 2022–23	131 plants 2021–22	This species was monitored in Blue Mountains NP, using a systematic count of plants along transects in 2022–23 which was then extrapolated to produce a population estimate. Estimates were more than 2,000 plants at Grose River, more than 1,500 plants at Faulconbridge Point, and more than 300 plants at Brown's Ridge Road. A trend for this species is currently unable to be determined due to a change in monitoring methods across the years reported.

## Threatened species status report, 2021–22 and 2022–23

? Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Square-stemmed olax <i>Olax angulata</i> (A)	Flora	Population index Survey within known range	High	1,553 plants 2022–23	2,000 plants 2020–21	This species was monitored in Banyabba NR and Fortis Creek NP (A) and Yuraygir NP (B) using various methods. At the Banyabba NR and Fortis Creek NP sites, the species was surveyed via a count of plants within the species' known range. These sites were impacted by the 2019–20 bushfires, and a slow decline in numbers between monitoring periods has occurred in unburnt areas, suggesting that the recruitment for this species is fire dependent. Despite a decrease in the number of plants counted between monitoring periods at these sites, an overall trend for this species is currently unable to be determined due to the inconsistency in survey methodology between sites within national parks estate.
Square-stemmed olax <i>Olax angulata</i> (B)	Flora	Population index Permanent monitoring plots	Moderate	7,555 plants 2022–23	7,555 plants 2021–22	At the Minnie Water site in Yuraygir NP (B), this species was monitored using a count of plants within permanent monitoring plots. This site continues to support a large and stable proportion of the population, with over 7,500 plants. However, as stated above, an overall trend for this species is currently unable to be determined due to the differences in monitoring methods and survey effort across sites.
Swamp mint-bush <i>Prostanthera palustris</i>	Flora	Population estimate Survey within known range	Moderate	> 5,000 plants 2022–23	> 1,000 plants 2020–21	This species was surveyed in Bundjalung NP and Tabbimoble Swamp NR using a partial count of individuals which was then extrapolated across the species' known range to give a population estimate. A trend could not be determined as the latest population estimate is derived from a partial survey, and recent impacts from flooding and fires have caused large fluctuations in the population.

## Threatened species status report, 2021–22 and 2022–23

? Species	Kingdom	Metric & methods	Confidence in methods	Latest result	Prior result	Comments
Veined doubletail <i>Diuris venosa</i>	Flora	Population index Grid-based survey	Moderate	1,386 plants 2022–23	4,100 plants 2020–21	This species was monitored in Barrington Tops NP and Barrington Tops SCA using grid-based surveys of flowering plants across the species' known range. In 2022–23 Barrington swamp had 940 flowering plants recorded across 25 ha and Beann Beann had 446 flowering plants recorded across 27 ha. Despite a decrease in the survey results between monitoring years, a trend for this species is currently unable to be determined as the post-fire emergence following the 2019–20 bushfires caused an unusually high count of flowering plants in 2021–22 and natural thinning was expected.
Warty zieria <i>Zieria tuberculata</i>	Flora	Population index Permanent monitoring plots	Moderate	52 plants 2022–23	363 plants 2021–22	This species was monitored in Gulaga NP using a count of plants within 7 monitoring plots measuring 20 m x 20 m. In 2022–23, 52 plants were recorded; however, only 2 out of the 7 plots were counted. Therefore, trend for this species is currently unable to be determined due to the inconsistency in monitoring efforts between the years data was collected.
Waterfall greenhood <i>Pterostylis pulchella</i>	Flora	Population index Survey within known range	Moderate	280 plants 2021–22	417 plants 2020–21	This species was surveyed throughout its known range in Morton NP. Despite the decrease in counts between years data was collected, a trend is currently unable to be determined because some survey areas from the latest count were inaccessible due to floods and an additional 6 sites were surveyed which had not been included in the prior results for the species.