



RAPID CREEK LANDCARE GROUP

A FOCUS ON THE LOWER CATCHMENT

JUNE 2017





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The Rapid Creek Landcare Group's members look after Rapid Creek through working bees, by promoting awareness about the creek and by advocating for better management throughout the catchment. The group works to implement the *Rapid Creek Management Plan* (Clouston 1994). Their *Report to the Rapid Creek Water Advisory Committee* (Rapid Creek Landcare Group 2016) documents their recent projects and achievements. The group's website at www.rapidcreek.org.au provides more information.

THE LOWER CATCHMENT

The group has worked throughout the catchment (see Appendix 1 for catchment map) and in the past the focus of their on-ground efforts has been in the monsoon forest corridor in the mid catchment. Recently they have started to focus on the lower catchment. The lower catchment is shown in Figure 1. It is the area downstream from Trower Road. Here Rapid Creek is lined by a diverse mangrove community which is generally surrounded by parkland landscapes contained within City of Darwin, Casuarina Coastal Reserve and Charles Darwin University land. The area is highly valued by the community and is well used recreationally for walking, jogging, cycling, fishing, picnicking and birdwatching.

The *Casuarina Coastal Reserve Management Plan* (Parks and Wildlife Commission of the Northern Territory 2016) states the reserve attracts nearly one million visits annually and also notes its important natural values including feeding and roosting sites for migratory birds and waders.

Guinea (1987) noted that prior to Cyclone Tracy in 1974 most of the Rapid Creek mangroves had been cleared for a proposed recreational lake and lakeside real estate development. The development never proceeded and almost all of the mangroves downstream of Trower Road are now included within the Casuarina Coastal Reserve and zoned for Conservation. Guinea's work documented the regeneration of the mangroves from 1980 to 1987 and found the number of mangrove species had increased from nine to seventeen. Guinea comments " ... in spite of the near total destruction of the mangrove community, the regeneration process is clearly underway."

Mangrove ecosystems support a diverse range of plants and animals and provide many free ecological services such as urban stormwater filtration of pollution, sediment and litter. Their importance is even greater in the current climate change and rising sea level environment. The mangrove hinterland is the sensitive zone at the upper edge of the mangroves where they meet landward communities. Altering the landscape in this zone can halt the landward colonisation of mangroves and can ultimately lead to the area covered by mangroves decreasing. The *Rapid Creek Management Plan* states that "Strategies for protecting the mangrove community should be directed at ... preventing any further encroachment by filling or clearing." The Rapid Creek Landcare Group's focus is on this important mangrove hinterland. Protection of the mangroves and rehabilitating adjacent land is in line with the *Darwin Harbour Water Quality Protection Plan* (Northern Territory Government 2014).

Figure 1: Lower Rapid Creek catchment focus area





ISSUES

Inappropriate dumping

There have been a number of incidents of dumping of fill material alongside the mangroves in recent times. The mangrove edge roughly follows the tenure boundary between Casuarina Coastal Reserve and either the City of Darwin or Charles Darwin University land - the lack of clarity on ownership is one of the factors leading to this zone being used as a dumping ground and becoming degraded.

The landcare group has been involved in discussions with the City of Darwin and Parks and Wildlife about better management of land alongside the mangroves, particularly in an area subject to ongoing dumping over many years. The City of Darwin consulted with the group about the *Lakeside Drive Treatment Plan* (City of Darwin 2016) which has led to some useful initiatives.

A number of incidents of dumping of landfill on the Casuarina Coastal Reserve adjacent to Charles Darwin University have recently been reported by the group. Unfortunately at this stage the practice appears ongoing.

Weeds

The *Rapid Creek Management Plan* states that “Strategies for protecting the mangrove community should be directed at reduction of weeds along the edges ...”. Due to the degraded state of the mangrove edge, and the lack of clarity on ownership, there are many weeds present along the mangrove hinterland.

The landcare group has carried out some control of Coffee Bush (*Leucaena leucocephala*) alongside the mangroves on the western side of the creek downstream from Trower Road. However the Coffee Bush infestations on the eastern side of the creek in the lower catchment are extensive and provide an opportunity for a large scale and co-ordinated response that would need to involve a revegetation component.

There are many other weed species, including Gamba Grass, along the mangrove hinterland that could also be addressed.

Litter

Littering in the mangroves is a regular occurrence. The group has organised a number of Clean Up Australia Day events focussed on the mangroves in recent years. Large amounts of rubbish and dumped material have been removed at these events.

The clean up activities have been held at the foreshore and in the adjacent mangroves on both sides of the creek (including one in held in conjunction with the Charles Darwin University’s Enviro Collective), and in the mangroves upstream of Trower Road. The Clontarf Foundation has been a key partner at these events.

“THE SPIT”

The Rapid Creek Landcare Group has chosen to spend its initial efforts on an area referred to as “The Spit” (see Figure 2). It is a low sandy ridge south of the creek near the mouth, it is surrounded by mangroves and mud flats. The area contains a grassland community and is well known for its high diversity of bird species (see bird list in Appendix 2 and cover photo taken at the spit by Peter Cooke of a Chestnut-breasted Mannikin). However the spit is quite degraded and presents an opportunity for the group to work with the landholders and community to improve the area.

Figure 2: “The Spit”



Weeds

The grassland at the spit is heavily infested with weed species including Gamba Grass (*Andropogon gayanus*). Gamba Grass poses a serious fire risk; it is a Class A, B and C declared weed in the Northern Territory, a Weed of National Significance and a Key Threatening Process under the *Environment Protection and Biodiversity Conservation Act*.

The area burns frequently which prevents the more desirable species regenerating. The Parks and Wildlife rangers carry out some management of the grass weeds and members of the community have volunteered their time to remove Gamba Grass. There are other different weeds along the edges of the mangroves around the spit. The group has removed most of the Coffee Bush (*Leucaena leucocephala*) which was a prevalent weed, however ongoing monitoring is required to ensure it does not reinvade.

The group plans to control the Gamba Grass in the wet season and carry on with its Coffee Bush control throughout the year, as well as targeting other weeds as resources allow. The goal is to have volunteer efforts complementing the rangers' work.



Inappropriate access

Inappropriate vehicle access is common in this area which is further degrading the site. The Parks and Wildlife rangers have placed large rocks around the carpark but they are continually removed which allows vehicles to access the site (the rangers also remove rubbish and dumped material from the site). Even with the rocks in place, cars have been noted driving through the City of Darwin parkland where the pine bollards have been damaged, and along the bike path and on to the spit.

Some vehicles drive right down through the mangroves adjoining the spit to the water's edge below high tide level, presumably to fish. Others dump large amounts of household waste, including furniture and whitegoods, on and around the spit. Others drive in for parties and leave rubbish behind. The vehicle movements contribute to the proliferation of weed species and erosion. The group looks forward to working with the landholders towards a solution to this problem.

Litter

Littering is very common at this site. The group plans to carry out a number of clean up days and also attempt to educate the public to respect this special area.

Revegetation

Some revegetation using locally provenanced tree and shrub species that have good salt tolerance is planned. If possible appropriate native grass seeds will also be re-introduced to the area.

Partners

- Casuarina Coastal Reserve Landcare Group
- Clontarf Foundation
- Conservation Volunteers Australia
- City of Darwin
- Enviro Collective CDU
- Parks and Wildlife Commission of the Northern Territory

REFERENCES

- City of Darwin. 2016. *Lakeside Drive Treatment Plan*.
- Clouston. 1994. *Rapid Creek Management Plan*. Darwin City Council and Greening Australia.
- Department of Land Resource Management. 2014. *Darwin Harbour Water Quality Protection Plan*. Northern Territory Government.
- Guinea, M. 1987. *Rapid Creek Mangrove Regeneration, thirteen years onwards*. Department of Natural Science, Darwin Institute of Technology.
- Parks and Wildlife Commission of the Northern Territory. 2016. *Casuarina Coastal Reserve Management Plan*. Northern Territory Government.
- Rapid Creek Landcare Group. 2015. *Rapid Creek Birdwatching List*.
- Rapid Creek Landcare Group. 2016. *Report to the Rapid Creek Water Advisory Committee*.

APPENDIX 1 - RAPID CREEK CATCHMENT MAP



APPENDIX 2 - BIRD LIST FOR "THE SPIT"

This bird list for "The Spit" has been compiled by Jan Cooke. For the whole catchment refer to the *Rapid Creek Birdwatching List* (Rapid Creek Landcare Group 2015).

Orange-footed Scrubfowl (<i>Megapodius reinwardt</i>)	Rainbow Bee-eater (<i>Merops ornatus</i>)
Magpie Goose (<i>Anseranas semipalmata</i>)	Dollarbird (<i>Eurystomus orientalis</i>)
Wandering Whistling-Duck (<i>Dendrocygna arcuata</i>)	Mangrove Gerygone (<i>Gerygone levigaster</i>)
Radjah Shelduck (<i>Tadorna radjah</i>)	Striated Pardalote (<i>Pardalotus striatus</i>)
Peaceful Dove (<i>Geopelia striata</i>)	White-gaped Honeyeater (<i>Lichenostomus unicolor</i>)
Bar-shouldered Dove (<i>Geopelia humeralis</i>)	Bar-breasted Honeyeater (<i>Ramsayornis fasciatus</i>)
Rose-crowned Fruit-Dove (<i>Ptilinopus regina</i>)	Rufous-banded Honeyeater (<i>Conopophila albogularis</i>)
Torresian Imperial-Pigeon (<i>Ducula spilorrhoa</i>)	Rufous-throated Honeyeater (<i>Conopophila rufogularis</i>)
Tawny Frogmouth (<i>Podargus strigoides</i>)	Red-headed Honeyeater (<i>Myzomela erythrocephala</i>)
Black-necked Stork (<i>Ephippiorhynchus asiaticus</i>)	Banded Honeyeater (<i>Cissomela pectoralis</i>)
Striated Heron (<i>Butorides striatus</i>)	Brown Honeyeater (<i>Lichmera indistincta</i>)
Australian White Ibis (<i>Threskiornis moluccus</i>)	White-throated Honeyeater (<i>Melithreptus albogularis</i>)
Straw-necked Ibis (<i>Threskiornis spinicollis</i>)	Little Friarbird (<i>Philemon citreogularis</i>)
White-bellied Sea-Eagle (<i>Haliaeetus leucogaster</i>)	Grey-crowned Babbler (<i>Pomatostomus temporalis</i>)
Whistling Kite (<i>Haliastur sphenurus</i>)	White-bellied Cuckoo-shrike (<i>Coracina papuensis</i>)
Brahminy Kite (<i>Haliastur indus</i>)	Varied Triller (<i>Lalage leucomela</i>)
Black Kite (<i>Milvus migrans</i>)	Little Shrike-thrush (<i>Colluricincla megarhyncha</i>)
Brown Goshawk (<i>Accipiter fasciatus</i>)	Australasian Figbird (<i>Sphecotheres vieilloti</i>)
Collared Sparrowhawk (<i>Accipiter cirrocephalus</i>)	Yellow Oriole (<i>Oriolus flavocinctus</i>)
Grey Goshawk (<i>Accipiter novaehollandiae</i>)	Olive-backed Oriole (<i>Oriolus sagittatus</i>)
Brown Falcon (<i>Falco berigora</i>)	White-breasted Woodswallow (<i>Artamus leucorhynchus</i>)
Chestnut Rail (<i>Eulabeornis castaneiventris</i>)	Black Butcherbird (<i>Cracticus quoyi</i>)
Buff-banded Rail (<i>Gallirallus philippensis</i>)	Spangled Drongo (<i>Dicrurus bracteatus</i>)
Bush Stone-curlew (<i>Burhinus grallarius</i>)	Northern Fantail (<i>Rhipidura rufiventris</i>)
Beach Stone-curlew (<i>Esacus giganteus</i>)	Broad-billed Flycatcher (<i>Myiagra ruficollis</i>)
Masked Lapwing (<i>Vanellus miles</i>)	Leaden Flycatcher (<i>Myiagra rubecula</i>)
Whimbrel (<i>Numenius phaeopus</i>)	Shining Flycatcher (<i>Myiagra alecto</i>)
Little Curlew (<i>Numenius minutus</i>)	Restless Flycatcher (<i>Myiagra inquieta</i>)
Eastern Curlew (<i>Numenius madagascariensis</i>)	Magpie-lark (<i>Grallina cyanoleuca</i>)
Red-tailed Black-Cockatoo (<i>Calyptorhynchus banksii</i>)	Lemon-bellied Flycatcher (<i>Microeca flavigaster</i>)
Galah (<i>Eolophus roseicapillus</i>)	Zitting Cisticola (<i>Cisticola juncidis</i>)
Little Corella (<i>Cacatua sanguinea</i>)	Golden-headed Cisticola (<i>Cisticola exilis</i>)
Sulphur-crested Cockatoo (<i>Cacatua galerita</i>)	Yellow White-eye (<i>Zosterops luteus</i>)
Rainbow Lorikeet (<i>Trichoglossus haematodus</i>)	Mistletoebird (<i>Dicaeum hirundinaceum</i>)
Red-winged Parrot (<i>Aprosmictus erythropterus</i>)	Double-barred Finch (<i>Taeniopygia bichenovii</i>)
Pheasant Coucal (<i>Centropus phasianinus</i>)	Long-tailed Finch (<i>Poephila acuticauda</i>)
Horsfield's Bronze-Cuckoo (<i>Chalcites basalis</i>)	Masked Finch (<i>Poephila personat</i>)
Black-eared Cuckoo (<i>Chalcites osculans</i>)	Crimson Finch (<i>Neochmia phaeton</i>)
Little Bronze-Cuckoo (<i>Chalcites minutillus</i>)	Chestnut-breasted Mannikin (<i>Lonchura castaneothorax</i>)
Forest Kingfisher (<i>Todiramphus macleayi</i>)	Australasian Pipit (<i>Anthus novaeseelandiae</i>)
Sacred Kingfisher (<i>Todiramphus sanctus</i>)	