SAVING OUR SPECIES

Superb Midge Orchid

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	Charleys Forest Road, Mongarlowe; Morton National Park; Nerriga/Oallen Ford
Action implementation	9 (of 9) management actions were fully or partially implemented as planned for the financial year.
Total expenditure	$10,054 ($0 cash; $10,054 in-kind)
Partners	Environment, Energy and Science; Queanbeyan-Palerang Regional Council; Royal Botanic Gardens Sydney; The Australian PlantBank

Photo: Keith McDougall

Scientific name:
Genoplesium superbum

NSW status:
Endangered

Commonwealth status:
Not listed

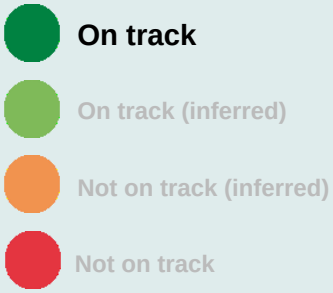
Management stream:
Site-managed species

Priority management site: Charleys Forest Road, Mongarlowe

Local government area:
Queanbeyan-Palerang Regional

Partners:
Environment, Energy and Science; Queanbeyan-Palerang Regional Council; Royal Botanic Gardens Sydney; The Australian PlantBank

Population outcome



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	Above-ground presence of at least five orchids at least once every four years.
Long term target	Maintain a viable population at the site.
Monitoring result	Twenty-seven plants above ground due to a significant rainfall event in mid-February 2020, triggering a very good year for *Genoplesium* in the region.
Scientific rigour of monitoring method	High
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Environment, Energy and Science	$0	$1,945
Queanbeyan-Palerang Regional Council	$0	$700
Royal Botanic Gardens Sydney	$0	$700

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?
Lack of genetic diversity and long-term viability due to small population sizes.	Collect seed from plants at all *Saving our Species* (SoS) sites, and store at the Australian PlantBank.	Yes
Southern populations are located near a recent, large, and expanding infestation of ox-eye daisy. In the absence of control, this orchid species is likely to be affected by interspecific competition with this invasive ox-eye daisy in the coming years.	Establish whether the ox-eye daisy is present in areas surrounding the superb midge orchid population and surrounding access points, and implement weed control as required.	Yes
This species is threatened by environmental and demographic stochasticity due to its small population size and limited distribution.	Ensure council awareness is maintained following the provision of advice and installation of markers in previous years.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Southern populations are located near a recent, large, and expanding infestation of ox-eye daisy. In the absence of control, this orchid species is likely to be affected by interspecific competition with this invasive ox-eye daisy in the coming years.	Absence of ox-eye daisy within the SoS site.	On track
This species is threatened by environmental and demographic stochasticity due to its small population size and limited distribution.	If species is present, <50% of plants browsed.	On track
Lack of genetic diversity and long-term viability due to small population sizes.	Monitor population size, and if >20 plants, collect in line with germplasm guidelines.	On track

Site summary

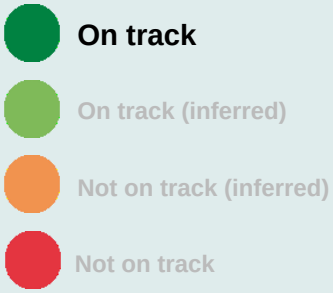
A significant rainfall event in mid-February 2020 saw the emergence of 27 superb midge orchids at the Charley's Forest site, along with a range of other non-listed midge orchids. The plant is highly susceptible to browsing, with 22 caged to provide protection and 80% of the remainder browsed prior to flowering. Seed was collected from five plants and stored at the Australian PlantBank along with soil likely to contain mycorrhizae. The invasive ox-eye daisy occurs in the area, with a population on a nature strip in Mongarlowe monitored and not encroaching on the site. Habitat is protected through the installation of roadside habitat markers to ensure that Queanbeyan Palerang Regional Council roadside maintenance staff avoid these areas.

Priority management site: Morton National Park

Local government area:
Shoalhaven

Partners:
Environment, Energy and Science; Royal Botanic Gardens Sydney; The Australian PlantBank

Population outcome



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	Above-ground presence of at least 15 orchids at least once every four years.
Long term target	Maintain a viable population at the site.
Monitoring result	Twenty-nine plants recorded at the Touga Road subpopulation, with at least 76 plants at the geographically larger rockshelf subpopulation.
Scientific rigour of monitoring method	Moderate
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Environment, Energy and Science	$0	$3,503
Royal Botanic Gardens Sydney	$0	$700

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?
Damage by vehicular access, habitat degradation and illegal collection associated with its proximity to roadsides.	Ensure area separated by bollards has not been encroached.	Yes
Damage by vehicular access, habitat degradation and illegal collection associated with its proximity to roadsides.	Determine whether roadside populations have the potential to be impacted. If so, install relevant signage along the roadside and inform land managers that it is an important habitat.	Yes
Lack of genetic diversity and long-term viability due to small population sizes.	Develop and maintain *ex-situ* germplasm collection.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Damage by vehicular access, habitat degradation and illegal collection associated with its proximity to roadsides.	No vehicular damage in suitable habitat within five metres of recorded plants.	On track
Lack of genetic diversity and long-term viability due to small population sizes.	Collect seeds from at least three plants.	On track
Damage by vehicular access, habitat degradation and illegal collection associated with its proximity to roadsides.	Herbivore browsing on less than 50% of plants.	On track

Site summary

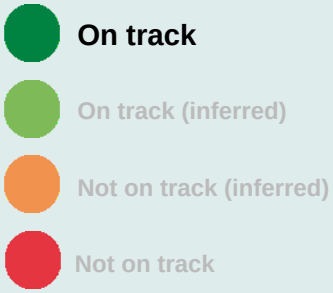
A significant rainfall event in mid-February 2020 saw the emergence of at least 105 superb midge orchids across two subpopulations at this site, along with a range of other midge orchids. The site was heavily burnt in the 2019-20 bushfire, which is likely to have increased detectability and reduced the impact of potential browsers. A total of 18 plants were caged in early March to ensure plants could complete their above-ground lifecycle, with only two additional plants observed to be browsed by the end of April. This is likely due to the impact of the 2019-20 bushfire on native herbivore populations. Seed was collected from 15 plants at stored at the Australian PlantBank along with soil likely to contain mycorrhizae. Pollination levels were relatively low (approximately 30%), which is likely due to the effect of the 2019-20 bushfire and severe drought on pollinator populations; this figure is quite low for midge orchids and it is hoped that pollination rates will increase in more favourable years.

Priority management site: Nerriga/Oallen Ford

Local government area:
Queanbeyan-Palerang Regional

Partners:
Environment, Energy and Science; The Australian PlantBank

Population outcome



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	Above-ground presence of at least five orchids at least once every four years.
Long term target	Maintain a viable population at the site.
Monitoring result	Twenty-six plants above ground due to a significant rainfall event in mid-February 2020, triggering a very good year for *Genoplesium* in the region.
Scientific rigour of monitoring method	High
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Environment, Energy and Science	$0	$1,806
The Australian PlantBank	$0	$700

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?
Damage by vehicular access, habitat degradation and illegal collection associated with its proximity to roadsides.	Develop project to map roadside threatened flora populations to incorporate into council planning systems.	Yes
Damage by vehicular access, habitat degradation and illegal collection associated with its proximity to roadsides.	Ensure installed roadside markers are intact.	Yes
Lack of genetic diversity and long-term viability due to small population sizes.	Develop and maintain *ex situ* germplasm collection.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Damage by vehicular access, habitat degradation and illegal collection associated with its proximity to roadsides.	Browsing on less than 50% of plants.	On track
Damage by vehicular access, habitat degradation and illegal collection associated with its proximity to roadsides.	No vehicular damage in suitable habitat within five m of recorded plants.	On track
Lack of genetic diversity and long-term viability due to small population sizes.	Monitor population size, and if >20 plants, collect in line with germplasm guidelines.	On track

Site summary

A significant rainfall event in mid-February 2020 saw the emergence of 26 plants at this site, along with two other midge orchid species. The plant is highly susceptible to browsing, with nine caged to provide protection and 47% of the remainder browsed prior to flowering. Seed was collected from three plants and stored at the Australian PlantBank. Pollination levels were relatively low (approximately 50%), and considering the site and surrounds are unburnt this is likely due to the effect of severe drought on pollinator populations; this figure is quite low for midge orchids and it is hoped that pollination rates will increase in more favourable years.