

Norsemens Lake Reserve, Habitat and Fauna Assessment

Brad Blake, ProCon Pest & Wildlife Management
Conservation and Land Management
(15 years experience in threatened species Management)
October/November 2021

Project Overview

The Norsemens Lake Reserve, to be known by its Bunurong name Wang toolome Parnung, is situated close to the Coronet Bay shoreline (in Western Port) on the site of an historic spring.

Bass Coast Shire Council manages the vegetation surrounding the lake.

Melbourne Water manages the lake itself.

Wang toolome Parnung is situated alongside the Corinella Foreshore Reserve (Crown Land) and Coastal Estates foreshore (private land).

The Corinella Foreshore Reserve is a narrow strip of native vegetation running from Norsemens Rd, Coronet Bay to Corinella. The area is approximately 13ha of native vegetation comprising of Coastal Banksia Woodland, which turns into Coastal Headland Scrub just south of the O'Connor Rd car park.

The assessment efforts were concentrated on Wang toolome Parnung and surrounding vegetation, where threatened species such as Swamp Skinks (*Lissolepis coventryi*), Swamp Antechinus (*Antechinus minimus maritimus*) and Growling Grass Frogs (*Litoria raniformis*) were thought to have suitable habitat to potentially occur.

ProCon Pest & Wildlife were engaged by the Coronet Bay Ratepayers and Residents Association to carry out Fauna assessments on this reserve over a four day/night period (28th Oct and the 27th Nov 2021) and provide a list of recommendations aimed at enhancing the biodiversity of the reserve for a range of common and threatened native species.



Assessment Methods

- Ground truthing the area
- Searching by foot for evidence of threatened species
- Spotlight surveys
- Using a thermal monocular to locate native and pest species
- Desktop research into historic records of local significant fauna species

Assessment Area



Historic Threatened Species Records

There are a few local historic records of significant species such as Swamp Antechinus (*SA*), Southern Brown Bandicoot (*SBB*), Lace Monitors (*LM*) and Growling Grass Frogs (*GGF*). (Victorian Biodiversity Atlas)

In 2008 Swamp Antechinus was located in an area that is now a housing development. However, given the amount of thick cover along boundary fences adjoining the Reserve, Swamp Antechinus are likely to occur in small density patches along the coastline from Cuthbert St, Corinella to Wang toolome Parnung.

Historic Area Map










Swamp Antechinus (*Antechinus minimus maritimus*)








Results & Discussion

Over the course of the four day/night assessment, a number of species were detected as listed below.

Note that bird species were not documented, as a bird survey had already been completed.

Bird Survey Date can be found on page 13.

SPECIES	DESCRIPTION	COUNT	STATUS	COMMENTS
Swamp Antechinus <i>(Antechinus minimus maritimus)</i> 	(See page 6)	5	Vulnerable	Found dead. Males live for a year and die after breeding.
Swamp Rat <i>(Rattus lutreolus)</i> 	Body length 160 mm; tail length 110 mm; weight 120 g. Stocky blackish-brown body; black feet; significantly short tail. Active day and night. Feeds on reeds, swamp-grass stems and seeds. Cuts complex runways through thick vegetation.	4	Least concern	Many tunnels and nests were located
Short-beaked Echidna <i>(Tachyglossus aculeatus)</i> 	Like the Platypus, the Short-beaked Echidna is an egg-laying mammal or monotreme and lays one egg at a time. The Short-beaked Echidna has few natural enemies, but it may be killed by cars, dogs, foxes and occasionally goannas, and cats may take the young.	1	Least concern	
Common Wombat <i>(Vombatus ursinus)</i> 	Wombats are amongst the world's largest burrowing animals. Wombats prefer to dig their main shelters on slopes above creeks and gullies, and feed in grassy clearings.	3	Least concern	
Common Ringtail Possum <i>(Pseudocheirus peregrinus)</i> 	About the size of a cat, the Eastern Ringtail Possum is grey with white patches behind the eyes and on the belly, and orange-brown tinges on the tail and limbs. During the day, the Eastern Ringtail Possum sleeps in its spherical nest or 'drey' made from grass and shredded bark. It builds the drey in a tree hole, tree fork or dense vegetation.	1	Least concern	
Stripped Marsh Frog <i>(Limnodynastes peronei)</i> 	A large species of frog reaching up to 7.5 cm in body length. It has a brown back with dark brown longitudinal stripes, and sometimes a cream-coloured or reddish stripe along the middle		Least concern	Heard
Eastern Banjo Frog <i>(Limnodynastes dumerilii)</i> 	A large species of frog reaching up to 7.5 cm in body length. It has a brown or grey-brown back, with orange or yellow mottling on the sides		Least concern	Heard

Clicking Froglet <i>(Crinia signifera)</i>		A small species of frog reaching up to 3 cm in body length. It has a brown, grey, cream, beige, reddish or mustard yellow back, with or without longitudinal stripes, spots or patches			Heard
Southern Brown Tree Frog <i>(Litoria ewingii)</i>		Southern Brown Tree Frogs grow up to about 50 mm in length. Their colour is true to their name as they are brown on their backs. The backs of their thighs are yellowish to bright orange, and they have a white grainy belly		Least concern	Heard
Eastern Long-neck Turtle <i>(Chelodina longicollis)</i>		The Eastern Snake-necked Turtle lives in freshwater habitats including wetlands. Foxes have decreased their populations throughout their range by predated on the turtle's eggs	1	Least concern	
Eastern Grey Kangaroo <i>(Macropus giganteus)</i>		The Eastern Grey Kangaroo is an iconic marsupial mammal. They live in mobs of 10 or more in a home range of up to 5km in eastern Australia.	7	Least concern P	
Eastern Blue-tongue Lizard <i>(Tiliqua scincoides)</i>		Blue-tongued Lizards are the largest members of the skink family. Skink lizards have overlapping scales that are usually smooth and contain small plates of bone.	1	Least concern	
Red Fox <i>(Vulpes vulpes)</i>		The most common and widespread of the world's many fox species is the European Fox.	9	Pest	
Feral Cat <i>(Felis catus)</i>		Feral Cats threaten the survival of over 100 native species in Australia. They have caused the extinction of some ground-dwelling birds and small to medium-sized mammals.	1	Pest	




There are low densities of native arboreal species in the assessment area and the Corinella Foreshore Reserve. There is minimal suitable habitat for species such as Brushtail, Ringtail Possums and Sugar Gliders. Many large Banksia are senescing, which creates voids in the canopy. This in turn makes it harder for species such as Ringtail and Brushtail Possums to avoid predators.



Threatened species occurring in the region

Populations of Southern Brown Bandicoot, Lace Monitors, Swamp Skink and Growling Grass Frogs are declining across the state and are unlikely to re-colonise areas of suitable habitat without sufficient corridors that directly link locations of known distribution of each species.

However, in an area such as the assessment area and the adjoining Corinella Foreshore Reserve, some low-density species can remain undetected. This is part of the reason why coastal vegetation should be protected and enhanced.

<p>Southern Brown Bandicoot</p>  A photograph of a Southern Brown Bandicoot, a small, greyish-brown marsupial with a long, pointed snout, standing on a sandy or dirt ground.	<p>The distribution of the Southern Brown Bandicoot has decreased significantly since European settlement mainly as a result of vegetation clearing, introduced foxes and cats. The Southern Brown Bandicoot is listed as an endangered species</p>
<p>Growling Grass Frog</p>  A photograph of a Growling Grass Frog, a large, bright green frog with dark brown mottled patterns on its back, sitting on a dark, rocky surface.	<p>The Growling Grass Frog is a very large, ground-dwelling tree frog up to 10 cm (almost 4 in) from snout to vent. It is a mottled bright green and bronze colour above, often with dark brown enamelled bumps. It has a pale cream underside, with a faint cobbling pattern. A pale stripe runs from the side of the head down the flanks as a skin fold.</p>
<p>Swamp Skink</p>  A photograph of a Swamp Skink, a long, slender lizard with a dark brown body and a prominent black stripe running along its back, resting on green vegetation.	<p>The Swamp Skink grows to a maximum of 250mm in length; the dorsal colour varies between shades of greenish-brown, olive-brown or yellow-brown above. Many or all of the dorsal scales have a black anterior margin and some with black lateral edges, which combine to form a conspicuous black stripe along each side of the back. The Swamp Skink is often restricted to densely vegetated swamps and associated watercourses, and adjacent wet heaths (Melaleuca or Leptospermum thickets), sedgelands and saltmarshes (Clemann 2000, SAC 2000, Manning 2002).</p>

Vulnerable species found (Oct 2021)

Swamp Antechinus

The Swamp Antechinus has a head to body length of 95-140mm with a tail length 70% of the head to body length. It is a thickset antechinus with a long slender muzzle, long foreclaws, short ears that do not protrude far beyond the fur and pale eye-rings. The male Swamp Antechinus only live for a year and die after breeding.

Habitat is typically wet heath, heathy woodland, sedgeland and dense tussock grassland, rarely above 200m (DE 1996, Menkhorst 2004). In a study done by Wilson *et al.* (2001) it was found that although Swamp Antechinus (SE mainland) were found in a variety of vegetation communities with different dominant floristic groups these communities had a consistently high percentage of understorey cover across them. The spatial distribution of these communities is thought to be important for the preservation and dispersal of the species and the species is considered a habitat specialist at the microhabitat level, preferring dense, closed heathland (Wilson *et al.* 1986, Moro 1991, Wilson *et al.* 2001).

(https://www.swift.net.au/cb_pages/sp_swamp_antechinus.php)



One of 5 Swamp Antechinus found dead



A typical nest of native Swamp Rats or Swamp Antechinus

Recommendations

- Retaining thick vegetation, even if it is not native, at least until native plant species become the dominant cover. This helps native animals avoid predation by invasive predators such as foxes and cats.
- Plant thick vegetation, endemic grasses and low shrubs.



- Further engage the community to create, expand and protect corridors of native and non-native vegetation, especially close to low-lying areas.
- 1-2 meters of extra cover along fences and drainage lines can provide refuge to small native species such as Swamp Antechinus.
- **Map on right showing an idea of wider vegetated buffers.**



Recommendations (cont.)

- Fencing wet areas to keep stock from damaging aquatic and semi-aquatic species.
- 165m of fence, running parallel with the shore to protect the wetland from domestic animals. This action would greatly improve the environmental significance of the area and the adjoining Corinella Foreshore Reserve.
- Digging out the north end of the drain and adding habitat such as rocks and logs.



- Constructed wetlands.
- There are numerous depressions in the land on private property that adjoin the assessment area. We recommend digging these depressions out and creating further wetland areas. Native aquatic and semi-aquatic plant species should be planted, as well as placing rocks and logs in and around the area as refuge for native fauna species.



Recommendations (cont.)

- A recommendation to install nest boxes for a range of species such as bats, Ringtail and Brushtail Possums, Sugar Gliders, birds and potentially 2 larger boxes for owls.
- Specially designed nest boxes that reflect 70% of the radiant heat from the sun are an important feature during summer heat.



- Branches dragged to the waters edge to enhance habitat for Swamp Skinks and turtles. This also creates habitat and refuge for other aquatic and semi-aquatic species.
- Logs and rocks placed into areas of thick Phragmites (reeds) can also attract and protect native aquatic fauna.



Recommendations (cont.)

Rabbit control is challenging in coastal areas due to the thick vegetation, making it difficult and time consuming to locate warrens. Further to this, wombats and other native species that live in burrows are at risk of being fumigated.

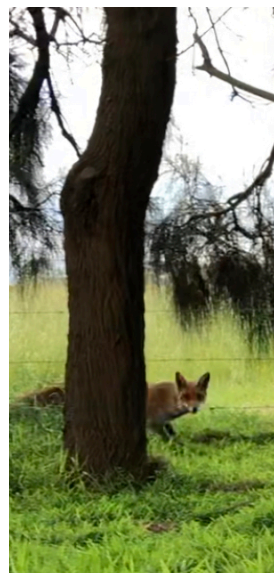
- We recommend GPS locating rabbit warrens where they are located. Creating a map of all warrens is essential to successful control.
- The larger the treatable area, the more success a control program will have.

Pest Species



Foxes are also a challenging species to control within small natural areas and on small private properties.

- Foxes can move 6-15km in a night making control efforts pointless at times. However, targeted fox control leading up to the breeding season of threatened species and the vulnerable Swamp Antechinus can have significant effects on the persistence of native populations.
- Ensuring thick vegetation is maintained is essential for species such as Swamp Antechinus to avoid predation.
- Educating local residents on responsible cat ownership can reduce predation of native species. Keeping cats indoors can slow the breeding of stray and feral cats.



Recommendations (cont.)

- Blackberries should be controlled before large infestations take hold and out compete native vegetation.
- Leaving the dead bushes can provide refuge for a range of native species. However; rabbits, foxes and cats also use dead blackberry bushes as refuge, which can hinder pest animal control efforts.



Summary

Swamp Antechinus are a significant species occurring in low densities, only within areas of suitable habitat.

The assessment area along with Corinella Foreshore Reserve, Coastal Estates foreshore and surrounding coastal low-lying expanses, are a crucial ecosystem that must be protected and enhanced for Swamp Antechinus and other endemic species to persist. Special planning and considerations must be given to locations where the vulnerable Swamp Antechinus could/do occur.

Environmentally driven communities are the only way threatened species will survive within the assessment area, Corinella Foreshore Reserve and Coastal Estates foreshore, including nearby native vegetation.

Over-development of Australia's coasts has forced many species to extinction; the Swamp Antechinus is on the same trajectory unless better management of these areas is adopted.

The assessment area, Corinella Foreshore Reserve and Coastal Estates foreshore, are the largest areas of semi-intact, suitable habitat for Swamp Antechinus along the eastern side of Western Port.

This area needs to be protected and enhanced for Swamp Antechinus to persist along the Coronet Bay and Corinella Foreshore. There are many native species that require areas of native undisturbed habitat to live and breed. Without pockets of undeveloped land, these species will undoubtedly become locally extinct.

References

<https://www.qm.qld.gov.au/Explore/Find+out+about/Animals+of+Queensland/Mammals/Common+mammals+of+south-east+Queensland/Rats+and+Mice/Swamp+Rat>

https://www.swifft.net.au/cb_pages/sp_swamp_antechinus.php

<https://australian.museum/learn/animals/mammals/short-beaked-echidna/>

<https://australian.museum/learn/animals/mammals/bare-nosed-wombat/>

<https://australian.museum/learn/animals/mammals/common-ringtail-possum/>

<https://australian.museum/learn/animals/reptiles/eastern-snake-necked-turtle/>

https://australian.museum/learn/animals/frogs/striped-marsh-frog/?gclid=EAIaIQobChMIoaKXgPqV9gIVICQrCh1GVwpKEAAYASAAEgLKP_D_BwE

<https://australian.museum/learn/animals/frogs/eastern-pobblebonk-frog/>

Bird Survey - April 2021

Survey Summary #5314467



LOCATION

Survey Point	Norseman Rd Corinella
Latitude	-38.4288505 (38° 25' 44" S)
Longitude	145.4335451 (145° 26' 1" E)
Accuracy	Within survey area
Shared Sites	Not within any shared sites

DETAILS

Survey Date	21/04/2021
Survey Time	09:04

Survey Duration 3 hours 23 minutes

Survey Type 500m area search

Water Level (if applicable)

Number of observers 5








All species recorded Yes
















Number of sightings recorded 44
















NOTES








Surveyor - Dallas Wyatt (Birdlife Bass Coast) and Coronet Bay residents.

SIGHTINGS

	Species	Count	Breeding activity	Notes	Photos
	Black Swan	10	None		
	Pacific Black Duck	5	None		
	Grey Teal	9	None		
	Spotted Dove	3	None		
	Purple Swamphen	3	None		
	Dusky Moorhen	2	None		
	Eurasian Coot	2	None		

	Australian Pied Oystercatcher	2	None
	Silver Gull	1	None
	Pacific Gull	2	None
	Caspian Tern	1	None
	Australian Pelican	1	None
	Great Egret	1	None
	White-faced Heron	1	None
	Australian White Ibis	1	None
	Little Pied Cormorant	1	None
	Black-shouldered Kite	2	None
	Brown Goshawk	1	None
	Laughing Kookaburra	1	None
	Galah	2	None
	Rainbow Lorikeet	6	None
	Superb Fairy-wren	4	None

	New Holland Honeyeater	5	None
	White-naped Honeyeater	5	None
	Eastern Spinebill	4	None
	Little Wattlebird	2	None
	Red Wattlebird	6	None
	Yellow-faced Honeyeater	10	None
	Striated Pardalote	2	None
	White-browed Scrubwren	2	None
	Brown Thornbill	5	None
	Black-faced Cuckoo-shrike	1	None
	Golden Whistler	1	None
	Australian Magpie	3	None
	Grey Fantail	4	None
	Little Raven	10	None
	Australian Raven	2	None

	Magpie-lark	2	None
	Mistletoebird	2	None
	Red-browed Finch	12	None
	Welcome Swallow	4	None
	Silvereye	2	None
	Common Starling	5	None
	Common Blackbird	4	None
