

BUSH & BEACH NATIVES & WEEDS COASTCARE WORKSHOP



Local Land
Services



Friends of Tomaree National Park
Protecting nature through community action



- Introduction to FoTNP
- Tomaree Ecology
- Botany 101
- Common Coastal Native Species
- Common Coastal Weed Species
- Weeds & Native Look-a-likes
- Bush Regeneration
- Fingal Beach Site Visit (after lunch)

Friends of Tomaree National Park

Protecting nature through community action



OBJECTIVE

To assist NPWS with conservation outcomes for Tomaree National Park

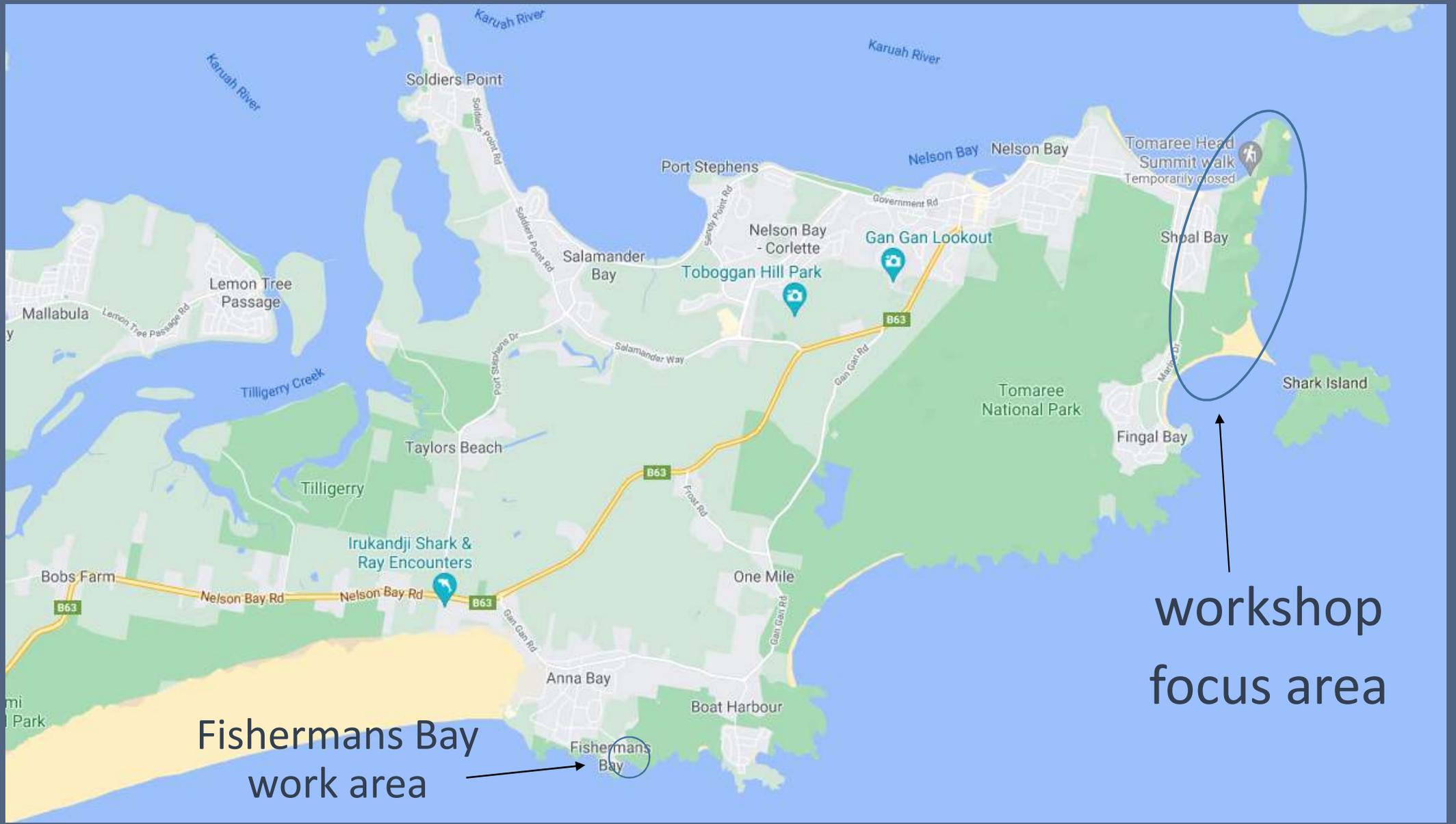
ACTIVITIES

- weed control / bush regeneration
- threatened species management
- education

LOCATIONS

North Tomaree Coast / Fishermans Bay / (Birubi / Fingal)





workshop
focus area

Fishermans Bay
work area



Friends of Tomaree National Park

Protecting nature through community action

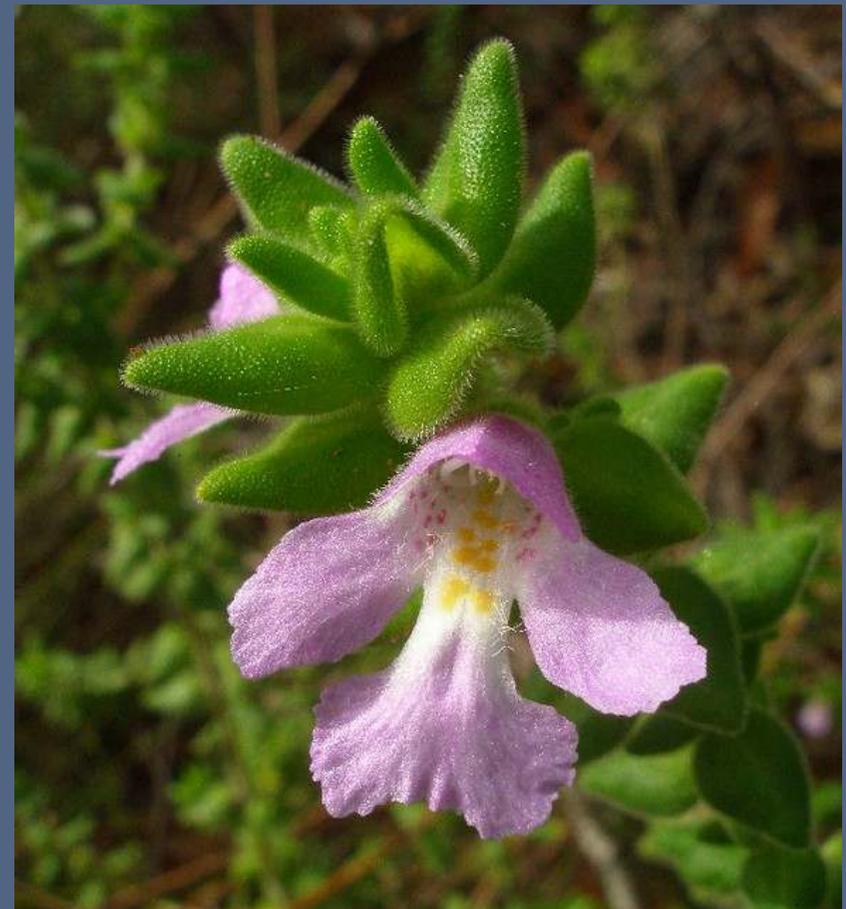
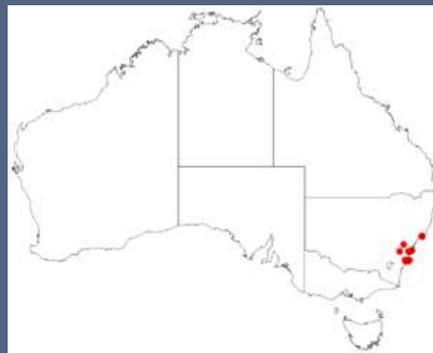


UPCOMING ACTIVITY

Threatened species
management:

Prostanthera densa planting

>> see Sue for
more details

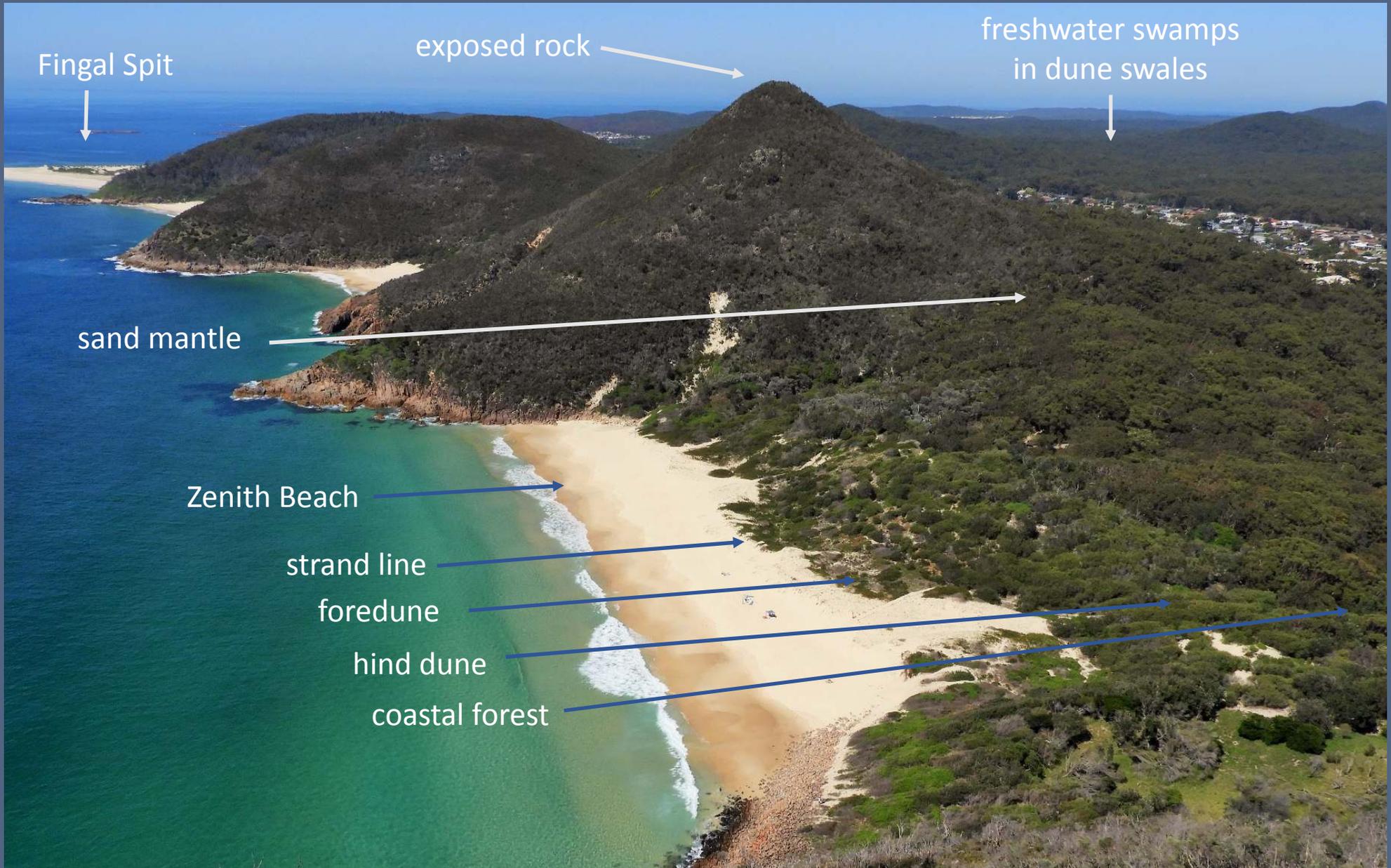


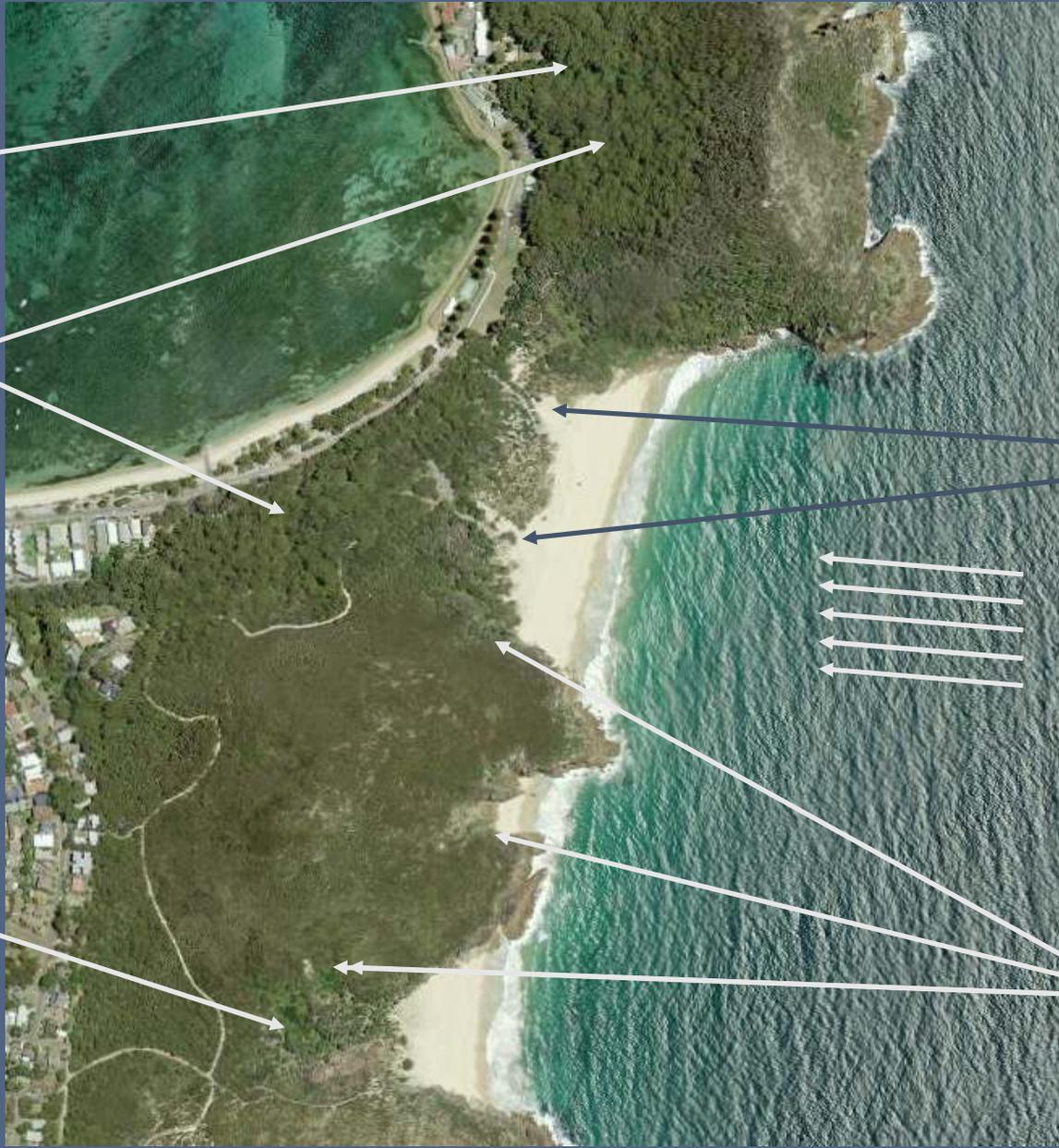
An aerial photograph of the Tomaree Ecological Reserve coastline. The image shows a wide, sandy beach curving along the shore, with waves breaking onto the sand. The water is a vibrant greenish-blue. The land is covered in dense, dark green forest. In the background, a prominent, rounded hill rises above the trees. A small town or village is visible on the right side of the image, nestled among the hills. The sky is clear and blue.

Tomaree Ecology

Tomaree Ecology - Key Factors

- geology >> soils
- water >> moderate rainfall
- coastal setting >> wind + salt exposure
- volcanic headlands
 - > coastal / inland
 - > exposed rock / sand mantle
- pocket beaches & mobile dunes
- stabilised sand dunes
- freshwater swamps





moist gully

protected
leeward side
(note canopy
development)

drainage line

sand
blowouts

exposure to
salt laden
strong coastal winds

land slips on
steep slopes

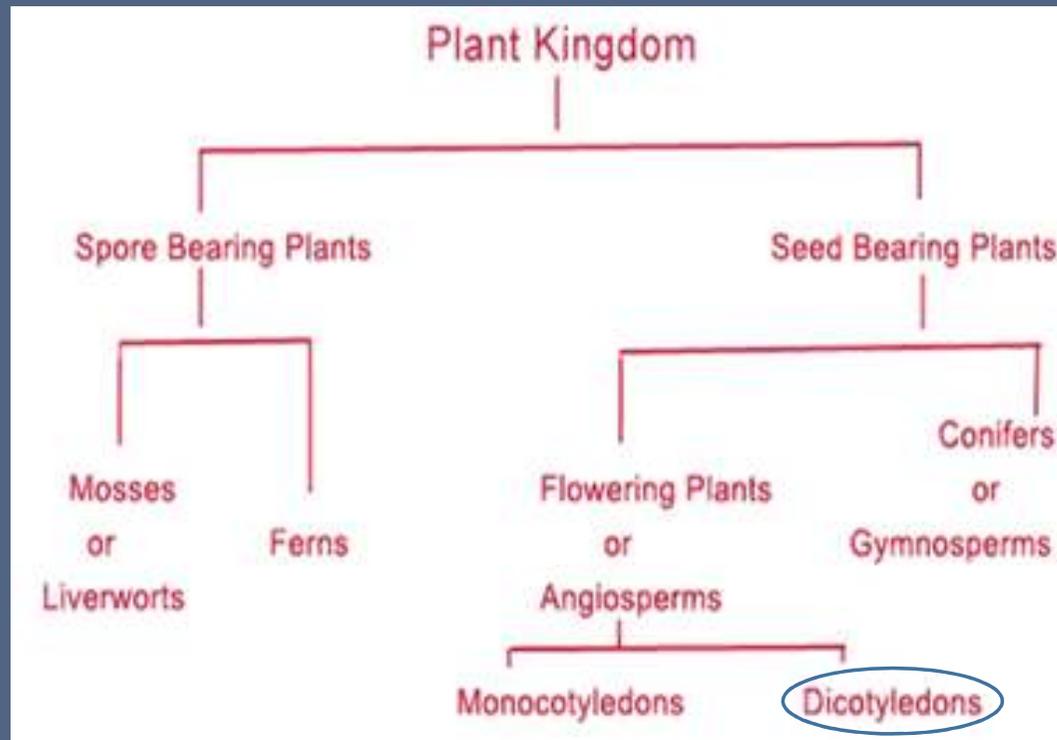
Botany 101

- Plant phylogeny & taxonomy
- Plant habit & structure
- Leaf characteristics

Remember the general rule:

There's always exceptions to the rule!

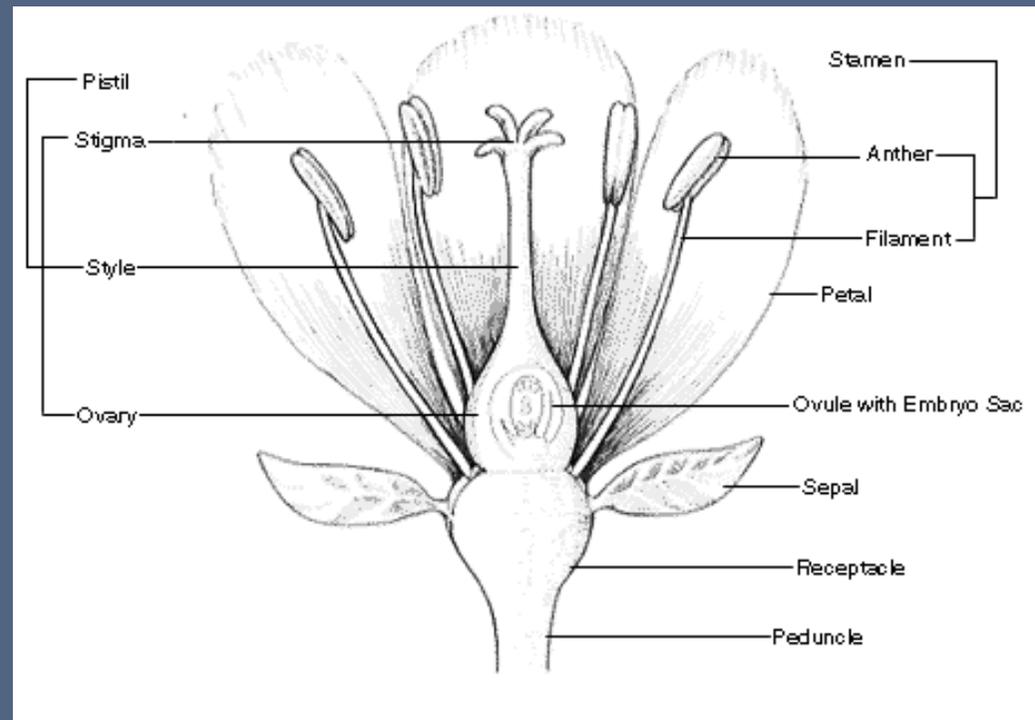
Botany 101 – Plant Phylogeny



- workshop will mainly focus on Dicots
- ignore Monocots = ferns, grasses, other lower plant groups

Botany 101 – Plant Taxonomy

- Taxonomy = classification according to plant reproductive features
- main flower attributes
- plant genetics is related but can be different



Botany 101 - Plant Habit

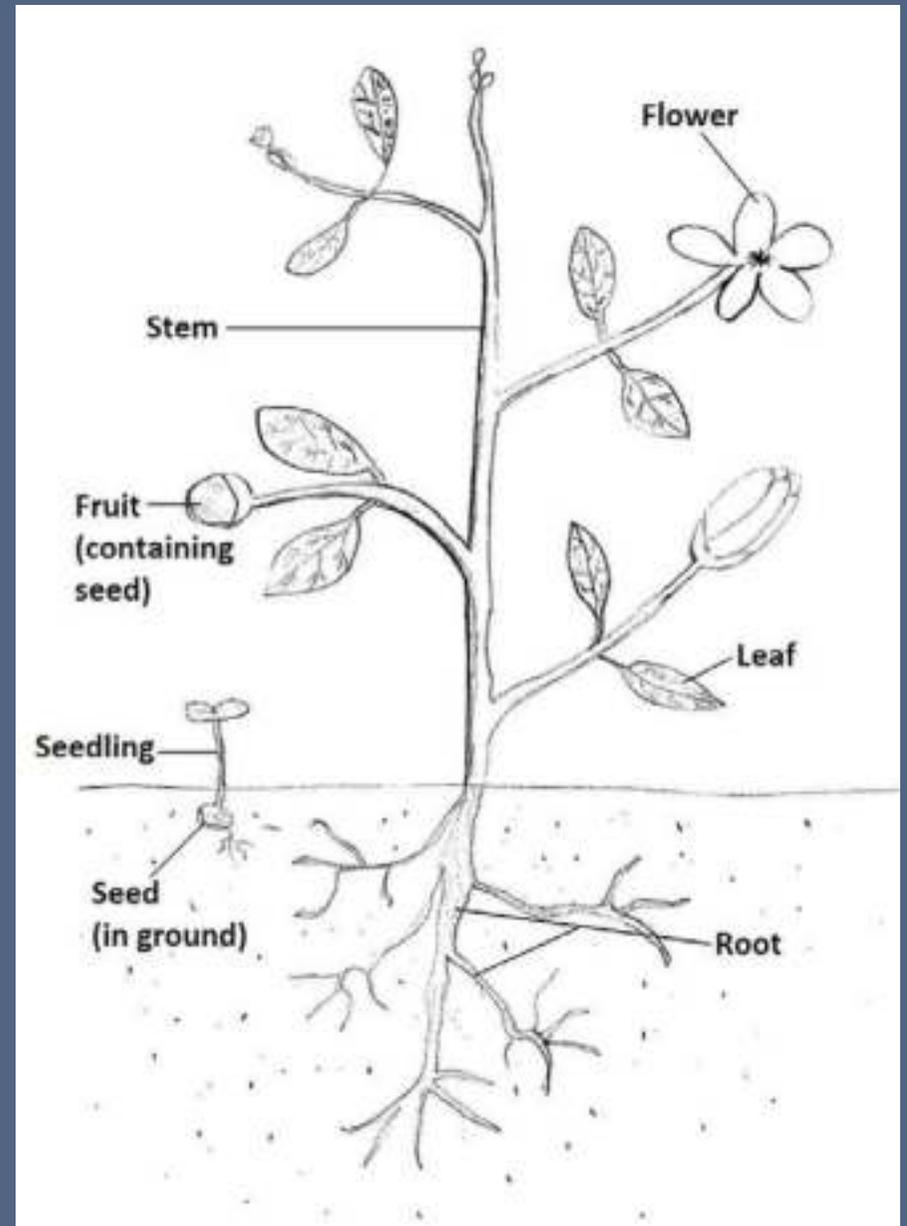
- trees
- shrubs
- groundcover
- vines

Remember:

Seedlings of all plants are small!

Botany 101 - Plant Structure

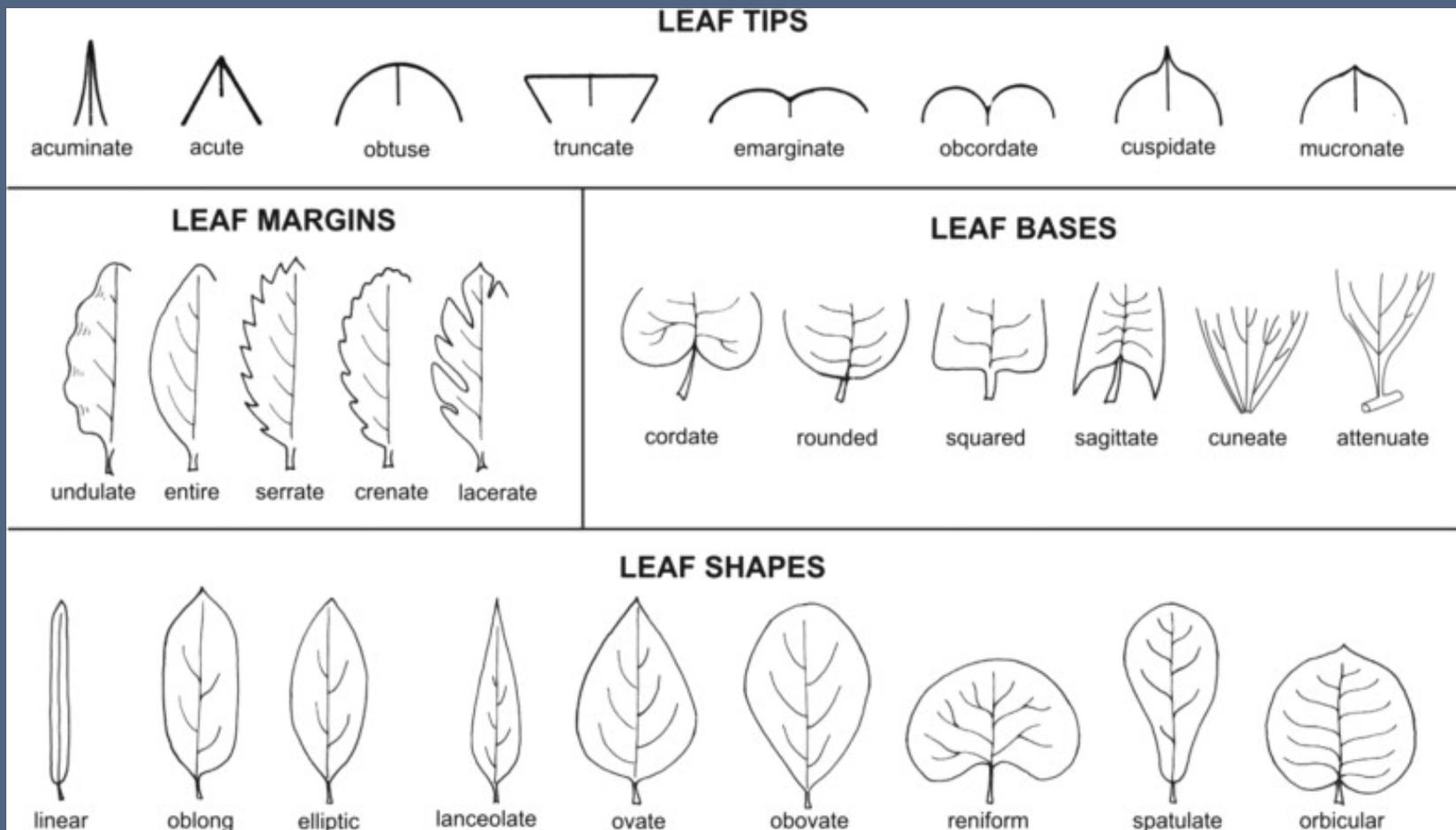
- most plants conform to the standard structure
- some exceptions: mistletoes, vines?, epiphytes?
- many species can be variable and can be difficult to determine at seedling stage and/or under adverse conditions (shade, exposure, etc.)



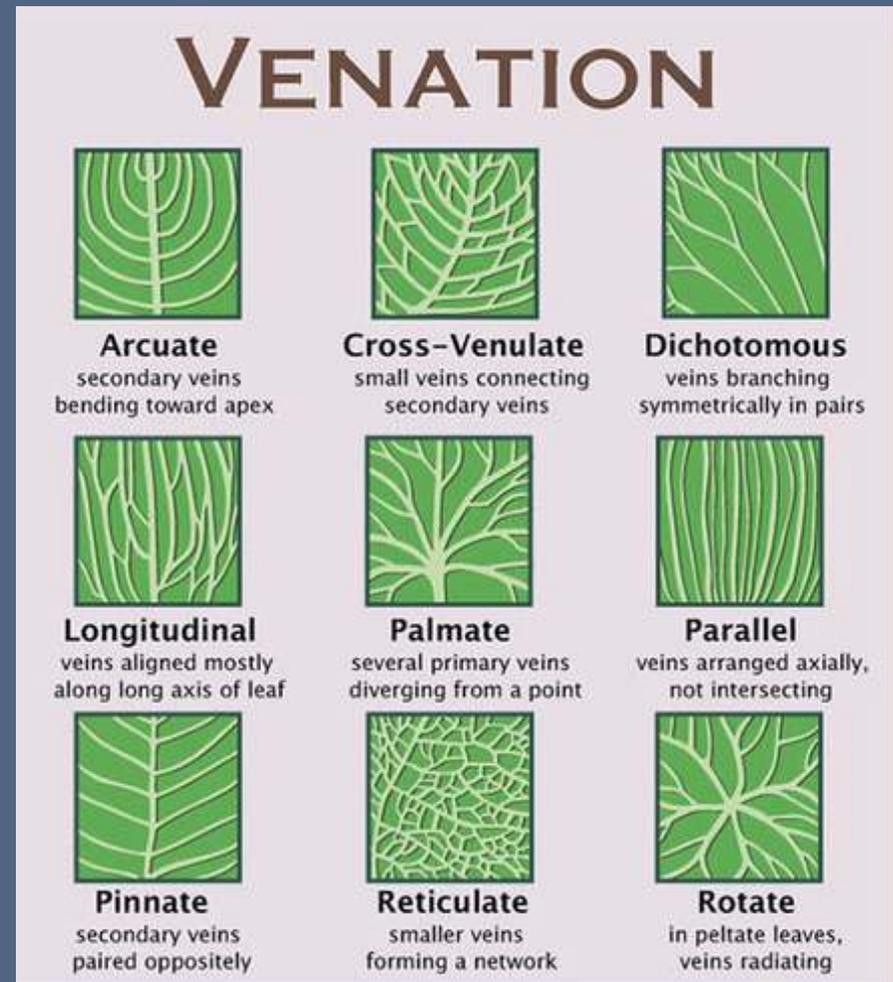
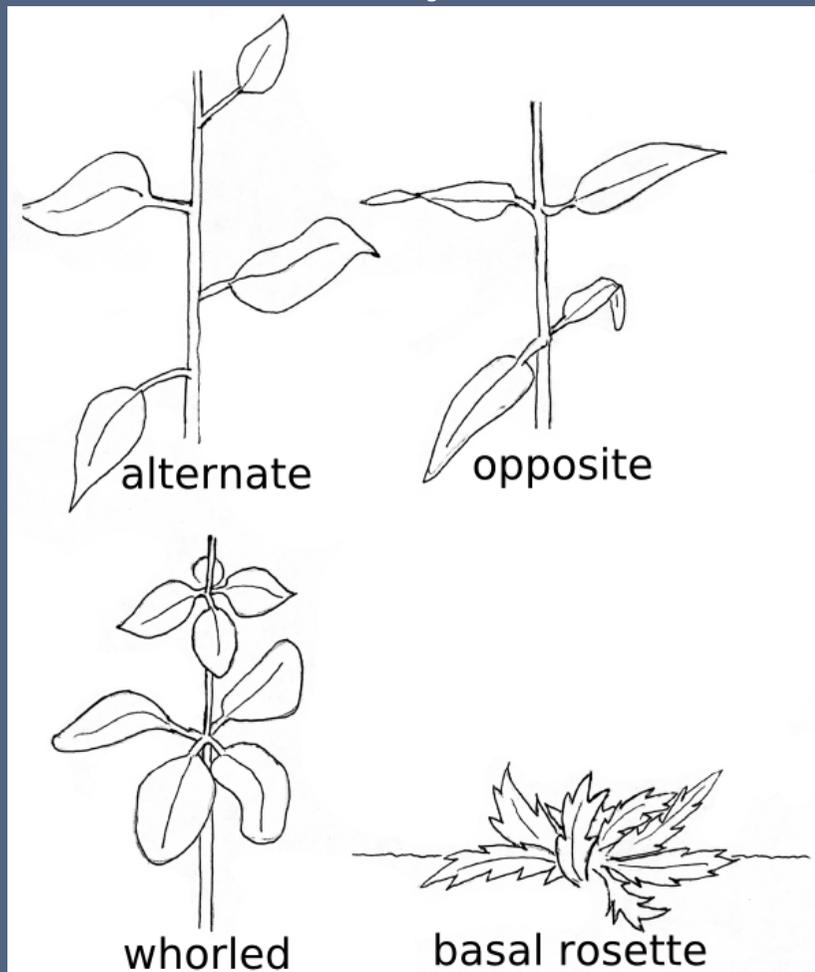
Botany 101 - Leaf Characteristics

- shape
- colour - above & below
- venation
- arrangement on stem
- simple vs compound

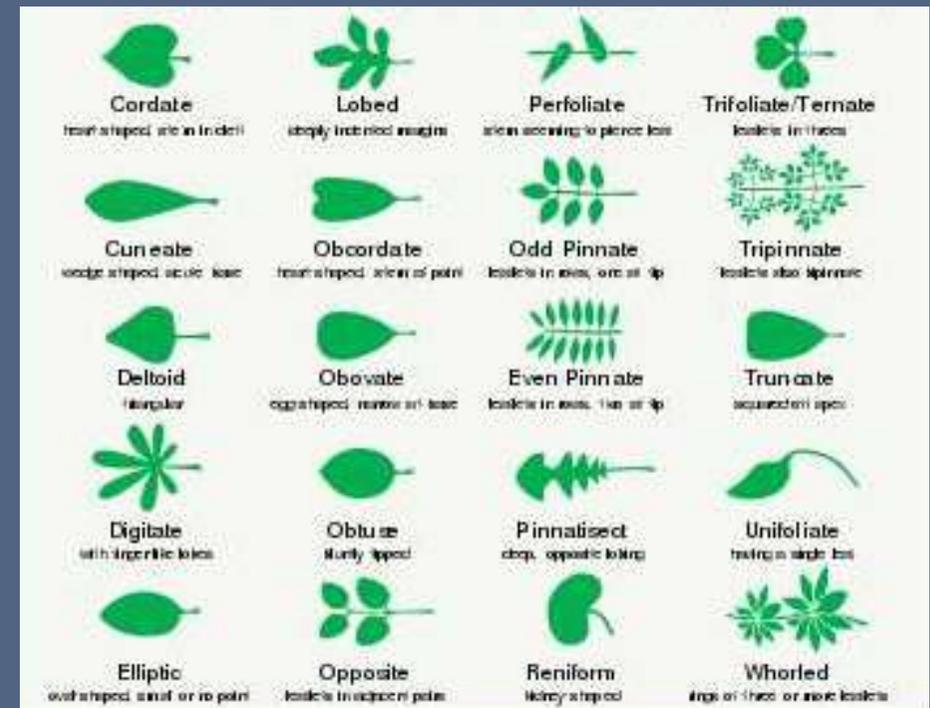
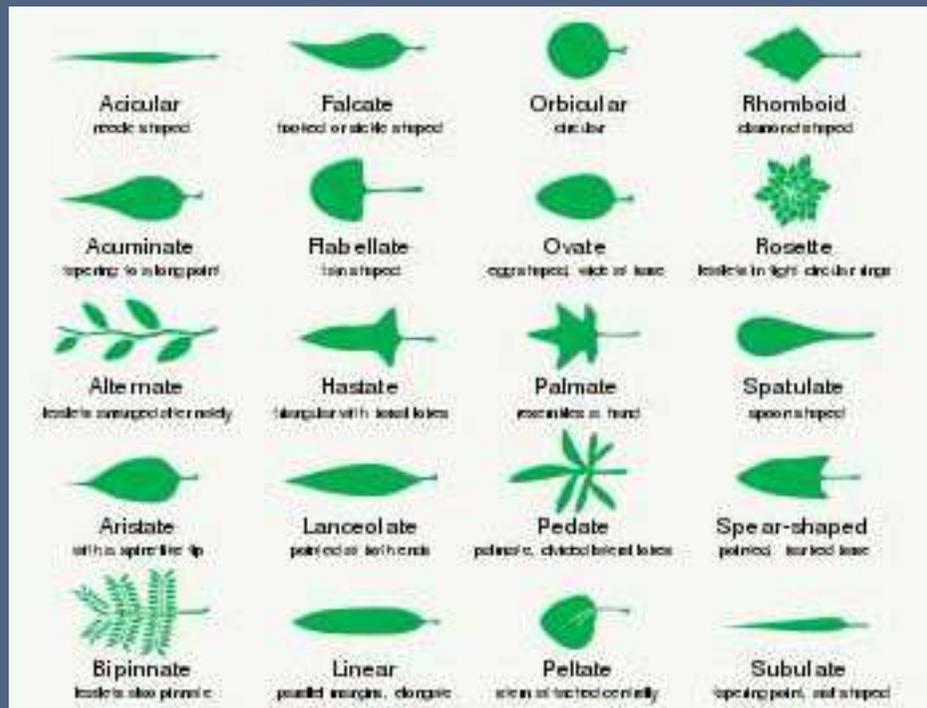
Botany 101 - Leaf Characteristics



Botany 101 - Leaf Characteristics



Botany 101 - Leaf Characteristics



Common Coastal Native Species

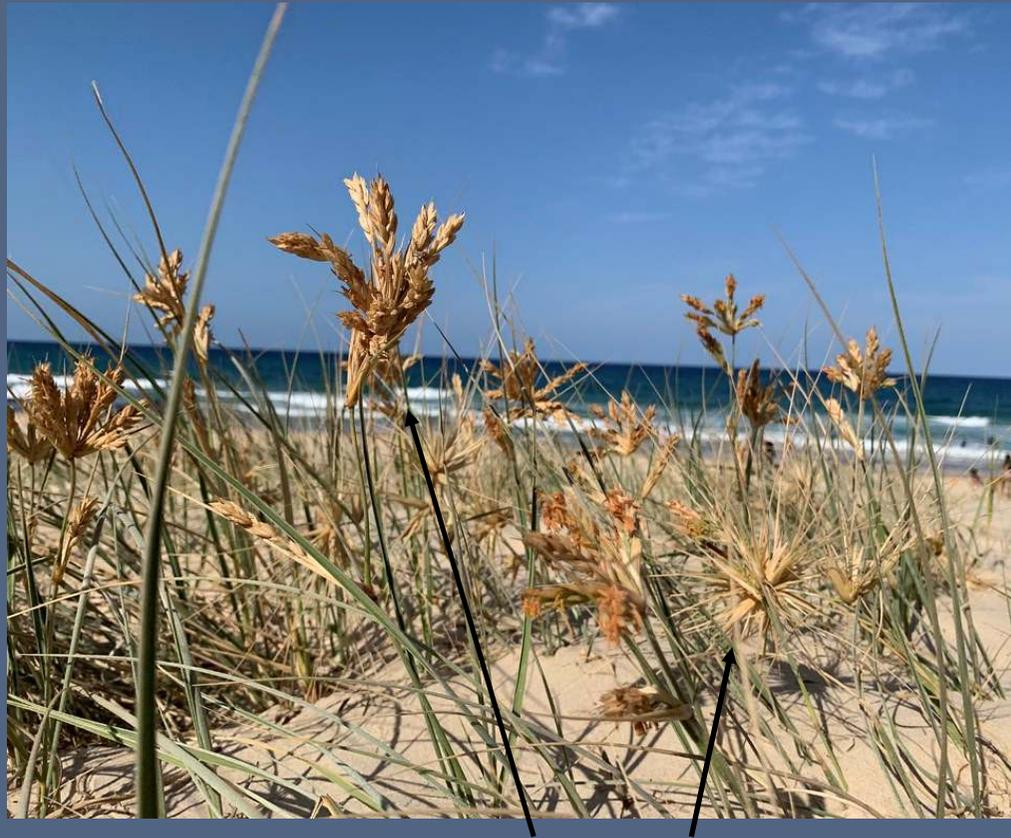
- strand line / foredune
- hind dune
- coastal forest
- volcanic headlands
- moist gullies & drainage lines
- freshwater swamps
- 13 vegetation communities, ~350 species in Tomaree NP (Bell, 1997)

Strand Line & Foredune

- Beach Spinifex *Spinifex hirsutus*
- Pigface* *Carpobrotus glaucescens*
- Coastal Wattle* *Acacia longifolia*
- Lomandra* *Lomandra longifolia*
- Fan Flower* *Scaevola calendulacea*
- Trailing Guinea Flower* *Hibbertia scandens*

* also found in hind dunes and coastal forest

Strand Line & Foredune



Beach Spinifex (note male & female flowers)



Pigface

Strand Line & Foredune



Lomandra



Coastal Wattle

Strand Line & Foredune



Fan Flower



Trailing Guinea Flower

Hind Dune

- Coastal Tea-tree *Leptospermum laevigatum*
- Coastal Banksia* *Banksia integrifolia*
- Coastal Wattle* *Acacia longifolia*
- Lomandra* *Lomandra longifolia*
- Trailing Guinea Flower* *Hibbertia scandens*
- Snake Vine *Stephania japonica*

* also found in other plant communities

Hind Dune



Coastal
Tea-tree



Coastal
Banksia



Snake
Vine

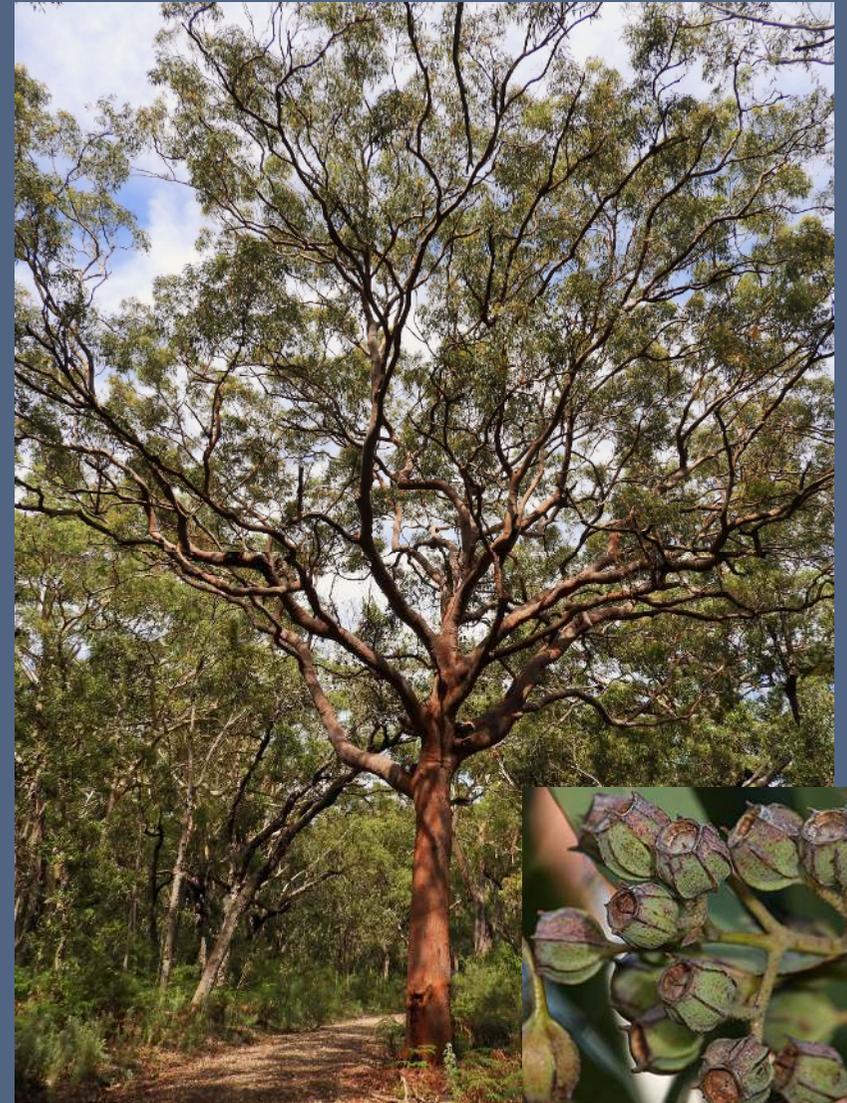


Coastal Forest

- Blackbutt *Eucalyptus pilularis*
- Smooth-barked Apple *Angophora costata*
- Saw Banksia *Banksia serrata*
- Black Sheoak *Allocasuarina littoralis*
- Monotoca *Monotoca elliptica*
- Acacias, Peas, Epacrids, Boronias, etc.
- Groundcovers, eg. *Commelina cyanea*

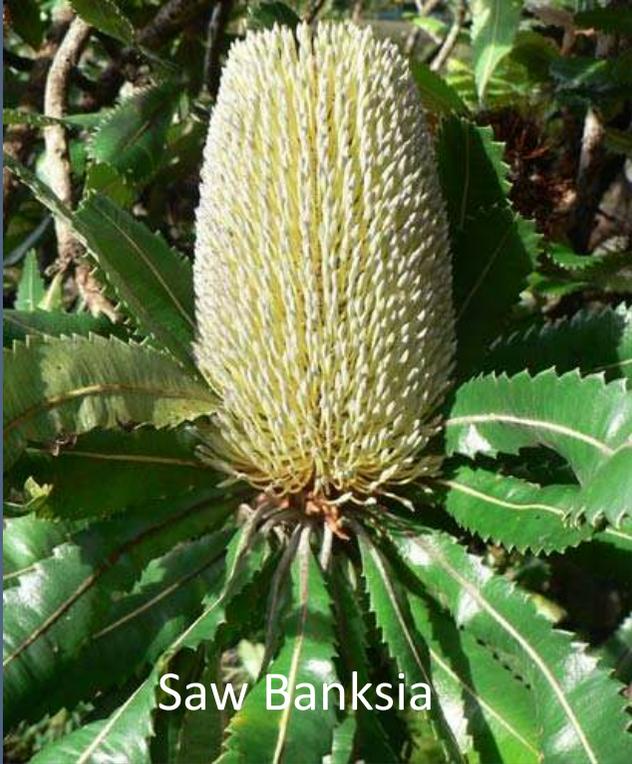


Blackbutt



Angophora

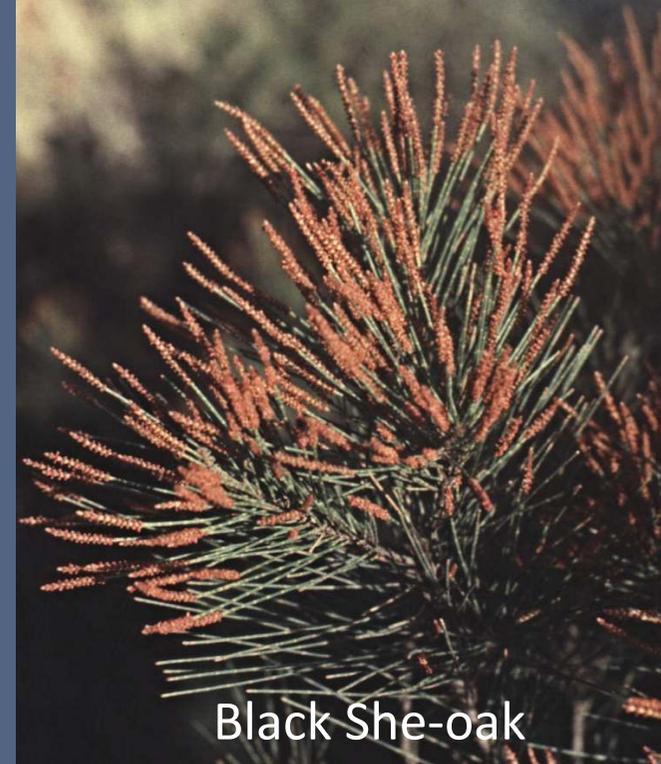




Saw Banksia



Monotoca



Black She-oak



Bracken Fern



Hardenbergia



Commelina

Volcanic Headlands

- Stringybarks *Eucalyptus sp.*
- She-oaks *Allocasuarina torulosa/distyla*
- *Acacia binervia*
- Honey-myrtle *Melaleuca armillaris*
- Westringia *W. fruticosa*
- restricted species
eg. *Melaleuca groveana* / *Cryptostylis hunteriana*

Volcanic Headlands

Coastal She-oak
(+ detail)



Honey-myrtle



Acacia binervia

Westringia



Moist Gullies & Drainage Lines

- restricted locations
- wet-adapted species
- Blueberry Ash *Elaeocarpus reticulatus*
- ferns in understory
eg. *Blechnum* sp.
- Sweet Pittosporum *Pittosporum undulatum*
- Tuckeroo *Cupaniopsis anacardioides*

Moist Gullies & Drainage Lines



Blueberry Ash



Tuckeroo

Common Coastal Weed Species

- WONS (Weeds of National Significance)
- criteria for control
- strand line / foredune
- hind dune
- coastal forest
- volcanic headlands
- moist gullies & drainage lines

Strand Line / Foredune Weeds

- Bitou Bush *Chrysanthemoides monilifera*
-> WONS >> high priority >> control
- Milkwort *Polygala myrtifolia*
-> medium priority >> control
- Sea Holly *Eryngium maritimum*
-> low priority >> control optional

Strand Line / Foredune Weeds



Sea Holly



Milkwort



Bitou Bush

Hind Dune Weeds

- Bitou Bush *Chrysanthemoides monilifera*
-> WONS >> high priority >> control
- Asparagus *Asparagus aethiopicus*
-> WONS >> high priority >> control
- Milkwort *Polygala myrtifolia*
-> medium priority >> control

Coastal Forest Weeds

- Bitou Bush *Chrysanthemoides monilifera*
-> WONS >> high priority >> control
- Asparagus *Asparagus aethiopicus*
-> WONS >> high priority >> control
- Wandering Jew *Tradescantia fluminensis*
-> not recorded in project area but close
- Chinese Violet *Asystasia gangetica*
-> restricted but expanding, very invasive
>> high priority >> control

Volcanic Headlands Weeds

- Bitou Bush *Chrysanthemoides monilifera*
-> WONS >> high priority >> control
- Asparagus *Asparagus aethiopicus*
-> WONS >> high priority >> control
- Milkwort *Polygala myrtifolia*
-> medium priority >> control
- Lantana *Lantana camara*
-> WONS >> control
- Cobblers Pegs *Bidens pilosa* >> control

Moist Gully / Drainage Line Weeds

- Lantana *Lantana camara*
 - > WONS >> high priority >> control
- Pampas Grass *Cortadiera selloana*
 - > restricted scheduled weed >> control
- ?Sweet Pittosporum *Pittosporum undulatum*
 - > native species out of control
 - >> partial control



Lantana



Asparagus



Cobblers Pegs



Wandering Jew



Chinese Violet + seed pods

Weeds & Native Look-a-likes

- Bitou Bush - Scaevola/Hibbertia/Myoporum
- Milkwort - Monotoca/Leptospermum
Wikstroemia
- *Acacia saligna* - *Acacia longifolia*
- *Senna pendula* - *Breynia oblongifolia*
- Wandering Jew - Commelina

Bitou Bush

Scaevola

Hibbertia

Myoporum



Milkwort

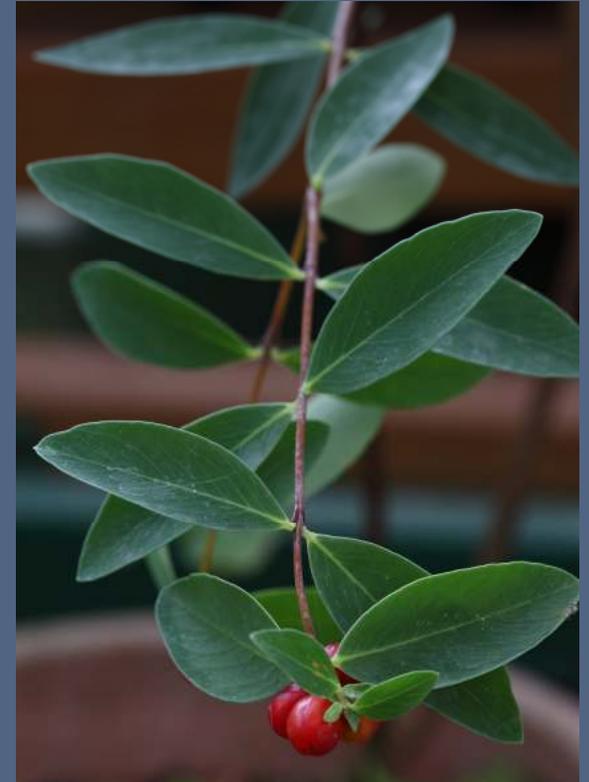
Leptospermum



Monotoca



Wikstroemia



Acacia saligna - Acacia longifolia



Senna pendula - Breynia oblongifolia



Wandering Jew - Commelina



Bush Regeneration Projects

- Objectives = ecological restoration
- Site planning – location/timing/stakeholders
- General Principles
 - work from good areas to bad
 - consider ecological processes
 - utilise site disturbance to advantage
 - work within capabilities & resources
 - ALWAYS look first & ask: Is this a weed?
 - If in doubt: Don't pull it out! (It can wait)

Bush Regeneration Methods

- Methods depend on the site & situation
- Manual control
- Chemical applications
 - spot spray
 - cut & paint (can be done in light rain)
- Fire – strategic ecological burns
- Planting (revegetation)
- Tools
- Monitoring & maintenance



BUSH & BEACH NATIVES & WEEDS COASTCARE WORKSHOP END



Hunter Region
Landcare
Network



Local Land
Services



Australian Government

National
Landcare
Program





site visit
Fingal Beach