



SAVING OUR SPECIES

Brush Sauropus

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	Grafton Research Station; Mullumbimby; Shannon Creek
Action implementation	7 (of 7) management actions were fully or partially implemented as planned for the financial year.
Total expenditure	\$38,990 (\$33,700 cash; \$5,290 in-kind)
Partners	Clarence Environment Centre; Environment, Energy and Science; Participating landholders



Scientific name:
Phyllanthus microcladus

NSW status:
Endangered

Commonwealth status:
Not listed

Management stream:
Site-managed species





Photo: Lachlan Copeland

Priority management site: Grafton Research Station

Local government area:
Clarence Valley

Partners:
Clarence Environment Centre;
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	Undertake habitat assessment including overall site condition, health of the population including any evidence of recruitment, any threats or disturbances present and any notable changes. Target is for positive overall recruitment in the sub-population.
Long term target	Track species abundance / condition over time
Monitoring result	One thousand and fifteen stems recorded at the site. Plot 1 - Mature individuals were in healthy condition with plants apparently recovered from drought conditions and fully covered with leaves along their branchlets. Evidence of recruitment of 8 stems was recorded at this site. Plot 2 - Plants were in healthy condition. Recruitment of an individual was recorded approximately 30 meters downslope of the plot. Plot 3 - plants were in healthy condition and fruiting. Evidence of recruitment of 3 stems was recorded at this site.
Scientific rigour of monitoring method	Moderate
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Clarence Environment Centre	\$0	\$1,575
Environment, Energy and Science	\$12,500	\$350

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?
Clearing and fragmentation of habitat for development.	Continue to maintain relationship with Department of Primary Industries to encourage conservation of the species. Investigate Department of Primary Industries' intention and impacts of cats claw creeper non-control site.	Partial implementation - dependent on other component
Invasion of creekside habitat by introduced weeds including cat's claw creeper, <i>Lantana</i> and soda apple.	Maintain less than 10% weed density within previously treated areas.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Invasion of creekside habitat by introduced weeds including cat's claw creeper, <i>Lantana</i> and soda apple.	Maintain less than 10% weed cover in monitoring plots.	On track
Clearing and fragmentation of habitat for agriculture.	Growth visible since 2018-19, less than 20% mortality rate.	On track
Clearing and fragmentation of habitat for development.	No disturbance from clearing.	On track

Site summary

This third year of data provides evidence of recruitment with the return of amenable climatic conditions and ongoing weed control across the site. Loss of canopy and weed intensities are likely to have long lasting and profound impacts upon this rainforest remnant. The sustainability of populations of Brush sauropus is inextricably linked with restoration of ecological functioning of dry rainforests at this site. Mature individuals appear in healthy condition with plants apparently recovered from drought conditions and fully covered with leaves along their branchlets. The dense populations at Grafton suggest that dispersal is within patch or adjacent.





Previous assumptions that successful germination, establishment and recruitment are linked with rainfall events and moist ground conditions appear confirmed. Continued high survival rate of rainforest seedlings planted to assist with closing canopy gaps and increasing rainforest habitat within the dry rainforest remnant across the site. Positive signs of natural regeneration of native species is occurring within treated areas across the site.

Priority management site: Mullumbimby

Local government area:
Byron

Partners:
Environment, Energy and Science; Participating landholders

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	Undertake habitat assessment including overall site condition, health of the population including any evidence of recruitment, any threats or disturbances present and any notable changes. This year's monitoring metric is 'habitat condition'.
Long term target	Track species abundance / condition over time
Monitoring result	Overall, 2313 stems were recorded this year. This year a planned deviation from the full transect population monitoring was implemented, which included an overall habitat assessment at the Mullumbimby Showground and the private property including assessing site condition, health of the population including any evidence of recruitment, any threats or disturbances present and any notable changes. The Lomandra Avenue site was the only site revisited for population monitoring this year. The Lomandra Avenue site resulted in 190 total stems in 2021, compared to 179 total stems in 2019-20.
Scientific rigour of monitoring method	Moderate
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Environment, Energy and Science	\$8,500	\$700
Participating landholders	\$0	\$2,000

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?
Clearing and fragmentation of habitat for development.	Continue liaison with landholders to promote species conservation.	Yes
Grazing and trampling by domestic stock.	Continue liaison with landholders to promote species conservation and encourage riparian fencing and appropriate stock management.	Yes
Invasion of creekside habitat by introduced weeds including cat's claw creeper, <i>Lantana</i> and soda apple.	Undertake follow-up weed control in previously treated areas to maintain low weed densities and expand treated areas where possible.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Invasion of creekside habitat by introduced weeds including cat's claw creeper, <i>Lantana</i> and soda apple.	Weed species hold less than 50% occupancy of population area.	On track
Erosion of banks of creeks and rivers.	Disturbance has been reduced from site due to remediation activities.	On track
Grazing and trampling by domestic stock.	Minimal impacts from domestic grazing.	On track
Clearing and fragmentation of habitat for development.	No clearing within population habitat.	On track

Site summary





All populations within the Mullumbimby site appear to be in healthy condition with evidence of flowers, fruits and recruitment. All locations continue to respond well to treatment, showing an increase of native species recruitment. Voluntary installation of riparian fencing within private property to protect key areas of the population from disturbance appears to be successful with evidence of recruitment within exclusion areas. Discussions are underway with the land manager at one site to assist with the development of an environmental management plan to reduce disturbance impacts to the population. Key disturbances identified include erosion of riparian areas, and grazing and trampling damage by cattle. Ongoing weed work and remediation works is important for maintaining the health of the population long term.

Priority management site: Shannon Creek

Local government area:
Clarence Valley

Partners:
Clarence Environment Centre;
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	Population is maintained at or above baseline count of 113 stems recorded in 2019–20. Assess population condition, recruitment and any disturbance.
Long term target	Maintain or improve species abundance / condition over time.
Monitoring result	There were 122 stems recorded across the three permanent monitoring plots, compared to 113 recorded in 2019–20 and 142 recorded in 2018–19. Plot 5 was impacted by the November 2019 Liberation Trail bushfire and later by intense flooding in January and February 2020 and again in 2021. Plot 6 was impacted by a winter fire in August 2019 and flooding in 2020 and 2021. Plot 7 was unaffected by bushfires but was affected by flooding in 2021 with undercutting of banks noted. Last year adapted 'best practice' census methods were employed due to the impacts of fires. Based upon observations of phenological conditions by way of the continued loss of standing stems and regrowth of stems, adaptive post bushfires measures were not employed. At each plot, an arbitrary height class was applied for juveniles as those plants less than 25 centimetres, and adults, as those plants more than 25cm.
Scientific rigour of monitoring method	Moderate
Conducted by	Environment, Energy and Science

Investment

Participant	Cash	In-kind
Clarence Environment Centre	\$0	\$315
Environment, Energy and Science	\$12,700	\$350

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?
Clearing and fragmentation of habitat for development.	Continue to build relationship with Clarence Valley Council and move towards grazing exclusion and increased fire protection measures.	Conducted, but not as planned - dependent on other component
Invasion of creekside habitat by introduced weeds including cat's claw creeper, <i>Lantana</i> and soda apple.	Undertake follow-up treatment in previously treated areas to maintain low weed densities. Expand treatment area where possible to extend buffer from expected post-fire weed increase. Additional post-fire weeding required.	Yes

Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
Invasion of creekside habitat by introduced weeds including cat's claw creeper, <i>Lantana</i> and soda apple.	Maintain less than 10% weed cover in monitoring plots.	On track
Inappropriate fire regimes.	Implement second round of post-fire monitoring	On track
Clearing and fragmentation of habitat for development.	No clearing of vegetation within populations.	On track

Site summary

The ongoing weed control program has significantly reduced weed numbers in the current treatment areas, allowing for the expansion of buffer zones around existing Brush sauropus populations, however canopy loss caused by the recent fires have allowed for increased weed invasion across fire impacted areas of the site. A second round of post fire monitoring has been undertaken which indicate that impacts from both drought and fire likely shows a reduced capability for regrowth from the mature aged cohort with limited recovery shown at this population. A prolonged drought period, followed by high temperatures, the 2019-20 bushfires and flash flooding events have been damaging to the site. In addition, cattle accessing the site assist with the spread of weeds and increased erosion damage. Considerations are underway to establish rehabilitation plantings in areas of weed treatment and areas of structural canopy loss to enhance habitat condition and close gaps.

Saving our Species 2020-2021 annual report card for Brush Sauropus (*Phyllanthus microcladus*). For more information refer to the specific strategy in the Saving our Species program.