KANANOOK CREEK CORRIDOR

The Kananook Creek Association Inc. believes that the Kananook Creek and Reserves have potential to become valuable environmental and recreational assets of regional significance.

CONTENTS

1. INTRODUCTION/AIMS

Our aim is 'to clean, restore and preserve the Kananook Creek and its environment'.

Much has been done in the past to improve water volumes and quality through the sewering of the catchment and provision of flushing pumps. Much is being done now to improve the environment of the creek reserves by weed eradication and the replanting of local native species. However physical appearance and effective management have not shown similar improvement.

This Association realises that it still has a major task to advocate to the responsible authorities to maintain their commitment to the creek beautification and management, thereby ensuring its potential be realised.

The aim of this booklet is to:

- provide a valuable and comprehensive reference for our members, students and other interested members of the public of the ecology of the Kananook Creek Corridor – its natural reserves and the waterway:
- improve public awareness of the environmental and recreational value of the corridor and the main issues for restoration and preservation;
- provide a handy reference of what to do if problems are observed.

2. BACKGROUND/BRIEF HISTORY

Before European settlement the Kananook Creek was an important source of fish and eels for the local Bunerong Tribe and there are remnants of kitchen middens along its banks. A plaque near the Creek mouth commemorates the visit of the first white visitor, the surveyor, Charles Grimes, who met a party of aborigines near the Creek in 1803.

At that time the Creek was one of the main outlets of the large Carrum Carrum wetlands extending from Frankston to Mordialloc, reaching as far inland as South Dandenong. In 1879 the Patterson River was cut to drain most of the swamp for farming. This deprived the Kananook Creek of the bulk of its catchment.

With the reduction in the water flow the Creek silted up in the 1880's. Low water flow and increasing amounts of sullage produced odours and pollution. Urbanisation in the 1970's and 80's intensified the problems as it became the outlet of treated effluent for the greater Frankston area. In 1984 flushing pumps were installed in the Eel Race Drain to pump salt water from the Patterson Lakes into the Creek. This extra flow improved the water quality. In September 1991 at the Mornington Peninsula sewerage treatment plant was closed and all effluent was directed into the Melbourne South Eastern Purification Plant which discharges at Cape Schanck.

In February 1992 the first Management Plan for the Kananook Creek and its reserves was finalised (updated July 2009).

Our aim is 'to clean, restore and preserve the Kananook Creek and it's environment'

3. GEOGRAPHY/GEOLOGY

Boggy Creek runs into the Eel Race Drain east of the Mornington Peninsula Freeway. West of the Mornington Peninsula Freeway, the Eel Race Drain then runs 2.1 km to the pumping station at the southern end of Patterson Lakes and from there the Kananook Creek flows for 7.5 km to its mouth at Frankston-under the railway bridge and then almost due south along the secondary dune system parallel to the Seaford/Frankston Foreshores.

The rainfall in the catchment area averages 695mm per year which covers Frankston, Seaford and extends inland as far as South Dandenong.

The entire length of the creek is tidal, with no gradient. There are about 40 hectares of crown land reserves along the creek, containing valuable remnant examples of the original coastal heath land.

Port Phillip Bay is a basin which is surrounded by a series of faults at its margins: the Rowsley Fault on the east margin and the Selwyn Fault which runs parallel to the west coast of the Mornington Peninsula.

During the past 70 million years, the sea level has fluctuated, depositing various sediments in the Port Phillip Bay Basin – and the current shape has only developed in the last few thousand years. More recently, dunes have been formed by wind carrying sand being flown off the beaches.

The Carrum Swamp was developed at the same time, and was blocked from Port Phillip Bay by these sand dunes. The dunes run north-south and are now mined out. This is where the houses of Seaford and Seaford North are situated today. The course of the Kananook Creek was controlled by those dunes.

4. MANAGEMENT

The Kananook Creek and its reserves should be managed along its entire length as one integrated 9.5 km environmental and recreational corridor.

The Organisations responsible are:

- **City of Frankston (F.C.C.)**
- **Melbourne Water (M.W.)**
- **Melbourne Parks and Waterways,**
- **Ports and Harbours**
- **Environment Protection Authority**
- **Ministry of Conservation**
- **Kananook Creek Liaison Committee** (advisory only)

Melbourne Water Corporation manages the waterway. The Creek carries the run off of excess rainwater from a wide catchment area that includes most of Frankston and Seaford. Melbourne Water removes snags and rubbish and monitors the water for pollution. Melbourne Water also is responsible for dredging silt deposits at the drain outlets. In addition the Environment Protection Authority is concerned about any reported pollution in the creek or indeed anywhere in Victoria.

Frankston City Council (FCC) manages the 43 hectares of natural reserves lining the Creek. This comprises a mixture of Crown Land and land owned by the FCC itself. There are also a few small parcels of land on the flood plain owned and managed by Melbourne Water. A body called the Kananook Creek Liaison Committee was set up in 1971 to oversee and co-ordinate the various aspects of Creek and Reserves Management. This body comprises Melbourne Water, The FCC, Melbourne Parks and Waterways, various Anglers and Boating Groups and the

Kananook Creek Association. The Kananook Creek Advisory Committee has a role in oversighting the implementation of the Kananook Creek Corridor Management Plan.

The Kananook Creek Association Inc. (KCA)

The Kananook Creek Association was founded in February 1970 by a number of local residents concerned about the creek's appalling condition as an effluent drain and the spoiling of local beaches. It is a community group having a membership of some 300 people, mostly living near the Creek along its length. It has a motto "to clean, restore and preserve Kananook Creek and its environs". It works to influence quality outcomes for the Creek, by practical hand on restoration, by education and promotion and by liaising with the two bodies directly responsible for the management of the creek and its reserves viz: Melbourne Water and Frankston City Council.

5. WATER QUALITY AND QUANTITY

Water quality can be polluted as follows:

The Creek is the natural drainage area of the stormwater system for a large part of Langwarrin, Carrum Downs, Frankston and Seaford. This means all road and street run off and any oil, poisons, unwanted medicines etc. placed by people into the stormwater system finish up in the Creek. In summer we can get high E-coli readings in the Creek and on Frankston Beach after heavy rain.

The biggest drain is the Melbourne Water drain which enters the Creek at Beach Street (near the mouth) and brings in rubbish from domestic, commercial and business areas of Frankston. Many people throw garden cuttings, household rubbish, even car engines into the Creek, thinking it will just go away: it doesn't. Everything that washes down the road drains ends up in the creek. Frankston Council has installed a gross pollution trap at the Wells Street drain.

The solution to these problems appears to rest with community education, so that people understand the damage their careless actions cause.

Measuring Pollution:

There are a number of physical and biological indicators which determine water quality. E.coli is usually of an acceptable level of under 1000 organisms/100 ml except when rainstorms flush dog and bird faeces from the streets and roofs into the creek. Ammonia (NH3) is an important polluting nutrient that causes algae growth with phosphorus and nitrogen when quantities are greater than 3mg/litre. As organic matter breaks down it needs oxygen and takes it from the water.

Excessive Biochemical Oxygen Demand (BOD) can kill fish and cause foul odours. Flow rates are important to keep the oxygen level up and to scour phosphates, suspended solids and nitrogen based nutrients from the creek. Temperature and conductivity are important indicators of their levels and of organic matter and salinity of the Creek.

These parameters are currently measured by Melbourne Water. Samples are taken 13 times per year at Wells Street and in the Eel Race Drain at the Mornington Peninsula Freeway. Occasional water samples are taken to test for heavy metal concentration.

Until now, these have been the most important parameters to measure, but with the improvements to water quality achieved so far, it is becoming desirable to look at the next levels of water quality. This would involve testing for toxicants.

The DVA published a biological survey in 1981. The report gives a comprehensive picture of the state of the Creek at that time. Regular Biological Monitoring does not take place. If regular biological monitoring was to take place in the future, there would by many factors to

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consider in designing a worthwhile programme. The organisms which are of use as indicators for a stream such as the Kananook are well known. Not yet known is which particular communities of these organisms can assist in the understanding of an urban stream that has been polluted, has high flow events (with associated poor water quality) and has an amount of saline content.

Water Quantity:

After the Patterson River was cut, the flow of the Kananook has been fed by Boggy Creek, treated effluent (no longer in operation) the Patterson Lakes pump station and storm water drains. Low flow, when the pumps are not operating is approximately 10 mega litres (ML) per day. This varies according to the time of year, as can be seen from measurements taken at Boggy Creek. In the mid 1980's measurements taken have shown a variation in base flow between 2.8 ML per day in summer and 1 ML per day in winter.

The Patterson Lakes Pumping Station has two pumps, with capacities of 49 and 98 ML per day respectively. They can act singly or jointly to pump clean sea water into the system. The pumps are routinely serviced during the winter or spring period.

The results for the other parameters that have been regularly measured are shown in the accompanying diagrams (Section 15). The results themselves are taken from the Management Plan, along with additional measurements made since the Plan was written. The acceptable levels shown on the graphs are based on State Environmental Protection Policy Guidelines.

The results shown are averaged over each year. Within each set of samples taken over the year there is a degree of variation. This applies particularly to E.coli.

A general improvement in the parameters measured is evident. The improvements are linked to specific actions, such as installation of the Patterson Lakes pumps, halting the inflow of treated effluent and gradual connection of housing in the catchment are to the reticulated sewer. The discharge from stormwater drains remains as a major source of bacteria, nutrient and organic matter, particularly after high rainfall. The results and trends are discussed at greater length in the Kananook Creek Management Plan.

The monitoring of these parameters over many years has contributed to the understanding of the hydrology of the Kananook Creek System. It is hoped that in future years our understanding of the system may be further enhanced by studies of toxicants and regular biological surveys.

6. THE CREEK BANKS

These are either privately or publicly owned and the problems of the banks reflect this ownership and the creek's history of pollution, changing controls and associated altered average water levels.

This problem has been and is being still demonstrated by two recent significant changes; the introduction of the Patterson Lakes pumping scheme and the later cessation of treated sewage effluent coming into the creek from the Eel Race drain. The pumping caused a significant increase in the water level of the upper reaches, an increase in the flow rate and a conversion to one way flow irrespective of the tides. The average salinity increased significantly. The later cessation of input of treated sewage effluent has reduced the level of nutrients in the flow and further increased the salinity – dry weather flows are now almost entirely sea water.

The increased levels and flows have produced a bank erosion problem over a lengthy section – predominantly to banks under private ownership or where the publicly owned banks have been cleared and used.

The reduced nutrients, increased salinity and changed levels revealing changes to the plants which have provided stability to the banks and this needs to be watched to ensure other problems do not arise.

Watercraft can also cause bank erosion by creating strong bow waves .Operators of power boats need to be aware of their potential impact on banks and act responsibly respecting the sensitive nature of the creek. It is essential to restrict the types of power boats, their speeds and engine sizes. Jet skis are totally banned from the creek. The maximum legal speed is

8 km/hr but power boat operators should watch the impact of the bow wave on the banks and it may become necessary for them to further reduce their speed Consideration should be given to restricting the size of engines in power boats, particularly in the upper reaches.

Over the years many jetties have been built along the creek. Some extend well into the waterway and form obstructions and catching points for floating debris and rubbish, others are in varying states of disrepair and some are aesthetically complementary to the creek environment. In some cases the banks have been reformed further into the creek to extend properties.

The KCA aims to resolve with Melbourne Water and Frankston Council an approach to be adapted for repairing bank erosion, alignment and maintenance including the jetties. It will be a lengthy process to have the problem jetties repaired or removed, eroded banks restored and properties restored to their former boundaries.

7. FLOOD CONTROL/DRAINAGE

Because the creek is subject to occasional flooding, a flood plain has been declared by Melbourne Water along the length of the creek. The level was set at 1.55m A.H.D. (Australian Height Datum or Sea Level) in 1978, but new studies have indicated a flood level of 1.7m A.H.D. This height is based on one sever flood per 100 years.

A building line is set for this level and is included in Council Building Regulations. Consequently there are restrictions on the erection of walls, buildings etc. on the flood plain.

The Riviera Outfall provides a means of releasing floodwaters directly to the bay via a pipe under Nepean Highway.

The fact is that most of the drains into Kananook are almost at sea level - with storm surges, strong westerlies and heavy rain we have potentially serious flooding problems-this is expected to be exacerbated by climate change.

8. CREEK CARE

We have a beautiful creek, but keeping it that way is an on going job. Many locals collect rubbish as they walk to and from the beach. You can help by teaching young people not to throw away lolly papers and food or drink containers as they walk along the tracks. People do not realise that litter thrown in the gutters will finish up in the creek and at the beach after it rains.

That is why your help is needed on clean-up days. Shopping trolleys, car parts, washing machines, television sets etc. have all been dragged out of the creek on such days. Car maintenance results in unsightly oil and piles of soap suds floating down the creek at weekends. Dumping rubbish and garden cuttings is illegal and leads to weeds taking over the bush environment.

Litter baskets have been installed in the stormwater entry pits along the kerbs of the CBD. Together these will reduce the amount of litter entering Port Phillip Bay from the Creek. We have a beautiful creek, but also the responsibility to preserve it.

The Riviera Outfall provides a means of releasing floodwaters directly to the bay via a pipe under Nepean Highway.

9. THE RESERVE

The 9.5km of creek are bordered on at least one side by a public reserve of 30m or more. This is mostly on the east side, except for small sections near the mouth. The reserves occupy about 43 hectares and there is a walking trail from Eel Race Road to Station Street and from Seaford Road to Mile Bridge, known as the Kananook Walking Trail. It is hoped to establish continuous trails from the pump station to the mouth. In 2005 the shared pathway between Beach Street and Allawah Avenue in Frankston was officially opened. Council is currently acquiring the last few properties to complete the link from Allawah Avenue to the Mile Bridge.

The sections of the reserves from the Riviera Crossing to Station Street were burnt by a wildfire in 1988. With regeneration came many weeds. Since 1988 many working bees have been held to remove these and to plant native species local to the area all materials cut in the reserves are chipped and used on the trails or as mulch for the Planting Programme. KCA workers supported by the Department of Corrective Services assisted by Frankston Council have been used for this work.

The trails from Seaford Road to Mile Bridge were upgraded in 1993, from Eel Race Road to Riviera Crossing early in 1994 and from Mile Bridge to Seaford Road in 1995. Weed eradication was carried out at the same time with plantings of desirable species made during the autumn and winter. Since then spot fires have further damaged small pockets of the reserves.

1995 saw the launch of the "Kananook Queen" a floating work platform. This was designed and built by volunteer labour of the KCA with materials supplied by Melbourne Water. It is designed to be used to remove weeds and fallen branches along the creek edge that are inaccessible from the bank.

In Section 15 the weed species targeted for removal are shown, together with a listing of local indigenous species which are being propagated for planting in the reserves. Also given is a listing of other local species which are common or are listed in references as being present, but have not recently been located for collection of seeds or cutting. There are many more plants yet to be identified and assessed for suitability.

Plant propagation is carried out in the Council Nursery by KCA volunteers under a scheme set up by the City of Frankston whereby local community groups are encouraged to propagate native plants for plantings in approved public reserves. KCA has propagated and planted over 90,000 plants.

Under the Management Plan the section from Station Street to Seaford Road is proposed for restoration as an arboretum. A detailed landscape architect's plan is only now being commissioned, although the site is immediately adjacent to some of the highest public usage areas of Seaford, the railway station, commercial and retail areas, Community Centre, Safeway Supermarket, Seaford Football Ground, Car park and picnic area and the main beach. However the arboretum concept has already been compromised by the construction of a shared footway/bicycle track through the centre of the open sections.

10. RECREATION

Assisted by the Frankston Council and the Department of Corrective Services, the KCA has been steadily widening, mulching and extending the walking tracks in the reserves. This assists fire access and removes burnable timber. The tracks are much used by walkers, joggers and dog owners.

The creek is popular for fishing, boating and canoeing. The Kananook Creek Canoe Club and a secondary college are enjoying the regular use of the waterway. The club conducts social canoeing the second Saturday in the month. There is a speed limit of 8 km/hour as excessive speed causes erosion of the creek banks. Fallen trees and other blockages should be reported to Melbourne Water.

Canoe launching ramps have been constructed at five sites along the creek: four by Melbourne Water as part of the "Canoe the Kananook" project and the fifth at Fiocchi Avenue by the Frankston Council as part of the upgrading of the reserves and creation of a picnic area at that site. The other sites are Eel Race Drain, opposite the Patterson River Secondary College, Riviera Street near the outfall, Seaford Community Centre in Station Street and McCulloch Avenue near the footbridge.

All sections of the creek north of Fiocchi Avenue provide an excellent venue for canoeing recreation. Picnic facilities are available at Fiocchi Avenue and the Seaford Community Centre. It is hoped to establish these amenities at all the launching sites.

The large BBQ and tables available at the Seaford Community Centre are used for the Kananook Creek Community Celebration Day held each March on the Seaford Village Green. This family day is a non-profit making occasion and is one of the few truly community festivals

in the Melbourne area. Many of the local shops give donations, community groups such as the RSL, Scouts, guides, Schools and KCA etc. are involved.

The Seaford walking Club operates two social walks a week. Provision for Bush Walking Clubs and groups of students to be escorted through areas of the reserve is available by arrangement. One school has already adopted a section of the reserve. Students help care for it and conduct their environmental studies there.

A greater knowledge of the reserves flora and fauna, maintenance and facilities can be gained through joining the monthly meetings of the Kananook Creek Association. For further information contact the Hon. Secretary, Olwen Bawden on 9789 0598

KANANOOK CREEK CORRIDOR

Photograph courtesy of the
Department of Sustainability and Environment

Kananook Creek

Kananook Creek commences at Carrum, winds gently for some 7.5 km along the secondary dune system parallel to the Port Phillip coastline before merging with the bay at Frankston

11. THE CREEK MOUTH

For many people the stretch from the creek mouth to the Frankston CBD is the most familiar part of the Kananook, yet this is presently the least attractive part of the waterway. Over the years, the City of Frankston has turned its back on the creek, instead of making use of what could be a focal point away from the bustle of the Nepean Highway and the shopping areas. We have car parks, ugly retaining walls and the back of shops along with some areas of open spaces, before the creek mouth opens out onto one of Melbourne's most popular beaches.

The Kananook Creek Boulevard Project will be completed end of 2009 funded by a $10million grant from the State Government.

A number of important issues affect this area. Regular dredging is necessary at the creek mouth to ensure the mouth is navigable.

12. FUTURE PLANNING

The Frankston Council and Melbourne Water have at times acquired land considered strategically important to the improvement of the creek and the reserves. Melbourne Water has been able to exchange Land in Ti-Tree Grove, while the Council's purchase of land at Fiocchi Avenue allowed the installation of picnic tables and a new section of the trail between Fiocchi and Allawah Avenues.

In contrast to the above, the crown land parkland at the mouth of the creek is under threat of commercial development to pay for the 'safe haven' marina complex.

13. COMMUNITY INVOLVEMENT

Various organisations have been formed to put forward the views of residents and authorities, these include:

Kananook Creek Association Inc. (KCA)

The KCA is a resident's group which was set up 40 years ago to instigate action to clean up the creek and improve its natural reserves and immediate environment. It has undertaken campaigns on specific issues, fosters awareness of the creek and issues affecting it and takes action to improve the care of the creek and the reserves.

Kananook Creek Liaison Committee (KCLC)

The KCLC provides a means of policy input for groups with an interest in the creek, such as the KCA, Melbourne Water and the Frankston City Council.

Environmental and Friends Groups in the Region

Contact is either informal or formal depending on the organisation. The groups listed below do not have a direct interest in the creek, but operate in the region or are affected by decisions on the Kananook Creek.

Friends of Boggy Creek

Friends of the Edithvale Seaford Wetlands

Frankston Beach Association

Sweetwater Creek Association

Mt. Eliza Association for Environmental Care

Friends of the Pines

Port Phillip Conservation Council

14. BY-LAWS AND CONTROLS

Over the years many laws have been passed to protect our waterways and conserve our bushland. The State Government has enacted the Litter Act, the Marine Act, The Health Act, The Country Fire Act etc. It has also laid down legislation to empower Melbourne Water, Melbourne Parks and Waterways and the Environment Protection Authority to intervene as required.

These laws cover such matters as pollution of the creek, building on or filling in the flood plain, obstruction creek flows by jetties, extension of the creek banks and of course speeding on the creek.

Similarly the Council has enacted local laws (by-laws) to cover Municipal Reserves, Animals and Birds, Open Air Burning and Incinerators and Recreational Vehicles. Revised legislation on dogs and cats became effective from 10th April 1996. The Local Laws cover such actions as lighting fires in the reserves, rubbish dumping, cutting down trees, littering construction in the reserves and prohibition of vehicles and camping in the reserves.

15. FAUNA, FLORA AND CREEK MAPS

A list is given of flora and fauna observed in the creek and its environs, compiled by members of the KCA, including the results of a biological survey of the creek carried out by Melbourne Water several years ago. The KCA would be pleased to hear from anyone who can add to the list with verified sightings or new surveys. In this way we can update our list and be aware of changes and trends.

Animal Survey

Water Skink Lizard
White's Lizard
Red Tailed Lizard
Brown Garden Skink
Blotched Blue Tongue Lizard
Legless Lizard
Several Frogs

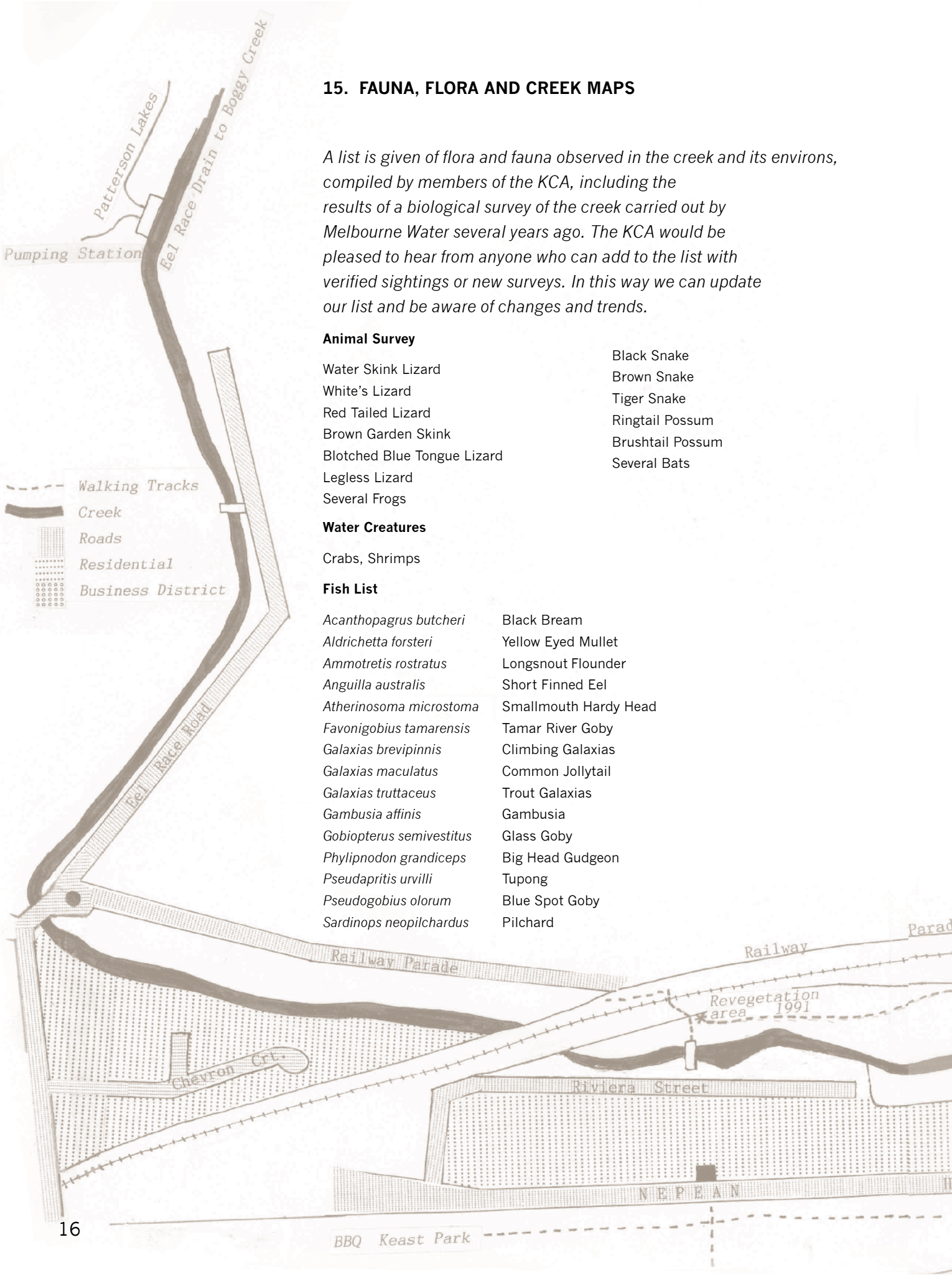
Black Snake
Brown Snake
Tiger Snake
Ringtail Possum
Brushtail Possum
Several Bats

Water Creatures

Crabs, Shrimps

Fish List

Acanthopagrus butcheri	Black Bream
Aldrichetta forsteri	Yellow Eyed Mullet
Ammotretis rostratus	Longsnout Flounder
Anguilla australis	Short Finned Eel
Atherinosoma microstoma	Smallmouth Hardy Head
Favonigobius tamarensis	Tamar River Goby
Galaxias brevipinnis	Climbing Galaxias
Galaxias maculatus	Common Jollytail
Galaxias truttaceus	Trout Galaxias
Gambusia affinis	Gambusia
Gobiopterus semivestitus	Glass Goby
Phylipnodon grandiceps	Big Head Gudgeon
Pseudapritis urvilli	Tupong
Pseudogobius olorum	Blue Spot Goby
Sardinops neopilchardus	Pilchard



Bird List

Phalacrocorax varius	Pied Cormorant
Phalacrocorax melanoleucos	Little Pied Cormorant
Phalacrocorax carbo	Black Cormorant
Phalacrocorax sulcirostris	Little Black Cormorant
Ardia novaehollandiae	White Faced Heron
Egretta alba	Large Egret
Platalea regia	Royal Spoonbill
Platalea flavipes	Yellow Billed Spoonbill
Anas castanea	Chestnut Teal
Anas superciliosa	Black Duck
Elanus notatus	Black Shouldered Kite
Accipiter faciatus	Australian Goshawk
Falco cenchroides	Nankeen Kestrel
Falco longipennis	Little Falcon
Fulica atra	Coot
Gallinula tenebrosa	Dusky Moorhen
Larus novaehollandiae	Silver Gull
Sterptopelia chinensis	Spotted Turtle Dove
Trichoglossus haemotadus	Rainbow Lorikeet
Glossopsitta concinna	Must Lorikeet
Platycercus eximius	Eastern Rosella
Chrysococcyx basalis	Horsefield's Bronze Cuckoo
Chrysococcyx lucidus	Shining Bronze Cuckoo
Ninox novaeseelandiae	Boobook Owl
Podargus strigoides	Tawny Frogmouth
Apus pacificus	Fork Tailed Swift
Ceyx azureus	Azure Kingfisher
Dacelo gigas	Kookaburra
Halycyon sancta	Sacred Kingfisher
Hirundo neoxena	Welcome Swallow
Coracina novaehollandiae	Black Faced Cuckoo Shrike
Turdus merula	Black Bird
Turdus philomelos	Song Thrush
Zoothera dauma	Grey Thrush
Eopsaltria australis	Yellow Robin
Falcunculus frontatus	Eastern Shrike Tit
Pachycephala rufiventris	Rufous Whistler
Pachycephala pectoralis	Golden Whistler
Colluricincla harmonica	Grey Shrike Thrush
Rhipidura rufifrons	Rufous Fantail
Rhipidura leucophrys	Willie Wagtail
Malurus cyaneus	Superb Blue Wren
Acanthiza pusilla	Brown Thornbill
Acantiza lineate	Striated Thornbill
Anthochaera chrysoptera	Little Wattlebird
Anthochaera carunculata	Red Wattlebird
Acanthagenys rufogularis	Spiny Cheeked Honeyeater
Melithreptus lunatus	White Naped Honeyeater
Phylidonyris novaehollandiae	New Holland Honeyeater
Acanthorhynchus tenuirostris	Eastern Spinebill
Diacaem hirundinaceum	Mistletoe Bird
Pardalotus striatus	Striated Pardelote
Zosterops lutea	Silvereye
Passer domesticus	House Sparrow
Passer montanus	Tree Sparrow
Cardeulis carduelis	Goldfinch
Sturnus vulgaris	Common Starling
Acridotheres tristis	Common Myna
Grallina cyanoleuca	Magpie Lark
Craticus torquatus	Butcherbird
Gymnorhina tibicen	Australian Magpie
Corvus coronoides	Australian Raven

RESERVES – FLORA

A.1 WEED SPECIES TARGETED FOR REMOVAL

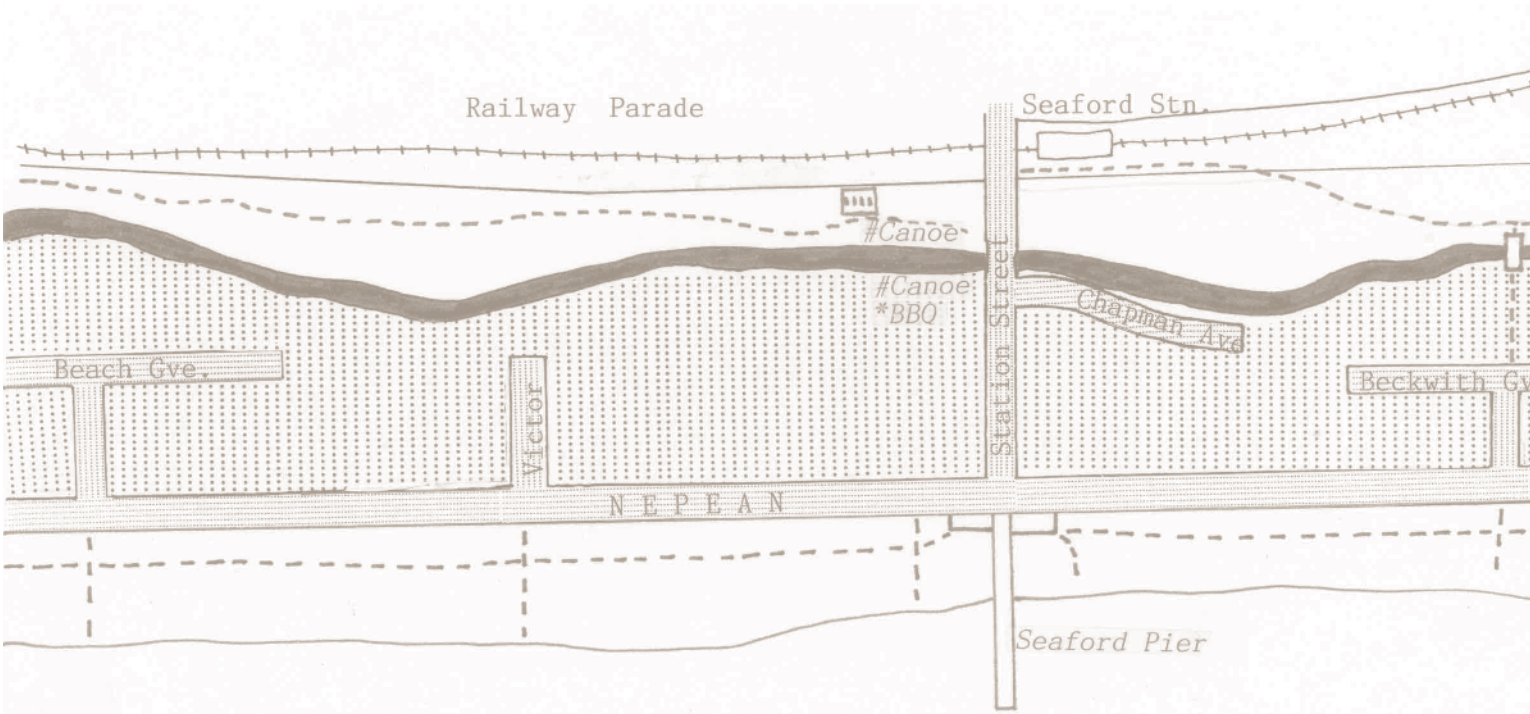
*	*Acacia baileyana*	Cootamundra Wattle
*	*Acacia saligna*	Golden Wreath Wattle
*	*Chrysanthemoides monilifera*	Boneseed
*	*Coprosma repens*	Mirror Plant
*	*Cytisus palmensis*	Tree Lucerne
*	*Delairea ordorata*	Cape Ivy
*	*Dipogon lignosus*	Dolichos
*	*Genista linifolia*	Flax Leaf Broom
*	*Hedera helix*	English Ivy
*	*Juncus acutus*	Sharp Rush
*	*Kenedia rubicunda*	Dusky Coral Pea
*	*Lycium ferocissimum*	Boxthorn
*	*Myrsiphyllum asparagoides*	Smilax or Bridal Creeper
*	*Paraserianthes lophantha*	Cape Wattle
*	*Phytolacca octandra*	Ink Weed
*	*Pittosporum undulatum*	Sweet Pittosporum
*	*Polygala myrtifolia*	Myrtle Leaf Milkwort
*	*Rubus fruiticosus*	Blackberry
*	*Rumex sp.*	Dock
*	*Salpichroa origanifolia*	Pampas Lily of the Valley
*	*Senecio angulatus*	Climbing Groundsel
*	*Tradescantia fluminensis*	Wandering Jew
*	*Ulex europaeus*	Gorse

Numerous other species, particularly grasses and groundcovers, not as yet identified.

A number of Eucalyptus ssp. and Acacia hybrids, not local to the area.

Numerous garden escapes occurring in isolation.

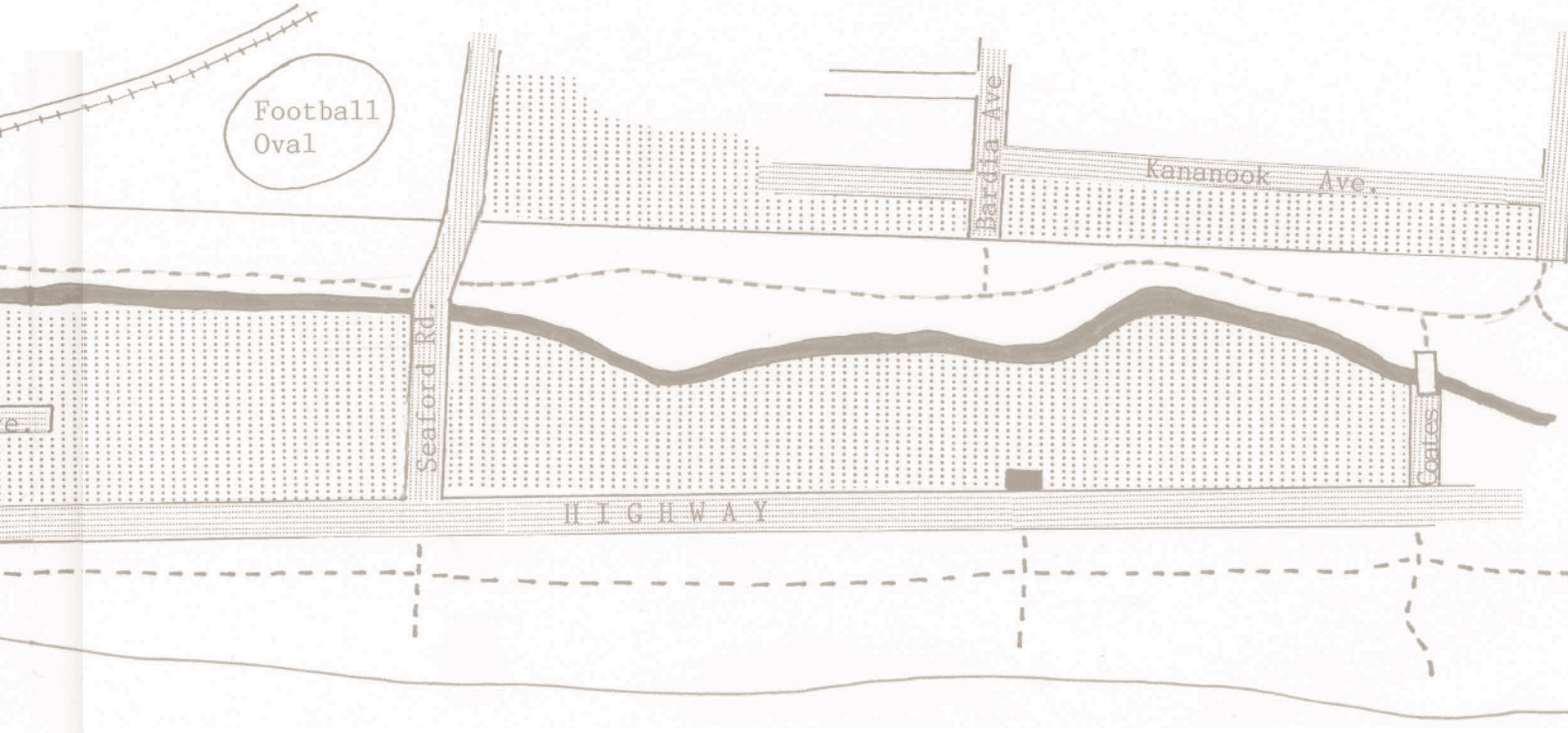
* Denotes introduced plants naturalized in Victoria, as defined in *"A Census of Vascular Plants of Victoria"* **J.H. Ross 4th Ed.**



RESERVES – FLORA

A.2 **OTHER WEED SPECIES NOT AT PRESENT TARGETED.**

Acacia longifolia	Swallow Wattle
* *Acetosa sagittata*	Potato Vine
* *Agapanthus praecos sp orientalis*	Agapanthus
* *Aira caryophyllea*	Silvery Hair Grass
* *Allium triquetrum*	Angled Onion
* *Anthoxanthum ordorata*	Sweet Vernal Grass
* *Asparagus officinalis*	Asparagus
* *Avena fatua*	Wild Oats
* *Brassica fruticulosa*	Twiggy Turnip
* *Brassica juncea*	Indian Mustard
* *Bromus catharticus*	Prairie Grass
* *Bromus hordaeceus sp hordaeceus*	Soft Broome Grass
* *Cardamine hirsuta*	Flick weed
* *Cortaderia selloana*	Pampas Grass
* *Cotula coronopifolia*	Water Buttons
* *Cynodon dactylon*	Couch Grass
* *Cynosurus echinatus*	Rough Dogs Tail Grass
* *Cyperus eragrostis*	Sedge
* *Dactylis glomerata*	Cocksfoot
* *Digitaria sanguinalis*	Summer Grass
* *Ehrharta erecta*	Panic Veldt Grass
* *Eleusine tristachya*	American Crowsfoot Grass
* *Freesia leightlinii*	Freesia
* *Galenia pubescens*	Blanket Weed
* *Gazania linearis*	Gazania
* *Holcus lanatus*	Yorkshire Fog Grass
* *Juncus acutus*	Sharp Rush
* *Langurus ovatus*	Hares Tail Grass
* *Lepidium africanum*	Pepper Cross
* *Lotus sauveolens*	Hairy Birdsfoot Trefoil
* *Lunaria annua*	Honesty
* *Petrorhagia ssp (3 types)*	Oxalis
* *Plantago coronopus*	Plantain
* *Plantago lanceolata*	Common Plantain
* *Polygonum aviculare*	Wire Grass Weed
* *Romulea rosea var. rosea*	Onion Grass
* *Setaria gracilis var. pauciseta*	Slender Pidgeon Grass
* *Silene gallica var. quinquevulnera*	French Catchfly
* *Sonchus oleraceus*	Milk Thistle
* *Sporobolus indicus*	Indian Rats Tail Grass
* *Trifolium angustifolium*	Narrow Leaf Clover
* *Trifolium arvense*	Haresfoot Clover
* *Vicia minor*	Vetch
* *Vinca major*	Blue Periwinkle
* *Vulpia bromoides*	Squirrel Tail Fescue

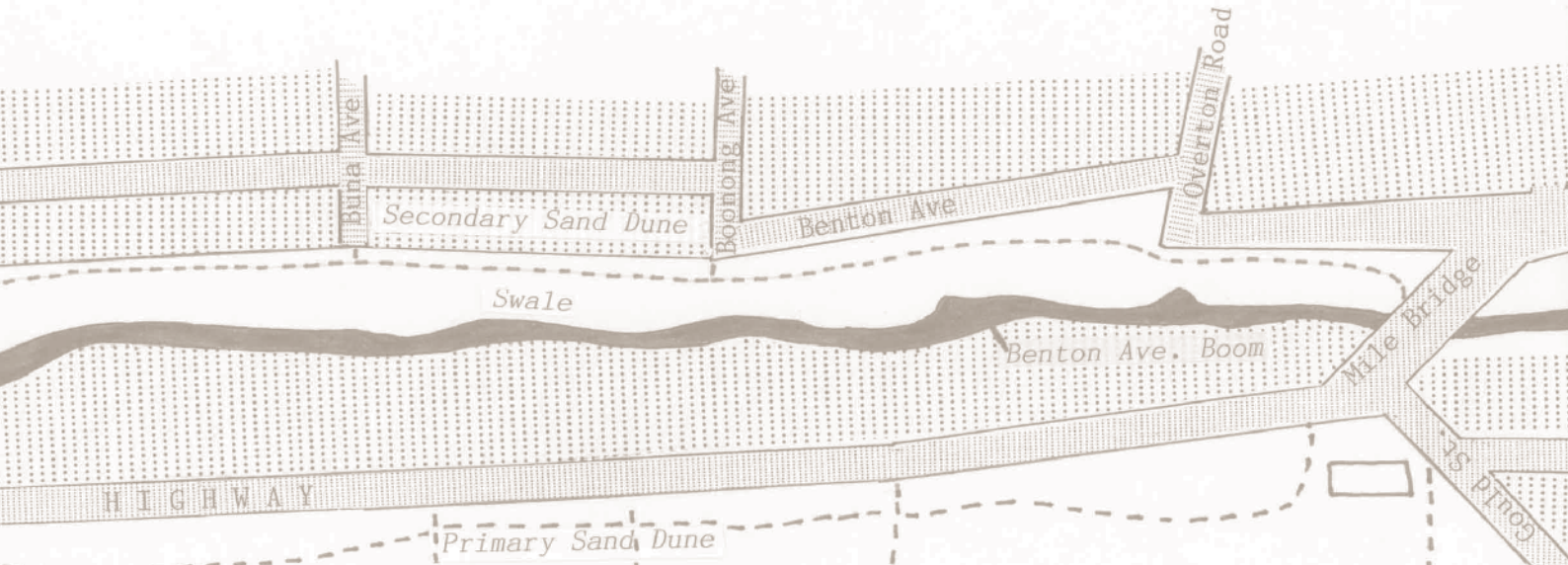


RESERVES – FLORA

A.3 **LOCAL INDIGENOUS SPECIES BEING PROPAGATED FOR PLANTINGS.**

Aciacia dealbata	Silver Wattle	*Donthonia caespitosa*	Common Wallaby Grass
Acacia mearnsii	Black Wattle	*Danthonia geniculata*	Kneed Wallaby Grass
Acacia melanoxylon	Blackwood Wattle	*Danthonia pilosa*	Smooth Flower Wallaby Grass
Acacia paradoxa	Hedge Wattle	*Danthonia setaceae*	Small Flower Wallaby Grass
Acacia sophorae	Coast Wattle	*Dianella longifolia*	Pale Flax Lily
Allocasaurina littoralis	Black Sheoak	*Dianella longifolia var. grandis*	Flax Lily
Allocasuarina verticillata	Drooping Sheoak	*Dianella revoluta var. brevicaulis*	Black Anther Flax Lily
Amperae xiphoclada	Broom Spurge	*Dianella revoluta var. revoluta*	Black Anther Flax Lily
Banksia integrifolia	Coast Banksia	*Dilwynia sp.*	Parrot Pea
Banksia marginata	Silver Banksia	*Disphyma crassifolium sp clavellatum*	Rounded Moon Flower
Baumea juncea	Bare Twig Rush	*Epilobium billardierianum*	Willow Herb
Bossiaea cinerea	Showy Bossiaea	*Eucalyptus camaldulensis*	Red Gum
Bossiaea prostrata	Creeping Bossiaea	*Eucalyptus ovata*	Swamp Gum
Bulbine bulbosa	Bulbine Lily	*Eucalyptus prioriana*	Gippsland Manna Gum
Burchardia umbellata	Milkmaids	*Geranium solanderi*	Austral Crane's Bill
Bursaria spinosa	Sweet Bursaria	*Glycine clandestina*	Twining Glycine
Calystegia sepium	Large Bind Weed	*Goodenia ovata*	Hop Goodenia
Carex appressa	Tail Sedge	*Hibbertia prostrata*	Bundled Guinea Flower
Carex fascicularis	Tassel Sedge	*Hibbertia sericea*	Silky Guinea Flower
Carpobrotis rossii	Austral Pigface	*Hymenanthera dentata*	Tree Violet
Cassinia aculeata	Dogwood	*Imperata cylindrica*	Blady Grass
Centrolepis sp.	Centrolepis	*Indigofera australis*	Austral indigo
Clematis microphylla	Small Leaf Clematis	*Isolepis nodosa*	Knobby Club Rush
Comesperma claymega	Blue Spike Milkwort		
Correa alba	White Correa		
Correa reflexa	Common Correa		

Juncus kraussii	Sea Rush
Juncus pallidus	Pale Rush
Juncus sp.	Rush
Kennedia prostrata	Running Postman
Lepidosperma concavum	Sword Rush
Leptospermum laevigatum	Coastal Tea Tree
Leucopogum parviflora	Coast Beard Heath
Lomandra filiformis	Wattle Mat Rush
Lomondra longifolia	Spiny Mat Rush
Lomandra nana	Pale Mat Rush
Melaleuca ericifolia	Swamp Paperbark
Microlaena stipoides	Weeping Grass
Muehlenbeckia adpressa	Climbing Lignum
Myoporum insulare	Boobiala
Olearia glutinosa	Stick Daisy Bush
Ozothamnus ferrugineus	Tree Everlasting
Patersonia fragilis	Short Purple Flag
Patersonia occidentalis	Long Purple Flag
Pelargonium australe	Austral Storke's Bill
Phragmites australis	Common Reed
Pimelia humilis	Common Rice Flower
Poa poaformis	Coast Tussock Grass
Poa sieberiana	Grey Tussock Grass
Rhagodia candolleana	Coastal Salt Bush
Samolus repens	Creeping Brook Weed
Solanum laciniatum	Large Kangaroo Apple
Stipa flavescens	Spear Grass
Stipa mollis	Soft Spear Grass
Stipa scabra sp. falcata	Slender Spear Grass
Sueda australis	Sea Blite
Tetragonia implexicoma	Bower Spinach
Themeda triandra	Kangaroo Grass
Tricoryne elatior	Yellow Rush Lily
Viminaria juncea	Golden Spray

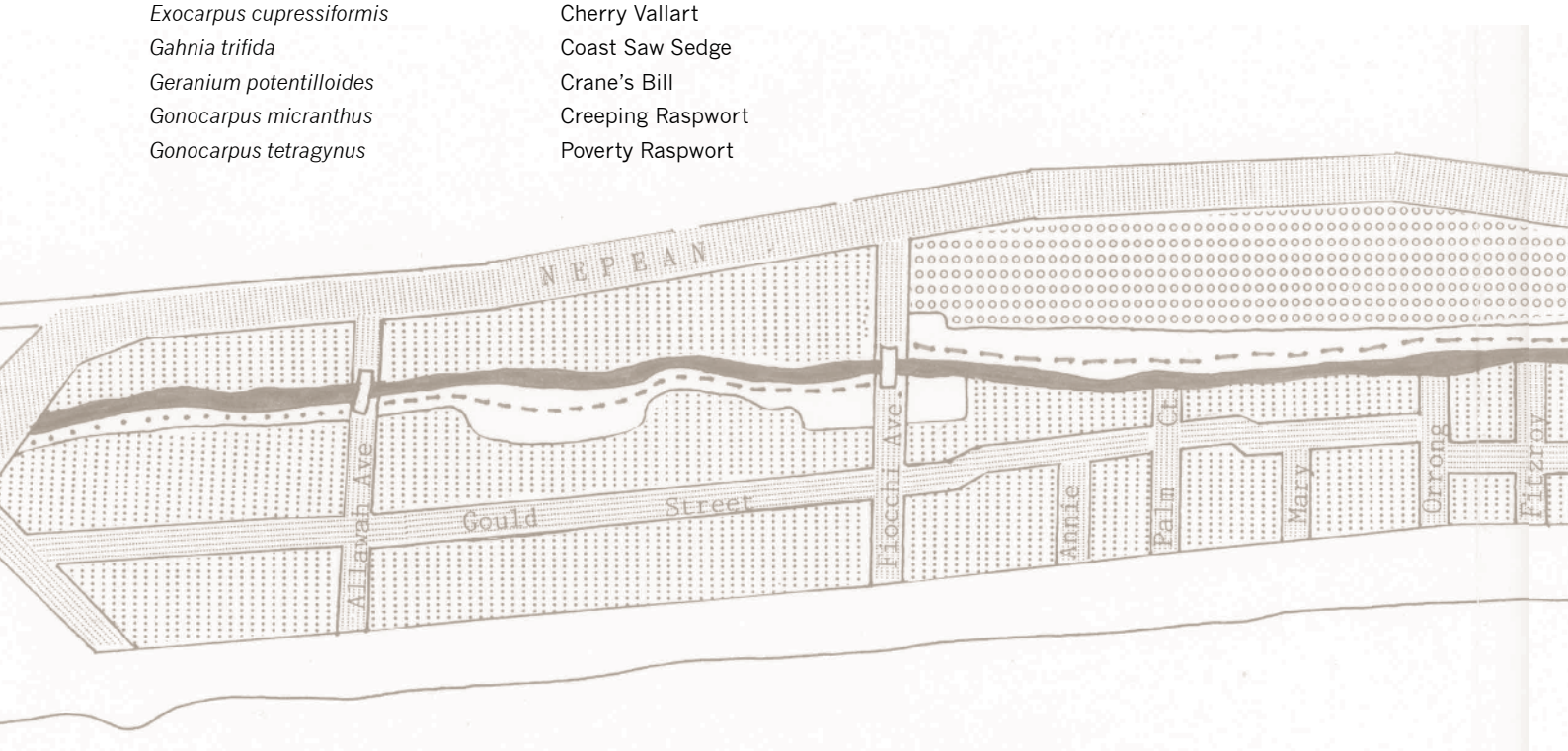


RESERVES – FLORA

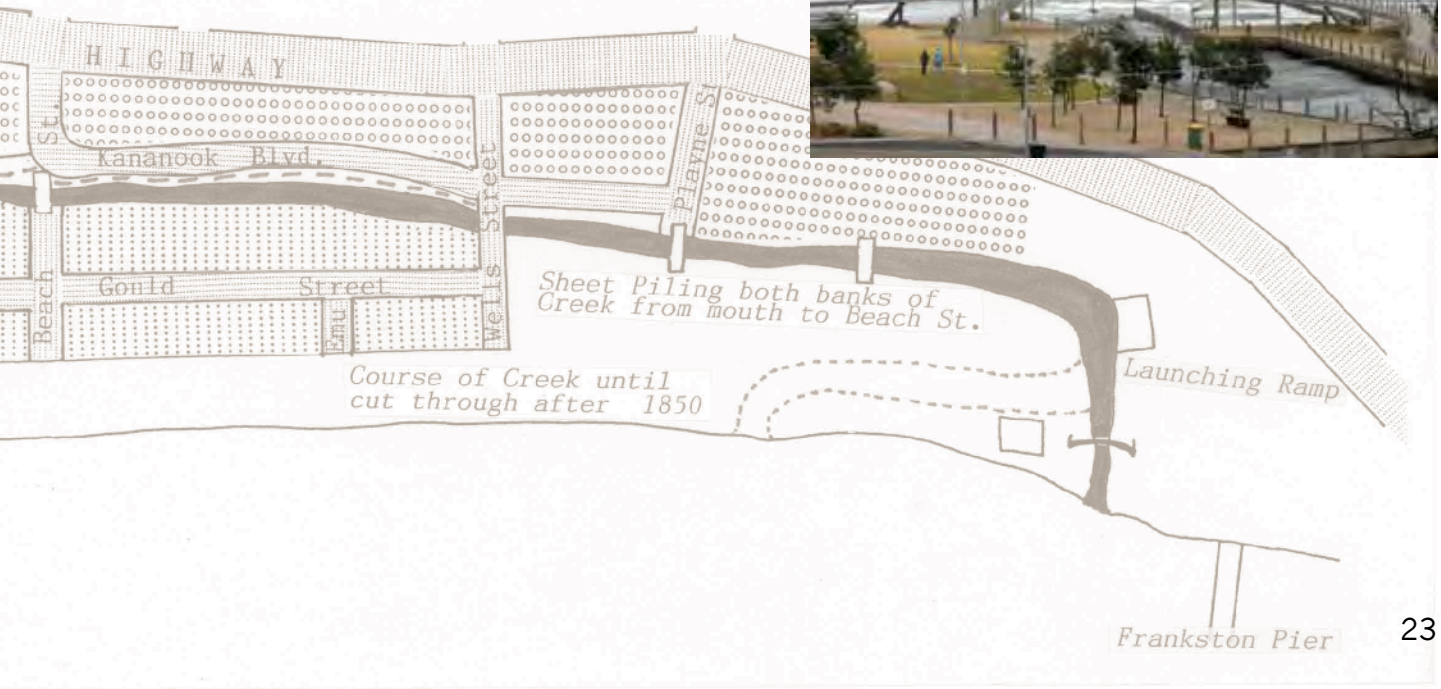
A.4 **OTHER LOCAL INDIGENOUS SPECIES**

(Include. Those listed in records as growing in reserves, but which have not recently been located).

Acacia pycnatha	Golden Wattle
Acaeno novaezelandiae	Bidgee Widgee
Agrostis avenacea	Common Blown Grass
Ameyema pendulum	Drooping Mistletoe
Apium prostratum	Sea Celery
Atriplex hastata	Hastate Orache
Baumea articulata	Jointed Twig Rush
Billardiera scandens	Common Appleberry
Bolboshoenus medianus	Marsh Club Rush
Caesia parviflora var. parviflora	Pale Grass Lily
Calochlaena dubia	False Bracken
Centroplepis aristrata	Pointed Centrolepis
Centrolepis polygyna	Tufted Centrolepis
Centrolepis strigosa	Hairy Centrolepis
Clematis aristata	Australi Clematis
Comesperma volubile	Love Creeper
Corybas dilatatus	Helmet Orchid
Dichondra repens	Kidney Weed
Dillwynia glaberrima	Heath Parrot Pea
Dipodium roseum	Hyacinth Orchid
Diuris sulphurea	Tiger Orchid
Drosera pygmaea	Pygmy Sundew
Epacris impress	Common Heath
Eragrostis brownii	Brown's Love Grass
Eucalyptus viminalis	Manna Gum
Exocarpus cupressiformis	Cherry Vallart
Gahnia trifida	Coast Saw Sedge
Geranium potentilloides	Crane's Bill
Gonocarpus micranthus	Creeping Raspwort
Gonocarpus tetragynus	Poverty Raspwort
Hemarthria uncinata	Mat Grass
Hydrocotyle laxiflora	Stinking Pennywort
Hypericum gamineum	Small St John's Wort
Isolepis platycarpa	Club Rush
Juncus planifolius	Broad Leaf Rush
Kunzea ericoides	Burgan
Lagenifera stipitata	Blue Bottle Daisy
Lepidosperma laterale	Variable Sword Sedge
Leptinella reptans	Creeping Cotula
Leucopogon australis	Spike Beard Heath
Lilaeopsis polyantha	Creeping Crantzia
Lobelia alta	Angled Lobelia
Lycopus australis	Australian Gypsywort
Melaleuca squarrosa	Scented Paperbark
Microtis sp.	Onion Orchid
Opercularia varia	Variable Stinkweek
Pomaderris paniculosa	Pomaderris
Pteridium escalantum	Austral Bracken
Pterostylis concinna	Trim Greenhood
Pterostylis nutans	Nodding Greenhood
Pterostylis pedunculata	Maroon Hood Orchid
Pultenaea dentata	Clustered Bush Pea
Ricinocarpos pinifolia	Wedding Bush
Rumex brownie	Slender Dock



Sarcocornia quinqueflora sp. quinqueflora	Beaded Glasswort
Scaevola albida	Scaevola
Selliera radicans	Swamp Weed
Secenia glomeratus	Annual Fireweed
Senecia hispidulus	Bindweed
Solanum aviculare	Kangaroo Apple
Spergula arvensis	Corn Spurrey
Spinifex sericeus	Hairy Spinifex
Sporobolus viginicus	Salt Couch
Stipa stipoides	Coast Spear Grass
Tetragonia tetragonoides	New Zealand Spinach
Thelymitra sp.	Sun Orchid
Triglochin striata	Swamp Weed
Wilsonia backhousei	Narrow Leaf Wilsonia
Xanthosia sp.	Xanthosia
Zostera muelleri	Dwarf Grass Wrack



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