Saving our Species 2017-2018 annual report card

Nabiac Casuarina

Species attributes

Scientific name	*Allocasuarina simulans*
NSW status	Vulnerable
Commonwealth status	Vulnerable
Management stream	Site-managed species

Photographer: Barry Collier

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	Booti Booti National Park; Nabiac
Action implementation	3 of 3 management actions were fully or partially implemented as planned for the financial year.
Total expenditure	$62,562 ($49,162 cash; $13,400 in-kind)
Partners	Office of Environment and Heritage

Management site 1: Booti Booti National Park

Local Government Area	Mid-Coast
Estimated species population size	Estimated at around 268,000.
Partners	Office of Environment and Heritage

Population status

On track	On track (inferred)	Not on track (inferred)	Not on track	Not determined

Monitoring

Long term target	Maintain or improve population at 2017 numbers, i.e. at least 200,000 plants, by 2037.
Annual target	A 10% increase in plant numbers.
Monitoring metric	Species abundance
Monitoring result	An estimate of 268,891 plants was made based on surveys of 20 permanent 20 x 20 m plots in suitable habitat. Plot data was then extrapolated across mapped suitable habitat the within Booti Booti National Park site.
Confidence in monitoring	Moderate
Conducted by	Office of Environment and Heritage

Investment

Participant	Cash	In-kind
Office of Environment and Heritage	$39,992	$12,550

Management actions

The following actions (including research and survey actions) are those identified as being required in financial year 2017-2018 to secure the species in the wild.

Threat	Management action	Implemented as planned?
At risk from incursion of various weed species.	Treat weeds in and adjacent to the site including bitou bush, *Lantana*, asparagus fern species and other garden escapees that have been dumped in the park.	Yes
Potential for frequent fire to disrupt reproduction and remove individuals.	Implement Fire Management Strategy for Booti Booti National Park	Yes

Threat status

The following critical threat was monitored at this site during financial year 2017-2018.

Threat	Annual target	Threat status	Confidence in monitoring
At risk from incursion of various weed species.	Reduce weed density by 20% across the the site.	On track	Moderate

Site summary

Targeted surveys in 2017-18 and the installation of eight additional monitoring plots allowed for an estimate of 268,891 plants. Aerial spraying of bitou bush adjacent to the site continued - initial efforts have killed over 90% of the infestation, however follow up control is required over a number of years to kill seedlings. Ground control of bitou bush and *Lantana* at the site also continued and overall bitou bush and *Lantana* density is low (<10%) although in isolated areas it is medium (11-50%) requiring further treatment. Ground treatment of garden escapees with extremely high invasion potential including small-leaved privet, madeira vine, mother of millions, asparagus species and morning glory was implemented. Weed treatment for all species requires follow up over multiple years to reduce the weed threat. Significant contributions from National Parks and Wildlife Service added greatly to the achievements at the site.

Management site 2: Nabiac

Local Government Area	Mid-Coast
Estimated species population size	Estimated at around 100,000 plants.
Partners	Office of Environment and Heritage

Population status

On track	On track (inferred)	Not on track (inferred)	Not on track	Not determined

Monitoring

Long term target	Maintain or improve population at 2017 numbers, i.e. at least 3000.
Annual target	A 10% increase in plant numbers.
Monitoring metric	Species abundance
Monitoring result	20 permanent plots (20 x 20 m) were used to estimate plant numbers. Plot data was extrapolated across suitable habitat in the area. The addition of 14 plots in 2018 to the existing six plots, greatly increased the accuracy of the population estimation.
Confidence in monitoring	Moderate
Conducted by	Office of Environment and Heritage

Investment

Participant	Cash	In-kind
Office of Environment and Heritage	$9,170	$850

Management actions

The following action is identified as being required in financial year 2017-2018 to secure the species in the wild.

Threat	Management action	Implemented as planned?
Potential for different land uses to impact on the species' viability.	Communicate regularly with MidCoast Water and provide data outlining location of plots and plants.	Yes

Site summary

In 2018, an additional 14 permanent monitoring plots were installed to bring the total number of plots at the Nabiac site to 20. The addition of plots was to increase the accuracy of population estimates. The number of *Allocasuarina simulans* plants in each 400 square metre quadrat ranged from zero to 295, and this large variation in density was encountered between quadrats separated by short distances in seemingly homogenous habitat. The mean density for the 14 quadrats was 0.19 plants per square metre, which is similar to the density of 0.17 plants per square metre obtained for six quadrats established in 2014. A severe fire in late 2017 which burnt several plots will allow for future post-fire monitoring.