NSW GOVERNMENT

Office of Environment & Heritage

NSW National Parks & Wildlife Service

Regional Pest Management Strategy 2012–17: Northern Rivers Region

A new approach for reducing impacts on native species and park neighbours

The New South Wales National Parks and Wildlife Service (NPWS) is part of the Office of Environment and Heritage (OEH). Throughout this strategy, references to NPWS should be taken to mean NPWS carrying out functions on behalf of the Director General of the Department of Premier and Cabinet, and the Minister for the Environment.

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Cover photos, main: a rare species, *Plectranthus cremnus*, emerges after bitou bush control (M Hamilton/OEH); small: cane toad (M Mahony); lantana (M Hamilton/OEH); feral goat (B Mitchell/OEH); fox (P Meek).

Summary

Northern Rivers Region is located on the far North Coast of NSW, and stretches from Grafton in the south, north to the Queensland border at Tweed Heads and west to near Killarney. There are 96 parks and reserves covering approximately 210,973 hectares managed wholly or partially by the Region. There are four management areas in the Region: Byron Coast, Clarence North, Richmond River and Tweed-Kyogle.

Northern Rivers Region is the most biologically diverse region of NSW and contains the greatest number of endemic plants and animals. The Region's complex ecology and core areas of subtropical rainforest, temperate and dry rainforest provide excellent habitat for this diversity. Fifteen of the NPWS reserves have world heritage status – the Gondwana Rainforests of Australia – which include some of the most extensive areas of subtropical rainforests in the world, large areas of warm temperate rainforests and nearly all of the Antarctic beech cool temperate rainforest.

Northern Rivers Region has specifically targeted the management of 62 threatened taxa through pest and weed management actions. This includes 23 threatened animal species or populations (mostly birds), 34 threatened plant species (mostly trees) and five endangered ecological communities. The threatened species associated with the highest number of pest and weed control actions are Wallum froglets (*Crinia tinnula*), followed by Olongburra frogs (*Litoria olongburensis*). Many of these management actions have been implemented as part of the fox and bitou bush threat abatement plans, including fox control in Bundjalung National Park and bitou bush control in Broken Head Nature Reserve and Cape Byron State Conservation Area.

Evaluations completed by NPWS staff through the NSW State of the Parks program in 2010 help provide context for the management of pests and weeds within the Region. These evaluations help provide an overview of key issues and are based on expert advice, research, monitoring, community opinion and corporate datasets.

Weeds and pest animals are identified as the most common threats to park values within the Region. Weeds threaten park values in 88 parks (90%), while pest animals are identified as a threat to park values in 50 parks (51%).

Weeds are not uniformly spread through reserves and vary in the severity with which they may impact upon reserve values. Just over 50% of the reserves affected by weeds are reported to have a high or severe impact.

Pest animal impacts are typically reported as widespread due to the nomadic nature of most animals. Impacts to values are reported as mild to moderate in just over 50% of parks.

Lantana is one of the most frequently reported weeds of concern within parks, whilst the most frequently reported pest animals of concern are foxes, wild dogs and cats.

All parks within the Region have a planned approach to pest animal and weed management, with priority of effort given to parks where concern is greatest and to achieve greatest effectiveness.

The Region has a successful coordinated cooperative approach with stakeholders for the control of pest animals such as feral pigs, wild dogs and foxes. Weed control and bush regeneration programs have been successful in the rehabilitation of many kilometres of coastal dunes from the dominance of bitou bush and for the protection of high conservation value rainforest communities, endangered ecological communities and species threatened by lantana and exotic vines.

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Abbreviations

BMAD	Bell Miner Associated Disease
BPWW	Biodiversity Priorities for Widespread Weeds (BPWW CC1-6 refers to control categories within BPWW Statewide Framework[1])
BSC	Ballina Shire Council
CMA	Catchment Management Authority
CRC	Cooperative Research Centre
DPI / Ag	Department of Primary Industry / Agriculture
DNPRSR	Department of National Parks, Recreation, Sport and Racing (Queensland)
EEC	endangered ecological community
EPBC Act	Environment Protection and Biodiversity Conservation Act
FNCW	Far North Coast Weeds
ILUA	Indigenous Land Use Agreement
KTP	key threatening process
LHPA	Livestock Health and Pest Authority
MoU	Memorandum of Understanding
NP	national park
NPWS	NSW National Parks and Wildlife Service
NR	nature reserve
NRCMA	Northern Rivers CMA
OEH	Office of Environment and Heritage
PMP	park management program
PNP	pesticide notification plan
PWIS	Pest and Weed Information System
RSPCA	Royal Society for the Protection of Cruelty to Animals
RRRP	rainforest restoration and rehabilitation plan
SCU	Southern Cross University
SRNCR	Senior Ranger Neighbour and Community Relations
SSMP	site-specific management plan
TAP	threat abatement plan
TSC Act	*Threatened Species Conservation Act 1995*
WoNS	Weed of National Significance

[1] http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/publications/cmas/cma_statewide-framework-web.pdf

1 Introduction

Pest management within the Office of Environment and Heritage (OEH) is guided by two core planning instruments:

NSW 2021 – A Plan to Make NSW Number One sets out performance targets, including a specific priority action within *Goal 22 Protect Our Natural Environment* which is to *address core pest control in National Parks through the delivery of NPWS Regional Pest Management Strategies and improve educational programs and visitor access*.

NSW Invasive Species Plan provides specific goals, objectives and actions in relation to invasive species management.

This document is the Northern Rivers Region Pest Management Strategy and contains regionally specific components including prioritised pest programs.

The state strategy, Managing Pests in NSW National Parks, provides the broader planning framework for the management of pests by NPWS. It documents the policy and organisational context and describes the logic used for identifying, prioritising and monitoring pest management programs. It also establishes state-wide pest management goals, objectives and actions.

This regional strategy describes the local circumstances within the Region and applies the corporate framework from the state strategy to prioritise specific pest management programs. These priorities will be included in regional operations plans and implemented through the NPWS Asset Maintenance System. It also broadly identifies pest distribution and associated impacts across the Region.

2 Regional overview

Location

Northern Rivers Region is located on the far north coast of NSW, stretching from Grafton in the south to the Queensland border at Tweed Heads and near Killarney in the west.

Regional context

Northern Rivers Region is centred on the Mount Warning shield volcano. This area is the most biologically diverse region of NSW and contains the greatest number of endemic plants and animals. It has a highly complex ecology and is the core area for subtropical rainforest on the continent, and is at the northern and southern axes of temperate and dry rainforest, respectively. Apart from the larger forest areas, there are many tiny 'islands' of remnant rainforest (e.g. Big Scrub remnants) remaining after mass land clearing over the last two centuries.

The Region manages 210,000 hectares (approximately 15% of Northern Rivers Region) comprised of 96 land units - 22 national parks, 50 nature reserves, 18 State Conservation Areas, one historic site, five Aboriginal areas, one Aboriginal Place and four Indigenous land use agreements (ILUAs). Fifteen of the Region's parks and reserves have world heritage status (Gondwana Rainforests of Australia). These parks were inscribed on the world heritage list as international recognition of their global significance. The Gondwana Rainforest Reserves include the most extensive areas of subtropical rainforests in the world, with large areas of warm temperate rainforests and nearly all of the Antarctic beech cool temperate rainforest. These reserves also complement other Australian World Heritage rainforests in the wet tropics of Queensland and the Tasmanian wilderness.

The Region includes the local government areas of Tweed, Byron, Ballina, Lismore, Kyogle, Clarence Valley, Richmond Valley, and Tenterfield Shires. Noxious weeds are managed by local councils in Tenterfield and Clarence Valley, and by Far North Coast Weeds (FNCW) on behalf of Tweed, Byron, Ballina, Lismore, Kyogle and Richmond Valley shires. Two Livestock Pest and Health Authorities (LHPAs) – North Coast and New England – operate in the area.

The parks and reserves of Northern Rivers Region are part of the identity, spirituality, connection and resource base of the Bundjalung and Githabul Aboriginal people. Arakwal National Park is the first national park in Australia to be created under an ILUA with the traditional owners, Byron Bay Arakwal people, as joint managers with NPWS. In 2007 over 124 ha were added to NPWS estate as part of the ILUA. Githabul ILUA was signed in February 2007 and involves more than 112,000 ha near Mount Lindsey. Githabul ILUA is the largest area that is jointly managed in NSW.

Park management

NPWS estate within Northern Rivers Region is managed by four Areas: Byron Coast, Clarence North, Richmond River and Tweed-Kyogle.

Byron Coast Area

Byron Coast Area is made up of nine NPWS reserves and encompasses a total area of 1522 hectares in Byron Shire, from south of the Brunswick River to the border between Ballina and Byron shires. In Byron Coast Area there are iconic sites such as Cape Byron Headland, the most easterly point in Australia, and the National Estate listed Cape Byron Lighthouse. The Area office and works depot are located in Byron

Bay on Tallow Beach Road in Arakwal National Park, which is the first ILUA in Australia.

Cape Byron State Conservation Area is managed by the Cape Byron Reserve Trust, and is directly responsible to the Chief Executive and the NSW Minister for the Environment. The 101 hectare SCA contains at least 23 vegetation communities.

Clarence North Area

Clarence North Area falls within Clarence Valley, Kyogle, and Richmond Valley Council local government areas. Iluka Nature Reserve is a listed world heritage area, part of the Gondwana Rainforest Reserves of Australia, and contains the largest remaining area of littoral rainforest in NSW. Woody Head Camping Area with the adjoining Bundjalung National Park is a popular tourist destination. The Area also manages 20,483 ha of Identified Wilderness and 17,878 ha of Declared Wilderness across three reserves (Banyabba NR and SCA, and Fortis Creek NP).

The Bandjalang People Land Claims 1 and 2 cover part of Clarence North Area.

Richmond River Area

Richmond River Area encompasses the local government areas of Lismore, Ballina, Richmond Valley, some of Byron Shire and a small amount of Clarence Valley. A total of 29 NPWS reserves are managed from an Area office located at Alstonville and a works depot in the Wollongbar industrial estate.

The Area manages a variety of parks and reserves including the World Heritage Gondwana Nightcap National Park, small endangered ecological community rainforest remnants of the former largest area of subtropical rainforest the Big Scrub. The Area also manages a large portion of the coastline covering 36 km in Broadwater and Bundjalung national parks.

The Bandjalang People Land Claims 1 and 2 cover part of Richmond River Area.

Tweed-Kyogle Area

Tweed-Kyogle Area extends from the Queensland border to north of the Brunswick River. This Area manages part of the World Heritage Gondwana rainforest parks including Border Ranges National Park, Limpinwood and Numinbah nature reserves, and is the epicentre of the Mount Warning caldera. It also manages large contiguous pieces of vegetation adjoining the Queensland border, including a number of World Heritage Gondwana parks such as Murray Scrub in Toonumbar National Park, and Border Ranges National Park. Another iconic park is Tooloom National Park containing the greatest macropod diversity in NSW. Tweed-Kyogle Area is responsible for the Githabul ILUA covering the largest area in NSW of over 112,000 ha in total.

The Tweed Area office and works depots are located in separate premises in Murwillumbah. The Kyogle Area office and works depot are located in separate premises on the Summerland Way in Kyogle, with an additional works depot in Urbenville. Within Tweed-Kyogle Area there are five LGAs covering all of Tweed Shire and the northern part of Byron Shire, as well as Kyogle, Casino and Tenterfield councils.

Community engagement

Northern Rivers Region is actively involved with North Coast and New England LHPAs, Far North Coast Weeds and local council weeds officers, Northern Rivers Catchment Management Authority and Forests NSW while undertaking pest management programs across the landscape. NPWS regularly liaises with Aboriginal

management committees, Northern Rivers Region Advisory Committee, North Eastern Pest Animal Advisory Committee, volunteer groups, committees and neighbours. Throughout the period of this regional pest management strategy, Northern Rivers Region will continue to engage with stakeholders to ensure the strategy remains current and relevant to the threats and opportunities to control existing and new pest species.

In mid 2012, the NSW Government announced a new initiative to involve volunteer shooters in pest animal management on National Parks and Reserves. This initiative has been developed by NPWS into the Supplementary Pest Control (SPC) program, which is being trialled in 12 reserves across NSW. All volunteers involved in the program will be supervised by NPWS staff and will be trained to the equivalent levels as NPWS staff. All shooting will be conducted according to an approved NPWS shooting operations plan, which includes a Job Safety Analysis (JSA) and a Job Safety Brief (JSB). As part of this process, the program will only take place in sections of reserves that have been closed to the general public. The trial program will help to refine how this additional pest control option can further engage this sector of the community while complementing the programs detailed in the Regional Pest Management Strategies.

Pest management highlights

Northern Rivers Region undertakes a large number of high priority weed control programs. Control techniques include bush regeneration, aerial boom, spot spraying and ground spraying of herbicides, and bio-control.

The Bitou Bush TAP (DEC 2006), the National Plan to Protect Environmental Assets from Lantana (Biosecurity Queensland 2010) and the Biodiversity Priorities for Widespread Weeds (BPWW) (NSW DPI and OEH 2011) assist the Region to prioritise weed control programs, targeting sites to protect threatened species and endangered ecological communities.

Cape Byron State Conservation Area and Broken Head Nature Reserve are the second and third highest priority sites for bitou bush control in the state. Other significant sites under treatment include those in the northern containment zone between northern NSW and Queensland. A successful long-term collaborative program with the Department of Defence for the control of bitou bush occurs within Bundjalung National Park. Some of these programs have long-term vegetation monitoring plots to measure the response of bitou bush to weed management, as well as associated native species recovery.

Long-term rainforest regeneration programs have been undertaken in areas including the Big Scrub Rainforest Remnant Reserves, Gondwana Rainforest Reserves of Australia World Heritage listed areas including Iluka Nature Reserve, Nightcap National Park, and Murray scrub in Toonumbar National Park.

Pest issues in the rural interfaces are primarily associated with wild dogs and foxes. Many of these areas contain management challenges between preserving the dingo as a species on the Schedule 2 lands and controlling wild dogs to protect the adjacent agricultural enterprises. As a result, Northern Rivers Region is committed to coordinated cooperative approaches with stakeholders outlined in the local wild dog management plans.

The implementation of the NSW Fox TAP has led to fox control programs to protect threatened and endangered species including the beach stone-curlew, pied oystercatcher and long-nosed potoroo. At the site known as South Ballina (Salty Lagoon and 10 Mile Beach) approximately 170 pied oystercatchers have fledged since 1994. These programs include monitoring of the species at risk.

Feral pig impacts are primarily associated with high conservation value wetlands in Northern Rivers Region. Collaborative tageted feral pig control programs have been established through feral pig management committees and the five feral pig management strategies that have been developed to establish a landscape-based control approach. Northern Rivers Catchment Management Authority has been a financial contributor to the development and implementation of these strategies and the programs to reduce the impacts on biodiversity and agriculture in these high conservation value wetlands.

Northern NSW is in a biodiversity hot spot due to its geographical location and climatic features and, as such, is vulnerable to a host of potential new and emerging pest and weed species (e.g. pandanus planthopper). Pest and weed management in Northern Rivers Region requires a cooperative relationship with cross-border agencies, and maintaining a pro-active and adaptive approach to pest and weed management.


Queensland
Coolangatta
Numinbah NR
Mount Nothofagus NP
Duroby NR
Couchy Creek NR
Stotts Island NR
Koreelah NP
Limpinwood NR
Murwillumbah
Cudgen NR
Woodenbong
Border Ranges NP
Wollumbin NP
Mooball NP
Tooloom NP
Wollumbin SCA
North Obelisk NR
Urbenville
Toonumbar SCA
Mebbin NP
Maryland NP
Toonumbar NP
Wooyung NR
Inner Pocket NR
Captains Creek NR
Tweed-Kyogle
Mount Jerusalem NP
Billinudgel NR
Nightcap NP
Mullumbimby
Yabbra NP
Kyogle
Nimbin
Tyagarah NR
Whian Whian SCA
Cataract SCA
Byron Coast
The Channon
Cataract NP
Rosebank
Arakwal NP
Bonalbo
Bungabbee NR
Dunoon
Muckleewee Mountain NR
Clunes
Boonoo Boonoo NP
Richmond Range NP
Bald Rock NP
Lismore
Ballina NR
Northern Rivers
Wilson NR
Alstonville
Jennings
Basket Swamp NP
Casino
Davis Scrub NR
Ballina
Mallanganee
Tenterfield
Mallanganee NP
Richmond River
Uralba NR
Hogarth Range NR
Tuckean NR
Tenterfield
Coraki
Timbarra NP
Broadwater
Demon NR
Mount Pikapene NP
Bungawalbin SCA
Woodburn
Yarringully SCA
Broadwater NP
Bungawalbin NP
Evans Head
Bungawalbin NR
Jackywalbin SCA
Washpool SCA
Mount Neville NR
Tabbimoble Swamp NR
Bundjalung SCA
Bundjalung NP
Burnt-Down Scrub NR
Clarence North
Northern Tablelands
Banyabba SCA
Capoompeta NP
Chapmans Peak NR
Banyabba NR
Woombah
Washpool NP
Kooyong SCA
Harwood
Fortis Creek NP
Iluka
CORAL SEA
Wombat Creek SCA
Lawrence
Maclean
Yamba
Butterleaf NP
Butterleaf SCA
Gibraltar Range NP
Woodford Island NR
Corymbia SCA
GWYDIR HIGHWAY
Glen Innes
Nymboida NP
Ulmarra
Barool NP
Yuraygir NP
Mann River NR
Nymboida SCA
Ramornie NP
Grafton
PACIFIC HIGHWAY
North Coast
Chambigne SCA
Clarence South
Guy Fawkes River NP
Guy Fawkes River SCA
Dorrigo Plateau
Koukandowie NR
Yuraygir SCA
Chaelundi NP
Tallawudjah NR
Northern Rivers Region
PWG Regions
PWG Areas
Motorway
Highway
Major Road
NPWS Estate
State Forest
Built Up Area
0 10 20 km
Office of Environment & Heritage
NSW National Parks & Wildlife Service
Map projection: Geocentric Datum of Australia (GDA) 1994
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3 Regional prioritisation

The following key factors are considered when determining priorities for pest management within the Region. However, a precautionary approach using risk management will be applied where there is uncertainty about the impacts of the pest on the asset. The feasibility of effective control will also be a consideration.

Critical priority

C-TSC (Threatened Species Conservation)

Programs targeting pests which are, or are likely to be, significantly impacting on threatened species, populations or communities. These include the highest priorities identified in the threat abatement plans (TAPs), Priorities Action Statements (PAS) and Biodiversity Priorities for Widespread Weeds (BPWW). For example, undertake fox control at Bundjalang National Park as identified in the Fox TAP for the protection of the pied oystercatcher and beach stone-curlew.

C-HD (Health and Disease)

Programs that target pests which impact significantly on human health or are part of a declared national emergency, for example outbreak of foot and mouth disease or control of feral pigs in the catchment area of a domestic water supply reservoir.

C-EC (Economic)

Programs targeting pests that impact significantly on economic enterprises, for example wild dog control where there is potential for significant stock losses as identified in wild dog management plans.

C-NE (New and Emerging)

Programs addressing new occurrences or suppressed populations of highly invasive pest species with potential for significant impacts on park values (subject to risk/feasibility assessment), and programs to control Class 1 and 2 noxious weeds.

High priority

H-IH (International Heritage)

Programs that target pests that impact significantly on world heritage or international heritage values, for example control of rabbits impacting on World Heritage values of Iluka NR or pest control in Ramsar wetlands.

H-CH (Cultural Heritage)

Programs targeting pests that impact significantly on important cultural heritage values, for example control of feral goats where they are inhabiting an area containing Aboriginal rock art or control of rabbits undermining a historic building.

Medium priority

M-WNH (Wilderness and National Heritage)

Programs Programs that target pests that impact significantly on wilderness, wild rivers, national heritage values or other important listed values, for example control of willows along a declared wild river or within a wilderness area.

M-RA (Recreation and Aesthetic values)

Programs that target pests that impact significantly on recreation, landscape or aesthetic values, for example control of blackberry on the margins of camping areas or control of weeds in an area of natural beauty that is visited frequently.

M-CP (Cooperative Programs)

Cooperative programs (not covered in higher priorities above) targeting pests that impact significantly on park values or agricultural production (including the control of Class 3 noxious weeds or implementation of other endorsed state or regional plan), for example control of bitou bush across boundaries as part of a regional control plan prepared by a regional weeds advisory committee and supported by NPWS.

M-II (Isolated Infestations)

Programs addressing isolated infestations of highly invasive pest species, widely distributed in other parts of the Region, with high potential for future impacts on park values.

Lower priority

L-LP (Localised Programs)

Programs targeting pests that have localised impacts on natural ecosystems or agricultural lands that promote community skills, awareness and involvement with parks, for example participation in a new bush regeneration project with a local community group for control of Class 4 noxious weeds.

L-PP (Previous Programs)

Previous programs targeting pests that have localised impacts on native species and ecosystems, and that can be efficiently implemented to maintain program benefits, e.g. the maintenance of areas treated previously for serrated tussock to continue keeping them weed free.

In some circumstances, new programs may be introduced, or priority programs extended to target pests where a control window of opportunity is identified. These may arise where burnt areas become more accessible for ground control of weeds, where drought makes control of feral pigs and feral goats more efficient because they congregate in areas where water is available, or when a new biocontrol agent becomes available.

Future priorities for pest control will need to reflect changes in the distribution, abundance or impacts of pests that may occur in response to environmental changes, including climate change. NPWS is supporting research to understand the interaction between climate change, pests and biodiversity.

4 Prioritised regional pest programs

Live versions of this table will be kept on the OEH intranet and updated annually over the five year period of the strategy. Sites are listed in order of priority category, management area, target species and then reserve.

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
All Areas	All reserves	Affected reserves	Cat	Various vegetation communities and associated biodiversity	Asset protection	As part of integrated pest management with other Fox TAP and wild dog programs	C-TSC
All Areas	All reserves	Identified reserves	Cat	Various vegetation communities and associated biodiversity	Asset protection	Trial the use of sniffer dogs for the control of feral cats	C-TSC
All Areas	All reserves	Identified reserves	Fox	Identified biodiversity at risk in Fox TAP	Asset protection	Implement Fox TAP Actions	C-TSC
Byron Coast	Arakwal NP	1516 - Arakwal NP - bitou site	*Chrysanthemoides monilifera* subsp. *rotundata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Byron Bay Dwarf Graminoid Clay Heath Community EEC (TSC-e), Coastal wetlands (SEPP14), *Chamaesyce psammogeton* (TSC-e), *Geodorum densiflorum* (TSC-e), *Correa baeuerlenii* (EPBC-v; TSC-v), *Diuris byronensis, Allocasuarina defungens* (EPBC-e; TSC-e); BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Byron Coast	Broken Head NR	1557 - Broken Head NR incl. SEPP26 (32,33B,34A)	*Chrysanthemoides monilifera* subsp*. rotundata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Themeda Grassland on Seacliffs and Coastal Headlands EEC (TSC-e), *Acronychia littoralis* (EPBC-e;TSC-e), *Pandanus tectorius* var. *australianus* [Bitou TAP], *Cryptocarya foetida* (TSC-v), *Xylosma terrae-reginae* (TSC-e), *Cordyline congesta* [ROTAP], *Diuris byronensis, Acmena hemilampra, Ailanthus triphysa, Syzygium moorei* (EPBC-v; TSC-v), *Archidendron hendersonii* (TSC-v); BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection; aerial spot and boom spray	C-TSC
Byron Coast	Cape Byron SCA	1579 - Cape Byron SCA incl. SEPP26 (27, 27A, 27B)	*Chrysanthemoides monilifera* subsp*. rotundata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Themeda Grassland on Seacliffs and Coastal Headlands EEC (TSC-e), *Acronychia littoralis* (EPBC-e;TSC-e), *Plectranthus cremnus* [ROTAP, Bitou TAP] *Pandanus tectorius* var. *australianus* [Bitou Tap - Medium], *Cryptocarya foetida* (TSC-v), *Xylosma terrae-reginae* (TSC-e), *Cordyline congesta* [ROTAP], *Correa baeuerlenii* (EPBC-v; TSC-v), *Acianthus amplexicaulis* [Bitou TAP], *Acmena hemilampra, Ailanthus triphysa, Syzygium moorei* (EPBC-v; TSC-v); BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection; aerial spot and boom spray	C-TSC
Byron Coast	Tyagarah NR	2019 - Tyagarah NR - bitou site	*Chrysanthemoides monilifera* subsp*. rotundata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Coastal Wetlands [SEPP 14], *Cryptocarya foetida* (TSC-v), *Cordyline congesta* [ROTAP], *Acmena hemilampra*, *Syzygium moorei* (EPBC-v; TSC-v), *Archidenfron hendersonii* (TSC-v); BPWW – Cat 2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection with possible aerial boom and spot spray	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Byron Coast	Tyagarah NR	2018 - Tyagarah Management Trail (regen zones 3 and 4)	*Chrysanthemoides monilifera* subsp*. rotundata, Cinnamomum camphora, Lantana camara, Ipomoea cairica, Leptospermum laevigatum, Passiflora subpeltata, Andropogon virginicus*	Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), Rushland - Freshwater Wetlands on Coastal Floodplain EEC (TSC-e) and dry sclerophyll shrubland; BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection with possible aerial boom and spot spray	C-TSC
Byron Coast	Arakwal NP	1846 - Pacific Vista Drive to Milne St Interface (zones 2 and 3)	*Chrysanthemoides monilifera* subsp. *rotundata, Lantana camara, Ipomoea cairica, Senna pendula* var. *glabrata*	Byron Bay Dwarf Graminoid Clay Heath Community EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Byron Coast	Tyagarah NR	Tyagarah, Site 15	Fox	Long-nosed potoroo, shorebirds	Asset protection	1080 baiting, den fumigation, sandpad monitoring	C-TSC
Byron Coast	Hayters Hill NR	1700 - Hayters Hill NR	*Macfadyena unguis-cati, Anredera cordifolia, Solanum seaforthianum, Ipomoea indica, Ligustrum sinense, Ligustrum lucidum, Ochna serrulata, Lantana camara, Cinnamomum camphora, Pueraria lobata*	Lowland Rainforest EEC (TSC-e), *Floydia praealta* (EPBC-v; TSC-v), *Owenia cepiodora* (EPBC-v; TSC-v), *Syzygium hodkinsoniae* (EPBC-v; TSC-v), *Tinospora tinosporoides* (EPBC-v; TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Byron Coast	Arakwal NP	1701 - Heathland south of Byron High School	Pines, Coast heath tree, *Chrysanthemoides monilifera* subsp. *rotundata*, *Cinnamomum camphora, Ipomoea cairica, Lantana camara, Asparagus aethiopicus, Senecio madagascariensis*	Dry Heathland, Fern Land and Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Byron Coast	Cumbebin Swamp NR	1588 - Central Cumbebin (ILUA 2 addition)	Senna sp., Lantana camara, Baccharis halimifolia, Solanum mauritianum, Schinus terebinthifolius bush, Cinnamomum camphora, Schefflera actinophylla, Ipomoea cairica, ipomoea cairica, Pennisetum purpureum, Megathyrsus maximus, setaria, Paspalum conjugatum *and other exotic grasses,* Asparagus sp., Ochna serrulata	Koala (TSC-v), swamp sclerophyll paperbark, Swamp Oak Floodplain Forest EEC (TSC-e), Coastal Saltmarsh EEC (TSC-e), sedgeland, grassland; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Byron Coast	Cumbebin Swamp NR	1975 - Southern Cumbebin (original part)	*Senna sp., Lantana camara, Baccharis halimifolia, Solanum mauritianum, Schinus terebinthifolius, Cinnamomum camphora, Schefflera actinophylla, Ipomoea cairica, Pennisetum purpureum, Megathyrsus maximus, setaria sp., Paspalum conjugatum* and other exotic grasses, *Asparagus sp., Ochna serrulata*	*Phaius tankervilleae* (EPBC-e; TSC-e), Swamp Sclerophyll Paperbark - Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), Swamp Oak Floodplain Forest EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Iluka NR	1719 - Johnsons La - Iluka	*Asparagus aethiopicus, Asparagus plumosus, Solanum seaforthianum, Rivina humilis, Bryophyllum spp., Delairea odorata, Senna pendula* var. *glabrata, Anredera cordifolia, Baccharis halimifolia*	Littoral Rainforest (EPBC-ce; TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains (TSC-e), Coastal Saltmarsh EECs (TSC-e), Swamp Oak Floodplain Forest EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Clarence North	Bundjalung NP	1657 - Esk River	*Baccharis halimifolia, Lantana camara, Ipomoea cairica*	Coastal Saltmarsh (TSC-e), Swamp Oak Floodplain Forest (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e); BPWW – CC1	Asset protection	High and low volume foliar, hand removal, cut stump	C-TSC
Clarence North	Bundjalung NP	1568 - Bundjalung NP - many locations	*Chrysanthemoides monilifera* subsp*. rotundata*	*Pandanus tectorius* var. *australianus* [Bitou TAP], *Acronychia littoralis* (EPBC-e;TSC-e), *Casuarina equisetifolia*, *Hibiscus tiliaceus*, *Pterostylis ophioglossa* [Bitou TAP], Littoral Rainforest EEC (EPBC-ce; TSC-e), Coastal Sand Dune complex [*Acacia longifolia* var. *sophorae*][Bitou TAP], Frontal Dune Vegetation Complex [Bitou TAP]; BPWW – CC2	Asset protection	Overspray, aerial boom and spot spray	C-TSC
Clarence North	Bundjalung NP	1927 - Shark Bay	*Chrysanthemoides monilifera* subsp*. rotundata*	*Sophora tomentosa* (TSC-e); BPWW – CC4	Asset protection	High and low volume foliar, hand removal	C-TSC
Clarence North	Bundjalung NP	1780 - Middle Bluff	*Chrysanthemoides monilifera* subsp*. rotundata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), *Calystegia soldanella*, Themeda Grassland on Seacliffs and Coastal Headlands EEC (TSC-e). BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Bundjalung NP	2054 - Woody Head (including SEPP 26 sites 52A and 52)	*Chrysanthemoides monilifera* subsp*. rotundata*	*Acianthus exiguous* [ROTAP, Bitou TAP], *Vigna marina* [Bitou TAP], *Sophora tomentosa* (TSC-e), *Phaius tancarvilleae* (EPBC-e; TSC-e), *Acianthus amplexicaulis* [Bitou TAP], *Acmena hemilampra, Ailanthus triphysa*, Littoral Rainforest EEC (EPBC-ce; TSC-e); BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Clarence North	Bundjalung NP	1710 - Iluka Bluff	*Chrysanthemoides monilifera* subsp*. rotundata*	*Sophora tomentosa* (TSC-e), Littoral Rainforest EEC (EPBC-ce; TSC-e), Themeda Grassland on Seacliffs and Coastal Headlands EEC (TSC-e), *Vigna marina* [Bitou TAP]; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Clarence North	Iluka NR	1711 - Iluka NR bitou site	*Chrysanthemoides monilifera* subsp*. rotundata*	*Acianthus amplexicaulis* [Bitou TAP], *Bridelia exaltata*, *Acmena hemilampra, Ailanthus triphysa*, Littoral Rainforest EEC (EPBC-ce; TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Clarence North	Warregai Ck NR	2033 - Warregai Ck NR	*Cinnamomum camphora, Lantana camara, Ambrosia artemisiifolia, Sporobolus fertilis, Bachcaris halimifolia,*	*Melaleuca irbyana, Polygala linariifolia* (TSC-e); BPWW – CC2	Asset protection	High and low volume foliar, cut stump, hand removal and drilling/frilling	C-TSC
Clarence North	Bundjalung NP and Iluka NR	Iluka Peninsula, Bundjalung NP	Rabbit	Freshwater Wetlands on Coastal Floodplain (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), coastal heath, World Heritage Gondwana Rainforest of Australia	Asset protection	Biological control eg RCD; baiting; fumigation	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Bundjalung NP	Southern portion of the lower Esk River	Feral goat	Freshwater Wetlands on Coastal Floodplain EEC (TSC-e)	Asset protection	Survey, monitor, physical removal	C-TSC
Clarence North	Bundjalung NP and Iluka NR	Bundjalung/ Iluka	Feral pig	Freshwater Wetlands on Coastal Floodplain (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), coastal heath, World Heritage Gondwana Rainforest of Australia	Asset protection	Targeted shooting, trapping, 1080 baiting, camera monitoring	C-TSC
Clarence North	Iluka NR	Tabbimoble Swamp	Feral pig	Freshwater Wetlands on Coastal Floodplain (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), coastal heath	Asset protection	Targeted shooting, camera monitoring	C-TSC
Clarence North	Banyabba NR	1980 - Sportsmans Ck	*Lantana camara*	*Niemeyera chartacea* (TSC-e), *Angophora robur* (EPBC-v; TSC-v), *Angophora paludosa* (regionally sign), dry eucalypt forest, BPWW – CC1	Asset protection	High and low volume foliar, hand removal	C-TSC
Clarence North	Bundjalung NP	1926 - Shark Bay north	*Lantana camara*	*Acianthus amplexicaulis* [Bitou TAP], Littoral Rainforest EEC (EPBC-ce; TSC-e); BPWW – CC1	Asset protection	High and low volume foliar, hand removal	C-TSC
Clarence North	Bundjalung NP	1646 - east of Iluka Rd between Shark Bay 4WD beach access and Iluka Bluff Rd	*Lantana camara*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Themeda Grassland on Seacliffs and Coastal Headlands EEC (TSC-e), *Acianthus exiguous* [ROTAP, Bitou TAP], *Acronychia littoralis* (EPBC-e;TSC-e), *Acianthella amplexicaulis*; BPWW – CC1	Asset protection	High and low volume foliar, hand removal, cut stump	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Bundjalung NP	1671 - from Shark Bay 4WD beach access north to Black Rocks Camping area	*Lantana camara*	Littoral Rainforest EEC (EPBC-ce; TSC-e), moist eucalypt forest, *Acianthus amplexicaulis* [Bitou TAP], *Acronychia imperforata, Corymbia intermedia*; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Clarence North	Bundjalung NP	1713 - Iluka Peninsula	*Lantana camara*	*Phauis australis* (EPBC-e; TSC-e), Rainforest/ Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Clarence North	Bundjalung NP	2039 - west of Iluka Rd from Johnsons La to north of Woody Head turnoff	*Lantana camara*	Littoral Rainforest EEC (EPBC-ce; TSC-e), moist eucalypt forest, *Phaius australis* (EPBC-e; TSC-e), *Acronychia imperforate*, *Corymbia intermedia*; BPWW – CC1	Asset protection	High and low volume foliar, hand removal, cut and stump	C-TSC
Clarence North	Fortis Ck NP	1722 - Junction Ck	*Lantana camara*	*Niemeyera chartacea* (TSC-e), *Angophora robur* (EPBC-v; TSC-v), *Angophora paludosa*, dry eucalypt forest; BPWW – CC1	Asset protection	High and low volume foliar, hand removal	C-TSC
Clarence North	Iluka NR	1648 - eastern and western side of rainforest area, Iluka NR	*Lantana camara*	Littoral Rainforest EEC (EPBC-ce; TSC-e), moist eucalypt forest, *Acianthus exiguous* [ROTAP, Bitou TAP], *Acronychia littoralis* (EPBC-e;TSC-e); BPWW – CC1	Asset protection	High and low volume foliar, hand removal, cut and stump	C-TSC
Clarence North	Mallanganee NP	1771 - Mallanganee NP	*Lantana camara*	*Myrsine richmondensis* (TSC-e), dry/ wet sclerophyll forest, dry rainforest, *Owenia cepiodora* (EPBC-v; TSC-v), *Senna acclinis* (TSC-e), *Tylophora woollsii* (EPBC-e; TSC-e), *Acomis acoma* [ROTAP]; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Mallanganee NP	2787 - Pennefather's Trail	*Lantana camara,* climbing nightshade	Dry rainforest - onion cedar *Owenia* spp. (TSC –v);	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Clarence North	Banyabba NR and SCA	1521 - Banyabba Ck	*Lantana camara, Pinus elliotti,* exotic grasses	*Niemeyera chartacea* (TSC-e), *Angophora robur* (EPBC-v; TSC-v), *Angophora paludosa* [regionally significant], dry eucalypt forest, BPWW – CC1	Asset protection	High and low volume foliar, hand removal	C-TSC
Clarence North	Mount Pikapene NP	1803 - Mount Pikapene	*Lantana camara, Senna septemtrionalis, Sporobolus fertilis, Araujia sericifera, Bachcaris halimifolia ,*	Lantana, *Senna acclinis* (TSC-e), *Eucalyptus rummeryi* [ROTAP], *Tinaspora smilacina* (TSC-e), dry rainforest/ moist eucalypt forest; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Clarence North	Mount Pikapene NP	1804 - Mount Pikapene NP Cats Claw sites	*Macfadyena unguis-cati, Lantana camara, Solanum seaforthianum*	Lowland Rainforest EEC (TSC-e), *Tinospora smilacina* (TSC-e) (TSC-e); BPWW – CC1	Asset protection	High and low volume foliar, cut stump; cut, scrape and paint	C-TSC
Richmond River	Broadwater NP	2082 - Zone 3 - Salty Lagoon	*Ageratina adenophora, Baccharis halimifolia, Chrysanthemoides monilifera* subsp*. rotundata, Senecio madagascariensis,* thistle*, Cardiospermum grandiflorum, Gomphocarpus* sp.*, Ipomoea cairica, Erythrina crista-galli tree, Gloriosa superba, Schefflera actinophylla*	Freshwater Wetlands on Coastal Floodplain (TSC-e) and Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), heathland, shrubby dry sclerophyll forest; intermittently open/closed lagoon; BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection with possible aerial boom and spot spray; hand removal	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Broadwater NP	2087 - Zone 7 - Northern Addition to Broadwater NP	*Anredera cordifolia, Opuntia stricta, Lantana camara, Solanum seaforthianum, Cinnamomum camphora,* exotic grasses, *Chrysanthemoides monilifera* subsp*. rotundata*	Coastal Cypress Pine EEC FIN, Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Richmond River	Boatharbour NR	1538 - Boatharbour NR - Split in 4 zones	*Anredera cordifolia, Tradescantia fluminensis, Lantana camara, Rivina humilis, Passiflora suberosa, Araujia sericifera, Macfadyena unguis-cati, Ageratina riparia,* exotic grasses, small-leaf *Ligustrum* sp.*, Cinnamomum camphora, Asparagus plumosus*	Lowland Subtropical Rainforest - Lowland Rainforest on Floodplain EECs (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection with possible aerial boom and spot spray; hand removal, bio-contol	C-TSC
Richmond River	A.J Big Scrub NR	1499 - A.J. Big Scrub NR (4 zones)	*Asparagus plumosus, Lantana camara, Cinnamomum camphora, Araujia sericifera, Anredera cordifolia*	Subtropical Lowland Rainforest on Coastal Floodplain EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Richmond River	Davis Scrub NR	1629 - Davis Scrub NR - split into 5 zones	*Asparagus plumosus, Lantana camara, Cinnamomum camphora, Ligustrum lucidum, Ageratina riparia,* exotic grasses*, Solanum mauritianum, Solanum seaforthianum*	Lowland Subtropical Rainforest - Lowland Rainforest EEC (TSC-e) - Big Scrub remnant; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Wilson NR	2080 - Zone 2 - woodland	*Asparagus plumosus, Passiflora suberosa, Lantana camara, Rivina humilis*	Red gum and bloodwood - important koala (TSC-v) habitat; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	C-TSC
Richmond River	Wilson NR	2079 - Zone 1 - western half	*Asparagus plumosus, Passiflora suberosa, Ligustrum lucidum, Anredera cordifolia, Lantana camara*	Dry Rainforest [part of subtropical Lowland Rainforest EEC (TSC-e)]; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Richmond River	Snows Gully NR	1966 - lower riparian and boundary areas.	*Baccharis halimifolia, Lantana camara, Ageratina riparia, Ageratina adenophora, Cinnamomum camphora*	Lowland Subtropical Rainforest - Lowland Rainforest EEC (TSC-e) remnant; BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Richmond River	Bungawalbin NP	1815 - Neileys Lagoon	*Baccharis halimifolia, Lantana camara, Eichhornia crassipes, Senna* sp.*, Ageratina adenophora, Erythrina* x *sykesii, Sporobolus fertilis*	Swamp Sclerophyll Forest on Coastal Floodplains (TSC-e), Swamp Oak Floodplain Forest (TSC-e), Freshwater Wetlands on Coastal Floodplains EECs (TSC-e), emu (TSC-e pop), regent honeyeater (EPBC-e; TSC-ce), black-necked stork (TSC-e), wallum sedge frog (EPBC-v; TSC-v), giant barred frog (EPBC-e; TSC-e), grey-headed flying fox (EPBC-v; TSC-v), koala (TSC-v), spotted-tail quoll (EPBC-e; TSC-v) (EPBC-e; TSC-ce), yellow-bellied glider (TSC-v), squirrel glider (TSC-v), rufous bettong (TSC-v), powerful owl (TSC-v), barking owl (TSC-v), magpie goose (TSC-v), brolga (TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun, biological control, physical removal	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Bundjalung NP	Bundjalung	Cane toad	Freshwater Wetlands on Coastal Floodplain (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), coastal heath, grass owl, POC, BSC, ground parrot	Asset protection	Survey/monitor, hand removal	C-TSC
Richmond River	Nightcap NP	Tuntable Falls, Terania Creek, Mount Nardi	Cane toad	Pouched frog, Fleay's barred frog, giant barred frog, Loveridge's frog, Stephens' banded snake, Australasian bittern, spotted harrier, black bittern, powerful owl, marbled frogmouth, masked owl, sooty owl, spotted-tailed quoll	Asset protection	Survey/monitor, hand removal	C-TSC
Richmond River	Bundjalung NP	2003 - Ten Mile Beach and Bombing Range	*Chrysanthemoides monilifera* subsp*. rotundata*	*Ischaemum triticeum, Vigna marina* [Bitou TAP], Littoral Rainforest EEC (EPBC-ce; TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; aerial boom and spot spray	C-TSC
Richmond River	Bundjalung NP	1824 – northern Bundjalung bitou site	*Chrysanthemoides monilifera* subsp*. rotundata*	*Stackhousia spathulata* [Bitou TAP], *Gleichenia mendellii* [Bitou TAP], *Phaius australis* (EPBC-e; TSC-e), *Acianthus amplexicaulis* [Bitou TAP], Coastal Banksia Woodlands - *Banksia integrifolia* [Bitou TAP], Coastal Wetlands [SEPP14]; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; aerial boom and spot spray	C-TSC
Richmond River	Bundjalung NP	1965 - Snapper Rock, Bundjalung NP	*Chrysanthemoides monilifera* subsp*. rotundata*	*Pultenaea maritima* (TSC-v), *Stackhousia spathulata* [Bitou TAP], *Ischaemum triticeum*, *Gleichenia mendellii* [Bitou TAP], *Senna acclinis* (TSC-e), Themeda Grassland on Seacliffs and Coastal Headlands EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection with possible aerial boom and spot spray; hand removal	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Broadwater NP	1554 - Broadwater NP - bitou site	*Chrysanthemoides monilifera* subsp*. rotundata, Gloriosa superba*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Coastal wetlands (SEPP14), *Gleichenia mendellii* [Bitou TAP], *Pandanus tectorius* var. *australianus* [Bitou TAP], *Phaius australis* (EPBC-e; TSC-e), *Acianthus amplexicaulis* [Bitou TAP]; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection with possible aerial boom and spot spray; hand removal	C-TSC
Richmond River	Broadwater NP	2081 - Zone 2 and 4 - road edges	Exotic grasses*, Chrysanthemoides monilifera* subsp*. rotundata,* blue *Ageratum conyzoides, Ambrosia* sp.*, Bidens pilosa, Conyza* sp.*, Anredera cordifolia, Ricinus communis, Ageratina adenophora, Yucca aloifolia, Melinis repens, Cinnamomum camphora, Senna barclayana*	Freshwater Wetlands on Coastal Floodplain EEC (TSC-e), Heathland and Shrubby dry sclerophyll; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Richmond River	Bundjalung NP	Bundjalung	Feral cat	Freshwater Wetlands on Coastal Floodplain (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), coastal heath, grass owl, ground parrot	Asset protection	Targeted shooting, trapping, sniffer dogs, camera monitoring	C-TSC
Richmond River	Bundjalung NP	Tabbimoble Swamp	Feral pig	Freshwater Wetlands on Coastal Floodplain (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), coastal heath	Asset protection	Targeted shooting, trapping, 1080 baiting, camera monitoring	C-TSC
Richmond River	Broadwater NP	Broadwater Beach, Site 25	Fox	Shorebirds - pied oystercatcher and little tern	Asset protection	Monitor, den fumigation, trap, sniffer dogs	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Bundjalung NP	Bombing Range Beach, Site 26	Fox	Shorebirds - pied oystercatcher and beach stone curlew	Asset protection	Monitor, den fumigation, trap	C-TSC
Richmond River	Richmond River NR	South Ballina Beach, Site 24	Fox	Shorebirds - pied oystercatcher and beach stone curlew	Asset protection	Monitor, den fumigation, trap, sniffer dogs	C-TSC
Richmond River	Bundjalung NP	1823 - northern Bundjalung lantana site	*Lantana camara*	*Phauis australis* (EPBC-e; TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; hand removal	C-TSC
Richmond River	Bungabbee NR	1839 - Oaky Creek	*Lantana camara, Ageratina adenophora, Ageratina riparia, Conyza* sp., *Cinnamomum camphora,* Exotic vines	*Corchorus cunninghamii* (EPBC-e; TSC-e), *Desmodium acanthocladium*, *Sophora fraseri* (EPBC-v; TSC-v), *Senna acclinis* (TSC-e), *Tinospora smilacina* (TSC-e), *Owenia cepiodora* (EPBC-v; TSC-v), *Rhynchosia acuminatissima* (TSC-v), spotted-tail quoll (EPBC-v; TSC-e), koala (TSC-v), glossy black cockatoo (TSC-v), yellow-bellied glider (TSC-v); BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection; and splatter gun	C-TSC
Richmond River	Victoria Park NR	2028 - Victoria Park NR (3 zones)	*Lantana camara, Cinnamomum camphora, Ageratina adenophora, Solanum seaforthianum, Rivina humilis, Ageratina riparia, Solanum mauritianum, senna, Ligustrum lucidum, Tradescantia fluminensis, Jacaranda mimosifolia, Ochna serrulata*	Lowland Subtropical Rainforest - Lowland Rainforest EEC (TSC-e) - Blackbean association; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Border Ranges NP	1861 - Pinnacle	*Ageratina riparia, Ageratina adenophora*	*Euphrasia bella* (EPBC-v; TSC-v), *Pomaderris notata* (TSC-v), *Brachyscome ascendens* plus new *Leucopogon* sp, subtropical rainforest, NE blackbutt mallee form; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; physical removal	C-TSC
Tweed Kyogle	Border Ranges NP	2017 - Tweed Range Scenic Drive	*Ageratina riparia, Ageratina adenophora, Tradescantia fluminensis, Solanum mauritianum, Lantana camara, Solanum chrysotrichum*	Loveridge's frog (TSC-e), mountain frog (TSC-e), pouched frog (TSC-v), rufous scrub-bird (TSC-v), Albert's lyrebird (TSC-v), *Clematis fawcettii* (EPBC-v; TSC-v), paper daisy sp.; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Tweed Kyogle	Brunswick Heads NR (North)	1544 - Boon Doon Crescent and river track	*Asparagus aethiopicus, Asparagus plumosus, Ochna serrulata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), *Archidendron hendersonii* (TSC-v), *Cryptocarya foetida* (TSC-v), *Endiandra floydii* (EPBC-e; TSC-e), *Melicope vitiflora* (TSC-e), *Randia moorei* (EPBC-e; TSC-e), *Syzygium hodgkinsoniae* (EPBC-v; TSC-v), *Syzygium moorei* (EPBC-v; TSC-v), *Pleogyne australis, Thozetia racemosa*; BPWW – CC1	Asset protection	Bush regeneration techniques including overspray	C-TSC
Tweed Kyogle	Brunswick Heads NR (North)	1695 - Harry's Hill	*Asparagus plumosus, Rivina humilis, Ochna serrulata, Senna pendula* var*. glabrata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), *Archidendron hendersonii* (TSC-v), *Cryptocarya foetida* (TSC-v), *Grevillea hilliana* (TSC-e), *Syzygium moorei* (EPBC-v; TSC-v), *Xylosma terrae-reginae* (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	C-TSC
Tweed Kyogle	Border Ranges NP	Tweed Range Scenic Drive	Cane toad	Pouched frog, green-thighed frog, Fleay's barred frog, Mountain frog, Loveridge's frog, Stephens' banded snake, spotted harrier, black bittern, barking owl, powerful owl, masked owl, sooty owl, spotted-tailed quoll	Asset Protection	Survey/monitor, hand removal	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Billinudgel NR	1534 - Billinudgel NR incl. SEPP26 (13A,B and C - Billinudgel NR - Crabbes Creek Beach north)	*Chrysanthemoides monilifera* subsp*. rotundata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), *Pandanus tectorius* var*. australianus* [Bitou TAP], *Endiandra globosa* [ROTAP], Coastal Wetlands (SEPP14); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	C-TSC
Tweed Kyogle	Cudgen NR	1911 - SEPP26 (4 - Cudgen NR)	*Chrysanthemoides monilifera* subsp*. rotundata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Coastal wetlands (SEPP14), *Pandanus tectorius* var. *australianus* [Bitou TAP], *Cryptocarya foetida* (TSC-v), *Elyonurus citreus* (TSC-e), *Ailanthus triphysa*; BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	C-TSC
Tweed Kyogle	Marshalls creek NR	1775 - Marshalls Creek NR (incl. (SEPP26: 15 and16) and Ocean Shores estate)	*Chrysanthemoides monilifera* subsp*. rotundata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Coastal Wetlands [SEPP14], *Pandanus tectorius* var*. australianus* [Bitou TAP], *Syzygium moorei* (EPBC-v; TSC-v), *Archidendron hendersonii* (TSC-v); BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	C-TSC
Tweed Kyogle	Brunswick Heads NR (Nth)	1561 - Brunswick Heads NR (incl. SEPP26: 18)	*Chrysanthemoides monilifera* subsp*. rotundata, Gloriosa superba*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Coastal Wetlands [SEPP14], *Pandanus tectorius* var*. australianus* [Bitou TAP], *Syzygium moorei* (EPBC-v; TSC-v), *Acronychia littoralis* (EPBC-e;TSC-e), *Cryptocarya foetida* (TSC-v), *Xylosma terrae-reginae* (TSC-e), *Acianthus amplexicaulis* [Bitou TAP], *Acmena hemilampra, Melicope vitiflor*a (TSC-e), *Grevillea hilliana* (TSC-e), *Endiandra globosa* [ROTAP], *Niemeyera chartadea*; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint;	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Cudgen NR	2049 - wollumbin scout camp and surrounds (zone 4)	*Chrysanthemoides monilifera* subsp*. rotundata, Ipomoea cairica, Schefflera actinophylla, Asparagus aethiopicus, Senna pendula* var*. glabrata, Leptospermum laevigatum, Melinis minutiflora, Paspalum mandiocanum, Lantana camara*	Coastal heath/woodland with Littoral Rainforest EEC (EPBC-ce; TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	C-TSC
Tweed Kyogle	Mooball NP	1788 - Mooball NR - lantana site	*Cinnamomum camphora, Lantana camara* and exotic grasses and *Baccharis halimifolia*	Lowland Rainforest EEC (TSC-e); *Acacia bakeri* (TSC-v), *Acalypha eremorum* (TSC-e), *Archidendron muellerianum* [ROTAP], *Argophyllum nullumense* [ROTAP], *Cassia brewsteri* var*. Marksiana, Cupaniopsis newmanii* [ROTAP], *Cryptocarya foetida* (TSC-v), *Dendrocnide moroides* (TSC-e), *Drynaria rigidula* (TSC-e), *Elaeocarpus williamsianus* (EPBC-e; TSC-e), *Endiandra floydii* (EPBC-e; TSC-e), *Endiandra globosa* [ROTAP], *Endiandra hayesii* (EPBC-v; TSC-v), *Endiandra muelleri* subsp*. bracteata* (TSC-e), *Fontainea australis* (EPBC-v; TSC-v), *Hicksbeachia pinnatifolia* (EPBC-v; TSC-v), *Macadamia tetraphylla* (EPBC-v; TSC-v), *Rhodamnia maideniana* [ROTAP], *Rhynchosia acuminatissima* (TSC-v), *Syzygium hodgkinsoniae* (EPBC-v; TSC-v), *Syzygium moorei* (EPBC-v; TSC-v), *Trichosanthes subvelutina* [ROTAP] on road easement; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Brunswick Heads NR (Nth)	1736 - Lantana Plan site (Oyster Lease Road)	*Lantana camara*	Littoral Rainforest EEC (EPBC-ce; TSC-e), *Acacia bakeri* (TSC-v), *Archidendron hendersonii* (TSC-v), *Pararistolochia praevenosa, Endiandra floydii* (EPBC-e; TSC-e), *Endiandra muelleri* subsp*. bracteata* (TSC-e), *Endiandra hayesii* (EPBC-v; TSC-v), *Peristeranthus hillii* (TSC-v), *Syzygium moorei* (EPBC-v; TSC-v), *Tinospora tinosporoides* (EPBC-v; TSC-v), *Harnieria hygrophiloides* (TSC-e), *Calophanoides hygrophiloides* (TSC-e), *Grevillea hilliana* (TSC-e), *Marsdenia longiloba* (EPBC-e; TSC-e), *Melicope vitiflora* (TSC-e), *Pleogyne australis*, little bentwing bat (TSC-v), *Cryptocarya foetida* (TSC-v), *Davidsonia jerseyana* (EPBC-e; TSC-e), *Randia moorei* (EPBC-e; TSC-e), *Xylosma terrae-reginae* (TSC-e), Richmond birdwing butterfly, common blossom-bat (TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Duroby NR	1643 - Duroby NR	*Lantana camara*	Lowland Rainforest EEC (TSC-e), *Syzygium moorei* (EPBC-e; TSC-v), *Randia moorei* (EPBC-e; TSC-e), *Davidsonia johnsonii* (EPBC-e; TSC-e), *Corokia whiteana* (EPBC-v; TSC-v), *Acacia bakeri* (TSC-v), *Cordyline congesta* [ROTAP], *Lepiderema pulchella* (TSC-v), *Macadamia tetraphylla* (EPBC-v; TSC-v), *Tinospora tinosporoides* (EPBC-v; TSC-v), rose-crowned fruit-dove (TSC-v), wompoo fruit-dove (TSC-v), *Endiandra hayesii* (EPBC-v; TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	C-TSC
Tweed Kyogle	Inner Pocket NP	1714 - Inner Pocket NR - Lantana TAP site	*Lantana camara*	Lowland Rainforest EEC (TSC-e), *Bosistoa selwynii* (EPBC-v; TSC-v), *Cryptocarya foetida* (TSC-v), *Elaeocarpus williamsianus* (EPBC-e; TSC-e), *Hicksbeachia pinnatifolia* (EPBC-v; TSC-v), *Isoglossa eranthemoides* (EPBC-e; TSC-e), *Macadamia tetraphylla* (EPBC-v; TSC-v), *Syzygium hodgkinsoniae* (EPBC-v; TSC-v), *Syzygium moorei* (EPBC-v; TSC-v), Albert's lyrebird (TSC-v), bush-hen (TSC-v), koala (TSC-v), sooty owl (TSC-v), superb fruit-dove (TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	C-TSC
Tweed Kyogle	Mount Jerusalem NP	1797 - Mount Jerusalem NP - lantana site	*Lantana camara*	Lowland Rainforest EEC (TSC-e), *Endiandra hayesii* (EPBC-v; TSC-v), wet sclerophyll forest, Albert's lyrebird (TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Border Ranges NP	1877 - Richmond Gap	*Lantana camara, Ageratina adenophora*	Eastern bristlebird (EPBC-e; TSC-e), wet/dry sclerophyll forest, Hastings river mouse (EPBC-e; TSC-e), common planigale (TSC-v), yellow-bellied glider (TSC-v), koala (TSC-v), sooty owl (TSC-v), masked owl (TSC-v), white-eared monarch (TSC-v), glossy black cockatoo (TSC-v), eastern chestnut mouse (TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Tweed Kyogle	Brunswick Heads NR (Nth)	1667 - Flying-fox Camp, Brunswick Heads NR (Nth)	*Lantana camara, Cinnamomum camphora, Desmodium uncinatum, Archontophoenix alexandrae, Senna pendula* var. *glabrata, Sphagneticola trilobata, Syagrus romanzoffiana, Cestrum parqui, Ipomoea alba, Colocasia esculenta, Myriophyllum aquaticum* (aquatic)	Littoral Rainforest EEC (EPBC-ce; TSC-e), *Archidendron hendersonii* (TSC-v), *Cryptocarya foetida* (TSC-v), *Endiandra floydii* (EPBC-e; TSC-e), *Endiandra hayesii* (EPBC-v; TSC-v), *Endiandra muelleri* subsp. *bracteata* (TSC-e), *Melicope vitiflora* (TSC-e), *Randia moorei* (EPBC-e; TSC-e), *Syzygium hodgkinsoniae* (EPBC-v; TSC-v), *Syzygium moorei* (EPBC-v; TSC-v), *Pleogyne australis, Thozetia racemosa*; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	C-TSC
Tweed Kyogle	Cudgera Creek NR	1626 - rain forest section	*Lantana camara, Melinis minutiflora*	Dry rainforest, *Lophostemon confertus, Rhodamnia maideniana* [ROTAP], *Davidsonia jerseyana* (EPBC-e; TSC-e), *Endiandra globosa* [ROTAP], *Endiandra muelleri* subsp. *bracteata* (TSC-e), *Acacia bakeri* (TSC-v), *Endiandra floydii* (EPBC-e; TSC-e), *Callerya australis* [ROTAP], *Archidendron muellerianum* [ROTAP], *Syzygium moorei* (EPBC-v; TSC-v), *Macadamia tetraphylla* (EPBC-v; TSC-v), *Randia moorei* (EPBC-e; TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Wollumbin NP	2048 - Wollumbin NP - subject to further assessment and prioritisation and mapping	*Lantana camara, Paspalum mandiocanum, Cinnamomum camphora*	Subtropical rainforest, wet sclerophyll and dry sclerophyll forest BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	C-TSC
Tweed Kyogle	Toonumbar NP	1649 - Eastern section	*Lantana camara, Senna septemtrionalis, Sporobolus fertilis*	Dry and wet sclerophyll forests, *Corchorus cunninghamii* (EPBC-e; TSC-e), *Sophora fraseri* (EPBC-v; TSC-v), *Tinospora smilacina* (TSC-e), wompoo fruit dove (TSC-v), Koala (TSC-v), barred cuckoo-shrike (TSC-v), brush-tailed phascogale (TSC-v), *Eucalyptus dunnii* [ROTAP]; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	C-TSC
Tweed Kyogle	Captains Creek NR	1580 - Captains Creek NR	*Lantana camara, Solanum seaforthianum*	Gondwana Rainforests (WHA listed) - (TSC-e), Grassy Open Eucalypt Fore Dry Rainforest EEC; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Tweed Kyogle	Toonumbar NP	1810 - Murray Scrub	*Lantana camara, Sporobolus fertilis*	*Clematis fawcettii* (EPBC-v; TSC-v), *Marsdenia longiloba* (EPBC-e; TSC-e), *Tinospora tinosporoides* (EPBC-v; TSC-v), Stephens' banded snake (TSC-v), golden-tipped bat (TSC-v), Albert's lyrebird (TSC-v), little bentwing bat (TSC-v), green-thighed frog (TSC-v), Loveridge's frog (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	C-TSC
Tweed Kyogle	Cataract NP	2042 - fire trails /Tooloom Ck	Lantana, cats claw creeper	Wet sclerophyll forest, *Acacia orites* [ROTAP], *Typhonium* sp. aff. *brownii* (TSC-e). (BPWW - CC1)	Asset protection	Spot spray	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Moore Park NR	1615 - Core Area	*Macfadyena unguis-cati, Anredera cordifolia, Cardiospermum grandiflorum, Tradescantia fluminensis, Araujia sericifera, Celtis sinensis*	Subtropical Lowland Rainforest EEC (TSC-e), type locality for blackbean-silky oak-brown pine, grey-headed flying fox (EPBC-v; TSC-v) maternity camp; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Tweed Kyogle	Moore Park NR	1505 - Addition	*Macfadyena unguis-cati, Anredera cordifolia, Cardiospermum grandiflorum, Tradescantia fluminensis, Araujia sericifera, Celtis sinensis, Ageratina adenophora, Lantana camara*	Subtropical Lowland Rainforest EEC (TSC-e), type locality for blackbean-silky oak-brown pine; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	C-TSC
Tweed Kyogle	Stotts Island NR	1989 - Stotts Island NR	*Macfadyena unguis-cati, Anredera cordifolia, Solanum linnaeanum*	Lowland Rainforest on Floodplain EEC (TSC-e); BPWW – Cat3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC
Tweed Kyogle	Brunswick Heads NR (Nth)	2041 - Wetland B	*Pithecoctenium crucigerum*	Lowland Rainforest (TSC-e), Littoral Rainforest (EPBC-ce; TSC-e), Swamp Oak Floodplain Forest (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), *Davidsonia jerseyana* (EPBC-e; TSC-e), *Acacia bakeri* (TSC-v), *Randia moorei* (EPBC-e; TSC-e), *Endiandra floydii* (EPBC-e; TSC-e), *Endiandra muelleri* subsp*. bracteata* (TSC-e), *Syzygium moorei* (EPBC-v; TSC-v), *Syzygium hodgkinsoniae* (EPBC-v; TSC-v), *Grevillea hilliana* (TSC-e); important wildlife corridor; mangroves also present; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-TSC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Banyabba NR	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Clarence North	Banyabba SCA	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Clarence North	Bundjalung NP	Wild Dog Management Plan Area 4 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Clarence North	Chatsworth Hill SCA	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Clarence North	Fortis Ck NP	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Iluka NR	Wild Dog Management Plan Area 4 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Clarence North	Kooyong SCA	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Clarence North	Lawrence Road SCA	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Clarence North	Mount Neville NR	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Clarence North	Mount Pikapene NP	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Warragai Creek NR	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Clarence North	Wombat Ck NR and SCA	Wild Dog Management Plan Area 5 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Region wide	All Reserves	Schedule 2 and affected Schedule 1 areas	Wild dog	Various vegetation communities and associated biodiversity	Asset protection	Develop and prepare local area wild dog management plans with the LHPA, Forests NSW and stakeholders	C-EC
Region wide	All Reserves	Schedule 2 and affected Schedule 1 areas	Wild dog	Various vegetation communities and associated biodiversity	Asset protection	Implement actions from local area wild dog management plan	C-EC
Richmond River	Bundjalung NP	Wild Dog Management Plan Area 4 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting, softjaw trapping	C-EC
Richmond River	Bungabbee NR	Wild Dog Management Plan Area 3 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Goonengerry NP	Wild Dog Management Plan Area 3 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Richmond River	Muckleewee Mountain NR	Wild Dog Management Plan Area 3 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Richmond River	Nightcap NP	Wild Dog Management Plan Area 3 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Richmond River	Whian Whian SCA	Wild Dog Management Plan Area 3 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Tweed Kyogle	Billinudgel NR	Wild Dog Management Plan Area 2 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Tweed Kyogle	Cataract NP	Cataract NP	Wild dog	Neighbouring stock	Asset protection	Aerial/ground baiting, trapping, shooting	C–EC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Cudgen NR	Wild Dog Management Plan Area 2 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Tweed Kyogle	Inner Pocket NR	Wild Dog Management Plan Area 2 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Tweed Kyogle	Koreelah NP	Legume/Koorelah Wild Dog Association Wild Dog Management Plan Northern New England RLPB 2006-2011	Wild dog	Neighbouring stock	Asset protection	Monitor- sandpadding, infra-red cameras; 1080 baiting, softjaw trapping	C-EC
Tweed Kyogle	Mebbin NP	Wild Dog Management Plan Area 1 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Tweed Kyogle	Mooball NP	Wild Dog Management Plan Area 2 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Mount Jerusalem NP	Wild Dog Management Plan Area 2 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Tweed Kyogle	Mount Nullum NR	Wild Dog Management Plan Area 2 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	C-EC
Tweed Kyogle	Richmond Range NP	Wild Dog Management Plan Area 6 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting, softjaw trapping	C-EC
Tweed Kyogle	Toonumbar NP	Wild Dog Management Plan Area 6 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting, softjaw trapping	C-EC
Tweed Kyogle	Yabbra NP	Wild Dog Management Plan Area 6 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting, softjaw trapping	C-EC

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
All Areas	All reserves	Wetland and riparian zones	Alligator weed (*Alternanthera philoxeroides*)		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control.	C-NE
All Areas	All reserves	Affected and at risk sites	BMAD		Containment	Appropriate fire and weed control. Monitor	C-NE
All Areas	All reserves	All areas	Feral deer		Containment	Monitor and respond to new incursions of feral deer on park	C-NE
All Areas	All reserves	Affected sites	Giant devil's fig (*Solanum chrysotrichum*)		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control.	C-NE
All Areas	All reserves	Affected sites	*Gleditsia triacanthos*		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control.	C-NE
All Areas	All reserves	Affected sites	*Miconia* spp.		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control.	C-NE
All Areas	All reserves	Region - Myrtle rust	Myrtle rust (*Uredo rangelii*)		Containment	Monitor. Implement relevant plan of management actions	C-NE
All Areas	All reserves	Affected sites	New and emerging weeds: Koster's Curse, Parthenium weed, Mikania and Siam weed		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control.	C-NE
All Areas	All coastal reserves	Sites with Pandanus trees	Pandanus planthopper		Containment	Monitor pandanus plant health and presence/absence of planthopper	C-NE

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
All Areas	All reserves	Affected and at risk sites	Plant pathogen (*Phellinus noxius*)		Containment	Investigate reports in parks. Prevent spread to non-infected sites and verify potential/suspect occurrences at non-infected sites	C-NE
All Areas	All reserves	Affected sites	Seeded banana (*Musa velutina* and *M. ornate)*		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control.	C-NE
All Areas	All reserves	Affected sites	Tropical soda apple (*Solanum viarum*)		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control.	C-NE
All Areas	All reserves	Affected sites	Trumpet tree (*Cecropia peltata*)		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control.	C-NE
Areas with Gondwana Rainforests reserves	All Gondwana Rainforests reserves	Region	Plant pathogen (*Phytophthora*)		Containment	Undertake works as determined by recommendations of the forthcoming management report (2012) and available resources including monitoring, installation of hygiene facilities and quarantine areas	C-NE
Byron Coast	Arakwal NP	Arakwal Depot	Indian myna		Containment	Trapping	C-NE
Byron Coast	Broken Head NR	Broken Head	Myrtle rust		Containment	Overspray, physical removal	C-NE
Byron Coast	Cape Byron SCA	Cape Byron	Myrtle rust		Containment	Overspray, physical removal	C-NE

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Byron Coast	Arakwal NP	Arakwal	Pandanus planthopper		Eradication	Survey, chemical treatment: stem injection or foliar spray	C-NE
Byron Coast	Broken Head NR	Broken Head	Pandanus planthopper		Eradication	Survey, chemical treatment: stem injection or foliar spray	C-NE
Byron Coast	Cape Byron SCA	Cape Byron	Pandanus planthopper		Eradication	Survey, chemical treatment: stem injection or foliar spray	C-NE
Byron Coast	Cape Byron SCA	Affected and at risk sites	Plant pathogen (*Phellinus noxius*)		Containment	Monitoring	C-NE
Clarence North	Bundjalung NP	Bundjalung	Cane toad		Containment	Survey/monitor, hand removal	C-NE
Clarence North	Chatsworth Hill SCA	Chatsworth	Cane toad		Containment	Survey/monitor, hand removal	C-NE
Clarence North	Iluka NR	Iluka	Cane toad		Containment	Survey/monitor, hand removal	C-NE
Clarence North	Mororo NR	Mororo	Cane toad		Containment	Survey/monitor, hand removal	C-NE
Region wide	All reserves	Affected sites	Cane toad		Containment	Implement actions from the State Management Plan for Cane Toads on National Parks and Reserve July 2011	C-NE
Region wide	All reserves	Affected sites	Feral goat		Containment	Monitor and respond to new incursions of feral goat on park	C-NE
Region wide	All reserves	Reported sites	Lethal yellowing of pandanus		Containment	Investigate reports in parks in the region	C-NE
Region wide	All reserves	Reported sites	Red eared slider turtles		Containment	Investigate reports in parks and in close proximity to parks in the region	C-NE

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Region wide	All reserves	Reported sites	Red pored fungi		Containment	Investigate reports in parks in the region	C-NE
Region wide	All reserves	Reported sites	Red pored fungi		Containment	Undertake a literature of the impacts and management of this species	C-NE
Region wide	All reserves	Reported sites	Red-imported fire ants		Containment	Investigate reports in parks in the region, report to DPI Agriculture	C-NE
Region wide	All reserves	Reported sites	Yellow crazy ants		Containment	Investigate reports in parks in the region, report to DPI Agriculture	C-NE
Richmond River	Nightcap NP/Whian Whian SCA	Entire reserve - Miconia	*Miconia*		Eradication	Bush regeneration techniques including, monitor, overspray	C-NE
Richmond River	Nightcap NP/Whian Whian SCA	Affected and at risk sites	Plant pathogen *(Phytophthora)*		Containment	Monitor	C-NE
Richmond River	Nightcap NP/Whian Whian SCA	Entire reserve in particular Gungas Rd section – seeded banana	Seeded banana (*Musa velutina* and *Musa ornata*)		Eradication	Bush regeneration techniques including, monitor, overspray	C-NE
Tweed Kyogle	Wooyung NR	2065 - Wooyung NR incl. SEPP26 (11 – Wooyung NR South)	*Chrysanthemoides monilifera* subsp*. rotundata*		Containment	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	C-NE
Tweed Kyogle	Tooloom NP	Wallaby Creek - Kudzu	Kudzu		Eradication	Bush regeneration techniques including, overspray	C-NE

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Border Ranges NP	Eastern section - Miconia	Miconia		Eradication	Bush regeneration techniques including, survey; overspray; cut, scrap and paint; stem injection	C-NE
Tweed Kyogle	Limpinwood NR	Entire reserve - Miconia	Miconia		Eradication	Bush regeneration techniques including, monitor and overspray, physical removal	C-NE
Tweed Kyogle	Mooball NP	Entire reserve - Miconia	Miconia		Eradication	Bush regeneration techniques including, monitor and overspray, physical removal	C-NE
Tweed Kyogle	Mount Jerusalem NP	Entire reserve - Miconia	Miconia		Eradication	Bush regeneration techniques including, monitor and overspray, physical removal	C-NE
Tweed Kyogle	Numinbah NR	Entire reserve - Miconia	Miconia		Eradication	Bush regeneration techniques including, monitor and overspray, physical removal	C-NE
Tweed Kyogle	Wollumbin NP	Entire reserve - Miconia	Miconia		Eradication	Bush regeneration techniques including, monitor and overspray, physical removal	C-NE
Tweed Kyogle	Billinudgel NR	Entire reserve	Pandanus planthopper		Eradication	Survey, chemical treatment: stem injection or foliar spray	C-NE
Tweed Kyogle	Cudgen NR	Cudgen	Pandanus planthopper		Eradication	Survey, chemical treatment: stem injection or foliar spray	C-NE
Tweed Kyogle	Wooyung NR	Wooyung	Pandanus planthopper		Eradication	Survey, chemical treatment: stem injection or foliar spray	C-NE
Tweed Kyogle	Couchy Creek NR	Couchy Creek Road (Gully rainforest area) - Kudzu	*Pueraria lobata*		Eradication	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	C-NE

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Iluka NR	1712 - Iluka NR between Bluff Rd and Iluka village, including 3 portions of crown land s-w of nature reserve	*Asparagus aethiopicus, Asparagus plumosus, Solanum seaforthianum, Rivina humilis, Delairea odorata, Anredera cordifolia, Chrysanthemoides monilifera, Ipomoea cairica, Ochna serrulata, Schefflera actiniphylla, Senna pendula* var. *glabrata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), *Tinospora tinosporoides* (EPBC-v; TSC-v), wet sclerophyll forest, dry sclerophyll forest/woodland; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	H-IH
Clarence North	Everlasting Swamp SCA	Everlasting Swamp	Feral pig	Wetlands of National Significance. SEPP14, Internationally protected waterbird species eg. magpie goose, brolga, black-necked stork	Asset protection	Aerial shoot, trapping, 1080 baiting, camera monitoring	H-IH
Clarence North	Bundjalung NP and Iluka NR	Iluka Peninsula, Bundjalung NP	Feral poultry	Freshwater Wetlands on Coastal Floodplain (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), coastal heath, World Heritage Gondwana Rainforest of Australia	Asset protection	Physical removal	H-IH
Clarence North	Iluka NR	Iluka	Feral poultry	Freshwater Wetlands on Coastal Floodplains (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EECs (TSC-e), coastal heath, World Heritage Gondwana Rainforest of Australia	Asset protection	Physical removal	H-IH
Clarence North	Mallanganee NP	Adjacent to Bruxner Hwy	Madeira vine, climbing nightshade, lantana	Dry rainforest - World Heritage Gondwana site	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	H-IH

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Nightcap NP	2040 - Western Portion (Mount Nardi and west)	*Ageratina adenophora, Lantana camara, Ageratina riparia*	Tuntable creek and Terania Creek WHAs - subtropical and warm temperate rainforest, wet sclerophyll forest; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	H-IH
Richmond River	Nightcap NP	Entire reserve – camphor laurel	*Cinnamomum camphora*		Containment	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	H-IH
Richmond River	Nightcap NP	1590 - Central Portion, Nightcap NP	*Cinnamomum camphora, Lantana camara, Ageratina riparia*	Tuntable creek and Terania Creek WHAs - subtropical and warm temperate rainforest, wet sclerophyll forest; BPWW – CC3	Asset Protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	H-IH
Richmond River	Ballina NR	Newrybar Swamp	Feral pig	SEPP14, Internationally protected waterbird species eg. brolga	Asset protection	Targeted shooting, aerial baiting, trapping, 1080 baiting, camera monitoring	H-IH
Richmond River	Bungawalbin NR, SCA and NP, Yarringully NR and SCA	Bungawalbin Swamp	Feral pig	SEPP14, Internationally protected waterbird species eg. black-necked stork	Asset protection	Targeted shooting, trapping, 1080 baiting, camera monitoring	H-IH
Richmond River	Nightcap NP/Whian Whian SCA	1786 - Minyon Falls eastern portion (zones 1, 6, 5 maybe more)	*Solanum chrysotrichum*	Dry sclerophyll forest, subtropical rainforest, wet sclerophyll forest, dry sclerophyll forest; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	H-IH
Tweed Kyogle	Wollumbin NP	1991 - Summit track	*Ageratina riparia*	Lowland Rainforest EEC (TSC-e), subtropical rainforest (BPWW - CC1)	Asset protection	Bush regeneration techniques including, overspray	H-IH
Tweed Kyogle	Border Ranges NP	Sawpit Creek	*Araujia sericifera*, *Celtis sinense*, *Ligustrum sinense*	Dry sclerophyll forest	Asset protection	Bush regeneration techniques including, overspray; cut, scrape and paint; stem injection	H-IH

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Border Ranges NP	Various sites	*Baccharis halimifolia*, *Anredera cordifolia*, *Macfadyena unguis-cati*		Containment	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	H-IH
Tweed Kyogle	Border Ranges NP	Various sites	*Camphor laurel*		Containment	Bush regeneration techniques including, overspray; cut, scrape and paint; stem injection	H-IH
Tweed Kyogle	Border Ranges NP	Camberra Creek	*Cinnamomum camphora*, *Baccharis halimifolia*	Dry sclerophyll forest	Asset protection	Bush regeneration techniques including, overspray; cut and paint; stem injection	H-IH
Tweed Kyogle	Border Ranges NP	Terrace Creek	*Lantana camara*	Dry sclerophyll forest	Asset protection	Bush regeneration techniques including, overspray; cut, scrape and paint; stem injection	H-IH
Tweed Kyogle	Border Ranges NP	1798 - Mount Lindsay	*Lantana camara, Ageratina adenophora, Sporobolus fertilis, Lilium formosanum*	*Solanum limitare* (TSC-e), Albert's lyrebird (TSC-v), koala (TSC-v), Loveridge's frog (TSC-e), *Grammitis stenophylla* (TSC-v), *Eucalyptus microcondon* (TSC-e); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	H-IH
Tweed Kyogle	Numinbah NR	1831 - Numinbah NR	*Lantana camara, Ageratina riparia*	Rainforest - sub tropical, warm and cool temperate and montane, wet sclerophyll, dry sclerophyll, threatened species; BPWW – CC5	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	H-IH
Tweed Kyogle	Wollumbin NP	1876 - Rest of the park	*Lantana camara, Ageratina riparia*	Lowland Rainforest EEC (TSC-e), subtropical rainforest BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	H-IH
Tweed Kyogle	Wollumbin NP	1728 - Korrumbyn Creek	*Lantana camara, Anredera cordifolia, Ricinus communis*	Lowland Rainforest EEC (TSC-e) BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	H-IH

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Border Ranges NP	1933 - Sheepstation Creek	*Lantana camara, Araujia sericifera*	Koala (TSC-v), dry/ wet sclerophyll forest, Fleay's frog (EPBC-e; TSC-e), sooty owl (TSC-v), glossy black cockatoo (TSC-v), Loveridge's frog (TSC-e), eastern bentwing bat (TSC-v), BMAD site; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	H-IH
Tweed Kyogle	Border Ranges NP	Findon Creek (Goodwins)	*Macfadyena unguis-cati*, *Celtis sinense*, *Ligustrum sinense*	Riparian areas on Findon Creek	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	H-IH
Tweed Kyogle	Border Ranges NP	Border Loop	*Opuntia* spp.		Containment	Bush regeneration techniques including, overspray and biological control	H-IH
Byron Coast	Arakwal NP	1842 - Old sandmining areas - zone 9 (all areas)	*Lantana camara, Chrysanthemoides monilifera* subsp. *rotundata*, exotic grasses, *Senna pendula* var. *glabrata*, *Baccharis halimifolia, Casuarina equisetifolia*	Dry sclerophyll forest; BPWW – CC5	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	H-CH
Byron Coast	Ti Tree Lake AA	1983 - stage 1 - current reserved bit	*Watsonia sp., Andropogon virginicus, Nephrolepis cordifolia*	Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e); BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	H-CH
Richmond River	Dubay Jargum Nurahm AA	1642 - Dubay Jargum Nurahm AA	*Chrysanthemoides monilifera* subsp. *Rotundata, Ipomoea cairica, Lantana camara,* exotic grasses *(Paspalum dilatatum* and maybe *Andropogon virginicus), Asparagus aethiopicus*	Cultural heritage, Wildlife corridor - ecotonal: coastal heath and rainforest elements and Swamp Oak Floodplain Forest EEC (TSC-e); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	H-CH

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Bandahngan AA	Tooloom Falls	Lantana and other weeds	Riparian vegetation	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	H-CH
Byron Coast	Brunswick Heads NR (Sth)	2004 - The Island	*Chrysanthemoides monilifera* subsp*. rotundata, Asparagus aethiopicus*	Pied Oystercatcher (TSC-e) breeding area, saline wetland - Coastal Saltmarsh EEC (TSC-e); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	M-RA
Byron Coast	Cumbebin Swamp NR	1530 - Belongil Beach	*Chrysanthemoides monilifera* subsp*. rotundata, Lantana camara, Senna pendula, Schefflera actinophylla, Ipomoea cairica, Ipomoea cairica, Bryophyllum pinnatum, Asparagus plumosus, Ochna serrulata, Gloriosa superba, Sphagneticola trilobata*	Coastal dune complex [Bitou TAP] - *Banksia integrifolia*/*Casuarina equisetifolia*/ *Acacia sophorae* with littoral scrub developing [tuckeroo, three-veined laurel etc]; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	M-RA
Byron Coast	Cumbebin Swamp NR	1526 - beach front (northern)	*Chrysanthemoides monilifera* subsp*. rotundata, Lantana camara, Senna sp., Schefflera actinophylla, Asparagus plumosus*	Coastal banksia - casuarina [horse-tail] woodland; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	M-RA
Byron Coast	Arakwal NP	2032 - Wallum Heath North of Honey Suckle (Watermains Track and residential interface)	*Chrysanthemoides monilifera* subsp*. rotundata, Schinus terebinthifolius*, coast heath tree FIN, *Asparagus* sp., *Lantana camara, Senna pendula* var. *glabrata, Andropogon virginicus* along track	Wallum heathland [Bitou TAP - High], dry heath, dry sclerophyll; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	M-RA

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Byron Coast	Arakwal NP	Entire reserve	Fox	biodiversity values	Asset protection	Sniffer dogs, cage/softjaw traps, den fumigation	M-RA
Byron Coast	Cape Byron SCA	Cape Byron	Fox	biodiversity values	Asset protection	Sniffer dogs, cage/softjaw traps, den fumigation	M-RA
Clarence North	Hogarth Range NR	Ruins Trail	Lantana, mother of millions	Dry sclerophyll forest	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-RA
Richmond River	Bundjalung NP - Northern Rivers Region	1675 - Gap road and Macauleys lead fire trail	*Andropogon virginicus, Sporobolus fertilis,* other exotic grasses	Freshwater Wetlands on Coastal Floodplain EEC (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), coastal heath; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray	M-RA
Richmond River	Richmond River NR	1890 - sand spit (mobbs bay)	*Asparagus plumosus, Ipomoea cairica, Chrysanthemoides monilifera* subsp*. rotundata, Lantana camara,* exotic grasses*, Asparagus aethiopicus*	Littoral Rainforest EEC (EPBC-ce; TSC-e), estuarine habitat values/shorebird roosting including migratory species; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-RA
Richmond River	Richmond River NR	1889 - sand dunes	*Chrysanthemoides monilifera* subsp. *rotundata*	Coastal wetlands [SEPP14], *Pandanus tectorius* var. *australianus* [Bitou Tap - Medium], breeding habitat pied oystercatcher (TSC-e), breeding habitat beach stone-curlew (TSC-ce); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	M-RA
Richmond River	Richmond River NR	1602 - coastal heath	*Chrysanthemoides monilifera* subsp*. Rotundata, Lantana camara, Gloriosa superba*	Coastal heath; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-RA

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Richmond River NR	1882 - roadside - between road and river	Exotic grasses (see plan), *Ipomoea cairica, Chrysanthemoides monilifera* subsp*. rotundata*	Mangrove forest, Coastal Saltmarsh EEC (TSC-e), Littoral Rainforest EEC (EPBC-ce; TSC-e), numerous threatened shorebirds including migratory species, sanderling (TSC-v), great knot (TSC-v), pied oystercatcher (TSC-e), sooty oystercatcher (TSC-v), beach stone-curlew (TSC-ce), little tern (TSC-e), osprey (TSC-v), extensive habitat for butterflies of conservation concern; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	M-RA
Richmond River	Bundjalung NP - Northern Rivers Region	1691 - gummah garra	*Ochna serrulata, Lantana camara,* exotic grasses*, Ipomoea cairica*	Swamp Sclerophyll Forest on Coastal Floodplains (TSC-e), Coastal Saltmarsh EECs (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-RA
Richmond River	Jackywalbin SCA	Glencoe Rd	Plantation regrowth/wildlings Gympie Messmate	Dry sclerophyll forest	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	M-RA
Tweed Kyogle	Limpinwood NR	1546 - border track (lookouts i.e. Mount Merino and others)	*Ageratum conyzoides, Ageratina riparia*	Montane rain forest, *Euphrasia bella* (EPBC-v; TSC-v), *Gaultheria viridicarpa*; BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	M-RA
Tweed Kyogle	Mount Clunie NP	1799 - Mount Clunie road	*Anredera cordifolia, Baccharis halimifolia, Araujia sericifera, Lantana camara, Senna pendula* var*. glabrata*	Dry and wet sclerophyll; BPWW – CC5	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-RA
Tweed Kyogle	Koreelah NP	1825 - Northern Koreelah NP	*Araujia sericifera, Lantana camara, Senna pendula* var*. glabrata, Baccharis halimifolia, Prunus persica*	Dry and wet sclerophyll; BPWW – CC5	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-RA

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Yabbra NP	2066 - Yabbra Quarry site (south)	*Araujia sericifera, Senna barclayana, Lantana camara, Sporobolus fertilis*	Wet sclerophyll, open woodland, Lowland Rainforest EEC (TSC-e), wompoo fruit-dove (TSC-v), spotted-tail quoll (EPBC-e; TSC-v), Koala (TSC-v), marbled frogmouth (TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-RA
Tweed Kyogle	Jubullum Flat Camp AA	Riparian zone	Broad leaf pepper, cats claw, tradescantia	Riparian vegetation	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-RA
Tweed Kyogle	Captain's Creek NR	1814 - near Legume	*Lantana camara*	Masked owl (TSC-v), glossy black-cockatoo (TSC-v), sooty owl (TSC-v), brush-tailed phascogale (TSC-v), dry rainforest; lantana ID 4-1; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-RA
Tweed Kyogle	Mount Nothofagus NP	1802 - Mount Nothofagus NP	*Lantana camara*	Fleay's frog (EPBC-e; TSC-e), wet sclerophyll forest, subtropical rainforest, giant barred frog (TSC-e), giant barred frog (EPBC-e; TSC-e); BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-RA
Tweed Kyogle	Tooloom NP	2031 - Wallaby Creek	*Lantana camara*	Rufous bettong (TSC-v), yellow-bellied glider (TSC-v), koala (TSC-v), powerful owl (TSC-v), masked owl (TSC-v), wet sclerophyll forest, wet/ dry sclerophyll, sub-tropical rainforest; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-RA
Tweed Kyogle	Limpinwood NR	1875 - rest of Limpinwood NR	*Lantana camara, Ageratina riparia, Baccharis halimifolia*	Rainforest - subtropical, warm and cool temperate, wet sclerophyll, dry sclerophyll, threatened species; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	M-RA

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Koreelah NP	1589 - Central Koreelah NP	*Lantana camara, Araujia sericifera, Baccharis halimifolia, Senna pendula* var. *glabrata, Prunus persica*	Riverine rainforest, wet sclerophyll; BPWW – CC5	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-RA
Tweed Kyogle	Tooloom NP	2010 - Tooloom NP	*Lantana camara, Araujia sericifera, Senna pendula* var. *glabrata*	Dry and wet sclerophyll; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-RA
Tweed Kyogle	Brunswick Heads NR (Nth)	1845 - Oyster lease day use area (eastern end Lantana TAP site)	*Lantana camara, Asparagus aethiopicus, Asparagus plumosus, Chrysanthemoides monilifera* subsp. *rotundata, Gloriosa superba, Rivina humilis, Ochna serrulata, Passiflora suberosa, Ipomoea cairica, Senna pendula* var. *glabrata*	Swamp Oak Floodplain Forest (TSC-e), Littoral Rainforest EECs (EPBC-ce; TSC-e), *Harnieria hygrophiloides* (TSC-e), *Cryptocarya foetida* (TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	M-RA
Tweed Kyogle	Richmond Range NP	Roadsides	*Lantana camara*, Giant Parramatta grass	Subtropical rainforest, wet sclerophyll and dry sclerophyll forest	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-RA
Tweed Kyogle	Mount Nothafagus NP	1801 - Mount Nothafagus NP	*Lantana camara, Ligustrum lucidum, Senna pendula* var. *glabrata, Araujia sericifera*	Dry and wet sclerophyll; BPWW – CC5	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-RA
Tweed Kyogle	Richmond Range NP	Peacock Creek	*Lantana camara*, moth vine, *Senna* sp.	Subtropical rainforest, wet sclerophyll and dry sclerophyll forest	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-RA

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Koreelah NP	1504 - Acacia plateau	*Ligustrum lucidum, Araujia sericifera, Lantana camara*	Subtropical rainforest; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-RA
All Areas	All Reserves	All areas	Water hyacinth (*Eichhornia crassipes*)		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control	M-CP
All Areas	All Reserves	Region wide	Yellow bells (Tecoma stans)		Containment	Plant identification training, investigate reported infestations and conduct appropriate weed control	M-CP
Byron Coast	Brunswick Heads NR (Sth)	1977 - Southern Portion	*Anredera cordifolia, Ipomoea cairica, Lantana camara, Chrysanthemoides monilifera* subsp. *rotundata, Cortaderia selloana, Sporobolus fertilis, Cestrum parqui, Cinnamomum camphora, Asparagus plumosus, Erythrina* x *sykesii, Erythrina variegata, Macfadyena unguis-cati, Asparagus aethiopicus, Schefflera actinophylla, Solanum seaforthianum,Senna sp.,* climbing vine pulling down paperbarks, *Nephrolepis cordifolia*	Heathland, dry sclerophyll and Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Byron Coast	Tyagarah NR	1821 - North of Oxbow Trail	*Chrysanthemoides monilifera* subsp*. rotundata, Gloriosa superba, Asparagus aethiopicus, Ipomoea cairica*, exotic grasses	Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e) with littoral rainforest elements, Coastal Saltmarsh EEC (TSC-e); BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection with possible aerial boom and spot spray	M-CP
Byron Coast	Cumbebin Swamp NR	1591central section	Exotic grasses - *Setaria sphacelata, Paspalum conjugatum, Paspalum mandiocanum, Panicum maxiumum, Pennisetum purpyreum - Baccharis halimifolia, Lantana camara, Ipomoea cairica, senna sp., Solanum mauritianum, Asparagus aethiopicus, Schinus terebinthifolius, Schefflera actinophylla, Cinnamomum camphora, Ipomoea indica*	Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), Swamp Oak Floodplain Forest EEC (TSC-e); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	M-CP
Byron Coast	Brunswick Heads NR south	Eastern edge of reserve	Feral poultry	*Archidendron hendersonii* (TSC-v), grey-headed flying-fox (EPBC-v; TSC-v), black-necked stork (TSC-e), shrubby dry sclerophyll forest with patches of Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), heathland, Coastal Saltmarsh EEC (TSC-e), including mangroves, riparian vegetation	Asset protection	Hand collection and removal	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Byron Coast	Brunswick Heads NR (Sth)	1973 - South Western Portion	*Lantana camara, Sporobolus fertilis, Cinnamomum camphora, Chrysanthemoides monilifera* subsp. *rotundata, Solanum seaforthianum, Asparagus plumosus*	*Archidendron hendersonii* (TSC-v), grey-headed flying-fox (EPBC-v; TSC-v), black-necked stork (TSC-e), shrubby dry sclerophyll forest with patches of Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), heathland, Coastal Saltmarsh EEC (TSC-e), including mangroves, riparian vegetation; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	M-CP
Byron Coast	Arakwal NP	Arakwal south eastern boundary	Rabbit	Dry heathland, fern land and Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e)	Asset protection	Pindone poisoning	M-CP
Byron Coast	Arakwal NP	Tallows Creek	*Salvinia molesta*		Containment	Undertake biological control	M-CP
Clarence North	Everlasting Swamp SCA	Entire reserve	*Salvinia molesta*		Containment	Biological control	M-CP
Region wide	All reserves	Affected sites	Feral Pig		Containment	Implement reactive control programs as required	M-CP
Region wide	All reserves	Affected sites	Indian Myna		Containment	Implement the Northern Rivers Indian Myna Action Plan 2009-2015	M-CP
Richmond River	Bundjalung NP - Northern Rivers Region	1659 - Evans river	*Baccharis halimifolia, Chrysanthemoides monilifera* subsp*. rotundata*	Coastal Saltmarsh EEC (TSC-e), mangroves; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Bungawalbin NP	1783 - Mill Road	*Baccharis halimifolia, Lantana camara, Senna* sp.*, Ageratina adenophora, Celosia cristata, Erythrina* x *sykesii, Sporobolus fertilis*	Emu (TSC-e pop), green-thighed frog (TSC-v), glossy black-cockatoo (TSC-v), wallum froglet (TSC-v), koala (TSC-v), spotted-tail quoll (EPBC-e; TSC-v), rufous bettong (TSC-v), squirrel glider (TSC-v), yellow-bellied glider (TSC-v), numerous forest bats, Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), Swamp Oak Floodplain Forest EEC (TSC-e), Freshwater Wetlands on Coastal Floodplain EEC (TSC-e), *Eucalyptus glaucina* (EPBC-v; TSC-v); BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-CP
Richmond River	Bungawalbin NR	1996 - Swamp	*Baccharis halimifolia, Lantana camara, Senna* sp.*, Ageratina adenophora, Sporobolus fertilis*	Freshwater Wetlands on Coastal Floodplain EEC (TSC-e), wet sclerophyll forest, emu (TSC-e pop), spotted-tail quoll (EPBC-e; TSC-v), yellow-bellied glider (TSC-v), squirrel glider (TSC-v), brush-tailed phascogale (TSC-v), giant barred frog (EPBC-e; TSC-e), forest bats	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Bungawalbin SCA	1655 - Ellangowan	*Baccharis halimifolia, Lantana camara, Senna* sp.*, Ageratina adenophora, Sporobolus fertilis*	*Eucalyptus glaucina* (EPBC-v; TSC-v), Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), Grey Box - Grey Gum Wet Sclerophyll Forest EEC (TSC-e), rufous bettong (TSC-v), regent honeyeater (EPBC-e; TSC-ce), powerful owl (TSC-v), barking owl (TSC-v), numerous forest bats, grey-headed flying-fox (EPBC-v; TSC-v), spotted-tail quoll (EPBC-e; TSC-v), yellow-bellied glider (TSC-v), squirrel glider (TSC-v), brush-tailed phascogale (TSC-v), rufous bettong (TSC-v), emu (TSC-e pop); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-CP
Richmond River	Bundjalung SCA	1870 - range road	*Baccharis halimifolia, Lantana camara, Sporobolus fertilis*	Freshwater Wetlands on Coastal Floodplain EEC (TSC-e Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), dry sclerophyll, Emu (TSC-e pop), aboreal mammals, regent honeyeater (EPBC-e; TSC-ce), bush stone-curlew (TSC-e), owls and bats; BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-CP
Richmond River	Goonengerry NP	1681 - Goonengerry NP - Garrong - North Boundary trail loop	*Cinnamomum camphora, Lantana camara, Ageratina riparia, Ligustrum lucidum*	Regenerating moist sclerophyll; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-CP
Richmond River	Yarringully NR	Bungawalbin Creek, Water Hyacinth	*Eichhornia crassipes*		Containment	Biological control, physical removal	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Yarringully SCA	Bungawalbin Creek, Water hyacinth	*Eichhornia crassipes*		Containment	Biological control, physical removal	M-CP
Richmond River	Broadwater NP	2085 - Zone 6 - Doonbah	Exotic grasses, pine, *Cinnamomum camphora*		Containment	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection; hand removal	M-CP
Richmond River	Bungabbee NR	Bungabbee	Feral cattle	*Corchorus cunninghamii* (EPBC-e; TSC-e), *Desmodium acanthocladium*, *Sophora fraseri* (EPBC-v; TSC-v), *Senna acclinis* (TSC-e), *Tinospora smilacina* (TSC-e), *Owenia cepiodora* (EPBC-v; TSC-v), *Rhynchosia acuminatissima* (TSC-v), spotted-tail quoll (EPBC-v; TSC-e), koala (TSC-v), glossy black cockatoo (TSC-v), yellow-bellied glider (TSC-v)	Asset protection	Survey/monitor, removal	M-CP
Richmond River	Muckleewee Mountain NR	Mucklewee	Feral cattle	Dry sclerophyll forest, wet sclerophyll forest	Asset protection	Survey/monitor, removal	M-CP
Richmond River	Ballina NR	1826 - Nth Deadmans Creek, Ballina NR	*Ipomoea cairica, Senna* sp*., Baccharis halimifolia, Lantana camara*		Containment	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-CP
Richmond River	Tabbimoble Swamp NR	1997 - swamp area EEC, Tabbimoble Swamp NR	*Lantana camara* - low priority*, Baccharis halimifolia,* exotic grasses		Containment	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	M-CP
Richmond River	Uralba NR	2022 - Uralba NR - northern section	*Lantana camara, Ageratina riparia, Ageratina adenophora, Cinnamomum camphora*	Coastal range - moist blackbutt [wet sclerophyll] and small pockets of subtropical rainforest; BPWW – CC5	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Bungawalbin SCA	Lagoons and swamps	Salvinia (*Salvinia molesta*)		Containment	Biological control	M-CP
Richmond River	Broadwater NP	Old sandmining quarry	Salvinia (*Salvinia molesta*)		Containment	Undertake biological control	M-CP
Richmond River	Bungawalbin NP	Lagoons and swamps	Salvinia (*Salvinia molesta*)		Containment	Biological control	M-CP
Richmond River	Bungawalbin NR	Lagoons and swamps	Salvinia (*Salvinia molesta*)		Containment	Biological control	M-CP
Richmond River	Yarringully NR	1569 - Bungawalbin Creek	*Salvinia molesta, Eichhornia crassipes, Lantana camara, Rubus fruticosis* agg*., Ricinus communis, Syagrus romanzoffiana, Ipomoea* sp*., Solanum seaforthianum, Gomphocarpus fruticosus, Ageratina adenophora, Ageratina riparia, Erythrina crista-galli, Cardiospermum grandiflorum*	Lowland Rainforest on Floodplain EEC (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), Freshwater Wetlands on Coastal Floodplain EEC (TSC-e), giant barred frog (TSC-e), squirrel glider (TSC-v), yellow-bellied glider (TSC-v), brush-tailed phascogale, common blossom-bat (TSC-v), grey-headed flying-fox (EPBC-v; TSC-v), eastern long-eared bat (TSC-v), brolga (TSC-v), black-necked stork (TSC-e), magpie goose (TSC-v), barking owl (TSC-v), powerful owl (TSC-v), comb-crested jacana (TSC-v), black bittern (TSC-v), rufous bettong (TSC-v), *Cordyline congesta* [ROTAP], *Plectranthus suaveolens* [ROTAP], *Doryanthes palmeri* (TSC-v), *Marsdenia longiloba* (EPBC-v; TSC-e), *Belvisia mucronata* (TSC-e), *Centranthera cochinchinensis* (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun, biological control, physical removal	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Yarringully NR	1867 - Quills Trail	*Salvinia molesta, Eichhornia crassipes, Lantana camara, Rubus fruticosis* agg.*, Ricinus communis, Syagrus romanzoffiana, Ipomoea* sp.*, Solanum seaforthianum, Gomphocarpus fruticosus, Ageratina adenophora, Ageratina riparia, Erythrina crista-galli, Cardiospermum grandiflorum*	Lowland Rainforest on Floodplain (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains (TSC-e), Freshwater Wetlands on Coastal Floodplain EECs (TSC-e), giant barred frog (TSC-e), squirrel glider (TSC-v), yellow-bellied glider (TSC-v), brush-tailed phascogale (TSC-v), common blossom-bat (TSC-v), grey-headed flying-fox, eastern long-eared bat (TSC-v), brolga (TSC-v), black-necked stork (TSC-e), magpie goose (TSC-v), barking owl (TSC-v), powerful owl (TSC-v), comb-crested jacana (TSC-v), black bittern (TSC-v), rufous bettong (TSC-v), *Cordyline congesta* [ROTAP], *Plectranthus suaveolens* [ROTAP], *Doryanthes palmeri* (TSC-v), *Marsdenia longiloba* (EPBC-v; TSC-e), *Belvisia mucronata* (TSC-e), *Centranthera cochinchinensis* (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun, biological control, physical removal	M-CP
Richmond River	Yarringully SCA	1974 - Southern boundary	*Salvinia molesta, Eichhornia crassipes, Lantana camara, Rubus fruticosis* agg.*, Ricinus communis, Syagrus romanzoffiana, Ipomoea* sp.*, Solanum seaforthianum,* wild *Gomphocarpus* sp.*, Ageratina adenophora, Ageratina riparia, Erythrina crista-galli, Cardiospermum grandiflorum*	Lowland Rainforest on Floodplain (TSC-e) and Freshwater Wetlands on Coastal Floodplain EECs (TSC-e), threatened frogs - giant barred frog (EPBC-e; TSC-e), grey-headed flying-fox (EPBC-v; TSC-v); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun, biological control, physical removal	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Nightcap NP/Whian Whian SCA	Affected areas (eg. roadsides) - Solanum chrysotrichum	*Solanum chrysotrichum*		Containment	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	M-CP
Richmond River	Ballina NR	North Creek	Water hyacinth *Eichhornia crassipes*		Containment	Physical removal, bio-control	M-CP
Richmond River	Bungawalbin NP	Bungawalbin Creek	Water hyacinth *Eichhornia crassipes*		Containment	Biological control, physical removal	M-CP
Richmond River	Bungawalbin NR	Bungawalbin Creek	Water hyacinth *Eichhornia crassipes*		Containment	Biological control, physical removal	M-CP
Richmond River	Bungawalbin SCA	Bungawalbin Creek	Water hyacinth *Eichhornia crassipes*		Containment	Biological control, physical removal	M-CP
Richmond River	Andrew Johnston Big Scrub NR	Wild Dog Management Plan Area 3 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting, softjaw trapping	M-CP
Richmond River	Ballina NR	Wild Dog Management Plan Area 3 Northern Rivers 2012-2017	Wild dog	Neighbouring stock	Asset protection	Monitor - sandpadding, infra-red cameras; 1080 baiting	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Billinudgel NR	2084 - Zone 6 - central and quarry trails	*Baccharis halimifolia, Lantana camara, Chrysanthemoides monilifera* subsp*. rotundata, Passiflora suberosa, Ageratina riparia, setaria, Senna barclayana, Nicotiana tabacum, Passiflora subpeltata, Paspalum urvillei* and other exotic grasses	Swamp Sclerophyll Forest on Coastal Floodplains (TSC-e), Coastal Cypress Pine and Lowland Rainforest (TSC-e), Freshwater Wetlands on Coastal Floodplain EECs (TSC-e), *Acacia bakeri* (TSC-v), *Acronychia littoralis* (EPBC-e;TSC-e), *Corokia whiteiana* (EPBC-v; TSC-v), *Geodorum densiflorum* (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	M-CP
Tweed Kyogle	Tweed Estuary NR	2016 - Tweed Estuary NR	*Chrysanthemoides monilifera* subsp*. rotundata*	Coastal Wetlands [SEPP14]; BPWW – CC6	Asset protection	Implement Bitou TAP actions accordingly/Northern Containment Zone bitou bush control	M-CP
Tweed Kyogle	Ukerebagh NR	1535 - Bitou NR-1	*Chrysanthemoides monilifera* subsp*. rotundata*	*Cryptocarya foetida* (TSC-v), *Cordyline congesta* [ROTAP]; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	M-CP
Tweed Kyogle	Ukerebagh NR	2021 - Ukerabagh NR including Tweed Heads Historic Site	*Chrysanthemoides monilifera* subsp*. rotundata*	Littoral Rainforest EEC (EPBC-ce; TSC-e), Coastal Wetlands (SEPP14); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint	M-CP
Tweed Kyogle	Billinudgel NR	2088 - Zone 8 - cabinet timber plantation	*Cinnamomum camphora, Lantana camara*, exotic weeds and *Baccharis halimifolia*	Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), coast C*allitris*, cabinet timber plantation, Lowland Rainforest EEC (TSC-e), *Acronychia littoralis* (EPBC-e; TSC-e); BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Jinangong NR	1717 - Jinangong NR	*Cinnamomum camphora, Ligustrum sinense, Lantana camara, Senna pendula* var*. glabrata, Anredera cordifolia, Ochna serrulata, Ageratina adenophora, Ageratina riparia, Schefflera actinophylla, Sphagneticola trilobata, Canna* x *generalis*	Subtropical Lowland Rainforest on Floodplain EEC (TSC-e), *Endiandra hayesii* (EPBC-v; TSC-v), *Endiandra muelleri* subsp*. bracteata* (TSC-e), *Davidsonia jerseyana* (EPBC-e; TSC-e), koala (TSC-v). BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	M-CP
Tweed Kyogle	Billinudgel NR	2086 - Zone 7 - Jones Rd	*Lantana camara, Cinnamomum camphora, Baccharis halimifolia, Passiflora suberosa, Ageratina adenophora, Ageratina riparia, Desmodium uncinatum, Macroptilium atropurpureum, Schefflera actinophylla, Senna pendula* var*. glabrata*	Blackbutt; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Billinudgel NR	2090 - Zones 2-4 adjoining residential areas, Billinudgel NR	*Lantana camara, Cinnamomum camphora, Senna pendula* var. *glabrata,* exotic grasses*, Ageratina adenophora, Desmodium uncinatum, Nicotiana tabacum, Ipomoea cairica, Sphagneticola trilobata, Thunbergia alata, Impatiens walleriana, Canna* x *generalis, Syagrus romanzoffiana, Passiflora suberosa, Phoenix canariensis, Passiflora edulis, Hypoestes phyllostachya, Asparagus aethiopicus, Baccharis halimifolia, Ageratina riparia, Melinis minutiflora, Sansevieria trifasciata, Ambrosia* sp.*, Setaria* sp.*, Ligustrum sinense, Schefflera actinophylla*	*Lophostemon confertus* forest, blackbutt forest, Lowland Rainforest EEC (TSC-e), *Acronychia littoralis* (EPBC-e;TSC-e), *Davidsonia jersyana* (EPBC-e; TSC-e); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	M-CP
Tweed Kyogle	Koreelah NP	1976 - Southern part of Koreelah NP	*Ligustrum lucidum, Lantana camara, Araujia sericifera, Opuntia stricta, Senna pendula* var. *glabrata*	Riverine rainforest, wet sclerophyll; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	M-CP
Tweed Kyogle	Cudgen NR	Northern boundary with Causarina Beach	Rabbit	Coastal Heath/Woodland with Littoral Rainforest EEC (EPBC-ce; TSC-e)	Asset protection	Fumigation	M-CP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Cudgen NR	1848 - palm forest (zone 3)	*Solanum chrysotrichum, Lantana camara, Paspalum mandiocanum, Ageratina adenophora*	Subtropical Lowland Rainforest EEC (TSC-e) - bangalow and cabbage tree palms; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	M-CP
Tweed Kyogle	Couchy Creek NR	1618 - Couchy Creek Road (Gully rainforest area)	*Tradescantia fluminensis, Lantana camara, Erythrina variegata*	Lowland Rainforest EEC (TSC-e); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	M-CP
Richmond River	Uralba NR	Wild Dog Management Plan Area 4 Northern Rivers 2012-2017	Feral goat		Containment	Survey/monitor, removal	M-II
Tweed Kyogle	Hatton's Bluff NR	Entire reserve	Feral goat		Containment	Survey/monitor, removal	M-II
Byron Coast	Julian Rocks NR	1721 - Julian Rocks NR	*Eleusine indica, Sonchus oleraceus, Rubus fruticosis* agg*., Solanum nigum*	Shore and seabirds [breeding and roosting site] - sooty oystercatcher (TSC-v), grey ternlet (TSC-v), migratory species; BPWW – CC4	Asset protection	Overspray	L-LP
Byron Coast	Tyagarah NR	1684 - Grays Lane and south Tyagarah NR (regen zone 2)	*Schefflera actinophylla, Ageratina adenophora, Ageratum conyzoides, Ambrosia artemisiifolia, Chrysanthemoides monilifera* subsp*. rotundata,* exotic grasses*, Lantana camara*	Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), wet heathland, sedgeland; BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection with possible aerial boom and spot spray	L-LP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Clarence North	Mount Neville NR	1800 - Mount Neville	*Lantana camara, Sporobolus fertilis, Pinus elliotti, Pinus taeda*	*Grevillea quadricauda* (EPBC-v; TSC-v), *Niemeyera chartacea* (TSC-e), dry eucalypt forest/ moist eucalypt forest, *Eucalyptus tetrapleura* (EPBC-v; TSC-v), *Hibbertia marginata, Pyllanthus microcladus, Astrotricha cordata, Leucopogon recurvisepalus*; BPWW – CC1	Asset protection	High and low volume foliar, cut stump, splatter gun, physical removal	L-LP
Clarence North	Wombat Ck NR	2050 - Wombat Ck NR	*Lantana camara, Sporobolus fertilis*	Niemeyera chartacea (TSC-e), *Angophora robur* (EPBC-v; TSC-v), *Angophora paludosa*, dry eucalypt forest, *Eucalyptus codonocarpa, Kunzea bracteolate*; BPWW – CC1	Asset protection	High and low volume foliar, cut stump, splatter gun, physical removal	L-LP
Clarence North	Mount Neville NR	1574 - Cabbage Tree Ck	*Pinus elliotti, Lantana camara*	*Grevillea quadricauda* (EPBC-v; TSC-v), *Niemeyera chartacea* (TSC-e), dry eucalypt forest/ moist eucalypt forest, *Eucalyptus tetrapleura* (EPBC-v; TSC-v), *Hibbertia marginata*, *Pyllanthus microcladus, Astrotricha cordata, Leucopogon recurvisepalus*; BPWW – CC3	Asset protection	High and low volume foliar, cut stump, splatter gun, physical removal	L-LP
Clarence North	Mororo NR	1794 - Mororo NR	*Senna pendula* var. *glabrata, Lantana camara*	*Persicaria dichotoma*, *Cordyline congesta* [ROTAP], Swamp Sclerophyll Forest on Coastal Floodplains (TSC-e), Lowland Rainforest on Floodplain (TSC-e), Sub-tropical Coastal Floodplain Forest EECs (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection	L-LP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Little Pimlico Island NR	1747 - Little Pimlico Island NR	exotic vines*, Asparagus* sp.*, Asparagus plumosus, Solanum seaforthianum, Ipomoea cairica, Tradescantia fluminensis, Senna barclayana, Schefflera actinophylla, Ricinus communis*	Lowland Rainforest on Floodplain EEC (TSC-e), Coastal Wetlands [SEPP14], mangroves, *Acronychia litoralis* (EPBC-e; TSC-e), white-bellied sea-eagle, osprey (TSC-v); BPWW – CC5	Asset protection	Bush regeneration techniques including, overspray, cut and paint; cut, scrape and paint	L-LP
Richmond River	Bundjalung SCA	1672 - funnels road	*Lantana camara*	Dry sclerophyll, wet sclerophyll, Bush Stone-curlew (TSC-e), owls, aboreal mammals; BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	L-LP
Richmond River	Tucki Tucki NR	2015 - Tucki Tucki NR	*Lantana camara, Macfadyena unguis-cati, Ageratina adenophora, Ageratina riparia, Cinnamomum camphora,* 3 *Passionfruit* sp*, Asparagus* sp.*, Desmodium uncinatum, Andropogon virginicus, Chloris gayana, Solanum seaforthianum*	Eucalypt plantation - [Red gum, *E. grandis, E. microcorys*] - Koala (TSC-v) habitat; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	L-LP
Richmond River	Tuckean NR	2014 - Tuckean NR	*Nymphea capensis, Lantana camara, Ipomoea* sp*.*	Swamp Sclerophyll Forest on Coastal Floodplains (TSC-e) and Freshwater Wetlands on Coastal Floodplain EECs (TSC-e), migratory birds, red goshawk (EPBC-v; TSC-ce), koala (TSC-v); BPWW – CC5	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	L-LP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Toonumbar NP	1639 - Dome Mountain	*Ageratina riparia, Ageratina adenophora, Lantana camara, Sporobolus fertilis, Senna sp.*	Lowland Rainforest EEC (TSC-e), wet and dry sclerophyll forest, *Marsdenia longiloba* (EPBC-e; TSC-e), *Senna acclinis* (TSC-e), Koala (TSC-v), Loveridge's frog (TSC-e), sooty owl (TSC-v), *Eucalyptus dunnii* [ROTAP]; BPWW – CC2	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; and splatter gun	L-LP
Tweed Kyogle	Koreelah NP	Roadsides	Blackberry (*Rubus fruticosus aggregate*		Containment	Overspray	L-LP
Tweed Kyogle	Marshalls Creek NR	1880 - River Street	*Cinnamomum camphora, Lantana camara, Senna pendula* var. *glabrata, Asparagus aethiopicus, Sphagneticola trilobata, Chrysanthemoides monilifera* subsp. *rotundata, Erythrina* x *sykesii, Gloriosa superba, Yucca aloifolia, Ipomoea cairica*	Swamp Sclerophyll Forest on Coastal Floodplains (TSC-e) and Littoral Rainforest EECs (EPBC-ce; TSC-e); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	L-LP
Tweed Kyogle	Marshalls Creek NR	1608 - Compensatory habitat additions	*Cinnamomum camphora, Ligustrum sinense, Lantana camara, Sphagneticola trilobata,* exotic grasses*, garden dumping plants, Senna pendula* var. *glabrata, Cardiospermum grandiflorum, Anredera cordifolia, Ochna serrulata*	Littoral Rainforest (EPBC-ce; TSC-e), Lowland Rainforest on Floodplain (TSC-e), Swamp Sclerophyll Forest on Coastal Floodplains (TSC-e), Swamp Oak Floodplain Forest EECs (TSC-e); BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	L-LP
Tweed Kyogle	Couchy Creek NR	1617 - Couchy Creek Ridge and slopes	*Lantana camara*		Containment	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	L-LP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Tweed Kyogle	Mebbin NP	1666 - flora reserve - Mebbin lagoons	*Lantana camara*	Palm forest - subtropical rainforest; BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	L-LP
Tweed Kyogle	Mebbin NP	1777 - Mebbin NP	*Lantana camara*	Mixed - wet and dry sclerophyll, subtropical rainforest, warm temperate and dry rainforest, threatened species FIN; BPWW – CC4	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	L-LP
Tweed Kyogle	Wollumbin NP	1500 - Aboretum - planted out with threatened species	*Lantana camara*		Containment	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun	L-LP
Tweed Kyogle	Marshalls Creek NR	1548 - Boundary interfaces	*Sphagneticola trilobata, Cinnamomum camphora, Rivina humilis, Ligustrum sinense, Ipomoea indica,* exotic grasses*, Schefflera actinophylla, Duranta erecta, Murraya paniculata, Senna pendula* var. *glabrata, Lantana camara, Baccharis halimifolia*	SSR and Littoral Rainforest (EPBC-ce; TSC-e), Swamp Oak Floodplain Forest EECs (TSC-e), *Cryptocarya foetida* (TSC-v); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; splatter gun; stem injection	L-LP
Byron Coast	Tyagarah NR	Old sandmining ponds	*Salvinia molesta*		Containment	Undertake biological control	L-PP
Clarence North	Chatsworth Hill SCA	1772 - Mangrove Ck	*Baccharis halimifolia, Lantana camara*, woody and herbaceous weeds	Swamp Sclerophyll Forest EEC, Coastal Saltmarsh (TSC-e); BPWW – CC3	Asset protection	High and low volume foliar, hand removal, cut and stump	L-PP

Area	Reserves	Site name	Target pests or weeds	Assets at risk	Aim of control	Action	Priority
Richmond River	Broadwater NP	2083 - Zone 5 - old mining trail/western boundary	exotic grasses, *Pinus radiata*	Shrubby dry sclerophyll, heathland, small patches of Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e); BPWW – CC3	Asset protection	Bush regeneration techniques including, overspray; physical removal	L-PP
Richmond River	Broadwater NP	2089 - Zone 8 - Rileys	*Lantana camara, Pinus radiata,* exotic grasses, blue *Ageratum conyzoides, Ageratina adenophora, Ipomoea* sp.	Swamp Sclerophyll Forest on Coastal Floodplains EEC (TSC-e), shrubby dry sclerophyll forest, small bits of Freshwater Wetlands on Coastal Floodplain EEC (TSC-e) and heathland, tiny bit of wet sclerophyll forest; BPWW – CC1	Asset protection	Bush regeneration techniques including, overspray; cut and paint; cut, scrape and paint; stem injection and splatter gun	L-PP

5 Consultation

The Northern Rivers Region Regional Pest Management Strategy was developed through consultation with the community and internal staff. A Pest Management Strategy Stakeholder Forum was conducted at Lismore on the 9th September 2011. A diverse range of community representatives were represented including members of local Councils, Livestock Health and Pest Authorities, Biosecurity Queensland, Forests NSW, NSW Farmers Association, Catchment Management Authorities, Northern Rivers Regional Advisory Committee, and several other stakeholder groups. Key issues raised from this forum, with reference to the state strategy, were:

- new and emerging issues including identifying high risk pathways (Goal 1 Objective 1.1)
- the need for appropriate and long term resources to be available for pest management programs (Goal 3 Objective 3.1)
- continued integrated pest management including long term planning and use of best practice (Goal 2 Objective 2.2)
- the need for a risk and adaptive management approaches to pest management (Goal 2 Objective 2.1)
- the development of staff, communities and volunteers skills in order to build the capacity of NPWS to identify and treat pests (Goal 3 Objective 3.3)
- the need for communication and education of stakeholders (Goal 3 Objective 3.2)
- the need for data management, monitoring and reporting (Goal 3 Objective 3.4)
- the requirement for cooperation and landscape scale pest management programs (Goal 2 Objective 2.2).

Many other issues were identified, with a variety of views and opinions expressed. An important issue was the need for the continuation of existing programs, particularly those where collaboration occurs with other agencies and stakeholders. Where possible the issues and strategies from the forum have been incorporated as identified above or into the approaches for managing specific pests. Some suggestions were outside the scope of this strategy, such as those requiring a legislative or policy response, while other issues at a broader level such as environmental pest management across the landscape were discussed at the state level forum. For more information regarding the forum report please contact the regional office.

Consultation within each operational Area with key rangers and field staff was undertaken to ensure accurate and current information was contained within the strategy.

The draft pest management strategy was placed on public exhibition and comments were invited from the community, other government agencies and stakeholder groups.

Regional coordination and support of pest control programs

Pest control programs are coordinated by the local NPWS Area and Region in order to ensure that resources are used to achieve the best possible outcomes. Area and regional assistance is also required to efficiently work with neighbours, community groups and other agencies. Education of staff and the broader community are essential requirements in integrated pest management and are also best achieved by centralised coordination.

Regional staff work with Aboriginal communities, particularly in the Arakwal and Githabul ILUA's areas, and with the broader community on a range of issues

including pest management. Examples of projects include the preparation of pest management plans for Arakwal National Park and weed control at Jumbullum Flat Camp. Members of the Githabul Aboriginal community have also undertaken training in Certificate II in Conservation and Land Management to gain skills in weed identification and control techniques for bushland regeneration projects.

Northern Rivers Region staff work with the Aboriginal community to prepare pest management plans and seek support for the implementation of pest control works. Examples include weed control with Minjungbal at Tweed Heads Historic Site and with Bandjalang for pied oystercatcher protection.

At a regional level, staff participate in a number of coordinated pest programs with various land managers and stakeholders. Some programs involve attending and reporting at various committee and working group meetings, such as the Newrybar Swamp Feral Pig Committee.

At a landscape level, given the proximity of Northern Rivers Region to Queensland, staff participate in cross-border meetings to ensure integrated management of issues including pests. The NPWS/ Department of National Parks, Recreation, Sport and Racing (DNPRSR) Cross Border Committee and the South East Queensland Pest forum are examples of these.

In northern NSW, focus committees have evolved to establish coordination of pest management across regions and tenures. An example of these is the North-Eastern Pest Animal Advisory Committee and North Coast Weeds Advisory Committee.

A summary of local committees and cross regional meetings attended by regional staff is given in Appendix 0. Below is a map showing ILUA areas within the Region.

Githabul Indigenous Land Use Agreement

In February 2007 the Githabul people and the NSW Government signed an ILUA over approximately 112,000 hectares of public land in the Kyogle, Woodenbong and Tenterfield areas. The ILUA incorporates nine national parks and 13 state forests, and allows for the creation of a number of jobs and opportunities for Githabul people.

The Githabul ILUA is the largest in NSW. The Githabul National Parks Management Committee, on which Githabul people have a majority, makes recommendations to OEH about the management of the national parks incorporated within the ILUA and advises on the preparation of draft plans of management for approval by the Minister.

NPWS and Northern Rivers CMA (NRCMA) have supported the development of skills of the Githabul traditional owners through the provision of training in bush regeneration to manage weed issues in the local areas within the ILUA.

Arakwal Indigenous Land Use Agreement

Building on the previous agreement signed in 2001, the second and third stage of the Arakwal ILUA added over 124 hectares to NPWS estate, including Arakwal National Park, Cumbebin Swamp Nature Reserve and Broken Head Nature Reserve. A new 50 hectare area, Ti Tree Lake Aboriginal Area, is being negotiated with the Arakwal and Nyangbul Women's Group to be approved under a separate ILUA. Arakwal representatives are stakeholders on both the Arakwal National Park Management Committee and the Byron Coast Management Committee which meet quarterly.

NPWS staff will continue pest control, primarily weed control, in these areas in accordance with local pest plans and the Arakwal traditional owners.

Wollumbin Consultative Group

The Wollumbin area has high cultural value for numerous Aboriginal groups in north-east NSW and south-east Queensland. Representatives of these Aboriginal groups

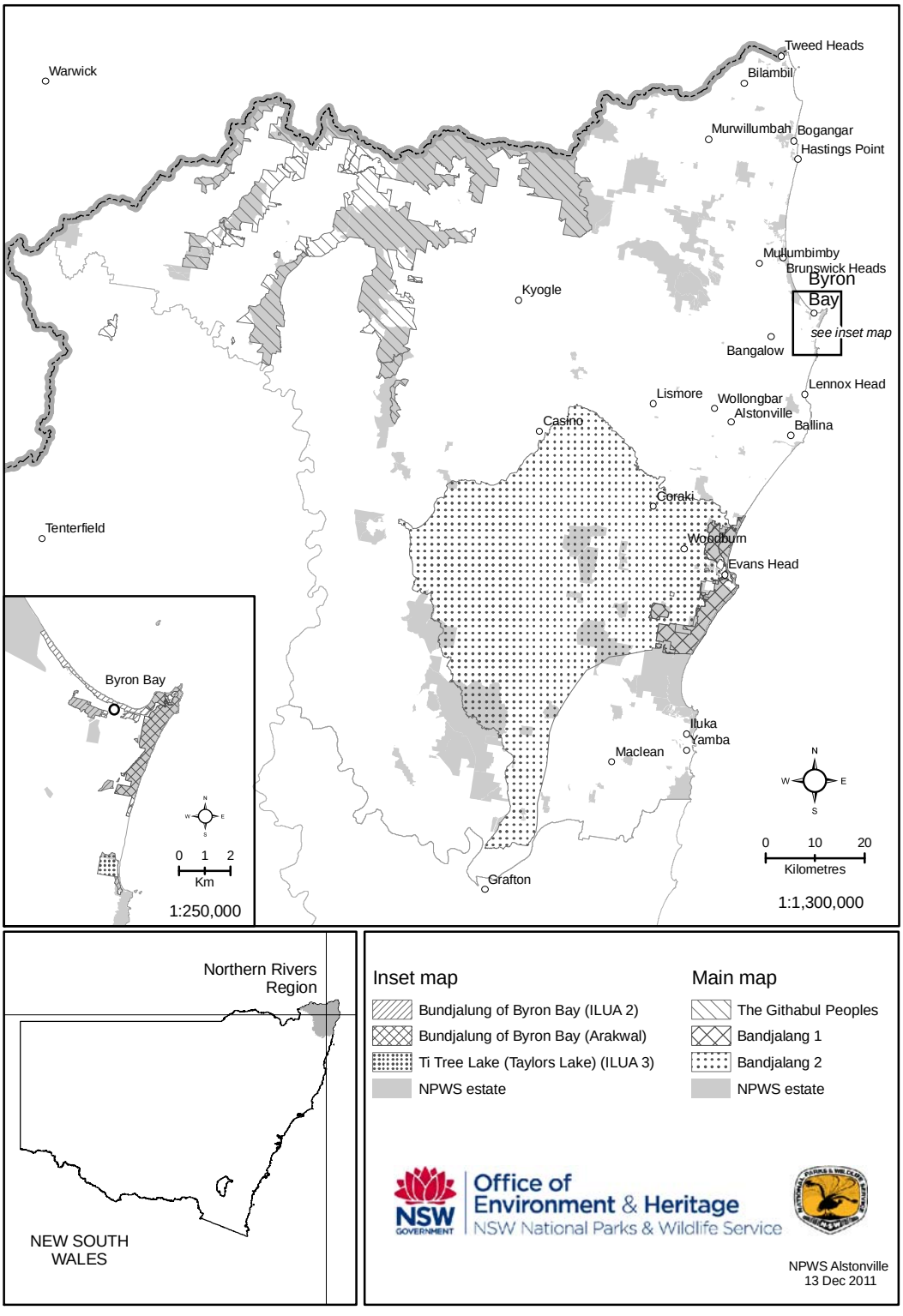
meet regularly with NPWS to make recommendations about the management of Wollumbin NP. Other stakeholders include Tweed-Byron Aboriginal Lands Council, OEH and Tweed Shire Council.

Bandjalang Interim Advisory Committee

The State Government has been in negotiations since 2003 with the Bandjalang Native Title Claimants regarding Bandjalang Land Claim No 1 and 2. These claims cover 16 parks and reserves, including all the Bundjalung national parks and Bungawalbin reserve areas covering 43,040.6 ha. A key aspiration of the native title claimants is to undertake training and employment in land management activities both on and off park estate. The Bandjalang Interim Advisory Committee informs management issues for these parks and reserves and consists of Bandjalang representatives, and Native Title Services Corporation and NPWS staff.

Local Aboriginal communities

NPWS undertakes pest species awareness, training and control programs with local Aboriginal communities and local aboriginal land councils with relevant staff and with assistance of the regional pest management officer.



Indigenous Land Use Agreement areas

Memorandum of Understanding – cooperative cross-border management of national parks and other reserves in New South Wales and Queensland

The NSW and Queensland border forms a boundary between a number of national parks and other protected areas. The Queensland and NSW governments have agreed to a Memorandum of Understanding (MoU) between DNPRSR and NPWS regarding complementary management of adjoining parks, including wilderness areas and the World Heritage Gondwana Rainforests of Australia areas.

In particular the MoU applies to the following parks:

- in Queensland: Mount Barney National Park, Springbrook National Park, Lamington National Park, Main Range National Park, Girraween National Park, Culgoa Floodplain National Park, and Mount Chinghee National Park.
- in NSW: Numinbah Nature Reserve, Limpinwood Nature Reserve, Border Ranges National Park, Mount Nothofagus National Park, Mount Clunie National Park, Koreelah National Park, Bald Rock National Park, and Culgoa National Park.

The vision is for agencies to work in partnership to achieve excellence in conservation and sustainable use of natural and cultural values through an active program of cross-border cooperation.

The MoU and Operational Agreement provide that the agencies will exchange information, ideas and expertise relevant to the protection of the areas' special values. The agencies will also undertake joint actions and management operations related to management, conservation and protection of the areas' values as outlined in the cooperative works program as well as on an as-needs basis for control of introduced plants and animals. Under the MoU each agency meets at least annually to facilitate development, coordination and implementation of cooperative management programs.

Department of Defence

A MoU exists between the Department of Defence and NPWS. Its purpose is to provide for a shared understanding and agreement between the departments on cooperative environmental management of Evans Head Defence Air Weapons Range (EVDAWR) in order to facilitate:

- a consistent and effective approach to the environmental management of EVDAWR
- consideration of shared obligations to protect the environment and for the Department of Defence to enhance the capability of the Australian Defence Force, including but not limited to financial and other resources as practicable
- the functions of NPWS, and the interests of other NSW departments, which NPWS represents through this MoU.

Southern Cross University

A MoU between Southern Cross University (SCU) and Northern Rivers Region recognises and aims to promote mutual cooperation between SCU and NPWS by encouraging and facilitating collaboration on academic and research activities, and student and staff experiences.

The interaction and cooperation of the two groups has developed over more than a decade and has changed in character commensurate with the changing structure of each institution. The activities include ecological research, inventory of the regions' cultural, physical and biological resources, visitor use, together with education and management.

Students are provided with a list of research projects potentially relevant to integrated and postgraduate studies. Some of the past pest-related projects include:

- a baseline road survey assessment of the distribution of the cane toad (*Bufo marinus*) in northern NSW.
- the trial of traps as a control method for cane toads in Northern Rivers Region
- cane toad and community awareness in Border Ranges National Park.

For a number of years Northern Rivers Region has also provided work opportunities for SCU students as part of an Industrial Work Placement Intern Program with a placement of approximately eight weeks. As part of the intern program students have worked on a range of projects including projects directly related to pest management, such as pandanus planthopper survey and monitoring, preparation of conservation risk assessments for wild dog control and cane toad management, and pied oystercatcher monitoring.

These collaborative programs benefit both parties. They provide students with hands-on experience and NPWS with research and planning resources.

North Eastern Pest Animal Advisory Committee

This cooperative management committee discusses primarily vertebrate pest issues across an area from the NSW/Queensland border to Grafton, including the north-eastern part of the Northern Tablelands covering the New England and North Coast LHPAs. Members include the LHPA pest animal rangers and/or Board member, NSW DPI (Agriculture, Lands and Forests NSW), RSPCA, Game Council of NSW, and NPWS (North Coast, Northern Rivers and Northern Tablelands regions). The committee meets quarterly to discuss and review a range of pest programs, issues and their status, including new and emerging pests.

North Coast Weeds Advisory Committee

This committee originally formed in 1990 with a focus on a specific weed (giant Parramatta grass). Coordinating bodies such as these are required in the state to assist and facilitate the prioritisation of weed control programs and the dissemination of funding from DPI. This committee also assists NRCMA with the implementation of key weed programs throughout the Region. The committee covers an area from Nambucca Shire in the south to the NSW/Queensland border in the north and includes Bellingen, Coffs Harbour, Clarence Valley and Tenterfield shire councils as well as FNCW (Richmond Valley, Ballina, Kyogle, Lismore, Tweed, Byron shires). Other representatives include DPI (Agriculture and Forests NSW), OEH, Northern Rivers Landcare Association network, LHPA, Country Energy, NSW DPI Lands, Queensland DPI and Fisheries, North Coast Environment Council, NSW Nursery Industry Association and NRCMA.

South East Queensland Pest Advisory Forum

The South East Queensland Pest Advisory Forum provides a forum for pest-related issues to be identified and advice given to the Land Protection Council (as created by the *Land Protection (Pest and Stock Route Management) Act 2002*) which is an advisory body to the Minister. The forum is similar to the NSW North Eastern Pest Animal Advisory Committee and North Coast Weeds Advisory Committee combined, dealing with weeds and vertebrate pest issues. The committee covers a large operational area from far north Queensland to the NSW/Queensland border in the south covering 38 local government areas (prior to recent amalgamations). Representation is from various constituents including local councils, pest and weed contractors, and regional natural resource management bodies, i.e. south-est Queensland Catchments, Department of Agriculture, Fisheries and Forestry (Queensland), land protection officers, Biosecurity Queensland, and Environmental Protection Agency including DNPRSR. The meetings are hosted by local councils and administered by Biosecurity Queensland in various locations around the south east of the state.

Bungawalbin Swamp Feral Pig Management Committee

This committee was established in 2010 and covers Bungawalbin NR, NP, SCA, Yarringully NR and SCA, Bungawalbin and Doubleduke State Forests, and private land in the Bungawalbin Swamp. The committee implements actions from the Bungawalbin Swamp Feral Pig Management Strategy including control areas across multiple land tenures.

Committee members include private landholders, Richmond Valley Council, North Coast LHPA, RSPCA, Forests NSW, Bungawalbin Landcare and NPWS. The Committee meets quarterly (or as required). Funding has been received from NRCMA to implement actions from the strategy.

Newrybar Swamp Feral Pig Management Committee

This committee was established in 2001 and covers the Newrybar Swamp in Ballina Area. It coordinates the management of feral pig control across the various land tenures including private landholders, Ballina Shire Council, North Coast LHPA, RSPCA, Ballina Police and NPWS. The committee meets quarterly (or as required) to report on feral pig activity and control efforts (including numbers of pigs destroyed) in accordance with the Newrybar Swamp Feral Pig Management Strategy. Funding has been received from NRCMA to implement actions from the strategy.

Everlasting Swamp Feral Pig Management Group

There was an initial meeting held in February 2010 with neighbours and relevant stakeholders of Everlasting Swamp SCA. The aim of the meeting was to establish a coordinated approach to feral pig control in the local area. NPWS developed the Everlasting Swamp Feral Pig Management Strategy and sought agreement from landholders about the actions in the plan and their implementation. Funding has been received from NRCMA to implement actions from the strategy. Communication between stakeholders is ongoing.

Pandanus Planthopper Working Group

The working group established soon after the detection of pandanus planthopper *(Jamella australiae)* in Tweed Shire in 2004, in an effort to gain coordinated management of the pest including survey and control. The working group involves Tweed, Byron, Ballina, Richmond Valley and Clarence Valley councils, DPI Lands and Agriculture and NPWS, and has drafted a management strategy. The working group is chaired by local government and meets quarterly to discuss the status of the pest and control requirements. NRCMA has provided funding for the pest in the project area to assist the coordinated management and control of the pest.

Regional Bitou Group

Informal consultation meetings held in 2009 in preparation for the implementation of aerial spraying of bitou bush in Byron Shire led to the formation of the Regional Bitou Group, which holds biannual meetings. The group discusses planned control programs for the current financial year and the results of previous control programs across multiple land tenures. Representatives attend from NPWS, DPI Lands, Department of Defence, Ballina, Richmond Valley, Tweed, Byron and Clarence Valley councils, FNCW and NRCMA.

Regional Shorebird Group

In response to the increasing need for cooperation between local government, bird interest groups and NPWS regarding the management of threatened shorebird species (resident and migratory), the Regional Shorebird Group was formed in 2010. Representation consists of NPWS, DPI Lands, Department of Defence, Ballina, Richmond Valley, Tweed, Byron and Clarence Valley councils, and volunteer shorebird groups (e.g. Byron Bird Buddies, Tweed Bird Observers, Australian Seabird Rescue, NRCMA). Meetings are held at least twice per year and usually correlate with the shorebird breeding season between July and January. Topics of discussion include the status of breeding shorebirds, education and awareness campaigns, and bird surveys.

Bell Miner Associated Dieback Working Group

The working group was formed in 2001 following community concern relating to the impact of bell miner associated dieback (BMAD) affecting large areas of sclerophyll forests in Tweed-Kyogle Area. The condition which occurs across all tenures has significant impacts on forest values, particularly natural and economic values. The condition is often associated with serious weed invasion as forest health declines. The working group is represented by the following stakeholders: DPI, Forests NSW, North East Forest Alliance, Nature Conservation Council, Landcare, landholder representatives, NSW Apiarists, private timber industry and OEH. The primary focus of the group is to implement the Bell Miner Associated Dieback Strategy (2004), and coordinate management actions including research and adaptive management trials. The committee is administered by NPWS and meets monthly.

Regional Discovery Ranger Program

The Region supports a permanent part-time Discovery Ranger coordinator and casual Discovery Rangers who delivery a range of school education and holiday programs. A number of the programs are pest related, including the delivery of the *Trap that Toad* cane toad and *Mitch the Rainforest Snail* education kits to both schools and events such as the Big Scrub Rainforest Day held annually at Rocky Creek Dam. Other pest-related programs include feral pig awareness and pied oystercatcher protection.

Tweed Vegetation Management Committee

The Tweed Vegetation Management Committee coordinates the control of bitou bush and other weeds within Tweed Shire. Control involves aerial spraying and on-ground works within the northern containment zone. The committee comprises representation from Tweed Shire Council, FNCW, NPWS, NRCMA, local landholders and Landcare groups.

Darling Downs-Moreton Rabbit Board

The Darling Downs-Moreton Rabbit Board is responsible for the maintenance of the rabbit fence along the NSW/Queensland border. An MoU is being developed to allow staff of the Darling Downs-Moreton Rabbit Board to undertake their management activities on NPWS estate. The rabbit fence runs along the NSW/ Queensland state border which forms the boundaries of four NSW national parks: Border Ranges, Mount Clunie, Koreelah and Maryland national parks. These national parks include wilderness areas and the World Heritage Gondwana Rainforests of Australia.

The vision is of agencies working in partnership to achieve excellence in conservation and sustainable use of natural and cultural values and to prevent the incursion of rabbits into the Darling Downs-Moreton Rabbit Board operational area and into south-east Queensland through an active program of cross-border cooperation.

The Aquatic Weed Task Force

The Aquatic Weed Task Force, formerly known as the Alligator Weed Taskforce, operates on the FNCW control area. The focus of the group was originally alligator weed but has now expanded to include other aquatic WoNS listed species. The stakeholders involved in the task force include FNCW, NSW DPI Agriculture, NSW Farmers, local landholders, DPI Lands, NPWS, Wetland Care Australia and NRCMA.

Invasive Animals Cooperative Research Group

The Invasive Animals Cooperative Research Group (CRC) undertakes training, monitoring and research in wild dog demonstration sites. The CRC is Commonwealth funded and is an international research group with 46 partners. It has been undertaking cooperative research and monitoring with NPWS in Northern Rivers Region parks. The CRC was granted an extension of its funding bid for the five years from 30 June 2011. This bid will include NPWS as a partner with the possibility of a NPWS representative on the steering committee. Meetings are currently held as

required with stakeholders including NPWS, DPI Agriculture and Invasive Animals CRC.

Byron Bird Buddies

Formerly known as Belongil Bird Buddies, Byron Bird Buddies is a group of volunteers with interest in migratory and resident shorebirds and waterbirds. Members include volunteers, Byron Shire Council, Marine Parks and NPWS. The group holds quarterly meetings to discuss the implementation of the Belongil Estuary Seabird and Shorebird Management Plan, community education and awareness programs, and bird surveys.

Other local groups including Landcare

Regional staff contribute to local volunteer groups working on and adjoining parks in varying capacities. Examples of groups include Iluka Land and Dunecare Group, Angourie Landcare, Upper Wilsons Creek Landcare, Black Rocks Dunecare, Whian Whian Landcare, Couchy Creek Landcare Tweed Bird Observers, Friends of Cape Byron and Friends of Cudgen Nature Reserve.

6 Pest species overviews

Information about high profile pests for this Region is summarised below. More details regarding the distribution, impacts and management options for these and other pest species can be found in other reference documents including on the internet.[2]

The Northern Rivers Region Pesticide Notification Plan (PNP) outlines the requirements for pesticide notification in relation to the use of pesticides to control pest animal species in the Region. In the case of pest animal programs the PNP references the relevant Pesticide Control Order (PCO) for each species and bait product. Both the PNP and **Error! Reference source not found.** summarise relevant off label permits and their expiry. Staff need to check currency and applicability of the PCO and relevant off label permits prior to undertaking control programs.

Wild dog (*Canis lupus* sspp.)

Distribution and abundance

Wild dog refers to any wild-living dog in NSW, including feral dogs (*Canis lupus familiaris*), dingoes (*Canis lupus dingo*) and their hybrids. Populations of wild dogs occur mainly along the Great Dividing Range, coastal hinterlands and in north-western NSW. Wild dogs occur throughout Northern Rivers Region.

Uncontrolled domestic dogs are an ongoing issue across the landscape, particularly in the urban fringe and rural residential areas. Roaming domestic dogs are often reported as being responsible for death and injury to native wildlife, particularly koalas. Forested ranges in the Region and forested ranges adjoining reserves in Queensland provide corridors for the movement of wild dogs from one area to another.

Wild dogs are known to occur throughout the the North Coast LHPA area with their abundance greatest near the town centres of Tweed Heads, Murwillumbah, Mullumbimby, Nimbin, Kyogle, Woodenbong, Urbanville, Ballina and Lismore and in areas adjoining forested lands.

Concentrations of wild dogs are known to occur around the following local areas:

- Tyalgum/Brays Creek, Piggabeen, Minjinbil, Doon Doon, Koonyum Range, Blue Knob, Georgica, Bentley and Jiggi
- Culmaran Creek, Mummulgum, Tunglebung, Theresa Creek, Dyraaba Creek, Woolners Arm, Upper Eden Creek, Rukenvale, Grevillia, Dairy Flat, Upper

[2] www.dpi.nsw.gov.au/agriculture/pests-weeds/vertebrate-pests/general-information/pest-animal-survey
www.environment.gov.au/biodiversity/invasive/publications/humane-control.html
www.invasiveanimals.com/
www.environment.gov.au/biodiversity/invasive/ferals/index.html
www.environment.nsw.gov.au/threatenedspecies/KeyThreateningProcessesByDoctype.htm
www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/profiles
www.weeds.org.au/WoNS/
www.rirdc.gov.au/programs/national-rural-issues/weeds/weeds_home.cfm
www.weeds.gov.au/
fncw.nsw.gov.au/
www.apsnet.org/edcenter/intropp/lessons/prokaryotes/Pages/LethalYellowing.aspx
www.environment.nsw.gov.au/determinations/BufoMarinusKtp.htm

and Lower Duck Creek, and Haystack

- Busby's Flat, Rappville, Whiporie, Coledale, Tullymorgan, Lawrence and Southgate and areas north of Grafton.

Wild dogs are known to occur throughout the north-eastern portion of the Northern New England LHPA. The abundance of wild dogs is greatest surrounding residential areas such as Old Koreelah and Legume and in areas adjoining forested lands.

Concentrations of wild dogs are known to occur around the following local areas:

- Mount Clunie, New Koreelah, Captains Creek and Acacia Plateau
- Koreelah Range and Koreelah NP and adjoining forested lands in Queensland.

Impacts

Wild dogs can have significant impacts on livestock, especially sheep. As a result, wild dogs have been declared as a pest under the *Rural Lands Protection Act 1998*. Under the Act, managers of controlled land have an obligation to eradicate wild dogs by any lawful method. All land in NSW is identified as controlled land under the current Pest Control Order for Wild Dogs.[3]

Wild dogs can have both positive and negative impacts on biodiversity. Predation by wild dogs can suppress the abundance of herbivores (both native and exotic) which may be important for reducing overgrazing across much of arid and semi-arid Australia. Wild dogs may also suppress smaller exotic predators (cats and foxes) with potential benefits for a broad suite of small to medium-sized ground-dwelling mammals and ground-nesting birds. Conversely, predation by wild dogs may have significant direct impacts on threatened species (e.g. koalas).

The dingo was introduced into Australia from Asia prior to European settlement. Hence it is eligible to be considered for listing as a threatened species under the NSW *Threatened Species Conservation Act 1995* (TSC Act). Nominations to list the dingo as a threatened species and to list specific populations of the dingo under the TSC Act have been received by the NSW Scientific Committee, but no determinations have been made to date. However, predation and hybridisation by feral dogs (*Canis lupus familiaris*) has been listed as a key threatening process under the TSC Act.

Priorities for control

In order to balance the need for wild dog control with the conservation of dingoes, the Pest Control Order for Wild Dogs allows the general destruction obligation for lands listed under Schedule 2 of the Order to be satisfied through the preparation of a wild dog management plan with both control and conservation objectives. The North Coast and Northern Tablelands Livestock Health and Pest Authorities have prepared overarching plans for the management of wild dogs in their respective areas:

- Regional Wild Dog Management Plan for the North Coast Livestock Health and Pest Authority Area for the management of Schedule 2 lands as prescribed by Pest Control Order Number 17. 2011 – 2015
- Plan for the Management of Wild Dogs and their Impacts. January 2011 to December 2016.

These two plans cover all reserves within Northern Rivers Region. A further seven local-area plans will be developed to detail priority areas for control on private lands, state forest and national parks and reserves. The map below identifies the seven

[3] www.gazette.nsw.gov.au/pdfs/2009/11th_September.pdf

geographical areas, with one area within the Northern Tablelands LHPA and the remaining six within the North Coast LHPA.

Priority areas for control on park are likely to include:

- Richmond Range, Yabbra, Tooloom, Mebbin and Mount Jerusalem NPs, Mooball, Billnudgel and Mount Nullum NRs (Tweed-Kyogle Area)
- Bungabbee and Muckleewee Mountain NRs, Nightcap, Goonengerry and Bundjalung NPs and Whian Whian SCA (Richmond River Area)
- Warragai Creek, Banyabba and Mount Neville NRs, Lawrence Road, Banyabba and Pikapene SCAs, Fortis Creek and Mount Pikapene NPs (Clarence North Area)

The local plans are for the five years from 2012 – 2017 and priorities may change during or after this time.

Wild dogs (including dingoes) may also be controlled in some areas to reduce the impacts on threatened species, such as shorebird and emu protection in northern Bundjalung NP.

Management of wild dogs in visitor areas involves a risk management approach, whereby the likelihood and consequence of dingo–human interactions are evaluated. A risk-treatment plan will be developed detailing risk assessments and control strategies where necessary.

Control

Strategic and reactive wild dog control will be undertaken in accordance with the relevant wild dog management plans for each local area. All control programs will be undertaken in accordance with the standard operating procedures for wild dog control. These include:

1. ground baiting using 1080
2. soft jaw trapping
3. cage trapping.

1080 baiting will be carried out using dried meat baits prepared in accordance with the Pesticide Control (1080 Liquid Concentrate and Bait Products) Order 2010. Shooting will be undertaken only under an approved shooting operations plan.

Control of wild dogs in Schedule 2 areas will focus on the interface and boundary of parks with neighbouring properties, to target wild dogs and to minimise hybridisation with dingoes in core areas.

Strategic programs will occur in spring and autumn each year.

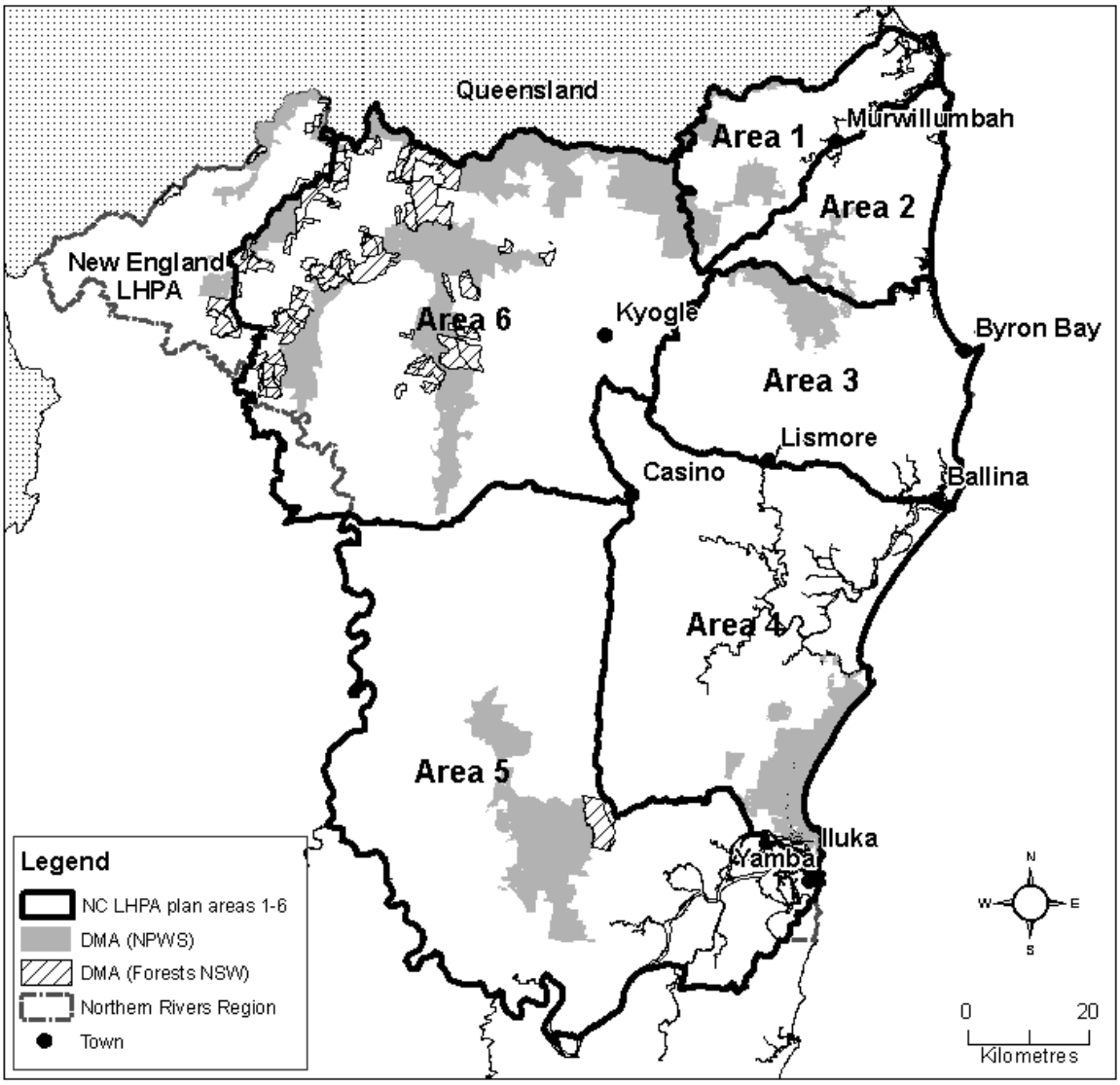
Monitoring

Monitoring will be undertaken immediately before and after strategic programs as a trigger for control and to measure its effectiveness. In particular, sand pad transects will be established and monitored for three consecutive days to assess the presence/absence of wild dogs. 1080 baiting will be established in areas of high wild dog activity. Bait stations will be monitored once a week for a period of three weeks (or longer if required). The presence/absence of wild dogs will then be reassessed post baiting by monitoring the sand pad transects for a further three consecutive days. Infrared cameras may be introduced as a monitoring tool in the future and research is currently underway to determine the most cost-effective and efficient technique.

Additional monitoring may be required in the local wild dog management plans to be finalised and as part of any risk treatment plans to manage wild dogs in areas of high human visitation. Ongoing liaison with neighbours and the North Coast and New

England LHPAs may also inform NPWS as to the distribution of wild dogs throughout Northern Rivers Region.

All NPWS data will be collected using standard monitoring forms (using IPACs where possible) and uploaded into PWIS.



Schedule 2 Dog Management Areas (DMAs) in Northern Rivers Region within North Coast Livestock LHPA planning areas 1–6 and part of New England LHPA in NPWS Kyogle Area

Red fox (*Vulpes vulpes*)

Distribution and abundance

Foxes occur in most environments in Australia; however, they are probably most abundant in agricultural areas with patches of uncleared vegetation, because these areas provide abundant food, cover and denning sites. In contrast, foxes appear to be rare in closed forest distant from cleared land.

Foxes occur throughout Northern Rivers Region, in both urban areas and bushland parks.

Impacts

The introduction of foxes into Australia has had a devastating impact on native fauna, particularly among medium-sized (450–5000 g) ground-dwelling and semi-arboreal mammals, ground-nesting birds and freshwater turtles. Recent studies have shown that predation by foxes continues to suppress remnant populations of many such species. Foxes have also caused the failure of several attempts to reintroduce native fauna into areas of their former range. Predation by foxes was the first KTP to be listed under the TSC Act. Foxes are also significant predators of domestic stock including lambs and poultry; predation by foxes has the potential to reduce lambing rates significantly.

Northern Rivers Region is the second most biodiverse region in Australia; therefore, there are likely to be many impacts of foxes within the local area. Examples of threatened species most likely to be impacted include the common planigale, red-legged pademelon, long-nosed potoroo, Hastings River mouse and bush and beach-stone curlew.

There are no major agricultural impacts of foxes in Northern Rivers Region; however there are group baiting programs coordinated by the Livestock Health and Pest Authority for general wildlife conservation purposes, and by cattle producers to reduce spread of disease, such as leptosporosis, from foxes and wild dogs to livestock.

Priorities for control

There are a number of priority species and sites in Northern Rivers Region listed in the NSW Fox Threat Abatement Plan, including the pied oystercatcher, beach stone-curlew (Richmond River, Clarence North and Tweed areas) and long-nosed potoroo (Byron Coast Area). There are three priority NPWS areas for shorebird protection:

- Richmond River NR,
- Broadwater NP
- Bundjalung NP

Tyagarah NR north of Byron Bay has been identified as a priority site for long-nosed potoroo.

Each of the priority Fox TAP sites within Northern Rivers Region are required to have a site-specific management plan (SSMP) prepared. These plans are reviewed annually and outline all of the relevant actions for both control and monitoring actions.

There are other sites within the Region particularly adjoining urban areas where the community would like to see the control of foxes. Given current restrictions (distance restrictions) there are reasonable limits on the ability to undertake cost-effective and efficient control of foxes in these areas, however it may be possible for targeted fox den fumigation and/or trapping to be implemented in these areas. Examples of these areas include Arakwal NP, Cape Byron SCA and proposed Cobaki NR Broadwater lands (purchased but not gazetted).

Control

Site-specific management plans for each Fox TAP site will identify the required actions for control. Control actions may include a combination of the following techniques: 1080 baiting, den fumigation and the use of sniffer dogs for fox/den detection. Generally, intensive broad-area 1080 baiting is being undertaken within each of the above sites, starting in July for the shorebird programs until late December annually (or till fledging and/or as resources permit). At Tyagarah, baiting

for long-nosed potoroo protection is undertaken between March and late November each year.

If particular issues (such as rogue or bait shy animals) persist, shooting and/or trapping of foxes may be undertaken by an authorised officer or approved NPWS contractor in accordance with an approved shooting operations plan.

All control programs will be undertaken in accordance with Northern Rivers Region standard operating procedures for pest animal control. There are three standard operating procedures relating to feral fox control:

- ground baiting using 1080 dried meat baits and Fox Off®
- den fumigation using DEN-CO-FUME® cartridges and fumigator
- cage trapping.

Monitoring

The impact of fox predation on pied oystercatchers, beach stone-curlews and long-nosed potoroo and the effectiveness of the control program are being assessed through long-term monitoring of priority species and fox populations.

The requirements for monitoring these key species are also outlined in the SSMPs for each site and species.

Pied oystercatchers and beach stone-curlews are monitored during the breeding season from August to January by counting the:

1. number of breeding territories (pairs) established at each of the identified locations (including GPS locations)
2. number of clutches (of eggs) laid by each breeding pair during the project period including eggs lost, addled or re-laid
3. number of clutches hatched (at least one egg) by each breeding pair
4. number of chicks/runners raised by each breeding pair and monitor their progress
5. number of young fledged.

Foxes at the shorebirds sites are monitored regularly (generally fortnightly) or as resources permit. The standard shorebird monitoring form is completed at the end of the breeding season and is analysed by the Pest Management Unit.

The long-nosed potoroo monitoring consists of annual monitoring via infrared cameras and (free fed) bait stations. Foxes are monitored by biannual binary counts on sand pads. Similarly, data is analysed by the Pest Management Unit and published periodically as part of the review of the Fox Threat Abatement Plan.

Monitoring of other fox control programs will be undertaken as required using standardised techniques.

Feral pig (*Sus scrofa*)

Distribution and abundance

The distribution of feral pigs in Northern Rivers Region is currently restricted to a few geographical locations in Ballina, Richmond Valley, Clarence Valley and Tenterfield Shires. These areas are predominantly significant wetlands on the coastal floodplain containing large areas of EECs and key threatened species. The parks and reserves where feral pigs are known to occur include:

- Ballina Nature Reserve within Newrybar Swamp in Ballina Shire

- Bungawalbin Swamp group of reserves including Bungawalbin NP, NR and SCA, Yarringully NR and SCA
- Everlasting Swamp State Conservation Area near Lawrence in Clarence Valley
- Bundjalung National Park and the adjoining Tabbimoble and Iluka nature reserves within Clarence Valley and Richmond Valley shires
- Cataract National Park and State Conservation Area in Tenterfield Shire.

Feral pigs occur in these areas throughout the year, however seasonal conditions during wet and dry periods do influence their distribution and numbers. Exact numbers of feral pigs in these areas are not currently known.

Feral pigs are also known to occur in the south-western part of the Region in Clarence North Area, the adjoining Northern Tablelands Region and in south-east Queensland. Examples of parks in these areas include Banyabba NP, Fortis Creek NP, Mount Neville NR, Warragai NR and adjoining state forests. These areas provide a source of animals to adjoining areas. In addition, feral pigs are known to occur in Cataract NP and SCA in low numbers and appear to be mobile throughout this area.

Deliberate introduction of feral pigs is still known to occur in the coastal areas of NSW; these animals have been transported from western areas for hunting purposes. The Livestock Health and Pest Authority investigate the illegal transportation and release of feral pigs.

Impacts

Predation, habitat degradation, competition and disease transmission by feral pigs is listed as a KTP in NSW under the TSC Act. Significant vegetation communities such as SEPP 14 wetlands and endangered ecological communities occur within the coastal parks of Northern Rivers Region.

Feral pigs can cause severe environmental damage by the uprooting of native seedlings in their search for food and the consumption of bulbs and roots. Feral pigs are omnivorous and can eat a wide range of food from vegetable and plant matter to animals and have even been known to feed on small frogs, reptiles, birds and their eggs, and small marsupials.

Feral pigs can act as vectors for diseases such as tuberculosis and foot and mouth disease that can cause major economic losses for neighbouring farmers and disease outbreak in humans if contracted. Public safety can also be at risk from cars striking feral pigs crossing major arterial roads that surround many of the parks, such as the Pacific Highway. Feral pigs also act as a vector for the spread of weeds through faecal deposition from the consumption of weed fruits.

Priorities for control

There are four high priority areas for control in Northern Rivers Region.

1. The Newrybar Swamp area including Ballina Nature Reserve is a critical priority due to the potential for feral pigs to impact on public safety and public health, for example in the case of a national emergency such as an outbreak of foot and mouth disease. The proximity to the local waste management facility, sewerage treatment plant, regional airport and towns of Ballina and Lennox Head make this program of critical importance. Feral pigs also impact on the biodiversity in the area including the SEPP 14 wetland areas.

2. Bundjalung National Park and the adjoining Gondwana Rainforests World Heritage listed Iluka Nature Reserve has also been identified as a critical priority area for control due to the presence of endangered ecological communities at risk from the damage feral pigs cause and predation of threatened species including shorebirds and emus. This work requires the support and assistance of the

Department of Defence at the Evans Head Air Weapons Range.

3. Bungawalbin Swamp, including the Bungawalbin group of reserves, is a priority site; the Region is working with Forests NSW and adjoining landholders to protect emus as the swamp contains a significant area of the endangered emu population of the North Coast Bioregion. Feral pigs are known to predate on emu nests, eating eggs and harassing young.

4. Everlasting Swamp SCA is the biggest open meadow wetland in coastal NSW. It contains known habitat for numerous including threatened species, such as the brolga *(Grus rubicunda),* magpie goose *(Anseranas semipalmata)* and black-necked stork *(Ephippiorhynchus asiaticus).* Feral pig control is critical to protect the vegetation communities of the swamp and the birdlife it supports.

NPWS will support programs in other identified areas where possible. This may include survey and control of in conjunction with Livestock Health and Pest Authorities, or the relevant government agency and landholders.

Control

Control of feral pigs will be undertaken in various capacities by NPWS in Northern Rivers Region involving trapping, shooting and use of 1080, where appropriate.

NPWS has prepared feral pig management strategies for three of the four priority areas: Newrybar Swamp, Bungawalbin Swamp and Everlasting Swamp. These strategies identify recommended actions for each of the respective areas in relation to feral pig control programs, including coordination and collaboration with other stakeholders including private landholders.

NPWS is a member of the Newrybar and Bungawalbin Swamps Feral Pig management committees and undertakes control as part of the implementation of the relevant feral pig management strategies. Both committees implement a collaborative approach with various land managers in the project areas across multiple land tenures.

For detailed control actions refer to these strategies. Control actions include:

- use of pig traps
- use of 1080 baits such as Pigout® for both ground and aerial application, and the use of Hog Hoppers® as a bait delivery mechanism
- aerial shooting for example in Everlasting Swamp SCA and adjoining lands
- ground shooting.

All control programs will be undertaken in accordance with the Northern Rivers Region standard operating procedures for pest animal control. There are three standard operating procedures relating to feral pig control:

- feral pig trapping
- aerial 1080 baiting
- ground 1080 baiting.

All control programs involving shooting of feral pigs must be undertaken by an authorised officer or approved NPWS contractor as per an approved shooting operations plan for the area.

Private landholders in areas surrounding Ballina and Bungawalbin nature reserves, and Bundjalung national park also undertake 'pig dogging'. Unfortunately, while some efforts may prove effective, this activity also contributes to the dispersal of feral pigs over a wider area and illegal activities on parks. Pig dogging is not permitted on NPWS estate.

NPWS will work with the relevant Livestock Health and Pest Authority and DNPRSR regarding cross-border, cross-tenure programs to achieve effective and efficient control as outlined in the feral pig management strategies.

Monitoring

Monitoring of feral pigs will be undertaken for both survey and investigation of reports and control programs. Monitoring will be undertaken in accordance with the relevant feral pig management strategies. This includes the use of both aerial and ground survey techniques. Infrared cameras have been and may continue to be deployed to assist with the monitoring of feral pig presence or absence to determine the need for and success of control programs.

Quantifying the success of control programs comes in the form of:

- recording the GPS location of traps and baits
- recording details of individuals caught (sex, weight and reproductive status)
- ongoing reports of feral pig presence/absence
- determining whether there is a reduction in feral pig numbers and the extent of damage to or destruction of affected native vegetation.

Monitoring is also undertaken for new incursions of pigs into previously undisturbed areas, and also for the expansion of known distribution to other areas, e.g. Broken Head in Byron Coast Area. This will be undertaken with liaison with and support of the relevant Livestock Health and Pest Authorities, adjoining regions and across the border regarding reports of feral pig activity and action taken. Disease will also be monitored through collection of random blood samples from trapped pigs (e.g. as part of the Newrybar Swamp Feral Pig Management Plan).

Cane toad (*Bufo marinus*)

Distribution and abundance

Cane toads are widespread in north-east NSW north of Evans Head, with small isolated populations occurring to the south, at Angourie and Brooms Head, near Yamba and at Taren Point near Sydney. Well established populations occur in the Tweed, Byron, Ballina and Lismore areas. Their current distribution extends from the coast to the west around Kyogle and Casino.

Cane toads have in most recent years appeared in Border Ranges and Nightcap World Heritage listed national parks. In Border Ranges they are found along the 42-km long Tweed Range Scenic Drive with concentrations at Blackbutt and Tweed Valley lookouts. Control in the form of collection commenced in 2005 with no records of established breeding on park. Cane toads occur in the agricultural lands adjoining Border Ranges NP including the surrounding Tweed Valley and adjacent valleys near Wiangaree, Kyogle.

Cane toads have appeared in Nightcap National Park at a similar time to those in Border Ranges National Park, but in somewhat lower numbers. They have been long established in the valleys leading up to the park, such as Terania Creek, but have only just reached there since 2010. Limited control has been undertaken since this time.

The major floods of January 2008 and December 2010 – January 2011 are likely to have contributed to the spread of cane toads in the Kyogle, Richmond and Clarence Valley local government areas.

Cane toads have also been recorded as isolated populations in the Mororo and Woombah areas. Clarence Valley Conservation in Action Landcare has been actively

collecting toads in these areas with members of the public to reduce the spread into other areas including NPWS estate.

Vagrants are regularly reported in Sydney, Wollongong, Coffs Harbour and the Central Coast area. Vagrant reports are typically only one animal, often found near tourist parks or landscape and nursery supplies or along railway or highway corridors.

Impacts

The cane toad is poisonous at all stages of its life (eggs, tadpoles, toadlets and adult toads) and they impact on native fauna during all of these stages. Their ability to survive in a range of habitats and wide temperature ranges (5–40°C) increases their threat to native species. Insects, smaller toads and native frogs, small snakes and the occasional small mammal are all part of the cane toads' diet. Not only do they prey on native fauna, but they also compete for food, shelter and breeding sites. Summers in Northern NSW provide ideal breeding conditions. Females lay 8000–35,000 eggs at a time and may lay two clutches each year.

Invasion and establishment of cane toads is listed as a KTP under both NSW (TSC Act) and Commonwealth (EPBC Act) legislation.

The native species most likely to be impacted at the population level in Northern Rivers Region include the spotted-tailed quoll (*Dasyurus maculatus*), common planigale (*Planigale maculate)*, giant barred frog (*Mixophyes iterates*), and Fleay's barred frog (*Mixophyes fleayi*).

Priorities for control

Priorities for control are guided by the NSW Management Plan for Cane Toads on National Parks and Reserves Estate July 2011.

1. Action 1: Identity and eradicate outlier populations of cane toads on park. The following known populations of cane toads on or immediately adjacent to parks were thus identified as outliers:
    - Bundjalung National Park
    - Mororo Creek Nature Reserve and surrounds
    - Yaegl Nature Reserve
    - Angourie, including northern end of Yuraygir National Park
    - Brooms Head, adjacent to Yuraygir National Park.
2. Action 2: Undertake surveillance for and respond to new populations of cane toads on park beyond their current distribution. NPWS staff will submit observations of cane toads on or near park outside the containment line to the Atlas of NSW Wildlife.
3. Action 3: Identify priority sites for management on parks in those areas of NSW where cane toads are established and widespread and initiate control programs.

Two priority sites for the control of cane toads on parks within the containment line were identified:

- Border Ranges East
- Nightcap (including Whian Whian State Conservation Area).

Control

NPWS will prepare Site Specific Management Plans (SSMPs) for identified priority sites outlining the actions for cane toad management, monitoring requirements, resources required, stakeholders and timetable.

Cane toad SSMPs will need to be prepared for each of the outlier sites (on-park) listed above and the priority sites (on-park) within the containment line.

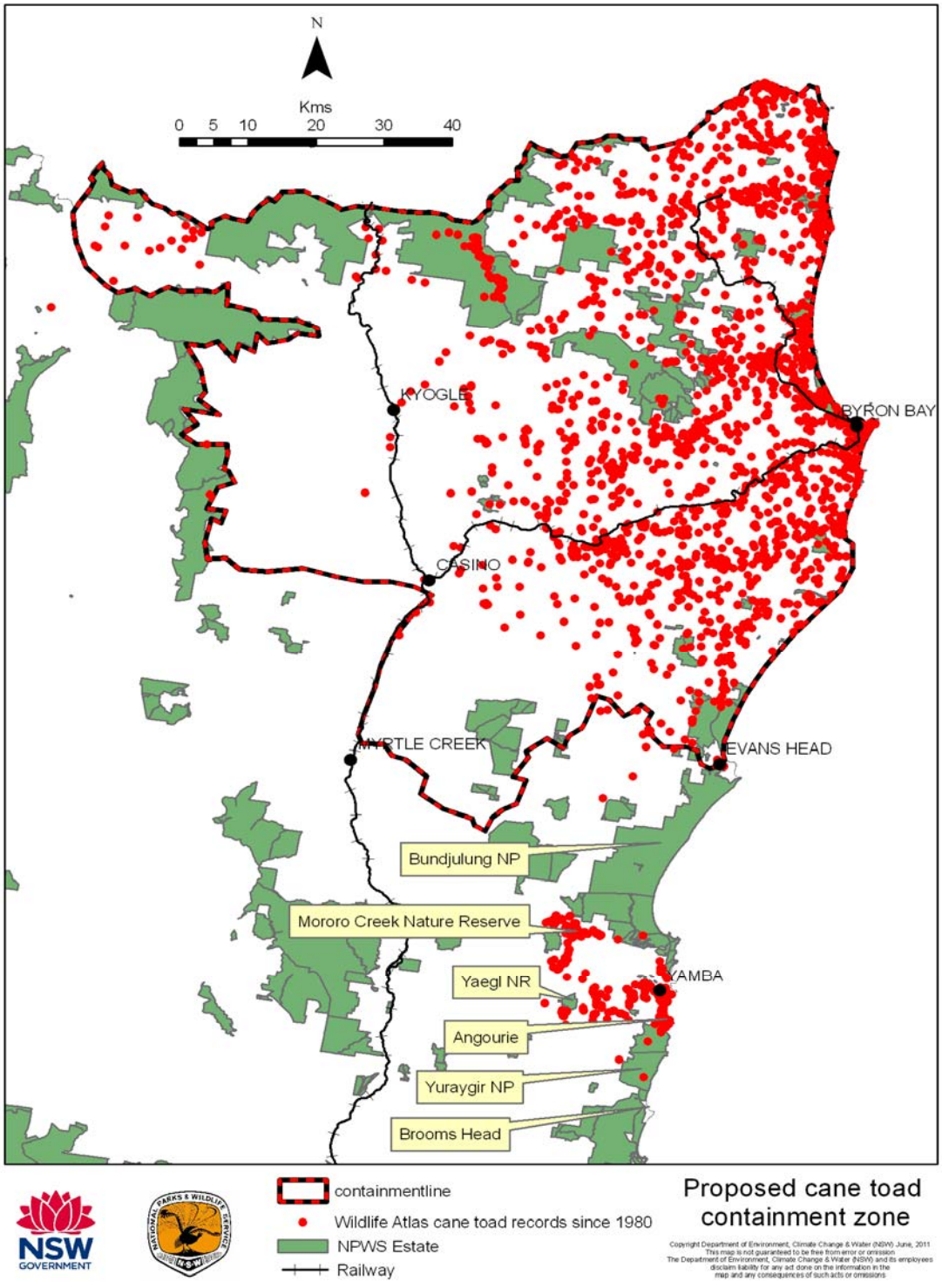
Public education and awareness, and encouraging members of the public to correctly identify cane toads and undertake appropriate control, remain the main focus of control for the Region.

Where possible, control programs will be implemented in the high priority parks during the cane toad season from spring to autumn each year.

Sightings and new reports from the public are crucial in providing a quick response to new incursions. NPWS staff will seek to confirm the status of new sightings outside the established areas within, or in close proximity to, NPWS parks.

Monitoring

- Monitoring for all outlier and high priority sites will be in accordance with the approved SSMPs.
- All control programs (involving trapping and manual collection) will record the location, numbers collected, sex and size (if possible).
- Data for PWG collated by Coastal Branch will be forwarded to the regional office for review and distribution to key stakeholders.



Proposed cane toad containment zone.

Feral cat (*Felis catus*)

Distribution and abundance

Cats have been present in Australia at least since European settlement, and may have arrived as early as the 17th century. Feral cats are now found throughout Australia. There are estimated to be 400,000 feral cats in NSW and around 12 million across Australia. Feral cats are solitary and predominantly nocturnal. Studies in western NSW have shown that males usually occupy a home range of 280 hectares, while females have smaller ranges of about 150 hectares, but this may be larger if food supplies are scarce. They are less common in closed forests, preferring open, drier habitats such as grasslands.

Although no specific systematic surveys have been undertaken in Northern Rivers Region, feral cats have been recorded during sand padding surveys undertaken for Fox TAP and wild dog control programs. It is believed that feral cats are present to varying degrees in all parks, particularly near urban and rural areas. Feral cats have been recorded in numerous parks and reserves including Nightcap, Bundjalung, Yabbra and Mebbin. It is also possible that roaming domestic cats rather than feral cats are observed in parks that adjoin private property and located near urban areas.

Impacts

Feral cats are carnivores and can survive with limited access to water. They generally eat small mammals, but also catch birds, reptiles, amphibians, fish and insects, taking prey up to the size of a brushtail possum. There is clear evidence that feral cats have had a significant impact on island fauna. On the mainland, they contributed to the extinction of many small- to medium-sized mammals and ground-nesting birds, particularly in the arid zone. In some instances, feral cats have directly threatened the success of recovery programs for endangered species.

Threatened species recorded in Northern Rivers Region that are known to be predated on by feral cats include Hastings River mice (*Pseudomys oralis*), ground parrots (*Pezoporus wallicus*) and grass owls (*Tyto capensis*). Feral cats also carry infectious diseases such as toxoplasmosis and sarcosporidiosis, which can be transmitted to native animals, domestic livestock and humans.

Predation by feral cats is listed as a KTP under the EPBC Act and TSC Act. The TAP for Predation by Feral Cats has been produced under the EPBC Act and there is currently no plan under the TSC Act.

Priorities for control

Northern Rivers Region will continue to implement strategic control as part of integrated pest management programs, such as Fox TAP and wild dog control and other priority threatened species programs. For example, at Bundjalung NP control is integrated with Fox TAP work for shorebird protection.

Northern Rivers Region will investigate cost-effective and efficient ways to monitor and manage feral cats and support research with the Pest Animal Cooperative Research Centre (CRC). Northern Rivers Region will trial any appropriate new control techniques where possible, for example the use of sniffer dogs.

Control

Control of feral cats is problematic as they are hard to trap, do not readily take baits unless during periods of food shortage, and are generally difficult to shoot as they avoid human contact. Even if feral cats are removed from an area, it is quickly recolonised (Dept. Environment and Heritage 2004). Audible recorded lures for feral

cats and other predators are available through a number of sources. Night shooting is assisted by the cat's distinctive, green eyeshine. Rubber-jawed, leg-hold traps can be laid in the same manner as they are laid for wild dogs and foxes. Cats can also be trapped in wire 'treadle-type' box traps, although this method is most practical for semi-feral urban cats (Queensland Natural Resources 2006).

All feral cat control will be implemented in accordance with the national codes of practice and standard operating procedures for cat control. All programs will additionally comply with the regional standard operating procedures for soft jaw and cage trapping.

Roaming domestic cats will be managed by NPWS staff by encouraging neighbours to adequately control their domestic pets and prevent their straying onto NPWS parks.

Monitoring

- The use of sandpadding and infrared cameras on NPWS tracks and trails can provide some indication of feral cat distribution and abundance within reserves.
- Sniffer dogs may be used to assist with cat detection (scent and sign) and control programs.
- Data collected from these forms of monitoring will be recorded and uploaded into Arc GIS.
- Feral cat information will continue to be recorded as part of the implementation of the NSW Fox TAP and regional wild dog control programs.

Indian or common myna (*Acridotheres tristis*)

Distribution and abundance

The Indian or common myna (*Acridotheres tristis*) is thought to have been introduced into Australia from south-east Asia in the 1860s. The species has spread through natural dispersal and by deliberate introductions from the original release sites of Melbourne and Sydney to most of coastal eastern Australia. In recent years it appears that populations of Indian mynas have increased and expanded their habitat from areas with close association to human habitation to include open pasture lands and open forest.

Indian mynas are widely distributed throughout the Region, including all local government areas particularly in the coastal areas adjoining major towns and cities. Birds have been identified in numerous locations including Grafton in the south, Tenterfield, Woodenbong, Old Bonalbo, Kyogle and Lismore in the west, including Ballina, Byron Bay, Mullumbimby and Tweed Heads in the north. The only confirmed population on park is at the Arakwal Depot in Arakwal NP.

Impacts

The Indian myna is a very intelligent and aggressive bird that is known to evict native birds, such as parrots, kookaburras and pee wees from their nests, dump out their eggs, chase them away from their nests, and drive them away from the area. In urban habitats they are considered to be a threat to the long-term survival of native birds. Indian mynas are also suspected of contributing to the spread of certain weed species such as bitou bush.

Priorities for control

In 2009, Northern Rivers Region with the collaboration of local government, Landcare, Forests NSW, DPI Lands, and other stakeholders (known as the Northern

Rivers Indian Myna Action Group) formulated the Northern Rivers Indian Myna Action Plan 2009–2015. This plan identifies desired outcomes and priority actions for the relevant stakeholders. Northern Rivers Region will implement high priority actions identified in this plan as required and with available resources. Northern Rivers Region will encourage local government and community groups, such as the Tweed Bird Observers, to continue the implementation of control programs to reduce the risk of spread onto park estate. Byron Coast Area will undertake control of Indian mynas in Arakwal NP as a critical priority.

Control

Active trapping programs are being implemented in most local government areas, supported largely by local government and Landcare. Trap design varies; one system was developed at the Australian National University. All control will be in accordance with the DPI National Codes of Practice and Standard Operating Procedures for Pest Bird Control. NPWS staff will undertake trapping programs in Arakwal NP as required.

Monitoring

- Northern Rivers Region staff will actively record and maintain information on the locations of Indian mynas (especially new locations) and enter this information into a database such as the Wildlife Atlas.
- Northern Rivers Region will continue to operate as a member of the Northern Rivers Indian Myna Action Group to implement the priority actions as required, including the review of the plan in 2015.

Pandanus planthopper (*Jamella australiae*)

Distribution and abundance

The planthopper occurs naturally in far north Queensland but has been introduced to southern Queensland and the far North Coast through plant trade and natural spread. It was first recorded in Northern Rivers Region in March 2004 on the Tweed Coast near Kingscliff and Bogangar on council-managed lands. It was not detected in adjoining areas of NPWS estate. Further extensive surveys in 2005 identified the insect in the Byron and Ballina shires. The survey indicated that Cape Byron State Conservation Area was the only NPWS area where active insects were present.

Infested trees in Cape Byron SCA showed variable signs of damage, primarily the presence of sooty mould and leaf yellowing. This indicated an early stage of infestation and control was initiated immediately. All other areas of NPWS estate in Northern Rivers Region continue to remain free of the planthopper, although recent presence has been identified on trees in Cape Byron SCA and Arakwal National Park near the Byron Coast Area office and depot.

The residual effect of chemical treatment (stem injection) in Byron Area has been effective for a period of five years. New incursions have been detected in newly planted trees and others that were previously affected, suggesting that the long-term effect of the insecticide has expired.

Generally, all known records and new reports have been restricted to the Tweed, Byron and Ballina shires north of the Richmond River, and have occurred largely through imported landscaping plants from Queensland. There has been an isolated site in Yamba where a landscape-planted tree died from planthopper dieback; it was assumed to have been infected prior to its arrival.

Impacts

The pandanus planthopper causes dieback in the pandanus palm (*Pandanus tectorius*), an iconic tree of the North Coast. Heavy infestations of the planthopper feeding between the tightly packed leaves of pandanus trees destroy leaf tissue and produce large amounts of honeydew, which encourages the growth of moulds. Affected leaves drop and growing points die. Tree death follows within 3–18 months of the initial infestation.

Since its initial detection in the local area several trees have already died (off park) between Tweed Heads and Yamba. There is potential for the infestation to spread through natural pandanus populations. Local extinctions of pandanus could occur if these infestations are left unchecked.

Priorities for control

Broken Head Nature Reserve has over 1500 pandanus trees and maintaining these trees free from planthoppers is a critical priority for Northern Rivers Region. Other high priorities are maintaining control of planthopper in Cape Byron SCA and Arakwal National Park, and continued surveillance in other coastal parks where the planthopper has not yet established across the Region, e.g. Wooyung and Cudgen nature reserves and Iluka Nature Reserve.

Control

There are three potential methods of control:

1. chemical (involving stem injection, foliar spraying, or a combination of both, e.g. Confidor® 200SC)
2. physical (leaf stripping and offsite disposal of affected leaves)
3. biological (a native wasp predator).

A combination of the use of insecticides and leaf stripping (and disposal) will be used. For example, all affected trees in Cape Byron SCA have been treated with an insecticide. Pandanus trees in Wooyung and Cudgen nature reserves and Arakwal National Park are only a short distance from existing infestations and have been treated with a systemic insecticide as a preventative measure.

A coordinated control program across land tenures will be essential to prevent further infestations within the current distribution, and to prevent the establishment of planthoppers in areas where they are absent.

Monitoring

- Regular surveys (summer–autumn) in high risk areas will be undertaken to detect presence/absence of planthopper and pandanus tree health.

Surveys will be conducted and data captured using the standardised survey methodology and data forms (available electronically in ArcPad on the IPAQ).

Rabbit (*Oryctolagus cuniculus*) and brown hare (*Lepus capensis*)

Distribution and abundance

Rabbits are found in most habitats throughout Australia below the Tropic of Capricorn, except in densely forested areas, above 1500 m or on black soil plains. The distribution of rabbits is widespread across rural lands on private property, however limited on parks in Northern Rivers Region. The extent of rabbit populations is restricted to the border between NSW and Queensland adjoining the rabbit fence,

e.g. Koreelah national park, maintained by the Darling-Down Moreton Rabbit Board, and the interface between rural and residential areas in the Region, for example, the Alstonville Plateau and areas west of Lismore, Iluka township and Arakwal National Park in Byron Bay.

Occasional sightings of hares are reported within the coastal parks, such as Cudgen Nature Reserve and Arakwal National Park. Hares have also been reported in Victoria Park on the Alstonville plateau.

More recently small populations of domestic bred pet rabbits have been released. There have been two populations requiring control, one at Casuarina Beach adjoining Cudgen Nature Reserve and another in Lennox Head.

Impacts

Rabbits have significant impacts on native vegetation. Selective grazing and browsing of more palatable species leads to changes in species composition and habitat structure and, even at low densities, rabbits can prevent the regeneration of impacted species through consumption of seed and seedlings. During drought, rabbits will also consume the bark and roots of native species, resulting in the death of large numbers of plants.

Their digging activities also scratch out seedlings and damage root systems, and combined with the damage they cause to both above and below ground vegetation, can lead to increased soil erosion. The resultant habitat degradation in turn affects native fauna, which may also be impacted by rabbits through competition for food and shelter. Rabbits also provide a food source for cats and foxes, maintaining high numbers of these introduced predators which in turn impact native prey species.

Competition and grazing by the feral European rabbit has been listed as a KTP under the TSC Act, and rabbits are declared a pest animal under the Rural Lands Protection Act.

Rabbits can also cause damage to Aboriginal heritage sites, compete with neighbouring livestock and impact forestry operations. The impacts of rabbits have been reduced since the release of myxomatosis and, more recently, rabbit haemorrhagic disease (RHD); however, even at low densities rabbits can prevent the regeneration of impacted plant species, and recent reports suggest rabbit numbers may be increasing again.

Priorities for control

There are mixed priorities for feral rabbit control in the Region:

- high priority – in Iluka Nature Reserve and the adjoining Bundjalung NP; this will require the collaboration between residents of Iluka township, Clarence Valley Council, the local Livestock Health and Pest Authority and NPWS to prepare a plan of proposed control activities and implementation schedule across all tenures
- medium priority – in Arakwal NP in collaboration with Byron Bay High School
- medium priority – in Cudgen Nature Reserve in collaboration with Tweed Shire Council and residents of the Casuarina Beach estate as required; this includes feral domestic rabbits

Liaison with the relevant Livestock Health and Pest Authority, Darling Downs–Moreton Rabbit Board and DNPRSR regarding new incursions of rabbits, and issues relating to the Queensland/NSW Rabbit Fence is a priority.

The control of hares is a lower priority program in the Region.

Control

There are a number of approved control methods for rabbits, including pesticides, such as Pindone® based products, warren fumigation, shooting and biological control such as RCD. Control programs have been implemented in Arakwal National Park with the assistance of the North Coast Livestock Health and Pest Authority using Pindone®. NPWS has also assisted with control programs at Casuarina Beach to reduce spread into the adjoining Cudgen Nature Reserve. Various other control programs organised by the North Coast Livestock Health and Pest Authority are undertaken on agricultural land in the Region using a variety of control measures, primarily Pindone® and RCD.

Monitoring

- Monitor previously infested and controlled areas for presence/absence of rabbits.
- Investigate reports of new areas of invasion in the Region in conjunction with North Coast LHPA.
- Liaise with the Tweed-Kyogle Area, Darling-Downs Moreton Rabbit Board and Queensland Parks and Wildlife Service regarding rabbit issues on the NSW–Queensland border. This will be periodically reviewed.

Weed species

Note that not all weed species in Northern Rivers Region are included in the following profiles. The species that currently represent high risk or potential high risk to biodiversity are included in the profiles. A summary of KTPs relevant to Northern Rivers Region is in Appendix 4 and a list exotic grasses is in Appendix 5.

The PNP outlines the requirements for pesticide notification in relation to weed control activities in the Region and should be referred to for all weed control activities. Both the PNP and **Error! Reference source not found.** summarise relevant off label permits and their expiry. Staff need to check currency and applicability of relevant off label permits prior to undertaking control programs.

Bitou bush (*Chrysanthemoides monilifera* subsp. *rotundata*)

Distribution and abundance

Bitou bush is currently listed as a WoNS. It is a Class 4 declared noxious weed in FNCW and in Clarence Valley Council operational areas. FNCW has recommended that bitou bush be reclassified as a Class 3 noxious weed in Tweed Shire to complement the boundary of the northern containment zone.

The northern containment zone is identified as a buffer between northern NSW and Queensland to reduce the spread of bitou from NSW to Queensland. It has expanded from its original size to cover the Tweed Coast within Tweed Shire Council. A number of NPWS reserves fall within this zone managed by NPWS Tweed Area. The bitou bush control actions implemented in this area are coordinated by Tweed Shire Council through the Tweed Coast Vegetation Management Committee.

Bitou bush is a common weed in coastal parks along Northern Rivers Region coastline. The distribution of bitou bush includes all coastal local government areas: Tweed, Byron, Ballina and Richmond and Clarence Valley. Most of these councils and, in particular, Tweed Council, have extensive programs to control bitou bush in their areas, including the use of aerial spraying.

A large proportion of the coastal parks were formerly sandmined. These areas

have areas of bitou bush which are extensive both in area and density.

Areas affected by bitou bush include Tweed Estuary NR, Tweed Heads Historic Site, Ukerebagh NR, Cudgen NR, Wooyung NR, Billinudgel NR, Brunswick Heads NR, Marshall's Creek NR, Tyagarah NR, Cape Byron SCA, Arakwal NP, Ti-Tree Lake Aboriginal Area, Broken Head NR, Richmond River NR, Dubay Jarjum Nurahm AA, and Broadwater and Bundjalung NPs.

Queensland has undertaken extensive bitou bush control programs in an attempt to eradicate the weed. Ongoing programs intend to further restrict the distribution and abundance.

Impacts

Invasion of native plant communities by bitou bush and boneseed is listed as a KTP under the TSC Act. In 2007, a Northern Rivers Regional Bitou Bush Strategy 2007-2012 was prepared to identify and summarise the Region's commitment to implement the NSW Bitou Bush TAP.

Bitou bush has a high visual impact because of its presence over vast areas of the coastline. It is a highly competitive weed that displaces native vegetation in coastal environments. It is an aggressive invader and coloniser of dunal systems and nearby coastal environments. It is a prolific seeder with a seed viability of up to three years.

Bitou bush can impact sites of cultural significance, such as bora rings, and requires control. It provides shelter and food for introduced pests, such as European rabbits and foxes. Foxes and many native bird species feed on the black fruits, the seeds of which are then effectively and widely dispersed.

Priorities for control

As identified in the Northern Rivers Region Bitou Bush Strategy 2007-2012, there were 24 significant sites ranked in terms of their regional priority. The sites listed below have now been incorporated into BPWW.

Park/Reserve	TAP Site Number	Regional Priority	State Priority cat 1	State Priority cat 2	State Priority cat 3	State Priority cat 4
Cape Byron SCA	NR29	1	2			
Broken Head NR	NR36	2	3			
Brunswick Heads NR	NR25	3	11			
Woody Head	NR70	4	22			
Arakwal NP	NR32	5	31			
Bundjalung NP (snapper rock)	NR66	5	31			
Cudgen NR	NR 9	7	33			
Broadwater NP	NR61	8	39			
Bundjalung NP (north)	NR64	9	41			
Wooyung NR	NR18	10	49			
Iluka NR	NR73	11	58			
Bundjalung NP (ten mile beach, bombing range)	NR63	12	68			
Bundjalung NP (Middle Bluff)	NR71	12	68			
Bundjalung NP (Iluka Bluff)	NR65 + NR72	14	72			
Billinudgel NR	NR21	15	81			
Bundjalung NP (multiple sites)	NR67	16	115			
Ukerebagh NR (mainland)	NR2	17	119			
Wooyung NR (north)	NR16	18	123			
Marshalls Creek NR	NR23	19		171		

Tyagarah NR	NR26	20		174		
Richmond River NR	NR58	21		207		
Bundjalung NP (Sharks Bay)	NR69	22		208		
Ukerebagh Island NR	NR1	23			250	
Tweed Estuary NR	NR6	24				321
Ballina NR	NR42	24				321

Site-specific management plans have been prepared for most of the parks and reserves in the Region, and it is a priority that the remaining areas have SSMPs prepared.

Bitou bush control will be undertaken in accordance with the priority sites, with higher priority given to the northern containment zone sites in Tweed Area. Some of these sites are a lower priority in the TAP and some of the lowest priorities in the Region. However, to achieve the control actions for the northern containment zone they need to be a higher priority regionally. For example, in Wooyung NR the main focus should be on containment (as it is north of the containment line), so it has been classified C-NE.

In 2009, the Region established the Regional Bitou Bush Committee with local government, the local weed authority, DPI Lands and NRCMA to increase collaboration and cooperation for bitou bush control across the Region. The idea to form the committee originated from the NPWS commitment to undertake aerial spraying of bitou bush at Cape Byron SCA and Broken Head NR and the success of the communications about the aerial spray program. The committee provides an ongoing opportunity for collaboration across tenure. NPWS and the committee members, while focusing on priority sites (both on and off park), are trying to achieve bitou bush control between sites to eliminate further sources of bitou bush invasion into work areas. The current work sites have been mapped by the group to demonstrate the area of work under treatment and management.

Opportunities may also exist for external funding to conduct weed control and bush regeneration on parks and reserves. Richmond River NR is currently receiving funding from the NSW Environmental Trust through an EnviTE funded project. This will see the control of bitou bush in the reserve, an improvement in shorebird habitat and general restoration of native plant communities in the reserve.

Control

All control is carried out with a systematic and integrated approach as outlined in the relevant PMPs, R&Rs and SSMPs as part of a staged method of control. There are three methods of control currently in use in Northern Rivers Region:

- physical – hand weeding, suitable in sensitive areas or for follow-up
- chemical – herbicide spray of glyphosate and metsulfuron methyl, application by aerial spot spray, overspray, aerial boom spray, or cut and paint
- biological – the bitou seed fly (*Mesoclanis polana*) has been successful in reducing seed production by up to 50%; the bitou tip moth (*Comostolopsis germana*) has established in some areas of the NSW coast.

For recommended control actions see the Northern Rivers Region Bitou Bush Strategy and individual site specific management plans.

Of particular importance is a large-scale bitou bush control program between Clarence North and Richmond River Areas and the Department of Defence. The cross-area program was formerly a cross-regional program that commenced after wild fires during 2001–02, and covers approximately 38 km of coastline including Bundjalung NP, Iluka NR and the Evans Head Air Weapons Range. This program has seen extensive aerial spraying and spot spraying of bitou bush, as well as follow-

up on ground works and monitoring.

The northern containment zone between northern NSW and the Queensland border, where NPWS has been implementing bitou bush control on a number of reserves as part of the containment action, includes Ukerebagh Island, Tweed Estuary Islands, Cudgen, Wooyung and Billinudgel nature reserves as part of the prevention of re-invasion to south-east Queensland.

Monitoring

- Northern Rivers Region will implement identified monitoring techniques outlined in the SSMPs for each site as per the Bitou Bush TAP and the Monitoring Manual for Bitou Bush Control and Native Plant Recovery.
- Daily records sheets are kept in accordance with the Pesticides Act.

Mapping will be undertaken to record the total area treated and extent of infestations following treatment in the Pest and Weed Information System (PWIS).

Lantana (*Lantana camara*)

Distribution and abundance

Lantana is a WoNS. It is a widespread, commonly occurring weed throughout all parks from the coast to the western areas of Northern Rivers Region. It occurs as both an edge and understorey species in a range of vegetation communities in varying densities. Lantana has vigorous growth habits, particularly in high rainfall parks such as Nightcap, Wollumbin and Border Ranges national parks and Numinbah and Limpinwood nature reserves. It readily invades disturbed plant communities particularly after fire and previous management operations, such as logging, and as a result extremely dense infestations are common in areas of former state forests such as Mallanganee, Toonumbar, Richmond Range, Tooloom and Yabbra national parks.

Impacts

Lantana invades both disturbed and undisturbed bushland. In moister environments, lantana is a particularly aggressive coloniser and forms extremely dense infestations that totally smother native vegetation and inhibit natural regeneration.

In some instances, lantana infestations on the edge of parks can restrict the entry of cattle from adjoining properties. In isolated rainforest remnants, it can protect vegetation from drying winds and excessive sunlight. Lantana can also provide shelter for many native animals, including threatened species. It is essential that these issues are taken into account when developing and implementing weed control and/or restoration programs.

Changes in the forest structure of previously logged areas, such as Toonumbar National Park, has greatly modified the habitat for native animals and birds. A dense understorey of lantana is now present in these areas and of particular concern are large areas of eucalypt dieback associated with overpopulation of bell miners at Toonumbar National Park. This indicates a possible imbalance in ecological processes within the ecosystem.

Invasion, establishment and spread of *Lantana camara* is listed as a KTP under the TSC Act. OEH and Biosecurity Queensland have developed a national plan to abate, ameliorate or eliminate the threat posed by lantana to biodiversity. This plan established national conservation priorities for the control of lantana.

Priorities for control

The plan established national conservation priorities for the control of lantana, and is consistent with actions in the Australian Weeds Strategy which outlines the need for asset protection for the management of widespread weeds.

There are currently 28 sites in Northern Rivers Region that have been listed in the national Plan to Protect Environmental Assets from Lantana. These sites are summarised in the table below and have been incorporated into BPWW.

Not all sites with lantana infestations have been listed in the national plan, as environmental assets in the plan are defined as native species, populations, regional ecosystems and ecological communities. Some NPWS sites with lantana infestations are limited to park boundaries, roadsides and other disturbed areas where aesthetics and access are likely to be most affected.

Park/ Reserve	**Lantana Plan site ID number**	**Control category**
Brunswick Heads NR (Nth)	1-5	1
Mooball NR	1-1	1
Inner Pocket NP	1-3	1
Duroby NR	1-7	1
Border Ranges NR	1-82	1
Toonumbar NP	2-3	1
Cudgera Creek NR	2-2	1
Mallanganee NP	1-23	1
Bundjalung NP	1-24	1
Mount Jerusalem NP	1-38	1
Mount Neville NR	2-33	1
Banyabba NR	2-120	1
Bundjalung NP	1-43	1
Bundjalung NP	part 2-77	1
Iluka NR	1-29	1
Bundjalung NP	1-65	1
Fortis Ck NP	2-117	1
Wombat Ck NR	2-118	1
Mount Pikapene NP	1-51	1
Banyabba NR and SCA	2-119	1
Bundjalung NP	1-68	1
Bundjalung NP	1-44	1
Bungabbee NR	2-16	2
Border Ranges NR	3-17	3
Tooloom NP	4-21	3
Captain's Creek NR	4-1	3
Mount Nothofagus NP	6-6	4
Mebbin NP	4-28	4

In Northern Rivers Region, lantana is controlled as part of overall restoration and weed control programs, threatened species and world heritage management, roadside maintenance and visitor facility maintenance. These programs vary from critical to medium priority. Examples include Wollumbin, Border Ranges (eastern bristlebird habitat), Toonumbar (Murray Scrub), Mallanganee (*Myrsine richmondensis*) and Nightcap national parks and the Big Scrub Rainforest Remnants such as Victoria Park and Davis Scrub nature reserves.

Biological control agents have been released as part of the NSW Environmental and Aquatic Weeds Biocontrol Taskforce program. There have been various release sites in the Region, including Wollumbin and Border Ranges national parks. NPWS staff will continue to assist with this program where practicable.

Lantana is strategically controlled at trial sites, including Sheepstation Creek in Border Ranges National Park. Additionally, NPWS staff are working with the BMAD Working Group on large-scale control programs to reduce the impacts of BMAD, and projects funded by the federal government's Caring for Our Country (CFOC) program to protect reserves listed on the Gondwana Rainforests of Australia program.

Control

Control actions for implementation are identified in the park- or reserve-specific pest management and restoration and rehabilitation plans (where available), threatened species recovery plans or site-specific management plans (as required by the national Lantana Plan and the Gondwana CFOC programs).

A combination of manual and herbicide techniques, including splatter gun, are used to maximise native regeneration potential. Splatter gun technique refers to high concentration and low volume glyphosate mixture in a large droplet form as described by Somerville et al. (2011). Due to the nature of weed growth in Northern Rivers Region, repeat treatments are required as part of the primary, secondary and maintenance modes of control.

Monitoring

The National Plan to Protect Environmental Assets from Lantana recommends the use of the Monitoring Manual for Bitou Bush Control and Native Plant Recovery, as it can easily be adapted for this weed.

- Implement monitoring requirements as outlined in site specific management plans and report accordingly.
- NPWS staff and contractors will document treatment details on chemical users' forms in accordance with the Pesticides Act, including GPS locations.
- Sites are revisited periodically for follow-up treatment and maintenance.

Exotic vines

Distribution and abundance

There are 39 KTP-listed species of invasive exotic vines and creepers in Northern Rivers Region. A number of these are adversely impacting on native vegetation, especially in rainforest parks and bushland environments in close proximity to urban areas, and adjacent to watercourses. These vines are common throughout Northern Rivers Region, particularly the Tweed, Lismore, Ballina, Byron and Richmond Valley and Clarence Valley council areas. Exotic vine infestations are becoming more prevalent in Kyogle and Tenterfield shires and particularly in the Upper Clarence catchment.

Seeds are spread by water, wind, birds and/or flying-foxes, resulting in widespread infestation. A number of exotic vines and scramblers are currently recognised as significant environmental weeds. Generally, exotic vines and scramblers are widespread, and locally abundant in the eastern part of NSW.

They include Madeira vine (*Anredera cordifolia*), asparagus species (*Asparagus aethiopicus*, *Asparagus africanus*, *Asparagus plumosus*), cat's claw creeper (*Macfadenya unguis-cati*) and kudzu (*Pueraria lobata*). In 2012, these vines were listed as WoNSs.

National management groups for Madeira vine, cat's claw creeper and asparagus weeds may be formed. The national strategies developed will also document containment strategies based on occurrence and distribution data.

The NSW Environmental and Aquatic Weed Taskforce is currently developing biocontrol agents for cat's claw creeper.

Impacts

Invasion and establishment of exotic vines and scramblers is listed as a KTP under the TSC Act. Many of the more invasive species, such as kudzu, have recently been declared as Control Class 3 noxious weeds.

Exotic vines and scramblers may act as transformer species, altering the nature of the environment where they become dominant. Rainforests are susceptible to invasion by exotic vines particularly after canopy disturbance. Exotic vines and scramblers may smother existing vegetation, in both the ground layer and canopy. This alters the light climate in the invaded community and may suppress regeneration of native species. The sheer weight of exotic vines may cause breakage of branches in the canopy, and in some cases total canopy collapse. Some species, for example, tradescantia (*Tradescantia fluminensis*) and greater periwinkle (*Vinca major*), form dense ground cover carpets that suppress native species. In sclerophyll communities, exotic vines and scramblers are more mesic than the native species, and may change the nature of the fuel and thus alter fire behaviour and regimes.

Invasion by exotic vines and scramblers can also alter other biotic aspects of communities, such as the abundance and diversity of plant-dwelling invertebrates. Dense smothering blankets or thickets of exotic vines and scramblers may also restrict movement of some native fauna and adversely affect their ability to access water or other resources (while sometimes favouring other fauna by providing protective shelter and/or food). Exotic vines and scramblers such as *Asparagus* spp. form masses of tuberous roots that may alter the biota of the soil and litter, change rates of litter decomposition and nutrient cycling and compete for water and mineral nutrients with other plant species. They may also create a humid microclimate at ground or lower trunk level, favouring pathogenic attack and altering soil moisture and nutrient fluxes. Riparian vegetation is particularly prone to infestation by vines such cat's claw and Madeira vine due to high water and nutrient availability.

Priorities for control

The Region conducts weed control, including vines and creepers, in a number of rainforest reserves focusing on the restoration and rehabilitation of the native plant community. Additionally, BPWW has identified site-based priorities for management leading to conservation. The regional Bitou Bush Strategy also identifies the Region's priorities in accordance with the Bitou Bush TAP, including exotic vines that occur in association with bitou bush. Park SSMPs, PMPs and RRRPs identify specific weed control priorities and treatments in accordance with specific site conditions and circumstances (e.g. in the presence of threatened species or other weeds).

These overall programs are of critical priority given their significant impact on biodiversity and, in particular, threatened species. There are additional critical priority projects (in parks and reserves currently without pest planning documents in place), including those in Border Ranges NP (cat's claw – Findon Creek), Duroby NR (Madeira vine), Mount Pikapene (cat's claw), Mount Clunie and Korrelah NPs (moth vine) and Tooloom NP (kudzu).

Control

Implement control actions in accordance with Park SSMPs, PMPs and RRRPs and off-label permits for specific weed control priorities and treatments. Identify serious and potentially serious outbreaks of exotic vines and creepers in parks not currently included in the Region's Rainforest Restoration Project and implement a control program if required.

National best management strategies and control techniques as developed help determine local priorities and procedures. Biocontrol agents reared at DPI Grafton under the NSW Environmental and Aquatic Weed Taskforce will be released.

Monitoring

- NPWS staff and contractors will document treatment details on chemical users' forms in accordance with the Pesticides Act, including GPS locations.
- NPWS staff will familiarise themselves with weedy vines and scramblers identification and investigate reports accordingly.
- NPWS staff will assess known infestations and identify follow-up treatment requirements for identified areas.
- NPWS staff will liaise with private landholders, local Landcare, local councils and county councils regarding coordinated management where relevant.

KTP listed exotic vines and scramblers in Northern Rivers Region

Scientific name	Common name
Abrus precatorius/ subsp. /*africanus*/	Crabs-eye creeper
Acetosa sagittata	Potato vine/turkey rhubarb
Anredera cordifolia	Madeira vine
Araujia sericifera	Moth vine
Aristolochia elegans	Dutchman's pipe/calico flower
Aristrolochia littoralis	Dutchman's pipe
Asparagus aethiopicus	Ground asparagus
Asparagus africanus	Asparagus fern
Asparagus asparagoides	Bridal creeper
Asparagus plumosus	Climbing asparagus fern
Asparagus scandens	Asparagus fern
Asystasia gangetica var. *micrantha*	Chinese violet
Caesalpinia decapetala	Mysore thorn/thorny poinciana
Cardiospermum grandiflorum	Balloon vine
Clematis vitalba	Old man's beard/traveller's joy
Delairea odorata	Cape ivy
Dioscorea bulbifera	Aerial yam
Dipogon lignosus	Dolichos pea
Hedera helix	English ivy
Ipomoea alba	Moon flower
Ipomoea cairica	Coastal morning glory
Ipomoea indica	Morning glory
Ipomoea purpurea	Common morning glory
Lathyrus tingitanus	Tangier pea
Lonicera japonica	Japanese honeysuckle
Macfadyena unguis-cati	Cat's claw creeper
Passiflora suberosa	Corky passion flower
Passiflora subpeltata	Cork passionflower
Passiflora toriminiana	Banana passionfruit
Puearia lobata	Kudzu

Senecio angulatus	Climbing groundsel
Senecio macroglossus	Natal ivy
Solanum jasminoides	Potato vine/white potato creeper
Solanum seaforthianum	Climbing nightshade
Sollya heterophylla	Bluebell creeper
Thunbergia alata	Black-eyed susan
Thunbergia grandiflora	Blue trumpet vine
Tradescantia fluminensis	Tradescantia
Vinca major	Greater periwinkle

Rainforest restoration

Distribution and abundance

Northern Rivers Region contains some of the most important areas of rainforest in Australia, including a number of internationally significant areas of the World Heritage Gondwana Rainforests of Australia. Most of the rainforest in Northern Rivers Region belongs to the subtropical and dry rainforest types, including several remnants of littoral rainforest. A number of rainforest vegetation communities are now recognised as endangered ecological communities under the TSC Act and the EPBC Act. These communities are described in Appendix 3.

Since the first rainforest restoration projects on NPWS estate began in 1978, a number of projects have been undertaken. Funding has come from a variety of sources, including the National Rainforest Conservation Program, corporate sponsorship, NSW Biodiversity Strategy, NSW Environmental Trust grants, World Heritage Trust, and NPWS recurrent and capital budgets. Employment programs, such as Jobskills and Green Corps, community groups such as Landcare groups and volunteers, have also contributed to the implementation of these projects. Currently Northern Rivers Region is implementing weed control programs across a range of Gondwana parks and reserves with funding provided by the federal government's Caring for Our Country.

Impacts

There are many threats to the long-term viability of rainforest remnants. Some of these include their small size, abrupt boundaries, large perimeter to area ratio, and isolation. All of these characteristics make rainforest remnants extremely vulnerable to weed infestations and damage.

Probably the most damaging weeds to remnant rainforests are bitou bush, lantana, camphor laurel and exotic vines. These weeds can rapidly destroy the structure of the rainforest and halt all the stages of forest succession and regeneration for an indefinite period.

Priorities for control

There are numerous critical priorities for rainforest weed control in Northern Rivers Region. The Border Ranges Biodiversity Threatened Species Recovery Plan prioritises actions for implementation due to the number of EECs and threatened species on the far North Coast of NSW and south-east Queensland. This document is a cross-border (NSW–Queensland) cooperative approach to biodiversity conservation management.

BPWW is the main state-wide tool to prioritise weed management aimed at threatened species conservation. Also, noxious and environmental weeds are

routinely controlled where they occur on NPWS estate in accordance with park PMPs, RRRPs, SSMPs and identified priority actions. Other target specific control programs in rainforest are implemented across the Region and have been discussed in previous sections.

A number of weed control programs are currently being implemented in some of the Gondwana Rainforests of Australia parks and reserves, including Border Ranges, Nightcap, Wollumbin (incorporating Mount Warning/Wollumbin) and Toonumbar national parks and Iluka NR (due for completion in 2013). All control works in these areas will be undertaken in accordance with the site specific management plans for each area.

Control

Northern Rivers Region has been successful in the restoration of rainforest remnants and continues to manage programs within resource constraints. This has been achieved by adopting a systematic and integrated approach to the removal of weed species. The RRRPs prepared for managing these areas contains restoration strategies and principles based on this approach.

A number of programs have been specifically funded by NRCMA and NSW Environmental Trust, while others have been undertaken by NPWS staff. Programs are being implemented in Andrew Johnston Big Scrub, Boatharbour, Broken Head, Brunswick Heads, Davis Scrub, Hayters Hill, Moore Park, Wilson Park, Victoria Park, Stotts Island, Inner Pocket and Iluka nature reserves, Cape Byron SCA, and Nightcap, Toonumbar (Murray Scrub) and Mallanganee national parks.

The plans describe the native vegetation of the area, identify the weed species present and the associated management problems, and recommend control techniques and priorities for control within that specific area. All works are implemented in accordance with current APVMA off label permits.

Monitoring

- NPWS staff will implement monitoring as per the requirements of the site specific management plans for the Gondwana Rainforests project.
- NPWS staff and contractors will document treatment details on chemical users' forms in accordance with the Pesticides Act, including GPS locations.
- NPWS staff will map sites and continue follow-up treatment requirements for identified areas.
- NPWS staff will continue to undertake transect monitoring (using MERV) in the Big Scrub Rainforest Remnants i.e. Boatharbour and Andrew Johnston Big Scrub NRs, for collection of data and reporting of implementation of control works for rainforest areas. Implementation of control works will also be recorded in the Asset Maintenance System component of PWIS.

Glory lily (*Gloriosa superba*)

Distribution and abundance

Glory lily inhabits most coastal areas in the Tweed, Byron, Ballina, Richmond Valley and Clarence Valley council areas. It usually inhabits the coastal dune complexes and is often associated with the presence of bitou bush. Glory lily occurs in Ukerebagh, Cudgen, Wooyong, Billinudgel, Marshalls Creek, Richmond River and Brunswick Heads (north and south) nature reserves, and Broadwater and Bundjalung NPs. An extensive infestation exists in the DPI Crown Lands Dirrawong Reserve adjoining the northern end of Bundjalung NP.

Impacts

Glory lily forms dense thickets that smother shrubs or herbs, mainly in littoral rainforest and other coastal areas. It is extremely difficult to control due to its complex network of underground reproductive tubers. Regrowth readily occurs from seeds and roots. Seeds are often spread by humans, birds and animals.

Priorities for control

Various control programs are implemented across the Region, generally in association with the implementation of bitou bush TAP actions and site-specific management plans, including Ukerebagh, Cudgen, Wooyung, Brunswick Heads (north) and Billinudgel NRs, and Broadwater and Bundjalung NPs. Control programs target emerging growth from October to November and include follow-up throughout the summer–autumn period. Collection of seed is also recommended if applicable, especially in newly identified locations.

Control

Control is implemented as outlined in the Bitou Bush TAP, SSMPs or relevant PMP or RRRP. The control technique recommended for glory lily is to overspray as per the off label permit for environmental weeds. Follow-up work is recommended annually to control emergents. Integrate weed control programs to follow-up and eradicate glory lily concurrently or in association with bitou bush control programs.

Monitoring

- Continue to survey and monitor distribution and abundance of previously treated infestations.
- Record treatment on NPWS chemical users' record sheets in accordance with the Pesticides Act.
- Identify and develop control programs for new and outstanding infestations.

Groundsel bush (*Baccharis halimifolia*)

Distribution and abundance

Groundsel bush is a declared Class 3 noxious weed throughout Northern Rivers Region.

The distribution of groundsel bush is fairly widespread across the Region on both public and private lands. Numerous parks contain infestations and the severity varies between parks. The Tweed and Brunswick valleys have been identified by FNCW as the worst areas of infestation, and Clarence Valley has significant infestations.

Some of the most extensive infestations are found in the Tweed Valley, near the NSW and Queensland border in Border Ranges and Mebbin national parks and Limpinwood NR. Serious infestations occur at Ballina, Billinudgel NR and Bundjalung NP. Other smaller infestations occur in Snows Gully, Stotts Island, Richmond River, Hayters Hill, Cumbebin Swamp and Ukerebagh NRs, and Richmond Range, Koreelah, Mount Clunie, Tooloom, Toonumbar, Broadwater and Arakwal NPs. Most of the NPWS estate in Clarence North Area has isolated infestations.

Impacts

Groundsel bush is effectively dispersed by wind over widespread areas. It invades both agricultural and forested land, particularly moist areas such as swamps, gullies and drainage areas, including both disturbed and undisturbed native plant communities. In areas of native vegetation, it directly competes with and displaces

native species.

Priorities for control

There are extensive control programs implemented for groundsel bush in Northern Rivers Region. While most are of medium priority, some are of higher priority due to the potential for spread into unaffected areas. Many control programs aim to reduce spread into adjoining areas such as Richmond Range, Tooloom, Toonumbar national parks and Billinudgel NR. Long term follow-up weed control and maintenance of previously treated areas continues in Bundjalung, Border Ranges, Koreelah and Mount Clunie national parks, Limpinwood, Stotts Island, Bungabbee, Bungawalbin, Hayters Hill, Snows Gully and Ballina nature reserves. Not all reserves are listed here as groundsel bush infestations are widespread.

Control

Control techniques commonly used include backpack spraying, vehicle-based spraying and manual herbicide application by NPWS staff and contractors.

In some park areas some biocontrol predators, such as the gall fly and stem borer, are still active. Biocontrol alone is not considered effective, as most agents reduce the amount of flower produced but do not prevent flowering. A rust fungus, *Puccinia evadens*, was released in Broadwater NP in 2001. These agents form part of an integrated control program for the control of groundsel.

Monitoring

- Complete daily record sheets in accordance with the Pesticides Act, including GPS locations of treatment sites.
- Survey and monitor ongoing control programs to assess follow-up treatments required.
- Investigate new reports of groundsel within parks.
- Conduct aerial surveys (where possible) with relevant control authorities between March and April when groundsel bush is flowering.
- Identify and develop control programs for new and untreated infestations.

Camphor laurel (*Cinnamomum camphora*)

Distribution and abundance

Camphor laurel is a declared Class 4 noxious weed in Northern Rivers Region. It is a prolific seeder and is extremely attractive to native birds and butterflies as a food source. As a result of bird dispersal, it has extensively naturalised throughout the far North Coast of NSW. It is now widespread throughout the Tweed and Brunswick catchments and to a lesser extent in the Richmond catchment and Upper Clarence.

Camphor laurel commonly occurs throughout the small rainforest remnant parks of the Big Scrub, including Victoria Park, Davis Scrub and Andrew Johnston Big Scrub NRs. It is also establishing in Nightcap, Mount Jerusalem, Mooball and Wollumbin NPs, in Billiinudgel NR and the proposed Cobaki NR. Various stages of tree growth are represented in parks, including large mature trees, saplings and seedlings.

In FNCW operational area a local control plan is to be developed – this requires trees, including seedlings, under 3 m to be controlled.

Impacts

Camphor laurel is an aggressive competitor and invader of disturbed native plant communities, particularly the edges and gaps in rainforest remnants. It also rapidly colonises vast areas of previously cleared lands, including grazing properties where no control is implemented, rapidly transforming sites into camphor laurel-dominated forests.

Camphor laurel is also rapidly establishing in wet and dry sclerophyll forests and the ecotones with rainforests, rapidly competing with native flora species. It inhibits native rainforest regeneration and alters feeding patterns of native birds, particularly rainforest pigeons, currawongs, figbirds and orioles. This results in widespread dispersal.

Priorities for control

Control of camphor laurel on NPWS estate will be undertaken in accordance with an approved Site Specific Management Plan (i.e. for the Lantana/Gondwana weeds program, e.g. Nightcap NP) and/or relevant PMP/RRP (e.g. Mooball and Mount Jerusalem NPs). Control should be also be implemented as part of the overall restoration of the native plant community.

Early control of camphor laurel in newly established infestations (e.g. spraying of seedlings and injection of saplings in Nightcap and Border Ranges NPs and Bungabee and Muckleewee NRs) is a high priority due to the highly invasive nature of the tree. In areas where camphor laurel comprises a significant proportion of the native plant community and its structure, together with other weed species, a longer-term systematic approach to control is required to maintain the structure of the forest (e.g. Big Scrub rainforest remnants).

Control

Northern Rivers Region has been actively controlling camphor laurel throughout many of the parks for several years prior to its declaration as a noxious weed. Camphor laurels are regularly controlled as part of PMPs, SSMPs and the RRR plans (i.e. the Big Scrub remnants). These plans identify the most appropriate control techniques for the sites.

- Large trees and saplings are stem-injected unless they pose public liability threats to park visitors. In this situation they are cut down and the stump treated.
- Caution is applied when treating large camphor laurels in rainforest remnants as it is important to retain a degree of canopy cover. In these situations, strategic control of camphor laurel is often undertaken over a long period of time.
- All control works are undertaken as part of an integrated and systematic approach to restoration and rehabilitation of the vegetation community in the Region.

Monitoring

- Daily record sheets will be kept for all weed control programs in accordance with the Pesticides Act.
- NPWS will record and map all occurrences of the weed on park and will monitor its distribution in response to control in PWIS.
- GPS locations will be taken of work sites, including the extent of weed distribution and control implemented. This information will be recorded in PIWS. Sites are revisited periodically for follow-up treatment and maintenance.

Environmental weeds and garden escapes

Distribution and abundance

There are numerous other plant species that establish in urban bushland areas as a direct result of the dumping of garden clippings and rubbish and dispersal by birds and other frugivores. Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants, is listed as a KTP under the TSC Act. Garden species can also often remain at the site of previous habitation and invade surrounding native vegetation, e.g. Billy's Hut site in Limpinwood NR and the former ranger's cottage in Broken Head NR. Plants can also invade parks from neighbouring land such as pines at Arakwal NP and Broadwater NP.

These weeds are often restricted to the urban interface with park/reserve boundaries or water courses within urban parks such as Billinudgel, Brunswick Heads, Marshalls Creek and Cudgen nature reserves and Arakwal NP. Weeds include such garden species as monstera (*Monstera deliciosa*), broad-leaf pepper tree (*Schinus terebinthifolius*), *Philodendron* spp., callisia (*Callisia fragrans*), Cape ivy (*Senecio macroglossus*), red salvia (*Salvia* spp.), black-eyed Susan (*Thundbergia alata*), Crofton weed (*Ageratina adenophora*) and mistflower (*Ageratina riparia*).

There is a range of widespread weed issues in the Region, such as large and small leaf privets *Ligustrum lucidum* and *Ligustrum sinense*, associated with urban areas such as the Urbenville and Koreelah areas.

New WoNSs include opuntiod cacti (*Opuntia* spp.) and fireweed (*Senecio madagascariensis*).

Impacts

The extent of the impacts of environmental weeds generally is related to the vectors of dispersal, such as water, wind and avifauna, that allow rapid transportation of weed species. These species are often highly competitive and invasive in natural environments and become problems at the landscape scale.

Damage to native vegetation occurs as a direct result of the large bulk of vegetative material that is often dumped, including the change of nutrient status and therefore changing species diversity.

Individual species such as mistflower (*Ageratina riparia*) and Crofton weed (*Ageratina adenophora*) are a threat, as they compete with threatened species, such as Euphrasia on the escarpment at Limpinwood/Numinbah nature reserves and Border Ranges NP. Dense infestations of both species inhibit native regeneration, particularly on the edges of waterways.

Prickly pears occur in isolated occurrences in various reserves throughout the Region. Fireweed is a common agricultural weed with a widespread distribution; however, it is generally restricted to the roadsides of reserves, and adjacent to grazing lands.

Priorities for control

Most other significant weeds are identified in BPWW. These are also listed in RRRPs, PMPs and SSMPs. Where a plan is a draft or not yet prepared, programs are developed with relevant stakeholders. Refer to previous sections on noxious weeds, bitou bush, rainforest programs for priority action.

Rubbish dumping will continue in parks, clearly indicating the need for constant education and awareness programs with neighbours and stakeholders.

Conservation site priorities for weed management are identified in BPWW.

Control

Undertake targeted control of weed species, such as:

- Crofton weed and mistflower in strategic areas to minimise impacts on natural and recreational values, such as hand removal at the Pinnacle in the habitats of Euphrasia (e.g. Border Ranges NP)
- broad-leaf pepper (*Schinus terebinthifolia*) at Flat Camp AA and Cape Byron SCA
- privet in Koreelah NP.

Where restoration programs are being implemented all weeds should be controlled in accordance with the relevant plan (where available) and current off label permits. Encourage and support existing, and assist in the establishment of, local bush regeneration groups such as Dunecare and Landcare. Support and seek funding to provide community groups with resources to implement on-ground works and information on appropriate weed control techniques, and native plant and weed identification.

Monitoring

- NPWS staff, contractors and volunteers will document treatment details on chemical users' forms in accordance with the Pesticides Act, including GPS locations.
- NPWS staff will familiarise themselves with new environmental weeds and garden escapes identification and investigate reports accordingly.
- NPWS staff will assess sites and continue follow-up treatment requirements for identified areas

Giant Parramatta grass (*Sporobolus indicus* var. *major*) and giant rat's tail grass (*Sporobolus pyramidalis*)

Distribution and abundance

Invasion of native plant communities by exotic perennial grasses, which includes giant Parramatta grass and giant rat's tail grass, is listed as a KTP under the TSC Act. Giant Parramatta grass is a Class 4 noxious weed in FNCW and Clarence Valley Council areas, and Class 3 in the Tenterfield Council area. Giant rat's tail grass is declared a Class 3 noxious weed in FNCW and Clarence Valley Council areas, and not declared in Tenterfield Council area.

These grasses pose a major threat to productivity on grazing land and are widespread along roadsides in Lismore, Richmond Valley, Clarence Valley, Tenterfield, Byron, Tweed and Kyogle Council areas. The main methods of dispersal are vehicle and stock movements.

Giant Parramatta grass is widespread in Clarence North Area, and several infestations occur on other NPWS estate in the Region. Most infestations are on the road verges within Mount Clunie, Koreelah, Yabbra, Richmond Range, Border Ranges, Mallanganee, Tooloom, Toonumbar, Arakwal, Mount Jerusalum, Mooball and Mebbin NPs, and Captain's Creek, Bungalwalbin, Billinudgel, Wooyung, Marshalls Creek, Tyagarah, Brunswick Heads, Broken Head and Jinangong NRs.

Other infestations along roads adjoining, but not within, NPWS estate, include Bungawalbin NP, NR and SCA and Yarringully NR.

Giant rat's tail grass is currently only known to occur in Brunswick Heads (north), Jinangong and Marshalls Creek NRs, and Koreelah and Mebbin NPs.

Impacts

Giant Parramatta grass and giant rat's tail grass are readily spread on the tyres of machinery and vehicles and by cattle movements. Both species have the potential to spread rapidly throughout NPWS estate via vehicle movements along the park road and trail network.

Priorities for control

The control of Giant Parramatta grass and giant rat's tail grass is a medium priority throughout the Region. Where possible, infestations on high traffic park roads should be treated as a higher priority. Infestations along local government road reserves through NPWS estate should be cooperatively managed. Follow-up control should be maintained for previously managed sites including Mount Clunie, Koreelah, Yabbra, Richmond Range, Border Ranges, Tooloom and Toonumbar NPs, and Captain's Creek and Billinudgel NR.

Control

- All control programs should be undertaken in accordance with the label direction or approved off label permit.
- Roadside spraying using Taskforce® will be implemented by both NPWS staff and contractors i.e. FNCW and Tenterfield Council in August to November. In sensitive areas glyphosate will be used to control giant Parramatta grass.
- Liaision with relevant authorities regarding cooperative programs in adjoining areas will be undertaken.
- NPWS staff will formulate hygiene protocols for NPWS vehicles and machinery in areas of heavy infestation to reduce spread.
- A biological control agent for crown and root rot is currently available; NPWS will consider the suitability of this control agent for use on NPWS estate.

Monitoring

- NPWS staff and contractors will document treatment details on chemical users' forms in accordance with the Pesticides Act, including GPS locations and lengths of roadsides treated.
- NPWS staff will assess known infestations and identify follow-up treatment requirements for identified areas.
- Liaision with local councils and county councils regarding coordinated management where appropriate will be undertaken.

Coolatai grass (*Hyparrhenia hirta*)

Distribution and abundance

Coolatai grass is a highly invasive introduced grass native to South Africa and the Mediterranean regions. It is a tall tufted summer active perennial grass that grows to 1.5 m in height, and can be identified by paired seedheads and spikelets with whitish hairs; its leaves are 2–4 mm wide, grey brown in colour and harsh to touch. Coolatai grass is drought tolerant and grows prolifically in the warmer months; it is frost sensitive and dies back in winter.

Coolatai, along with African love grass are recorded as occurring within the Region, however not specifically on park. It has taken over large areas of north-west NSW. It

also occurs on the North Coast, slopes and tablelands. Coolatai grass has the ability to invade undisturbed areas, thus making it an extremely invasive plant species.

Impacts

Invasion of native plant communities by exotic perennial grasses, which includes Coolatai grass, is listed as a KTP under the TSC Act.

Coolatai grass can quickly invade undisturbed areas thus leading to a significant reduction in biodiversity. It rapidly spreads by dispersal of seeds that attach to animals or machinery.

Priorities for control

Tweed-Kyogle Area staff will continue to monitor Coolatai and African love grass with neighbours. Staff should be alerted to this weed and control new outbreaks as soon as practicable to reduce any further spread.

Control

There is currently an off label permit for the use of glyphosate and tussock herbicides for the spot spraying of coolatai grass, PER 9792, this is valid until 30 November 2015.

Monitoring

- All treatments are to be recorded using chemical record sheets in accordance with the Pesticides Act.
- Area staff will monitor in conjunction with adjoining landholders and relevant councils
- Presence of Coolatai grass in areas adjoining Jubullum Flat Camp where infestations outside of the reserve lease have been recorded will be monitored.
- NPWS staff will familiarise themselves with Coolatai grass identification and investigate reports accordingly.
- NPWS staff will respond with control programs when appropriate and initiate vehicle hygiene to reduce spread to other areas.

Aquatic weeds

Not all aquatic weed species in Northern Rivers Region are included in the following profiles. Species that represent high risk or potential high risk to biodiversity are included.

The PNP outlines the requirements for pesticide notification in relation to weed control activities in the Region. The PNP should be referred to for all weed control activities. Both the PNP and **Error! Reference source not found.** summarise relevant off label permits and their expiry. Staff need to check currency and applicability of relevant off Label permits prior to undertaking control programs.

Alligator weed (*Alternanthera philoxeroides*)

Distribution and abundance

Alligator weed is a WoNS and is declared a Class 2 weed under the Noxious Weeds Act in Northern Rivers Region and is common in south-east Queensland. Once fairly localised in the Lismore and Byron shires following significant floods, this weed has now spread further down the Richmond catchment into Richmond Valley Shire.

The weed occurs on riparian areas at Boatharbour Nature Reserve and is likely to occur in reserves on the lower Richmond Floodplain, for example, in the Bungawalbin group of reserves and Bundjalung NP. The weed is found in drainage channels and in riparian areas of creeks that feed from flows and overflows of the Richmond River. In addition, the Tuckombil Barrage that flows into the Evans River may provide a source of infestation to the northern end of Bundjalung NP. The weed is also known to occur in the Tweed Estuary which may affect reserves in this locality, including Tweed Estuary NR, Ukerebagh NR and the proposed Cobaki Nature Reserve.

Impacts

Alligator weed produces masses of creeping and layering stems over land and water. It is an aggressive invader that responds to high nutrient levels and is a major threat to wetlands, creeks, rivers and vegetation communities along the floodplain. New plants regenerate readily from plant fragments facilitating rapid spread, and this increases the difficulty of control.

Priorities for control

FNCW staff survey and inspect all known sites within the Tweed, Byron, Lismore and Richmond Valley areas. This includes sections of Byron and Wilsons creeks, Richmond River and Tuckombil Barrage for outbreaks of alligator weed as a high priority for control. Any incursions known to occur on park will be treated in cooperation with FNCW (e.g. Boatharbour NR). New incursions detected in parks will also be a high priority for control.

Control

FNCW undertakes both physical and chemical control of alligator weed. A combination of herbicides may be used to control the weed, depending on the location of the infestation (i.e. terrestrial or aquatic sites). Physical removal is also used given the difficulty of site access and sensitivity of the natural environment. Biological control with the flea beetle (*Agasicles hygrophila*) is also an option depending on site suitability. NPWS will work with local control authorities and DPI and participate in the Aquatic Weed Task Force (formerly known as the Alligator Weed Taskforce) to manage the weed and apply herbicides as part of a collaborative control program.

Monitoring

- NPWS staff will familiarise themselves with water weed identification.
- NPWS will liaise with FNCW regarding monitoring of the aquatic form of alligator weed on Byron and Wilson creeks.
- NPWS will record and map all occurrences of the terrestrial form of alligator weed on parks and will monitor its distribution in response to control.
- NPWS will liaise and attend Aquatic Weeds Task Force meetings with the local control authority, DPI and landholder representatives.

Salvinia (*Salvinia molesta*)

Distribution and abundance

Salvinia is a WoNS and a Class 3 declared noxious weed in Northern Rivers Region. It is an aquatic weed that presents a problem in a number of waterways, particularly in the Tweed, Clarence and Richmond River catchments. It is a relatively minor problem, although at times infestations can be significant in the Upper Clarence River.

There are a limited number of parks in the Region that contain salvinia infestations including:

- Arakwal NP in Tallows Creek upstream of Arakwal NP, adjoining private lands particularly after high rainfall and when weirs overflow
- Tyagarah NR, confined to the old sandmining quarry
- Broadwater NP,confined to the old quarry
- Bungawalbin NP, NR and SCA and Yarringully SCA and NR, in Bungawalbin Creek upstream and adjacent to NPWS reserves, commonly occurring in the lagoons and old oxbows, particularly after floods
- Everlasting Swamp SCA.

Impacts

Salvinia spreads vegetatively by fragmentation and can rapidly form a closely packed, dense mat which totally covers waterways. It invariably survives all forms of treatment as any remaining fragments can double their biomass in 5–10 days.

Priorities for control

Control of salvinia in the 10 known infestations on NPWS estate in the Region is a medium priority. The confined areas within the old sand mining quarries and ponds in Broadwater NP and Tyagarah NR are easily targeted for control.

The remaining areas, where the source of the infestation is upstream of the reserve, require a coordinated approach across multiple land tenures with the assistance of the local weed control authority.

Control

- Control programs may involve biological, chemical or manual techniques.
- Support of the relevant control authority, such as FNCW, to initiate collaborative programs will be sought to ensure the implementation of effective programs. Other aquatic weeds such as water hyacinth are often treated concurrently with salvinia.
- Biological control will be investigated for its suitability at each of the sites (e.g. *Cyrtobagous salviniae*, a weevil, and *Samea multiplicalis,* a moth).

Monitoring

- NPWS staff will familiarise themselves with aquatic weed identification.
- NPWS staff and contractors will document treatment details on chemical users' forms, in accordance with the Pesticides Act, including GPS locations.
- NPWS staff will assess known infestations and identify follow-up treatment requirements for identified areas.
- NPWS staff will liaise with FNCW and other relevant control authorities to identify

new locations of infestation and to implement collaborative programs.

Water lettuce (*Pistia stratiotes*) and water hyacinth (*Eichhornia crassipes*)

Distribution and abundance

Water lettuce is a Class 1 noxious weed throughout NSW and is a Far North Coast County Council priority weed. While water lettuce is not established in NSW, there have been outbreaks in Northern Rivers Region. Infestations have been located in the Tweed River catchment at Piggabeen and Tyalgum, and the Richmond River catchment at Bungawalbin, Casino, Bonalbo and Grevillia. There are occasional infestations in Clarence North Area, and it has been recently recorded in Gulmarrad (2006) and in South Grafton, Waterview Heights and Iluka (2009). These infestations were removed and eradicated. No known infestations are known to occur on park in the Region.

Water hyacinth became a WoNS in 2012 and is a Class 4 noxious weed in the Far North Coast County Council area (Class 2 elsewhere in the state). Water hyacinth occurs along the east coast of Australia and infestations still occur in all coastal river catchments, particularly the Clarence and Richmond catchments.

There are seven reserves in Richmond River Area where water hyacinth is known to occur, including:

- North Creek adjacent to Ballina Nature Reserve
- Bungawalbin Creek adjacent to Bungalwalbin NR, NP, SCA and Yarringully NR and SCA
- Everlasting Swamp SCA.

No other known infestations occur on parks in the Region.

Impacts

Under favourable conditions, water lettuce will produce abundant growth, expand rapidly and form obstructive mats. These large dense floating mats can have negative impacts on native aquatic plants and animals. They can also interfere with irrigation, boating and water sport activities and harbour disease-causing mosquitoes.

Water lettuce is dispersed as broken pieces, buoyant seedlings or whole plants. Seeds can float downstream, providing a seed reserve in uninfested areas and also create ongoing problems in infested areas.

Water hyacinth is regarded as the world's worst aquatic weed due to its ability to rapidly cover whole waterways. The growth of water hyacinth must be managed in a manner that reduces its numbers, spread and incidence, and continuously inhibits its reproduction. The enormous reproductive capacity of water hyacinth causes annual reinfestation from seed and rapid coverage of previously treated areas, making ongoing control necessary.

Priorities for control

NPWS will control infestations of water lettuce as a critical priority where it is detected on park as part of a coordinated control program with other land managers and the relevant weed control authority.

NPWS will liaise with FNCW and Clarence Valley Council regarding the control of water hyacinth in the North Creek, Bungawalbin Creek, Clarence River and

Sportmans Creek catchments. NPWS will only undertake control programs as a priority in these areas if a catchment-based approach is afforded as the weed occurs upstream of the reserves.

Control

Physical removal is effective for small infestations of water lettuce and water hyacinth and plants cannot survive for long out of the water. Once removed, plants must be allowed to dry out and break down. Make sure that all plants removed are placed above the floodline. If possible, place on plastic to prevent them from taking root in mud. Herbicide may be necessary to control large infestations.

Insects, such as the weevil *Neohydronomus affinus*, have been introduced for biological control of water lettuce. While this insect has not been released in NSW, it has been shown to be effective on dams in south-eastern Queensland. Two weevil species are effective against water hyacinth in northern NSW, however their impact can be temporary and patchy. Control programs should view biocontrol as a useful addition to other available control techniques.

Monitoring

- NPWS staff will familiarise themselves with water weed identification and investigate reports accordingly.
- NPWS staff will monitor the presence of water weeds in areas adjoining reserves where infestations outside of the reserve have been recorded.
- NPWS staff will liaise with FNCW to identify new locations of infestation.
- All treatments will recorded using chemical record sheets in accordance with the Pesticides Act.
- Area staff will monitor treated areas to assess re-invasion of and success of previous treatments, in conjunction with FNCW.

Hymenachne (*Hymenachne amplexicaulis*) and aleman grass (*Echinochloa polystachya*)

Distribution and abundance

Hymenachne is considered one of Australia's worst weeds; it is a WoNS and a Class 1 noxious weed in NSW. As an aquatic weed it has the potential to spread further in northern NSW and become a major weed of wetlands and waterways. It has a limited distribution in Northern Rivers Region, occurring mainly as small scattered infestations. Infestations have been discovered at Cobaki, Georgica, Lillian Rock, Lismore Race Course, Yorklea, Leeville, West Coraki and Oaky Creek. It is not currently known in Clarence North Area.

Like hymenachne, aleman grass was originally introduced as a ponded pasture. In June 2001 the Queensland Government recommended against the use of hymenachne or aleman grass due to the severe environmental threats posed to wetlands. It is a Class 2 noxious weed in FNCW area. It is not currently known in Clarence North Area.

Impacts

Hymenachne seed is spread during annual floods, in mud attached to waterbirds or in contaminated stock feed. Flood waters will also transport fragments into waterways and natural wetlands. Hymenachne reproduces by seed, broken stem fragments and stolons. A large number of viable seeds are produced and in waterlogged or moist soil germination can occur year round.

Both hymenachne and aleman grass produce stolons which run along the ground and produce roots at each node, forming a new plant. Broken fragments of the plant can be carried to new locations by floodwater and will take root in moist soil. Aleman grass reproduction is mostly vegetative as seed production is considered poor.

Priorities for control

There are no known occurrences of either of these weeds on park at present, but they are known to occur in areas where some parks are at risk. An infestation was reported in May 2012 in a waterway bordering Yarringully NR, and staff are investigating. In general, staff are to be alert to these weeds and control new outbreaks as soon as practicable to reduce any further spread.

Control

Control of these grasses is difficult. Most success has been obtained from repeated herbicide treatment to infestations. A variety of application methods can be used, including spraying by hand, boom or helicopter. Spraying must be repeated about every three months to control regrowth. Mass die-off of the weeds can degrade water quality. Specific research on the use of herbicides to control aleman grass has not been undertaken.

Monitoring

- NPWS staff will familiarise themselves with hymenachne and aleman grass identification and investigate reports accordingly
- NPWS staff will liaise with Far North Coast Weeds to identify new locations of infestation.
- All treatments are to be recorded using chemical record sheets in accordance with the Pesticides Act.
- Staff are to monitor and assess re-invasion of hymenachne and aleman grass and the success of previous treatments.

Pest disease species

The PNP outlines the requirements for pesticide notification in relation to plant disease control activities in the Region. The PNP should be referred to for all weed control activities. Both the PNP and **Error! Reference source not found.** summarise relevant off label permits and their expiry. Staff need to check currency and applicability of relevant off Label permits prior to undertaking control programs.

Bell miner associated dieback

Distribution and abundance

Bell miner associated dieback (BMAD) is found in a number of eucalypt forest types between Victoria and southern Queensland. The current spatial distribution of BMAD throughout NSW is not known in detail. Significant areas of forests within Northern Rivers Region are at risk or have already been affected by BMAD. An aerial survey in 2004 across the Tweed-Kyogle Area identified that BMAD has affected a significant proportion of forests. Parks affected included Toonumbar, Border Ranges, Richmond Range, Yabbra, Koreelah, Tooloom and Captains Creek national parks. There are areas of adjoining state forest and private forested lands that are vulnerable or affected in the Region. BMAD has recently been reported in Wollumbin SCA and adjacent to Mebbin National Park.

Impacts

Forest eucalypt dieback associated with overabundant bell miners and psyllids has been listed as a KTP under the TSC Act. The condition is associated with the establishment of bell miner colonies and an overabundance of sap sucking psyllid insects in the forest canopy. The persistence of psyllids in the canopy leads to dieback and eventual death of the affected trees. The impacts of BMAD include loss of biodiversity, economic and recreational values. Forests affected by BMAD can become severely degraded with the loss of a significant proportion of overstorey species and, in many cases, subsequent invasion of the understorey by weeds, particularly lantana.

In Northern Rivers Region, Murray scrub and Toonumbar are sites that have become so devastated by BMAD that recovery to their former state is unlikely for 50–100 years and not without human intervention.

Avifauna are known to be affected by the presence of overabundant bell miners. A number of eucalypt species, such as *Eucalyptus dunnii*, *E. saligna*, *E. grandis*, *E. siderophloia*, *E. acmenoides*, *E. punctata* and *E. paniculata*, are vulnerable to BMAD. EECs that are affected or potentially threatened include Blue Gum High Forest of the Sydney Basin Bioregion, Blue Mountains Shale Cap Forest in the Sydney Basin Bioregion and White Gum Moist Forest in the NSW North Coast Bioregion. The fauna at highest risk of BMAD are the eucalypt-dependent arboreal species and large forest owls. Koalas, greater-squirrels, yellow-bellied gliders and brush-tailed phascogales may all be at risk of decline due to poor forest health.

The risk and danger of tree and limb fall is also an issue in some areas affected by dieback, and in some areas the visual and recreational qualities of known tourist sites are threatened by the loss of tree canopy and ecological integrity.

Priorities for control

Control priorities are currently limited to identifying the presence of BMAD and assessing the impact of BMAD at particular sites. Where the impact is significant, or could potentially become significant, site management plans will be prepared.

Control

Control of BMAD is a difficult challenge in the absence of empirical evidence to confirm the causes. Current operational activities to prevent spread and assist with ecosystem recovery include weed control and fire management. The use of fire to manage lantana and manipulate bell miner habitat is the more useful tool available for mitigating BMAD impacts at present. Programs are currently being implemented in Toonumbar and Border Ranges NPs. These programs involve the control of weed species including the use of prescribed fire to control lantana. A program of stem injection using pesticide has also been trialled at Sheepstation Creek. Actions outlined in the Draft Statement of Intent for this KTP will be implemented by OEH.

Monitoring

Monitoring of the location and size of BMAD affected areas, and the outcomes of management actions on ecosystems, will continue and will be used to assist with adapting future management. Communities at risk of BMAD and new reports of BMAD will be assessed and mapped. The BMAD Working Group will provide advice and direction for future management, specifically:

- Monitoring of existing Northern Rivers Region BMAD adaptive management trials should be continued. Monitoring plots have been established at Toonumbar, Richmond Range and Border Ranges NPs.

- Fauna surveys at Richmond Range are being carried out by the BMAD Working Group and Southern Cross University and ongoing support should be directed to the ongoing assessment of this study.
- Mebbin NP should continue to be monitored for bell miners and BMAD.

Plant pathogen (*Phytophthora cinnamomi*)

Distribution and abundance

Phytophthora cinnamomi (Phytophthora) is a soil borne pathogen belonging to the water mould group whose growth and reproduction is favoured by moist soil conditions and warm temperatures. The spores can be dispersed over relatively large distances by surface and subsurface water flows and can also be readily transported in contaminated soils. Humans have the potential to spread *Phytophthora cinnamomi* further and faster than any other vector through the movement of infested soil, water or plant material. Once inside a host plant Phytophthora spores colonise the vascular tissue and restrict the uptake of water and nutrients, killing the host plant.

The pathogen is well known in Western Australia, Victoria and Tasmania having caused significant impacts to native forest timber resources. It is also present in coastal Queensland and eastern NSW; however, disease expression in these areas is more cryptic and the extent of the threat is not known.

Impacts

Phytophthora cinnamomi is the most widespread and destructive of the 32 *Phytophthora* species that occur in Australia and is listed as KTP under both state and federal legislation. Susceptible species display a range of symptoms; some are killed, some are damaged but endure, and some show no apparent symptoms. In some circumstances, *P. cinnamomi* may contribute to plant death where there are other stresses present (e.g. waterlogging, drought, and wildfire). Infection of native plants by *Phytophthora cinnamomi* has been identified as a KTP for a number of threatened species resulting in preparation of a national TAP for phytophthora. A Statement of Intent was prepared for NSW in 2008.

Priorities for control

- Prevent further species or ecological communities from becoming threatened.
- Identify presence of Phytophthora by conducting surveys and sampling areas of poor tree health or dieback.
- Identify and implement appropriate containment and hygiene protocols for affected areas.

Control

- Containment through the use of quarantine areas, signage and hygiene facilities.
- Protection of key areas through signage and hygiene facilities prior to entry.
- Possible treatment of key individual plants.

Monitoring

- Soil sampling in key locations to determine movement.
- Monitoring of vegetation in key locations to determine impacts on vegetation and key species.

An externally funded Caring for Our Country project is underway in the Gondwana Rainforests of Australia World Heritage Area to undertake soil sampling and to prepare a management plan for *Phytophthora cinnamomi.* Sampling will be completed by February 2012 and a sampling report, along with management options presented to workshops with operational staff from NPWS and DNPRSR in March–April 2012. A management plan will be finalised and remaining funding for infrastructure will be allocated consistent with the management plan.

Amphibian chytrid fungus (*Batrachochytrium dendrobatidis*)

Distribution and abundance

Chytridiomycosis is an infectious disease caused by the amphibian chytrid fungus *Batrachochytrium dendrobatidis.* Believed to have evolved in Africa, the earliest recorded case of amphibian chytrid fungus infection was in South Africa in 1938. Evidence indicates the fungus was introduced into Australia in the late 1970s and has since spread to four major geographic areas including a large east coast zone from northern Queensland to Victoria. It is currently not recorded in sites in Northern Rivers Region.

Impacts

The disease affects amphibians worldwide and has been identified as a major cause of the decline and extinction of species. It has caused the extinction of one species of Australian frog and has been implicated in the extinction of three others. Some 20 species in NSW have been found to be infected, almost a quarter of the total number of species in the state. Of these, 13 are listed as threatened under the EPBC Act and 15 are listed as threatened under the TSC Act. Chytridiomycosis also has the potential to cause a number of NSW frog species which are currently not listed as threatened to become threatened.

As no methods are yet available to treat amphibian populations in the field, susceptible populations may persist only where conditions are not favourable for disease outbreaks or when they can evolve an evolutionary response to the threat imposed by the emergence of chytridiomycosis.

Management objectives

- Prevent the further spread of the pathogen into other uninfected areas and frog populations in NSW.
- Prevent other species from becoming threatened.
- Improve understanding of the disease through monitoring key threatened frog populations.

Control priorities

- Containment.
- Manage the threat of chytridiomycosis posed to threatened species and populations of frogs at key locations.
- Undertake research and monitoring of the pathogen to further investigate effective management approaches.

Control techniques

- Promote and implement effective hygiene protocols.[4]
- Instigate threat abatement for key threatened species or populations, including habitat modification, captive breeding programs, translocations and treatment of individuals.

Monitoring

- Monitor key threatened frog populations to investigate transmission and dispersal of the fungus to improve understanding of the disease.
- Support research into understanding species resistance to the fungus, both innate and acquired, to assess evolutionary responses and potentially improve the success of re-introduction programs.

[4] www.environment.nsw.gov.au/resources/nature/hyprfrog.pdf

Appendix 1 New and emerging pest species

New pest species

Any suspected new pest species in the region should first be reported to the regional pest management officer who will then decide if it is necessary to alert the following groups.

Species	Contact	Website
All species	Report sightings to Wildlife Atlas	http://www.environment.nsw.gov.au/wildlifeatlas/about.htm#contribute
All species	Regional Invasive Species Officer (DPI) (see website for contacts)	http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0004/345280/RWACs-ISO-contacts-map.pdf
Animal diseases	Emergency Animal Disease Hotline (DPI) - Report unusual disease signs, abnormal behaviour or unexplained deaths in livestock. Ph. 1800 675 888	http://www.dpi.nsw.gov.au/biosecurity/animal
Aquatic pests	Aquatic Pest Hotline (DPI) - Report suspected aquatic pests or weeds. Ph. 02 4916 3877	http://www.dpi.nsw.gov.au/biosecurity/aquatic
Insects and plant pests/ diseases[#]	Exotic Plant Pest Hotline (DPI) - Report suspect exotic and emergency insects and plant pests/diseases. Ph. 1800 084 881	http://www.dpi.nsw.gov.au/biosecurity/plant
Pest animals	Website - Form available for the reporting of new incursions of pest animals.	http://www.dpi.nsw.gov.au/agriculture/pests-weeds/vertebrate-pests/other-vertebrate-pests2/pest-reporting/pest-reporting-form
Weeds[**]	Notify relevant Local Control Authority and Weeds Hotline (DPI) Ph. 1800 680 244 Email - weeds@dpi.nsw.gov.au.	http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/contacts

[#] Certain diseases and pests are notifiable for the purposes of the *Plant Diseases Act 1924*. For example, red imported fire ant has been made notifiable under this Act. This means that you have a legal obligation to report suspected red fire ant infestations as soon as possible.

[**] Noxious Weeds in Control Classes 1, 2 and 5 are notifiable weeds under the *Noxious Weeds Act 1993.* This means that you must notify the local control authority within 3 days of becoming aware that the notifiable weed is on the land.

Emerging pest species

In Northern Rivers Region, there are a number of weeds and pest animals that pose a risk of invasion and/or further spread and establishment. Those listed below are not currently known to exist in reserves, exist in small isolated infestations or are only in a small number of reserves. These species, the locations of current infestations and/or possible reserves where infestations may establish are discussed below. Any new occurrences of these pests, outside of the areas on-park mentioned below,

should be reported to the regional pest management officer, who will decide upon the appropriate course of action.

Trumpet tree (*Cecropia peltata*)

Trumpet tree is listed as a new and emerging weed by FNCW and will be declared as a Class 1 weed in 2012. Trumpet tree is native to Central America and was introduced into the North Coast and Queensland. It is recorded as an invasive tree in Africa, Singapore, Malaysia and Indonesia.

It has been sold in local nurseries in Tweed Shire which has resulted in the species naturalising around the Uki and Stokers Siding areas. Parks and reserves in close proximity to these areas may be at risk or have established populations. These reserves include Mount Jerusalem NP, Mooball NP and Inner Pocket NR. Other isolated plants have been found in Nimbin, Byron, Cawongola and Rocky Creek Dam. Given the proximity of Nightcap NP and Whian Whian SCA to these areas it is likely that this species may be on park. Other sites at risk of invasion are those reserves containing flying-fox camps (e.g. Brunswick Heads NR, Moore Park NR). It is not currently known in Clarence North Area.

The plants can be distinguished by the large U-shaped leaf scars on the stems and the alternate, deeply lobed leaves (similar to paw paw). The lower surface of the leaf is covered with hairs and the plant has flowers in clustered spikes to 6 cm long. Trumpet trees have a hollow trunk and branches, with the hollows divided into a series of chambers by partitions. There are separate male and female plants required for reproduction.

Tropical soda apple (*Solanum viarum*)

Tropical soda apple was first identified in Australia in the Kempsey area in August 2010. It has a restricted distribution within Northern Rivers Region and is a declared Class 2 noxious weed. Current distribution is limited to Clarence Valley, Kyogle and Richmond Valley Shires; however, it has the potential to spread to coastal areas of Northern Rivers Region.

The major source of infestation in the Region has been from both the Casino and Grafton cattle saleyards. In the Clarence Valley infestations have been found at numerous locations including Lawrence and Copmanhurst.

Giant devil's fig (*Solanum chrysotrichum*)

Giant devil's fig is listed as a new and emerging weed by FNCW and will be considered for declaration as a Class 3 weed in 2012. It is most commonly found along creeks banks, waterways, coastal forest and disturbed sites. Giant devil's fig tolerates and survives environmental extremes and grows in a variety of soil types and conditions. Twenty years ago this plant was restricted to the Tuntable Creek area in Lismore Shire.

It is known to occur in the Lismore, Tweed, Ballina, Byron and Kyogle Shires but not Richmond or Clarence Valley Shires. In the 2010–2011 season invasion into areas as far as Toonumbar to the west has been reported. It is known from Nimbin area, Tuntable Creek (where it is spreading through bird dispersal into Nightcap National Park), Terania Creek, Rosebank and on roadsides in Border Ranges NP. It is also recorded in Stotts Island, Brunswick Heads (North) and Cudgen nature reserves. In South East Queensland it is declared noxious.

Seeded banana (*Musa velutina* and *M. ornata*)

Seeded banana is known to occur in isolated patches in the Murwillumbah and Nimbin areas of northern NSW. Recent outbreaks have been confirmed adjacent to Nightcap National Park near Nimbin and Wilson NR in Lismore; it is likely that it has spread into these reserves. Throughout the Region the distribution and extent of seeded bananas is not well known. These species are also known to occur in Queensland.

Seeded banana is highly adaptable and has the potential to become a serious weed issue on the North Coast. Both species are well suited to a wide variety of soil types and the climate in the Region is suitable for both species. Consideration may be given to declaration as a noxious weed sometime in the future.

FNCW will undertake surveys to map the extent of the infestations and undertake necessary control to eradicate the pest. Other species of seeded banana may also occur in the Region.

Miconia (*Miconia* spp.)

Miconia is a rainforest tree native to South America. All miconia species are declared noxious throughout NSW as Class 1 weeds and are priority weeds for eradication for FNCW, and Clarence Valley and Tenterfield councils.

The climate throughout much of northern and eastern Australia is ideal for the plant and, in April 2003, 16 miconia plants were seized from a nursery in Northern Rivers Region. In 2010 an intensive investigation of the area was undertaken, locating sites at Burringbar, Tomewin and North Tumbulgum. Plants have been sold at local markets (e.g. Bangalow) and as a result the highest risk of occurrence is within the Tweed Shire. The parks likely to be affected include Border Ranges, Nightcap, Mount Jerusalem, Mooball and Wollumbin NPs and Limpinwood and Numinbah NRs.

It is not currently known to be present in Clarence North Area in Clarence Valley Council operational area.

Appendix 2 Regional involvement in external working groups

Meeting name	Park	Meeting schedule	Stakeholders	Responsible stakeholder for working group	NPWS representative
Cape Byron Headland Reserve Trust	Cape Byron SCA	As required	Trust members	NPWS	Regional Manager
Githabul National Parks Advisory Committee	Githabul ILUA parks and reserves	Quarterly	Githabul Native Title holders, NPWS	NPWS	Regional Manager
Byron Coast Management Committee	ILUA parks and reserves	Quarterly	Arakwal representatives, NPWS,	NPWS	Regional Manager
Arakwal National Park Management Committee	Arakwal NP	Quarterly	Arakwal representatives, Byron Shire Council, NPWS	NPWS	Regional Manager
Wollumbin Consultative Group	Wollumbin NP	Quarterly	Representatives of Aboriginal groups with a cultural interest in Wollumbin, NPWS, Tweed-Byron Aboriginal Lands Council, OEH, Tweed Council	NPWS	Tweed Area Manager
Bandjalang Interim Advisory Committee	19 parks and reserves in Richmond River, Clarence North and Tweed-Kyogle Areas	Quarterly	NPWS, Bandjalang representatives, Native Title Services Corporation	NPWS	Regional Manager
Local Aboriginal communities	Various parks and reserves	Pest species awareness, training and control programs	Local Aboriginal communities	Relevant Area staff with assistance from PMO	Relevant Area staff

Meeting name	Park	Meeting schedule	Stakeholders	Responsible stakeholder for working group	NPWS representative
MoU - cooperative cross border management of parks and reserves	Various cross border parks and reserves in NSW and World Heritage Gondwana Rainforests	Meet at least annually	NPWS and DNPRSR	NPWS or DNPRSR	Regional Manager
Department of Defence MoU	Bundjalung NP and SCA	As required	Dept of Defence	Area staff with assistance from PMO	Relevant Area staff
Southern Cross MoU	All parks and reserves	Provision of assistance with integrated projects	Southern Cross University – students (interns, post graduates)	All Regional staff	Relevant Regional staff
North Eastern Pest Animal Advisory Committee	All parks and reserves	Quarterly meetings	DPI (Agriculture, Lands and Forests), LHPA's, NRCMA, Game Council of NSW, RSPCA	Relevant regional staff with assistance from PMO	PMO
North Coast Weeds Advisory Committee	All parks and reserves	Quarterly meetings	DPI (Agriculture, Lands and Forests), LHPA's, NRCMA, Local councils	Relevant regional staff with assistance from PMO	PMO
South East Queensland Pest Advisory Forum	All parks and reserves	Quarterly	DNPRSR, Biosecurity Queensland (Land Protection Officers), Landcare, local councils	Relevant regional staff with assistance from PMO	PMO
Newrybar Swamp Feral Pig Management Committee	Ballina NR	Quarterly	Ballina Council, North Coast LHPA, RSPCA, local landholders	Richmond River Area staff with assistance from PMO	RRA staff and PMO
Everlasting Swamp Feral Pig Management Group	Everlasting Swamp SCA	As required	Clarence Valley Council, North Coast LHPA, RSPCA, Forest NSW, private landholders	Clarence North Area Ranger with assistance from PMO	Clarence North staff and PMO

Meeting name	Park	Meeting schedule	Stakeholders	Responsible stakeholder for working group	NPWS representative
Bungawalbin Group - Feral Pig Management Committee	Bungawalbin SCA, NP, NR, Yarringully NR, SCA	Quarterly	LHPA, Forests NSW, landholders, RSPCA, Council, NPWS	Richmond River Area staff with assistance from PMO	RRA staff and PMO
Pandanus Planthopper Working Group	All coastal parks and reserves	As required	Tweed, Byron, Ballina, Richmond Valley, Clarence Valley Councils, DPI Agriculture and Lands	Relevant regional staff with assistance from PMO	PMO
Regional Bitou Group	All coastal parks and reserves	Biannual	NPWS/DPI Lands, Dept of Defence, Ballina, Richmond Valley, Tweed, Byron, Clarence Valley Councils, Far North Coast Weeds, NRCMA	PMO	NPWS Ranger from each coastal Area, SRNCR, PMO
Regional Shorebird Group	All coastal parks and reserves	At least biannual	NPWS/DPI Lands, Dept of Defence, Ballina, Richmond Valley, Tweed, Byron, Clarence Valley Councils, volunteer shorebird groups eg. Byron Bird Buddies, Tweed Bird Observers, Australian Seabird Rescue, NRCMA	PMO	NPWS Ranger from each coastal Area, SRNCR, PMO
Bell Miner Associated Dieback Working Group (BMAD)	Various parks and reserves eg. Border Ranges NP, Toonumbar NP, Richmond Range NP		NPWS, North East Forest Alliance, FNSW, NRCMA, DPI/Lands, Landcare, Landholders, Apairy representatives, Private Forestry representatives	Tweed-Kyogle Area with assistance from PMO	Tweed-Kyogle Area staff
Regional Discovery Ranger Program	Various parks and reserves	Education and awareness programs	Department of Education and local schools	Discovery Coordinator with assistance from SRNCR and PMO	Discovery Coordinator
Tweed Vegetation Management Committee	Tweed Area coastal parks and reserves	As required	Tweed Shire Council and Far North Coast Weeds, NRCMA, local landholders and Landcare groups	Tweed Area with assistance from PMO	Tweed Area Ranger and PMO
Darling Downs – Moreton Rabbit Board	Various border parks and reserves	Attend meetings as required	DNPRSR and relevant LHPAs	Tweed-Kyogle Area with assistance from PMO	PMO

Meeting name	Park	Meeting schedule	Stakeholders	Responsible stakeholder for working group	NPWS representative
Aquatic Weed Taskforce (formerly known as the Alligator Weed Taskforce)	Various parks and reserves	Biannual	FNCW, NSW DPI/Agriculture, NSW Farmers, local landholders, DPI/Lands, NPWS, Wetland Care Australia, NRCMA	DPI/Ag	PMO
Invasive Animals CRC	Various parks and reserves	As required, (steering committee meetings in proposed extension bid from 1/7/12 for 5 years)	NPWS, NSW DPI/Ag, International CRC Invasive Animals	NSW DPI/Ag	PMO
Byron Bird Buddies	Byron coast Area parks and reserves	Quarterly	Byron Bird Buddies volunteers, Byron Shire Council, Marine Parks, NPWS	NPWS	Byron Coast Ranger
Local Landcare and interest groups	Various parks and reserves		Local council and local Landcare groups	Relevant Area staff with assistance from PMO	PMO

Appendix 3 Summary of relevant EECs

Relevant EECs listed under the NSW TSC Act

Byron Bay Dwarf Graminoid Clay Heath

This community consists of low-growing (to 50cm tall) woody shrubs, grasses and grass-like plants with patches of taller shrubs and occasional larger trees. The structure of the community is a heathland with occasional emergents of *Corymbia intermedia* and *Lophostemon suaveolens*. The most common plants include fern-leaved banksia (*Banksia oblongifolia*), hairy bushpea (*Pultenaea villosa*), kangaroo grass (*Themeda australis*) and broad sword sedge (*Lepidosperma laterale*). It is found only at Byron Bay located on gently sloping clay ridges of low relief. Only 5 hectares of this community remains, occurring in small, disturbed and isolated fragments.

Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion

Coastal Cypress Pine Forest characteristically has a closed to open canopy of coastal cypress pine (*Callitris columellaris*), which may sometimes be mixed with eucalypts such as pink bloodwood eucalyptus intermedia *E. pilularis* or scribbly gum *E. signata*, acacias including salwood *Acacia disparrima* subsp. *disparrimaalso* black she-oak *Allocasuarina littoralis*, coast banksia *Banksia integrifolia* subsp. *integrifoli*a, old-man banksia *Banksia serrata* and/or rainforest trees. The understorey of shrubs, sedges and herbs is typically open to sparse. The community may have a distinctive litter layer with patches of compressed coastal cypress pine branchlets. Undisturbed stands of the community may have a woodland or forest structure, with coastal cypress pine dominating the canopy, although larger trees such as eucalypts may be emergent. Stands of the community that have been partially cleared in the past may be reduced to scattered trees. Fires may also influence the structure of the community, as the dominant tree species, coastal cypress pine, is generally killed when burnt. Post-fire regeneration of the community may therefore create a shrubland or heathland.

Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner Bioregions

Coastal Saltmarsh occurs in the intertidal zone on the shores of estuaries and lagoons that are permanently or intermittently open to the sea. It is frequently found as a zone on the landward side of mangrove stands. Characteristic plants include *Baumea juncea, Juncus krausii, Sarcocornia quinqueflora, Sporobolus virginicus, Triglochin striata, Isolepis nodosa, Samolus repens,* and *Selliera radicans*. Tall reeds may also occur, as well as salt pans.

Freshwater Wetlands on Coastal Floodplains

Freshwater wetlands are associated with coastal areas subject to periodic flooding and in which standing fresh water persists for at least part of the year in most years. The community typically occurs on silts, muds or humic loams in low-lying parts of floodplains, alluvial flats, depressions, drainage lines, backswamps, lagoons and lakes, generally below 20m elevation on level areas, and dominated by herbaceous plants with very few woody species.

Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions

Generally a closed forest, the structure and composition is strongly influenced by its proximity to the ocean. Plant species of this community are predominantly rainforest

species and vines may be a major component of the canopy. Scattered emergent individuals of sclerophyll species, such as *Angophora costata, Banksia integrifolia, Eucalyptus botryoides* and *E. tereticornis*, occur in many stands. Littoral rainforest is very rare and occurs in many small stands. It occurs on sand dunes and on soil derived from underlying rock. Stands on headlands exposed to strong wind action may take the form of dense, wind pruned thickets, while stands in sheltered sites are generally taller. Characteristic species include *Acmena smithii, Acronychia oblongifolia, Capparis arborea, Ficus watkinsiana, Melicope vitiflora, Syzygium leuhmanii* and *Tetrastigma nitens*.

Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion

This rainforest community now occurs only as small remnants in scattered localities on the NSW North Coast on fertile soils in lowland river valleys. Larger stands typically have a dense canopy, blocking most light from reaching the ground, creating cool, moist conditions. This community supports a rich diversity of plants and animals. Typical tree species include *Ficus macrophylla, F. obliqua* and *F. watkinsiana, Archontophoenix cunninghamiana, Livistona australis, Grevillea robusta, Syzygium australe* and *Castanospermum australe*.

Lowland Rainforest in NSW North Coast and Sydney Basin Bioregion

Lowland rainforest may be associated with a range of high-nutrient geological substrates, notably basalts and fine-grained sedimentary rocks, on coastal plains and plateaux, footslopes and foothills. In the north of its range, lowland rainforest is found up to 600 m above sea level, but in the Sydney Basin Bioregion it is limited to elevations below 350 m.

Lowland rainforest in a relatively undisturbed state has a closed canopy, characterised by a high diversity of trees whose leaves may be mesophyllous and encompass a wide variety of shapes and sizes. Typically, the trees form three major strata – emergents, canopy and sub-canopy – which, combined with variations in crown shapes and sizes, give the canopy an irregular appearance.

The trees are taxonomically diverse at the genus and family levels, and some may have buttressed roots. A range of plant growth forms are present in lowland rainforest, including palms, vines and vascular epiphytes. Scattered eucalypt emergents (e.g. *Eucalyptus grandis, E. saligna*) may occasionally be present. In disturbed stands of this community the canopy continuity may be broken, or the canopy may be smothered by exotic vines. Although every stand of rainforest is unique in terms of its biota, lowland rainforest can be characterised by the following species: *Acacia irrorata, A. melanoxylon, Adiantum formosum, Breynia oblongifolia* and *Ceratopetalum apetalum*; these species may be locally abundant in some stands of the lowland rainforest, but may be more common overall in other communities.

Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion

This subtropical forest occurs on the coastal floodplains of the North Coast of NSW. It has a tall open tree layer of eucalypts, which may exceed 40 m in height, but can be considerably shorter in regrowth stands or under conditions of lower site quality. While the composition of the tree stratum varies considerably, the most widespread and abundant dominant trees include *Eucalyptus tereticornis* (forest red gum), *E. siderophloia* (grey ironbark), *Corymbia intermedia* (pink bloodwood) and, north of the Macleay floodplain, *Lophostemon suaveolens* (swamp turpentine).

It occupies central or marginal parts of floodplains and sandy flats, including Pleistocene back-barrier flats; these are habitats where flooding is periodic and soils are rich in silt and sand, sometimes humic, and show little influence of saline ground

water. It is associated with clay-loams and sandy loams on periodically inundated alluvial flats, drainage lines and river terraces associated with coastal floodplains. It generally occurs below 50 m, but may occur on localised river flats up to 250 m elevation. The structure of the community may vary from tall open forests to woodlands, although partial clearing may have reduced the canopy to scattered trees. Typically these forests and woodlands form mosaics with other floodplain forest communities and treeless wetlands, and often they fringe treeless floodplain lagoons or wetlands with semi-permanent standing water.

Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner Bioregions

This community is found on the coastal floodplains of NSW. It has a dense to sparse tree layer in which *Casuarina glauca* (swamp oak) is the dominant species northwards from Bermagui. Other trees including *Acmena smithii* (lilly pilly), *Glochidion* spp. (cheese trees) and *Melaleuca* spp. (paperbarks) may be present as subordinate species, and are found most frequently in stands of the community northwards from Gosford. Tree diversity decreases with latitude, and *Melaleuca ericifolia* is the only abundant tree in this community south of Bermagui.

It is associated with grey-black clay-loams and sandy loams, where the groundwater is saline or subsaline, on waterlogged or periodically inundated flats, drainage lines, lake margins and estuarine fringes associated with coastal floodplains. It generally occurs below 20 m (rarely above 10 m) elevation. The structure of the community may vary from open forests to low woodlands, scrubs or reedlands with scattered trees.

Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions

This swamp community has an open to dense tree layer of eucalypts and paperbarks, although some remnants now only have scattered trees as a result of partial clearing. The trees may exceed 25 m in height, but can be considerably shorter in regrowth stands or under conditions of lower site quality where the tree stratum is low and dense. For example, stands dominated by *Melaleuca ericifolia* typically do not exceed 8 m in height. The community also includes some areas of fernland and tall reedland or sedgeland, where trees are very sparse or absent.

The most widespread and abundant dominant trees include *Eucalyptus robusta* (swamp mahogany), *Melaleuca quinquenervia* (paperbark) and, south from Sydney, *Eucalyptus botryoides* (bangalay) and *Eucalyptus longifolia* (woollybut). Other trees may be scattered throughout at low abundance or may be locally common at few sites, including *Callistemon salignus* (sweet willow bottlebrush), *Casuarina glauca* (swamp oak) and *Eucalyptus resinifera* subsp*. hemilampra* (red mahogany), *Livistona australis* (cabbage palm) and *Lophostemon suaveolens* (swamp turpentine).

It is associated with humic clay loams and sandy loams, on waterlogged or periodically inundated alluvial flats and drainage lines of coastal floodplains, and generally occurs below 20 m (though sometimes up to 50 m) elevation. The composition of the community is primarily determined by the frequency and duration of waterlogging and the texture, salinity, nutrient and moisture content of the soil, and latitude.

Themeda grassland on Seacliffs and Coastal Headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions

Themeda australis is the dominant species in the Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner bioregion EEC. *Themeda australis* is an extremely widespread species, but in

this community it may have a distinctive appearance, being prostrate with glaucous leaves. Scattered shrubs occur in many stands, most frequently *Pimelea linifolia*, *Banksia integrifolia* and *Westringia fruticosa*. These and other woody species often have dwarf growth forms. Although a number of woody species are listed as part of the community, these are usually sparsely distributed and may be absent from some stands. Tussocks of *Poa poiformis* may be found in some stands of the community, but *Poa poiformis* – dominated tussock grassland is generally found lower on cliffs (closer to the sea and more exposed to spray) and on steeper slopes.

White Gum Moist Forest in the New South Wales North Coast Bioregion

White Gum Moist Forest typically occurs on the escarpment slopes and foothills of north-east NSW, most commonly between 400 and 650 m elevation, where mean annual rainfall exceeds 1000 mm and has a summer maximum. Soils that support the community are relatively fertile and derived from basalt or fine-grained sediments, or colluvium or alluvium influenced by the presence of these substrates upslope or upstream. The community is typically found in gullies and on lower slopes, but has been recorded on upper slopes and basalt ridges. It occurs less commonly on west-facing slopes than on other aspects. White Gum Moist Forest occurs in the NSW North Coast Bioregion, as well as adjacent regions in south-east Queensland.

Relevant EECs listed under the EPBC Act

Littoral Rainforest and Coastal Vine Thickets of Eastern Australia

Littoral Rainforest and Coastal Vine Thickets of Eastern Australia typically occurs close to the coast from northern Queensland southwards to eastern Victoria and on offshore islands. It occurs as a series of naturally disjunct and localised stands, on a range of landforms which have been influenced by coastal processes including dunes and flats, headlands and sea-cliffs. The appearance of this ecological community and its plant species can vary greatly depending on location, but it appears as a complex of rainforest and vine thickets. The vegetation generally is structurally diverse, with native trees, shrubs, vines and ground layers all potentially being present. The vegetation typically has a closed canopy.

Lowland Subtropical Rainforest on Basalt Soils and Alluvium within North Eastern NSW and South Eastern Queensland

Lowland Subtropical Rainforest occurs on basalt and alluvial soils. It also occurs on rhyolitic soils and soils derived from metasediments. The ecological community occurs in areas <300 m above sea level. It is acknowledged that aspect can result in the community being found at > 300 m altitude on north-facing slopes, but typically 300 m defines the extent. Generally it is a moderately tall (≥20 m) to tall (≥ 30 m) closed forest (canopy cover ≥ 70%). Leaves are relatively large (notophyll to mesophyll) and species with compound leaves are common. Typically there is a relatively low abundance of species from the genera Eucalyptus, Melaleuca and Casuarina. Buttresses are common as is an abundance and diversity of vines, ferns and epiphytes.

Appendix 4 Summary of relevant KTPs

Key Threatening Process	Type	State	National
Invasion and establishment of exotic vines and scramblers	Weed	●	
Invasion of native plant communities by bitou bush and boneseed	Weed	●	
Invasion of native plant communities by exotic perennial grasses	Weed	●	
Invasion, establishment and spread of *Lantana camara*	Weed	●	
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants	Weed	●	●
Competition and grazing by the feral European rabbit	Pest animal	●	●
Competition and habitat degradation by feral goats (*Capra hircus*)	Pest animal	●	●
Competition from feral honeybees	Pest animal	●	
Herbivory and environmental degradation caused by feral deer	Pest animal	●	
Importation of red imported fire ants into NSW	Pest animal	●	●
Introduction of the large earth bumblebee (*Bombus terrestris*)	Pest animal	●	
Invasion and establishment of the cane toad	Pest animal	●	●
Invasion of the yellow crazy ant (*Anoplolepis gracilipes*)	Pest animal	●	●
Predation by feral cats	Pest animal	●	●
Predation by the European red fox	Pest animal	●	●
Predation by the plague minnow (*Gambusia holbrooki*)	Pest animal	●	
Predation by the ship rat (*Rattus rattus*) on Lord Howe Island	Pest animal	●	●
Predation, habitat degradation, competition and disease transmission by feral pigs (*Sus scrofa*)	Pest animal	●	●
Predation and hybridisation by feral dogs, *Canis lupus familiaris*	Pest animal	●	
Alteration to the natural flow regimes of rivers, streams, floodplains and wetlands.	Habitat loss/change	●	
Bush rock removal	Habitat loss/change	●	
Clearing of native vegetation	Habitat loss/change	●	●
Alteration of habitat following subsidence due to long wall mining	Habitat loss/change	●	
Ecological consequences of high frequency fires	Habitat loss/change	●	
Human-caused climate change	Habitat loss/change	●	●
Loss and/or degradation of sites used for hill-topping by butterflies	Habitat loss/change	●	
Removal of dead wood and dead trees	Habitat loss/change	●	
Infection by *Psittacine circoviral* (beak and feather) disease affecting endangered psittacine	Disease	●	●

species			
Infection of frogs by amphibian *chytrid* fungus causing the disease chytridiomycosis	Disease	•	•
Infection of native plants by *Phytophthora cinnamomi*	Disease	•	•
Death or injury to marine species following capture in shark control programs on ocean beaches	Other threat	•	
Entanglement in, or ingestion of anthropogenic debris in marine and estuarine environments	Other threat	•	•
Forest eucalypt dieback associated with over-abundant bell miners and psyllids	Habitat loss/change	•	
Introduction and establishment of exotic rust fungi of the order Uredinales pathogenic on plants of the family Myrtaceae	Disease	•	

Appendix 5 Exotic perennial grasses listed as key threatening processes in NR

Scientific name	Common name
Agrostis capillaris	Browntop bent
Andropogon virginicus	Whisky grass
Cenchrus ciliaris	Buffel grass
Chloris gayana	Rhodes grass
Cortaderia spp.	Pampas grasses
Ehrharta erecta	Panic veldtgrass
Eragrostis curvula	African lovegrass
Hyparrhenia hirta	Coolatai grass
Melinis minutiflora	Molasses grass
Nassella neesiana	Chilean needlegrass
Nassella trichotoma	Serrated tussock
Panicum repens	Torpedo grass
Paspalum urvillei	Vasey grass
Pennisetum clandestinum	Kikuyu grass
Sporobolus fertilis	Giant Parramatta grass
Phalaris aquatica	Phalaris
Setaria sphacelata	South African pigeon grass
Sporobolus natalensis	Giant rats tail grass
Urochloa mutica	Para grass

Appendix 6 Declared noxious weeds classes

As at 8 November 2011, the following weeds are declared noxious in the Far North Coast County, Tenterfield and Clarence Valley Council control areas. Further information on the legal requirements of a weed's listing and any variation in status within a local control area is available on the DPI website[5] or from the local authority (e.g. Far North Coast Weeds, Tenterfield Shire Council or Clarence Valley Council).

The information listed below is from the DPI website and is based on Weed Control Orders published in the NSW Government Gazette. These orders detail weeds declared noxious in NSW under the Noxious Weeds Act.

Control objectives for plants in each class

Class 1– prevent the introduction and establishment of those plants in NSW.

Class 2 – prevent the introduction and establishment of those plants in parts of NSW.

Class 3 – reduce the area and the negative impact of those plants in parts of NSW.

Class 4 – minimise the negative impact of those plants on the economy, community or environment of NSW.

Class 5 – prevent the introduction of those plants into NSW, the spread of those plants within NSW or from NSW to another jurisdiction.

Control classes of noxious weeds

Class 1 - Plants that pose a potentially serious threat to primary production or the environment and are not present in the state or are present only to a limited extent. The plant must be eradicated from the land and the land must be kept free of the plant. The weeds are also 'notifiable' and a range of restrictions on their sale and movement exist.

Class 2 - Plants that pose a potentially serious threat to primary production or the environment of a region to which the order applies and are not present in the region or are present only to a limited extent. The plant must be eradicated from the land and the land must be kept free of the plant. The weeds are also 'notifiable' and a range of restrictions on their sale and movement exist.

Class 3 - Plants that pose a potentially serious threat to primary production or the environment of a region to which the order applies, are not widely distributed in the area and are likely to spread in the area or to another area. The plant must be fully and continuously suppressed and destroyed.

Class 4 - Plants that pose a potentially serious threat to primary production, the environment or human health, are widely distributed in an area to which the order applies and are likely to spread in the area or to another area.

Class 5 - These weeds are prohibited, under the Noxious Weeds Act, from sale or knowing distribution in NSW.

The information contained in this page is based on knowledge and understanding of Order(s) under the Noxious Weeds Act at the time of writing or at the time of last review. However, because there may be changes to the Order(s), readers are reminded of the need to ensure that information on which they rely is up to date, and some weed declarations of particular weeds have explanatory or qualifying notes and readers should check the accuracy, completeness and currency of information by reading the Order(s), inquiring with the appropriate officer of the relevant Local Government Authority, and/or consulting with an independent advisor.

[5] www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/profiles

Noxious weed declarations for Far North Coast County Council

This control area includes the local council areas of Ballina, Byron, Kyogle, Lismore, Richmond Valley, and Tweed.

Weed	Class	Legal requirements
African feathergrass [*Pennisetum macrourum*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
African turnipweed [*Sisymbrium runcinatum*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
African turnipweed [*Sisymbrium thellungii*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Aleman grass [*Echinochloa polystachya*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Alligator weed [*Alternanthera philoxeroides*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Anchored water hyacinth [*Eichhornia azurea*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Annual ragweed [*Ambrosia artemisiifolia*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Arrowhead [*Sagittaria montevidensis*]	4	The plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Artichoke thistle [*Cynara cardunculus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Athel pine [*Tamarix aphylla*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Bathurst/Noogoora/Hunter/South American/Californian/cockle burr [*Xanthium* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Bear-skin fescue [*Festuca gautieri*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Bitou bush [*Chrysanthemoides monilifera* subspecies *rotundata*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Black knapweed [*Centaurea nigra*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Blackberry [*Rubus fruticosus* aggregate species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and

except cultivars Black satin, Chehalem Chester, Thornless Dirksen, Thornless Loch Ness, Murrindindi, Silvan Smooth stem, Thornfree		incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Boneseed [Chry*santhemoides monilifera* subspecies *monilifera*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Bridal creeper [Asparagus asparagoides]	4	The plant must not be sold propagated or knowingly distributed
Broad-leaf pepper tree [*Schinus terebinthifolius*]	3	The plant must be fully and continuously suppressed and destroyed
Broomrapes [*Orobanche* species] Includes all *Orobanche* species except the native *O. cernua* variety *australiana* and *O. minor*	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Burr ragweed [*Ambrosia confertiflora*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Cabomba [*Cabomba* species] Includes all *Cabomba* species except *C. furcata*	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Camphor laurel [*Cinnamomum camphora*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Cayenne snakeweed [*Stachytarpheta cayennensis*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Chilean needle grass [*Nassella neesiana*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Chinese celtis [*Celtis sinensis*]	3	The plant must be fully and continuously suppressed and destroyed
Chinese tallow tree [*Triadica sebifera*]	3	The plant must be fully and continuously suppressed and destroyed
Chinese violet [*Asystasia gangetica* subspecies *micrantha*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Clockweed [*Gaura parviflora*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Columbus grass [*Sorghum* x *almum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Corn sowthistle [*Sonchus arvensis*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration

Crofton weed [*Ageratina adenophora*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Dodder [*Cuscuta* species] Includes All *Cuscuta* species except the native species *C. australis, C. tasmanica* and *C. victoriana*	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
East Indian hygrophila [*Hygrophila polysperma*]	3	The plant must be fully and continuously suppressed and destroyed and the plant must not be sold propagated or knowingly distributed
English broom [*Cytisus scoparius*]		See Scotch broom
Espartillo [*Amelichloa brachychaeta*, *Amelichloa caudata*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Eurasian water milfoil [*Myriophyllum spicatum*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Fine-bristled burr grass [*Cenchrus brownii*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Fountain grass [*Pennisetum setaceum*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Gallon's curse [*Cenchrus biflorus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Giant Parramatta grass [*Sporobolus fertilis*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Giant rat's tail grass [*Sporobolus pyramidalis*]	3	The plant must be fully and continuously suppressed and destroyed
Glaucous starthistle [*Carthamus glaucus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Golden thistle [*Scolymus hispanicus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Green cestrum [*Cestrum parqui*]	3	The plant must be fully and continuously suppressed and destroyed
Groundsel bush [*Baccharis halimifolia*]	3	The plant must be fully and continuously suppressed and destroyed
Hackleberry, Celtis [*Celtis sinensis*]		See Chinese celtis
Harrisia cactus [*Harrisia species*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed

		This is an All of NSW declaration
Hawkweed [*Hieracium species*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Heteranthera [*Heteranthera reniformis*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Honey locust [*Gleditsia triacanthos*]	3	The plant must be fully and continuously suppressed and destroyed
Horsetail [*Equisetum species*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Hydrocotyle [*Hydrocotyle ranunculoides*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Hygro [*Hygrophila polysperma*]		See East Indian hygrophila
Hygrophila [*Hygrophila costata*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Hymenachne [*Hymenachne amplexicaulis* and hybrids]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Johnson grass [*Sorghum halepense*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Karoo thorn [*Acacia karroo*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Kochia [*Bassia scoparia*] except *Bassia scoparia* subspecies *trichophylla*	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Kosters curse [*Clidemia hirta*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Kudzu [*Pueraria lobata*]	3	The plant must be fully and continuously suppressed and destroyed
Lagarosiphon [*Lagarosiphon* major]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Lantana [*Lantana* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Leafy elodea [*Egeria densa*]	4	The plant must not be sold propagated or knowingly distributed This is an All of NSW declaration

Lippia [*Phyla canescens*]	4	The plant must not be sold propagated or knowingly distributed by any person other than a person involved in hay or lucerne production and the growth of the plant must be managed in a manner that reduces its spread and continuously inhibits its reproduct This is an All of NSW declaration
Long-leaf willow primrose [*Ludwigia longifolia*]	4	The plant must not be sold propagated or knowingly distributed
Mexican feather grass [*Nassella tenuissima*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mexican poppy [*Argemone mexicana*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Miconia [*Miconia* species]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mikania [*Mikania micrantha*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mimosa [*Mimosa pigra*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mistflower [*Ageratina riparia*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Mossman River grass [*Cenchrus echinatus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Mysore thorn [*Caesalpinia decapetala*]	3	The plant must be fully and continuously suppressed and destroyed
Nodding thistle [*Carduus nutans*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Noogoora burr [*Xanthium* species]		See Bathurst/Noogoora/Hunter/South American/Californian/cockle burr
Pampas grass [*Cortaderia* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Parthenium weed [*Parthenium hysterophorus*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Pond apple [*Annona glabra*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration

Prickly acacia [*Acacia nilotica*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Prickly pear [*Cylindropuntia* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Prickly pear [*Opuntia* species] Includes all *Opuntia* species except *O. ficus-indica*	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Privet (Broad-leaf) [*Ligustrum lucidum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its flowering and reproduction
Privet (Narrow-leaf/Chinese) [*Ligustrum sinense*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its flowering and reproduction
Red rice [*Oryza rufipogon*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Rhus tree [*Toxicodendron succedaneum*]	4	The growth of the plant must be managed in a manner that prevents any above ground part the plant from encroaching within 2 metres of the property boundary and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Rubbervine [*Cryptostegia grandiflora*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Sagittaria [*Sagittaria platyphylla*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Salvinia [*Salvinia molesta*]	3	The plant must be fully and continuously suppressed and destroyed
Scotch broom [*Cytisus scoparius*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Senegal tea plant [*Gymnocoronis spilanthoides*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Serrated tussock [*Nassella trichotoma*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed

Siam weed [*Chromolaena odorata*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Smooth-stemmed turnip [*Brassica barrelieri* subspecies *oxyrrhina*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Soldier thistle [*Picnomon acarna*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Spiny burrgrass [*Cenchrus incertus*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Spiny burrgrass [*Cenchrus longispinus*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Spotted knapweed [*Centaurea stoebe* subspecies *micranthos*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
St. John's wort [*Hypericum perforatum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Texas blueweed [*Helianthus ciliaris*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Tropical soda apple [*Solanum viarum*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Water caltrop [*Trapa species*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Water hyacinth [*Eichhornia crassipes*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Water lettuce [*Pistia stratiotes*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Water soldier [*Stratiotes aloides*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Willows [*Salix* species] Includes all *Salix* species except *S. babylonica, S.* x *reichardtii*, *S*. x *calodendron*	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Witchweed [*Striga* species] *Striga* species except the native *Striga parviflora*	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration

Yellow bells [*Tecoma stans*]	3	The plant must be fully and continuously suppressed and destroyed
Yellow burrhead [*Limnocharis flava*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Yellow nutgrass [*Cyperus esculentus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration

Noxious weed declarations for Tenterfield Shire Council

Weed	Class	Legal requirements
African boxthorn [*Lycium ferocissimum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
African feathergrass [*Pennisetum macrourum*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
African turnipweed [*Sisymbrium runcinatum*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
African turnipweed [*Sisymbrium thellungii*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Alligator weed [*Alternanthera philoxeroides*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Anchored water hyacinth [*Eichhornia azurea*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Annual ragweed [*Ambrosia artemisiifolia*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Arrowhead [*Sagittaria montevidensis*]	4	The plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Artichoke thistle [*Cynara cardunculus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Athel pine [*Tamarix aphylla*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Bathurst/Noogoora/Hunter/South American/Californian/cockle burr [*Xanthium* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Bear-skin fescue [*Festuca gautieri*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with

		This is an All of NSW declaration
Black knapweed [*Centaurea nigra*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Blackberry [*Rubus fruticosus* aggregate species] except cultivars Black satin Chehalem Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan Smooth stem, Thornfree	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Boneseed [*Chrysanthemoides monilifera* subspecies *monilifera*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Bridal creeper [*Asparagus asparagoides*]	4	The plant must not be sold propagated or knowingly distributed
Broomrapes [*Orobanche* species] Includes all *Orobanche* species except the native *O. cernua* variety *australiana* and *O. minor*	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Burr ragweed [*Ambrosia confertiflora*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Cabomba [*Cabomba* species] Includes all *Cabomba* species except *C. furcata*	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Cayenne snakeweed [*Stachytarpheta cayennensis*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Chilean needle grass [*Nassella neesiana*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Chinese violet [*Asystasia gangetica* subspecies *micrantha*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Clockweed [*Gaura parviflora*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Columbus grass [*Sorghum* x *almum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Corn sowthistle [*Sonchus arvensis*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Crofton weed [*Ageratina adenophora*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Dodder [*Cuscuta* species]	5	The requirements in the Noxious Weeds Act 1993

Includes All *Cuscuta* species except the native species *C. australis, C. tasmanica* and *C. victoriana*		for a notifiable weed must be complied with This is an All of NSW declaration
East Indian hygrophila [*Hygrophila polysperma*]	4	The plant must not be sold propagated or knowingly distributed
English broom [*Cytisus scoparius*]		See Scotch broom
Espartillo [*Amelichloa brachychaeta*, *Amelichloa caudata*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Eurasian water milfoil [*Myriophyllum spicatum*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Fine-bristled burr grass [*Cenchrus brownii*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Fountain grass [*Pennisetum setaceum*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Gallon's curse [*Cenchrus biflorus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Giant Parramatta grass [*Sporobolus fertilis*]	3	The plant must be fully and continuously suppressed and destroyed
Glaucous starthistle [*Carthamus glaucus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Golden dodder [*Cuscuta campestris*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Golden thistle [*Scolymus hispanicus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Green cestrum [*Cestrum parqui*]	3	The plant must be fully and continuously suppressed and destroyed
Groundsel bush [*Baccharis halimifolia*]	3	The plant must be fully and continuously suppressed and destroyed
Harrisia cactus [*Harrisia* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Hawkweed [*Hieracium* species]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Hemlock [*Conium maculatum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction

Heteranthera [*Heteranthera reniformis*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Horsetail [*Equisetum species*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Hydrocotyle [*Hydrocotyle ranunculoides*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Hygro [*Hygrophila polysperma*]		See East Indian hygrophila
Hymenachne [*Hymenachne amplexicaulis* and hybrids]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Italian bugloss [*Echium* species]		See Paterson's curse, Vipers bugloss, Italian bugloss
Johnson grass [*Sorghum halepense*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Karoo thorn [*Acacia karroo*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Kochia [*Bassia scoparia*] except *Bassia scoparia* subspecies *trichophylla*	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Kosters curse [*Clidemia hirta*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Lagarosiphon [*Lagarosiphon* major]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Lantana [*Lantana* species]	4	The plant must not be sold propagated or knowingly distributed
Leafy elodea [*Egeria densa*]	4	The plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Lippia [*Phyla canescens*]	4	The plant must not be sold propagated or knowingly distributed by any person other than a person involved in hay or lucerne production and the growth of the plant must be managed in a manner that reduces its spread and continuously inhibits its reproduct This is an All of NSW declaration
Long-leaf willow primrose [*Ludwigia longifolia*]	4	The plant must not be sold propagated or knowingly distributed
Long-style feather grass [*Pennisetum villosum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction

Mesquite [*Prosopis* species]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Mexican feather grass [*Nassella tenuissima*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mexican poppy [*Argemone mexicana*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Miconia [*Miconia* species]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mikania [*Mikania* micrantha]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mimosa [*Mimosa* pigra]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mossman River grass [*Cenchrus echinatus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Mother-of-millions [*Bryophyllum* species] Species included are *Bryophyllum delagoense Bryophyllum* x *houghtonii Bryophyllum pinnatum*	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Nodding thistle [*Carduus nutans*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Noogoora burr [*Xanthium* species]		See Bathurst/Noogoora/Hunter/South American/Californian/cockle burr
Pampas grass [*Cortaderia* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Parkinsonia [*Parkinsonia aculeata*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Parthenium weed [*Parthenium hysterophorus*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Paterson's curse, Vipers bugloss, Italian bugloss [*Echium* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Pond apple [*Annona glabra*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Prickly acacia [*Acacia nilotica*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Prickly pear [*Cylindropuntia* species]	4	The growth of the plant must be managed in a

		manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Prickly pear [*Opuntia* species] Includes all *Opuntia* species except *O. ficus-indica*	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Privet (Broad-leaf) [*Ligustrum lucidum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its flowering and reproduction
Privet (Narrow-leaf/Chinese) [*Ligustrum sinense*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its flowering and reproduction
Red rice [*Oryza rufipogon*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Rhus tree [*Toxicodendron succedaneum*]	4	The growth of the plant must be managed in a manner that prevents any above ground part the plant from encroaching within 2 metres of the property boundary and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Rubbervine [*Cryptostegia grandiflora*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Sagittaria [*Sagittaria platyphylla*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Salvinia [*Salvinia molesta*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Scotch broom [*Cytisus scoparius*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Senegal tea plant [*Gymnocoronis spilanthoides*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Serrated tussock [*Nassella trichotoma*]	3	The plant must be fully and continuously suppressed and destroyed and the plant must not be sold propagated or knowingly distributed
Siam weed [*Chromolaena odorata*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Silverleaf nightshade [*Solanum elaeagnifolium*]	3	The plant must be fully and continuously suppressed and destroyed

Smooth-stemmed turnip [*Brassica barrelieri* subspecies *oxyrrhina*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Soldier thistle [*Picnomon acarna*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Spiny burrgrass [*Cenchrus incertus*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Spiny burrgrass [*Cenchrus longispinus*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Spotted knapweed [*Centaurea stoebe* subspecies *micranthos*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
St. John's wort [*Hypericum perforatum*]	3	The plant must be fully and continuously suppressed and destroyed
Sweet briar [*Rosa rubiginosa*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Texas blueweed [*Helianthus ciliaris*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Tropical soda apple [*Solanum viarum*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Water caltrop [*Trapa species*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Water hyacinth [*Eichhornia crassipes*]	3	The plant must be fully and continuously suppressed and destroyed
Water lettuce [*Pistia stratiotes*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Water soldier [*Stratiotes aloides*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Willows [*Salix* species] Includes all *Salix* species except *S. babylonica, S.* x *reichardtii, S.* x *calodendron*	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Witchweed [*Striga* species] Striga species except the native *Striga parviflora*	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Yellow burrhead [*Limnocharis flava*]	1	The plant must be eradicated from the land and the land must be kept free of the plant.

		This is an All of NSW declaration
Yellow nutgrass [*Cyperus esculentus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration

Noxious weed declarations for Clarence Valley Council

Weed	Class	Legal requirements
African feathergrass [*Pennisetum macrourum*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
African turnipweed [*Sisymbrium runcinatum*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
African turnipweed [*Sisymbrium thellungii*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Aleman grass [*Echinochloa polystachya*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Alligator weed [*Alternanthera philoxeroides*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Anchored water hyacinth [*Eichhornia azurea*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Annual ragweed [*Ambrosia artemisiifolia*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Arrowhead [*Sagittaria montevidensis*]	4	The plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Artichoke thistle [*Cynara cardunculus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Athel pine [*Tamarix aphylla*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Bathurst/Noogoora/Hunter/South American/Californian/cockle burr [*Xanthium* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Bear-skin fescue [*Festuca gautieri*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Bitou bush [*Chrysanthemoides monilifera* subspecies *rotundata*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction

Black knapweed [*Centaurea nigra*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Black willow [*Salix nigra*]	3	The plant must be fully and continuously suppressed and destroyed
Blackberry [*Rubus fruticosus* aggregate species] except cultivars Black satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan Smooth stem, Thornfree	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Boneseed [Chrysanthemoides monilifera subspecies *monilifera*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Bridal creeper [*Asparagus asparagoides*]	4	The plant must not be sold propagated or knowingly distributed
Broad-leaf pepper tree [*Schinus terebinthifolius*]	3	The plant must be fully and continuously suppressed and destroyed
Broomrapes [*Orobanche* species] Includes all *Orobanche* species except the native *O. cernua* variety *australiana* and *O. minor*	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Burr ragweed [*Ambrosia confertiflora*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Cabomba [*Cabomba* species] Includes all *Cabomba* species except *C. furcata*	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Camphor laurel [*Cinnamomum camphora*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Cayenne snakeweed [*Stachytarpheta cayennensis*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Chilean needle grass [*Nassella neesiana*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Chinese celtis [*Celtis sinensis*]	3	The plant must be fully and continuously suppressed and destroyed
Chinese tallow tree [*Triadica sebifera*]	3	The plant must be fully and continuously suppressed and destroyed
Chinese violet [*Asystasia gangetica* subspecies *micrantha*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Clockweed [*Gaura parviflora*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with

		This is an All of NSW declaration
Columbus grass [*Sorghum* x *almum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Corn sowthistle [*Sonchus arvensis*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Crofton weed [*Ageratina adenophora*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Dodder [*Cuscuta* species] Includes All *Cuscuta* species except the native species *C. australis, C. tasmanica* and *C. victoriana*	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
East Indian hygrophila [*Hygrophila polysperma*]	3	The plant must be fully and continuously suppressed and destroyed and the plant must not be sold propagated or knowingly distributed
Espartillo [*Amelichloa brachychaeta*, *Amelichloa caudata*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Eurasian water milfoil [*Myriophyllum spicatum*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Fine-bristled burr grass [*Cenchrus brownii*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Fountain grass [*Pennisetum setaceum*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Gallon's curse [*Cenchrus biflorus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Giant Parramatta grass [*Sporobolus fertilis*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Giant rat's tail grass [*Sporobolus pyramidalis*]	3	The plant must be fully and continuously suppressed and destroyed
Glaucous starthistle [*Carthamus glaucus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Golden thistle [*Scolymus hispanicus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Green cestrum [*Cestrum parqui*]	3	The plant must be fully and continuously suppressed and destroyed
Groundsel bush [*Baccharis halimifolia*]	3	The plant must be fully and continuously suppressed and destroyed

Hackleberry, Celtis [*Celtis sinensis*]		See Chinese celtis
Harrisia cactus [*Harrisia* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Hawkweed [*Hieracium* species]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Heteranthera [*Heteranthera reniformis*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Honey locust [*Gleditsia triacanthos*]	3	The plant must be fully and continuously suppressed and destroyed
Horsetail [*Equisetum species*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Hydrocotyle [*Hydrocotyle ranunculoides*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Hygro [*Hygrophila polysperma*]		See East Indian hygrophila
Hygrophila [*Hygrophila costata*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Hymenachne [*Hymenachne amplexicaulis* and hybrids]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Johnson grass [*Sorghum halepense*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Karoo thorn [*Acacia karroo*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Kochia [*Bassia scoparia*] except *Bassia scoparia* subspecies *trichophylla*	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Kosters curse [*Clidemia hirta*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Kudzu [*Pueraria lobata*]	3	The plant must be fully and continuously suppressed and destroyed
Lagarosiphon [*Lagarosiphon* major]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Lantana [*Lantana* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction

		and the plant must not be sold propagated or knowingly distributed
Leafy elodea [*Egeria densa*]	4	The plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Lippia [*Phyla canescens*]	4	The plant must not be sold propagated or knowingly distributed by any person other than a person involved in hay or Lucerne production and the growth of the plant must be managed in a manner that reduces its spread and continuously inhibits its reproduction This is an All of NSW declaration
Long-leaf willow primrose [*Ludwigia longifolia*]	4	The plant must not be sold propagated or knowingly distributed
Mexican feather grass [*Nassella tenuissima*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mexican poppy [*Argemone mexicana*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Miconia [*Miconia* species]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mikania [*Mikania micrantha*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mimosa [*Mimosa pigra*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Mistflower [*Ageratina riparia*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Mossman River grass [*Cenchrus echinatus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Mother-of-millions [*Bryophyllum* species] Species included are *Bryophyllum delagoense*, *Bryophyllum* x *houghtonii*, *Bryophyllum pinnatum*	3	The plant must be fully and continuously suppressed and destroyed and the plant must not be sold propagated or knowingly distributed
Mysore thorn [*Caesalpinia decapetala*]	3	The plant must be fully and continuously suppressed and destroyed
Nodding thistle [*Carduus nutans*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Noogoora burr [*Xanthium* species]		See Bathurst/Noogoora/Hunter/South American/Californian/cockle burr
Pampas grass [*Cortaderia* species]	4	The growth of the plant must be managed in a

		manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Parthenium weed [*Parthenium hysterophorus*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Pond apple [*Annona glabra*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Prickly acacia [*Acacia nilotica*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Prickly pear [*Cylindropuntia* species]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Prickly pear [*Opuntia* species] Includes all *Opuntia* species except *O. ficus-indica*	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Privet (Broad-leaf) [*Ligustrum lucidum*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its flowering and reproduction
Privet (Narrow-leaf/Chinese) [*Ligustrum sinense*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its flowering and reproduction
Red rice [*Oryza rufipogon*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Rhus tree [*Toxicodendron succedaneum*]	4	The growth of the plant must be managed in a manner that prevents any above ground part the plant from encroaching within 2 metres of the property boundary and the plant must not be sold propagated or knowingly distributed This is an All of NSW declaration
Rubbervine [*Cryptostegia grandiflora*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Sagittaria [*Sagittaria platyphylla*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Salvinia [*Salvinia molesta*]	3	The plant must be fully and continuously suppressed and destroyed
Senegal tea plant [*Gymnocoronis spilanthoides*]	1	The plant must be eradicated from the land and the land must be kept free of the plant.

		This is an All of NSW declaration
Serrated tussock [*Nassella trichotoma*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Siam weed [*Chromolaena odorata*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Smooth-stemmed turnip [*Brassica barrelieri* subspecies *oxyrrhina*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Soldier thistle [*Picnomon acarna*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Spiny burrgrass [*Cenchrus incertus*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Spiny burrgrass [*Cenchrus longispinus*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed
Spotted knapweed [*Centaurea stoebe* subspecies *micranthos*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
St. John's wort [*Hypericum perforatum*]	3	The plant must be fully and continuously suppressed and destroyed
Texas blueweed [*Helianthus ciliaris*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration
Tropical soda apple [*Solanum viarum*]	2	The plant must be eradicated from the land and the land must be kept free of the plant
Water caltrop [*Trapa* species]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Water hyacinth [*Eichhornia crassipes*]	4	The growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction
Water lettuce [*Pistia stratiotes*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Water soldier [*Stratiotes aloides*]	1	The plant must be eradicated from the land and the land must be kept free of the plant. This is an All of NSW declaration
Willows [*Salix* species] Includes all *Salix* species except *S.*	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with

babylonica, S. x *reichardtii, S.* x *calodendron*		This is an All of NSW declaration
Witchweed [*Striga* species] *Striga* species except the native *Striga parviflora*	1	The plant must be eradicated from the land and the land must be kept free of the plant This is an All of NSW declaration
Yellow bells [*Tecoma stans*]	3	The plant must be fully and continuously suppressed and destroyed
Yellow burrhead [*Limnocharis flava*]	1	The plant must be eradicated from the land and the land must be kept free of the plant This is an All of NSW declaration
Yellow nutgrass [*Cyperus esculentus*]	5	The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with This is an All of NSW declaration

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