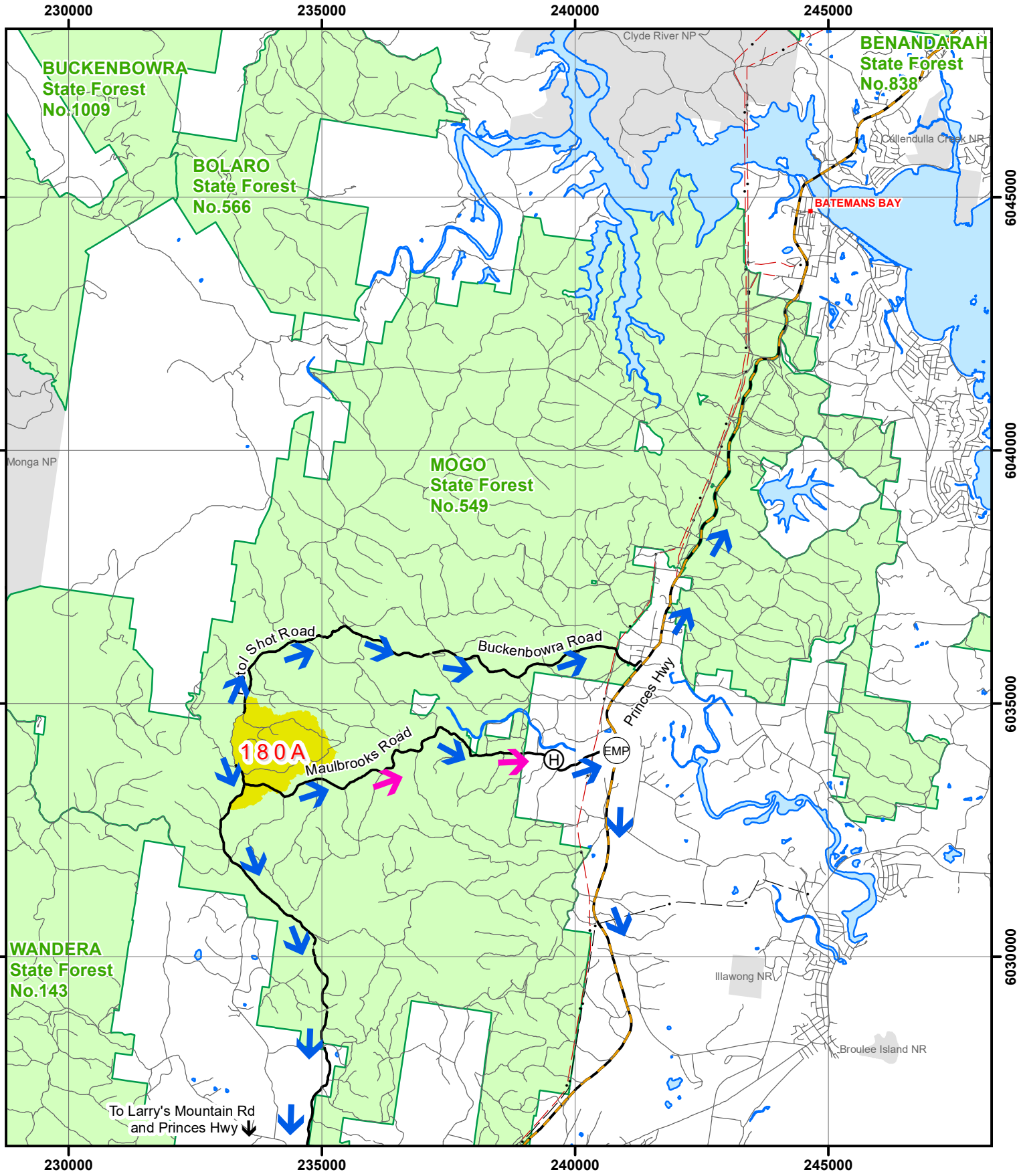


**FORESTRY CORPORATION OF NSW, HARDWOOD FORESTS DIVISION**  
**HARVEST PLAN LOCALITY SITE SAFETY MAP**  
**MOGO STATE FOREST**  
**COMPARTMENT 180A**

Version 1



Scale 1:100,000  
 Datum: GDA94  
 Plan No: 200001156  
 Plan Name: HPRP\_MOGO\_180A\_2021



- |                  |                         |                           |                          |                            |
|------------------|-------------------------|---------------------------|--------------------------|----------------------------|
| Evacuation Route | Emergency Meeting Area  | Haulage roads             | Powerline (66kV - 132kV) | State Forest (Operational) |
| Haulage Route    | Helicopter Landing Area | Compartment of Interest   | Powerline (11kV - 33kV)  | National Park Estate       |
|                  | Towns                   | Other Roads - Non Haulage | Undefined Powerline      | WaterBodies                |
|                  |                         | Sealed Road               |                          |                            |



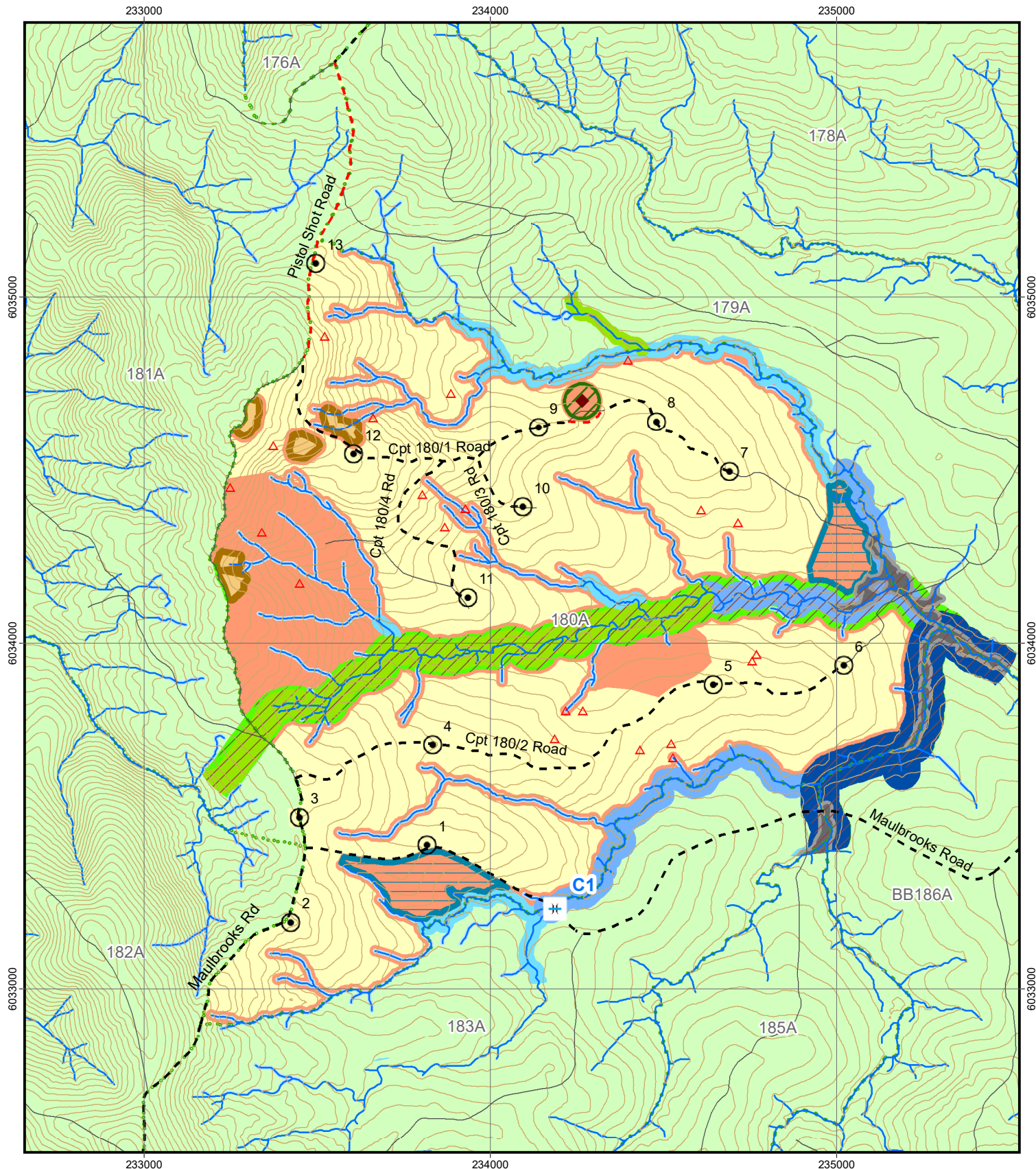
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**Emergency Telephone Numbers: 000 / 112**

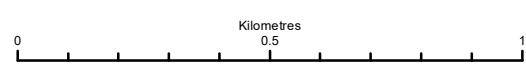
**FORESTRY CORPORATION OF NSW, HARDWOOD FORESTS DIVISION**  
**HARVEST PLAN OPERATIONAL MAP**  
**MOGO STATE FOREST**  
**COMPARTMENT 180A**



Scale 1:15,000  
 Datum: GDA94  
 Plan No: 200001156  
 Plan Name: HPRP\_MOGO\_180A\_2021  
 Version: 1



- |                            |  |  |   |
|----------------------------|--|--|---|
| Compartments CIFOA         | LiDAR Drainage                             | Rock Buffer (20m)                          | Class 2 Drainage Line SEZ's (20m either side) |
| Temporary Dry Weather Dump | Potential Rocky Outcrop (not yet verified) | Large Forest Owl EZs                       | Class 3 Drainage Line SEZ's (30m either side) |
| Splash crossing            | Dusky Woodswallow (Nest)                   | Ridge and Headwater                        | Class 4 Drainage Line SEZ's (50m either side) |
| Other Roads - Non Haulage  | Dusky Woodswallow (Nest) EZ (50m)          | River-flat eucalypt forest TEC             | State Forest (Operational)                    |
| Haulage Road - Dry Weather | FMZ 4 - Selective harvesting               | TEC EZ (10m)                               |   |
| Haulage Road - Upgrade     | Other Sensitive Areas EZ                   | Wildlife Habitat Clump (>2 ha)             |   |
|                            | Rock                                       | Class 1 Drainage Line SEZ (5m either side) |   |





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# Post-fire Harvest and Haul Plan



## Operational Area Identification

Type of Forestry Operation		Harvesting and Rooding Operation	
State Forest/s	Mogo	Compartment/s	180A
Crown-timber Land	NA	Local Landscape Area	Mogo_4
Harvesting Zone	Selective	Regrowth Zone	Regrowth Zone
Operational Area	Selective Harvesting (FMZ 4) area and Haulage Roads within compartment 180A – refer to operational area map. Forestry operations may only be carried out within the Operational Area.		
Plan ID	200001156		
Legal Conditions	<p>Native Forest Harvesting in accordance with Coastal Integrated Forestry Operations Approval conditions.</p> <p>To implement this plan you must hold a current Contractor’s Licence.</p> <p>Survey expiry date for this plan is 03/11/2027.</p>		
Standard Operating Procedures (SOPs)	The Harvesting SOP (Coastal IFOA) and Rooding SOP (Coastal IFOA) apply to this plan. FCNSW staff and the crew must hold a copy of these on site whilst operating and comply with the conditions set out in each SOP.		
Certification	<p>Responsible Wood Certificate 604224 and ISO14001 Certificate 604225</p> <p>Timber products removed from the plan area are within the Defined Forest Area covered by the Australian Standard for Sustainable Forest Management (AS4708:2013) Certificate 604224.</p>		
Prepared by	Emily Baggs		Date: 17/02/2021
Approved by	Shane Clohesy		Date: 23/03/2021
Abbreviations	<p>CH = Cultural Heritage                      CIFOA = Coastal Integrated Forestry Operations Approval                      Crew = Harvest Contractor/Forest Operators                      ESA = Environmentally Significant Area                      EZ = Exclusion Zone                      FMA = Fisheries Management Act                      FT = Forest Technician                      HC = Harvesting Coordinator                      HS = Harvesting Supervisor</p> <p>OM = Operational Map                      OPM = Operational Planning Manager                      OSA = Other Sensitive Area                      PS = Planning Supervisor                      PtS= Protection Supervisor                      RC = Rooding Coordinator                      SOP = Standard Operating Procedure                      TRC = Tree Retention Clump                      UAV = Unmanned Aerial Vehicle                      WHC = Wildlife Habitat Clump</p>		



## 1. Harvesting Operation Details

	Cpt 180A
Gross Area	281
Base Net Area (BNA)	235
TRC area	11.8
Estimated NHA	208
Slope (% 0-20 degrees)	100%
Slope (% 20-25 degrees)	0
Slope (% 25-30 degrees)	0

All areas are in hectares

## 2. Expected Species and Yield

Species for harvest	Species Mix % (sawlog)
Spotted Gum	70
Iron Bark	10
Blackbutt	10
Stringybark	5
Other	5
Total	100

Product Removal	Volume (m <sup>3</sup> )
HQ Large Sawlog (Quota)	1,000
HQ Small Sawlog	500
Low Quality (Salvage)	500
Pulpwood	1,000
Firewood	1,000
Total	4,000

The Contractor must ensure timber removed is allocated to the correct compartment when entered into Electronic Delivery Docket.

## 3. Management Conditions

Boundary	Conditions
SMZ / FMZ	<p>FMZ 3A – Harvesting Excluded and FMZ 4 – General Management occur within the compartment and are shown on the HPOM.</p> <p>FMZ 3A – Harvesting and harvesting machinery are not permitted in these areas.</p>
Cultural Heritage	
Haulage	<p>Routes:</p> <ol style="list-style-type: none"> <li>Northeast out Pistol Shot Rd to Buckenbowra Rd to Princes Highway OR</li> <li>South east via Pistol Shot Rd to Maulbrooks Rd to Princes Hwy OR</li> <li>South via Pistol Shot Rd to Maulbrooks Rd to Larrys Mountain Rd to Princes Hwy, via internal forest roads shown as haulage roads on the OM.</li> </ol> <p>School bus route - Buckenbowra Road and Larrys Mountain Rd is frequently used by light traffic to commute to work and school on weekdays 7.30-9.00 am and 3.00-5.00 pm. To the greatest extent practicable, log haulage should avoid these times.</p>

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Community	<p><u>Notifications</u> - All relevant notifications have been conducted. A notification list for FCNSW staff is available from the planner.</p> <p><u>Apiary Ranges</u> - 3 apiary ranges are active: Dump 13 range is currently unoccupied.</p> <p>Bee Permit holders must be contacted by the HC at least two weeks prior to use of any log dumps that are occupied by beehives.</p> <p><u>Mountain bike tracks</u> – existing mountain bike tracks occur within the compartment. Known tracks are indicatively mapped on the OM tile package. The following track damage minimization techniques are to be implemented on the mapped track:</p> <ul style="list-style-type: none"> <li>• Crew to fall trees away from track where possible and remove harvesting debris off the track.</li> <li>• Crew to minimise track crossing points. HC to identify suitable crossing points prior to commencement of harvesting.</li> </ul>
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#### 4. Harvesting Conditions

Silviculture Type	Harvesting Objectives and Stand Condition						
Selective	Harvesting operations must only be conducted as selective harvesting in burned areas at the site.						
Regeneration Requirements	Significant regeneration has occurred as a result of the 2019-20 wildfires. Retain advanced growth (growers) and minimise disturbance to fire regeneration.						
Regeneration Risks and Mitigation	Significant regeneration has occurred as a result of the 2019-20 wildfires. Disturbance to fire regeneration should be minimised by the following measures: <ul style="list-style-type: none"> <li>• The number and length of snig tracks should be kept to a minimum and shovel logging techniques should be used to move logs to arterial tracks.</li> <li>• Directional felling should be utilised wherever possible to minimise disturbance to fire regeneration.</li> <li>• Log dump size and number should be kept to a minimum.</li> <li>• Heads should not be dragged across the ground surface when servicing the logs in the bush.</li> </ul>						
Forest Health/Biosecurity Matters	No forest health/biosecurity issues have been identified in this compartment.						
BA Monitoring	<p>The HC must conduct Basal Area monitoring as per CIFOA Protocol 7 in areas treated with Selective Harvesting. The minimum BA limits are shown below.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="background-color: #cccccc;">Cpt 180A</th> </tr> </thead> <tbody> <tr> <td style="background-color: #cccccc;">Harvest Intensity</td> <td>Selective</td> </tr> <tr> <td style="background-color: #cccccc;">Selective Harvesting Limits – Minimum BA (m2)</td> <td>10</td> </tr> </tbody> </table>		Cpt 180A	Harvest Intensity	Selective	Selective Harvesting Limits – Minimum BA (m2)	10
	Cpt 180A						
Harvest Intensity	Selective						
Selective Harvesting Limits – Minimum BA (m2)	10						

## 5. Operational Responsibilities

Prescription	Condition/Responsibility																														
<p><b>Mark-Up</b> – the FT is responsible for marking up the forest ahead of harvesting operations consistent with the harvesting SOPs.</p>																															
Broad Area Habitat Search	<p>Broad Area Habitat Searches must be completed in a patch of up to 10 hectares (BNA) in size before harvesting operations can commence in that patch.</p> <p>Broad Area Habitat Searches must extend to cover areas up to 100m outside of the base net area and must search for threatened and protected species features as described in the Harvesting SOPs.</p>																														
Unsafe Areas	<p>As a result of the 2019-20 wildfires there may be some areas where Broad Area Habitat Searches and mark-up cannot safely occur due to overhead hazards.</p> <p>If these unsafe areas are encountered during mark-up, the FT is to create a separate FCMApp patch around the area. This patch must not get locked or marked as “operational ready”.</p> <p>No harvesting is to occur in any patch where Broad Area Habitat Searches and mark-up has not occurred.</p>																														
Known or Potential Habitat	<p>The following subject species have known or potential habitat in this operational area:</p> <table border="1"> <thead> <tr> <th>Common name</th> <th>Habitat feature</th> </tr> </thead> <tbody> <tr> <td>Gang-gang Cockatoo</td> <td>Nests in hollows</td> </tr> <tr> <td>Glossy Black-Cockatoo</td> <td>Feed trees and nests in hollows</td> </tr> <tr> <td>Greater Glider</td> <td>Dens in hollows</td> </tr> <tr> <td>Grey-headed Flying-fox</td> <td>Camps</td> </tr> <tr> <td>Little Eagle</td> <td>Stick nests</td> </tr> <tr> <td>Little Lorikeet</td> <td>Nectar trees</td> </tr> <tr> <td>Masked Owl</td> <td>Roosts and nests</td> </tr> <tr> <td>Powerful Owl</td> <td>Nests and roosts</td> </tr> <tr> <td>Sooty Owl</td> <td>Nests and roosts</td> </tr> <tr> <td>Swift Parrot</td> <td>Nectar trees</td> </tr> <tr> <td>Yellow-bellied Glider</td> <td>Feed trees and dens in hollows</td> </tr> <tr> <td>East Lynne Midge orchid</td> <td>See attached species profile</td> </tr> <tr> <td>Chef’s Cap Correa</td> <td>See attached species profile</td> </tr> <tr> <td>Ralston’s Leionema</td> <td>See attached species profile</td> </tr> </tbody> </table> <p>All staff carrying out broad area habitat searches within the compartment must visually inspect known locations of East Lynne Midge Orchid, Chef’s Cap Correa and Ralston’s Leionema (if available) prior to commencing searches to become familiar with the species.</p>	Common name	Habitat feature	Gang-gang Cockatoo	Nests in hollows	Glossy Black-Cockatoo	Feed trees and nests in hollows	Greater Glider	Dens in hollows	Grey-headed Flying-fox	Camps	Little Eagle	Stick nests	Little Lorikeet	Nectar trees	Masked Owl	Roosts and nests	Powerful Owl	Nests and roosts	Sooty Owl	Nests and roosts	Swift Parrot	Nectar trees	Yellow-bellied Glider	Feed trees and dens in hollows	East Lynne Midge orchid	See attached species profile	Chef’s Cap Correa	See attached species profile	Ralston’s Leionema	See attached species profile
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Chef’s Cap Correa	See attached species profile																														
Ralston’s Leionema	See attached species profile																														
Site Specific Biodiversity Conditions	<p><b><i>Rhodamnia rubescens</i> (Scrub Turpentine)</b></p> <p>During broad area habitat searches and targeted surveys, records* must be made of: <i>Rhodamnia rubescens</i> occurrences and notes made on:</p> <ol style="list-style-type: none"> <li>the condition of these plants and</li> <li>the apparent presence or absence of the Myrtle Rust fungus</li> </ol> <p>* where large numbers of plants are found, the population area may be estimated and recorded via a polygon of the area and numbers estimated with typical condition and apparent presence or absence of the Myrtle Rust fungus recorded. This must be recorded in FCMApp as an incidental FF record with required information.</p>																														

Marking Retained Trees	<p>FT must select and mark trees to meet the requirements below. The location of retained trees must be recorded on FCMapApp.</p> <p>“Habitat Trees” – Minimum of 8 per hectare must be retained (marked with “H”). Habitat trees include in order of priority:</p> <ol style="list-style-type: none"> <li>1. Hollow-bearing trees where they exist</li> <li>2. ‘Recruitment’ trees where hollow-bearing trees do not exist. A recruitment tree is a live tree of a mature or late mature growth stage that is not suppressed and has good potential for hollow development and long-term survival.</li> </ol> <p><b>In addition, ALL trees &gt;100 cm DBHOB must be retained (also marked with a “H”).</b></p> <p>Nectar feed tree condition – Applies – minimum of 5 per ha must be retained. Suitable species include Spotted Gum, Iron Bark and stringybarks. (refer to Protocol 39 definitions) (marked with “N”)</p> <p>Giant trees – All must be retained - 160cm (BBT/Alpine Ash only) / 140cm (all other spp) at stump height (30cm) (marked with “L”). Note: Some giant trees have been identified during pre-harvest ecology surveys and are mapped on FCMapApp. FT to locate and mark these trees with paint.</p> <p>Dead Standing Trees – All must be retained (marked with a “D”)</p> <p>Glider Sap feed trees – All (marked with “E”)</p> <p>Glossy-black Cockatoo feed trees – All (marked with Pink tape)</p>
Tree Retention Clumps	<p>FT must select and mark 5% of the BNA in compartment 180A (see Harvesting Operation Details) with pink and yellow tape, and/or on FCMapApp; Refer to the Harvesting SOPs.</p> <p>Tree retention clumps are to be a minimum 0.1 ha and maximum 2 ha.</p> <p>Tree retention clumps can be placed over OSA exclusion areas established as part of the post-fire operating conditions if they would not ordinarily have been protected under the CIFOA.</p>
Identification of channel heads	<p>FT will mark the location of Class 1 Drainage Line and Unmapped Drainage Line channel heads in the field with pink tape, and on FC MapApp; Refer to the Harvesting SOPs.</p>
<p><b>Operational Management;</b> The HC and Harvesting Crew are responsible for the management of operations consistent with the Harvesting SOPs.</p>	
Protection of Retained Trees	<p>Trees marked or selected for retention must not be felled or damaged.</p> <p>Damaged trees must be replaced with a comparable tree. Where a comparable tree is not available, it must be replaced with a mature tree, with healthy crown. Damaged and replaced trees must be recorded in the FCMapApp.</p> <p>Harvesting debris should not accumulate within 5 m of retained trees. Where debris does accumulate the crew must remove or flatten to &lt;1m high. Where removal or flattening of debris will damage a retained tree, or deliver a worse outcome, this must be documented in the FCMapApp.</p>
Coarse Woody Debris	<p>The crew must not remove coarse woody debris if it contains a hollow.</p> <p>Coarse Woody Debris (e.g. firewood) is permitted to be removed from this compartment.</p>
Accidentally Felled Trees	<p>The crew must record each tree accidentally felled into an ESA in accordance with the Harvesting SOPs.</p>
Dangerous Trees	<p>The crew must record each dangerous tree or dead standing tree removed in accordance with the Harvesting SOPs.</p>

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Elite/Plus Trees	Retain and protect the elite tree/s identified on the OM, and any others encountered (whether marked or not).
Impenetrable Understorey	Areas of Impenetrable Understorey must be mapped by the FT/PA. In areas mapped as Impenetrable Understorey, the crew and FT/PA must work closely together to ensure that the required number of retained trees are identified, retained and recorded in FCMApp.

## 6. Riparian Protection

Prescription					
Drainage lines and drainage depressions in compartment 180A will be managed as per the table below.					
<i>Table 6b</i>					
Drainage Category	Riparian Exclusion Zone		Post-Fire Buffer	GPZ	Marking Responsibility
	Minimum width (m)	ESA Category	Minimum width (m)	Minimum width (m)	
<i>Drainage depression (mapped or unmapped)</i>	n/a	n/a	0	5	Crew + GPS
<i>Unmapped drainage line</i>	5	<i>Category 1 ESA</i>	10	10 (included within Post-Fire buffer)	Crew + GPS
<i>Class 1 classified drainage line</i>	5	<i>Category 1 ESA</i>	10	10 (included within Post-Fire buffer)	Crew + GPS
<i>Class 2 classified drainage line</i>	20	<i>Category 2 ESA</i>	10	0	Crew + GPS
<i>Class 3 classified drainage line</i>	30	<i>Category 2 ESA</i>	10	0	Crew + GPS
<i>Class 4 (and above) classified drainage line</i>	50	<i>Category 2ESA</i>	10	0	Crew + GPS

## 7. Ecologically Significant Areas & Other Sensitive Areas

FT's are responsible for identifying; Harvesting Crews are responsible for protection of the following ESA's in line with requirements of the Harvesting SOPs.

Condition	Mapped Known Features	Boundary ID
ESA 1 (hard boundary)	Rocky outcrop & cliff features Potential Rocky Outcrop (not yet verified) is mapped in the compartment and is to be assessed by FT during the broad area habitat search. The FT must mark as an exclusion any rocky outcrop + relevant exclusion zone as it occurs on the ground.	GPS
	Nest, Roost or den and associated EZ's (Dusky Woodswallow nest)	GPS
	Threatened Ecological Communities (certified)	GPS
	Tree retention clumps	Pink & Yellow Tape and/or GPS
ESA 2 (soft boundary)	Ridge & headwater habitat	GPS
	Rocky outcrop & cliff associated EZ's	GPS
	Wildlife Habitat Clumps > 2 hectares	GPS
	Large Forest Owl Exclusion Zones	GPS
	EZ's associated with a Threatened Ecological Community	GPS
	Land mapped as FMZ 3A that is not also ESA 1	GPS

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<p>Features identified during broad area search / harvesting</p>	<p>Tree retention clumps and field identified ESA's will be marked on the FCMapApp.</p> <p>An additional 10m buffer zone must be applied to all field identified ESAs + EZs and mapped in the <i>HFD_OSA</i> mobile feature class "OSA_Type" = "Additional 10m Buffer Zone" &amp; the field "OSA_Description" = "Confirm with Operations Planning Manager if Exclusion Zones apply beyond January 2022".</p> <p>Harvesting contractors must synchronise their FCMapApp before commencing operations in each patch. All field identified features must be protected according to the relevant ESA Category boundary type.</p>
<p>Other Sensitive Area Exclusion Zones</p>	<p>The following additional temporary exclusion zones will be implemented as part of the post 2019-20 wildfire operating conditions:</p> <ul style="list-style-type: none"> <li>• LLA offset exclusion zones – up to 50% of the gross area of the LLA/s has been set aside from harvesting (lowest fire severity and other priority habitat).</li> <li>• Compartment offset exclusion zones – 25% of gross compartment area has been set aside from harvesting.</li> <li>• Additional 10m buffer has been applied to all riparian exclusion zones (class 1 – 4+)</li> <li>• Additional 10m buffer has been applied to all other mapped ESAs.</li> </ul> <p>These areas are shown on the OM as OSAs and are to be treated as ESA 2 exclusion zones (unless they also overlay a CIFOA ESA 1 exclusion zone).</p> <p>Although harvesting is not permitted in the OSAs, they remain part of the "net harvest area" as defined by the CIFOA. Therefore tree retention requirements apply within the OSAs (unless they also overlay a CIFOA exclusion zone). If OSA occurs within a patch that is to be harvested, broad area habitat searches and markup must occur within the section of OSA.</p>

## 8. Soil & Water

Issue	Assessment	Conditions
Inherent hazard level	1	Nil
Soil regolith types	R2	Nil
Dispersible Soils	No	Nil
Existing or potential Mass Movement hazard	No	Nil
Historical or existing erosion	No	Nil
Seasonality Restrictions	No	Nil
Burning conditions	No	Nil
Log Dumps		HC is responsible for authorising moving the location of a log dump.
Roading management during harvesting		HC is responsible for monitoring road and crossing drainage and stability during haulage.

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Wet Weather and Rutting		Crew is responsible for implementing automatic closures and following notified closures.  HC is responsible for ensuring crew notified when notified closure is lifted.
Snigging		Crew is responsible for progressive drainage of snig tracks.
Track Crossings (snig or extraction tracks)		HC is responsible to ensure snig track crossings are approved prior to use and rehabilitated upon completion.

**9. Roothing Plan:** Works not completed by RC must be recorded and passed onto the HC for completion and documentation. The start and finish dates of all maintenance and construction must be recorded on the individual roading sheets within the HC Notes excel document in OneDrive or on FCMapApp, along with other relevant changes or explanations. All rubber flaps on minor forest roads must be removed and replaced with trafficable rollover banks on completion of operation.

Summary of roading requirements		
Feature	Details	Works Required
Existing roads to be used.	5,663m/6	Yes
New roads to be constructed - UPGRADE	1013m/2	Yes
Existing crossings used	1	No
New crossings to be constructed	0	NA
Borrow pits and gravel pits	0	NA
Mass movement prescriptions apply	No	NA
Dispersible soil conditions apply	No	NA
Seasonality provisions apply	No	NA
Potential or existing erosion	No	NA
Flora Road Management Plans apply	No	NA

Fish Habitat (Protocols 17 & 18)	Nil
There is no Class 1 Aquatic Habitat in this roading area.	

Roading Work Summary Table – The following roads are to be constructed, upgraded or maintained in accordance with and to standards detailed within Roading SOP's. See HC Notes documentation (on OneDrive or FCMapApp) for Roading Works Completed information			
Road Name	Existing or New	Stability*	Site-specific works and other conditions
<b>Maulbrooks Rd – 1,409m</b> <i>FCNSW responsibility</i>	Existing	Stable	<ul style="list-style-type: none"> <li>Maintain existing lateral drainage</li> <li>Apply gravel in wet weather if required</li> </ul>
<b>Pistol Shot Rd – 207m</b> <i>Contractor responsibility</i>	Existing	Stable	<ul style="list-style-type: none"> <li>Grade/reshape pavement with crown and outfall.</li> <li>Reinstate existing lateral drainage and install additional drainage as required to ensure water is diverted off the road surface.</li> <li>Remove/lop roadside vegetation, as required.</li> <li><b>No disturbance within marked CH site is permitted.</b></li> </ul>

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<b>Pistol Shot Rd – 891m</b> <i>Contractor responsibility</i>	Upgrade	N/A	<ul style="list-style-type: none"> <li>Remove vegetation within pavement width up to 3m either side. Where practical, limit vegetation clearing to the minimum required.</li> <li>Grade/shape road length with crown and outfall.</li> <li>Install lateral drainage as required to ensure water is diverted off the road surface,</li> <li>Within two days of completion any cut/fill batters must be stabilised using seed/mulch.</li> <li>Apply gravel as required.</li> <li>The extent of earthworks should be limited where possible.</li> <li></li> </ul>
<b>Cpt 180/1 Rd – 1,482m</b> <b>Cpt 180/2 Rd –1,771m</b> <b>Cpt 180/3 Rd – 208m</b> <b>Cpt 180/4 Rd – 583m</b> <i>Contractor responsibility</i>	Existing	Stable	<ul style="list-style-type: none"> <li>Grade/reshape pavement with crown and outfall.</li> <li>Reinstate existing lateral drainage and install additional drainage as required to ensure water is diverted off the road surface.</li> <li>Remove/lop roadside vegetation, as required.</li> <li><b>No tree removal &gt;20cm DBH is permitted within the Rock Buffer exclusion zone and associated OSA.</b></li> </ul>
<b>Cpt 180/1 Rd realignment – 122m</b>	Upgrade	N/A	<ul style="list-style-type: none"> <li>Remove vegetation within pavement width up to 3m either side. Where practical, limit vegetation clearing to the minimum required.</li> <li>Grade/shape road length with crown and outfall.</li> <li>Install lateral drainage as required to ensure water us diverted off the road surface.</li> <li>Within two days of construction any cut/fill batters must be stabilised using seed/mulch</li> <li>Apply gravel as required</li> <li>The extent of earthworks should be limited where possible.</li> <li><b>No tree removal &gt;20cm DBH is permitted within the Nest exclusion zone or associated OSA.</b></li> </ul>

\*Road stability refers to an assessment of the stability of the road surface, cut batter, fill batter and road drainage structures for existing roads.

<b>Road Crossing Summary Table – The following crossings are to be constructed, upgraded or maintained in accordance with and to standards detailed within Roding SOP's.</b> <i>See HC Notes documentation (on OneDrive) for Roding Works Completed information</i>				
Crossing Name	Existing or New	Type	Stability of structure and surface	Site-specific works and other conditions
C1	Existing	Splash crossing	Stable	<ul style="list-style-type: none"> <li>Maintain existing lateral drainage between 5-30m</li> </ul>

## Chef's Cap Correa

*Correa baeuerlenii*

Prescriptions: 20m exclusion

Coastal IFOA Relevant Subregion: Southern Subregion and Eden Subregion

Coastal IFOA Survey Season: Anytime

Management Zones with known records within 5 km (see Figure 1): Batemans Bay North, Batemans Bay South, Eden North, Other (Murrumbidgee/Mumbulla Flora Reserve)

**A shrub to 2.5 metres tall. It's hairy stems are rust coloured and has long, tubular flowers which are greenish-yellow appearing in spring and sporadically at other times.**

Information taken from OEH Threatened Species website on 15/03/2019

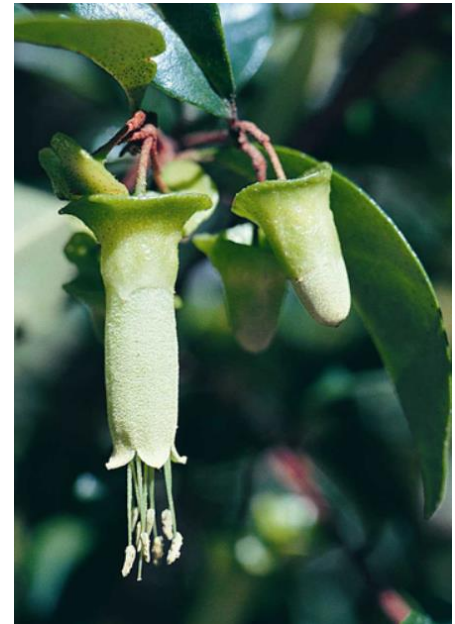
For original content go to <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10179>

### Description

Chef's Cap Correa is a shrub to 2.5 metres tall. Its hairy stems are rust-coloured. The glossy, elliptical leaves are between 2 - 6 cm long and 1 - 2 cm wide. The long (2 - 3 cm) tubular flowers are greenish-yellow; appearing in spring and sporadically at other times.

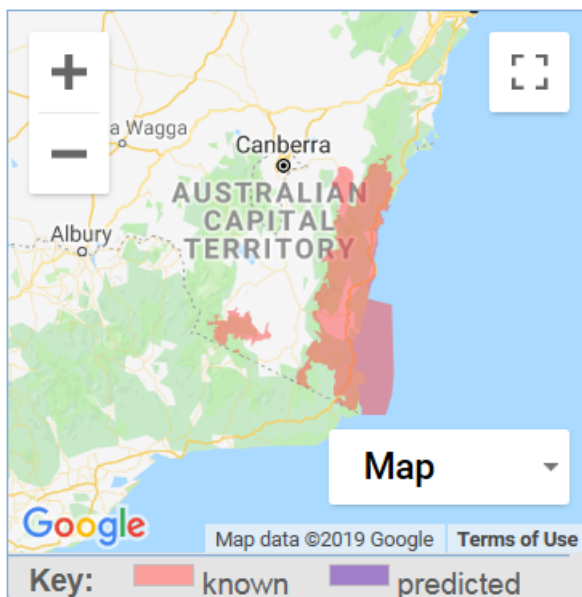
### Habitat and Ecology

Chef's Cap Correa has been recorded between Nelligen (on Nelligen Creek and the Buckenbowra River) and Mimosa Rocks National Park. Occurs in riparian sites within forests of various eucalypts, including Silvertop Ash (*Eucalyptus sieberi*), Yellow Stringybark (*E. muelleriana*), Blue-leafed Stringybark (*E. agglomerata*) and Spotted Gum (*Corymbia maculata*), or she-oak woodland. It may also be found in near-coastal rocky sites.



Flower, John Briggs

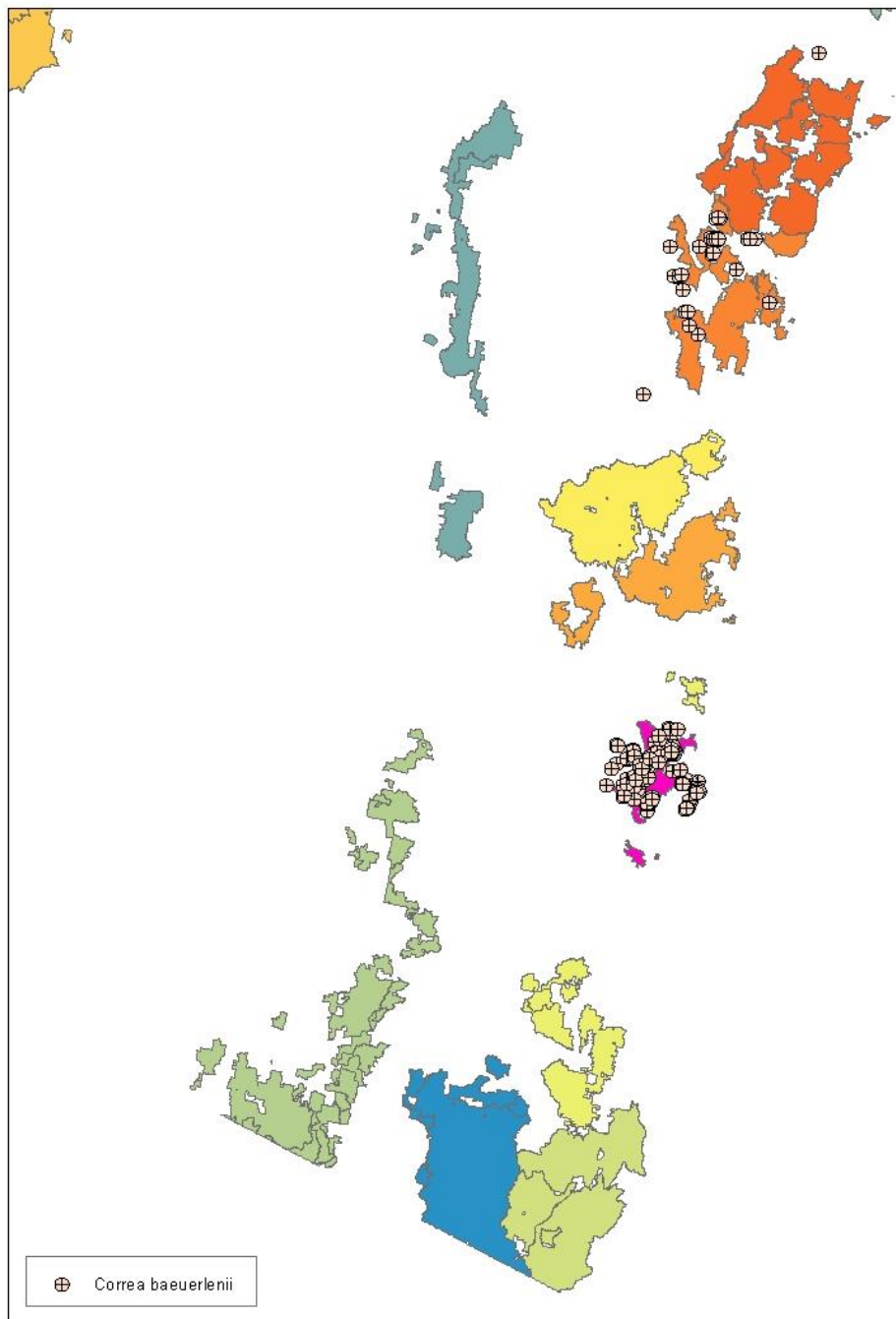
## Indicative distribution



The areas shown in pink and/purple are the sub-regions where the species or community is known or predicted to occur. They may not occur throughout the sub-region but may be restricted to certain areas. ([click here](#) to see geographic restrictions). The information presented in this map is only indicative and may contain errors and omissions.



Flower and leaf, Jackie Miles



**Fig 1. Known *Correa baeuerlenii* locations Southern and Eden Subregion (Refer to Appendix ? Coastal Integrated Forestry Operations Management Zones Map)**

### **Coastal Integrated Forestry Operations Agreement REQUIREMENTS**

**Condition 81.1** An exclusion zone with a radius of 20 metres or greater must be retained around:

- (a) Each individual record of a plant of a species listed in Part 3, Table 1



## Detailed botanical description

Information taken from NSW Flora Online (Royal Botanic Gardens Sydney) on 15/03/2019

For original content go to <http://plantnet.rbg Syd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Correa~baeuerlenii>

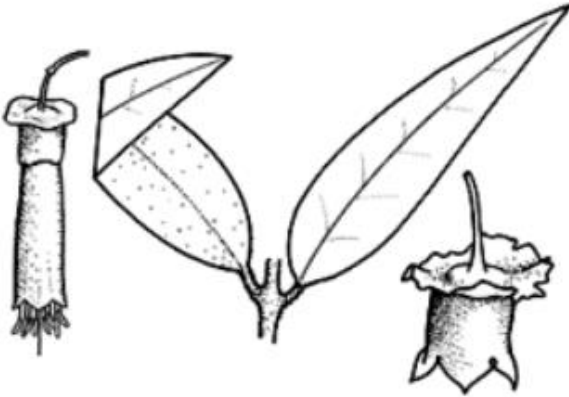
*Correa baeuerlenii* F. Muell. APNI\*

### Description

Shrub 1–2.5 m high; stems rusty-floccose.

Leaves ovate to elliptic, 2.2–6.5 cm long, 10–22 mm wide, apex obtuse to acute, base obtuse to cuneate, upper surface glabrous, lower surface sparsely and minutely stellate-hairy, glabrescent with age.

Flowers terminal or axillary, solitary; peduncle (when axillary) 3–12 mm long; bracts narrow-obovate, c. 3 mm long, or rarely  $\pm$  leaf-like; pedicel 8–10 mm long; bracteoles c. 1.5 mm long. Calyx broad-cylindrical, to 7 mm long, undulate and  $\pm$  4-toothed; base dilated, c. 9–13 mm diam. Corolla 20–28 mm long, greenish yellow; lobes triangular, c. 4 mm long. Anthers c. 2.3 mm long, well-exserted. Fruit to 9 mm long; surrounded by persistent corolla.



**Flowering:** spring and sporadically at other times.

**Distribution and occurrence:** Grows in sclerophyll forest, from the Clyde R. district to Bega.



Flowers, J. Plaza

Ralston's Leionema

*Leionema ralstonii*

Prescriptions

Coastal IFOA Relevant Subregion: Southern Subregion and Eden Subregion

Coastal IFOA Survey Season: Anytime

Management Zones with known records within 5 km (see Figure 1): Batemans Bay South, Eden North

**A shrub up to 1 m tall. Leaves have a notch in the blunt tip. Flowers droop in clusters of 4-7, each flower has pale green petals with stamens extending well beyond them.**

Information taken from OEH Threatened Species website on 12/03/2019

For original content go to <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10873>

### Description

Ralston's Leionema is a shrub up to 1 m tall, with leaves to 5 cm long and 8 mm wide. Leaves have a notch in the blunt tip. Drooping clusters of 4 - 7 flowers grow at the branch tips; each flower has pale green petals with stamens extending well beyond them.

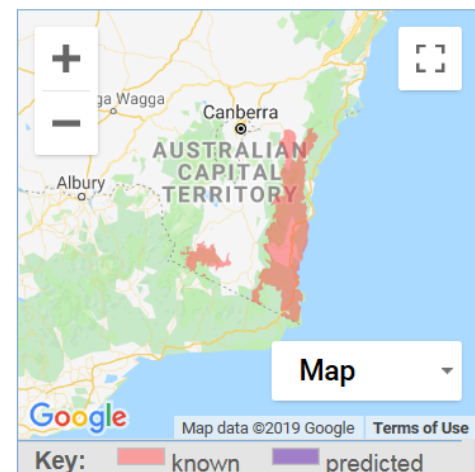
### Habitat and Ecology

Ralston's Leionema is endemic to the coastal ranges of south-east NSW between Eden and Pambula. The species is largely confined to dry, rocky habitats. It is most likely to be found in dry shrub communities but can also occur in open forest. It flowers mainly in winter. While Ralston's Leionema can withstand low intensity fires, infrequently burnt areas appear to provide the most suitable habitat. The species is slow growing, relatively long-lived and possesses an ability to withstand prolonged drought conditions. Recruitment is continuous but individual populations may be expanding or contracting depending on local competition.



Flowers, Murray Fagg

### Indicative distribution



The areas shown in pink and purple are the sub-regions where the species or community is known or predicted to occur. They may not occur throughout the sub-region but may be restricted to certain areas. ([click here](#) to see geographic restrictions). The information presented in this map is only indicative and may contain errors and omissions.



Leaves, Jess Peterie

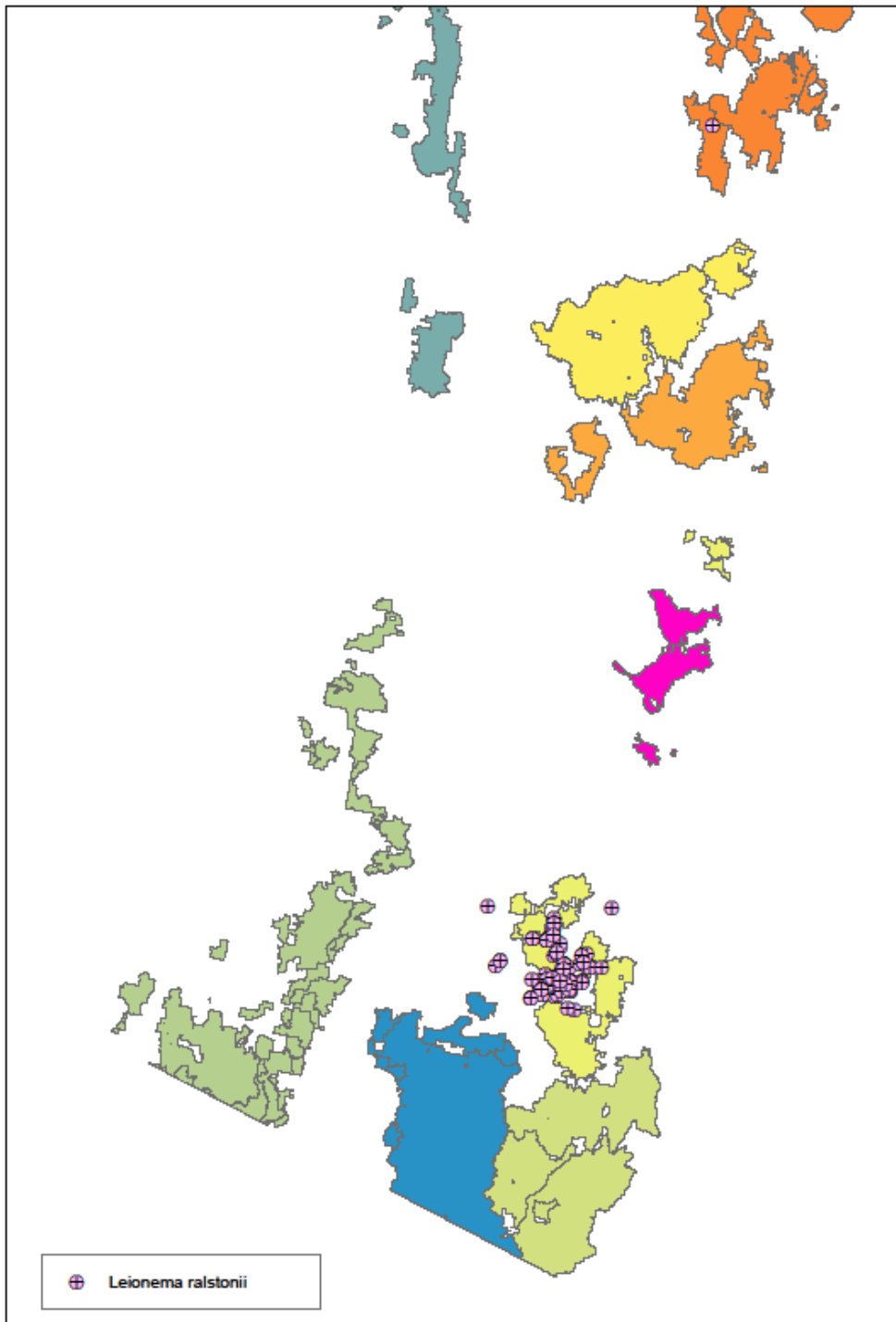


Fig 2. Known *Leionema ralstonii* locations Southern and Eden Subregion (Refer to Appendix ? Coastal Integrated Forestry Operations Management Zones Map)

## Coastal Integrated Forestry Operations Agreement REQUIREMENTS

**Condition 81.1** An exclusion zone with a radius of 20 metres or greater must be retained around:

- (a) Each individual record of a plant of a species listed in Part 3, Table 1

### Detailed botanical description

Information taken from NSW Flora Online (Royal Botanic Gardens Sydney) on 13/03/2019

For original content go to <http://plantnet.rbg Syd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Leionema~ralstonii>

*Leionema ralstonii* (F.Muell.) Paul G.Wilson APNI\*



**Description:** Shrub to 1 m high; stems smooth, glabrous. Leaves  $\pm$  oblanceolate, 2.5–5 cm long, 5–8 mm wide, apex slightly 2-lobed, base gradually narrowed, margins recurved or revolute when dry, smooth,  $\pm$  glabrous, midrib impressed above and prominent below.

Inflorescences terminal, compact cymes, 4–7-flowered, peduncles recurved; pedicels fleshy, c. 3 mm long. Calyx hemispherical, fleshy, glabrous, lobes triangular. Petals c. 8 mm long, pale green. Stamens more than twice as long as petals. Cocci erect, 4–5 mm long, outer angle apiculate.

**Flowering:** Sporadically, but chiefly winter.

**Distribution and occurrence:** Grows in open forest along creeks and on ridges in the Bega to Eden district. Grows in open forest along creeks and on ridges in the Bega to Eden district.



Fruit, L. Lee



## East Lynne Midge Orchid

*Genoplesium vernale*

Prescription: 20 m exclusion

Coastal IFOA Relevant Subregion: Southern Subregion and Eden Subregion

Coastal IFOA Survey Season: November to late December

Management Zones with known records within 5 km (see Figure 1): Batemans Bay, Bago-Maragle

**A midge orchid with a flowering stem up to 25 cm high with a cluster of 10 to 25 densely crowded flowers. The flowers are around 4mm across and are dark purple..**

Information taken from OEH Threatened Species website on 09/07/2019

<https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10343>  
<https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20321>

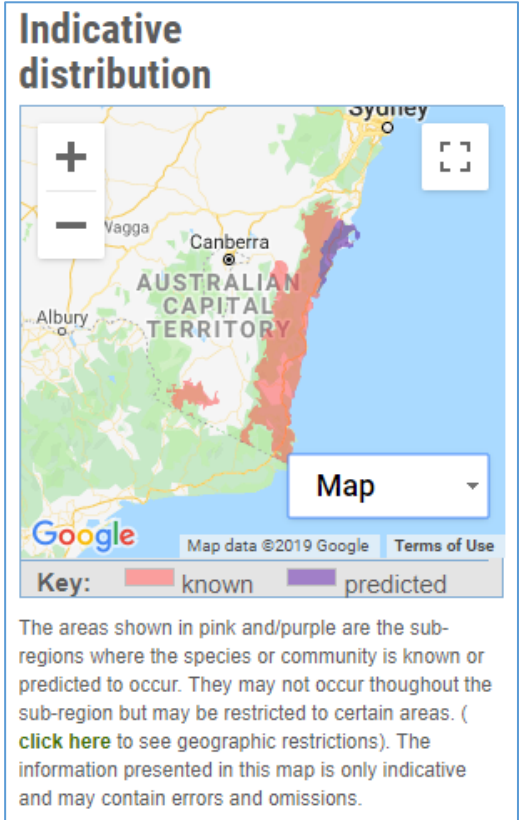
### Description

The East Lynne Midge Orchid has 10 to 25 flowers densely crowded onto a spike less than 4 cm long, on a thin round stem less than 25 cm tall. Individual flowers are approximately 4 mm across and are dark purplish-black, with two prominent petals pointing downwards. A flowering stem thus has a resemblance to a cluster of midge-like insects clinging to the top of the stem, hence the common name 'Midge Orchid' for this group of plants. Flowers appear from mid November to late December. Plants often produce a thin round erect non-flowering stem that resembles a seedling spring onion. Non-flowering plants can not be distinguished from other species in the genus *Genoplesium*. Although the flowering and non-flowering stems are often referred to as 'leaves', technically the true leaf is reduced to a small bract-like structure that is attached near the upper part of the plant's stem. *Genoplesium* is a genus of relatively inconspicuous ground orchids with clustered spikes of dark-coloured flowers that are non-resupinate (i.e. they are 'upside down' relative to most other orchids) and have a single flat, not tubular, leaf. This leaf distinguishes them from the very similar genus *Prasophyllum*, the leek orchids, their closest relatives.

### Habitat and Ecology

The East Lynne Midge Orchid grows in dry sclerophyll woodland and forest extending from close to the coast to the adjoining coastal ranges. Confined to areas with well-drained shallow soils of low fertility, often occurring near the crests of ridges and on low rises where the ground cover is more open and sedge dominated rather than being shrubby. Each plant produces a single leaf-like stem that emerges from an underground tuber. The orchid stems can appear from late October and take only a few weeks to produce flowers. Many stems that emerge do not produce flowers. The species generally flowers between early November and mid December. The fruit then take several weeks to ripen. The old fruiting stems (as well as non fruiting stems) then persist until late winter, at which time they wither and the plant dies back to a small, dormant underground tuber. Has some limited ability to re-colonise previously disturbed sites.

Picture right: *G. vernale* flower head. Max Campbell





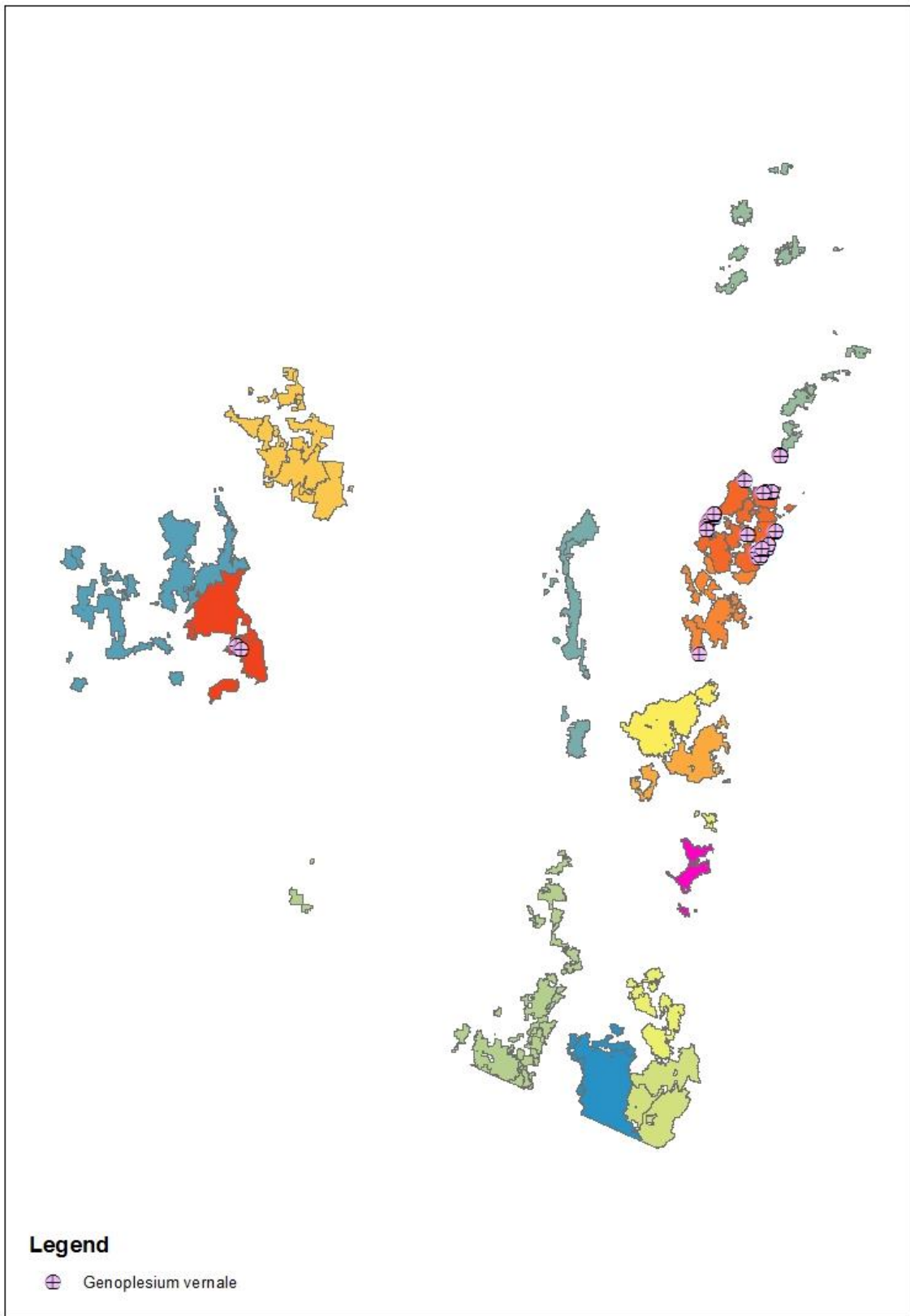


Fig 3. Known *Genoplesium vernale* locations in Southern and Eden Subregion

## Coastal Integrated Forestry Operations Agreement REQUIREMENTS

**Condition 81.1** An exclusion zone with a radius of 20 metres or greater must be retained around:

- (a) Each individual record of a plant of a species listed in Part 3, Table 1

OR

**Condition 84.1.** FCNSW must prepare a species management plan in accordance with **Protocol 21: Species management plan** for each:

- (b) species listed in part 3, Table 3 of **Protocol 31: Matters covered by the approval**

### Detailed botanical description

Information taken from NSW Flora Online (Royal Botanic Gardens Sydney) on 09/07/2019

For original content go to <http://plantnet.rbg Syd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Pterostylis%7Efoliata>

### Description

Terrestrial tuberous herb. Leaf 10–18 cm long, 0.15–0.3 cm wide, terete, dark green, reddish at the base; lamina closely sheathing throughout, 10–15 mm long, 2–3 mm wide, oblanceolate-subulate ending 5–20 mm below the first flower.

Inflorescence 15–25 cm tall bearing 10–25 flowers in a densely crowded spike 2–4 cm long. Flowers 3.5–4.5 mm diam., dark purplish black, porrect to semi-nodding; lateral sepals obliquely erect. Ovary linear obovoid, to c. 2.6 mm long, slightly curved, green. Dorsal sepal cucullate, broadly ovate when flattened, 3–3.5 mm long, 2–2.3 mm wide, concave; margins with minute glandular cilia, apex acuminate. Lateral sepals nearly parallel, narrowly oblong-lanceolate, 4–4.5 mm long, 1.2–1.3 mm wide, base gibbous, margins entire, distal margins involute, apex narrowly and bluntly acute, sometimes a vestigial gland present. Petals porrect to spreading, narrowly ovate-lanceolate, c. 3 mm long, c. 1.2 mm wide, margins with minute glandular cilia, apex long-acuminate. Labellum attached by a short claw to the apex of the column foot; lamina narrowly oblong-elliptic, 2.5–2.8 mm long, 1.2–1.5 mm wide, shallowly curved throughout suddenly contracted to an apiculate apex, externally papillate, margins denticulate, distal margins slightly irregular, with minute glandular cilia, Callus extending nearly to the labellum apex, occupying most of the ventral surface of the lamina, oblong, sometimes constricted above the middle, fleshy, dark purple to brownish black, base yellow, surface colluviate, apex entire. Column c. 2 mm long, c. 1.8 mm wide. Wings lobed about halfway to the base, the lobes not divergent; posterior lobe linear, whitish, obtuse; anterior lobe ovate-lanceolate, dark red, acute, the margins irregularly denticulate. Anther c. 0.8 mm long, with a linear to filiform rostrum about 0.3 mm long. Stigma broadly elliptic, c. 0.5 mm long, c. 0.5 mm wide. Pollinarium c. 1 mm long; pollinia c. 0.8 mm long, yellow, granular, caudicle ligulate, c. 0.15 mm long; viscidium c. 0.2 mm wide.

Capsules erect, narrowly obovoid, 4–5 mm long, c. 0.3 mm wide.

**Distribution and occurrence:** Restricted to a narrow geographic range from near Mogo to west of Ulladulla.

