



## SAVING OUR SPECIES

# Corunastylis sp. Charmhaven (NSW896673)

2018-2019 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

<b>Management sites</b>	Busways; Chelmsford Road; Targeted survey site/s
<b>Action implementation</b>	5 (of 7) management actions were fully or partially implemented as planned for the financial year.
<b>Total expenditure</b>	\$15,213 (\$12,943 cash; \$2,270 in-kind)
<b>Partners</b>	Office of Environment and Heritage; Royal Botanic Gardens Melbourne



#### Scientific name:

*Corunastylis sp.*  
*Charmhaven*  
(NSW896673)

#### NSW status:

Critically Endangered

#### Commonwealth status:

Critically Endangered

#### Management stream:

Site-managed species



Photo: Luke Foster

# Priority management site: Busways

**Local government area:**  
Central Coast

**Partners:**  
Office of Environment and Heritage; Royal Botanic Gardens Melbourne

## 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.*

<b>Monitoring metric</b>	Species abundance
<b>Annual target</b>	6-25 flowering plants.
<b>Long term target</b>	Maintain annual abundance within the historical range of 10 - 25 plants. Reassess once adequate baseline data is collected to define appropriate long term objectives.
<b>Monitoring result</b>	25 flowering plants recorded.
<b>Scientific rigour of monitoring method</b>	High
<b>Conducted by</b>	Office of Environment and Heritage

## Investment

Participant	Cash	In-kind
Office of Environment and Heritage	\$6,572	\$770

## Management actions

*The following actions are those identified as being required in financial year 2018-2019 to secure the species in the wild.*

Threat	Management action	Implemented as planned?
Browsing by rabbits on flowers and tubers.	Install cages around plants to manage browsing impacts.	Yes
Potential for erosion of topsoil and subsoil from road verges changing soil chemistry and substrate condition.	Implement erosion control when required.	Yes
Slashing or mowing habitat during flowering periods.	Complete slashing brush cutting each year.	Yes
Little is known about pollinators, mycorrhizae, seed germination, genetics.	Undertake research (collect mycorrhizae and seed as required for Royal Botanic Gardens germination trial research project).	Yes

## Threat outcome

Assessment on the status of critical threats at this site.

Threat	Annual target	Threat status
People and horses trampling areas where the species occurs.	Collect baseline data from three threat monitoring quadrats.	On track
Browsing by rabbits on flowers and tubers.	Collect baseline data from three threat monitoring quadrats.	On track
Potential for erosion of topsoil and subsoil from road verges changing soil chemistry and substrate condition.	Collect baseline data from three threat monitoring quadrats.	On track
Slashing or mowing habitat during flowering periods.	Collect baseline data from three threat monitoring quadrats.	On track
Potential for disturbance due to infrastructure development in close proximity to where the species occurs.	Maintain or reduce level of threat.	On track
Little is known about pollinators, micorrhizae, seed germination, genetics.	Implement <i>ex-situ</i> germination project and improve knowledge of species ecology.	On track

## Site summary

Twenty five flowering plants emerged across the monitoring season. Interestingly, flowering was observed outside of the typical survey season, with a large number of robust individuals found and some 90% success in pollination found in November 2018 (high plant vigour and pollination success). Flowering at this time of the year is a new finding, as the reported typical flowering period has been late summer and autumn. One individual appeared to flower twice in a six month period, which raises the question on the most appropriate time to survey the species. It is possible that plants responded to rainfall events in spring and opportunistically flowered during favourable conditions. Continued population and phenology monitoring will determine if this event was an anomaly or a normal pattern of flowering timing.

Threat monitoring generally indicated the site is stable, though some minor sheet erosion is occurring during heavy rainfall events - this was managed by placing cut branches on the bare soil surface perpendicular to the direction of water flow and weaving this through erosion matting and to work alongside existing coir logs.

In June 2018, an *ex-situ* germination trial project for the three Central Coast critically endangered orchids commenced with Royal Botanic Gardens, Victoria. Seed and mycorrhizal material has been collected for *Corunastylis* sp. Charmhaven in 2018/19 and germination trials are in early stages of development.

# Priority management site: Chelmsford Road

<p><b>Local government area:</b> Central Coast</p> <p><b>Partners:</b> None</p>	<p><b>Population outcome</b></p> <ul style="list-style-type: none"> <li><span style="color: green;">●</span> On track</li> <li><span style="color: lightgreen;">●</span> On track (inferred)</li> <li><span style="color: orange;">●</span> <b>Not on track (inferred)</b></li> <li><span style="color: red;">●</span> Not on track</li> </ul> <p>The species population is inferred to be off track based on threat management being off track. The population trend is unknown at this time.</p>
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## Monitoring

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

Species population monitoring was not conducted at this site this financial year - Attempts to contact the land owner have not been successful.

## Management actions

*The following actions are those identified as being required in financial year 2018-2019 to secure the species in the wild.*

Threat	Management action	Implemented as planned?
Potential for thick undisturbed heath habitat to prevent plants emerging and flowering.	Implement controlled burn of heath habitat during the orchid's non-flowering period.	No - Attempts to contact the land owner have not been successful.
Slashing or mowing habitat during flowering periods.	Liaise with land managers to ensure specific slashing regime.	No - Attempts to contact the land owner have not been successful.

## Threat outcome

*Assessment on the status of critical threats at this site.*

Threat	Annual target	Threat status
Slashing or mowing habitat during flowering periods.	Conduct baseline monitoring.	Not assessed
Potential for thick undisturbed heath habitat to prevent plants emerging and flowering.	Maintain or reduce level of threat.	Not assessed

## Site summary





Access to the site was not possible and planned actions were therefore not implemented. A review of the viability of this site will be reviewed.

## Priority management site: Targeted survey site/s

**Local government area:**  
Central Coast; Lake Macquarie

**Partners:**  
Office of Environment and Heritage

### 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.*

<b>Monitoring metric</b>	Species abundance
<b>Annual target</b>	2-20 flowering individuals across populations in targeted search sites.
<b>Long term target</b>	Baseline data still being collected
<b>Monitoring result</b>	22 flowering plants: A population of 20 new plants were discovered at a site north of Bluehaven. Two flowering plants emerged at Department of Planning (DoP) site.
<b>Scientific rigour of monitoring method</b>	Moderate
<b>Conducted by</b>	Office of Environment and Heritage

### Investment

Participant	Cash	In-kind
Office of Environment and Heritage	\$6,372	\$1,500

### Management actions

*The following actions are those identified as being required in financial year 2018-2019 to secure the species in the wild.*

Threat	Management action	Implemented as planned?
Little is known about the species distribution.	Complete targeted survey in suitable habitat.	Yes

### Threat outcome

*Assessment on the status of critical threats at this site.*

Threat	Annual target	Threat status
Little is known about the species distribution.	Complete targeted surveys in suitable habitat.	On track

## Site summary

This site consists of a survey area where permission has been granted by the landowner/manager to undertake surveys and consists of some 3,900 ha of both public and private land across the Central Coast. Targeted surveys in suitable habitat within the site were completed between November and May and resulted in the discovery of one new population and several unconfirmed individuals (fertilised pods but no flowers). Previously it was thought that the metapopulation contained some 20-25 flowering individuals. The discovery of these new individuals has therefore doubled the known population size.

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Saving our Species 2018-2019 annual report card for *Corunastylis* sp. Charmhaven (NSW896673). For more information refer to the specific strategy in the Saving our Species program.