



SAVING OUR SPECIES

Threatened populations strategy



Photography

Cover photo: Gang-gang cockatoo, WIRES.

Page IV & 1: Pine donkey orchid (*Diuris tricolor*), R Gibson/OEH

Page 2: White-fronted chat (*Epthianura albifrons*), M Todd.

Long-nosed potoroo (*Potorous tridactylus*), I Oeland.

Little penguin (*Eudyptula minor*), N Baker/OEH.

Page 3: *Dillwynia tenuifolia*, B Collier.

Page 5: Tiger orchid (*Cymbidium canaliculatum*), A Henderson/OEH.

Long-nosed bandicoot (*Perameles nasuta*), P Meek/OEH.

Page 6: Squirrel glider (*Petaurus norfolcensis*), M Todd.

Eastern Australian underground orchid (*Rhizanthella slateri*),

G Steenbeeke/Orkology.

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Threatened populations are groups of native plants and animals listed as likely to become extinct in the near future.



Introduction

A threatened population is a group of plants or animals of the same species, occupying a particular area, that is listed in the legislation as likely to become extinct in the near future. This strategy outlines the *Saving our Species* (SoS) framework and approach to managing threatened populations.

The SoS program is the NSW Government's management plan for securing threatened species, populations and ecological communities.

The aim of the program is to develop targeted conservation projects for managing threatened species, populations and ecological communities using the best available information.

An aspiration of the program is that its principles of cost-effectiveness, scientific rigour and transparency will guide investment by all (government and non-government) stakeholders across NSW.

All conservation projects developed under SoS are unified by the overarching objective of the program, 'To maximise the number of threatened species that are secure in the wild in NSW for 100 years'.

Legislative context



The SoS threatened populations approach has a broad objective that aligns with the legislation. The approach also includes criteria for assessing whether a specific SoS strategy is needed for a given population and where priority actions will be focused.

Conservation projects for threatened species, populations and ecological communities under the SoS program must fulfil the requirements of the biodiversity conservation program for threatened species and threatened ecological communities in the *Biodiversity Conservation Act 2016* (BC Act).

A population may be listed as threatened under the BC Act if it is isolated, distinct or of significant conservation value and the species as a whole is not listed as a threatened species. There are currently 53 threatened populations listed as threatened on the schedules of the BC Act (as of 1 August 2017).



The BC Act requires conservation projects (referred to as 'strategies' in the Act) to consist of (Part 4, Division 6):

1. strategies to achieve the objectives of the Program in relation to each threatened species and threatened ecological community
2. a framework to guide the setting of priorities for implementing the strategies
3. a process for monitoring and reporting on the overall outcomes and effectiveness of the Program.'

The SoS approach to managing threatened populations is consistent with the listing and terminology of the new Act.

Under the new Act, the Chief Executive of the Office of Environment and Heritage is required to ensure that a conservation project is developed for each threatened species within two years after the species is listed in the Act. Populations are treated as species in the Act and threatened populations are included in the threatened species schedules.



Approach to threatened populations



A threatened population of a threatened species (a species listed as threatened in the legislation) is considered as part of the SoS conservation project for the threatened species itself.

This applies to 19 of the listed threatened populations (see Table 1). The prioritisation process takes into account all populations of the listed threatened species. A threatened population of a listed species may or may not be prioritised for management.

This means that conservation projects must be developed for the 34 listed threatened populations (see Table 2) where the species is not already listed as threatened. Because threatened populations are geographically discrete, critical threats can be managed at priority sites to secure a threatened population in the long term. This approach is consistent with the SoS approach to site-managed species which is generally adopted as the SoS approach to threatened populations.

Table 1 List of 19 populations of species that are already listed as threatened under the TSC Act

Species	Population description
<i>Callocephalon fimbriatum</i>	Gang-gang cockatoo population in the Hornsby and Ku-ring-gai local government areas
<i>Calyptorhynchus lathami</i>	Glossy black-cockatoo, Riverina population
<i>Dillwynia tenuifolia</i>	<i>Dillwynia tenuifolia</i> , Kemps Creek
<i>Dillwynia tenuifolia</i>	<i>Dillwynia tenuifolia</i> in the Baulkham Hills local government area
<i>Diuris tricolor</i>	Pine donkey orchid population in the Muswellbrook local government area
<i>Epthianura albifrons</i>	White-fronted chat population in the Sydney metropolitan catchment management area
<i>Eucalyptus aggregata</i>	<i>Eucalyptus aggregata</i> in the Wingecarribee local government area
<i>Eucalyptus langleyi</i>	<i>Eucalyptus langleyi</i> population north of the Shoalhaven River in the Shoalhaven local government area
<i>Liopholis whitii</i>	White's skink population in the Broken Hill complex bioregion
<i>Mastacomys fuscus</i>	Broad-toothed rat at Barrington Tops in the local government areas of Gloucester, Scone and Dungog
<i>Petaurus australis</i>	Yellow-bellied glider population on the Bago Plateau
<i>Petaurus norfolcensis</i>	Squirrel glider in the Wagga Wagga local government area
<i>Petaurus norfolcensis</i>	Squirrel glider on Barrenjoey Peninsula, north of Bushrangers Hill
<i>Phascolarctos cinereus</i>	Koala, Hawks Nest and Tea Gardens population
<i>Phascolarctos cinereus</i>	Koala in the Pittwater local government area
<i>Phascolarctos cinereus</i>	Koala in the Pittwater local government area
<i>Phascolarctos cinereus</i>	Koala between the Tweed and Brunswick Rivers east of the Pacific Highway
<i>Potorous tridactylus</i>	Long-nosed potoroo, Cobaki Lakes and Tweed Heads West population
<i>Rhizanthella slateri</i>	<i>Rhizanthella slateri</i> in the Great Lakes local government area

Table 2 List of 34 threatened populations for which SoS conservation projects must be developed

Species	Population description
<i>Acacia pendula</i>	<i>Acacia pendula</i> population in the Hunter catchment
<i>Acacia prominens</i>	Gosford wattle, Hurstville and Kogarah local government areas
<i>Adelotus brevis</i>	Tusked frog population in the Nandewar and New England Tableland bioregions
<i>Alectura lathami</i>	Australian brush-turkey population in the Nandewar and Brigalow Belt South bioregions
<i>Allocasuarina diminuta</i> subsp. <i>mimica</i>	<i>Allocasuarina diminuta</i> subsp. <i>mimica</i> population in the Sutherland and Liverpool local government areas
<i>Allocasuarina inophloia</i>	<i>Allocasuarina inophloia</i> population in the Clarence Valley local government area
<i>Callitris endlicheri</i>	Black cypress pine, Woronora plateau population
<i>Chorizema parviflorum</i>	<i>Chorizema parviflorum</i> in the Wollongong and Shellharbour local government areas
<i>Climacteris affinis</i>	White-browed treecreeper population in Carrathool local government area south of the Lachlan River and Griffith local government area
<i>Cymbidium canaliculatum</i>	<i>Cymbidium canaliculatum</i> population in the Hunter catchment
<i>Darwinia fascicularis</i> subsp. <i>oligantha</i>	<i>Darwinia fascicularis</i> subsp. <i>oligantha</i> population in the Baulkham Hills and Hornsby local government areas
<i>Dromaius novaehollandiae</i>	Emu population in the NSW North Coast bioregion and Port Stephens local government area
<i>Eucalyptus camaldulensis</i>	<i>Eucalyptus camaldulensis</i> population in the Hunter catchment
<i>Eucalyptus oblonga</i>	<i>Eucalyptus oblonga</i> population at Bateau Bay, Forresters Beach and Tumby Umbi in the Wyong local government area
<i>Eucalyptus parramattensis</i> subsp. <i>parramattensis</i>	<i>Eucalyptus parramattensis</i> subsp. <i>parramattensis</i> in Wyong and Lake Macquarie local government areas
<i>Eucalyptus seeana</i>	<i>Eucalyptus seeana</i> population in the Greater Taree local government area
<i>Eudyptula minor</i>	Little penguin in the Manly Point Area (being the area on and near the shoreline from Cannae Point generally northward to the point near the intersection of Stuart Street and Oyama Cove Avenue, and extending 100 metres offshore from that shoreline)
<i>Gossia acmenoides</i>	<i>Gossia acmenoides</i> population in the Sydney basin bioregion south of the Georges River
<i>Keraudrenia corollata</i> var. <i>denticulata</i>	<i>Keraudrenia corollata</i> var. <i>denticulata</i> in the Hawkesbury local government area
<i>Leionema lamprophyllum</i> subsp. <i>obovatum</i>	<i>Leionema lamprophyllum</i> subsp. <i>obovatum</i> population in the Hunter catchment
<i>Lespedeza juncea</i> subsp. <i>sericea</i>	<i>Lespedeza juncea</i> subsp. <i>sericea</i> in the Wollongong local government area
<i>Marsdenia viridiflora</i> subsp. <i>viridiflora</i>	<i>Marsdenia viridiflora</i> subsp. <i>viridiflora</i> population in the Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool and Penrith local government areas
<i>Menippus darcy</i>	<i>Menippus darcy</i> population in the Sutherland Shire
<i>Perameles nasuta</i>	Long-nosed bandicoot, North Head
<i>Perameles nasuta</i>	Long-nosed bandicoot population in inner western Sydney
<i>Petauroides volans</i>	Greater glider population in the Eurobodalla local government area
<i>Petauroides volans</i>	Greater glider <i>Petauroides volans</i> in the Seven Mile Beach National Park area
<i>Petauroides volans</i>	Greater glider population in the Mount Gibraltar reserve area
<i>Pomaderris prunifolia</i>	<i>Pomaderris prunifolia</i> in the Parramatta, Auburn, Strathfield and Bankstown local government areas
<i>Prostanthera saxicola</i>	<i>Prostanthera saxicola</i> population in Sutherland and Liverpool local government areas
<i>Pultenaea villifera</i>	<i>Pultenaea villifera</i> population in the Blue Mountains local government area
<i>Spyridium burragorang</i>	<i>Spyridium burragorang</i> population in the Cessnock local government area
<i>Wahlenbergia multicaulis</i>	Tadgell's bluebell in the local government areas of Auburn, Bankstown, Baulkham Hills, Canterbury, Hornsby, Parramatta and Strathfield
<i>Zieria smithii</i>	Low growing form of <i>Zieria smithii</i> , Diggers Head

How we develop projects



Conservation projects for threatened populations follow the process below, which is similar to the approach for site-managed species:

- review available information
- expert panel determines the benefits of the project to threatened population
- identify critical management sites and critical threats to the threatened population at each site.

Through this process experts for each of the threatened populations evaluate the effectiveness of management for each population and the likelihood of success.

Projects are prioritised according to the SoS approach to site-managed species with specific consideration of the following criteria.

- **Critical threats and actions:**
Is it feasible to manage the critical threats at the site of the threatened population? If critical threats are managed, will there be a viable population at the site in the future?
- **Project benefit:**
If no management actions are implemented for this threatened population, what is the probability of this population remaining viable in 100 years?
- **Community value:**
Is the threatened population highly valued by local communities or the broader public of NSW? Has there been significant investment in the population by the community?
- **Strategic importance to the species:**
Is the threatened population of strategic importance to the broader viability of the species in NSW or throughout Australia? For example, is the population genetically distinct? Does the population provide a vital ecological function that is not replicated by another entity? Does the population provide refugia from climate change? Is it a critical breeding site for the species?



Monitoring, evaluation and reporting



Every SoS conservation project monitors results at three levels.

1. Outputs: financial expenditure, in-kind resources, implementation effort or activity (for example hectares of weed control).
2. Threat outcomes: habitat condition, improved land management, pest and weed response, (for example reduced pest species abundance).
3. Species outcomes: species abundance, reproductive success, individual condition.

This data is collected for any action or site where management is being undertaken. Results are reported to the conservation projects database to collate and to inform the evaluation of progress against site, project and program-level objectives.

Each conservation project for a threatened population follows the site-managed species approach and develops its own monitoring, evaluation and reporting (MER) program. The objectives of the MER program are specific to the threatened population and are based on inherent characteristics and the level of impact from critical threats. The objectives will be refined over time depending on the population's response to management.

Similar to conservation projects in other SoS management streams, threatened populations MER is based on the assumption that adequate investment and knowledge can lead to effective threat abatement and increased protection for the population. If all management sites are measured to be responding positively to management, then the conservation project is considered 'on-track' to secure the threatened population in the wild in NSW.

