

12 Appendices

Appendix A

12.1 Threatened Fauna and Known/Potential Habitats

Scientific Name	Common Name	Status		Habitat Requirement Source: DECCW undated	Known Records on the MREMP Study Area Floodplain	Habitat Types at Kempsey and Macksville 1:100,000 Sheets and/or KSC GIS Records (Based on Habitat Mapping)	Key Known/Potential Habitats Within the Study Area (Based on Habitat Requirements)
		TSC Act	EPBC Act				
Amphibians							
<i>Critinia timula</i>	Wallum Froglet	V	-	Found only in acid paperbark and sedge swamps known as 'Wallum Habitat', this is a banksia-dominated lowland heath ecosystem characterised by acidic waterbodies.	Yes	Coastal Scrub/Heath; Swamp Sclerophyll Forest; Dry Sclerophyll Forest	Wetlands (Freshwater); Swamp Sclerophyll Forest; Heath/Coastal Scrub.
<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V	Amongst vegetation in and around permanent swamps, lagoons, farm dams and on flood-prone river flats, particularly where there are bullrushes or spikerushes.	Yes	Cleared/Partly Cleared; Wetlands (Freshwater)	Wetlands (Freshwater); Water surfaces.
<i>Litoria booroolongensis</i>	Booroolong Frog	E	E	Live along permanent streams with some fringing vegetation cover such as ferns, sedges or grasses.	No	N/A	Areas along creeks/drainage lines*.
<i>Litoria brevipalmata</i>	Green-thighed Frog	V	-	Rainforest, moist to dry eucalypt forest and heath, typically where surface water gathers after rain.	Yes	Dry Sclerophyll Forest	Dry Sclerophyll Forest; Swamp Sclerophyll Forest; Wet Sclerophyll Forest; Coastal Scrub/Heath; Rainforest.

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		TSC Act	EPBC Act				
<i>Litoria olongburensis</i>	Olongburra Frog	V	V	Paperbark swamps and sedge swamps of the coastal 'wallum' country amongst sedges and rushes.	No	N/A	Swamp Sclerophyll Forest; Heath/Coastal Scrub; Wetlands (Freshwater).
<i>Mixophyes balbus</i>	Stuttering Frog	E	V	Cool rainforest, moist eucalypt forest and occasionally along creeks in dry eucalypt forest.	No	N/A	Wet Sclerophyll Forest; Rainforest.
<i>Mixophyes iteratus</i>	Southern Barred Frog, Giant Barred Frog	E	E	Deep, damp leaf litter in rainforests, moist eucalypt forest and near dry eucalypt forest.	No	N/A	Wet Sclerophyll Forest; Rainforest.
Aves							
<i>Anseranas semipalmata</i>	Magpie Goose	V	-	Shallow wetlands (<1 m deep), large swamps and dams with dense growth of rushes or sedge.	Yes	Cleared, partly cleared.	Wetlands (Freshwater); Water surfaces.
<i>Anthochaera phrygia</i> (formerly <i>Xanthomyza phrygia</i>)	Regent Honeyeater	E	E	Occur in dry box-ironbark eucalypt woodland and dry sclerophyll forest associations, wherein they prefer the most fertile sites available, e.g. along creek flats, or in broad river valleys and foothills.	No	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest.

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<i>Botaurus poiciloptilus</i>	Australasian Bittern	V	-	Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (<i>Typha spp.</i>) and spikerushes (<i>Eleocharis spp.</i>). Nests are built in secluded places in densely-vegetated wetlands on a platform of reeds.	Yes	Wetlands (Freshwater)	Wetlands (Freshwater); Water surfaces.
<i>Burhinus grallarius</i>	Bush Stone-curlew	E	-	Lightly timbered open forest and woodland, and partly cleared farmland with woodland remnants, preferring areas with dry leaf-litter, fallen timber and sparse ground cover.	No	N/A	Dry Sclerophyll Forest; Cleared, partly cleared.
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	-	Sheoaks in coastal forests and woodlands, timbered watercourses, and moist and dry eucalypt forests of the coast and the Great Divide up to 1000m.	Yes	Dry Sclerophyll Forest; Estuarine; Estuary*; Cleared, partly cleared; Swamp Sclerophyll Forest.	Dry Sclerophyll Forest; Swamp Sclerophyll Forest; Wet Sclerophyll Forest.
<i>Coracina lineata</i>	Barred Cuckoo-shrike	V	-	Rainforest, eucalypt woodlands, swamp woodlands and timber along watercourses.	Yes	Estuarine; Swamp Sclerophyll Forest.	Rainforest; Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest.

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<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E	-	Widespread across coastal northern and eastern Australia, becoming increasingly uncommon further south into NSW, and rarely south of Sydney. Inhabits permanent freshwater wetlands including margins of billabongs, swamps, shallow floodwaters, and adjacent grasslands and savannah woodlands; can also be found occasionally on inter-tidal shorelines, mangrove margins and estuaries.	Yes	Estuary*; Estuarine; Other; Wetland (Freshwater); Cleared, partly cleared; Swamp Sclerophyll Forest.	Estuary*; Wetland (Freshwater); Cleared, partly cleared; Water surfaces; Estuarine.
<i>Esacus neglectus</i>	Beach Stone-curlew	E	-	Occurs on open, undisturbed beaches, islands, reefs, and estuarine intertidal sandflats and mudflats; beaches with estuaries or mangroves nearby are preferred; may also frequent river mouths, offshore sandbars and rock platforms. Nests on sandbanks, spits or islands in estuaries, among mangroves, or in sand surrounded by short grasses and scattered casuarinas.	No	N/A	Estuarine; Estuary*.
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	Mostly occur in dry, open eucalypt forests and woodlands. They have been recorded from both old-growth and logged forests in the eastern part of their range, and in remnant woodland patches and roadside vegetation on the western slopes.	Yes	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath;

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<i>Grus rubicunda</i>	Brolga	V	-	Shallow swamps, floodplains, grasslands and pastoral lands, usually in pairs or parties.	Yes	Wetland (Freshwater)	Estuary*; Wetland (Freshwater); Cleared, partly cleared; Water surfaces; Estuarine.
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V	-	Intertidal rocky and coral reefs, mostly ocean shores.	Yes	Estuary*.	Estuary*; Estuarine.
<i>Haematopus longirostris</i>	Pied Oystercatcher	V	-	Open beaches, intertidal flats, sandbanks and occasionally rocky headlands.	Yes	Estuary*; Estuarine; Rainforest.	Estuary*; Estuarine.
<i>Hamirostra melanosternon</i>	Black-breasted Buzzard	V	-	Inland habitats along timbered watercourses which is the preferred breeding habitat. Also hunts over grasslands and sparsely timbered woodlands.	Yes	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Cleared, partly cleared.
<i>Irediparra gallinacea</i>	Comb-crested Jacana	V	-	Inhabits permanent wetlands with a good surface cover of floating vegetation, especially water-lilies. Habitats include slow-moving rivers and permanent lagoons, swamps, lakes and dams.	Yes	Wetland (Freshwater); Water surfaces; Other; Cleared, partly cleared; Swamp Sclerophyll Forest.	Wetland (Freshwater); Water surfaces.
<i>Ixobrychus flavicollis</i>	Black Bittern	V	-	Dense vegetation fringing and in streams, swamps, tidal creeks and mudflats, particularly amongst swamp sheoaks and mangroves.	Yes	Other.	Wetlands (Freshwater); Water surfaces; Estuarine; Swamp Sclerophyll Forest; Other.

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<i>Lathamus discolor</i>	Swift Parrot	E	E	Forests, woodlands, plantations, and banksias.	Yes	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath.
<i>Limosa limosa</i>	Black-tailed Godwit	V	-	Primarily a coastal species, usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats. Further inland, it can also be found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps. Individuals have been recorded in wet fields and sewerage treatment works. Roosts and loafs on low banks of mud, sand and shell bars.	Yes	Cleared, partly cleared.	Estuary*; Estuarine; Wetland (Freshwater); Water surfaces; Other.
<i>Lophoictinia isura</i>	Square-tailed Kite	V	-	Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses. In arid north-western NSW, has been observed in stony country with a ground cover of chenopods and grasses, open acacia scrub and patches of low open eucalypt woodland. Home range can extend over at least 100 km ² .	Yes	Other; Cleared, partly cleared.	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Cleared, partly cleared.

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<i>Monarcha leucotis</i>	White-eared Monarch	V	-	In NSW occurs primarily in coastal rainforest, swamp forest and wet eucalypt forest. Appears to favour rainforest edges where trees are frequently covered with vines and through the canopy of more extensive patches of rainforest.	No	N/A	Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Rainforest;
<i>Ninox strenua</i>	Powerful Owl	V	-	Inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest. Requires large tracts of forest or woodland habitat but can occur in fragmented landscapes as well. Nest in large tree hollows (at least 0.5 m deep), in large eucalypts (diameter at breast height of 80-240 cm) that are at least 150 years old.	No	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Rainforest.
<i>Oxyura australis</i>	Blue-billed Duck	V	-	Aquatic (large, deep, open fresh-water dams and lakes), sewage ponds, large rivers and saline bodies seldom on land. Favours deep, permanent, well vegetated freshwater swamps especially with beds of Cumbungi <i>Typha</i> sp.	Yes	Estuary *.	Wetland (Freshwater); Water surfaces.
<i>Podargus ocellatus</i>	Marbled Frogmouth	V	-	Subtropical rainforest spending most time is deep, wet sheltered gullies.	No	No	Rainforest, Wet Sclerophyll Forest.

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<i>Ptilinopus magnificus</i>	Wompoo Fruit-Dove	V	-	Occurs in, or near rainforest, low elevation moist eucalypt forest and brush box forests. Nest consists of a flimsy platform of sticks on a thin branch or a palm frond, often over water, usually 3 - 10 m above the ground. Mostly recorded in mature forests, but also found in remnant and regenerating rainforest.	Yes	Unknown.	Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Rainforest.
<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	V	-	Occurs mainly in sub-tropical and dry rainforest and occasionally in moist eucalypt forest and swamp forest, where fruit is plentiful.	Yes	Estuarine; Swamp Sclerophyll Forest.	Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Rainforest.
<i>Pandion cristatus</i> (formerly <i>P. haliaetus</i>)	Eastern Osprey	V	-	Forage for fish in fresh, brackish or saline waters of rivers, lakes, estuaries with suitable nesting sites nearby.	Yes	Estuary*; Dry Sclerophyll Forest; Swamp Sclerophyll Forest; Cleared, partly cleared; Estuarine; Coastal Scrub/Heath; Other.	Estuary*; Wetland surfaces.
<i>Rostratula benghalensis australis</i>	Australian Painted Snipe	E	V	Well-vegetated shallows and margins of wetlands, dams, sewage ponds, wet pastures, marshy areas, irrigation systems, lignum, tea-tree scrub, and open timber.	No	N/A	Wetland (Freshwater); Water surfaces.
<i>Sterna albifrons</i>	Little Tern	E	-	Coastal waters, bays, shallow inlets, salt or brackish lakes.	Yes	Estuary*.	Estuary*; Estuarine.

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<i>Tyto capensis</i>	Grass Owl	V	-	Areas of tall grass, including tussocks in swampy areas, grassy plains, swampy heath, cane grass, sedges on flood plains.	Yes	Cleared, partly cleared.	Coastal Scrub/Heath; Estuarine; Wetland (Freshwater); Cleared, partly cleared.
<i>Tyto novaehollandiae</i>	Masked Owl	V	-	Lives in dry eucalypt forests and woodlands from sea level to 1100 m. Roosts and breeds in moist eucalypt forested gullies, using large tree hollows or sometimes caves for nesting.	No	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest.
<i>Tyto tenebricosa</i>	Sooty Owl	V	-	Occurs in rainforest, including dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests. Roosts by day in the hollow of a tall forest tree or in heavy vegetation.	Yes	Other.	Wet Sclerophyll Forest; Rainforest.
Mammalia							
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	Roosts in caves, crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (<i>Hirundo ariel</i>), frequenting low to mid-elevation dry open forest and woodland close to these features.	No	N/A	Dry Sclerophyll Forest.

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<i>Chalinolobus nigrogriseus</i>	Hoary Wattled Bat	V	-	In NSW occurs in dry open eucalypt forests, favouring forests dominated by Spotted Gum, boxes and ironbarks, and heathy coastal forests where Red Bloodwood and Scribbly Gum are common. Forests with naturally sparse understorey layers may provide the best habitat.	Yes	Swamp Sclerophyll Forest.	Dry Sclerophyll Forest.
<i>Dasyurus viverrinus</i>	Eastern Quoll	E	-	No recent sightings of this species in NSW. Occurs in dry sclerophyll forest, scrub, heathland and cultivated land.	No	N/A	Dry Sclerophyll Forest; Coastal Scrub/Heath; Cleared, partly cleared.
<i>Dasyurus maculatus maculatus</i>	Spotted-tailed Quoll	V	E	Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Use hollow-bearing trees, fallen logs, small caves, rock crevices, boulder fields and rocky-cliff faces as den sites.	Yes	Cleared, partly cleared.	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest.
<i>Falstirellus tasmaniensis</i>	Eastern False Pipistrelle	V	-	Moist and dry eucalypt forest and rainforest, particularly at high elevations.	No	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Rainforest; Estuarine.

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<i>Kerivoula papuensis</i>	Golden-tipped Bat	V	-	Rainforest and adjacent sclerophyll forest. Roost in abandoned hanging Yellow-throated Scrubwren and Brown Gerygone nests.	Yes	N/A	Wet Sclerophyll Forest; Rainforest.
<i>Megaptera novaeangliae</i>	Humpback Whale	V	V	Oceanic and coastal waters worldwide.	No	N/A	Estuary*.
<i>Miniopterus australis</i>	Little Bentwing-bat	V	-	Moist eucalypt forest, rainforest or dense coastal banksia scrub. Roost in caves, tunnels and sometimes tree hollows.	Yes	Dry Sclerophyll Forest; Swamp Sclerophyll Forest.	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest.
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V	-	Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Forages in forested and woodland areas.	Yes	Dry Sclerophyll Forest; Swamp Sclerophyll Forest.	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest.
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V	-	Found along the east coast from south Queensland to southern NSW. Occur in dry sclerophyll forest and woodland east of the Great Dividing Range. Roost mainly in tree hollows but will also roost under bark or in man-made structures.	Yes	Swamp Sclerophyll Forest, Dry Sclerophyll Forest.	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest.

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<i>Myotis macropus</i> (formerly <i>M. adversus</i>)	Large-footed Myotis	V	-	Bodies of water, rainforest streams, large lakes, reservoirs. Generally roost in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	No	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest; Estuarine; Wetland (Freshwater); Water surfaces.
<i>Petaurus australis</i>	Yellow-bellied Glider	V	-	Den, often in family groups, in hollows of large trees. Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type and preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south.	No	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest.
<i>Petaurus norfolcensis</i>	Squirrel Glider	V	-	Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas. Prefers mixed species stands with a shrub or Acacia midstorey. Require abundant tree hollows for refuge and nest sites.	Yes	Cleared, partly cleared; Dry Sclerophyll Forest.	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath.

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<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	V	-	Prefer dry sclerophyll open forest with sparse groundcover of herbs, grasses, shrubs or leaf litter. Also inhabit heath, swamps, rainforest and wet sclerophyll forest. Nest and shelter in tree hollows with entrances 2.5 - 4 cm wide and use many different hollows over a short time span.	Yes	Other.	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest.
<i>Phascolarctos cinereus</i>	Koala	V	-	Appropriate food trees in forests and woodlands, and treed urban areas	Yes	Swamp Sclerophyll Forest; Cleared, partly cleared; Dry Sclerophyll Forest	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest.
<i>Plamigale maculata</i>	Common Plamigale	V	-	Rainforest, eucalypt forest, heathland, marshland, grassland and rocky areas with surface cover close to water.	No	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest; Wetland (Freshwater).
<i>Potorous tridactylus tridactylus</i>	Long-nosed Potoroo	V	V	Cool temperate rainforest, moist and dry forests, and wet heathland, inhabiting dense layers of grass, ferns, vines and shrubs.	No	No	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest.

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<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy.	Yes	Rainforest; Dry Sclerophyll Forest; Wet Sclerophyll Forest; Other; Cleared, partly cleared; Swamp Sclerophyll Forest; Wetlands (Freshwater).	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest; Estuarine.
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail bat	V	-	Roosts in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. Forages in most habitats across its very wide range, with and without trees.	Yes	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest; Estuarine; Wetland (Freshwater); Cleared, partly cleared.
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-	Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest. Usually roosts in tree hollows, though also found in buildings.	Yes	Estuary*; Swamp Sclerophyll Forest.	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest.

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<i>Syconycteris australis</i>	Common Blossom-bat	V	-	Often roost in littoral rainforest and feed on flowers in adjacent heathland and paperbark swamps.	Yes	Swamp Sclerophyll Forest.	Swamp Sclerophyll Forest; Coastal Scrub/Heath; Rainforest.
<i>Vespudelus troughtoni</i>	Eastern Cave Bat	V	-	Cave roosting species found in dry open forest and woodland near cliffs and rocky overhangs.	No	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Swamp Sclerophyll Forest; Rainforest.
Reptiles							
<i>Chelonia mydas</i>	Green Turtle	V	V	Ocean-dwelling species spending most of its life at sea. scattered nesting records along the NSW coast.	Yes	Estuary*.	Estuary*.
<i>Dermochelys coriacea</i>	Leathery Turtle	V	V	Occurs in inshore and offshore marine waters, occasional breeding records from NSW coast, including between Ballina and Lennox Head in northern NSW.	Yes	Estuary*.	Estuary*.
<i>Emydura macquarii signata</i>	Bellinger River Emydura	V	V	Long, deep pools in broad reaches of the upper Bellinger River.	No	N/A	N/A
<i>Hoplocephalus stephensii</i>	Stephens' Banded Snake	V	-	Rainforest and eucalypt forests and rocky areas up to 950 m. nocturnal, and shelters between loose bark and tree trunks, amongst vines, or in hollow trunks limbs, rock crevices or under slabs during the day.	Yes	N/A	Dry Sclerophyll Forest; Wet Sclerophyll Forest; Rainforest.

Appendix B

12.2 Results of Candidate MPA Ranking Exercise

Criteria	Justification	Clybucca	New Entrance	Fishermans Reach	Stuarts Point	Back Creek	Yarrahapinni
Comprehensiveness		Contains both marine delta and transitional process zones.	Limited to the marine delta process zone.	Limited to the marine delta process zone.	Limited to the marine delta process zone.	SWR Creek is a different class of estuary, with different physical processes more than one of which is represented	Limited to the marine delta process zone.
Representativeness	Score	2	1	1	1	2	1
	Justification	Good cover of each of the 3 vegetative habitat types, large areas of intertidal flats and rocky shores.	Good cover of each of the 3 vegetative habitat types, large areas of intertidal flats and rocky shores.	Good cover of mangroves and seagrass, large intertidal flats.	Good cover of seagrass, relatively few mangroves, no saltmarsh, intertidal flats or rocky shores	Limited seagrass cover and moderate cover of saltmarsh and mangroves, areas of intertidal flats and rocky shores.	High proportion of total saltmarsh. No mangroves or seagrass at present, areas of intertidal flats and rocky shores.
Ecological Importance	Score	5	4	3	0	1.5	1.5
	Justification	Five threatened species recorded, 15 fish species recorded during seining.	Six threatened species recorded, no seining done within boundaries. Known to have large numbers of fish species along rock wall.	One threatened species recorded, no seining done within boundaries.	Two threatened species recorded, 15 fish species recorded during seining.	Three threatened species recorded, no seining done within boundaries.	Three threatened species recorded, 13 fish species recorded during seining.
	Score	5	4	0	2.5	1	2.5

Criteria	Justification	Clybuca	New Entrance	Fishermans Reach	Stuarts Point	Back Creek	Yarrahapinni
Uniqueness	Justification	No specific features	No specific features	No specific features	Unique geomorphology of closed former river mouth creating a deep estuarine lagoon	No specific features	A unique tidal wetland nestled between dunes.
Vulnerability Assessment	Score	0	0	0	1	0	1
	Justification	Disturbed acid sulfate soils upstream of floodgates and frequent release of poor quality water has a major effect on this part of the system.	Relatively few threats for this part of the estuary	Subject to progressive infilling by sediments	Will be subject to progressive infilling over the long term.	Requires dredging to maintain open entrance.	Acid sulfate soils have been disturbed upstream but reintroduction of tidal flows will mitigate this factor.
Naturalness	Score	0	5	1	2	3	4
	Justification	Most riparian vegetation disturbed to some degree, significant areas of highly disturbed vegetation. Little development within 1km, some grazing land.	All vegetation intact, some areas of intensive agriculture within 1km.	Most of the riparian vegetation intact, some areas of low disturbance, significant area of high disturbance. Stuarts Point village and some intensive agriculture within 1km.	Most of the riparian vegetation intact, some areas of moderate disturbance, very little high disturbance. Some camp grounds and rural areas within 1km.	Majority of riparian zone mapped as high or moderate disturbance. Significant urban pressure with SWR township within 1km.	Not disturbed (though not assessed by ID Management). No development within 1km.
	Score	1	4	2.5	2.5		5

Criteria	Justification	Clybucca	New Entrance	Fishermans Reach	Stuarts Point	Back Creek	Yarrahapinni
Social Interests	Justification	Access relatively difficult and with little potential for improvements.	Access very difficult without a boat	Close to Stuarts Point village and camping ground. Good potential for pedestrian access and there is an existing foreshore road.	Close to Crown Land at Grassy Head and some private and public camping grounds. Limited capacity for pedestrian access due to surrounding mangrove forests.	Current access very good for pedestrians and vehicles. South West Rocks village and campground within walking distance.	Access relatively difficult and with little potential for improvements.
	Score	0	0	2	1	2	0
Practicality and Feasibility	Justification	Yarrahapinni Wetlands NP and Clybucca Historic Site adjacent. Relatively difficult access for existing staff.	No existing reserves, poor access for existing staff.	Fishermans Bend Nature Reserve adjacent. Relatively difficult access for existing staff.	Some Crown Land adjacent. Relatively difficult access for existing staff.	Some adjacent Crown Land. Good access for existing staff from Arakoon.	Yarrahapinni Wetlands NP and Clybucca Historic Site adjacent. Relatively difficult access for existing staff.
	Score	1	0	1	0.5	1.5	1

Appendix C

12.3 Priority Weeds within the MREMP Study Area

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Nerium oleander</i>	Oleander	No	Not prioritised	Urban	-	-
-	Rubber Tree	No	Not prioritised	Coastal	-	-
-	Thistle	Yes	D	Agricultural	-	-
<i>Acacia karroo</i>	Karoo Thorn	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Acacia nilotica</i>	Prickly Acacia	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Acetosa sagittata</i>	Turkey Rhubarb	No	-	-	D	Coastal Landscapes
<i>Acacia saligna</i>	Acacia Saligna	No	B	Coastal	-	-
<i>Ageratina adenophora</i>	Crofton Weed	Yes	C (Agricultural) D (Forest) Not prioritised (Riparian)	Agricultural, Forest, Riparian	-	-
<i>Ageratina riparia</i>	Mistflower	No	Not prioritised (Riparian)	Riparian	D	(Lowland) Riparian Landscapes
<i>Alternanthera philoxeroides</i>	Alligator Weed	No	A	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Ammon glabra</i>	Pond Apple	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Anredera cordifolia</i>	Madeira Vine	Yes	B (Coastal) C (Forest, Riparian, Urban)	Coastal, Forest, Riparian, Urban	C	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes
<i>Araujia sericifera</i>	Moth Vine	Yes	Not prioritised	Coastal, Forest	E	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes
<i>Aristolochia elegans</i>	Dutchmans Pipe	No	-	-	C	(Lowland) Riparian Landscapes
<i>Asparagus aethiopicus</i>	Ground/Basket Asparagus	Yes	D (Coastal) Not prioritised (Urban)	Coastal, Urban	C	Coastal Landscapes (Lowland) Forest Landscapes (Lowland) Urban Landscapes
<i>Asparagus africanus</i>	Asparagus Fern	No	C (Forest) D (Coastal) Not prioritised (Urban)	Coastal, Urban	-	-
<i>Asparagus asparagoides</i>	Bridal Creeper	No	Not prioritised (Urban)	Urban	Aa	(Lowland) Forest Landscapes
<i>Asparagus plumosus</i>	Climbing Asparagus	Yes	D	Coastal	C	Coastal Landscapes (Lowland) Forest Landscapes
<i>Asystasia gangetica ssp micrantha</i>	Chinese Violet	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Baccharis halimifolia</i>	Groundsel Bush	Yes	A (Urban) B (Agricultural, Coastal) C (Forest, Riparian)	Agricultural, Coastal, Forest, Urban, Riparian	B	Coastal Landscapes
<i>Bassia scoparia</i> / <i>Kochia scoparia</i>	Kochia	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Brugmansia x candida</i>	Devils Trumpet	No	A (Riparian) B (Urban)	Riparian	Aa	(Lowland) Urban Landscapes
<i>Bryophyllum delagoense</i>	Mother-of-millions	Yes	-	-	B	Coastal Landscapes
<i>Bryophyllum delagoense</i>	Mother-of-millions	Yes	-	-	E	Agricultural Landscapes
<i>Bryophyllum</i> spp.	Mother-of-millions/ Resurrection Plant	Yes	B (Agricultural) C (Agricultural, Coastal, Forest, Riparian)	Agricultural, Coastal, Forest, Riparian	B	Coastal Landscapes
<i>Cabomba caroliniana</i>	Cabomba	No	B	Riparian	Aa	Aquatic Landscapes
<i>Caesalpinia decapetala</i>	Mysore Thorn	No	B	Coastal, Forest, Riparian	B	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes
<i>Canna indica</i>	Canna Lily	No	Not prioritised	Urban	D	(Lowland) Urban Landscapes
<i>Cardiospermum grandiflorum</i>	Balloon Vine	Yes	B	Forest, Riparian	C	(Lowland) Riparian Landscapes
<i>Carduus nutans</i> subsp. <i>Nutans</i>	Nodding Thistle	No	-	-	Aa	Agricultural Landscapes

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Carthamus lanatus</i>	Saffron Thistle	No	-	-	Aa	Agricultural Landscapes
<i>Casuta campestris</i>	Gold Dodder	No	B (Agricultural) C (Riparian)	Agricultural, Riparian	-	-
<i>Celtis sinensis</i>	Celtis	No	A (Riparian) B (Urban)	Riparian, Urban	Aa	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes (Lowland) Urban Landscapes
<i>Cenchrus incertus/C. longispinus</i>	Spiny Burrgrass	No	B	Coastal	-	-
<i>Centaurea calcitrapa</i>	Star Thistle	No	-	-	Aa	Agricultural Landscapes
<i>Centaurea maculosa</i>	Spotted Knapweed	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Centaurea nigra</i>	Black Knapweed	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Cestrum parqui</i>	Green Cestrum	No	B (Agricultural, Riparian) C (Urban)	Agricultural, Riparian, Urban	B	Coastal Landscapes (Lowland) Urban Landscapes
<i>Cestrum nocturnum</i>	Night Jasmine	No	Not prioritised	Riparian	-	-
<i>Chromolaena odorata</i>	Siam Weed	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Chrysanthemoides monilifera</i>	Bitou Bush	Yes	D	Coastal	D	Coastal Landscapes

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Cinnamomum camphora</i>	Camphor Laurel	Yes	Not prioritised	Riparian, Urban	C	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes (Lowland) Urban Landscapes
<i>Colocasia esculenta</i>	Taro	Yes	B	Urban	B	Aquatic Landscapes (Lowland) Riparian Landscapes
<i>Cortaderia spp.</i>	Pampas Grass	No	B (Forest, Urban) C (Coastal, Riparian)	Coastal, Forest, Riparian, Urban	-	-
<i>Cotoneaster</i>	Cotoneaster	No	Not prioritised (Urban)	Urban	C	(Lowland) Urban Landscapes
<i>Cryptostegia grandiflora</i>	Rubbervine	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Cuphea carthagenensis</i>	Cuphea	No	-	-	Aa	Agricultural Landscapes
<i>Cytisus scoparius</i>	Scotch Broom	No	A	Forest	-	-
<i>Delairea odorata</i>	Cape Ivy	Yes	C (Coastal, Riparian) Not prioritised (Forest)	Coastal, Forest, Riparian	Aa	(Lowland) Forest Landscapes
<i>Duranta repens</i>	Duranta	No	B (Forest) Not prioritised (Urban)	Forest, Urban	-	-
<i>Egeria densa</i>	Dense Waterweed	No	-	-	E	Aquatic Landscapes
<i>Eichhornia azurea</i>	Anchored Water Hyacinth	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Eichhornia crassipes</i>	Water Hyacinth	No	B (Urban) C (Riparian)	Riparian, Urban	B	Aquatic Landscapes

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Elodea canadensis</i>	Elodea	No	-	-	Aa	Aquatic Landscapes
<i>Emex australis</i>	Cats Heads	No	B	Agricultural	-	-
<i>Equisetum spp.</i>	Horsetails	No	A	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Erythrina cristagalli</i>	Cockspur Coral Tree	No	B (Agricultural, Riparian) C (Urban)	Agricultural, Riparian, Urban	B ((Lowland) Riparian Landscapes) C ((Lowland) Urban Landscapes)	(Lowland) Riparian Landscapes (Lowland) Urban Landscapes
<i>Euphorbia cyathophora</i>	Painted Spurge	No	-	-	Aa	Coastal Landscapes
<i>Gaura parviflora</i>	Gaura	No	Not prioritised	Urban	-	-
<i>Gleditia triacanthos</i>	Honey Locust	No	B (Riparian) C (Urban)	Riparian, Urban	B	(Lowland) Riparian Landscapes
<i>Gloriosa superba</i>	Glory Lily	Yes	B	Coastal, Urban	C	Coastal Landscapes
<i>Gomphocarpus fruticosus</i>	Narrow Leaf Cotton Bush	Yes	D	Agricultural	-	-
<i>Gymnocoronis spilanthoides</i>	Senegal Tea	No	A	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Heliotropium amplexicaule</i>	Blue Heliotrope	No	-	-	B	Agricultural Landscapes
<i>Heterotheca grandiflora</i>	Telegraph Weed	No	A	Coastal	-	-

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Hibiscus insularis</i>	Norfolk Island Hibiscus	No	B	Coastal	-	-
<i>Hieracium spp</i>	Hawkweed	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Hygrophila costata</i>	Glush Weed	No	-	-	Aa	Aquatic Landscapes
<i>Hygrophila polysperma</i>	East Indian Hygrophila	No	A	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Hymenachne amplexicaulis</i>	Hymenachne	No	A	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Hyparrhenia hirta</i>	Coolatai Grass	No	B (Agricultural) C (Riparian) Not prioritised (Coastal)	Agricultural, Coastal (not prioritised), Riparian	B	Agricultural Landscapes
<i>Hypericum perforatum</i>	St Johns Wort	Yes	A	Agricultural, Forest	Aa	Agricultural Landscapes
<i>Hypoestes phyllostachya</i>	Pink Polkadot Plant	No	-	-	C	(Lowland) Urban Landscapes
<i>Ipomoea alba</i>	Moonflower	No	D	-	Aa	(Lowland) Riparian Landscapes
<i>Ipomoea cairica</i>	Five Leaf Morning Glory	Yes	D (Coastal) Not prioritised (Riparian, Urban)	Coastal, Riparian, Urban	D	Coastal Landscapes (Lowland) Riparian Landscapes
<i>Ipomoea indica</i>	Blue Morning Glory	Yes	D	Coastal	E	(Lowland) Riparian Landscapes
<i>Koelerutera elegans</i>	Golden Rain Tree	No	C	Urban	-	-

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Lagarosiphon major</i>	Lagarosiphon	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Lantana camara</i>	Lantana	Yes	D (Agricultural, Coastal, Forest,) Not prioritised (riparian)	Agricultural, Coastal, Forest, Riparian	C (Agricultural Landscapes Coastal Landscapes (Lowland) Riparian Landscapes) D ((Lowland) Forest Landscapes)	Agricultural Landscapes Coastal Landscapes (Lowland) Riparian Landscapes (Lowland) Forest Landscapes
<i>Leucaena leucocephala</i>	Leucaena	No	-	-	Aa	(Lowland) Riparian Landscapes
<i>Ligustrum lucidum</i>	Broad Leaf Privet	Yes	B (Forest) Not prioritised (riparian)	Forest, Riparian	D	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes (Lowland) Urban Landscapes
<i>Ligustrum sinense</i>	Narrow Leaf Privet	Yes	B (Forest) Not prioritised (riparian)	Forest, Riparian	D	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes (Lowland) Urban Landscapes
<i>Lilium formosanum</i>	Formosan Lily	Yes	C (Coastal) Not prioritised (Forest)	Coastal, Forest	-	-
<i>Limnocharis flava</i>	Limnocharis	No	A	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Lonicera japonica</i>	Japanese Honeysuckle	Yes	-	-	Aa	(Lowland) Riparian Landscapes

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Ludwigia longifolia</i>	Willow Primrose	No	A	Riparian	Aa	Aquatic Landscapes
<i>Ludwigia peruviana</i>	Water Primrose	No	-	-	Aa	Aquatic Landscapes
<i>Lycium ferocissimum</i>	African Boxthorn	No	B	Coastal	-	-
<i>Macfadyena unguis-cati</i>	Cats Claw Creeper	Yes	A (Coastal, Forest) B (Urban) C (Riparian)	Coastal, Forest, Urban, Riparian	C	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes
<i>Macropitilium atropurpureum</i>	Siratro	Yes	-	-	C	Coastal Landscapes
<i>Melinis minutiflora</i>	Molasses Grass	No	-	-	C	Coastal Landscapes
<i>Miconia pigra</i>	Miconia	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Miconia spp</i>	Miconia	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Murraya paniculata</i>	Murraya	No	N	Forest, Urban	-	-
<i>Myriophyllum aquaticum</i>	Parrots Feather	No	-	-	Aa	Aquatic Landscapes
<i>Myriophyllum spicatum</i>	Eurasian Water Milfoil	No	A	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Nassella neesiana</i>	Chilean Needle Grass	No	A	Forest, Riparian	Aa	Agricultural Landscapes

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Nassella tenuissima</i>	Mexican Feather Grass	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Nassella trichotoma</i>	Serrated Tussock	No	A	Agricultural, Forest	Aa	Agricultural Landscapes
<i>Nephrrolepis cordifolia</i>	Fishbone Fern	Yes	C (Coastal) Not prioritised (Urban)	Coastal, Urban	D	(Lowland) Urban Landscapes
<i>Nymphaea mexicana</i>	Yellow Water Lily	No	-	-	D	Aquatic Landscapes
<i>Ochna serrulata</i>	Mickey Mouse Plant	Yes	Not prioritised	Coastal, Urban	B	Coastal Landscapes (Lowland) Urban Landscapes
<i>Olea europaea</i> <i>spp cuspidata</i>	African Olive	No	A	Forest	-	-
<i>Opuntia stricta</i> , <i>O. vulgaris</i> , <i>O. tomentosa</i> , <i>O. aurantiaca</i>	Prickly Pear Species	No	B (Agricultural) C (Coastal, Riparian)	Coastal, Riparian	-	-
<i>Orobanche</i> spp. (except native species <i>O. cernua</i> var <i>australiana</i> and <i>O. minor</i>)	Broomsrapes	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Parthenium hysterophorus</i>	Parthenium Weeds	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Paspalum urvillei</i>	Giant Paspalum	Yes	-	-	E	Coastal Landscapes

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Paspalum wettestinii</i>	Broad Leaf Paspalum	Yes	-	-	B	Coastal Landscapes
<i>Passiflora spp.</i>	-	Yes	Not prioritised	Coastal, Urban	-	-
<i>Pennisetum macrourum</i>	African Feather Grass	No	Not prioritised (Urban)	Urban	-	-
<i>Phyla nodiflora</i>	Lippia	No	A	Urban	Aa	Agricultural Landscapes
<i>Phyllostachys spp.</i>	Rhizomatous Bamboo	No	B (Riparian) C (Urban)	Riparian, Urban	-	-
<i>Pinus elliotii</i>	Slash Pine	Yes	-	-	D	(Lowland) Forest Landscapes
<i>Pinus radiata</i>	Radiata Pine	No	-	-	D	(Lowland) Forest Landscapes (Lowland) Urban Landscapes
<i>Pistia stratiotes</i>	Water Lettuce	No	A (Agricultural, Coastal, Forest, Riparian) B (Urban)	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Psidium cattleianum var. cattleianum</i>	Cherry Guava	No	-	-	C	Coastal Landscapes
<i>Polygala myrtifolia</i>	Polygala	No	-	Coastal	-	-
<i>Pteridium esculentum</i>	Bracken Fern	Yes	D	Agricultural	-	-
<i>Pterospermum rhombifolium</i>	-	No	Not prioritised	Coastal	-	-

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Pueraria lobata</i>	Kudzu	No	-	-	C	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes
<i>Pyracantha sp</i>	Firethorn	No	Not prioritised	Urban	-	-
<i>Radermachera sinica</i>	China Doll	No	Not prioritised	Urban	-	-
<i>Rhapiolepis indica</i>	Indian Hawthorn	No	B (Coastal) Not prioritised (Urban)	Coastal, Urban	-	-
<i>Ricinis communis</i>	Castor oil	Yes	Not prioritised	Riparian	E	(Lowland) Riparian Landscapes
<i>Rivina humilis</i>	Coral Berry	No	-	-	Aa	(Lowland) Riparian Landscapes
<i>Robinia pseudoacacia</i>	Black Locust	No	C	Urban	Aa	(Lowland) Riparian Landscapes
<i>Rosa rubiginosa</i>	Sweet Briar	No	-	-	Aa	Agricultural Landscapes
<i>Rubus fruticosus</i> agg. Spp	Blackberry	Yes	C (Agricultural, Forest) Not prioritised (Riparian)	Agricultural, Forest, Riparian	B	Agricultural Landscapes
<i>Sagittaria platyphylla</i>	Sagittaria	No	-	-	Aa	Aquatic Landscapes
<i>Salix spp.</i>	Willows	Yes	B (Riparian) C (Urban)	Riparian, Urban	C	(Lowland) Riparian Landscapes
<i>Salvinia molesta</i>	Salvinia	No	B	Urban	B	Aquatic Landscapes

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Schefflera acinophylla</i>	Umbrella Tree	Yes	B	Coastal	C	Coastal Landscapes (Lowland) Forest Landscapes (Lowland) Urban Landscapes
<i>Schinus terebinthifolius</i>	Broad Leaf Pepper	No	B	Coastal Riparian, Urban	Aa	Coastal Landscapes (Lowland) Riparian Landscapes (Lowland) Urban Landscapes
<i>Senecio madagascarensis</i>	Fireweed	Yes	C (Coastal) D (Agricultural)	Agricultural, Coastal	E	Agricultural Landscapes
<i>Senna pendula</i> var. <i>glabrata</i>	Winter Senna	Yes	D (Coastal) Not prioritised (Riparian)	Coastal, Riparian	C	Coastal Landscapes
<i>Solanum mauritianum</i>	Wild Tobacco	Yes	D (Agricultural) Not prioritised (Coastal, Riparian)	Agricultural, Coastal, Riparian	-	-
<i>Solanum seaforthianum</i>	Climbing Nightshade	Yes	-	-	E	(Lowland) Forest Landscapes
<i>Solidago canadensis</i>	Canada Golden Rod	No	Not prioritised (Urban)	Urban	-	-
<i>Sorghum halepense</i>	Johnson Grass	Yes	D (Agricultural) Not prioritised (Riparian)	Agricultural, Riparian	C	Agricultural Landscapes
<i>Spathodea campanulata</i>	African Tulip Tree	No	C	Urban	-	-

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Sphagneticola trilobata</i>	Singapore Daisy	No	A	Coastal	D	Coastal Landscapes (Lowland) Urban Landscapes
<i>Sporobolus fertilis</i>	Giant Parramatta Grass	Yes	C	Agricultural, Coastal, Forest	C	Agricultural Landscapes
<i>Sporobolus pyramidalis</i>	Giant Rats Tail Grass	Yes	C	Agricultural, Coastal	B	Agricultural Landscapes
<i>Stratiotes aloides</i>	Water Soldier	No	A	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Striga spp</i>	Witchweed	No	A	Agricultural, Coastal, Forest, Urban, Riparian	-	-
<i>Syagrus romanzoffiana</i>	Cocos Palm	No	Not prioritised	Urban	E	(Lowland) Urban Landscapes
<i>Tabebuia chrysothricha</i>	Golden Trumpet Tree	No	-	-	Aa	(Lowland) Urban Landscapes
<i>Tamarix aphylla</i>	Athel Pine	No	A	Riparian	-	-
<i>Tecoma stans</i>	Yellow Bells	No	C	Urban	C	(Lowland) Urban Landscapes
<i>Tecomaria capensis</i>	Cape honeysuckle	No	Not prioritised	Coastal	-	-
<i>Toxicodendron succedaneum</i>	Rhus Tree	No	B	Urban	-	-
<i>Tradescantia fluminensis</i>	Trad/Striped Trad	Yes	Not prioritised	Riparian	E	(Lowland) Forest Landscapes (Lowland) Riparian Landscapes

Scientific Name	Common Name	Known in MREMP Study Area Floodplain Search Area	Regional Weeds Strategy – 2008 – 2012 (MNCWAC undated)		Northern Rivers Invasive Plants Action Strategy 2009-2013 (Oakwood 2009)	
			Priority	Landscape	Priority	Landscape
<i>Trapa</i> spp.	Water Caltrop	No	A	Agricultural, Coastal, Forest, Urban, Riparian	Aa	Aquatic Landscapes
<i>Triadica sebifera</i>	Chinese Tallow	No	A (Riparian) C (Urban)	Riparian, Urban	D	(Lowland) Urban Landscapes
<i>Watsonia meriana</i>	Bulbil Watsonia	No	-	-	E	(Lowland) Forest Landscapes
<i>Xanthium occidentale</i>	Noogoora Burr	No	C (Agricultural) Not prioritised (Riparian)	Agricultural, Riparian	-	-
<i>Xanthium spinosum</i>	Bathurst Burr	No	C (Agricultural) Not prioritised (Riparian)	Agricultural, Riparian	-	-
<i>Zantedeschia aethiopica</i>	Arum Lily	No	Not prioritised (Urban)	Urban	-	-

Bold denotes species whose invasion is listed as a Key Threatening Process (refer to **Section 5.2**)

Appendix D

12.4 Complete results of seine net survey

		JANUARY																								
	Site	3	4	7	8	11	12	15	21	22	23															
	Shot	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	
<i>Species</i>	<i>Common Name</i>																									
<i>Gambusia holbrooki</i>	Mosquito Fish																									
<i>Pseudomugil signifer</i>	Pacific Blue Eye																									
<i>Hyporhamphus regulatus</i>	River Garfish	1	2	2	1	22	1		4	1																
<i>Herklotsichthys castelnaui</i>	Southern Herring																									
<i>Hyperlophus vittatus</i>	Sandy Sprat	40	2	1																						
<i>Urocampus canirostris</i>	Hairy Pipefish																									
<i>Retropinna semoni</i>	Australian Smelt																									
<i>Petroscirtes lupus</i>	Sabretooth Blenny																									

	Unid'd Mullet	0-5	4	14	3	17	18													1					
<i>Parupeneus signatus</i>	Blackspot Goatfish	0-5																							
	Unid'd Goatfish	0-5																							
<i>Pomatomus saltatrix</i>	Tailor	0-5																							
		5-10																							
<i>Siganus nebulosus</i>	Happy Moments	0-5																							
		5-10																							
<i>Sillago ciliata</i>	Sand Whiting	0-5	5	5	1	2	7	8	19	6	6	1													
		5-10		2		1						3	1	2								1			
		10-15		2										2											
<i>Acanthopagrus australis</i>	Yellowfin Bream	0-5			15	3	6	5	3		3	6	6	5	1	3							3		
		5-10		1		1	2	2	3	2	1														
		10-15		1																					
<i>Rhabdosargus sarba</i>	Tarwhine	0-5																							
<i>Pelates sexlineatus</i>	Striped Grunter	0-5			36	44	73	6	11																
		5-10				1	2	3	9																
		10-15																							

MAY																							
<i>Gambusia holbrooki</i>	Mosquito Fish	0-5																		1			
<i>Pseudomugil signifer</i>	Pacific Blue Eye	0-5																	1				
<i>Hyporhamphus regulatus</i>	River Garfish	0-5																					
		5-10		2																			
		10-15		1																			
<i>Herklotichthys castelnaui</i>	Southern Herring	0-5																	28				
		5-10																	4				
<i>Hyperlophus vittatus</i>	Sandy Sprat	0-5	14	100	100				1											2			
<i>Urocampus canirostris</i>	Hairy Pipefish	5-10							1														
<i>Retropinna semoni</i>	Australian Smelt	0-5																					
<i>Petroscirtes lupus</i>	Brown Sabretooth Blenny	0-5							4														
		5-10							5	6													
<i>Gnathanodon spectosus</i>	Golden Trevally	5-10																					
<i>Ambassis sp.</i>	Glassfish spp	0-5	100	100	100	60	20	100	100	100	6	100	8	2	3	22	100	4	1	100	4	2	
		5-10																					
<i>Gerres subfasciatus</i>	Silver Bidy	0-5							2											2	14	10	4

Appendix E

12.5 Complete Results of Fish Trapping Exercise

		JANUARY																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Species	Common Name																				
<i>Pseudomugil signifer</i>	Pacific Blue Eye																				
<i>Ambassis sp.</i>	Glassfish spp	100	100	100	43	3															
<i>Ajarcagobius tamarensis</i>	Tamar River Goby							1											1	2	
<i>Glossogobius sp.</i>	Unld'd Goby									2									1		
<i>Redigobius macrostoma</i>	Largemouth Goby					2		4	15	3	1				2						
<i>Hypseleotris compressa</i>	Empire Gudgeon												1	1	11						
<i>Phyllipnodon gradiceps</i>	Flathead Gudgeon																				
<i>Phyllipnodon sp.</i>	Dwarf Flathead Gudgeon												1	1						2	
<i>Monodactylus argenteus</i>	Diamond Fish														1						
<i>Mugil cephalus</i>	Sea Mullet																				
<i>Acanthopagrus australis</i>	Yellowfin Bream	1																			

Appendix F

12.6 List of Species Observed During Snorkelling Surveys

	<i>Time</i>	<i>January</i>				<i>May</i>			
	<i>Transect</i>	<i>1</i>		<i>2</i>		<i>1</i>		<i>2</i>	
	<i>Diver</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>
<i>Common Name</i>	<i>Scientific Name</i>	<i>Observed?</i>							
Eagle Ray	<i>Myliobatis australis</i>						x		
Sandy Sprat	<i>Hyperlophus vittatus</i>	x			x				
Southern Herring	<i>Herklotsichthys castelnaui</i>		x					x	
Estuary Catfish	<i>Cnidoglanis macrocephala</i>			x					
Dusky Flathead	<i>Platycephalus fuscus</i>	x	x	x	x	x	x	x	
Fortescue	<i>Centropogon australis</i>	x		x	x	x	x	x	x
Estuary Cod	<i>Epinephalus malabaricus</i>	x		x		x	x	x	
Black Cod	<i>Epinephalus daemeli</i>		x						
Glassfish	<i>Ambassis sp</i>	x		x		x			
Sand Whiting	<i>Sillago Cilliata</i>	x		x		x		x	
Golden Trevally	<i>Gnathanodon speciosus</i>	x							
Great Trevally	<i>Caranx ignobilis</i>							x	
Bluefin Trevally	<i>Caranx melampygus</i>					x			
Silver Trevally	<i>Psuedocaranx dentex</i>						x		
Yellow Tail Scad	<i>Trachurus novaeselandiae</i>	x				x			
Moses Perch	<i>Lutjanus russelli</i>		x	x	x	x	x	x	x
Black Spot Snapper	<i>Lutjanus fulviflammus</i>	x	x	x	x	x		x	x
Mangrove Jack	<i>Lutjanus argentimaculatus</i>	x	x		x	x			
Brown Sweetlips	<i>Plectorhinchus gibbosus</i>					x			
Bream	<i>Acanthopagrus australis</i>	x	x	x	x	x	x	x	x
Tarwhine	<i>Rhabdosargus sarba</i>					x	x	x	x
Common Silver Bidy	<i>Gerres subfasciatus</i>	x	x	x	x	x		x	x
Mulloway	<i>Argyrosomus hololepidotus</i>	x		x	x	x			
Blackspot Goatfish	<i>Paropeneus signatus</i>					x		x	
Eastern Pomfred	<i>Schuettea scalaripinnis</i>		x				x		
Silver Batfish	<i>Monodactylus argenteus</i>	x	x	x	x	x	x	x	x
Luderick	<i>Girella tricuspidate</i>	x	x	x	x	x	x	x	x
Stripey	<i>Microcanthus strigatus</i>	x	x	x	x	x	x	x	x
Striped Scat	<i>Selenotoca multifasciata</i>			x					
Spotted Scat	<i>Scatophagus argus</i>	x	x	x	x				
Seargent Major	<i>Abudefduf vaigiensis</i>					x	x	x	x
Blue Damsel	<i>Pomacentrus coelestis</i>					x			
Rock Cale	<i>Crinodus lophodon</i>		x		x		x		
Crested Morwong	<i>Cheilodactylus vestitus</i>							x	x
Flat-Tail Mullet	<i>Liza argentea</i>					x	x	x	x
Sea Mullet	<i>Mugil cephalus</i>	x	x	x	x	x	x	x	x
Eastern Blue Groper	<i>Achoerodus viridis</i>	x	x	x		x	x		
Gunthers Wrasse	<i>Pseudolabrus guentheri</i>	x	x	x		x	x		x
Painted Rainbow Wrasse	<i>Suezichthys arquatus</i>					x			
Blue-Spot Wrasse	<i>Leptojulius cyanopleura</i>					x			
Silver Streaked Wrasse	<i>Stethojulius strigiventer</i>					x			
Cleaner Wrasse	<i>Labroides dimidiatus</i>					x	x		
Black Back Wrasse	<i>Anampses neoguinaicus</i>	x							
Small-Spotted Wrasse	<i>Cirrhilabrus punctatus</i>					x			
Maori Wrasse	<i>Ophthalmolepis lineolata</i>						x		

	<i>Time</i>	<i>January</i>				<i>May</i>			
	<i>Transect</i>	<i>1</i>		<i>2</i>		<i>1</i>		<i>2</i>	
	<i>Diver</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>
<i>Common Name</i>	<i>Scientific Name</i>	<i>Observed?</i>							
Comb Wrasse	<i>Coris picta</i>					x			
Oyster Blenny	<i>Omobranchus anolius</i>	x	x	x	x	x	x	x	
Horned Blenny	<i>Parablennius intermedius</i>					x			
Peacock Blenny	<i>Istiblennius meleagris</i>	x		x					
Brown Sabretooth Blenny	<i>Petroscirtes lupus</i>					x			
Tamar River Goby	<i>Favonigobius tamarensis</i>	x		x					
White-Bar Goby	<i>Amblygobius phalaena</i>					x			
Largemouth Goby	<i>Redigobius macrostoma</i>	x		x	x				
Oyster Goby	<i>Cristatogobius gobioides</i>							x	
Sawtail	<i>Prionurus microlepidotus</i>	x	x	x					
Pencilled Surgeon	<i>Acanthurus dussumieri</i>	x		x		x	x	x	x
Convict Surgeon	<i>Acanthurus triostegus</i>					x	x	x	x
Happy Moments	<i>Siganus nebulosus</i>					x		x	
Three Bar Porcupinefish	<i>Dicotylichthys punctulatus</i>	x	x	x	x	x	x	x	x
Green Turtle	<i>Chelonia mydas</i>	x				x			