

Emergency Meeting Area
 Helicopter Landing Area
 Evacuation Route

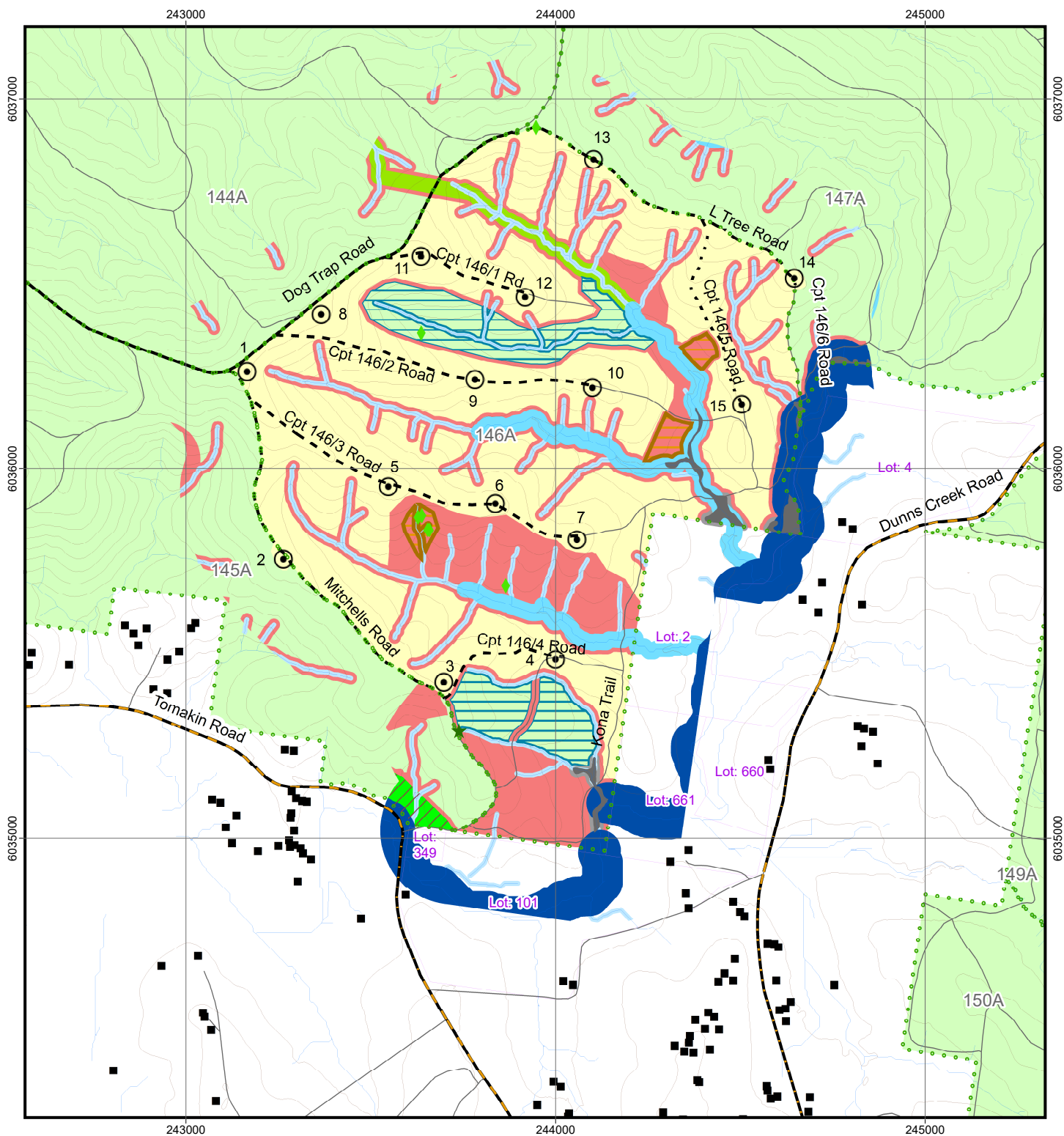
Haulage Route
 Towns
 Haulage_Roads
 Other Roads – Non Haulage

Sealed Road
 Powerline (66kV - 132kV)
 Powerline (11kV - 33kV)
 Undefined Powerline

Compartment of Interest
 WaterBodies
 State Forest (Operational)
 National Park Estate

Emergency Telephone Numbers: 000 / 112

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WHS Tool / Resource


2.1.3 Site Safety Plan

This site safety plan is for all FCNSW operations of more than one day duration or where an operational plan is in place. Where a contractor is responsible for the work to be undertaken, the contractor must develop their own site safety plan.

A Medical Emergency Evacuation Plan (MEEP) has been developed and is included below

Location	
Forest Name: Mogo	Specific location details: Compartment 146A
Date work commenced:	
Description of Work to be undertaken on site: Forest mark-up, road maintenance and/or construction, harvest supervision, compliance monitoring	
On site communication:	
Radio channel number	VHF UHF
Other (e.g. mobile phone numbers of other workers on site, hand signals):	
Site Supervisors	
Name:	Contact number:
Site workers including contractors	
Name:	Contact number:
First Aid Kit locations	
First Aiders on site	
Hazardous chemicals on site	Safety Data sheet location
Mandatory PPE required	Task specific PPE required
Appropriate safety footwear High visibility clothing Long sleeve shirt and trousers	<input type="checkbox"/> Hearing Protection <input type="checkbox"/> Gloves <input type="checkbox"/> Eye Protection <input type="checkbox"/> Hard hat <input type="checkbox"/> Other

A number of hazards are common to all forest sites. All workers should be aware of the following hazards and ensure appropriate control measures are in place.

Common forest and outdoor hazards	Control	Responsibility
Exposure to sun	Long sleeve clothing, sunscreen, work in shade where possible,	All workers
Exposure to heat, rain and cold	Appropriate clothing, adequate water supply, plan work for cooler times of the day where possible	All workers
Overhead hazards/dangerous trees	Identify and remove dangerous trees in work area. Where unable to remove, mark trees with this symbol  . Assessment of work areas prior to commencement and ongoing with changing weather and wind. Wear hard hat	Supervisors, contractors and all workers
Recreational hunting	Recreation hunting is not permitted planning unit. Report any unauthorized hunting to FCNSW HS	All workers
Bites and stings	Permethrin treated clothing Insect repellent Long sleeved shirt/long trousers	All workers
Slips and trips/uneven ground	Boots worn and maintained in good condition Use of aids- walking poles, carry bags, spikes etc	All workers
Mobile Plant	Safe zones established Traffic management systems in place	Supervisors and workers
Vehicle collision at road intersections and road sides	Warning signs at FCNSW road intersections, implement traffic control plans, 60km/hr speed limit on unsealed forest roads, vehicle headlights on at all time when driving.	All workers
Dust from passing vehicles along dirt haulage routes	Restrict speed to minimise dust generation, slow down when passing vehicles. Turn on driving and hazard lights to increase visibility.	All workers
Harvesting within 2 tree lengths of private property.	Contractor to develop a safe work procedure to manage the safety of the neighbours.	Supervisors and contractors

The following additional hazards are present at this site: Examples include but are not limited to: other contractors/workers in vicinity, mine shafts, cliffs, underground cables, overhead power lines, mobile plant, traffic, school bus route, log trucks on road, work on or near roads, difficult site access, unauthorised visitors, quarries, asbestos etc

Site Specific Hazards	Control	Responsibility
Site fire-affected with higher proportion of burnt and dead trees	Do not walk the site unless safe to do so. Refer to Fire Affected Forest SWP and associated risk matrix. Assess risk each time before entering the forest on foot. Hold and document regular toolbox	Site supervisor

Element	Type	Number	Version	Owner	Date Effective	Review Date	
2	Tool/Resource	2.1.3	1.0	H & S Manager	July 2014	July 2016	Page 2 of 7
Site Safety Plan				This document is not controlled when printed			

	talks to monitor any change in risk levels.	
Existing mountain bike tracks occur throughout the compartment	<p>Safety signage to be placed at known points where the tracks enter/exit the compartment. "DANGER – TREE HARVESTING OPERATIONS IN PROGRESS – Authorised Persons Only" signs to be erected at these locations by the Harvest Coordinator.</p> <p>Safety signage is to be inspected regularly by the Harvest Coordinator for damage and replaced as required.</p>	Site Supervisor

Safe Work Practices

The following Safe Work practices are relevant for work conducted on this site (site supervisor to document):


Traversing Fire Affected Forest SWP and associated risk matrix.

SAFETY DIARY

This diary should be used to record daily safety matters such as toolbox talks, safety inspections etc.

[illegible]

SITE SAFETY PLAN DEVELOPMENT

Date of of initial plan development	Developed By	Position	Signature
07/05/2021	Kate McKinnon	Senior Planner	

SITE SAFETY REVIEW

The site safety plan must be reviewed by the site supervisor at a minimum of every 3 months and reviews recorded below. Where changes are made to the site safety plan, these must be recorded on the plan. A new plan may need to be printed where changes are significant.

Date of review	Changes made? If yes, document changes	Conducted by	Initials

WHS Tool/Resource

3.5.3 Medical Emergency Evacuation Plan

Emergency Meeting points are shown on the attached Locality Map

	Description	MGA; Zone for EMP; and Lat/Long for helicopter landing point
Phone Reception	Good	
Emergency Meeting Point	Intersection of Dog Trap Road and Princes Hwy, Mogo NSW	Lat/Long: 35° 46' 41" S / 150° 08' 42" E MGA: 241944 E 6036909 N
Helicopter Landing point	Football oval, Mogo NSW	Lat/Long: 35° 48' 16" S / 150° 07' 05" E MGA: 239586 E 6033898 N

Procedures to obtain ambulance assistance

1. Dial 000
2. If there is no mobile coverage, dial 112 (which will work on any accessible mobile phone system).
3. If no response on 112:
 - use a radio link (TARA, be discrete with personal information)
 - move to an area with mobile coverage
 - find a landline
 - use another network (e.g. a contractor's VHF radio)

The nearest Forestry Corporation of NSW office is: Batemans Bay

Contact on:-



Channel: 236

Telephone: 1300 880 548

Give details of the situation and ask for a 000 call to be placed.

000 operator question:	Response:
1. Police, Fire, Ambulance?	Ambulance is required Nearest control centre for ambulance: Wollongong
2. Suburb?	State Forest name: Mogo Nearest town or locality: Mogo Nearest ambulance station: Batemans Bay
3. Address?	Dog Trap Road, Mogo State Forest
4. Nearest road junction/cross street?	Mitchells Road and Dog Trap Road.
5. Local Government Area?	Eurobodalla Shire Council
6. Nature of the problem?	Describe the accident, number, age and condition of casualties. Are they conscious, are they breathing?
7. Where is the accident?	Refer to safety meeting point above
Directions to navigate from nearest ambulance station to the emergency meeting point.	Turn left onto Tallgums Way, travel 900m to Ridge Road and turn left. After 140m turn right onto Dunns Creek Rd, travel for 5.5 km and turn right onto Tomakin Rd. Travel 4.3km and turn right onto Princes Hwy. After 800m, turn right onto Dog Trap Rd.
8. 4WD ambulance required?	Yes/No: UHF radio channel to use:
9. Injuries?	Give detailed information about the condition of the casualty (do not mention names over radio system)
10. Your name and call back number:	

Post-fire Harvest and Haul Plan**Operational Area Identification**

Type of Forestry Operation		Harvesting and Rooding Operation	
State Forest/s	Mogo	Compartment/s	146A (145A & 147A)
Crown-timber Land	NA	Local Landscape Area	Mogo_5
Harvesting Zone	Selective	Regrowth Zone	Regrowth Zone
Operational Area	Selective Harvesting (FMZ 4) area and Haulage Roads within compartment 146A plus dump locations in adjacent compartments (145A & 147A). Refer to operational area map. Forestry operations may only be carried out within the Operational Area.		
Plan ID	200001309		
Legal Conditions	Native Forest Harvesting in accordance with Coastal Integrated Forestry Operations Approval conditions. To implement this plan you must hold a current Contractor's Licence. Survey expiry date for this plan is 19/11/2026.		
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	Responsible Wood Certificate 604224 and ISO14001 Certificate 604225 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.		
Prepared by	Kate McKinnon		Date: 14/10/2021
Approved by	Shane Clohesy		Date: 14/10/2021
Abbreviations	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 OM = Operational Map OPM = Operational Planning Manager OSA = Other Sensitive Area PtS= Protection Supervisor RC = Rooding Coordinator SOP = Standard Operating Procedure TRC = Tree Retention Clump UAV = Unmanned Aerial Vehicle WHC = Wildlife Habitat Clump		

1. Harvesting Operation Details

	Cpt 146A
Gross Area	174
Base Net Area (BNA)	148.1
TRC area	7.4
Estimated NHA	127.5
Slope (% 0-20 degrees)	98.2
Slope (% 20-25 degrees)	1.8
Slope (% 25-30 degrees)	0

All areas are in hectares

2. Expected Species and Yield

Species for harvest	Species Mix % (sawlog)
Spotted Gum	80
Ironbark	5
BBT	15
Stringy Bark	<1
Other	<1
Total	100

Product Removal	Volume (m ³)
HQ Large Sawlog (Quota)	1200
HQ Small Sawlog	200
Low Quality (Salvage)	1400
Pulpwood	800
Firewood	800
Total	4400

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

3. Management Conditions

Boundary	Conditions
Private Property	<p>Private property occurs adjacent to the eastern and southern boundaries of the compartment, as indicated on the OM. Private property owners have been notified of the scheduled harvesting. The private property boundary must be located and marked by the FT using pink and yellow tape. The boundary location should be identified using on ground survey markers (cairns, blazes, pegs etc) and compass bearings. As a last resort FCMApp and GPS may be used with caution. Seek advice from the planner if required.</p> <p>Any damage to fences caused by harvesting must be immediately repaired by the contractor. Harvesting debris is not to be left within 5m of the boundary. All roads on boundaries must be left in a driveable condition.</p>
FMZ	FMZ 4 – General Management occurs within the compartment and is shown on the OM.
Cultural Heritage	Surveys have been conducted. No known CH sites occur within the compartment. If any potential heritage sites are identified they should be recorded on FCMApp, and the ACHO notified immediately. A 20m interim buffer must be observed pending further investigation.
Haulage	Route – West out Dog Trap Road to the Princes Hwy.

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	<p>Dust & Mud - Homes immediately adjacent to Dog Trap Road may be adversely impacted by noise created by log haulage. Truck drivers should reduce speed and minimise the use of engine brakes near these such homes.</p> <p>All vehicle operators are responsible for minimising dust on Dog Trap Road adjacent to homes.</p>
Community	<p>Noise - When working in areas close to residential properties (i.e. dumps 2, 3, 4, 7 & 15), machinery operating hours will be limited to between 7am & 8pm Monday-Friday, and 8am and 12pm on Saturdays. Machinery must not be operation on Sunday or Public Holidays.</p> <p>Notifications - All relevant notifications have been conducted. A notification list for FCNSW staff is available from the planner.</p> <p>Private property owners of Lots 2 and 661 must be contacted before harvesting within two tree lengths of the private property boundary. A contact list is available with the planner.</p> <p><u>Apiary Ranges</u> - 3 apiary ranges are active:</p> <ul style="list-style-type: none"> • Bombowlee Bee Farms • Lake George Apiaries • HHP <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. Contact planner for a contact list.</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. Additionally, Kona Trail is used by mountain bikes. The following track damage minimization techniques are to be implemented on these tracks:</p> <ul style="list-style-type: none"> • Crew to fall trees away from track where possible and remove harvesting debris off the track. • Crew to install rollovers on any identified rutted sections of track to prevent further erosion. • Crew to minimise number of track crossing points. HC to identify suitable crossing points prior to commencement of harvesting. <p><u>Rally of the Bay</u> – Dog Trap Road will be used for Rally of the Bay over one weekend in early 2022 at a date to be confirmed. No haulage may occur on the weekend of the rally. The Production Supervisor is responsible for ensuring following the FCNSW events calendar and communicating the date to the HC's and crew once it has been confirmed.</p>
Infrastructure	<p>Existing Fire Trails - Roads used for haulage or snagging should be left in a trafficable condition, free of harvesting debris and any installed rollovers must be trafficable.</p>

4. Harvesting Conditions

Silviculture Type	Harvesting Objectives and Stand Condition
Selective	<p>The stands in this compartment are multi-aged and consist primarily of Spotted Gum, Ironbark and Blackbutt. The area was subject to high intensity fire during the 2019/20 wildfires. Harvesting operations must only be conducted as selective harvesting in burned areas at the site.</p> <p>The objective is to target primarily stems containing sawlog products for removal while retaining advanced regeneration and recent fire regeneration.</p> <p>Retain advanced growth (growers \leq 30cm DBH) that are still in good condition after the wildfires and will grow on to produce future sawlog.</p> <p>Crew is to select trees for removal and avoid damage to retained growers.</p>

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Regeneration Requirements	Retain advanced growth (growers) and minimise disturbance to fire regeneration.						
Regeneration Risks and Mitigation	<p>Significant regeneration has occurred as a result of the 2019-20 wildfires.</p> <p>Disturbance to fire regeneration should be minimised by the following measures:</p> <ul style="list-style-type: none"> • 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. • Directional felling should be utilised wherever possible to minimise disturbance to fire regeneration. • Log dump size and number should be kept to a minimum. • Heads should not be dragged across the ground surface when servicing the logs in the bush. 						
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"> <tr> <td></td><td>Cpt 146A</td></tr> <tr> <td>Harvest Intensity</td><td>Selective</td></tr> <tr> <td>Selective Harvesting Limits – Minimum BA (m2)</td><td>10</td></tr> </table>		Cpt 146A	Harvest Intensity	Selective	Selective Harvesting Limits – Minimum BA (m2)	10
	Cpt 146A						
Harvest Intensity	Selective						
Selective Harvesting Limits – Minimum BA (m2)	10						

5. Operational Responsibilities

Prescription	Condition/Responsibility
Mark-Up – the FT is responsible for marking up the forest ahead of harvesting operations consistent with the harvesting SOPs.	
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> <p>Flora</p> <p>Chef’s Cap Correa (<i>Correa baeuerlenii</i>) – see attached species profile</p> <p>Bodalla Pomaderris (<i>Pomaderris bodalla</i>) – see attached species profile</p> <p>East Lynne Midge Orchid (<i>Genoplesium vernale</i>) – see attached species profile</p> <p>Tall Knotweed (<i>Persicaria elatior</i>) – see attached species profile</p> <p>Fauna</p>

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	<p>Brush-tailed Phascogale Gang-gang Cockatoo (nests) Glossy Black-Cockatoo (feed trees and nests) Greater Glider (Dens) Grey-headed Flying-fox (camps) Large Bent-winged Bat (subterranean roosts) Little Lorikeet (nest in HBT) Masked Owl (roosts and nests) Powerful Owl (roosts and nests) Sooty Owl (roosts and nests) Spotted-tailed Quoll (Dens and latrine sites) Square-tailed Kite (stick nests) Swift Parrot (nectar trees) White-bellied Sea-Eagle (stick nests) Yellow-bellied Glider (dens and feed trees)</p> <p><u>Habitat</u> River flat eucalypt forest TEC Mine shafts</p> <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, Bodalla Pomaderris and Tall Knotweed prior to commencing searches to become familiar with the species.</p>
Site Specific Biodiversity & Research Conditions	<p><i>Rhodamnia rubescens (Scrub Turpentine)</i></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"> the condition of these plants and the apparent presence or absence of the Myrtle Rust fungus <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 FCMapApp 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 <u>must</u> be retained (marked with "H"). Habitat trees include in order of priority:</p> <ol style="list-style-type: none"> Hollow-bearing trees where they exist '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. <p>In addition, <u>ALL</u> live trees >100 cm DBHOB must be retained (also marked with a "H")</p> <p>Nectar feed trees – minimum of 5 per ha must be retained. Suitable species include Spotted Gum, Ironbark, Bloodwood and Stringybarks (marked with "N")</p> <p>Giant trees – All must be retained - 160cm (BBT) / 140cm (all other spp) at stump height (30cm) (marked with "L")</p> <p>Dead Standing Trees – All must be retained (marked with a "D" where safe to do so)</p>

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	Glider Sap feed trees – All (to be located and marked with “E”)			
	Common Name	ID Method	MGA (E)	MGA (N)
	Yellow-bellied Glider	V-notch or other incisions	243947	6036923
	Yellow-bellied Glider	V-notch or other incisions	243628	6035869
	Yellow-bellied Glider	V-notch or other incisions	243659	6035834
	Yellow-bellied Glider	V-notch or other incisions	243865	6035684
	Yellow-bellied Glider	V-notch or other incisions	243638	6035873
	Yellow-bellied Glider	V-notch or other incisions	243654	6035834
	Yellow-bellied Glider	V-notch or other incisions	243636	6036367
	Glossy-black Cockatoo feed trees – All (marked with pink tape) 1 detected prior to 2019/2020 bushfires. If tree is no longer alive it does not need to be retained.			
	Common Name	ID Method	MGA (E)	MGA (N)
	Glossy Black-cockatoo	Crushed Cones	243738	6035290
Tree Retention Clumps	<p>FT must select and mark 5% of the BNA in compartment 146A on FCMapApp (see Harvesting Operation Details). Pink and yellow tape can also be used to physically mark the boundary if necessary to assist in contractor boundary ID. Refer to the Harvesting SOPs.</p> <p>Note that approximately 1.9ha of TRCs have been identified and approved during planning.</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	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.			
Operational Management; The HC and Harvesting Crew are responsible for the management of operations consistent with the Harvesting SOPs.				
Protection of Retained Trees	<p>Trees marked or selected for retention must not be felled or damaged. 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 <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	The crew must not remove coarse woody debris if it contains a hollow. Firewood is permitted to be removed from compartment 146A			
Accidentally Felled Trees	The crew must record each tree accidentally felled into an ESA in accordance with the Harvesting SOPs.			
Dangerous Trees	The crew must record each dangerous tree removed in accordance with the Harvesting SOPs.			

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Impenetrable Understorey	<p>Areas of Impenetrable Understorey must be mapped by the FT.</p> <p>In areas mapped as Impenetrable Understorey, the crew and FT must work closely together to ensure that the required number of retained trees are identified, retained and recorded in FCMapApp.</p>
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6. Riparian Protection

Prescription					
Drainage lines and drainage depressions in compartment 146A will be managed as per the table below.					
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 2 ESA</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)	Threatened Ecological Communities (certified)	GPS
	Tree retention clumps	Pink & Yellow Tape and/or GPS
ESA 2 (soft boundary)	Ridge & headwater habitat	GPS
	Wildlife Habitat Clumps > 2 hectares	GPS
	EZ's associated with a Threatened Ecological Community	GPS
Features identified during broad area search / harvesting	<p>Tree retention clumps and field identified ESA's will be marked on the FCMapApp.</p> <p>An additional 10m buffer zone must be put on all field identified ESAs and mapped in the <i>HFD_OSA</i> mobile feature class "OSA_Type" = "Additional 10m Buffer Zone" & the field "OSA_Description" = "Confirm with Operations Planning Manager if Exclusion Zones apply beyond July 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>	

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Other Sensitive Area Exclusion Zones	<p>The following additional temporary exclusion zones will be implemented as part of the post 2019-2020 wildfire operating conditions:</p> <ul style="list-style-type: none"> • LLA Offset Exclusion Zones – A minimum of 50% of the gross area of the LLA has been set aside from harvesting (lowest fire severity, recovered forest and other priority habitat). • Additional 10m buffer has been applied to all riparian exclusion zones (class 1 – 4+) • Additional 10m buffer has been applied to all other mapped ESAs. <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>
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8. Soil & Water

Issue	Assessment	Conditions
Inherent hazard level	2	Nil
Soil regolith types	R3	Nil
Dispersible Soils	No	Nil
Existing or potential Mass Movement hazard	No	Nil
Historical or existing erosion	Yes	Riling occurs on non-haulage sections of 146/3 Road, Mitchells Road and Kona Trail. Refer to roading plan for further details and remedial works which are to be carried out by the contractor during the operation.
Seasonality Restrictions	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.
Wet Weather and Rutting		<p>Crew is responsible for implementing automatic closures and following notified closures.</p> <p>HC is responsible for ensuring crew notified when notified closure is lifted.</p>
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.

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- 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 must be recorded 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.	6370m (9)	Yes
New roads to be constructed	0	NA
Existing crossings used	0	NA
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.	

Flora Road Management Plan	Tall Knotweed (<i>Persicaria elatior</i>)
<p>There are no known records of <i>Persicaria elatior</i> within the operational area.</p> <p>An assessment identified no suitable habitat of <i>Persicaria elatior</i> along the haulage roads within the operational area.</p> <p>Tall knotweed surveys must be completed prior to remedial works on the non-haulage sections of Mitchells Road and Kona Trail. HC must provide ecologist 2 weeks notice and must not undertake works until surveys are completed and advice provided by ecologist.</p>	

Roothing Work Summary Table – The following roads are to be constructed, upgraded or maintained in accordance with and to standards detailed within Roothing SOP's. See HC Notes documentation (on FCMapApp) for Roothing Works Completed information			
Road Name	Existing or New	Stability*	Site-specific works and other conditions
Dog Trap Rd – 1,040m <i>FCNSW responsibility</i>	Existing	Stable	<ul style="list-style-type: none"> Maintain existing lateral drainage Maintenance grade Open two relief pipes.
Mitchells Rd (haulage section) – 1150m L Tree Rd – 780m <i>Contractor responsibility</i>	Existing	Stable	<ul style="list-style-type: none"> Grade/reshape pavement with crown and outfall. Replace rollovers with alternative lateral drainage, reinstate all other existing lateral drainage and install additional drainage as required to ensure water is diverted off the road surface. Remove/lop roadside vegetation, as required
146/1 Rd– 420m 146/2 Rd – 900m 146/3 Rd (haulage section)– 1000m	Existing	Stable	<ul style="list-style-type: none"> Grade/reshape pavement with crown and outfall (includes clearing of regeneration on road pavement).

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146/4 Rd– 400m 146/5 Rd– 550m 146/6 Rd– 130m <i>Contractor responsibility</i>			<ul style="list-style-type: none"> • Reinststate existing lateral drainage and install additional drainage as required to ensure water is diverted off the road surface. • Remove/lop roadside vegetation, as required.
Non-haulage remedial road works 146/3 Rd– 200m (section east of dump 7 Kona Trail – 630m section between intersection with 146/3 Road and intersection with 146/6 Rd. This section includes two drainage feature crossings. Mitchells Road-270m section south of intersection with 146/4 Rd. This section includes one drainage feature crossing. <i>Contractor responsibility</i>	Existing	Unstable (rutted sections)	<ul style="list-style-type: none"> • Prior to works on Mitchells Road and Kona Trail HC must provide ecologist 2 weeks notice to undertake surveys for Tall Knotweed. • Reshape rutted sections. • Install trafficable rollovers as required to ensure water is diverted off the road surface onto a stable surface. • Install approach drainage between 5-30m of the drainage features on Kona trail and Mitchells Road. No in-stream crossing works are required and are not approved by this plan.

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

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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.

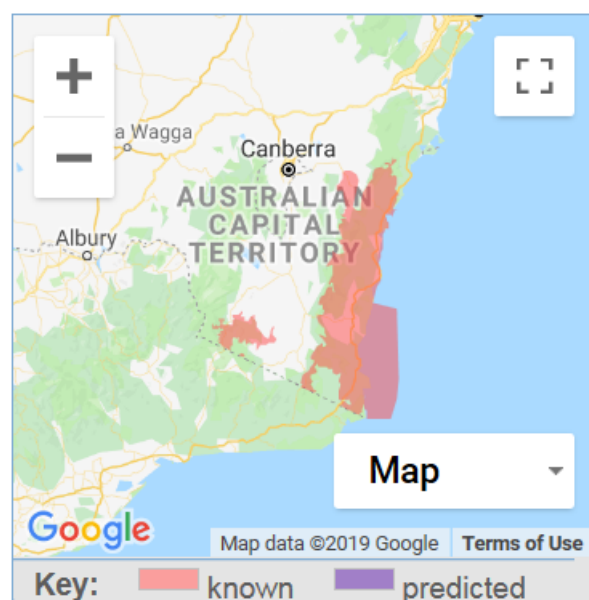
Habitat and Ecology

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

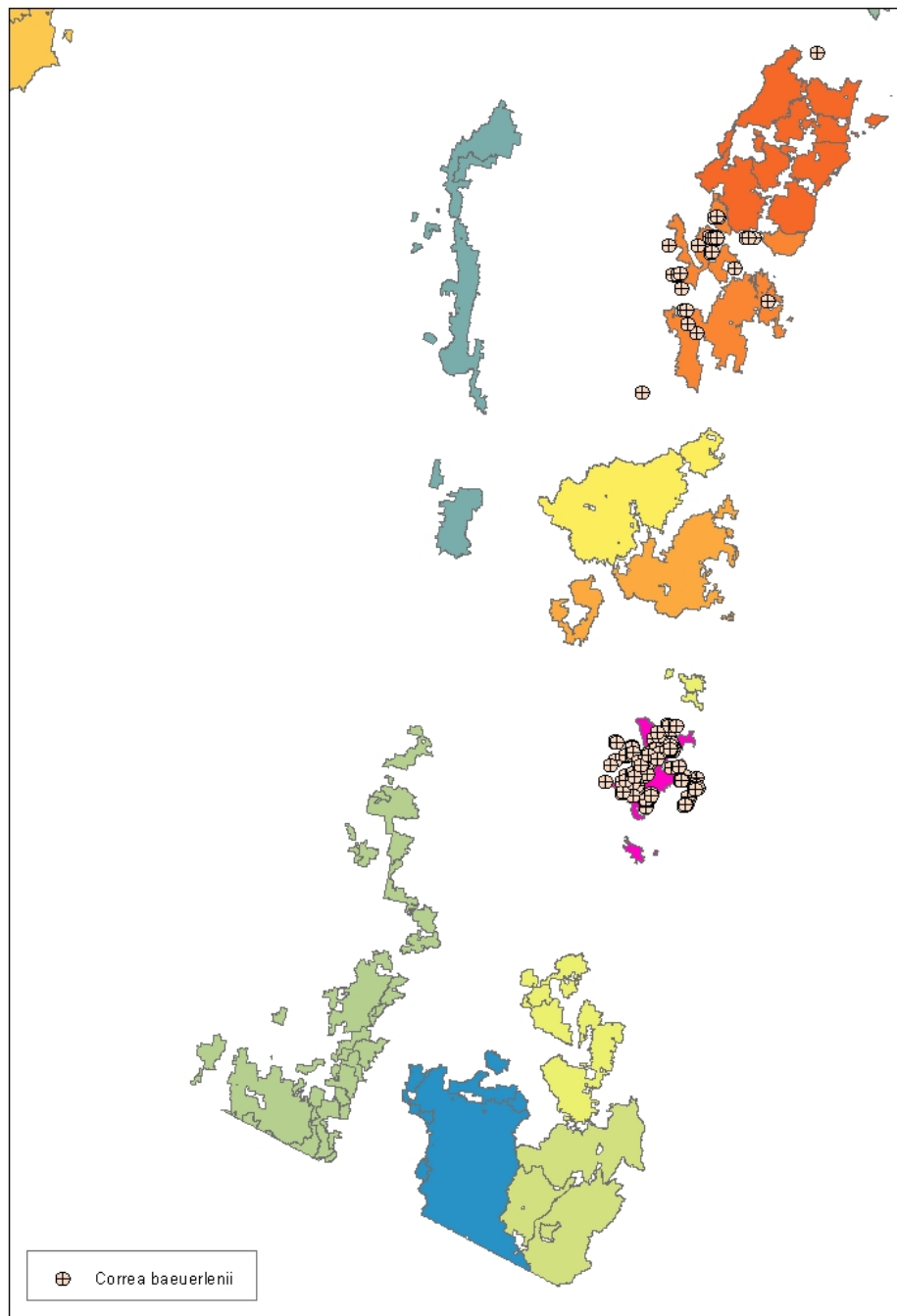


Fig 7. Known *Correa baeuerlenii* locations Southern and Eden Subregion (Refer to Appendix 7 Coastal Integrated Forestry Operations Management Zones Map)

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

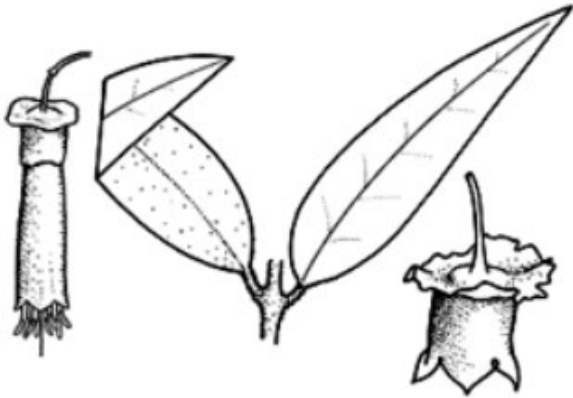
Detailed botanical description

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

East Lynne Midge Orchid

Genoplesium vernale

Prescription: SMP or 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>

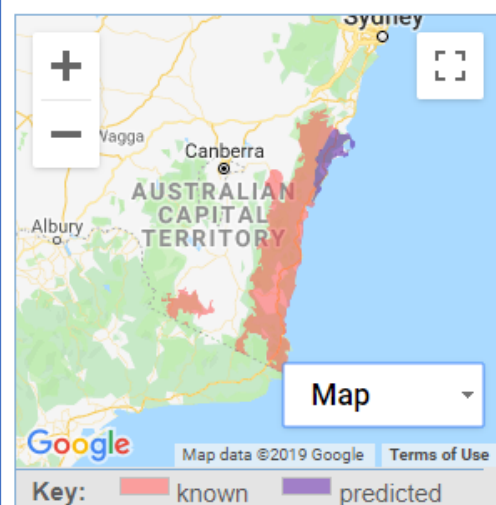
Description

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.

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.

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



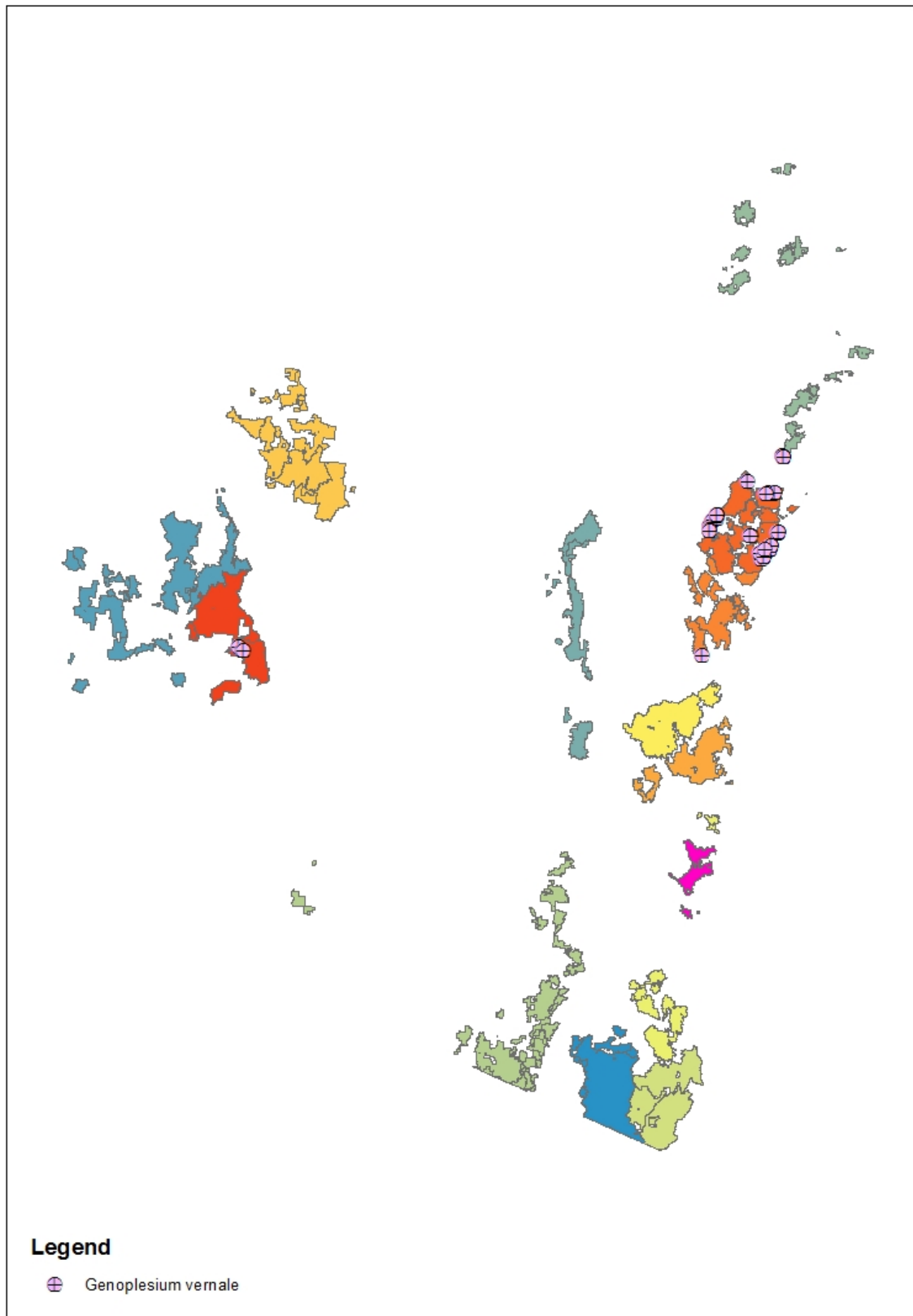


Fig 1. Known *Genoplesium vernale* locations in Southern and Eden Subregion

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.rbgsyd.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.



Tall knotweed

Persicaria elatior

Prescriptions: FRMP

Coastal IFOA Relevant Subregion: Southern Subregion and Eden Subregion

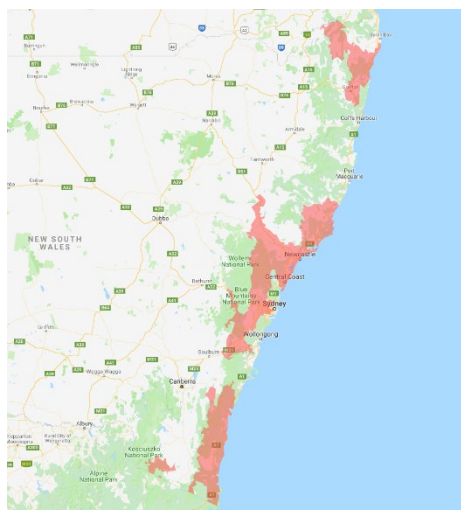
Coastal IFOA Survey Season: Anytime

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

An erect herb generally associated with damp environments and freshwater habitats. It has a covering of hairs on most surfaces which have a small globular nob on their tips.

Description

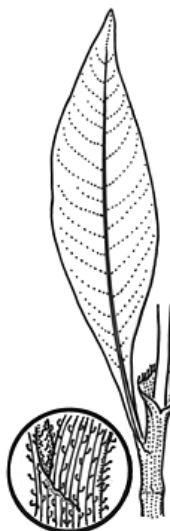
Persicaria elatior is an erect herb to 90 cm tall, with stalked, glandular hairs (i.e. they are knobbed when seen under a lens. See image) on most plant parts (Harden, 2005). Its leaves are up to 11 cm long and 30 mm wide with stalked, glandular hairs on both sides and simple hairs on the leaf margin (Harden, 2005). A sheath encircles the stem at the base of each leaf, which is characteristic of its plant family. Its tiny flowers are in long, narrow spikes to 5 cm long (Harden, 2005). The pink flower-segments are less than 4 mm long (Harden, 2005). It could be confused with *Persicaria lapathifolia*, although it consistently differs in having abundant stalked glandular hairs on stems and having branches and bracts on the inflorescence (PlantNET, 2019).



Habitat and ecology

Persicaria elatior has a scattered distribution along the NSW coastline, extending into south east QLD. In south-eastern NSW the species occurs in two geographically separate clusters; one in the tablelands surrounding Wollongong (near Robertson and Picton) and the other in more coastal areas between Batemans Bay and Bermagui. In northern NSW the species is known from Raymond Terrace and the Grafton areas. Although records of the species are rare and scattered in these areas, it has the potential to occur over a broader area.

Persicaria elatior generally occurs in damp places, often on the margin of standing water bodies, preferring sandy or alluvial soil in swampy areas. *Persicaria elatior* appears to be a short-lived herbaceous species, surviving for up to two years (Leiper 2008). Following rain, it germinates readily from seed on bare ground. Knotweed grows rapidly, flowers and sets seed within six months of germinating (Leiper 2008). Flowering mostly occurs in summer (Stanley & Ross 1983; Quinn et al. 1995). At Cornubia Wetland, populations have been observed taking advantage of exposed areas of soil following rain (made bare during dry periods) and have been found to die off following subsequent dry periods (Leiper 2008). At these sites, it competes with *Persicaria attenuata* and *Persicaria orientalis* as well as other herbaceous species such as grasses and sedge (Leiper 2008).



Bodalla Pomaderris

Pomaderris bodalla

Prescriptions: 20 m 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 South, Dampier, Eden North, Eden South East

A woody shrub, shrub up to 4 m tall, although typically smaller. The young stems have spreading rusty simple hairs. The leaves are elliptic, 2-3cm long, dark green on top and rusty grey hairs underneath

Information taken from OEH Threatened Species website on 30/04/2019

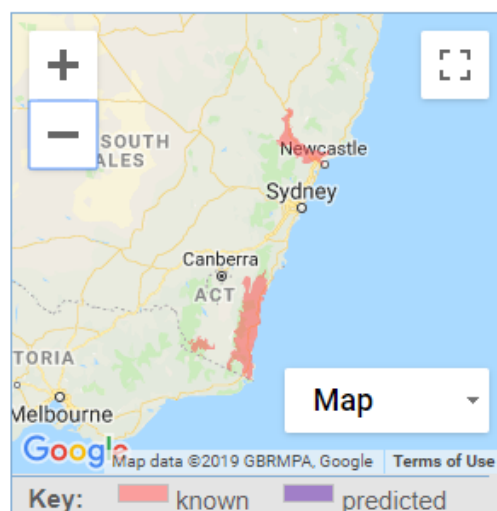
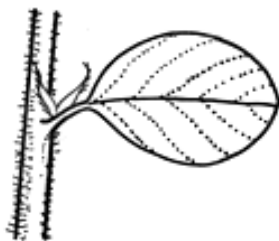
For original content go to <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20031>

Description

Bodalla Pomaderris is a shrub between 2 and 4 metres high. The young stems have spreading rusty simple hairs and dense greyish stellate hairs. The leaves are elliptic, broad-elliptic, broad-obovate to + rhombic, mostly 2-3 cm long and 12-15 mm wide. The upper leaf surface is dark green and glabrous and the lower surface has sparse spreading rusty hairs above short greyish stellate hairs. The flowers are cream and display in loose, irregular clusters.

Habitat and ecology

Bodalla Pomaderris is endemic to NSW and is currently known to occur on the south coast between Bodalla and Merimbula, and in the upper Hunter Valley near Muswellbrook. There are ten populations of Bodalla Pomaderris currently known, and a further two imprecisely described locations from which the species was collected approximately 40 years ago. The majority of populations are small with seven of the populations having estimates of less than a hundred plants each. All populations have locally restricted distributions. The largest known population is in Wollemi National Park and is unlikely to include more than one thousand plants. Bodalla Pomaderris is in the conservation reserves of Kooraban National Park on the south coast, and in Wollemi National Park and Wingen Maid Nature Reserve in the north of its range. Other populations on the south coast are located in State Forests and on private land. More research is required to locate new populations. On the south coast Pomaderris bodalla occurs in moist open forest along sheltered gullies or along stream banks. In the upper Hunter valley, it occurs in open forest or woodland on open slopes.



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