



## THE FLORA OF THE HUNTER VALLEY

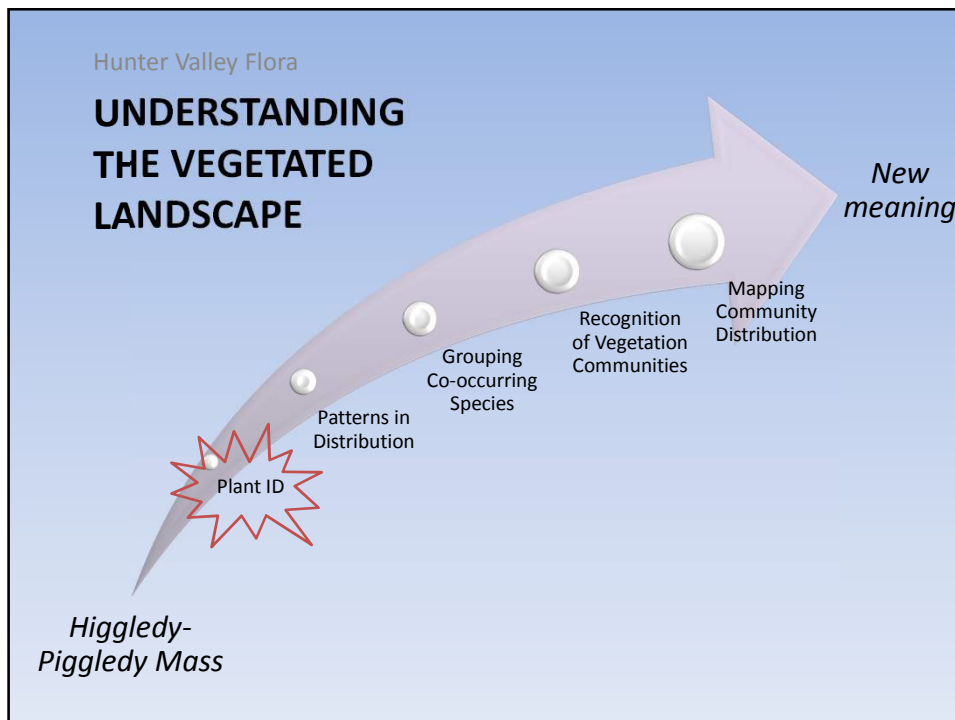
History, Ecology, Diversity

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*Eastcoast Flora Survey*

### Hunter Valley Flora

*“The vegetated landscape .... on first appearance presents a bewildering display of living matter, a **higgledy-piggledy mass of trunks, leaves, branches, shrubs and grasses seemingly without form ....** By the application of a systematic approach to viewing vegetation the bewildering display of **plant life can take on new meaning** .... Suddenly the jumble of plant life reveals structures and beauties probably hitherto unseen”.*

Ian Read, *The Bush: A Guide to the Vegetated Landscapes of Australia*, 1987.



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## HISTORY, ECOLOGY, DIVERSITY ...

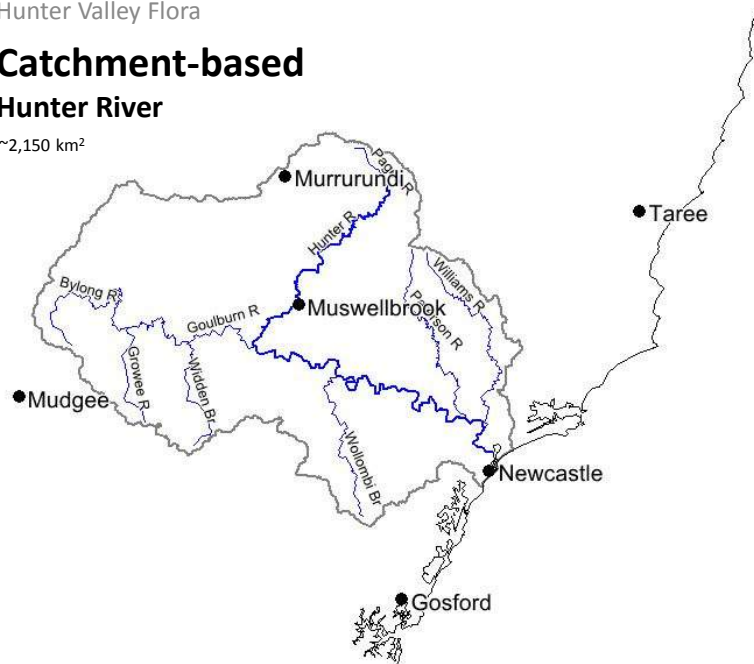
1. What is the Hunter Valley?
2. How does the environment affect plant distribution?
3. What is the history of survey and mapping in the HV?
4. How many vegetation communities are there in the HV?  
How many are threatened?
5. How many species are there in the HV? How many are threatened? Are any endemic?
6. Are there more new species to be found?
7. Can we still add to knowledge?

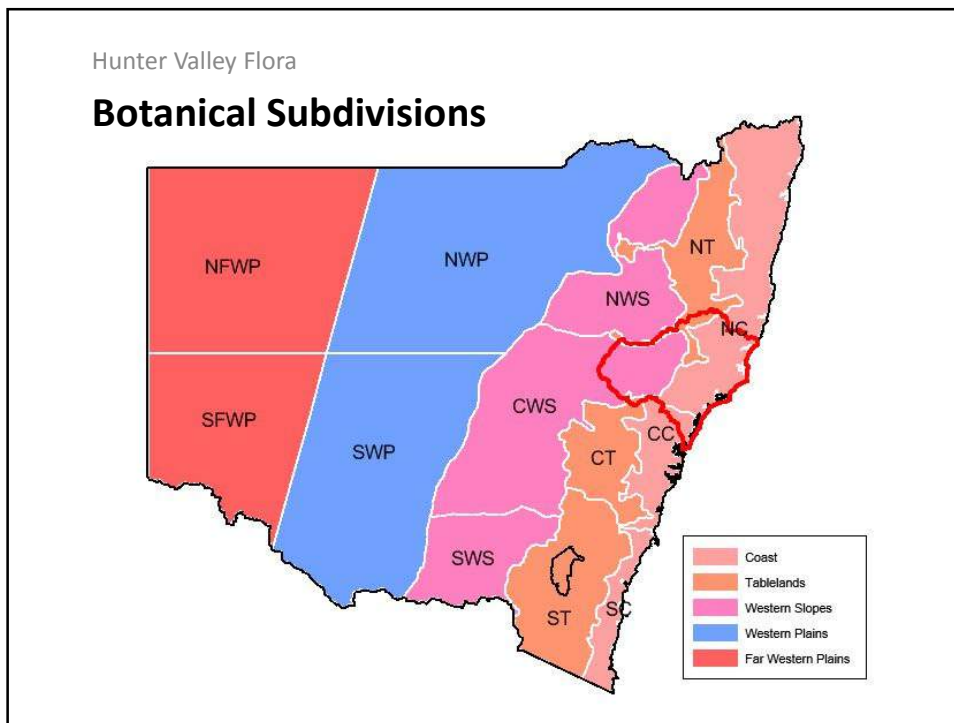
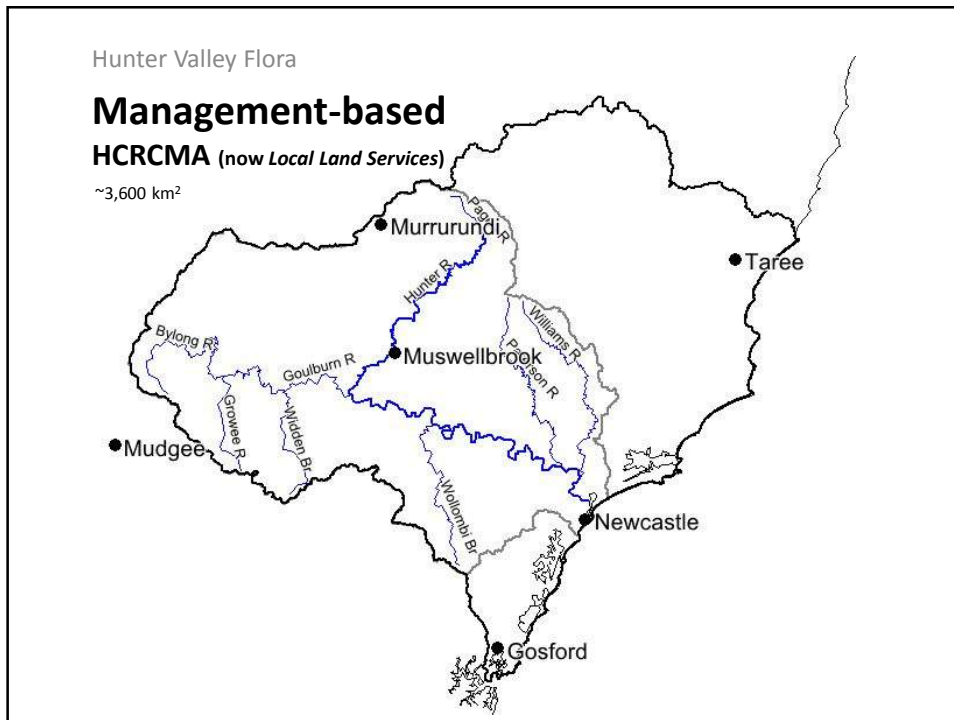
# 1. WHAT IS THE HUNTER VALLEY?



## Catchment-based Hunter River

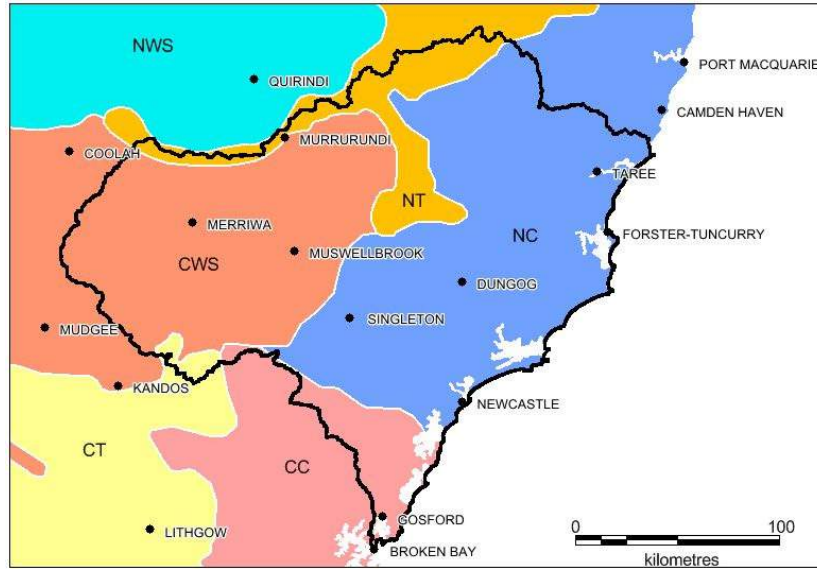
~2,150 km<sup>2</sup>





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## Hunter Botanical Subdivisions

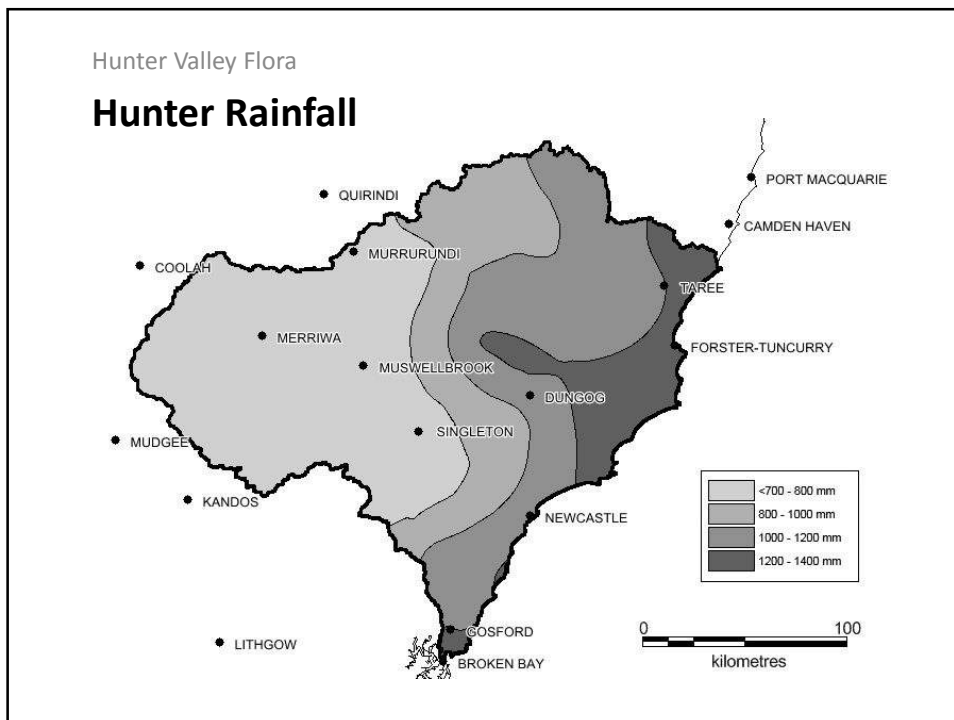
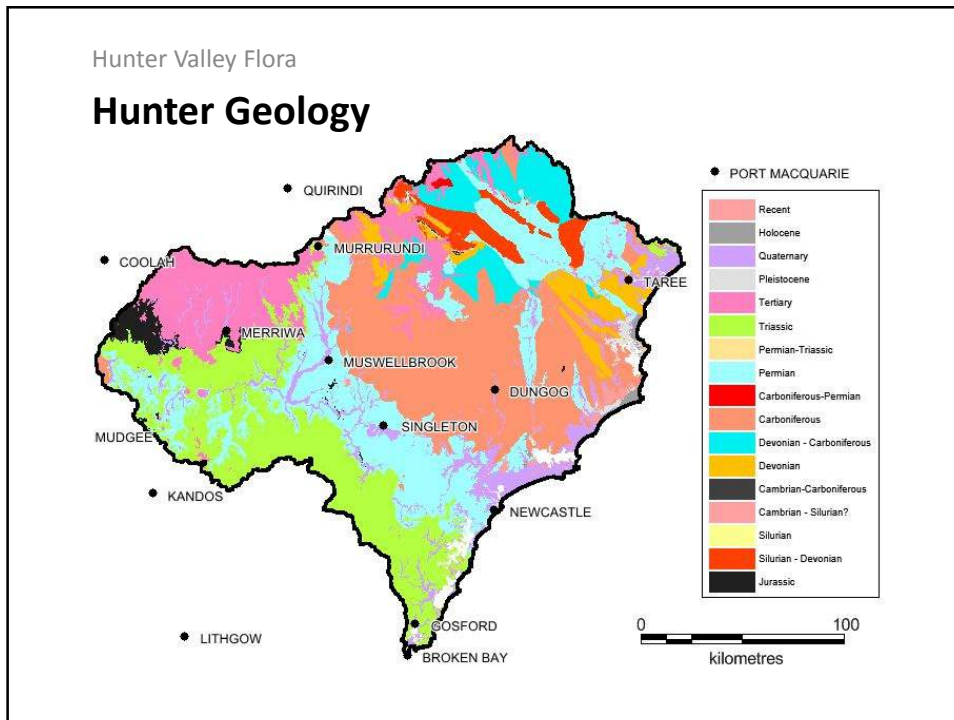


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## 2. ROLE OF THE ENVIRONMENT?



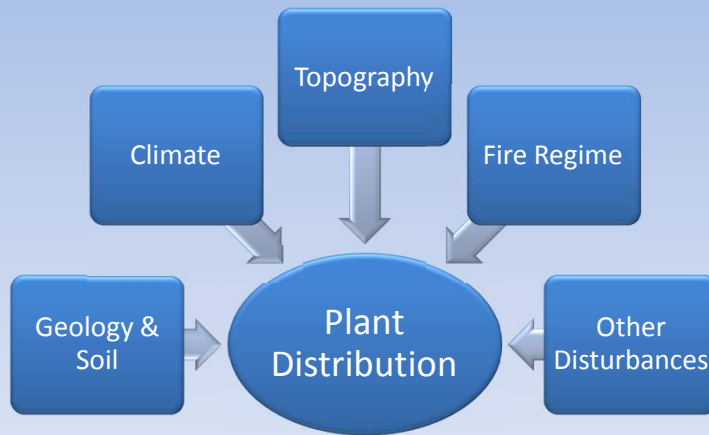
Twelve Mile Creek, Port Stephens





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## Environment governs plant distribution



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## 3. HISTORY OF SURVEY & MAPPING?





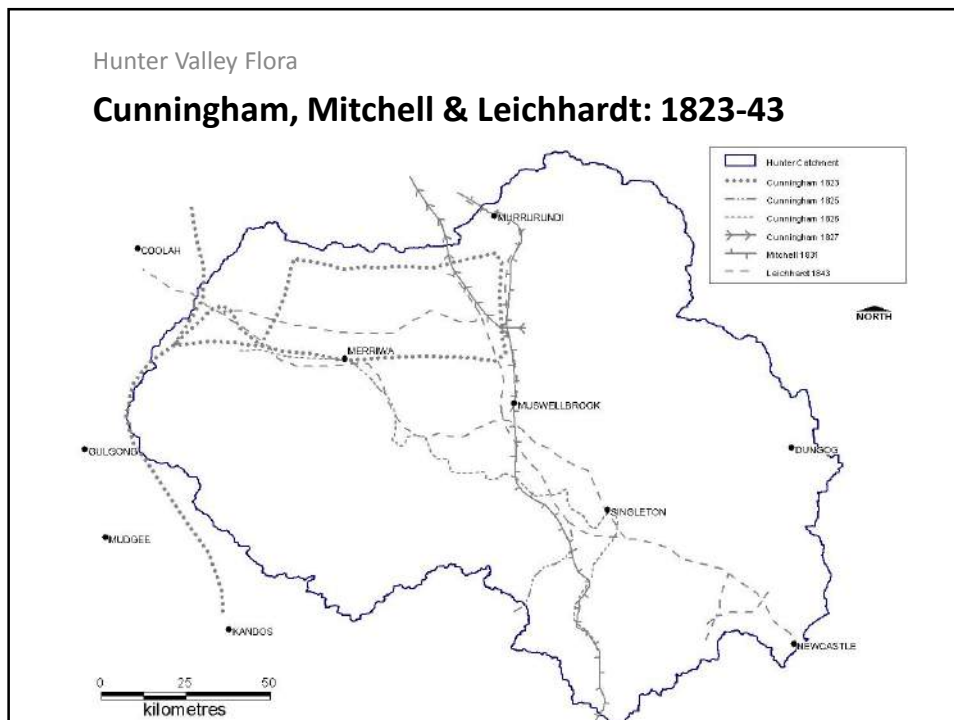
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### Early Exploration in the Hunter (1800's)

- Outside of Sydney, the Hunter Valley was one of the earliest regions to be explored
- Early explorers included John Shortland (1797), William Paterson (1801), John Howe (1819)
- Botanical explorers then followed: Alan Cunningham (1823-1827), Thomas Mitchell (1831), & Ludwig Leichhardt (1843)
- *Tetratheca juncea* was one of the earliest described Hunter species (by J.E. Smith in 1795)

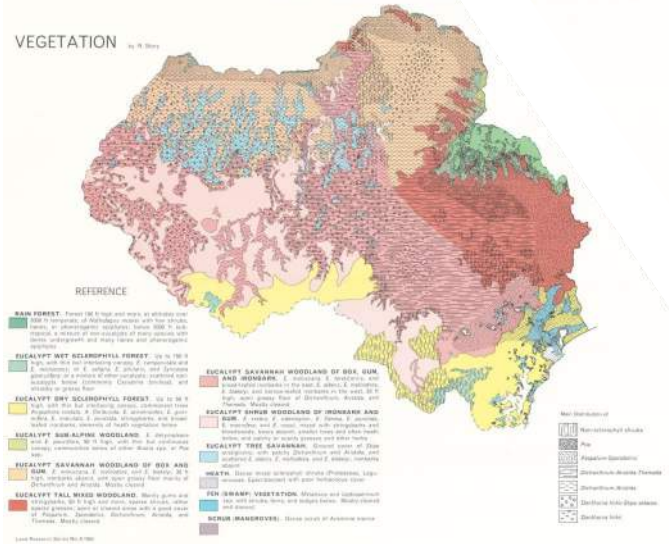
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### Cunningham, Mitchell & Leichhardt: 1823-43



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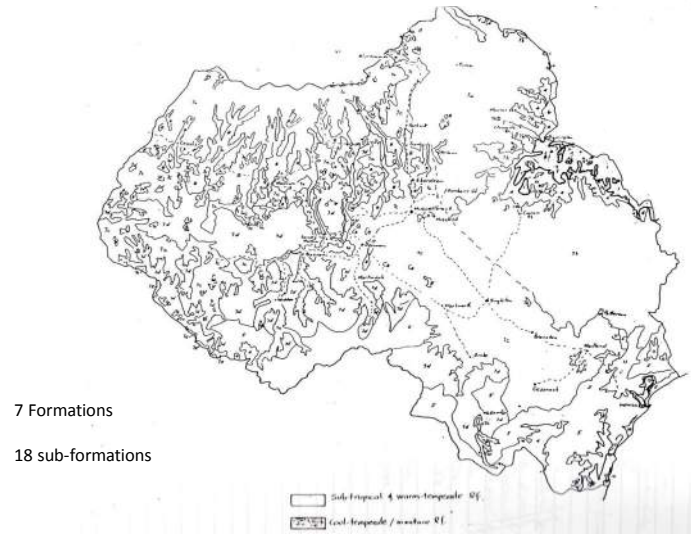
**First Vegetation Map of the Hunter: Story 1963**



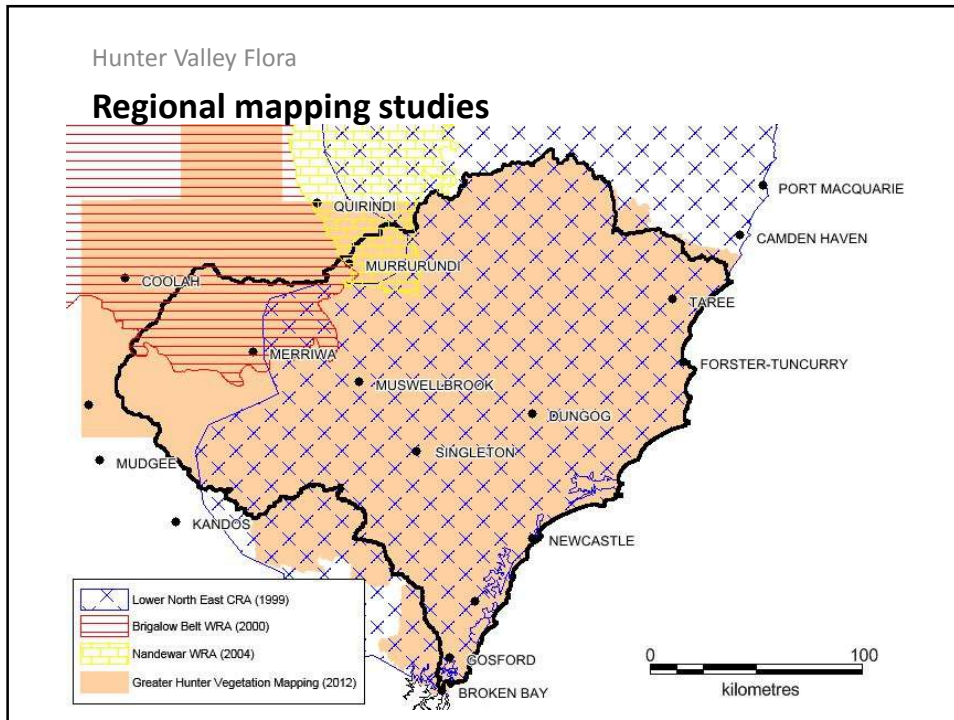
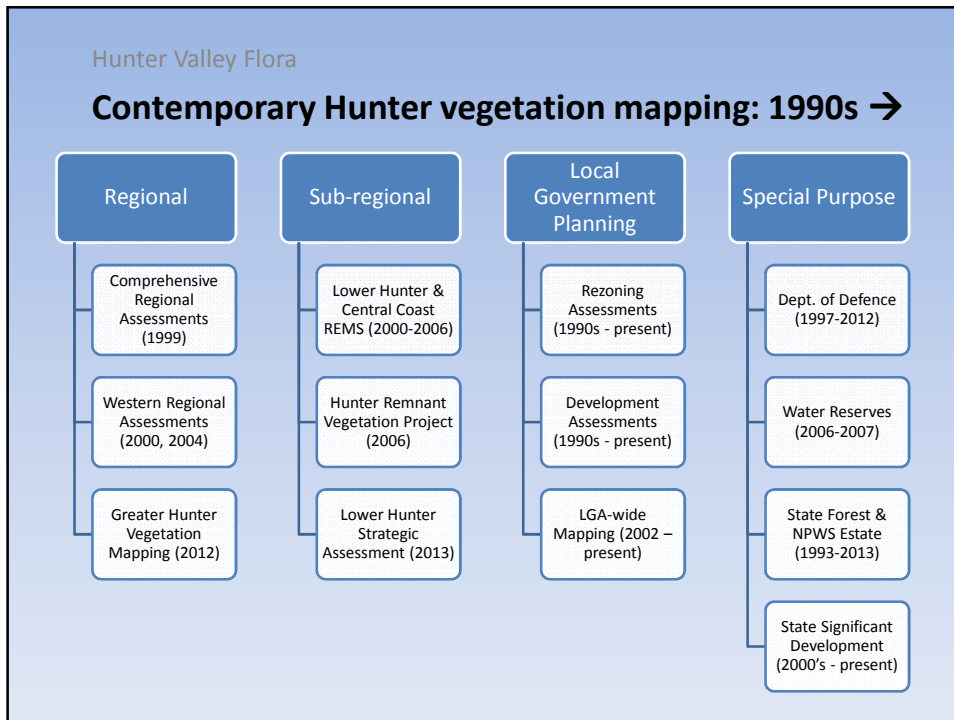
Story (1963) *Vegetation of the Hunter Valley*. CSIRO Land Systems Study.

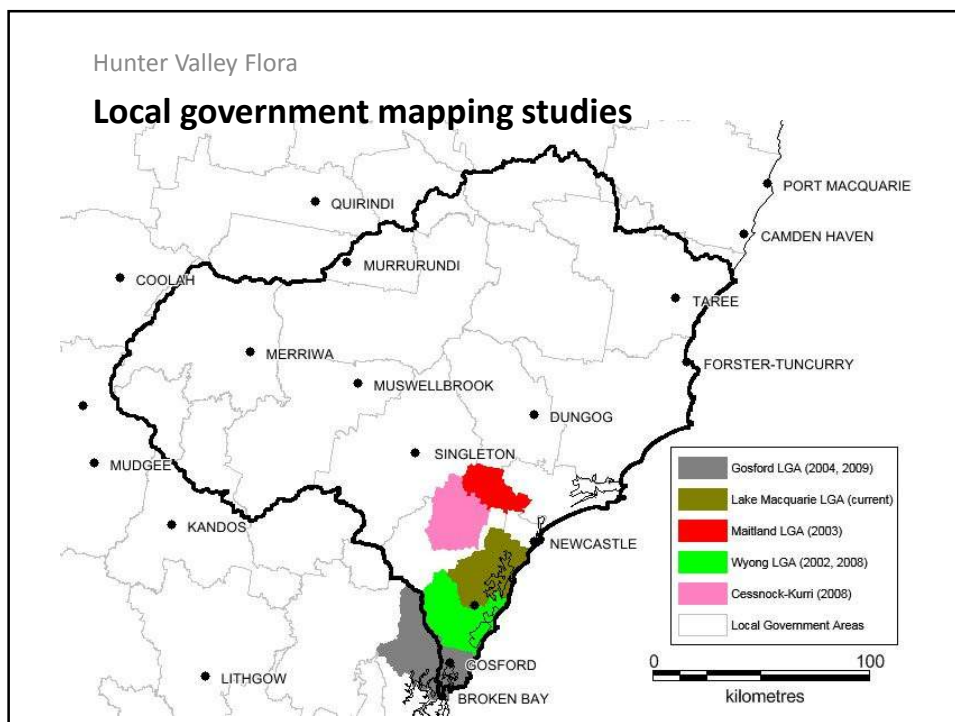
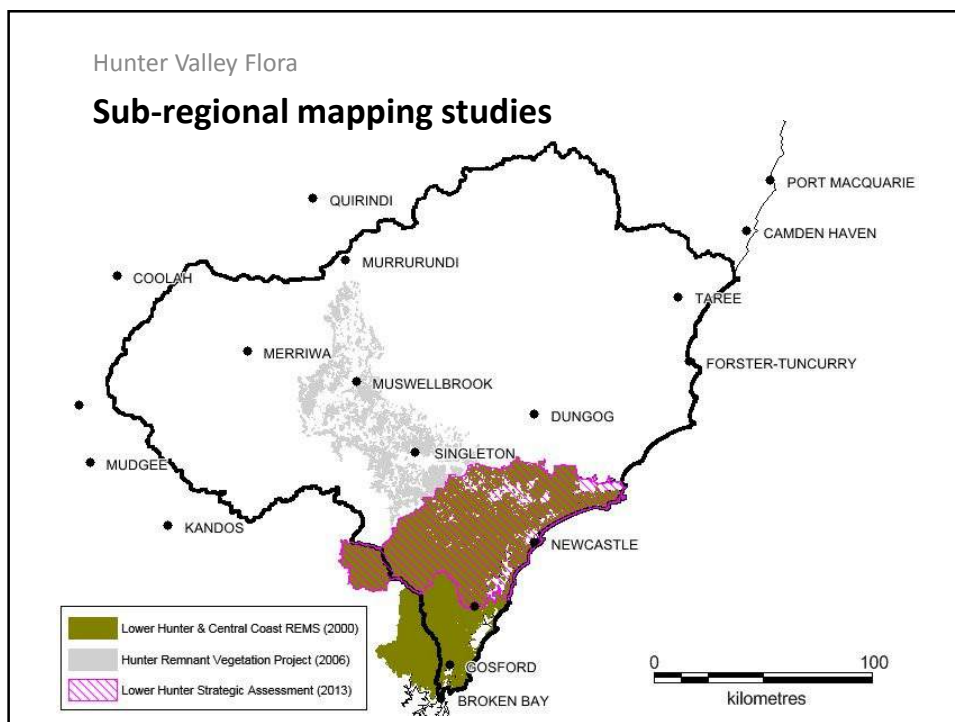
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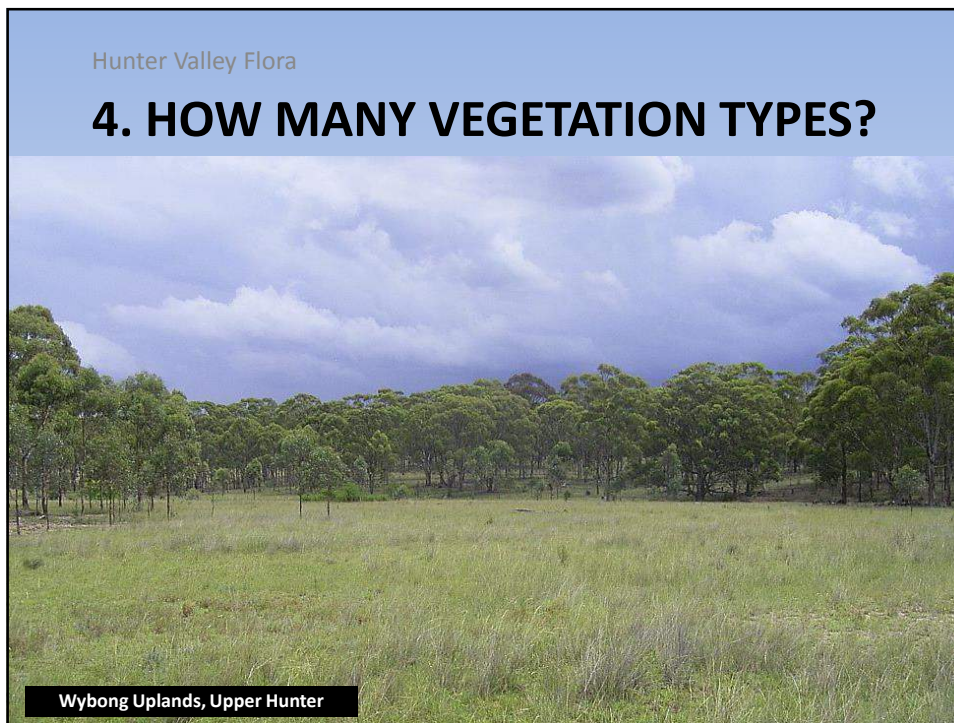
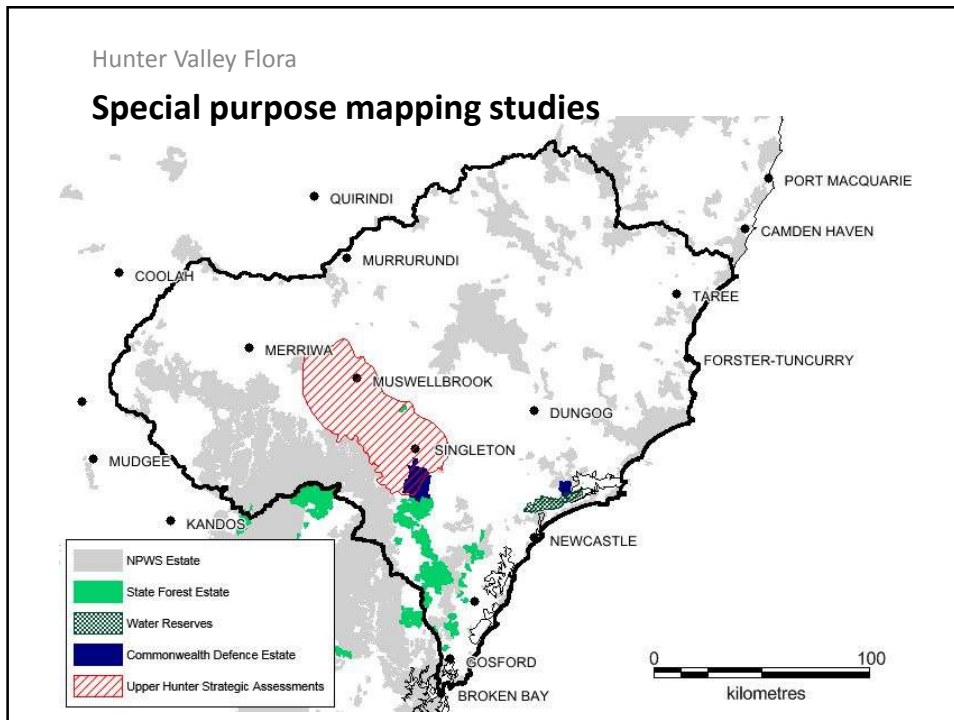
**Second Vegetation Map of the Hunter: Tame 1984**



Tame (1984) *Vegetation of the Hunter Valley*. Unpublished manuscript.







## Vegetation community diversity

- GHVM (2012) defined 243 communities (48,000 km<sup>2</sup>)
  - LHCCREMS (2000) defined 55 communities (5,630 km<sup>2</sup>)
  - HRVP (2006) defined 36 communities (3,150 km<sup>2</sup>)
  
  - 103 Threatened Ecological Communities in NSW (*TSC Act*)
  - 28 Threatened Ecological Communities in the Hunter (27%)
- community definition is scale-dependent















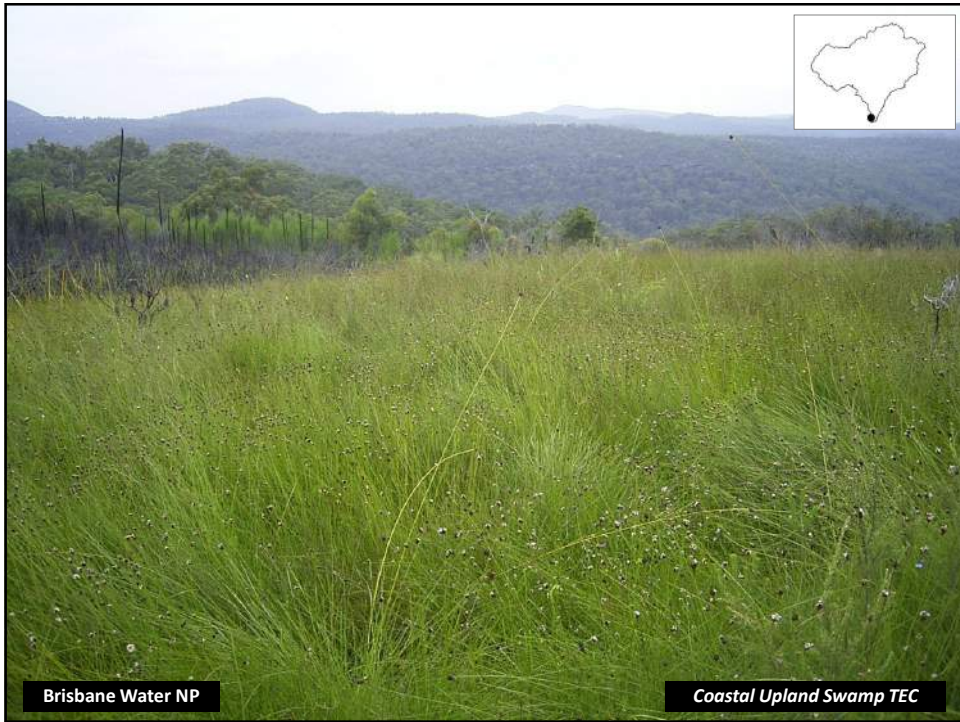
Jiliby SCA



Karuah Estuary

Coastal Saltmarsh TEC



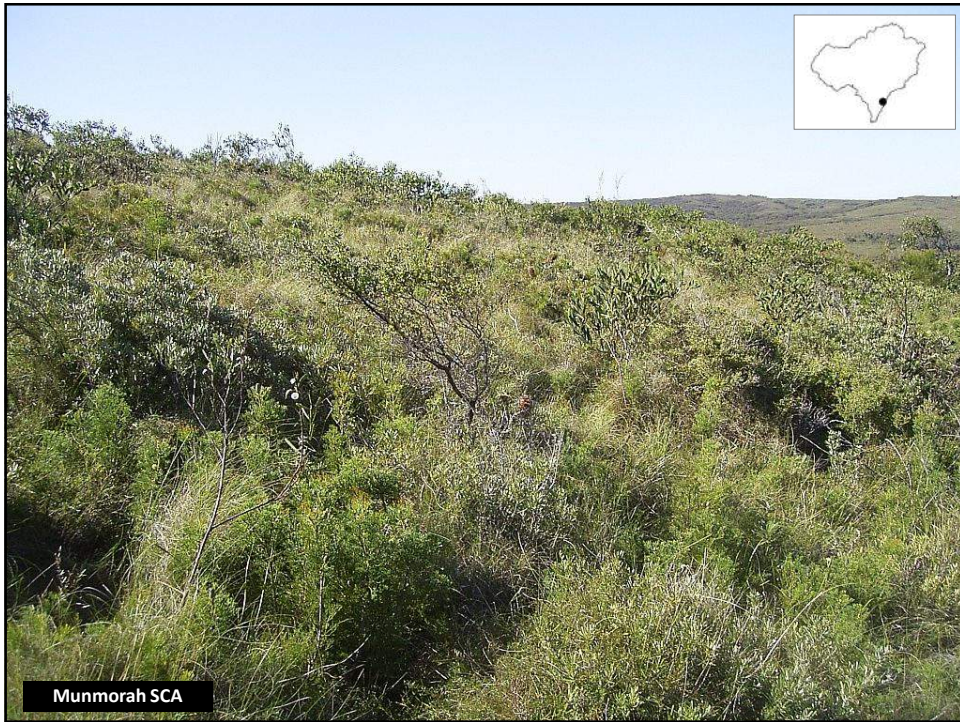






















Worimi NP



Morisset, Lake Macquarie





Tomago Sandbeds



Alum Mtn



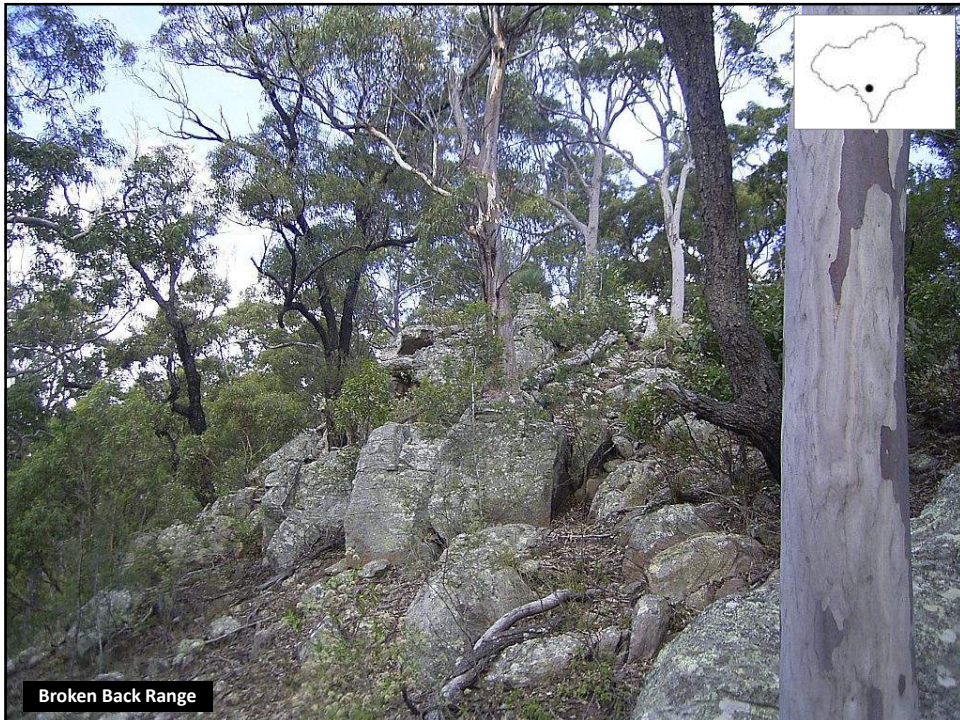


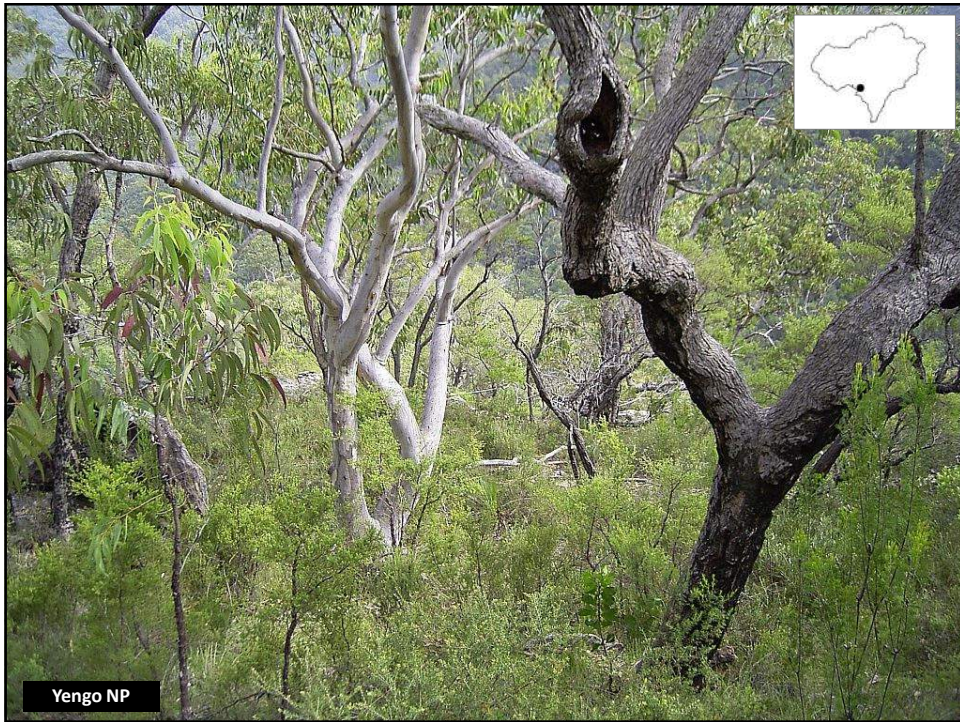


Eraring, Lake Macquarie



Seahampton, Lake Macquarie





































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## Native species diversity

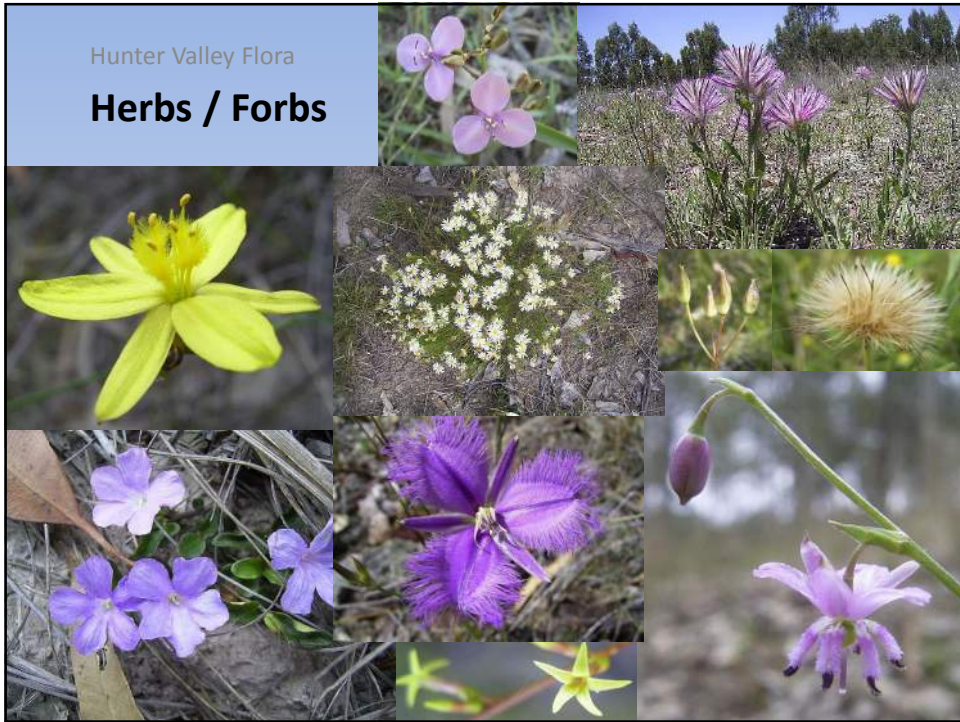
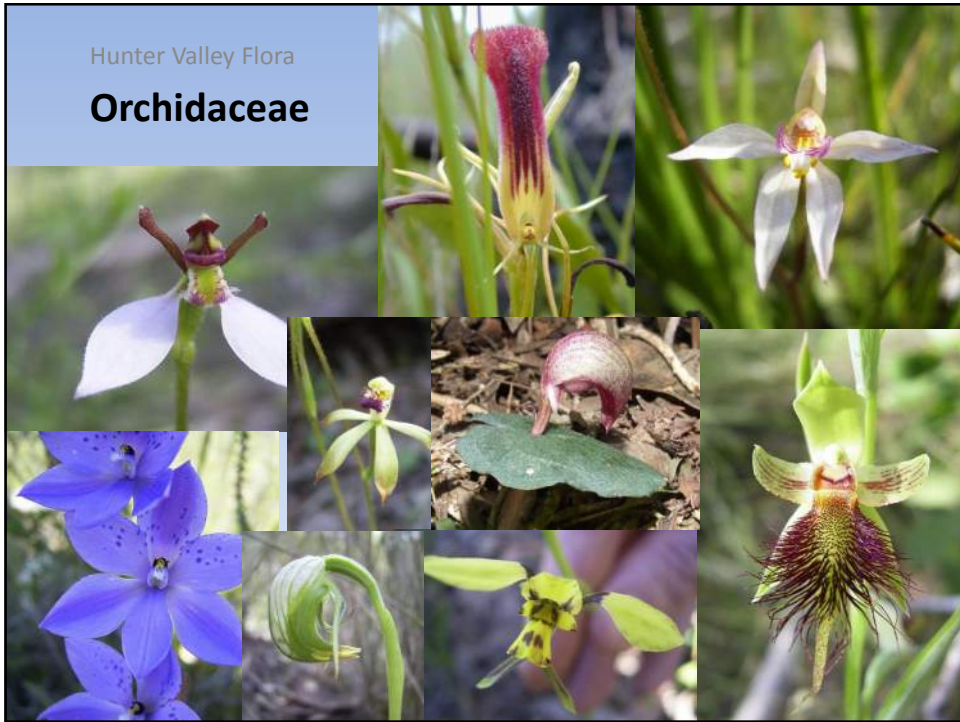
- ~5,500 native plant taxa in NSW
  - ~2,000 to 2,500 within the Hunter (~35-45% of NSW total)
  - ~80 species of *Acacia* (~27% of NSW total)
  - >100 eucalypts (~30% of NSW total): rivals the 96 species within the Greater Blue Mountains WHA
- A third of NSWs floristic biodiversity (~5% NSW land area)

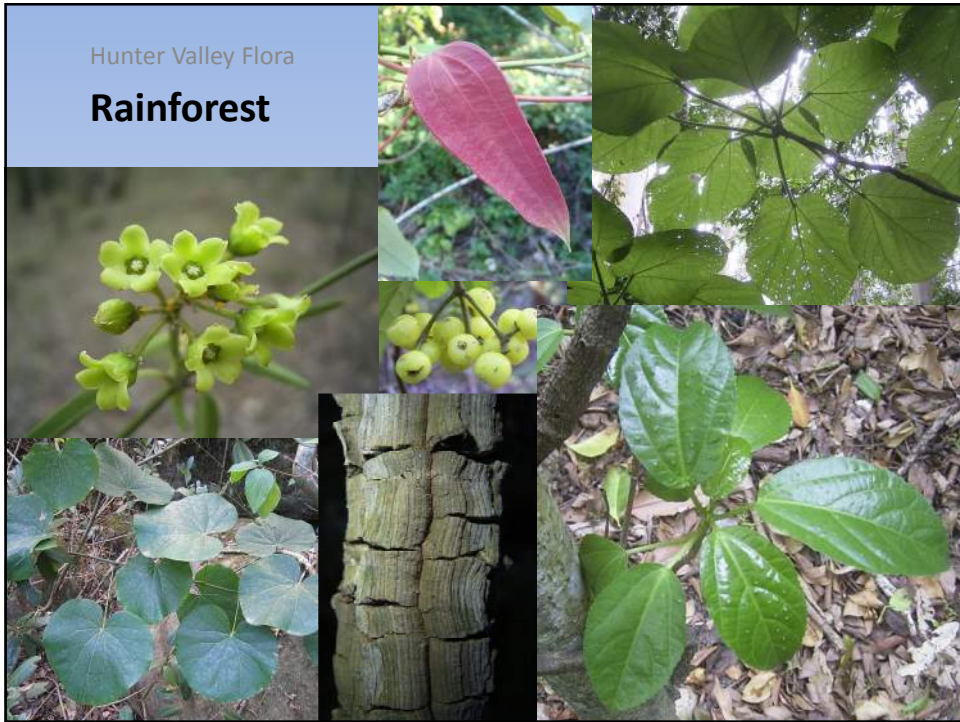
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## Proteaceae









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## Threatened Hunter taxa & endemism

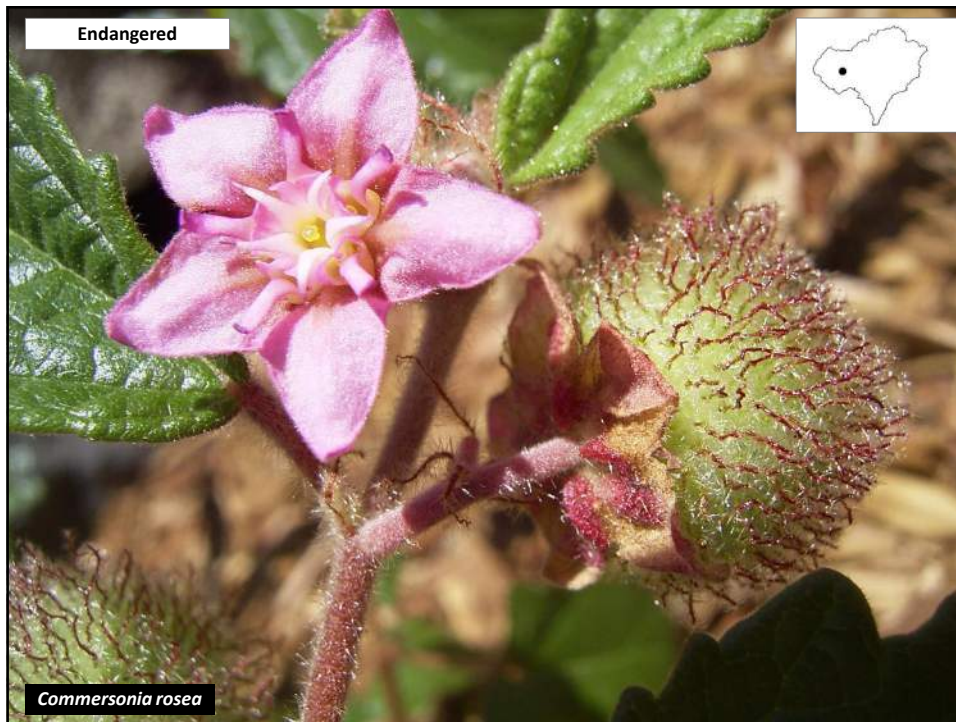
- 4 Critically Endangered species
- 21 Endangered species
- 41 Vulnerable species
- 7 Endangered Populations
- Many Rare species
  
- ~100 taxa endemic to Hunter (35 threatened)



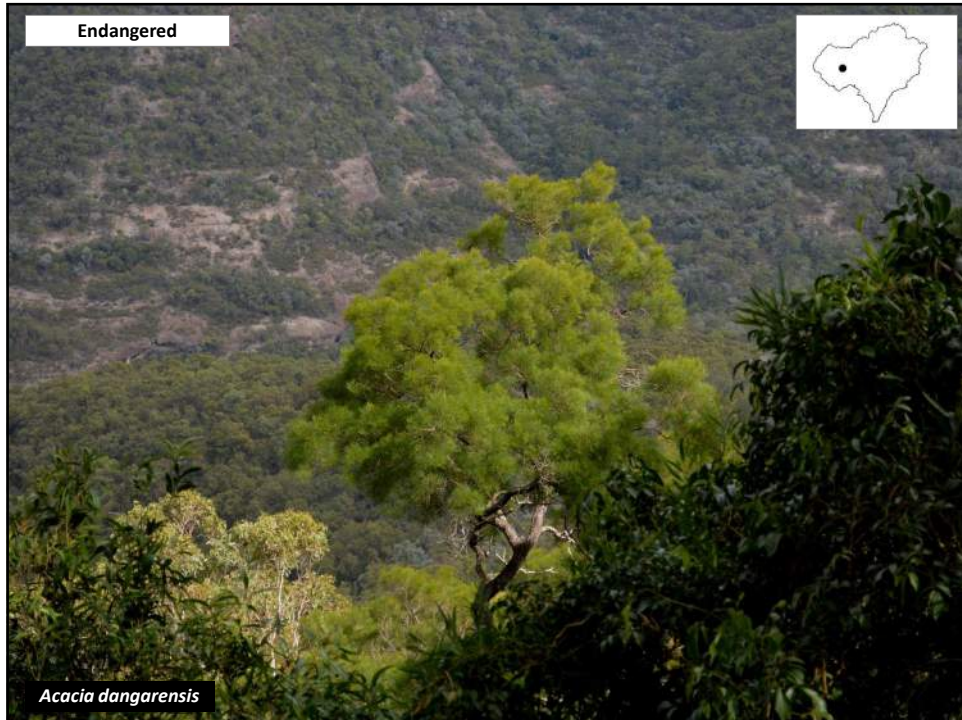


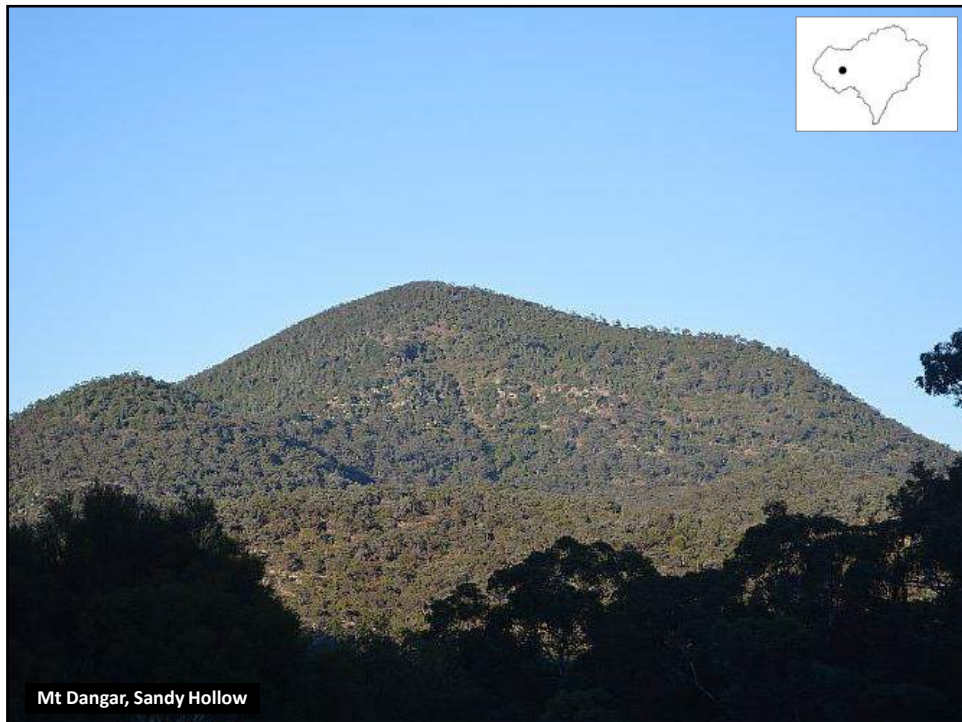




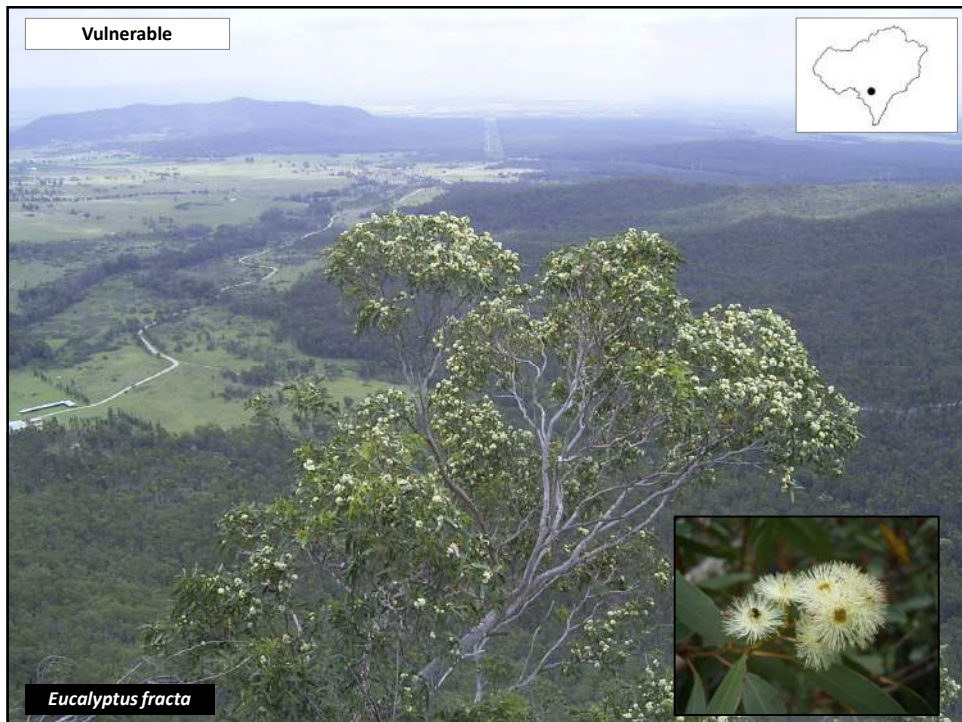








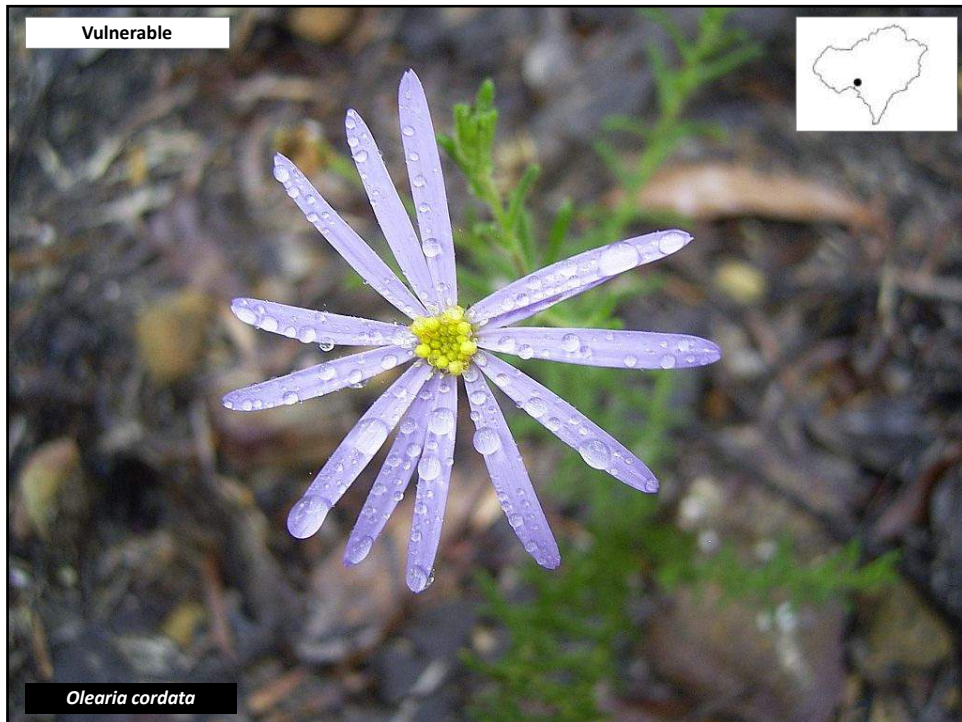
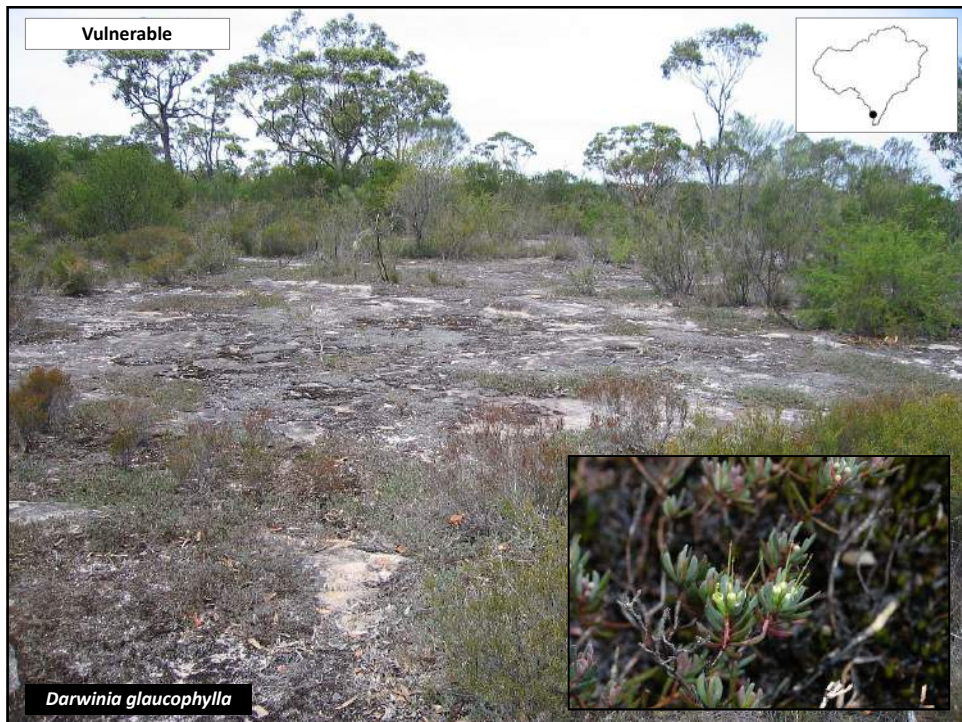


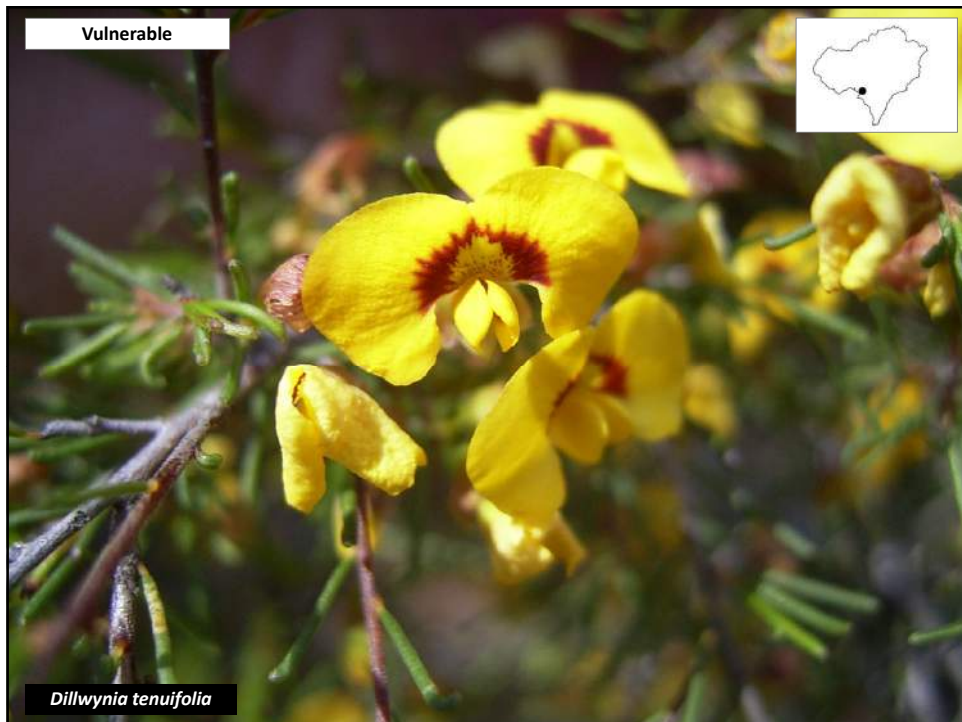


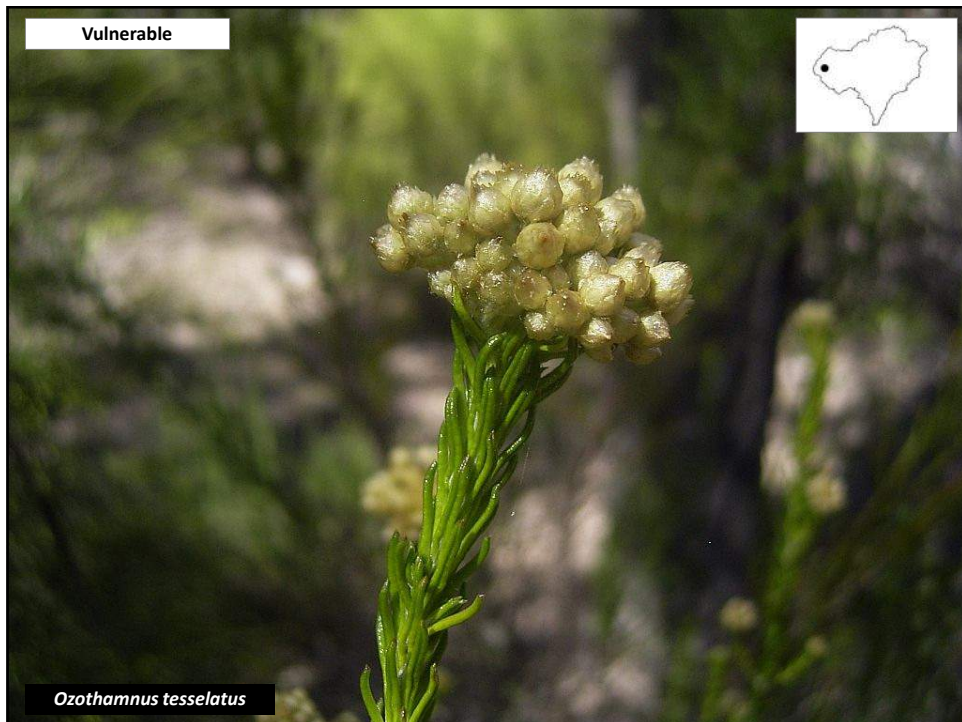




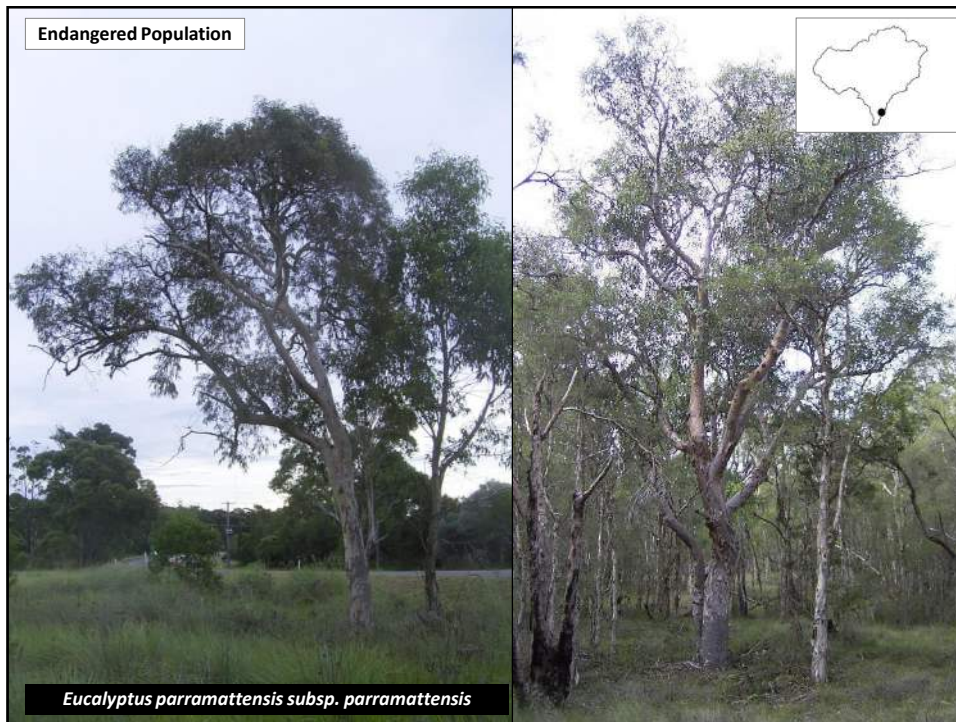




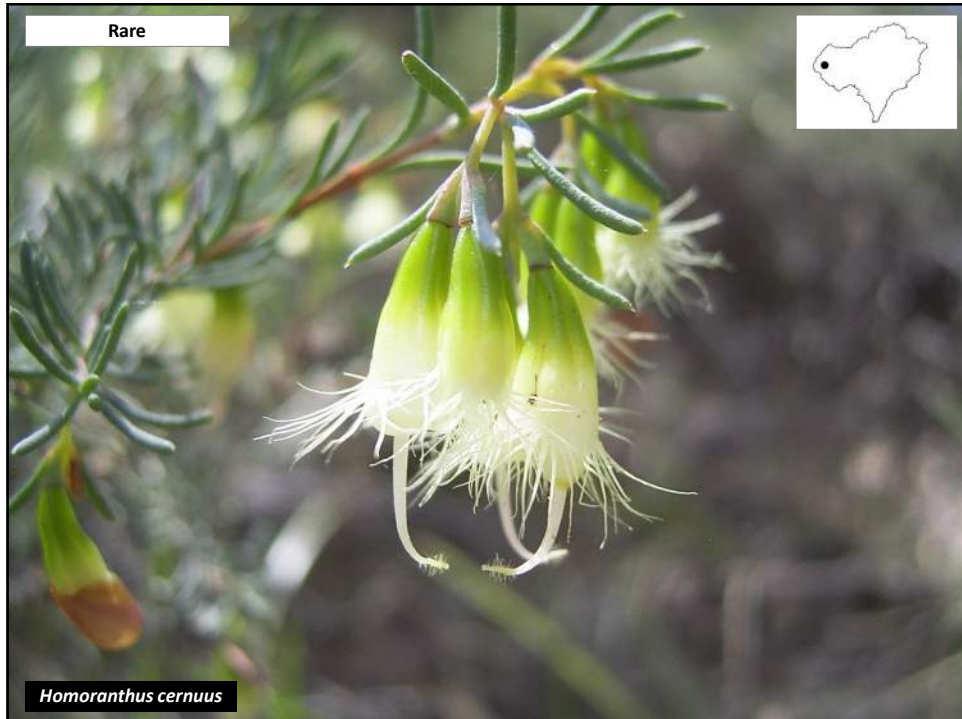


















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## Recently described taxa

- *Acacia alauticaulis* (2013)
- *Acacia kulnurensis* (2013)
- *Bertya linearifolia* (2002)
- *Cassinia decipiens* (2004)
- *Cassinia macrocephala* ssp. *storyi* (2006)
- *Commersonia rosea* (2004)
- *Corybas dowlingii* (2004)
- *Dockrillia banksii* (2005)
- *Eucalyptus tereticornis* ssp. *basaltica* (2013)
- *Eucalyptus castrensis* (2002)
- *Eucalyptus expressa* (2012)
- *Genoplesium insigne* (2001)
- *Genoplesium littorale* (2001)
- *Grevillea humilis* ssp. *humilis* (2000)
- *Grevillea virgata* (2000)
- *Hibbertia stichodonta* (2013)
- *Hovea lorata* (2001)
- *Paenula storyi* (2005)
- *Pterostylis barringtonensis* (2006)
- *Pterostylis riparia* (2006)
- *Pterostylis subtilis* (2006)
- *Senecio linearifolius* ssp. *dangarensis* (2004)
- *Solanum sulphureum* (2009)
- *Thelymitra adorata* (2011)

**Mostly endemic to the  
Hunter Region**

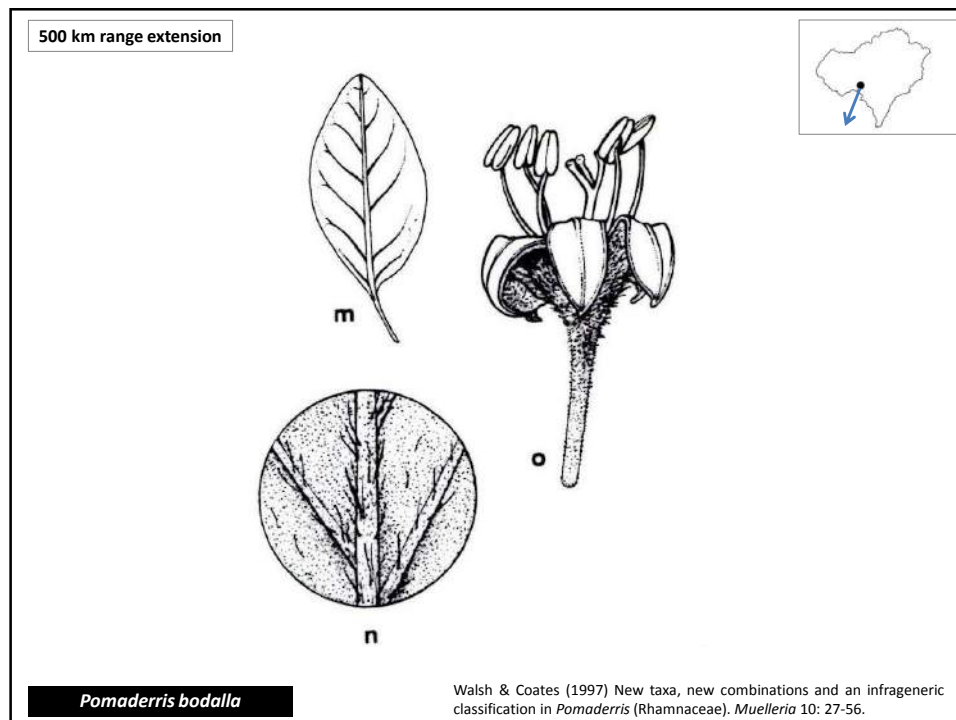












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## RESOURCES...

- *Cunninghamia* journal, freely downloadable at [https://www.rbgsyd.nsw.gov.au/science/Scientific\\_publications/cunninghamia](https://www.rbgsyd.nsw.gov.au/science/Scientific_publications/cunninghamia)
- NSW OEH spatial data downloads at <http://mapdata.environment.nsw.gov.au/geonetwork/srv/en/main.home>)
- NSW National Herbarium online Flora at <http://plantnet.rbgsyd.nsw.gov.au/floraonline.htm>)
- Australia's Virtual Herbarium at <http://avh.chah.org.au/>



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## PLANT ID ... IS THE KEY.....



Broken Back Range