



SAVING OUR SPECIES

Mountain Pygmy-possum

2019-2020 annual report card

Overall status*

- **Populations at all sites are known to be on track.**
- Threat management is known to be on track at all sites, and population status is unknown at one or more sites.
- Threat management is known to be off track at one or more sites, and population status is unknown at one or more sites.
- Populations at one or more sites are known to be off track.

* For SoS priority management sites (may not include all locations where the species occurs in NSW)

Summary

Management sites	North Kosciuszko; Snowy Mountains
Action implementation	11 (of 13) management actions were fully or partially implemented as planned for the financial year.
Total expenditure	\$534,420 (\$298,050 cash; \$236,370 in-kind)
Partners	Australian Government Bushfire Recovery program; Environment, Energy and Science; Kosciuszko Thredbo Pty Ltd; Perisher Blue Pty Ltd; Saving our Species Volunteers; Snowy Hydro Ltd; Woolworths Ltd.; Zoos Victoria



Scientific name:
Burramys parvus

NSW status:
Endangered

Commonwealth status:
Endangered

Management stream:
Site-managed species

Photo: Linda Broome

Priority management site: North Kosciuszko





Local government area:

Snowy Monaro Regional;
Snowy Valleys

Partners:

Australian Government Bushfire Recovery program;
Environment, Energy and Science; Saving our Species Volunteers; Snowy Hydro Ltd; Woolworths Ltd.; Zoos Victoria

Population outcome

-  On track
-  On track (inferred)
-  Not on track (inferred)
-  Not on track

Monitoring

Species population monitoring by one or more methods indicates response to management over time and provides an outcome measure.

Monitoring metric	Species abundance
Annual target	Populations are within the long-term range at Snow Ridge Hill (49-58), Happy Jacks Valley (9-24 individuals) and Rough Creek (22-52 individuals).
Long term target	Maintain viable populations at all monitoring sites.
Monitoring result	October 2019: Snow Ridge Hill 45 individuals, Happy Jacks Valley 29 individuals. Additional post 2019-20 bushfire monitoring March 2020: Snow Ridge Hill 7, Happy Jacks Valley 22, Snow Ridge Road 7, Rough Creek 10 individuals.
Scientific rigour of monitoring method	High
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Australian Government Bushfire Recovery program	\$1,890	\$0
Environment, Energy and Science	\$195,183	\$119,320
Saving our Species Volunteers	\$0	\$27,550
Snowy Hydro Ltd	\$0	\$900
Woolworths Ltd.	\$0	\$3,750
Zoos Victoria	\$720	\$0

Management actions

The following actions are those identified as being required in financial year 2019-2020 to secure the species in the wild.

Threat	Management action	Implemented as planned?
Fire damage to mountain plum-pine and other shrub cover.	Provide supplementary food and water to 61 feeders and 34 water stations installed at Snow Ridge, Rough Creek and Happy Jacks Valley following the 2019-20 bushfire as required.	Yes
Loss, degradation and fragmentation of habitat from anthropogenic disturbances.	Continue rehabilitation and revegetation of Happy Jacks spoil dump one. Start rehabilitation of mountain pygmy-possum habitat at Happy Jacks Valley, Snow Ridge and Rough Creek post 2019-20 bushfires.	Yes
Predation from foxes and feral cats.	Conduct soft jaw trapping 20 days in September-October 2019 and 20 days in January 2020. Conduct supplementary predator control by spotlight shooting post 2019-20 bushfires.	Conducted, but not as planned
Genetic loss and small populations.	Conduct survey of Eucumbene River area if time permits.	No (dependent on other component).
Global warming reducing rainfall and snow cover, affecting food resources, increasing competition and predation in mountain pygmy-possum habitat.	Monitor trends in snow cover over time to determine thresholds.	Yes
Impacts on bogong moths from drought, agricultural practices and chemicals in the winter breeding grounds.	Obtain relative abundance measures of bogong moths at monitoring sites in order to develop thresholds.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Global warming reducing rainfall and snow cover, affecting food resources, increasing competition and predation in mountain pygmy-possum habitat.	Monitor trends in snow cover over time to determine thresholds.	Baseline data collection
Impacts on bogong moths from drought, agricultural practices and chemicals in the winter breeding grounds.	Obtain relative abundance measures of bogong moths at monitoring sites in order to develop thresholds.	Baseline data collection
Predation from foxes and feral cats.	Conduct camera trap monitoring and prepare data for analysis to develop thresholds.	Baseline data collection
Fire damage to mountain plum-pine and other shrub cover.	Mountain pygmy-possums feed from 30% or more of feeding stations and utilise water stations.	On track
Loss, degradation and fragmentation of habitat from anthropogenic disturbances.	No anthropogenic disturbances to habitat.	On track
Fire damage to mountain plum-pine and other shrub cover.	No fire damage to habitat.	Not on track
Weed invasion.	Prevent weeds from establishing in mountain pygmy-possum habitat.	On track
Genetic loss and small populations.	Collect tissue/hair samples from all trapped mountain pygmy-possums.	Not assessed

Site summary

Mountain pygmy-possum population monitoring was conducted at Snow Ridge Hill (25 females, 20 males) and Happy Jacks Valley (18 females, 11 males) in October 2019. Numbers of females at Snow Ridge Hill had declined but male numbers were stable (average 41 females, 16 males). Numbers of both sexes were the highest recorded at Happy Jacks Valley over seven years of monitoring (18 females, 11 males). Bogong moth numbers were at moderate levels despite the drought in their breeding grounds. Five cats and eight foxes were removed from the sites. The Dunns Road 2019-20 bushfire severely burnt the entire site and all vegetation on 4 January 2020. Provision of supplemental food and water to possums commenced on the three sites on January 22 and continued weekly until May 14. Additional population monitoring was conducted on 12-17 March 2020 and, despite the fire, 22 individuals were trapped (14 adult, 8 juvenile). Seven individuals were trapped at each of the Snow Ridge Hill and Snow Ridge Road sites in March and ten at Rough Creek. Most of the animals in these higher elevation sites were in pre-hibernation body condition (fat). It is probable that many individuals had already commenced hibernating. A single trapping night at Snow Ridge Road on 17 February recorded several adults in the hibernating weight range of 60-70 grams; this result and recording of many images of possums visiting the feeders suggested the food supplementation was a success. A final conclusion will not be possible until monitoring is conducted when the possums wake from hibernation in spring 2020.

Priority management site: Snowy Mountains



Local government area:

Snowy Monaro Regional;
Snowy Valleys

Partners:

Environment, Energy and Science; Kosciuszko Thredbo Pty Ltd; Perisher Blue Pty Ltd; Saving our Species Volunteers

Population outcome

-  **On track**
-  **On track (inferred)**
-  **Not on track (inferred)**
-  **Not on track**

Monitoring

Species population monitoring by one or more methods indicates response to management over time and provides an outcome measure.

Monitoring metric	Species abundance
Annual target	Population sizes on monitoring sites remain above 1987-1999 averages (Blue Cow 40 individuals, Charlotte Pass 38 individuals, Summit Road 22 individuals, Paralyser 19 individuals, Whites River six individuals).
Long term target	Maintain viable populations at all monitoring sites.
Monitoring result	One hundred and twenty five individuals.
Scientific rigour of monitoring method	High
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Environment, Energy and Science	\$99,157	\$43,080
Kosciuszko Thredbo Pty Ltd	\$0	\$5,720
Perisher Blue Pty Ltd	\$1,100	\$0
Saving our Species Volunteers	\$0	\$36,050

Management actions

The following actions are those identified as being required in financial year 2019-2020 to secure the species in the wild.

Threat	Management action	Implemented as planned?
Habitat degradation by feral rabbits and deer.	Conduct rabbit control at Charlotte Pass and Perisher resort areas.	No (logistical delays).
Loss, degradation and fragmentation of habitat from anthropogenic disturbances.	Continue snow sports exclusion from Blue Cow terraces.	Yes
Loss, degradation and fragmentation of habitat from anthropogenic disturbances.	Check that movement corridors are not blocked and continue to revegetate as required.	Yes
Mistaken identity - confused for vermin when they enter ski lodges and other buildings.	Continue public liaison activities.	Yes
Predation from foxes and feral cats.	Conduct fox baiting according to <i>Saving our Species</i> broad-toothed rat project.	Yes
Predation from foxes and feral cats.	Conduct leg-hold trapping throughout the summer months at Charlotte Pass and Perisher ski resort areas and Whites River corridor. Conduct cage trapping during winter in response to reported sightings. Conduct cage trapping at Thredbo resort.	Yes
Weed invasion.	Control weeds if present.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Predation from foxes and feral cats.	Conduct camera trap monitoring and prepare data for analysis to develop thresholds.	Baseline data collection
Global warming reducing rainfall and snow cover, affecting food resources, increasing competition and predation in mountain pygmy-possum habitat.	Monitor trends in snow cover over time to determine thresholds.	On track
Impacts on bogong moths from drought, agricultural practices and chemicals in the winter breeding grounds.	Obtain relative abundance measures of bogong moths at monitoring sites to develop thresholds.	On track
Loss, degradation and fragmentation of habitat from anthropogenic disturbances.	No habitat loss due to anthropogenic disturbance.	On track
Mistaken identity - confused for vermin when they enter ski lodges and other buildings.	No loss of mountain pygmy-possums from vermin control.	On track
Fire damage to mountain plum-pine and other shrub cover.	No loss of habitat from fire.	On track
Weed invasion.	No key weed species such as St Johns wort, blackberry and ox-eye daisy on site.	On track
Habitat degradation by feral rabbits and deer.	No habitat loss from rabbits or deer.	On track

Site summary

Mountain pygmy-possum populations were monitored on five annual monitoring sites in November 2019. Populations at all sites were lower than the previous two years. However, numbers were still above the 1987-1999 (pre-millennium drought) average at Mt Blue Cow (36 females, 14 males), Summit Road (19 females, 8 males), Whites River (12 females, 7 males) and close to the average at Paralyser (16 females, 2 males). At Charlotte Pass, numbers were below average (21 females, 7 males). The peak of Mt Kosciusko was also trapped in November 2019 with numbers (13 females, 9 males) comparable to the long-term record. Monitoring sites were trapped for one night in mid-December to check health of pouch young, following widespread litter loss in Victoria in 2018-19; all adults and young examined were progressing well. Bogong moths arrived early (12 September compared to average 25 September) but were in low abundance. Forty five cats and five foxes were trapped in the three ski resorts and Whites River corridor.

Saving our Species 2019-2020 annual report card for Mountain Pygmy-possum (*Burramys parvus*). For more information refer to the specific strategy in the Saving our Species program.