

· Coastal Reserves



## Disclamer

This booklet has been created to increase community awareness of indigenous plants and identification of environmental weeds at the Clifton Springs Fore Shore. While all due care has been taken at the time of publication in providing correct and factual information, we take no responsibility for any errors of content. The information provided relating to the Aboriginal use of plants for food, items or medicinal purposes has been approved by the Wadawurrung Corporation.

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#### REFERENCES AND FURTHER RESEARCH

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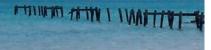
Birdlife Australia

Archaelogigal Investigation, Clifton Springs Spa Resort, VHR No. H2088, Victoria Luebbers & Associates Hertitage Consultants Roger Luebbers, PhD Susie Zada July 2008



#### **AUSTRALIAN PELICAN**

Their big bill is used to scoop fish up in shallow waters and strains out water. Usually swim in cooperative groups, where they may form a line or a 'U' shape and drive fish into shallow water by beating their wings on the surface.





The Drysdale / Clifton Springs Community Association is pleased to be part of the production of this booklet. It was felt that a booklet of this type should be available for use by schools, visitors and locals to gain a better understanding of the flora, some of which is unique to the area, and in particular to this part of the Bellarine. By using this booklet, we trust that a new generation of followers, learn the names and qualities of the plants, which for thousands of years have created their own particular habitat and support for other plants and the creatures that live here.

Rick Paradise. President. DCSCA.

# Welcome from Cr Lindsay Ellis

As councillor for the ward that is responsible for the management of this area, it gives me great pleasure to support the production of this booklet. We at Council are very much aware of the impact that indigenous plants have in keeping with the historical and environmental message that we are endeavouring to promote. Similarly we are acutely aware of the damage that many introduced species have inflicted, and we trust that the identification of both in this booklet will be put to good use, now and in the future

Cr. Lindsay Ellis. Coryule Ward of the City of Greater Geelong







# How to use this booklet

The flora is organised into sections based on the growth habit of plants.

Plants within each section are listed alphabetically using Botanical and Common name and Family name. Sizes are indicated as height (cm) x width (cm). These sizes are an approximation only.

#### **GROUNDCOVERS** AND CLIMBERS

Ground covers are low and spreading. Some are prostrate plants that grown across the ground and others are small, erect plants.

Herbs are plants that do not develop a woody stem.

**HERBS** 

Australian Bindweed	Convolvulus angustissimus	pI0
Rounded Noon-flower	Disphyma crassifolium	р10
Small-leaved Clematis	Clematis microphylla	pH

Creamy Candles	Stackhousia monogyna	pH
Feather-heads	Ptilotus macrocephalus	pI2
Fuzzy New Holland Daisy	Vittadinia cuneata	pI2
Love Creeper	Comesperma volubile	р13
Milkmaids	Burchardia umbellata	pI3
Minnie Daisy	Minuria leptophylla	pI4
Showy / Basalt Podolepis	Podolepis jaceoides	pI4
Tufted Bluebell	Wahlenbergia communis	р15

#### GRASSES, SEDGES, AND TUFTED PLANTS

Tufts are clumping plants where the leaves rise from the base of the plant. Grasses, rushes, sedges and lilies are examples.

Black-anther Flax-lily	Dianella admixta	р15
Common Reed	Phragmites australis	pl6
Feather Spear-Grass	Austrostipa elegantissima	pl6
Kangaroo Grass	Themeda triandra	р17
Nine-awn Grass	Eneapogon nigricans	р17
Rough or Slender Grass	Austrostipa scabra	р18
Silky Blue Grass	Dichanthium sericeum	р18
Wallaby Grass	Rytidosperma caespitosum	p19
Windmill Grass	Chloris truncata	р19

#### **SHRUBS**

Shrubs are plants with woody stems and with several branches growing from near the base of the plant. They may be up to 3m high. There is no clear distinction between a shrub and a small tree.

#### Seaberry Saltbush

Atriplex	semibaccata	p20
, ici ipion	oon in baccard	P

#### **TREES**

Trees are large woody plants over 3m high, with a distinct trunk. The height of trees along the coast can change dramatically depending on their location. E.g. trees pruned by salt winds can be quite stunted or low growing, appearing shrub-like in such a location.

Common Boobialla	Myoporum insulare	p20
Drooping She-oak	Allocasuarina verticillata	p21
Golden Wattle	Acacia pycnantha	p21
River Red Gum	Eucalyptus camaldulensis	p22
Moonah	Melaleuca lanceolata	p22

**WEEDS** 

Common weeds

p28 - p34



## Northern Bellarine Coastal Instability

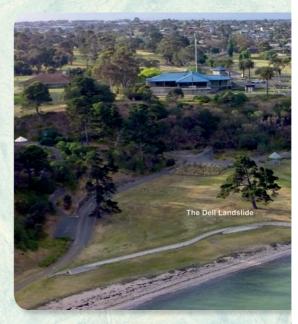
# General Information about coastal instability in the region

Slopes along the coast of the Bellarine Peninsula are typically low, with the exception being a stretch of prominent cliffs approximately 20 metre high formed in the northern coastline of the peninsula.

A number of contributing factors such as the steep coastal cliffs at this location, the geological structure including the Curlewis Monocline, the types of highly plastic clayey material present and groundwater discharge, have led to coastal instability in the form of landslides and erosion.

The Edgewater Landslide is located at Clifton Springs in the northern coastline of the Bellarine Peninsula, which is an uplifted block bounded by an unnamed fault to the west, the Curlewis Monocline in the north and the Bellarine Fault in the east.

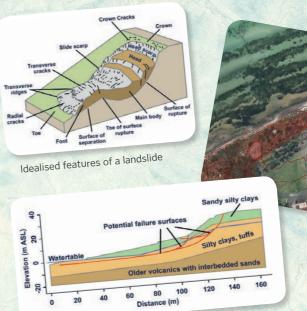
# The Dell L:



#### The Dell Landslide

The Dell is located with in a prominent natural amphitheatre formed in 20m high coastal cliffs on the northern side of the Bellarine Peninsula. The amphitheatre is about 150m across (parallel to the coast by100m long (perpendicular to the coast).

The Dell is best described as a land slide complex as it contains multiple land slides. These landslides take many forms and range from very small earth flows to large deep seated rotational slides. It is characterised by a prominent break in slope between the relatively gentle slopes on the coast and the steep slopes around the head and sides of the Dell. There are two prominent headlands on either side of the low lying grassed, coastal slopes of the Dell in front of which a narrow beach exists.



Profile view of the Dell Landslide

# Part of a series of public information signs providing insights into coastal instability in the area

# andslide





# History of the Dell Landslide

The Dell was extensively used by the local community before site access was closed in June 2002 following the discovery of a large tension crack and associated mass movements.

Extensive investigations and monitoring of the Dell continued over the ensuing years. A number of remedial measures were implemented at the site which included sealing of tension cracks, construction of weighted "toe" but

The site was partially re-opened in December 2006 with further expanded amenity provided in December 2008. The progressive return of amenity to the public follows a greater understanding and confidence in the geotechnical stability of the site obtained from detailed groundwater monitoring and pumping, risk assessments and beach access strategies.

Today, the site is fully available for public use with two key access points; being a timber stair case on the western side of the site, and an asphalt path way running along side the golf course on the eastern side of the amphitheatre. To ensure the safety of the public at all times, geotechnical monitoring continues at the site with the use a continuous real time monitoring station,

extensometers, inclinometers and groundwater monitoring bores strategically placed around the site.

# Managing landslide hazards along the coast

The City of Greater Geelong owns and manages this area of the coast and has implemented a program that regularly inspects, monitors and assesses landforms subject to instability.

Hazards and their associated risks are assessed and management actions are considered, i.e. coastal erosion control and stabilisation works. Examples of these works can be seen along this section of coast in the form of sea walls, groynes, revetments and beach renourishment.



General view of the Dell and Clifton Springs



Plan view of the Dell Landslide with 1 m contours and aerial imagery captured in December 2012. Mapped landslides shown in red.





#### **SUPERB FAIRY-WREN**

Common and widespread in dense habitat and native gardens with shrub layers. One dominant male, with a harem of up to 10 females.



#### WHITE-BELLIED SEA-EAGLE

Uncommon. Breeds in the area. Seen over lakes, bays or ocean. Listed as threatened in Victoria.



#### **AUSTRALASIAN GANNET**

Commonly seen fishing, by plunging headlong into the water from great heights. Air sacks in their cheeks for protection.



#### RAINBOW LORIKEET

Common. Urban, woodland and riparian zones. Live in tree hollows. Often seen in loud and fast moving flocks.



#### NEW HOLLAND HONEYEATER

Common. One of Australias most energetic birds. Fuelled upon high-energy nectar, always active.



#### **RED-RUMPED PARROT**

Widespread in open grassland, farmland and urban parkland. Forage on the ground among short grass, where they take seeds.



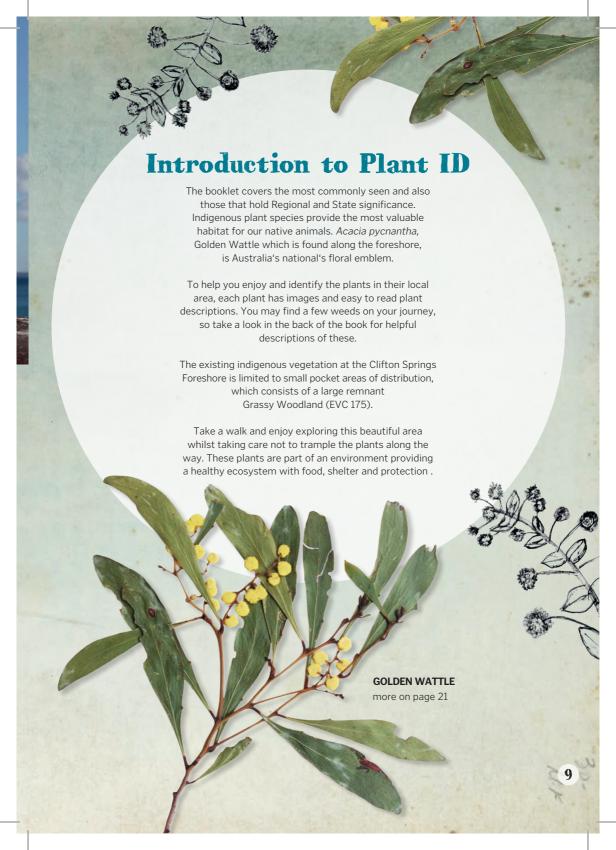
#### YELLOW-TAILED BLACK-COCKATOO

Seen in flocks. Feed by tearing open pine cones to extract the seeds from exotic Monterey Pines.



#### PACIFIC GULL

Common along beaches and offshore. Australias largest gull occurs only along the coasts of Southern Australia.



# Australian Bindweed

Convolvulus angustissimus



#### PLANT DESCRIPTION:

- Climbing or twining perennial herb, but can be some shrubby habit of growth.
- Pink rarely white funnel-shaped flowers, usually only opening, briefly in sun.
- Leaves varying in shape and size from base of stem, where deeply lobed, to top of stem.
- Often displays a mass of pink flowers in Spring and Summer.





**FAMILY: CONVOLVULACEAE** 

HABITAT: Widespread, usually in woodland

and grassland.

FLOWERING TIME: October to February

**PLANT SIZE:** 

**HEIGHT:** 0.1 m

**WIDTH:** 1.5 m



Woody taproot cooked in baskets, then

kneaded into dough to treat diarrhoea

# Rounded Noon-flower

Disphyma crassifolium



#### PLANT DESCRIPTION:

- · A spreading, ground cover succulent.
- Flowers are shining pink to purple, with numerous linear petals, with a crisp white centre.
- Succulent, smooth, more or less cylindrical leaves, with a pointed tip.
- Leaves grow in clusters, forming dense carpets of stunning colour.
- Leaves vary in colour, from bright green and often flushed with red, yellow or purple tinge.





FAMILY: AIZOACEAE

**HABITAT:** Saltmarsh and coastal areas

**FLOWERING TIME:** October to February (Flowers close at night and open again in late morning)

**PLANT SIZE:** 

**HEIGHT:** Prostrate **WIDTH:** up to 2 m



Leaves were eaten by the Wadawurrung

# **Small-leaved Clematis**

Clematis microphylla

#### PLANT DESCRIPTION:

- A woody climbing shrub often found scrambling over other vegetation.
- Flowers consist of four, oblong, creamy-white petal-like sepals but no actual petals.
- Leaves divide into three leaflets with the end leaflet, oblong to obovate in shape.
- Fruit is small and brown with fluffy awns.
- Once established, it is a vigorous climber.

**FAMILY: RANUNCULACEAE** 

**HABITAT:** Throughout Victoria in a wide range of habitats, including coastal shrub-land.

FLOWERING TIME: August to March



The tap root was cooked and kneaded to make dough

PLANT SIZE:

**HEIGHT:** about 3 m







# **Creamy Candles**

Stackhousia monogyna

#### **PLANT DESCRIPTION:**

- · An erect herbaceous perennial.
- White, tiny tubular flowers in a candle-like spike, at the end of each stem.
- Smooth narrow leaves to 40 mm long, often widely spaced on the stems.
- The perfume of the flowers, is especially noticeable at night.
- Flowers in Spring, attracting a variety of butterflies.

**FAMILY: RANUNCULACEAE** 

HABITAT: Common in open forest, heathland,

grassland and woodland.

FLOWERING TIME: August to January

PLANT SIZE:

**HEIGHT:** 10–30 cm **WIDTH:** 10–30 cm







# Feather-heads

Ptilotus macrocephalus



#### PLANT DESCRIPTION:

- An erect perennial herb, also known as Tall Mulla Mulla.
- Creamy or greenish-yellow large feathery or fluffy flower-heads on tall stems, with a very showy floral display.
- A basal rosette of dark green linear leaves with wavey margins, up to 5–10 cm in length.
- Prefers open sunny position in well-drained soils.





**FAMILY: AMARANTHACEAE** 

**HABITAT:** Grassy plains and woodland. **FLOWERING TIME:** October to November

**PLANT SIZE:** 

**HEIGHT:** 50 cm **WIDTH:** 60 cm

# Fuzzy New Holland Daisy

Vittadinia cuneata



#### PLANT DESCRIPTION:

- · Rounded to erect, perennial sub-shrub.
- Narrow heads of tiny yellow flowers with daisy petals, mauve to purple in two or more rows.
- Flowers are held erect in loose clusters on leafy stalks most of the year.
- Dark green wedge-shaped leaves, covered in rough spreading hairs.
- Also known as Fuzzweed, the fluffy seeds are a most conspicuous feature.



**HABITAT:** Red gum woodland, plains grassland, grassy wetland, tea-tree heath.

FLOWERING TIME: Spring - summer months





#### PLANT SIZE:

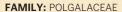
**HEIGHT:** 10–30 cm **WIDTH:** 30 cm

# Love Creeper

Comesperma voluble

#### PLANT DESCRIPTION:

- · Slender twining, creeping herb.
- Blue or purple small pea-like flowers, displayed prominently on angled stems.
- · Leaves are linears to ovate, up to 45 mm long.
- Suitable in well drained soils and open forests with dappled and semi shade.



**HABITAT:** Heathland, woodland and open forests.

FLOWERING TIME: August to November

**PLANT SIZE:** 

**HEIGHT:** 3 m high

**TWINER** 







# **Milkmaids**

Burchardia umbellata

#### **PLANT DESCRIPTION:**

- · A small and very dainty perennial herb.
- White honey-scented flowers (occasionally tinged with some pink), with a reddish heart-shaped centre, growing in clusters on simple erect stems.
- The leaves can die back to a fleshy tuber, in the Summer months.
- Requires moist but well drained soils in sunny or lightly shaded locations.
- · Butterflies are attracted to the flowers.

**FAMILY: COLCHICACEAE** 

**HABITAT:** Open forests, woodlands and heath and damp swampy areas.

FLOWERING TIME: September to December



Long tuberous roots available all year round

and cooked before eating

PLANT SIZE:

**HEIGHT:** 30-60 cm

**WIDTH:** 1.5 mm







# Minnie Daisy

Minuria leptophylla



#### PLANT DESCRIPTION:

- · Small rounded perennial.
- White to mauve daisy-like flower with yellow centre, on short stalks above the leaves.
- · Fine, light green leaves.
- Flowers throughout the year, attracting butterflies.
- Prefers a sunny position in moist, well drained soils.



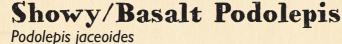


**FAMILY:** ASTERACEAE **HABITAT:** Plains Grassland.

FLOWERING TIME: June to March

**PLANT SIZE:** 

**HEIGHT:** 10–30 cm **WIDTH:** 20–50 cm





#### PLANT DESCRIPTION:

- · Erect tufting perennial herb.
- Bright yellow daisy-like flower-heads held on tall erect stalks, growing from a basal rosette.
- Dark green, narrow leaves up to 10 cm long.
- A very showy floral display.
- · Prefers dry conditions.





**FAMILY: ASTERACEAE** 

HABITAT: Plains Grassland, Grassy Wetland,

Red gum woodland.

FLOWERING TIME: October to November

**PLANT SIZE:** 

**HEIGHT:** 30-60 cm

WIDTH: 30 cm



The roots were baked then eaten

# Tufted Bluebell

Wahlenbergia communis

#### PLANT DESCRIPTION:

- A spreading, delicate perennial herb, with a creeping root system.
- · Pale blue, bell-shaped flowers, held in loose clusters.
- Leaves are narrow, bright green on erect stems and almost hairless.
- · Self-seeds readily and also suckers.
- Prefers sunny position in dry, well-drained soil.
- Flowers attract the butterflies, beetles, spiders and native bees.

**FAMILY: CAMPANULACEAE** 

**HABITAT:** Plains grassland, woodland and riparian srubs

FLOWERING TIME: October to May



The flavour of bluebells is very mild and

traditionally used in salads

PLANT SIZE:

**HEIGHT:** 15-50 cm

**WIDTH:** 15-60 cm







# Black-anther Flax-lily

Dianella admixta

#### PLANT DESCRIPTION:

- · An erect, hairless, perennial herb.
- Attractive clusters of blue/purple flowers, held on stems above the foliage.
- Blue green foliage, grow from underground rhizomes and forming clumps.
- Blue to purple berries containing 3-4 seeds.
- Sometimes a dominant understorey species and can form large spreading colonies.
- It is drought and frost resistant.

**FAMILY: LILIACEAE** 

**HABITAT:** Plains grassland, box and red gum woodland, dry, valley and damp sclerophyll, tea tree heath.

FLOWERING TIME: September to December



Berries eaten and used to make dyes.

Leaves made strings and baskets

**PLANT SIZE:** 

**HEIGHT:** 0.3-1 cm **WIDTH:** 0.5-2.5 cm







# Common Reed

Phragmites australis



#### **PLANT DESCRIPTION:**

- · Semi-aquatic perennial grass.
- Flower-heads are large, oval shaped,
   10-40cm long. Flowers are white to purplish,
   feathery and arranged in a loose branching cluster.
- Leaves are linear, smooth and flat or loosely inrolled. Grey-green in colour.
- · Thick, fleshy roots.





**FAMILY: POACEAE** 

**HABITAT:** Edges of lakes and water courses. **FLOWERING TIME:** around January to April

**PLANT SIZE:** 

**HEIGHT:** 3 m **WIDTH:** 2 cm

Used the leaves for twisting into

rope and stems as spear shafts and the roots for food.

# Feather Spear-grass

Austrostipa elegantissima



#### PLANT DESCRIPTION:

- · A tufted perennial grass with branched stems.
- Flower-heads are widely spreading with many branches forming a large mass of pinkish-grey heads.
- · Numerous soft, wispy purplish open plumes.
- Leaves are hairless, to 12 cm long and 4 mm wide when flat.
- · Feathery seed heads.
- Prefers open position in sun or semi-shade in dry, well drained soils.





**FAMILY: POACEAE** 

**HABITAT:** Grows on granite, limestone soils,

deep sands and saline flats.

FLOWERING TIME: August to December/January.

**PLANT SIZE:** 

**HEIGHT:** 30 cm-3 m

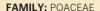
**WIDTH:** 0.5 m

# Kangaroo Grass

Themeda triandra

#### PLANT DESCRIPTION:

- An attractive tufted, perennial and deep rooted grass.
- Flowers heads are a decorative purple-green and change to red-brown over the summer months.
   Large and arranged in distinct fan-shaped spikelets.
- Younger leaves are grey-green in colour, turning red-brown.
- Seeds are dark brown and shiny with a tapered, sharp base and a collar of fine hairs.
- Fast growing, long lived, drought and frost tolerant grass.



**HABITAT:** Wide-spread, but is dominant in grassland communities.

**FLOWERING TIME:** September to February



Seeds ground, mixed with water and cooked to

make damper. Stems and leaves used to make nets.

#### **PLANT SIZE:**

**HEIGHT:** up to 90 cm tall





# Nine-awn Grass

Enneapogon nigricans

#### PLANT DESCRIPTION:

- · A small tufted perennial grass.
- Flower-heads are dense and green when flowering, with a blackish tip.
- Leaf blades are grey-green in colour, stiff, narrow and inrolled and hairy.
- Seedheads are dark grey to black and resemble 'bottle-washers'.
- The distinguishing feature is the presence of nine awns on the seed.

FAMILY: POACEAE

**HABITAT:** Plains Grassland

FLOWERING TIME: September to February



**HEIGHT:** 20–55 cm **WIDTH:** 20–30 cm







# Rough or Slender Grass

Austrostipa scabra



#### PLANT DESCRIPTION:

- An erect slender tufted perennial.
- · Numerous soft, silky flower-heads in spring and early summer.
- · Leaves are very fine, long and strongly rolled, also rough to touch.
- Seed heads are moderately open to 30 cm long. Spikelets are 10-15 cm long, sharply pointed.
- · Very drought tolerant.





**FAMILY: POACEAE** 

HABITAT: Widespread and common, occurring on rocky outcrops at the Dell.

FLOWERING TIME: September to December

PLANT SIZE:

**HEIGHT:** up to 25 cm tall



The grain were eaten by the Waduwurrung.

# Silky blue Grass

Dichanthium sericeum



#### PLANT DESCRIPTION:

- · An erect, tufted perennial grass with blue-grey leaves and stems.
- · Numerous silky flower-heads.
- Leaves are 8-15 cm long and 2-4 mm wide.
- Spikelets are straw-coloured and covered in silky hairs.
- · A small tuft of the seed-head remains as the stem tip after the ripened seed has fallen off.
- One of the most ornamental of the native grasses.





FAMILY: POACEAE

HABITAT: Prefers warmer, drier climates. Grassland and woodland habitats.

FLOWERING TIME: November to May

**PLANT SIZE: HEIGHT:** 30-80 cm



# Wallaby Grass

Austrodanthonia spp

#### PLANT DESCRIPTION:

- · A tufted, perennial grass with a dense tussock-like base.
- Flower heads are a dense, oblong shape, 3-10 cm long and often purplish in colour.
- 10-30 spikelets, which appear fluffy and cream-coloured when mature.
- · Fine leaves, flat to inrolled, commonly hairy but occasionally hairless. The upper leaf surface is blue-green in colour
- · Butterflies are attracted to these grasses.

**FAMILY: POACEAE** 

HABITAT: Wide-spread, but dominant in grassland communities.

FLOWERING TIME: September to January

PLANT SIZE:

**HEIGHT:** 20-90 cm

**WIDTH:** 12 cm







# Windmill Grass

Chloris truncate

#### PLANT DESCRIPTION:

- A short-lived (2-3 years), attractive tufted perennial grass.
- Young florets are green in colour, becoming purplish when mature and black once ripe.
- Short narrow leaves, flat to folded and pale-green in
- The decorative seedhead is windmill-like in shape, made up of 5-10 spikes (5-17cm long) that radiate from the stem.

**FAMILY: POACEAE** 

HABITAT: Grassy wetland, plains grassland, red gum and grey box woodland.

**FLOWERING TIME:** November to February

PLANT SIZE:

**HEIGHT:** 10-50 cm

WIDTH: 1 m





**RAINBOW LORIKEET** 

more on page 8

# Seaberry Saltbush

Rhagodia candolleana



#### PLANT DESCRIPTION:

- · A dense, scrambling shrub with grey-green foliage.
- Flowers are whitish in colour and usually inconspicuous.
- Leaves are semi-succulent, 35 mm long, glossy green above and paler below. Spade shaped, the leaves are often widened towards the base and leaf margins are frequently turned under.
- Berries are small, glossy dark red and flattened with a dimple at the top.
- The berries are attractive to native birds in Autumn.





**FAMILY: CHENOPODIACEAE** 

**HABITAT:** Coastal area and saltmarshes. **FLOWERING TIME:** December to April

PLANT SIZE:

**HEIGHT:** 2 m **WIDTH:** 1-1.5 m

# Common Boobialla

Myoporum insulare



#### PLANT DESCRIPTION:

- A large dense, spreading ever-green shrub or small tree.
- Clusters of fragrant white flowers with purple spots, followed by purple fruit.
- · Smooth long simple leaves.
- Salt tolerant and leaves become succulent beside the sea
- Prefers a sunny position in well-drained soils and suckers readily.





FAMILY: MYOPORACEAE

**HABITAT:** Common in coastal scrub and along the edges of coastal saltmarsh, rarely found inland.

FLOWERING TIME: September to December

PLANT SIZE:

HEIGHT: 2-4 m WIDTH: 3 m



The Waduwurrung ate the fruit.

which is a round purplishgreen drupe

# **Drooping She-oak**

Allocasuarina verticillata

#### PLANT DESCRIPTION:

- A small erect evergreen tree with needle-like branchlets, (the tiny triangular scales are the leaves)
- A young tree produces a dense crown, whilst a mature tree is more rounded with drooping grey-green branchlets.
- Male and female flowers are on separate trees. The male flowers (image on top) have brown tassels and the female flowers have small red foliage along the stems, followed by fruiting cones about 4 cm long.

**FAMILY: CASUARINACEAE** 

**HABITAT:** Widespread on coastal cliffs and sandy soils.

FLOWERING TIME: June to August



Used for making boomerangs, shields and clubs.

Young shoots chewed to allay thirst and young cones eaten

**PLANT SIZE:** 

**HEIGHT:** 4-8 m

Small tree







#### PLANT DESCRIPTION:

- Australia's national floral emblem.
- · An evergreen, shrub or small tree.
- Flowers are large and fluffy, golden-yellow flower heads, with up to 80 minute sweetly scented flowers.
- Bright green, glossy leaves, (leathery phyllodes). A great identification feature is a gland at the base of the leaf. (A golden nugget)!
- The dark brown mature pods splits along one side to release the seeds.

**FAMILY: MIMOSACEAE** 

**HABITAT:** Common in woodlands and valley slopes.

FLOWERING TIME: June to November



Bark used to contain food. Important

plant food for medicine and glue.

PLANT SIZE:

**HEIGHT:** 2-5 m Shrub or small tree

# Golden Wattle

Acacia pycnantha







# River Red Gum

Eucalyptus camaldulensis



# PLANT DESCRIPTION:

- A medium to tall tree with thick trunk, twisting branches and spreading crown.
- Flowers are white and occur in clusters of 7-11.
- Mature leaves are 9–20 cm in length, dull greyish-green in colour on both sides with an obvious middle vein.
- Buds occur in clusters of 5–10, but usually 7. He bud caps are distinctively pointed, with slender stalks.
- Fruit is a woody disc-domes shape (usually in 4's), with projecting valves.





**FAMILY: MYRTACEAE** 

**HABITAT:** Open forest or woodland, mostly along inland rivers, floodplains and dry waterways

FLOWERING TIME: December through to February

**PLANT SIZE:** 

**HEIGHT:** 12-45 m

**WIDTH:** 1-3 m



Bark used for canoe and shield making

# **Moonah**Melaleuca lanceolata



#### PLANT DESCRIPTION:

- A medium-sized evergreen tree, with a rounded, dense, bushy canopy of dark green foliage.
- Attractive and prolific number of white flowers in fluffy cylindrical spikes to 50 mm long.
- Grey-green spearhead-shaped, hairless leaves to 15 mm long, with a pointed tip.
- · Woody fruit capsules
- Trunks become distinctly gnarled and twisted with age, and cope with strong coastal winds.

FAMILY: MYRTACEAE

**HABITAT:** Coastal scrub and inland woodlands **FLOWERING TIME:** April to September





PLANT SIZE:

**HEIGHT:** 1-10 m **WIDTH:** 3-6 m



Mothers would wrap their babies in

the bark, to cradle and keep their babies warm



The earliest image of the site was published for home readers in Melbourne by the Australian News on 28 March 1872, created by renowned engraver Robert Bruce.

# European Settlement

The earliest known European to live nearby was James Cowie who bought around 400 acres of land here in 1848, of which he paid a modest £800. He later sold that land to Thomas Bates who discovered mineral waters bubbling up along the foreshore. He, along with a couple of other men spent a lot of time and money to set up a company known as the Clifton Mineral Springs Company.

Over a period of 35 years, 3 piers were built to handle not only the produce from the local flour mill. Also to handle the many thousands of visitors to the area that came to indulge in the health giving waters of the mineral springs. In 1881 a hotel was built on the cliffs overlooking the Dell, another magnificent 40 room one was built nearby in 1890. Along the foreshore there was

a bottling plant, a bath house and a manager's cottage. Thousands of bottles of mineral water were being produced each week. Not long after the turn of the century as the motor car was beginning to allow people to travel further, the mineral spring's company went into decline and finally stopped production in 1908. Unfortunately. no effort was made to

protect the area and there is virtually nothing at all left of this once thriving business. The hotel burned to the ground in 1921 and was later rebuilt in 1926, which in turn was redeveloped in 1957 as the Clifton Springs Country Club. Since the 1990's it has become the home of the Clifton Springs Golf Club.

Doug Carson. Treasurer, DCSCA.



These men are pumping water from a well in front of the Well Yard, on the esplanade about 1916.



Dell
Foreshore
springs,
functioning
buildings
originating
from the big
construction
period of
1888.
23

REF: LUEBBERS & ASSOCIATES HERITAGE CONSULTANTS July 2008

# W. A.

# Wadawurru

# NETS & FISHING LINES

Nets and fishing lines were used in the rivers and estuaries and were made from bark, grasses and human hair. Some nets measured up to 30 metres long. Hooks were made from shells.



#### COOKING

Sometimes the catch was placed directly onto hot coals or in a pit lined with hot stones. At other times the catch would be wrapped in green leaves or placed inside a woven basket made from grasses before being placed onto the coals. Many shellfish such as marine snails were eaten raw.



#### **MIDDEN**

Middens are made up of the discarded food shell and bone waste from many meals in the one location. Middens were next to rivers, lakes and bays or in the sand dunes by the ocean. Today middens show us what the different clans ate in the different locations they were camped.

# Cultural Significance

We, the Traditional Owners of what is now Victoria, have existed as part of this land for thousands of generations. We are not separate from the land, but an intrinsic part of it, we understand that the health of the land is the health of the people. The lore of the land is the very heart of our existence, and our culture – this is what land means to us. Within this meaning lies our great respect for the land and the fundamental knowledge of the essential nature of maintaining a holistic relationship with country.

The Bellarine Peninsula is a cultural landscape; shaped and influenced by people. Aboriginal footprints exist over every part of this land. The remaining tracts and patches of remnant bush, the wetland, coastal and river environments are the best enduring representations of Aboriginal cultural values, and the protection of these speaks to the very core of our being.

To protect our remaining landscape, indigenous and non-indigenous cultures must genuinely engage with each other; learn from each other, and recognise the value of black and white knowledge. Working side by side, we have a greater chance of responding appropriately to current environmental challenges. Involving Aboriginal people at all levels of land and water management will benefit the whole community.

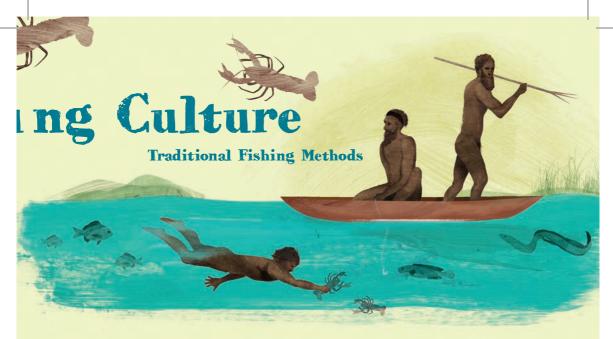
Wadawurrung Traditional Owners and Registered Aboriginal Party





BUNJIL

Wadawurrung Aboriginal Corporation



#### **HAND COLLECTION & DIVING**

Hand collection and diving were methods used to collect animals such as tjorriong (rock lobster), barnawarrabil (marine mussel) and barnabil (oyster). Tombine (freshwater mussel) and

mayayn (yabby) were collected by feeling for them first with bare feet.

#### **CANOES**

Canoes were made from the bark of a tree usually not far from water. A stone axe was used to cut out the shape in the bark, which was peeled off in one large piece then dried and shaped over a fire. Often a small clay fire pit was made inside a canoe to cook fish and

animals that were caught. The light from the fire pit or a fire stick were used to attract kuwiyn (fish) at night.

#### **FISH TRAPS**

Fish traps were made in rivers, lakes and tidal marine locations. Some were circular in shape extending from the shore line and others straight across rivers and streams. Materials used included stones, branches, sticks, reeds and clay. In flood waters or high tides kuwiyn (fish) and

buniya (eel) would swim into the traps and remain inside as the water lowered again, making it easy to collect the kuwiyn (fish) and buniya (eel).



#### **FISHING SPEARS**

Fishing spears were made in many sizes and from different materials such as wood, stone and reeds by men. Men sometimes worked in pairs. One would stand waist deep in water with a spear while the other man stood at a higher point looking for fish and calling out where the kuwiyn (fish) were.



# The Dell from above Mineral Springs GULL Seagulls are very clever. They learn, remember and even pass on behaviours, such as stamping their feet in a group to imitate rainfall and trick earthworms to come to the surface. Viewing Platform 26





# African Boxthorn

Lycium ferocissimum

#### PLANT DESCRIPTION:

- · A dense woody and spiny shrub.
- Tubular flowers are white or pale purplish with deeper purple inside the flower.
- Leaves are small, up to 4 cm long, fleshy and often clustered in groups.
- Fruit is green, red to orange, a shining berry on a short down-turned stalk.
- Seeds are oval or irregular in outline shape and flattened.
- · Long spines, up to 15 cm long.

**FAMILY: SOLANACEAE** 

FLOWERING TIME: October to March

**ORIGIN:** South Africa

# INVASIVE PLANT CLASSIFICATION:

\*Weed of National Significance (WONS)

#### **PLANT SIZE:**

**HEIGHT:** 4-5 cm **WIDTH:** 3 m







# Agapanthus Agapanthus praecox

#### PLANT DESCRIPTION:

- An erect perennial herb, that forms in large dense clumps.
- Flowers are bright blue, mauve (or occasionally white) held in large spherical clusters at the top of robust smooth stems.
- Flowers have six large petals that are fused into a tube at the base.
- Leaves are glossy and dark green, long and strap-like.
- Seeds are black in colour and winged, enclosed in a leathery green capsule which dries to pale brown.

**FAMILY: LILIACEAE** 

FLOWERING TIME: November to February

**ORIGIN: South Africa** 

# INVASIVE PLANT CLASSIFICATION:

\*Significant environmental weed

#### **PLANT SIZE:**

**HEIGHT:** 60–120 cm **WIDTH:** 15–120 cm







# Blue Periwinkle

Vinca major



#### PLANT DESCRIPTION:

- A trailing perennial herb with ground-creeping stems, capable of covering hundreds of square metres.
- Flowers are mauve to sky blue, with white markings in the middle. Stems have a milky sap.
- Leaves are ovate, glossy dark green above and paler below.
- Produces little or no seed and is spread primarily by stems rooting at the tips. Roots also develop where stem nodes come in contact with the soil.





FAMILY: APOCYNACEAE

FLOWERING TIME: November to March

ORIGIN: Central and Southern Europe, Northern Africa

**PLANT SIZE:** 

**HEIGHT:** 50 cm-3 m

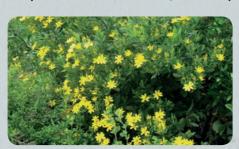
**WIDTH:** >100 m

INVASIVE PLANT CLASSIFICATION:

\*Environmental Weed

# Boneseed

Chrysanthemoides monilifera subsp. monilifera



#### PLANT DESCRIPTION:

- An erect perennial evergreen, sprawling shrub.
- Flowers in clusters at the end of branches, yellow in colour, usually with 4–8 petals.
- Leaves are oval shaped with irregularly serrated edges. They are hairless except when new.
- Fruit is globular, green, ripening to black when mature and fleshy, 6–10 mm wide.
- Woody, light brown seed covering, surrounding a single seed.





FAMILY: ASTERACEAE

FLOWERING TIME: August to November

**ORIGIN:** South Africa

**PLANT SIZE:** 

**HEIGHT:** 1-3 m

**WIDTH:** 2-6 m

INVASIVE PLANT CLASSIFICATION:

\*Weed of National Significance



# Cape Weed Arctotheca calendula

#### PLANT DESCRIPTION:

- A low-growing, perennial or annual herb, with basal rosettes.
- Yellow daisy-like flowers with dark centres.
   Deeper yellow towards the centre of the flower and pale yellow on the outer third of the petal.
- Leaves are covered with white woolly hairs, especially on the undersides. Deeply lobed and can reach a length of up to 15 cm.

**FAMILY: ASTERACEAE** 

FLOWERING TIME: September to November

**ORIGIN:** South Africa

INVASIVE PLANT CLASSIFICATION:

\*Environmental Weed

**PLANT SIZE:** 

HEIGHT: 30 cm







# Coast Wattle

Acacia longifolia var. sophorae

#### PLANT DESCRIPTION:

- · A dense spreading shrub or small tree.
- Flowers are golden-yellow and fluffy, in spikes about 3 cm long, often solitary or sometimes twinned and without stalks or very shortly stalked.
- Phyllodes (leaves) are flat green and oblong and narrow.
  2-5 prominent longitudinal veins with a pointed tip.
- Fruit is a pale brown, curved and twisted pod to 15 cm long and 8 mm wide, holding black shiny seeds.

**FAMILY: FABACEAE** 

FLOWERING TIME: July to October

ORIGIN: Australia

INVASIVE PLANT CLASSIFICATION:

\*Environmental Weed

PLANT SIZE:

**HEIGHT:** 0.5 – 3 m

**WIDTH:** 1-3 m







# Chilean Needle Grass

Nassella neesiana



#### PLANT DESCRIPTION:

- · A tussocky perennial speargrass.
- Flower-head is loose, growing up to 40 cm long.
- Leaves are mostly hairless and flat to slightly inrolled. Growing to 30 cm long and 5 mm wide.
- Seeds are pale brown when mature and hairless, except along the midrib. At the junction of the seed, there is a small sheath (tooth) encircling the awn.
- Can produce large numbers of seed, infestations range from 1,600 to 22, 000 seeds per square metre.





**FAMILY: POACEAE** 

FLOWERING TIME: October to April

**ORIGIN:** South America

PLANT SIZE: HEIGHT: 1 m Grass

# INVASIVE PLANT CLASSIFICATION:

\*Noxious weed and restricted weed

# Common Oxalis/Sour Sob

Oxalis pes-caprae



#### PLANT DESCRIPTION:

- A common perennial herb, growing in clumps.
- Flowers are golden-yellow in colour, with five small petals.
- Flower-heads are held on long stalks and may be individual or in small clusters.
- Leaves are heart-shaped leaflets and are quite distinct in appearance.
- Produces many small bulbs, therefore easy to pull out, but hard to remove completly.





FAMILY: OXALIDACEAE

FLOWERING TIME: August to March

**ORIGIN:** South Africa

**PLANT SIZE:** 

**HEIGHT:** 10-15 cm

Herh

INVASIVE PLANT CLASSIFICATION:

\*Noxious Weed

# Flax-leaved Broom

Genista linifolia

#### PLANT DESCRIPTION:

- · An erect evergreen shrub.
- Flowers occur in clusters at the end of the branchlets, they are bright yellow and pea-like.
- Light green hairy leaves, arranged alternately on branches stalkless. 2–3 cm in length. Whitish appearance and densely hairy underneath the leaf.
- A grey to black silky pod, about 2.5 cm long.
- Seeds are ejected from the pods in Summer, up to 5 m in distance.

**FAMILY: FABACEAE** 

FLOWERING TIME: September to November

**ORIGIN:** Mediterranean



\*Noxious weed and regionally controlled

**PLANT SIZE:** 

**HEIGHT:** 3 m

Shrub







# Hare's-tail Grass/Bunny Tails

Lagurus ovatus

#### PLANT DESCRIPTION:

- · A small hairy annual grass, which grows in small tufts.
- Fluffy tear-drop shaped flower-head on slender aerial stems.
- Leaves are grey-green and velvety, 20 cm long and 15 mm wide, alternating along the stems.
- The leaves are tufted at the base of the plant.
- Seed-heads are whitish and feathery, which usually persist for several months after flowering.

**FAMILY: POACEAE** 

**FLOWERING TIME:** September to December **ORIGIN:** Mediterranean and Northern Africa

INVASIVE PLANT CLASSIFICATION:

\*Environmental weed

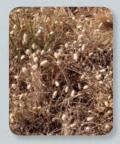
**PLANT SIZE:** 

HEIGHT: 5-60 cm

Grass







# Panic Vedlt Grass

Ehrharta erecta



#### PLANT DESCRIPTION:

- A tufted perennial grass.
- Leaves are soft and mostly smooth with no hairs and a conspicuous mid vein. Often a paler shade of green, than surrounding grasses.
- Seed head 6-20 cm long, usually held upright and seen above the grass.
- Microleana stipoides or Weeping Grass is a similar native species.





**FAMILY: POACEAE** 

FLOWERING TIME: September to February

**ORIGIN:** South Africa

PLANT SIZE:

**HEIGHT:** < 80 cm

INVASIVE PLANT CLASSIFICATION:

\*Environmental weed

# Radiata Pine

Pinus radiata



#### PLANT DESCRIPTION:

- A large, tall evergreen tree, with a strong pine fragrance.
- Separate male and female cones are produced on the same plant. The female cones are much larger and egg-shaped. (7–17 cm long).
- The dark green needle-like leaves have pointed tips. Needles occur in groups of three, their bases enclosed in a sheath.
- The seeds are blackish in colour, oval, with a papery wing.
- Bark is grey-brown, deeply ridged, sticky and resinous.





**FAMILY: PINACEAE** 

FLOWERING TIME: Cones can open any time
ORIGIN: South-west USA and north-west Mexico

PLANT SIZE:

**HEIGHT:** 20-50 m

INVASIVE PLANT CLASSIFICATION:

\*Environmental weed

# Glossary

burr

fruit

basel rosette A cluster of leaves radiating from a common point at the base of the stem.

berry A fleshy fruit, often containing many seeds.

biennial A plant that develops vegetatively in the first year and produces a food-storage organ,

then flowers and dies in the second year.

A plant that completes its life cycle in one season.

**Ecological Vegetation Class (EVC)** A way of classifying vegetation forms.

A fruit with a 'stone' or seed surrounded by a fleshy layer. environmental weed A plant species that has spread out of its natural range and is displacing indigenous vegetation.

A prickly fruit.

Collectively, plants of an area usually with descriptive entries following a system of classification.

The ripe ovary of an Angiosperm, sometimes including accessory structures.

herh A plant that produces a fleshy rather woody stem.

A perennial plant which dies down each year after flowering. herbaceous

indigenous Native to a local area; not introduced. inflorescence The flowering structure of a plant.

A shrub or tree with several trunks or stems rising from a lignotuber. mallee

noxious weed A plant species that causes community, environmental or economic damage and which land

owners have a responsibility to manage or control under State legislation.

oblique Of a leaf blade, asymmetrical at the base.

perennial A plant with a normal life span of more than two years.

prostrate Procumbent.

Regional / State conservation Significance A term used to describe species that are rare, endangered, or vulnerable within a specific region.

rosette A plant that completes its life cycle in one season.

seed Productive unit of a plant, the product of a fertilized ovule and containing an embryo with food reserves.

shruh A perennial woody plant, with no single axis, which branches freely and does not exceed 10m in height. species Smallest unit of classification. Sorts plants and animals into groupings based on their genetic similarities.

succulent A plant having thick fleshy leaves or stems adapted to storing water.

suckers Shoots springing from the base of a tree or other plant.

terrestrial Growing in the ground.

understorey A general term for the plants growing under the canopy of taller ones.



