

DELINEATION of IMPORTANT HABITATS of THREATENED PLANT SPECIES in SOUTH-EASTERN NEW SOUTH WALES



RESEARCH REPORT
to the
Australian Heritage Commission

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Eucalyptus pulverulenta Sims

Family: Myrtaceae

Conservation Status: Vulnerable (Code 3V/N/54, 55)



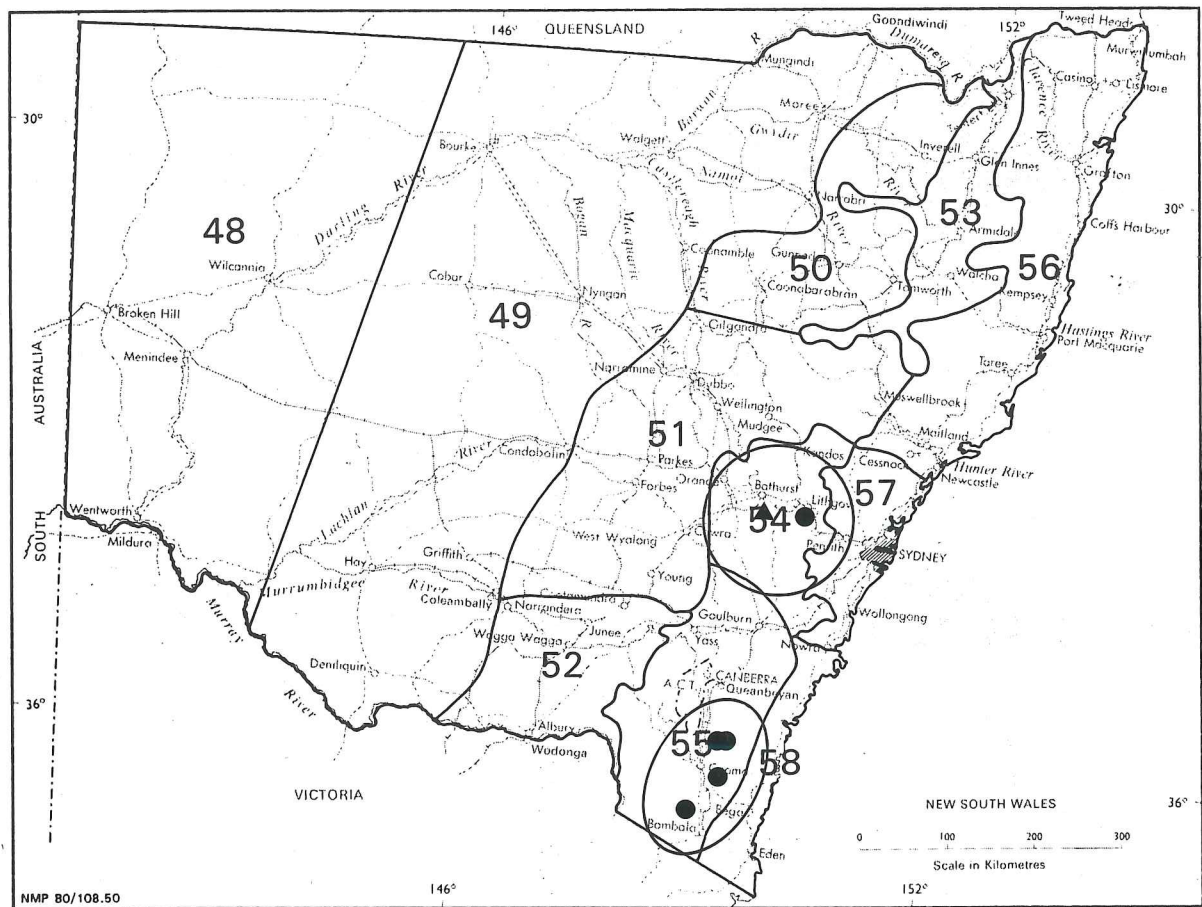
Eucalyptus pulverulenta is typically a small straggly mallee, often only growing 1.5 to 2 m high as in the case of the plant in this photo.

Description

Straggling mallee 0.5-3 m high or occasionally a small tree to 10 m high. *Leaves* almost always only present as the juvenile stage, opposite with adjacent pairs at right angles, stalkless, orbicular to ovate, up to 5 x 5 cm but usually less, blue-green and densely covered in a white waxy bloom, particularly when young. *Flowers* white, arranged in 3-flowered clusters on a common short stalk up to 9 mm long arising singly from the leaf axils. *Buds* stalkless, diamond-shaped with a conical cap, about 4 mm wide and 8 mm long and covered in a white waxy bloom. *Fruits* are woody, cup-shaped stalkless capsules about 8 mm x 8 mm. There are 3 or 4 valves about level with the summit of each capsule.

Flowering: September-November.

Distribution of *Eucalyptus pulverulenta*



= previously recorded locality not re-located in recent years.

Distribution

Eucalyptus pulverulenta has a highly disjunct distribution with a few small stands recorded in the vicinity of Bowenfels, south of Lithgow, on the New South Wales Central Tablelands and a few occurrences centred east of Bredbo on the New South Wales Southern Tablelands. Relatively recently the known range of the species on the Southern Tablelands has been significantly extended with the discovery of populations 18 km south-east of Cooma and 25 km west-north-west of Bombala.

During the current survey only the Southern Tablelands populations were surveyed. A total of 9 sites were documented (some sites included more than one stand of the species) with populations ranging from 30 to 800 individuals. The total southern population was ascertained to be about 2,300 plants. Efforts were made to locate all recorded and reported occurrences of the species and limited searches were made in other areas of similar habitat. It is likely that other occurrences of the species will eventually be discovered within relatively inaccessible terrain which occurs near some of the southern localities.

The small number of recorded localities and observations of two small stands near Mt Blaxland by J.D.B. some years ago indicate that the northern populations are likely to be significantly smaller and more threatened than those to the south.

Habitat Summary

The southern populations occur in shallow sandy or gravelly loams over shales and sedimentary rock on the crests or upper slopes of moderately steep hillsides. Plants occur on all aspects in *Eucalyptus* (rarely *Acacia* - *Callitris*) low-woodland.

Threats Summary

Most of the Southern Tablelands stands occur on private property or Crown leasehold and none are formally reserved. Several of the known stands occur close to sites of mining and mining exploration and some are adjacent to fire trails. Such sites are vulnerable to localised disturbances associated with those developments. The confirmation of the relatively extensive populations south-east of Mt Dowling and south-east of Cooma has significantly improved the Conservation Status of the species and it is now regarded as a borderline case for transferring to the Rare Category.

If further populations can be located or if the areas of at least some of the known stands can be incorporated as nature reserves then its Conservation Status will be amended to Rare.

Reservation

Not reserved.

Cultivation

The species is readily propagated from seed and a total of 7 plants originating from 4 individuals are established at the Australian National Botanic Gardens, Canberra (M. Richardson, pers. comm.). *Eucalyptus pulverulenta* is a commonly planted ornamental in Canberra and other Tableland areas. Hall (1972) reported that it has also been a popular ornamental in California where it has proved very frost-hardy.

Recommendations Summary

Formal reservation of some of the larger stands (i.e. Sites 1, 2 and 7) is desirable for the longer term conservation of the species and Conservation Agreements between the landowners and the New South Wales National Parks and Wildlife Service for Sites 3, 4 and 5 would also be beneficial. Sites 1-5 and 7 and 8 have been nominated for inclusion on the Register of the National Estate.

SITE DETAILS

Site 1 - Dowling Fire Trail North Site

Latitude and Longitude: (range) 35° 58' 20", 149° 18' 20" to 35° 57' 30", 149° 18' 30".

Altitude: 900-1050 m.

Location: On several ridges and slopes to the west of the Dowling Fire Trail between 3.5 and 4.5 km by track south-east of Mt Dowling. The nominated site is bounded by straight lines joining the Whinstone 1:25,000 map sheet 8726-11-S grid reference points 077168-08101713-07401733-075177-077178-080184-08351840-085181-083173-08401715-07851665-077168. (See map page 59).



Looking south along Dowling Fire Trail which runs along the eastern edge of Site 1. This area was burnt in a wildfire in February, 1987. The conspicuous blue foliage of a single regenerating *E. pulverulenta* plant can be seen to the right of the track in mid-photo.

Land Status: Apparently Crown leasehold.

Area: Approximately 50 ha.

Population: About 800 mature plants and a few seedlings.

Habitat

Soil: Skeletal brown silt-loam.

Substrate: Finely broken brown shale.

Topography: Moderately to steeply sloping ridges and upper hillsides in hilly terrain.

Aspect: Predominantly westerly but occurring on all aspects.

Vegetation: *Eucalyptus macrorhyncha* - *E. dives* - *E. rossii* woodland with a shrub understorey including *Acacia armata*, *A. falciformis*, *A. dealbata*, *A. buxifolia*, *A. pycnantha*, *Parahebe perfoliata*, *Indigofera australis*, *Cassinia aculeata*, *Hardenbergia violacea*, *Daviesia ulicifolia*, *Hibbertia obtusifolia*, *Pimelea linifolia*, *Dianella revoluta*, *Lomandra longifolia*, *Gonocarpus* sp. and *Danthonia* sp.

Threat: Although the area is being used for rough grazing by cattle, present low stocking rates are not having a significant impact on the *E. pulverulenta*

plants. Almost the entire population of *E. pulverulenta* at this site was burnt during a wildfire on February 2, 1987. However, the plants have regenerated vigorously following that event and in the short term may have been favoured through the temporary thinning of the overstorey canopy.

Whilst *E. pulverulenta* appears secure in this area under the present management regime, it must be considered at some risk in the longer term due to uncertainties over future land ownership, development and management.



Vigorously regenerating *E. pulverulenta* plants which were burnt during a wildfire in February 1987.

Recommendation

This is the largest of the known southern populations and should be included with Site 2 in a formal reserve for the species. The site has been nominated for inclusion on the Register of the National Estate.

Survey Date: 29/7/88.

Voucher Specimen: J.D.B. and A.V. Snee No. 2330.

Site 2 - Dowling Fire Trail South Site

Latitude and Longitude: 35° 58' 40", 149° 18' 50".

Altitude: 900-980 m.

Location: On several ridges and slopes on both sides of the Dowling Fire Trail between 4.8 and 5.7 km by track south-east of Mt Dowling. The nominated site is defined by straight lines joining the Whinstone 1:25,000 map sheet 8726-11-S grid reference points 086157-08201635-08351695-08551690-08801695-08901675-08631670-0881164-091165-092158-08851560-086157. (See map page 59).



A typical ridge and hillside supporting *E. pulverulenta* at Sites 1 and 2. This area was burnt in a wildfire in February 1987 and was still regenerating following that event in August, 1988 when the photo was taken.

Land Status: Apparently Crown leasehold, but possibly private freehold.

Area: About 40 ha.

Population: About 200 mature plants and a few seedlings.

Habitat

Soil: Shallow brown silt-loam.

Substrate: Shale.

Topography: Ridges and hillsides of moderate slope in hilly terrain.

Aspect: Predominantly westerly and southerly but occurring on all aspects.

Vegetation: *Eucalyptus macrorhyncha* & *E. rossii* woodland with shrub understorey including *Acacia armata*, *A. falciformis*, *Pomaderris eriocephala*, *Indigofera australis*, *Olearia iodochroa*, *Daviesia ulicifolia* and *Poa sieberiana*.

Threat: As for Site 1.

Recommendation

This site has been nominated for inclusion on the Register of the National Estate and should be included with Site 1 in a formal reserve for the species.

Survey Date: 29/7/88.

Voucher Specimen: J.D.B. and A.V. Slee No. 2331.

Site 3 - Waanyarra

Latitude and Longitude: 35° 59' 55", 149° 13' 25".

Altitude: 750-770 m.

Location: 'Waanyarra' station, 32 km directly south-east of Bredbo. Near the western boundary 800 m south from the Cowra Creek road. The nominated site is bounded by a circle of radius 100 m centred on the Bredbo 1:25,000 map sheet grid reference point 0037513850. (See map page 60).

Land Status: Private freehold.

Area: 1.5 ha.

Population: 310 mature plants, many small and of low vigour. There are also a few seedlings.

Habitat

Soil: Shallow brown sandy loam.

Substrate: Finely broken shale and sedimentary rock.

Topography: Crest and upper slopes of spur in hilly terrain.

Aspect: West, south-west and south.

Vegetation: *Eucalyptus mannifera* - *E. dives* - *E. bridgesiana* woodland with sparse understorey including *Oxylobium ellipticum*, *Hibbertia obtusifolia*, *Bursaria spinosa*, *Leucopogon attenuatus*, *Dodonaea boronifolia*, *Cassinia aculeata*, *Themeda triandra*, *Dichelachne* sp. and *Cheilanthes* sp.



Looking north-west across part of Site 3. Over most of this site the *E. pulverulenta* plants are spindly sparsely-foliaged understorey shrubs.

Threats: Although the current landowner, C. Scheele (pers. comm.) has expressed a desire to protect this population, the site is vulnerable to future land clearing should there be a change to a less sympathetic owner.

Recommendations: This site has been nominated for inclusion on the Register of the National Estate. Formal protection of this site might best be achieved through a Conservation Agreement between the owner and the National Parks and Wildlife Service similar to that possible under the Heritage Agreement Scheme in South Australia.

Survey Date: 11/8/88.

Voucher Specimen: Not collected, but other collectors have recorded this population.

Site 4 - Cappawidgee

Latitude and Longitude: 35° 59' 55", 149° 13' 15".

Altitude: 750-760 m.

Location: 'Cappawidgee' station, 32 km direct south-east of Bredbo. Near the eastern boundary 800 m south from the Cowra Creek road. The

nominated site is defined as a circular area of radius 100 m centred on the Bredbo 1:25,000 map sheet 8726 grid reference point 00451385. (See map page 60).

Land Status: Private freehold.

Area: 1 ha.

Population: 170 mature plants. No seedlings seen.

Habitat: Very similar to Site 3.

Threat: Although the area is unlikely to be cleared because of its steep rocky nature it is subject to heavy grazing by sheep and little of the native understorey remains. New individuals are unlikely to be recruited at this site whilst current grazing practices continue.

Recommendation: As for Site 3.

Survey Date: 11/8/88.

Voucher Specimen: J.D.B. and A.V. Snee No. 2338.

Site 5 - Mount Forest

Latitude and Longitude: (range) 36° 16' 40", 149° 19' 30" to 36° 11' 08", 149° 19' 30".

Altitude: 860-930 m.

Location: Range of hills 1.2 km directly north-east of 'Mount Forest' Homestead, 18.5 km directly east-south-east of Cooma. Two adjacent areas were nominated, one defined by straight lines joining the Kybean 1:25,000 map sheet 8725-11-N grid reference points 087823-087830-090830-090823-087823 and the other a circular area of radius 100 m centred on the grid reference point 089821. (See map page 61).

Land Status: Private freehold.

Area: 10 ha.

Population: 400 mature plants and a few seedlings.

Habitat

Soil: Skeletal dark-brown sandy to gravelly loam.

Substrate: Grey shale.

Topography: Steep, often rocky upper slopes in hilly terrain.

Aspect: Found on all aspects.

Vegetation: *Eucalyptus* woodland including various associations of *E. rossii*, *E. dives*, *E. macrorhyncha* and *E. sieberi*. The woodland has a sparse shrub understorey including *Platysace lanceolata*, *Acacia rubida*, *Daviesia mimosoides*, *Dillwynia sericea*, *Parahebe perfoliata*,

Dianella revoluta, *Lomandra longifolia*, *Brachyloma daphnoides*, *Melichrus urceolaris* and *Poa sieberiana*.



Woodland habitat of *E. pulverulenta* at Site 5.

Threats: No immediate threats identified.

Recommendations: This is the second most extensive occurrence of *E. pulverulenta* found during the survey. It is desirable that this area be formally protected, either through land purchase by the New South Wales National Parks and Wildlife Service as a nature reserve or through a Conservation Agreement between the Service and the landholders.

Survey Date: 29/6/88.

Voucher Specimens: J.D.B. and A.V. Slee Numbers 2324, 2325 and 2326.

Site 6 - Cowra Creek

Latitude and Longitude: 36° 00' 40", 149° 18' 30" to 40".

Altitude: 840-880 m.

Location: Two stands, the first 200 m west and the other 650 m west along the fire trail from the old Cowra Creek mining settlement. The first stand is

encompassed by a circle of radius 60 m centred on the Cowra Creek 1:25,000 map sheet 8725-1-N grid reference point 08251250 and the second stand is encompassed by a circle of radius 50 m centre on the grid reference point 0831243. (See map page 62).

Land Status: Either Crown leasehold or private freehold.

Areas: 0.5 ha and 0.3 ha.

Population: Two stands, one with 125 and the other with 15 mature plants. A few seedlings were present in each stand.

Habitat

Soil: Brown sandy loam with quartzite stones.

Substrate: Brown shale.

Topography: Upper slopes of moderately steep hillsides in hilly terrain.

Aspect: South-east.

Vegetation: *Eucalyptus mannifera* - *E. dives* - *E. macrorhyncha* woodland with a shrub understorey including *Oxylobium ellipticum*, *Acacia rubida*, *Bursaria spinosa*, *Cassinia aculeata*, *Pultenaea procumbens*, *Daviesia ulicifolia*, *Leucopogon attenuatus*, *Grevillea lanigera*, *Parahebe perfoliata*, *Poa sieberiana* and *Danthonia pallida*.

Threats: Both stands are transected by a fire trail. Any widening of this trail is likely to destroy *E. pulverulenta* plants. These two stands are the best known and most frequently visited and are subject to heavy seed collection, as evidenced by a lack of fruit capsules on the plants. The site is within an area which has been and continues to be subject to much small scale gold mining and mining exploration. The *E. pulverulenta* stands are vulnerable to localised disturbances associated with the activities.

Survey Date: 11/8/88.

Voucher Specimen: J.D.B. and A.V. Slee No. 2334.

Site 7 - Merriangaah East

Latitude and Longitude: 36° 49' 44", 149° 00' 02".

Altitude: 760-810 m.

Location: Two adjacent stands 0.9 km south-west of the boundary of Merriangaah Station, on the track to Merriangaah Trig, then 100 m down spur running to the west to the first stand and 250m down the spur to the second

stand. (4.5 km directly east-north-east of the junction of the Snowy and Delegate Rivers). The nominated site is a circular area of radius 150 m centred on the Bukalong 1:25,000 map sheet 8724-111-N grid reference point 78452223. (See map page 63a and 63b).

Land Status: Crown land.

Area: 0.5 ha and 0.25 ha.

Population: 200 mature plants in the larger stand and 50 mature plants in the smaller stand. A few seedlings were present in both stands.

Habitat

Soil: Brown sandy loam.

Substrate: Metamorphosed sediments.

Topography: Upper to lower parts of a steeply sloping spur in hilly terrain.

Aspect: West-north-west to west-south-west.

Vegetation: *Callitris endlicheri* - *Acacia glaucescens* woodland with shrub understorey including *Cassinia* sp., *Pomaderris racemosa*, *Cryptandra* sp., *Olearia lirata* and *Lepidosperma lineare*.



Eucalyptus pulverulenta in the understorey at Site 7. The bluish green shrubs behind the *E. pulverulenta* in this photo are *Acacia glaucescens*.

Threat: No immediate threat identified.

Recommendations: This site has been nominated for inclusion on the Register of the National Estate. It, together with Site 8, is the most southerly recorded occurrence for the species and it is desirable that the site and some surrounding Crown land be dedicated as nature reserve so as to formally protect the species.

Survey Date: 27/10/88.

Voucher Specimen: J.D.B. and A.V. Slee No. 2439.

Site 8 - Merriangaah West

Latitude and Longitude: 36° 50' 00", 148° 59' 44".

Altitude: 700-740 m.

Location: 2.1 km south-west of the boundary of 'Merriangaah' Station on track to 'Darema' Station, then 100 m down spur running to the north-west (3.4 km direct east-north-east of the junction of the Snowy and Delegate Rivers). The site is encompassed by a circle of radius 100 m centred on the Tombong 1:50,000 map sheet 8624-11 & 111 grid reference point 77552170. (See map page 63a).



The hillside supporting the small stand of *E. pulverulenta* at Site 8. The *E. pulverulenta* plants are not visible in this photo.

Land Status: Crown land.

Area: 0.4 ha.

Population: 30 mature plants. No seedlings seen.

Habitat

Soil: Brown loam with finely broken shale.

Substrate: Metamorphosed sediments.

Topography: Upper slope of steep hillside in hilly terrain.

Aspect: North-west.

Vegetation: *Eucalyptus sieberi* - *E. dives* - *Acacia glaucescens* woodland with shrub understorey including *Eriostemon trachyphyllus*, *Platysace lanceolata*, *Cassinia* sp. and *Lepidosperma lineare*.

Threat: None identified.

Recommendation: As for Site 7.

Survey Date: 27/10/88.

Voucher Specimen: J.D.B. and A.V. Slee No. 2443.

Site 9 - Innaloy Fire Trail

Latitude and Longitude: 36° 01' 30" to 42", 149° 18' 42".

Altitude: 890-900 m.

Location: Two adjacent stands, one 1.6 km south, and the other 1.95 km south on Inaloy Fire Trail from its junction with Cowra Creek. The first stand is encompassed by a circle of radius 60 m centred on the Cowra Creek 1:25,000 map sheet 8725-1-N grid reference point 08401095 and the other is encompassed by a circle of radius 60 m centred on the grid reference point 08301064. (See map page 62).

Land Status: Crown leasehold or private freehold.

Area: 0.5 ha and 0.3 ha.

Population: A larger stand of 40 mature plants and a smaller stand of 22 mature plants. A few seedlings were present in both stands.

Habitat

Soil: Skeletal brown sandy loam.

Substrate: Shale.

Topography: Ridge top and upper slope of moderately steep hillside in hilly terrain.

Aspect: North-east.

Vegetation: *Eucalyptus mannifera* - *E. macrorhyncha* woodland with open understorey including *Acacia rubida*, *A. genistifolia*, *A. boormanii*, *Leucopogon attenuatus*, *Pultenaea procumbens*, *Brachyloma daphnoides*, *Daviesia genistifolia*, *Hibbertia obtusifolia*, *Cassinia aculeata*, *Melichrus urceolatus*, *Dianella revoluta*, *Dillwynia sericea* and *Poa sieberiana*.

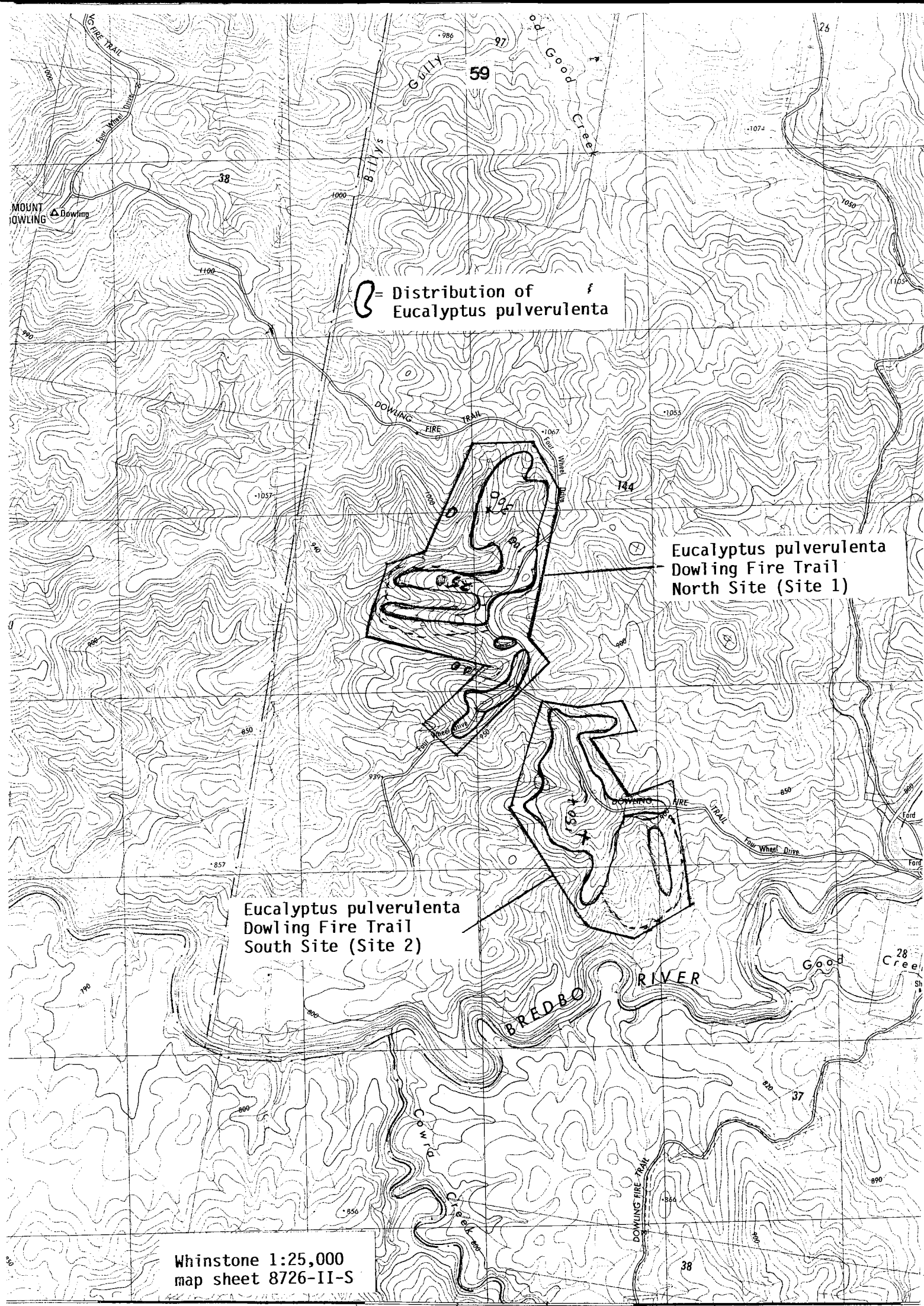


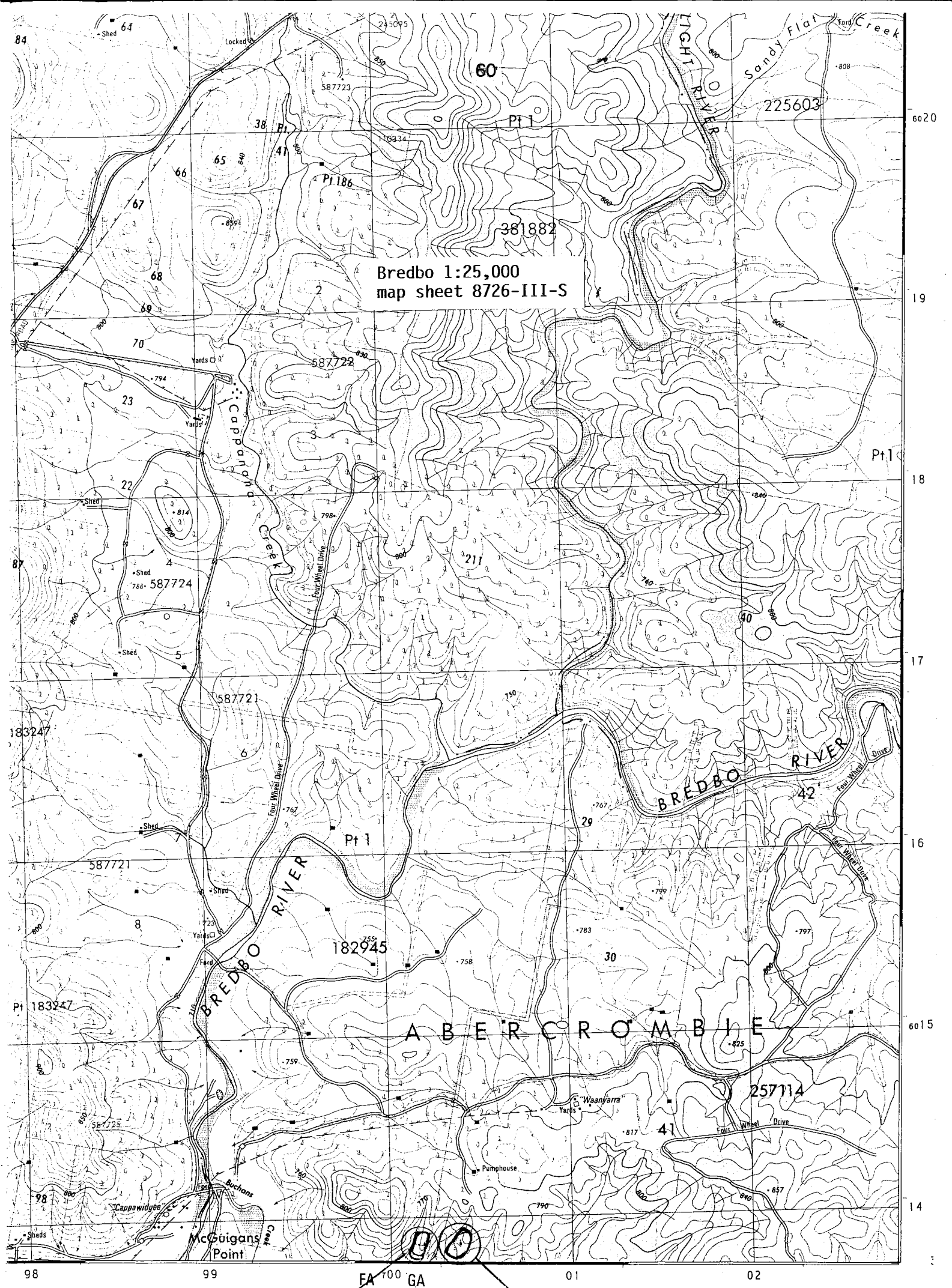
Eucalyptus pulverulenta at Site 8.

Threat: As for Site 6.

Survey Date: 11/8/88.

Voucher Specimen: J.D.B. and A.V. Slee No. 2337.





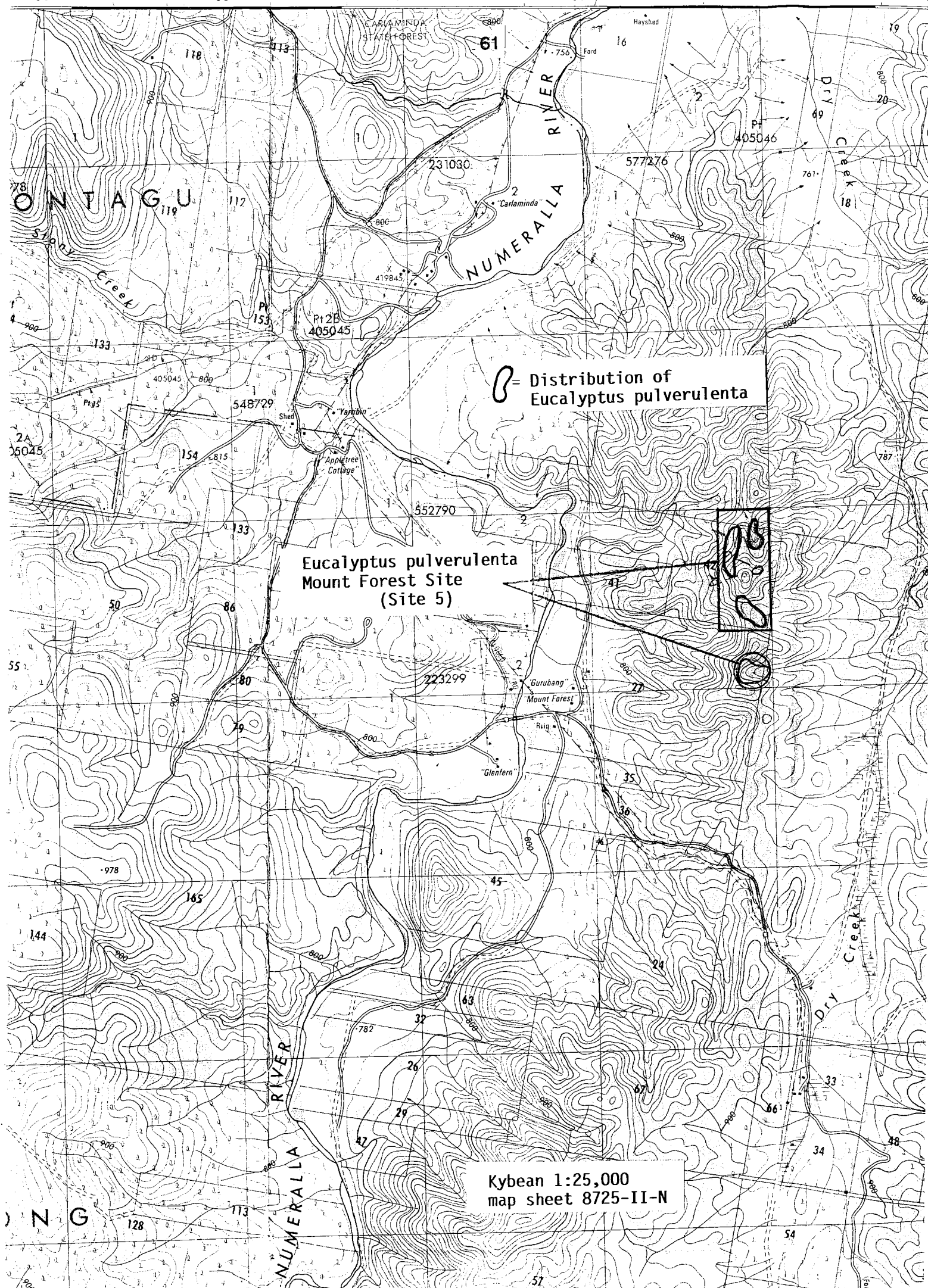
Bredbo 1:25,000
map sheet 8726-III-S

ABERCROMBIE

Eucalyptus pulverulenta
Cappawidgee Site (Site 4)

Eucalyptus pulverulenta
Waanyarra Site (Site 3)

149° 15' 00



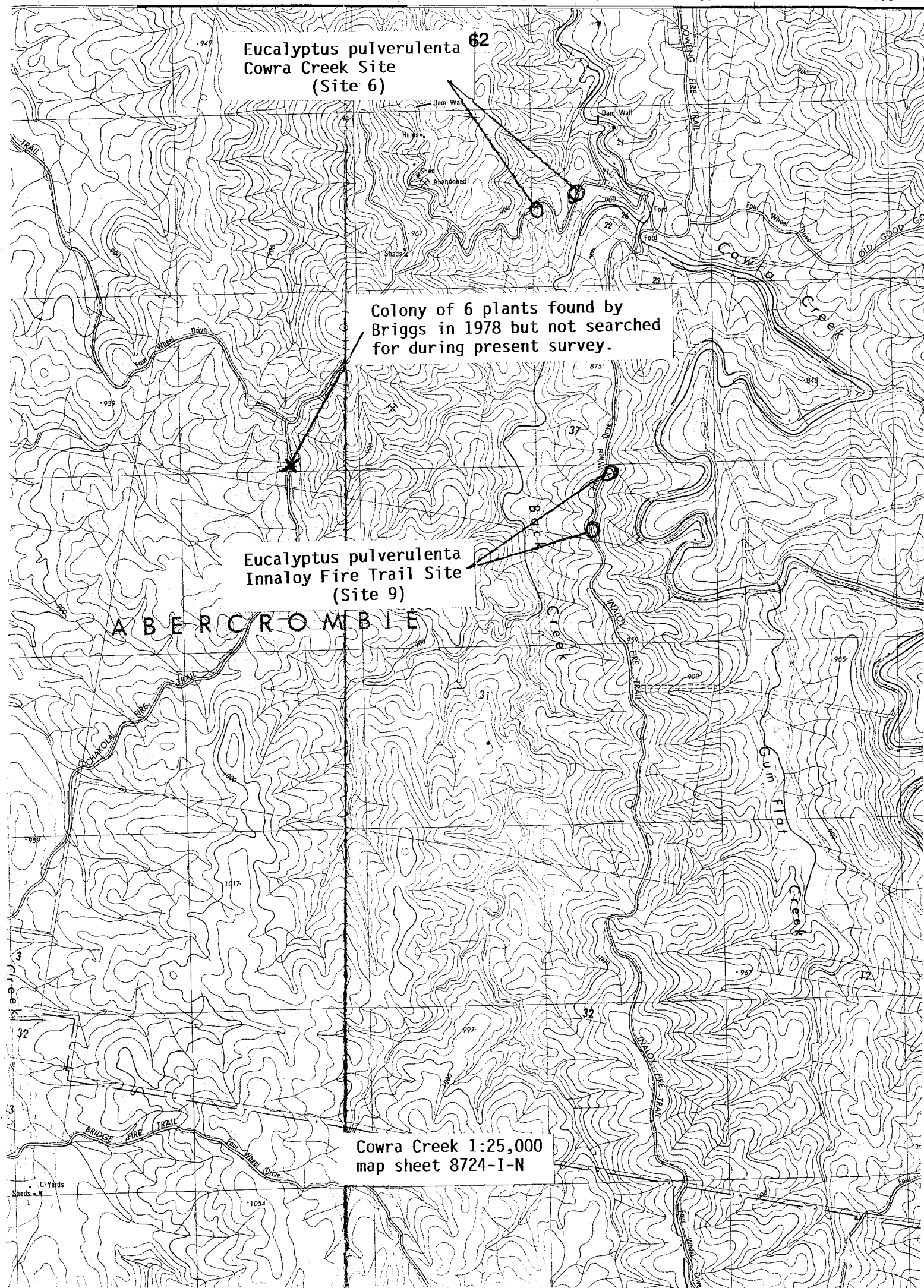
Eucalyptus pulverulenta 62
Cowra Creek Site
(Site 6)

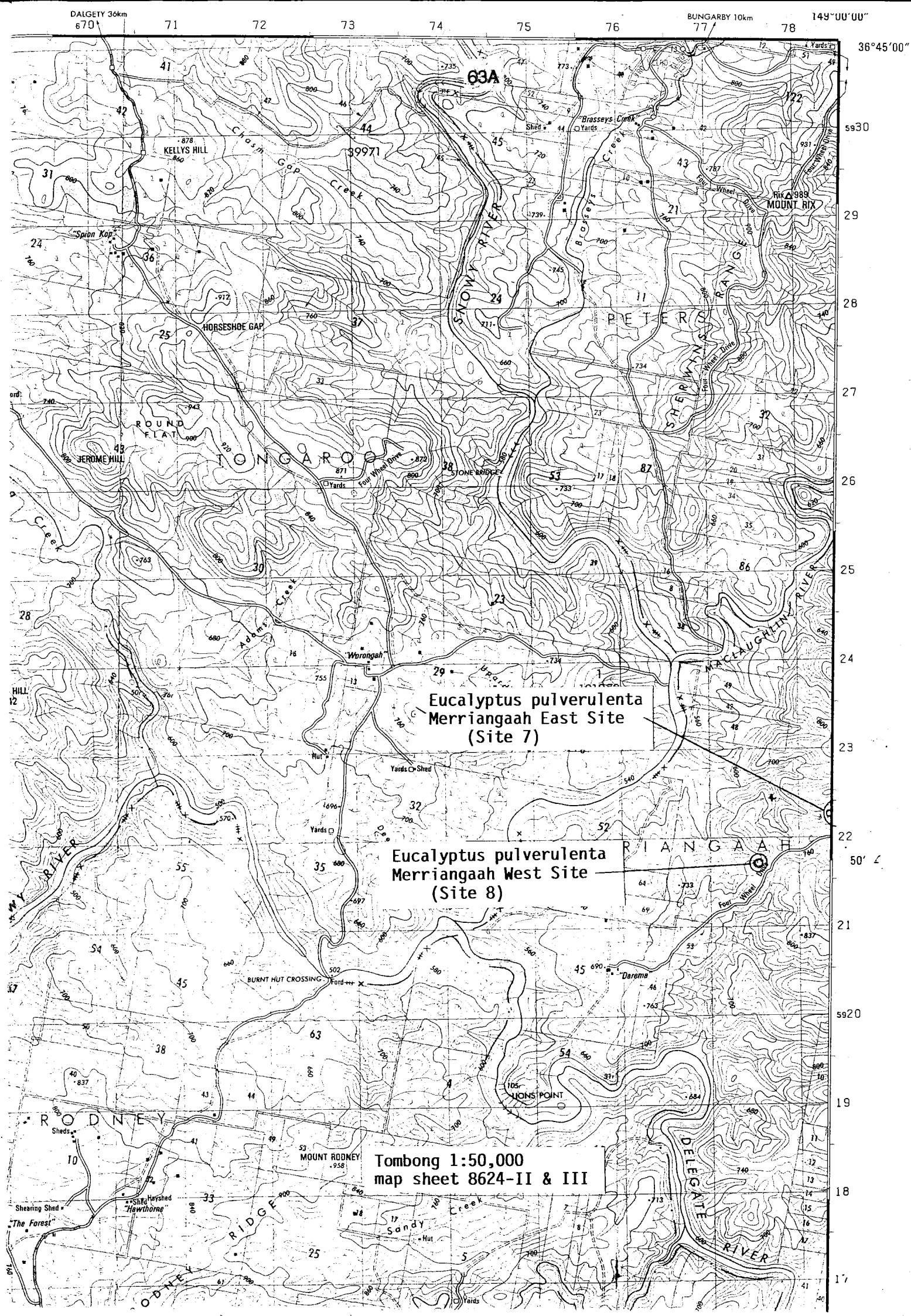
Colony of 6 plants found by
Briggs in 1978 but not searched
for during present survey.

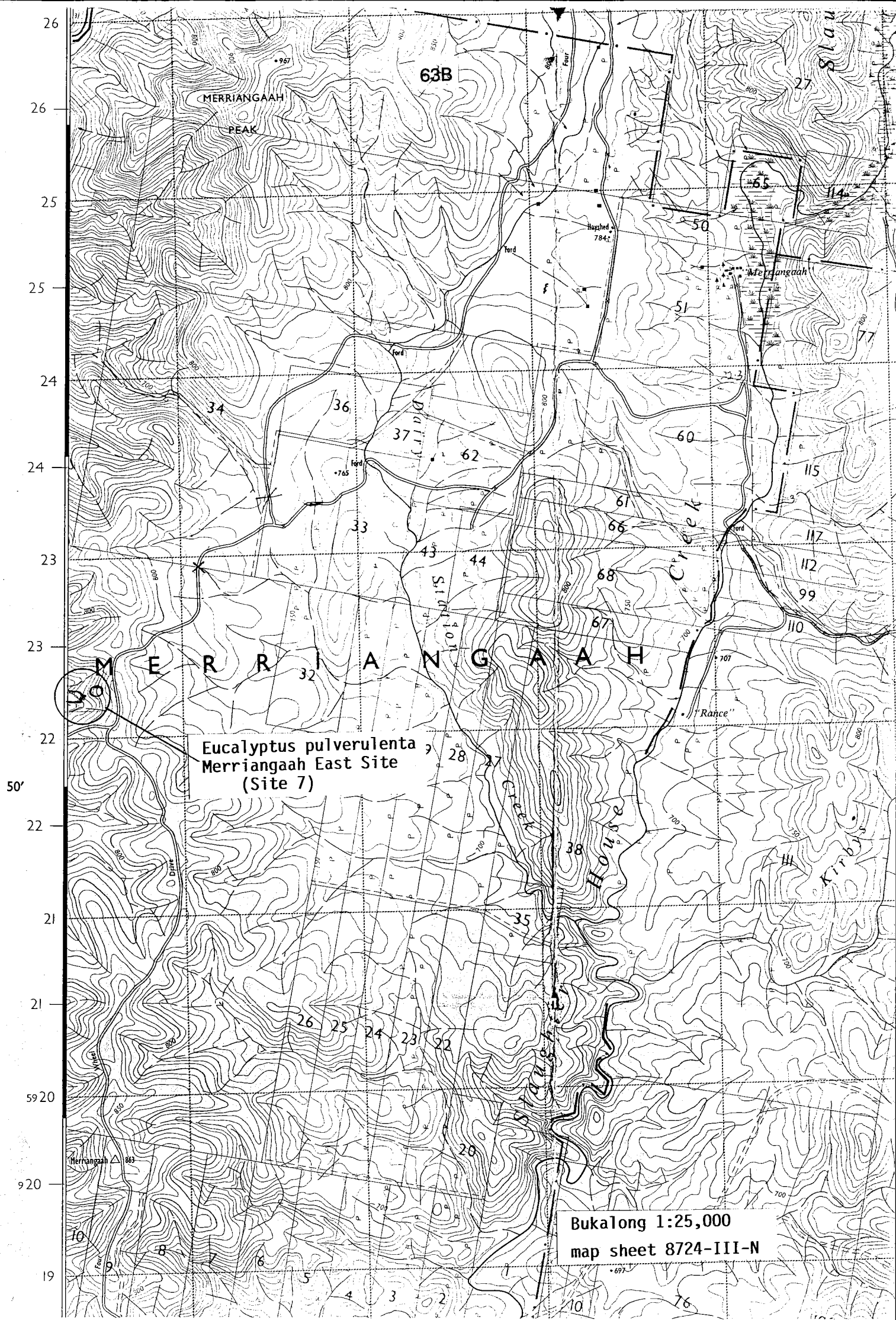
Eucalyptus pulverulenta
Innaloy Fire Trail Site
(Site 9)

ABERCROMBIE

Cowra Creek 1:25,000
map sheet 8724-I-N







Eucalyptus pulverulenta,
Merriangaah East Site
(Site 7)

Bukalong 1:25,000
map sheet 8724-III-N