



SAVING OUR SPECIES

East Lynne Midge Orchid

2020-2021 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	Budawang-Brooman; East Lynne; Little Forest Plateau; Mogo
Action implementation	6 (of 6) management actions were fully or partially implemented as planned for the financial year.
Total expenditure	\$14,723 (\$9,423 cash; \$5,300 in-kind)
Partners	Environment, Energy and Science; Forestry Corporation of NSW



Scientific name:
Genoplesium vernale

NSW status:
Vulnerable

Commonwealth status:
Vulnerable

Management stream:
Site-managed species

Photo: John Briggs

Priority management site: Budawang-Brooman





Local government area:

Queanbeyan-Palerang Regional; Shoalhaven

Partners:

Environment, Energy and Science; Forestry Corporation of NSW

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	Locate at least 10 flowering plants in total on the 2 permanent monitoring plots (target is no less than one standard deviation below the average for the previous 5 monitoring seasons). Count of flowering plants at all sites first surveyed in 2000 is similar to or greater than the 2000 count of 201.
Long term target	Maintain a stable or increasing wild population.
Monitoring result	In 2020, there were 113 flowering plants on the 2 permanent monitoring plots. The annual target of 10 flowering plants across the 2 monitoring plots (target determined as no more than one standard deviation below the average for the previous 5 monitoring seasons) was thus far exceeded. A total of 1,444 flowering plants were counted across most sites first surveyed in 2000, which far exceeds the 2000 counts of 201 flowering plants.
Scientific rigour of monitoring method	High
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Environment, Energy and Science	\$3,785	\$2,725
Forestry Corporation of NSW	\$0	\$700

Management actions

The following actions are those identified as being required in financial year 2020-2021 to secure the species in the wild.

Threat	Management action	Implemented as planned?
Too frequent burning is likely to be a threat to the species.	Liaise with Forests Corporation NSW and the National Parks and Wildlife Service to exclude burning within monitoring plots and known habitat of the East Lynne midge orchid.	Yes
Works associated with maintaining or upgrading roads and fire trails could impact on adjoining populations of the orchid if not undertaken with care.	Liaise with Forestry Corporation NSW regarding the location of East Lynne midge orchid's known habitat to ensure fire trail maintenance does not impact the species.	Yes
Works associated with the maintenance and upgrading of telecommunication and power utility facilities and infrastructure could adversely impact on known populations.	Provide advice as required.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Too frequent burning is likely to be a threat to the species.	No fire has impacted the monitoring plots for the East Lynne midge orchid.	On track
Works associated with maintaining or upgrading roads and fire trails could impact on adjoining populations of the orchid if not undertaken with care.	No impacts on the East Lynne midge orchid populations due to roadworks or fire trail maintenance.	On track
Works associated with the maintenance and upgrading of telecommunication and power utility facilities and infrastructure could adversely impact on known populations.	No evidence of impacts related to telecommunication infrastructure maintenance works.	On track

Site summary

Following the breaking of the most recent drought in March 2020, the number of flowering plants on the 2 x 20 m x 20 m monitoring plots has increased dramatically, with 113 recorded in 2020 compared to only 5 in 2019. The 2020 and 2003 counts are the equal highest number of plants recorded on the plots since they were set up in 2000, and 113 plants are twice the number that was present when the plots were established. A re-survey of most previously recorded populations within this *Saving our Species* (SoS) site recorded a similarly dramatic increase, with a total of 1,557 flowering plants recorded compared to a 2017 survey that found 55 plants (including the plants on plots) and a 2000 survey that recorded 181 plants (including the plants on plots).





The entire population within this SoS site was burnt in the summer 2019–20 bushfires. The results of a previous burn trial on this species showed that during a drought period, burning had a slightly negative effect on the number of flowering plants. Considering the record numbers of flowering plants in November 2020, the species does not appear to have been significantly adversely affected by the recent fires. Given the results of the previous burn trials, it is most likely that the dramatic increase in flowering plants in 2020 is largely attributable to frequent soaking rains events from March 2020, which continued through to the flowering season in November. The population trend for this species and the dramatic response to the breaking of the drought is in stark contrast to that of some other threatened orchids in the region, for example, Tallong midge orchid and Jervis Bay leek orchid, that have shown a more or less continuous decline since 2000 and have had no major response to the breaking of the recent drought.

Priority management site: East Lynne

Local government area:
Eurobodalla; Shoalhaven

Partners:
Environment, Energy and Science; Forestry Corporation of NSW

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	Annual counts of all flowering plants on 8 permanent 20 m x 20 m monitoring plots. Counts for all recorded populations every 5 years.
Annual target	Locate at least 20 flowering plants in total across the 8 permanent monitoring plots (target is no less than one standard deviation below the average for the previous 5 monitoring seasons). The count of flowering plants at all sites first surveyed in 2000 is similar to or greater than the 2000 count of 209.
Long term target	Maintain a stable or increasing wild population.
Monitoring result	There were 258 flowering plants recorded across 8 permanent 20 m x 20 m monitoring plots. This far exceeds the annual target of 20 flowering plants and reflects the good seasonal conditions that followed the breaking of the recent drought in March 2020. A total of 513 flowering plants were counted across most sites first surveyed in 2000 (a few sites were not accessible in 2020 and could not be counted). This number also far exceeds the 2000 total count of 209 plants.
Scientific rigour of monitoring method	High
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Environment, Energy and Science	\$3,638	\$1,500

Management actions

The following actions are those identified as being required in financial year 2020-2021 to secure the species in the wild.

Threat	Management action	Implemented as planned?
Works associated with maintaining or upgrading roads and fire trails could impact on adjoining populations of the orchid if not undertaken with care.	Liaise with NSW Forestry Corporation and National Parks and Wildlife Service to avoid placing fire trails within-population sites. In regards to trails that already exist, encourage their closure and restrict access where necessary with the careful placement of logs.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Too frequent burning is likely to be a threat to the species.	No fire impacts on East Lynne midge orchid control (no fire) plots at this site.	On track
Works associated with maintaining or upgrading roads and fire trails could impact on adjoining populations of the orchid if not undertaken with care.	No impacts on the East Lynne midge orchid populations due to roadworks or fire trail maintenance.	On track
Works associated with the maintenance and upgrading of telecommunication and power utility facilities and infrastructure could adversely impact on known populations.	No evidence of impacts related to telecommunication infrastructure maintenance works.	On track

Site summary

Following the breaking of the most recent drought in March 2020, the number of flowering plants on the 8 x 20 m x 20 m monitoring plots has increased dramatically, with 258 recorded in 2020 compared to only 29 in 2019. The 2020 count is almost twice the previous highest count since the plots were set up in 2000 (135 flowering plants in 2003) and are more than 3 times the number that was present when the plots were established. A re-survey of most previously recorded populations within this SoS site recorded a similarly dramatic increase, with a total of 513 flowering plants recorded compared to a 2017 survey that found 58 plants (including the plants on plots) and a 2000 survey that recorded 209 plants (including the plants on plots).

The entire population within this SoS site was burnt in the summer 2019–20 bushfires. The results of a previous burn trial on this species showed that during a drought period, burning had a slightly negative effect on the number of flowering plants. Considering the record numbers of flowering plants in November 2020, the species does not appear to have been significantly adversely affected by the recent fires. Given the results of the previous burn trials, it is most likely that the dramatic increase in flowering plants in 2020 is largely attributable to frequent soaking rains events from March 2020, which continued through to the flowering season in November. The population trend for this species and the dramatic response to the breaking of the drought is in stark contrast to that of some other threatened orchids in the region, e.g. Tallong midge orchid and Jervis Bay Leek orchid, that have shown a more or less continuous decline since 2000 and have had no major response to the breaking of the recent drought.

Priority management site: Little Forest Plateau

<p>Local government area: Shoalhaven</p> <p>Partners: Environment, Energy and Science</p>	<p>Population outcome</p> <ul style="list-style-type: none"> ● On track ● On track (inferred) ● Not on track (inferred) ● Not on track
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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	At least 8 flowering individuals (target set at a minimum of the average of the number of flowering plants for the previous 3 years).
Long term target	Maintain a stable or increasing population.
Monitoring result	Thirty-eight flowering plants were in the vicinity of the telecommunications tower. This far exceeds the annual target of 8 flowering plants. An additional 11 flowering plants were found in a new subpopulation.
Scientific rigour of monitoring method	High
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Environment, Energy and Science	\$1,600	\$0

Management actions

The following actions are those identified as being required in financial year 2020-2021 to secure the species in the wild.

Threat	Management action	Implemented as planned?
Works associated with the maintenance and upgrading of telecommunication and power utility facilities and infrastructure could adversely impact on known populations.	Liaise with National Parks and Wildlife Service and telecommunications providers to ensure that the communications tower's population is protected.	Yes
Although the broad distribution of the East Lynne midge orchid is fairly well known, within its range there are likely to be many small populations that have not yet been recorded because access into some potential habitat is difficult. Further survey is particularly warranted in the Little Forest Plateau area because the species was not known from that disjunct northern site when most of the survey work was done in 2001.	Conduct systematic survey for the species in potential habitat when the species is known to be in flower.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Too frequent burning is likely to be a threat to the species.	No fire impacting that part of the population burnt in 2017.	On track
Works associated with the maintenance and upgrading of telecommunication and power utility facilities and infrastructure could adversely impact on known populations.	No impacts related to telecommunication infrastructure maintenance works.	On track
Although the broad distribution of the East Lynne midge orchid is fairly well known, within its range there are likely to be many small populations that have not yet been recorded because access into some potential habitat is difficult. Further survey is particularly warranted in the Little Forest Plateau area because the species was not known from that disjunct northern site when most of the survey work was done in 2001.	No known damage to a previously unrecorded population.	On track

Site summary

Following the breaking of the most recent drought in March 2020, the number of flowering plants recorded within the previously only known population increased to 38, compared to only 3 in 2019. The previous highest count was 12 flowering plants in 2017.

A contractor was engaged to survey several nearby areas of potential habitat. This survey led to the discovery of one small population of 11 flowering plants several kilometres to the north west of the original site. These plants happened to be adjacent to a carpark for which there were plans to extend. The discovery of this new population should now ensure that the carpark extension will be re-designed to protect the orchid at this site.




The original site, although adjoining a telecommunications tower, remains undisturbed and was one of the few East Lynne midge orchid sites not to be burnt in the summer 2019–20 bushfires.

Priority management site: Mogo

Local government area:
Eurobodalla

Partners:
Environment, Energy and
Science

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	At least 2 flowering plants within the permanent monitoring plot (mean of the last 4 monitoring seasons). The count of flowering plants at all sites first surveyed in 2000 is similar to or greater than the 2000 count of 24.
Long term target	Populations are stable or increasing.
Monitoring result	Three flowering plants were recorded on the permanent monitoring plot. This exceeds the annual target of 2 flowering plants (the mean of the last 4 years). A total of 34 flowering plants counted across all sites first surveyed in 2000, which exceeds the 2000 counts of 24 flowering plants.
Scientific rigour of monitoring method	High
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Environment, Energy and Science	\$400	\$375

Management actions

No management actions were planned at this site for the financial year.

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Too frequent burning is likely to be a threat to the species.	No fire has impacted the monitoring plot for the East Lynne midge orchid.	On track
Works associated with maintaining or upgrading roads and fire trails could impact on adjoining populations of the orchid if not undertaken with care.	No impacts on the East Lynne midge orchid populations due to roadworks or fire trail maintenance.	On track
In 2016 trail bike riders created a new track in Mogo State Forest that runs through a known population. Track construction and usage has destroyed many orchids and many plant marker pegs were removed from within a permanent orchid monitoring plot.	No trail bike impact on the monitoring plot or other known populations.	On track

Site summary

Disappointingly, following the breaking of the most recent drought in March 2020, the number of flowering plants on the single 20 m x 20 m monitoring plot remained low, with only 3 plants recorded in 2020. In 2019 there were no flowering plants present. The 2020 count is significantly less than the highest count of 11 that has been recorded since the plots were set up in 2000 and is only half the number that were present when the plots were established. The most likely cause for this lack of response is that many of the previously recorded plants on this plot have been destroyed by trail bikes driving through this plot within the last few years. In contrast, a re-survey of most previously recorded populations within this SoS site recorded a significant increase in the number of flowering plants, with a total of 37 flowering plants recorded compared to a 2017 survey that found only 4 plants (including the plants on plots) and a 2000 survey that recorded 24 plants (including the plants on plots).

For the second year in a row, there was no sign of use by trail bikes of the unapproved track that was illegally created through the monitoring plot in 2016. As mentioned above, the trail bike track has almost certainly killed many East Lynne midge orchids and, as predicted in previous annual reporting, even in a good flowering season, the total count of flowering plants on the monitoring plot has been considerably below that recorded prior to the trail bike tracks impacting the plot. *Saving our Species* is continuing to liaise with Forestry Corporation NSW regarding options for diverting the trail bike track away from the plot and adjoining habitat. A careful search was undertaken in the 2020 flowering season to identify a suitable alternative path that does not impact any East Lynne midge orchid plants.

Saving our Species 2020-2021 annual report card for East Lynne Midge Orchid (*Genoplesium vernale*). For more information refer to the specific strategy in the Saving our Species program.