

# Local Area Pest Management Plan

# 2015 to 2020



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### 1.0 Introduction

#### 1.1 Preamble

Pest animals and weeds cost to the Queensland community over \$710 million annually in management costs and lost production. The costs to the environment through land and water degradation, biodiversity impacts and interference to human health and recreation are much more difficult to put a price on. One of the roles of the Mareeba Shire Council is to minimise the impact of pest plants and animals that threaten the local ecosystems and impose high annual costs on our agricultural industries.

Mareeba Shire Council has been active in control of pest plants and animals throughout our Local Government area, but recognises that improved co-ordination of effort is necessary by the community, government and industry in order to further reduce their impacts.

The Land Protection (Pest & Stock Route Management) Act 2002 requires Local Governments to develop, adopt, and implement local pest management plans as part of an integrated planning framework for managing pest plants and animals across the State. The general principles of planning, prevention and partnerships underpin the process in developing this plan as well as the actions identified in the agreed strategies.

Mareeba Shire Council's Local Area Pest Management plan links the community expectations, agreed actions and evaluation and is consistent with Councils Corporate and Operational Plans and State Strategies, guidelines, plans and legislation.

#### 1.2 Purpose

The purpose of this plan is to bring together all sectors of the local community in a concerted effort to tackle the critical issue of pests. The plan is designed to achieve the following objectives:

- Gain landowners co-operation by use of public awareness, consultation partnership, planning, prevention, best practice and enforcement and by example to manage weeds on public lands.
- Reduce the economic, social, and environmental impacts of pests.
- Reduce the establishment and spread of pests.
- Improve the protection of environmentally significant areas.

#### 1.3 Scope

This plan applies to all land within the boundaries of the Mareeba Shire Council area, including land owned or controlled by individuals, communities, industry or the State. Targeted species are those declared under State legislation Land Protection (Pest and Stock Route Management) Act 2002 or under Local Government Laws. As of 2014 the Queensland Government enacted the Biosecurity Act. When the supporting regulatory framework for the Biosecurity Act is complete it will replace the Land Protection Act. Until such time councils are able to operate under the requirements of the existing legislation until a transitioning to the new legislation.



#### 1.4 Stakeholders and land use in Mareeba Shire Area

Pest animals and weeds impact on the whole community and so we are all stakeholders in reducing the spread and mitigating the impacts they have on our economy, environment and well-being. The term stakeholder is used throughout the plans to refer to all persons, who are in any way involved in managing pests and weeds; from the suburban home owner to government agencies and industry groups.

#### 1.5 Review and implementation

A major review of Mareeba Shire Council Local Area Pest Management Plan will be undertaken every 4 years, with necessary minor updates being made on a yearly basis to reflect changes in resources, pest threats, legislation or policy and progress on management targets within the plan.

#### 2.0 Principles of Pest Management

The Act sets out eight pest management principles that are an intrinsic part of successful pest management, which must be addressed in the Local Pest Management Plans. Council is responsible to ensure that declared pests are managed within its area in accordance with the principles of:

#### Integration

This document and the process that led to its development are examples of Council's integrated approach to pest management. Pest management is considered to be an integral part of managing natural resources and agricultural systems. Landowners, Council, government agencies, and non-government organisations all have a role to play in the implementation of this plan.

#### Commitment and Enforcement

Effective pest management requires a long term commitment by the community, industry groups, and government entities. Council will undertake to keep all land under its control free of declared weeds by way of example. Priority should be given to those areas with the greatest potential cost benefit result

#### • Consultation and Partnership

In order for the Pest Management Plan to fit the needs of the Tablelands community, it is important that all relevant stakeholders are consulted during the preparation of the plan. Consultation and partnership arrangements between local communities, industry groups, state government agencies and local governments must be established to achieve a collaborative approach to pest management.

The plan has been developed By MSC in collaboration with key stakeholders involved in pest management from across the region in the Mareeba Shire Pest Management Advisory Committee (PMAC). Beyond the develop of the pest management plan and priorities it details the PMAC is an integral part of implementation and review of the plan. It also serves the function of maintaining communication and collaboration in support of pest management.

#### Planning

Pest management planning must be consistent at local, regional, state, and national levels to ensure resources target priorities for pest management at each level. The MSC Local Area Pest Management Plan has been developed in collaboration with neighbouring shires in a universal approach to planning.

The plan will be reviewed as a living document on an ongoing basis, having regard to the regional, state and national strategies. This will ensure resources are able to target the appropriate priorities at the appropriate levels.

#### Prevention

Early detection and intervention is the most effective way to prevent the spread of pests. Participation in the FNQ Natural Asset Management Advisory Committee and FNQ Pest Advisory Forum will result in shared weed and pest animal intelligence and enhances the communication processes necessary to share information.

Preventative pest management is achieved by:

- Preventing the spread of pests and viable parts of pests, especially by human activity
- Early detection and intervention to control pests.

#### Best Practice

Pest management activities also need to be based on ecologically and socially responsible practices that protect the productive capacity and environmental integrity of the land.

#### Improvements

Research about pests and regular monitoring and evaluation of pest control activities, are necessary to improve pest management practices.

This plan is part of a range of strategy and policy documents that will be a reference to landholders, field and administrative staff. These Plans are also designed to coordinate the efforts of a range of entities as shown in the planning context table.

## 3.0 Planning context

Scale	Natural Resource Management	Pest Management	Pest Species
National	<ul> <li>National Strategy for the Conservation of Australia's Biodiversity</li> <li>National Guidelines and Principles for Rangeland Management</li> </ul>	<ul> <li>National Weeds Strategy</li> <li>Managing Vertebrate Pests – Principles and Strategies</li> </ul>	<ul> <li>Strategies for Weeds of National Significance</li> <li>National pest animals species threat abatement plans</li> </ul>
State	<ul> <li>Environmental Protection Act.</li> <li>Environmental Protection Regulation</li> <li>Environmental Protection(water) Policy</li> <li>Soil Conservation Act.</li> </ul>	<ul> <li>State agency pest management plans</li> <li>Queensland Weeds Strategy</li> <li>Queensland Pest Animals Strategy</li> <li>Control of Exotic Pest Fishes Strategy</li> </ul>	Queensland strategies for wild dogs, rabbits, and Parthenium
Regional and Catchment	<ul> <li>Regional natural resource management plans</li> <li>Integrated catchment management strategies</li> <li>Water Quality Improvement Plans</li> <li>FNQ Regional Pest Management Plan</li> </ul>	<ul> <li>Regional pest management plans (including those held by State Agencies)</li> </ul>	
Local Government	Local Government planning     schemes	<ul> <li>Adjoining shires Local Area Pest Management Plans</li> <li>Mareeba Shire Council Local Area Pest Management Plan</li> </ul>	
Property	<ul> <li>Property resource management plans</li> <li>Sub-catchment plans</li> </ul>	Property Pest Management Plans	

## 4.0 Mareeba Shire Councils role in the implementation of this plan

#### 4.1 Pest survey program and powers of authorised officers

Before any inspections are carried out, the Land Protection Officers will be appointed as an authorised person under Section 1084 of the Local Government Act and Sections 244 to 246 of the Land Protection (Pest and Stock Route Management) Act. If requested by a landholder, an authorised person should produce his/her identity card. An authorised person may:

- require the responsible person to wash down or spray any vehicle or implement contaminated with declared plants;
- order the destruction or seize and destroy declared animals;
- with the consent of the landowner:
  - enter upon any land to determine whether declared plants or animals are present and whether they are being controlled;
  - Search any vehicle, implement or container for the presence of declared plants.

The following outlines the procedures that should be undertaken to control declared pests on private land.

Prior to carrying out inspections for declared pests on private premises in an area, the Officer shall ensure that premises owned or under the control of Council in the area are free from declared pests. (Inspections for declared pests on private land or premises should be carried out in conjunction with inspections of the surrounding roads and land under Council control).

#### 4.2 Declared pests and weeds

Officers shall inspect roads, reserves and other properties under Council's control and arrange the effective management of priority pests and weeds. Management should be carried out in accordance with treatment prescribed in best management practice for the particular pest or weed and weather conditions at the time.

The Officer shall inspect private properties for the presence of declared or priority pests and weeds. This initial inspection must be sufficiently thorough to identify the extent of the infestation/population. Where entering private, occupied land the Land Protection Officer shall wherever possible contact the occupier and advise of the purpose of the inspection and invite them to accompany the officer on the inspection.

On completion of this inspection, the Officer will give details of what declared or priority pests have been found and the recommended control procedures to the owner. If no person is on the property at the time of the inspection, a letter shall be written giving the Officer's name, telephone number and contact times and other matters relevant to the inspection.

Where an infestation of a class 1 or 2 plant or animal or one identified in the "Priority Pest Plan" is identified by Council's Pest Management Officer, a notice under the Land Protection (Pest and Stock Route Management) Act or Local Law will be served to destroy all declared weeds on the property within seven (7) and twenty-one (21) days (or other length as required by the circumstance i.e. notices will give the landholder a reasonable and sufficient period of time for each particular circumstance to take the required action). Council hereby delegates the authority to serve notice to the Chief Executive Officer and Pest Management Officer generally under the Land Protection (Pest and Stock Route Management) Act and its Local Laws.

An information sheet (if available) advising landholders of Council's policy and working procedure in relation to the enforcement of the provisions of the Act will also be distributed at this time. Extensions of time will be granted with consideration given to those cases where a genuine attempt has been made to destroy the declared pests. Approval of extensions is to be given by the Chief Executive Officer.

Re-inspection is then to be carried out by the Declared Pest Management Officer at the expiration of the time limit specified in the notices.

If notices have been served and no substantial action has been taken to comply with the directions. The Authorised officer may enter and clear at the owners' expense.

Where an infestation of a declared pest plant is identified, the owner will be served with a notice as above, but may also, at the discretion of the Land Protection Officer be given the option of preparing a Property Management Plan to destroy all declared pest plants over a period commensurate with the life cycle of the pest animal or weed or accepted best management practice. Where the landowner chooses to adopt the latter option, annual inspections shall be undertaken to ensure compliance with the Property Management Plan.

#### 4.3 State and Federal Controlled Land

In some circumstances it may be necessary for Council to regularly inspect State and Federal controlled land to be aware of the extent of pest infection in the local area and to aid in the prevention of the spread of those pests into other areas. It should be noted however, that Council is unable to enforce control on Government controlled land.

At the time of inspection where a person employed by the Government Department responsible for the property is present, the Inspecting Officer should discuss the purpose of the visit with that person. The property should then be inspected for declared pests. Should any declared pests be found, Council shall notify the Government Department and suggest control measures to take.

### 5.0 Key projects and programs

The following key projects and programs from across the Hinchinbrook Shire area highlight the partnerships and programs that are currently underway and will be continued over the duration of this plan:



## **5.1** Jatropha (Physic nut & Bellyache bush) & Rubbervine

**Goal:** Strategic and staged removal from Irvinebank to the Walsh junction.

Performance Indicator: Staged removal from upper tributaries down

Strategic Action:

- Stage one from Irvinebank to Emuford, stage two Emuford to Petford
- To ensure that all infestations located are controlled;
- Promote individual landholders and other departments to control target plants on their lands and monitor for recurrence;
- Facilitate public awareness programs such as displays at local field days and run tool box talks etc. with landholders in high risk areas;
- Identify funding opportunities to assist in all of the above programs.

**Project partners:** Mareeba Shire Council, Southern Gulf Catchments NRM, Mitchell River Watershed Management Group, landholders, Australian Native Bee Research Group, Australian Agricultural Colleges Corporation, Biosecurity Queensland, Traditional Owners.

#### **5.2** Strategic Gamba grass containment and eradication

**Goal:** Strategic and staged removal/containment from Paddy's Green and upper Walsh catchment (western watershed)

**Performance Indicator:** Prevention of spread in western watersheds, reduction in infestations in Southern Hann and Paddy's Green. Containment and management of plantings on private lands



#### Strategic Action:

- Remove gamba grass from western catchments of the upper Walsh
- To ensure that all infestations located are controlled;
- Promote individual landholders and other departments to control target plants on their lands and monitor for recurrence;
- Facilitate public awareness programs such as displays at local field days and run tool box talks etc. with landholders in high risk areas;
- Identify funding opportunities to assist in all of the above programs.

**Project partners:** Mareeba Shire Council, landholders, Tablelands Regional Council, Cook Shire Council, Queensland Park and Wildlife Service Mitchell River Watershed Management Group, Biosecurity Queensland, FNQROC.

#### **5.3** Parthenium detection and removal

**Goal:** Strategic surveillance, detection and removal of incursions across entire Mareeba Shire area

**Performance Indicator:** Detection and removal of incursions and introductions of Parthenium, new incursions mapped, follow up and monitoring of historical sites



#### Strategic Action:

- To ensure that all incursions are located and controlled;
- Promote individual landholders and other departments on their lands and monitor for recurrence at controlled sites;
- Facilitate public awareness programs such as displays at local field days and run tool box talks etc. with landholders in high risk areas;
- Identify funding opportunities to assist in all of the above programs.

**Project partners:** Mareeba Shire Council, landholders, Mitchell River Watershed Management Group, Local bushwalking clubs, Biosecurity Queensland.

#### **5.4** Coordinated baiting programs (Feral Pigs and Wild dogs)

**Goal:** Deliver coordinated programs to reduce population and impacts through selective baiting

**Performance Indicator:** Reduction of impacts from feral pig or wild dog on primary industry and environment; reduction of feral pig or wild dog numbers; successful delivery of selective baiting to minimise off target impacts

#### Strategic Action:

- To ensure that all landholders in management area participate/contribute to programs;
- Promote individual landholders and other departments on their lands and monitor populations and impacts of target pest;
- Facilitate public awareness programs such as displays at local field days and run tool box talks etc. with landholders in high risk areas.

Project partners: Mareeba Shire Council, landholders, Biosecurity Queensland

#### 5.5 Gibb and Emu Creek Siam weed eradication

**Goal:** Eradication of Siam weed from the Gibb Emu Creek **Performance Indicator:** All new incursions detected and controlled **Strategic Action:** 

- revisits and monitoring to monitor seed bank
- promote individual landholders and other departments on their lands and monitor populations and impacts of target pest;
- Facilitate public awareness programs such as displays at local field days and run tool box talks etc. with landholders in high risk areas.

**Project partners:** Mareeba Shire Council, landholders, Biosecurity Queensland, Mitchell River Watershed Management Group

#### 5.6 Four Tropical Weeds Eradication Program - Mikania vine, Miconia spp., and Koster's curse

**Goal:** In partnership with Four Tropical Weeds to locate and control all infestations within the Shire with the aim to eradicate.

**Performance Indicator:** Surveys completed within management areas, all target weeds located, mapped and treated with no reproductive events.

Strategic Action:

- Participate in survey and control program
- To ensure that all infestations located are controlled prior to seeding;
- Assist or facilitate public awareness programs such as displays at local field
- days and run tool box talks etc. with landholders in high risk areas;

**Project partners**: Four Tropical Weeds Eradication Program, Mareeba Shire Council, Queensland Parks and Wildlife Service

#### 6.0 Desired outcomes

The desired outcomes proposed for this plan are consistent with those of the state weeds and pest animal strategies (developed in accordance with the requirements of the Act and are central to the success of pest management activities.

Desired outcome 1 - Stakeholders are informed, knowledgeable and have ownership of weed and pest animal management.

Desired outcome 2 - All stakeholders are committed to and undertake coordinated management of weeds and pest animals.

Desired outcome 3 - Strategic directions are established, maintained, and owned by all stakeholders.

Desired outcome 4 - The introduction, establishment and spread of weeds and pest animals are prevented.

Desired outcome 5 - Integrated systems for managing the impacts of established weeds and pest animals are developed and widely implemented.

## 6.1 Desired Outcome 1: Stakeholders are informed, knowledgeable and are committed to pest weed and animal management

Principle	Issue	Strategic Objective	Strategic Actions	Success Criteria	Success Indicators
Public Awareness	Awareness	Community, industry,	The LGAPMP is available from Council's	The degree to which public	Copies available for viewing in
X a main		agribusiness and government awareness and knowledge of	Offices, website and other partners	awareness programs address the public's	Council's Office and Library
		weeds and their impacts are increased over the next four years	Factsheets for pests declared under model local laws are developed	knowledge gaps	Factsheets for all locally declared plants available
			Pest Management displays are presented at the FNQ Field Day & other opportunities (i.e. Landcare, Agforce, Catchment Group meetings)		Number of presentations made
	Availability of Information		Pest related media releases are developed for the local area at appropriate seasonal times	Pest information is widely available with stakeholders acknowledging they have	100% of media release completed
			PMAC works together to promote weed	received appropriate	Information circulated through
			and pest animal awareness across	information	existing networks
			sectors and interest groups		

#### 6.2 Desired Outcome 2: All stakeholders undertake coordinated management of pest weeds and animals.

Principle	Issue	Strategic Objective	Strategic Actions	Success Criteria	Success Indicators	
Commitment; Consultation and partnership	Commitment	Establish long term commitment to pest weed and animal management and	Maintain a working group of key stakeholders to develop and review plans and actions	Regular reviews of policy and action plans.	Bi-annual meetings	
	Participation	practical compliance with pest weed and animal control	Establish a partnership with local Pest Management Work Group	Maintenance of partnerships	Continued working partnerships	
		resp	responsibility	Maintain Register of Notices	Extent of compliance	% of compliance with 1 <sup>st</sup> and 2 <sup>nd</sup> notices
		Participation	Participate in delivery and hosting of taskforce operations under the regional taskforce MOU	Level of participation	Number of taskforces attended or hosted	
			Maintain and promote a Pest Survey Program for key projects and priorities	Pest Survey Program maintained and implemented		
	Compliance and Enforcement		Encouraging voluntary compliance, participation and industry incentives for adoption of best management practice.	Full participation of working group members		

Principle	Issue	Strategic Objective	Strategic Actions	Success Criteria	Success Indicators
Planning	Planning	To create a coordinated and integrated planning framework for weed and pest management	Ensure that the Pest Management Plan is consistent with related strategies and plans	The number of adequately resourced pest management plans	No inconsistencies between plans
	Coordination		Annual review of action plan and management objectives by PMAC	at different levels integrated into the	Timely review of action plans
	Resources		Commitment to action plans	planning framework.	% of plans completed in budget
			Participate and contribute to regional planning and advisory groups and forums (i.e. FNQPAF)		Number of meetings and events hosted or attended
Integration	Holistic Management		Require appropriate pest management issues are considered in development application to ensure spread of weeds is prevented		% of pest management conditions applied to development approvals
			Consult with neighbouring shires, Landcare and environment groups.		

#### 6.3 Desired Outcome 3: Strategic directions are established, maintained and owned by all stakeholders.

#### 6.4 Desired Outcome 4: Introduction, spread and establishment of weeds and pest animals is prevented.

Principle	Issue	Strategic Objective	Strategic Actions	Success Criteria	Success Indicators
Prevention	Prevention of	To prevent the introduction and	Adopt weed prevention protocols	The extent to which the	Occurrence of new weeds species
	Introduction	establishment of new weeds and		introduction and	
	Early Detection	pest animals	Promote weed hygiene declarations for	establishment of new	Use of weed prevention
	and		movement of harvesting and	pests is prevented.	declaration
	Eradication		construction plant, and fodder.		
	Containment		Swift action to control target weeds		% of recurrence of target weeds
Augustion Project					
			Participate in Rapid Response protocol		
and the second sec					
			Promote early reporting of pest		
			problems and respond to landowners		
			complaints promptly		

## 6.5 Desired Outcome 5: Integrated systems for managing the impacts of established weeds and pest animals are developed.

Principle	Issue	Strategic Objective	Strategic Actions	Success Criteria	Success Indicators
Best Practice	Adoption of	To adopt and promote best	Consider: timing, integrated,	The extent to which	Feedback on plan's
	Management techniques Population and Impacts	practice in weed and pest animal management to reduce populations, especially in environmentally significant areas.	techniques, non-target damage, cost prevention, animal welfare, workplace health and safety, monitoring, research, operational procedures and chemical registration requirements in planning Maintain and update pest management distribution and	best practice is adopted and environmentally sensitive areas are protected.	comprehensive coverage of issues Distribution and management objective mapping for priority
	Management		Distribution Survey		current
			Coordinate pest management actions with landholders		% of landholders participating in baiting wild dog programs
	Environmentally Significant Areas		Regular monitoring of site conditions		Number and distribution of weeds identified

### 8.0 Prioritisation of pests in the Mareeba Shire Area

The framework utilised by the working group in assessing and assigning the priorities of pests within this plan was developed within local government in the Far North by Matt Birch, Land Management Officer, Cairns Regional Council. The process of determining priorities was conducted by members of the pest plan working group prior to going to wider consultation. For more details on the framework refer to the *Local Government Pest Assessment, Prioritisation and Planning Framework* at <u>www.fnqroc.qld.gov.au</u>

Mareeba Shire Council weed prioritisation - Feb 2013		Existii F	ng plan: prioritie:	s and s	Impacts and threats Capa ma			Capa mar	Capacity to manage		
		NATIONAL	STATE	LOCAL	Conservation/ Biodiversity	Riparian/ Aquatic	Agricultural/ Production	Residential∕ Urban	Achievability	Current Extent	Total Score
	Koster's Curse	5	5	5	4.2	3.7	2.6	2.6	4.3	3.8	36.2
	Parthenium weed	5	4	5	3.4	2.9	4.0	3.5	4.5	3.6	35.9
A	Bellyache bush	5	4	4	4.0	3.8	4.2	1.6	4.0	4.4	35.0
	Miconia species	5	5	5	3.9	3.1	2.0	2.1	4.4	4.0	34.5
	Gamba grass	5	4	4	4.1	3.6	3.6	3.3	3.1	2.8	33.4
	Rubber vine	5	4	4	4.2	4.1	3.9	1.6	3.3	3.1	33.2
	Salvinia	5	4	4	3.9	4.7	2.9	1.8	3.3	2.9	32.4
	Siam Weed	0	5	5	4.3	3.6	3.4	2.6	4.1	3.8	31.7
	Olive hymenachne	5	4	4	4.1	4.6	2.3	1.8	2.1	2.8	30.8
	Thunbergia laurifolia	0	5	5	3.5	3.3	3.3	2.5	3.3	4.0	29.9
	Lantana	5	3	3	3.7	3.6	4.0	2.1	2.6	2.6	29.5
	Thunbergia grandiflora	0	4	4	3.9	3.4	3.7	2.8	3.3	2.8	27.8
	Sicklepod	0	4	3	4.2	4.1	4.3	3.0	2.4	2.0	27.0
	Giant rats tail grass	0	4	4	3.7	3.1	4.6	2.7	2.5	2.3	26.8
	Lions tail	0	0	0	3.0	3.0	4.0	3.0	5.0	5.0	23.0

Mareeba Shire Council pest		Existi	ng plan priorities	s and S	Im	pacts a	nd threa	ats	Capa mar	city to nage	
		NATIONAL	STATE	LOCAL	Conservation/ Biodiversity	Riparian/ Aquatic	Agricultural/ Production	Residential/ Urban	Achievability	Current Extent	Total Score
	Wild dogs	0	4	5	3	2	4	3	2.5	2	25.5
2	Rabbits	0	4	5	3	2	3	2	3	3	27
1	Pigs	0	4	5	4	4	4	2	2	1.5	26.5
)Z	Tramp Ants (Yellow Crazy Ants and Electric Ants)	5	5	5	5	2	5	5	5	5	42

The following weeds are presumed eradicated from the area and are currently under monitoring to ensure they do not reoccur. Any suspected sightings of these weeds should be reported to MSC Land Protection Officer on 1300 308 461.

MONITORING Weed	Location	Where to watch out for it
Mikania vine	Speewah	Gardens, nurseries
Limnocharis flava	Speewah	Water features, gardens, nurseries,
Pond apple	Kuranda	Orchards, gardens, nurseries, water ways

The following weeds which are spread along road corridors are subject to a long term surveillance and removal program. Any suspected sightings of these weeds should be reported to MSC Land Protection Officer on 1300 308 461.

SURVEILLANCE AND REMOVAL	Weed	Location	Where to watch out for it
	Parkinsonia	Western district roads	Roadsides, pastures, stock holding areas, materials stockpiles
	Prickly Acacia	Western district roads	Roadsides, pastures, stock holding areas, materials stockpiles
	Brillantaisia	Douglas, Cairns, Cassowary Coast	Ornamental gardens, machinery, water

### Pest and weed alerts

If you suspect you have seen any of these pests and weeds in the Mareeba Shire Area please report to the MSC Land Protection Officer on 1300 308 461. For further information go to <a href="https://www.fngpaf">www.fngpaf</a> or <a href="https://www.daff.qld.gov.au">www.fngpaf</a> or <a href="https://www.daff.qld.gov.au">www.daff.qld.gov.au</a>

ALERTS	Weed	Vicinity (State or Local Government Area)	Likely source and mode of spread
	Fireweed	Tablelands	Machinery, stockfeed, wind, roadside maintenance
	Mimosa pigra	Northern Territory, Mackay	Boats, fishing gear
	Alligator Weed	Douglas	Aquariums, water
- <del>22</del>	Cabomba caroliniana	Cairns, Cassowary Coast	Aquariums, Boats, fishing gear, water
A Real	Stevia ovata	Tablelands	Machinery, wind, water
	Water hyacinth	Cairns, Cassowary Coast, Douglas, Hinchinbrook, Cook, Yarrabah	Aquariums, water
	Water lettuce New arrival 2015– awaiting assessment by PMAC	Cairns, Cassowary Coast, Douglas	Aquariums, water
***	Cecropia spp.	Cairns, Cassowary Coast, Douglas	Ornamental gardens, birds
	Hygrophila costata	Cairns, Cassowary Coast, Hinchinbrook	Aquariums, water
	Neptunia - Water mimosa	Cairns	Food gardens, water
the second	Madras thorn	Cairns	Ornamental gardens
20	Hiptage bengalhensis	Douglas	Ornamental gardens, wind
	Aleman grass	Cassowary Coast, Hinchinbrook	Grazing, stolons (cuttings)

### 9.0 Environmental and other pests and weeds

Environmental and other pests and weeds present in the Mareeba Shire Area	Weed	Current Distribution
	Chinee Apple	Dry tropics
	Feral cats	All
	Tilapia	Wet tropics, Dry tropics
	Singapore Daisy	Wet tropics
	Chinee apple	Dry tropics
	Mother of Millions spp	Dry tropics
	Navua Sedge	Wet tropics
	Neem tree	Dry tropics
	Aristolochia-Dutchmans Pipe	Wet tropics, Dry tropics
	African Tulip	Wet tropics, Dry tropics
	Turbina vine	Wet tropics, Dry tropics
	Grader Grass	Wet tropics, Dry tropics
	Coffee arabica	Wet tropics
	Ardisia crenata/eliptica	Wet tropics
	Allamanda (Climbing yellow)	Wet tropics, Dry tropics
	Seisal Hemp	Dry tropics
	Leuceana	Wet tropics, Dry tropics

### **10.0 Strategic Pest Plant Action Plan**

#### 10.1 Management zones

A management zoning approach has been adopted to communicate the management aims of this plan across the whole range of stakeholders that will need to be involved. The zoning approach is a graphics based hierarchy of actions that identifies the management and biological target for each management area. It is important that stakeholders understand both their role and their responsibilities in regard to the delivery of this pest management plan.

#### 10.1 The zones in detail

The management zoning approach identifies five management zones. The first three are aimed at detecting, preventing and removing (eradicating) the target pest from the designated zone and are specifically targeted at managing the seeds and seed bank (or reproductive capacity in animals). The final two identify the options for managing established infestations to reduce their impacts and opportunities for further spread.

Management zone	Management target	Biological target		
Managing incursions and new intro	oductions			
Delimitation	Report new outbreaks and sightings - determine the extent of the pest			
Prevention	Come clean go clean – keep weed and pest animal free areas clean	Prohibit introduction or and reproduction		
Eradication	Be vigilant – remove all seeds (seedbank) plants and pest animals from the zone			
Managing existing infestations and	loutbreaks			
Intensive control	Think big and plan for the long term – reduce infestations to a size that can be removed	Limit infestation growth,		
Impact reduction (containment and asset protection)	Maintain buffers and protect important places – protect assets and minimise the risk of spread	spread and impacts		

#### **10.2** *Managing incursions*

#### Delimitation – knowing where it is (and isn't)

Delimitation is a deliberate action taken to determine whether a species is present or absent

#### Prevention – keeping clean areas clean

In a zoning plan prevention is a deliberate action taken to prevent species spreading to areas where they do not currently occur. It is also part of every best management practice for all pests, weeds and pathogens.

#### Removal (eradication) – removing all plants, seeds and seedbank

Eradication is a deliberate action taken to remove all individuals of a species including all propagules in the soil seed bank from within the zone

#### 10.3 Managing infestations

Intensive control - preparing for a transition in management

Intensive control is a deliberate action taken to transition a management program from containment or asset protection to an eradication objective

#### Impact reduction – protect important assets and reduce the spread to other areas

Containment is a deliberate action taken to prevent establishment and reproduction of a species beyond a predefined area

Reduction of impacts means deliberate action taken to reduce the impacts on an asset in a predefined area

### **11.0** Using the pest plan template

The pest plan template summarises the key information on each of the priority pests for the local government area pest management plan. More information on each of the fields within the template is included within the *management principles* sections of this pest management plan or in the *further information and links* section.



#### 11.1 Control and biology calendar

The management calendar identifies the optimum periods of activity in the life cycle of the pest as well as the ideal times to implement/or avoid different management strategies.

Biology & lifecycle	Peak	First/last flush	Occasional	∭ n∕a
Control and management	Optimal	Good	Marginal	Not recommended

### 12.0 Pest Management Principles

An understanding of management techniques and tools as well as the biology of the pest are important knowledge for all people involved in pest management. The following pages describe the key control methods and modes of dispersal which pest managers need to be aware of. The icons are included within the priority pest profiles in the following section.

#### 12.1 Control Methods

(Text and icons adapted with kind permission from Matt Birch, Cairns Regional Council Pest Management Plan 2012)

#### 12.1.1. Frill/Stem Injection



Herbicide may be directly applied to the vascular system of the plant by way of frilling or stem injection. Cuts are made in the bark of a tree or woody section of a vine so that access is opened to the cambium tissue and then herbicide is applied. Operators must be sure that the cuts are made low to the ground and that the cuts are made continuously around the perimeter of the trunk/ stem. It is common

practice to stagger the cuts to maximise chemical application and to ensure that all of the vascular transport in the tree is disrupted. Cuts are made with an axe, or machete on a downward angle leaving a "frilly" scarf on the tree when done properly. The frilled notches aid in holding herbicide. In some applications, similar downward cuts can be made with a chainsaw. This technique is beneficial when trees are best left standing for follow up access, if felling is too complicated or restricted by resources. Note that dead trees and falling limbs can become a safety hazard during follow up work and during flood events. Chemical can be applied with an injection gun, low pressure spray pack or with a paint brush. Some trees that are known to sucker or coppice can be killed this way several weeks before felling, to kill the root system before felling.

#### 12.1.2. Basal Bark



Basal Bark technique refers to the spraying of a lower truck (basal area) of a tree or vine with herbicide which is usually suspended in diesel. This mixture is suited to many weedy trees and is often a quick way of achieving a kill while leaving the tree standing.

This technique is not permitted in or close to water. When using basal bark technique, attention must be paid to manufacturer's recommendations with regard to chemical rates and the maximum basal diameter that the chemical can be applied to gain consistent kills. Operators commonly use low pressure "pump pack" type spray equipment to apply the chemicals.

#### 12.1.3. Chainsaw/Cut stump



Felling trees and large woody weeds and vines is often the most thorough method to ensure consistent kills. Due to most plants' ability to coppice, regrow or sucker, this method requires the application of herbicide to the freshly cut stump. It is important to apply the chemical quickly to the stump (within 10 seconds) to ensure that the tissue does not close over and prevent penetration of the herbicide. This

method is common with chainsaw felling of large trees but is equally successful when treating smaller woody weeds and vines where cutting with sharp knife, secateurs or machete is followed quickly with application of a suitable herbicide. Always check label for permitted herbicide use or contact your Local Government LMO for advice regarding chemical application, permits and best practice.

#### 12.1.4. Chop/Grub



Due to its labour intensiveness, chopping or grubbing is often overlooked as a viable weed management practice. However, it remains an effective way of

selectively removing weeds without chemicals. Using machetes, cane knives or hoes, operators can remove seed, flowers or even kill entire woody weeds or grasses. Many vines require chopping to gain access to roots and tubers where other methods can be deployed such as stem injection.

#### 12.1.5. Drill/Stem Injection



Herbicide may be directly applied to the vascular system of the plant by way of drilling or stem injection. Holes are drilled in the bark of a tree or woody section of a vine so that access is opened to the cambium tissue. This technique is also used with tuberous vines.

Operators must ensure that the holes are drilled low to the ground and there are sufficient number if holes to kill the target species. Generally holes are drilled 5-10 cm apart all the way around the trunk. As with frilling, holes are drilled downwards to hold the chemical and when used with a 5ml injection gun, this technique results in less wasted chemical. Conversely, the drill and inject method is more time consuming and requires access to cordless drills and spare batteries which may not always be appropriate.

Stem injection is beneficial when trees are best left standing for follow up access, if felling is too complicated or restricted by resources. Note that dead trees and falling limbs can become a safety hazard during follow up work and during flood events. Chemical can be applied with an injection gun or low-pressure spray pack. Some trees that are known to sucker after felling can be killed this way several weeks before felling to ensure that the entire plant is killed. Always check label for permitted herbicide use or contact your Local Government LMO for advice regarding chemical application, permits and best practice.

#### 12.1.6. Improved Grazing Practices



Overgrazing can lead to depletion of desirable species and create other issues like compaction, and bare ground which provide opportunities for weeds to establish. Where serious weeds invade pastures, often stock avoid these species leading to a dominance of woody weeds or unpalatable grasses. Continued intensive grazing or

overgrazing can lead total destruction of pastures or complete domination by woody weeds i.e. Sicklepod. Careless weed hygiene practices can lead to movement of seeds with stock and trucks to other properties over long distances. Yarding stock for several days can minimise this problem when stock are exposed to major pastoral weeds. Washing down equipment is recommended prior to movement. Spelling paddocks and slashing weeds prior to seed set, spot spraying and grubbing can all be effective in controlling pastoral weeds. For property pest management planning contact your Local Government LMO or contact DEEDI for information regarding grazing and pasture management.

#### 12.1.7. Hand Removal



Many weeds can be controlled by simple hand removal. This method can be used on small-scale infestations and/or in places where equipment cannot be accessed. Hand removal may be the only option where chemical use is not legal or appropriate i.e. Hand removing salvinia in small ponds, or hand pulling pine seedlings. On

removal, it is important to dispose of the living plant material appropriately. This may involve bagging the waste, composting on site, or ensuring that the roots of the plants cannot access soil/water and re-shoot.

#### 12.1.8. Foliar Spray



There are many herbicides registered for weeds and the most common method of application is spraying. Chemicals can be sprayed on the ground by hand, from a boom or from an aircraft or boat. Common methods of ground application include: 1) Low pressure application i.e. 20L pump up spray bottle.

2) 12v and petrol mechanised spray units i.e. PTO driven tractor spraying.
3) Controlled droplet application i.e. boom spraying

The practice of spraying is complex and heavily regulated. Council employees must be licensed to spray herbicides on private and public lands and spray records must be kept in accordance with the Agricultural Chemical Distribution Control Act 1966 (ACDC Act). Herbicides, target species and situations for spraying are controlled by permitted uses listed on product labels. There are also off-label permits available that operators may observe under particular qualification. The Australian Pesticides and Veterinarian Medicines Authority (APVMA) administer all permits that relate to pest management related herbicides, fungicides, adjuvants and toxins. Always check label for permitted herbicide use or contact your Local Government LMO for advice regarding chemical application, permits and best practice.

#### 12.1.9. Biocontrol



Biocontrol refers to the release of carefully selected natural pests of weeds and pest animals to assist in their management. They can be insects or diseases that target a certain part or lifecycle stage of the plant. Biocontrol can be a useful long term and low cost strategy to either control or reduce the vitality of a pest plant and is best

used in conjunction with management techniques. Some common biocontrol agents present in the region include the salvinia weevil, rabbit calici-virus, rubber vine rust and the giant sensitive plant psyllid.



#### 12.1.10. Slashing

Slashing can be an effective tool in pasture management. Woody weeds, herbs and some grasses may be prevented from seeding by slashing at opportune times. For example, slashing sicklepod may be effective before setting seed to manage the potential seed bank. Using blunt blades or chains will smash stems minimising regrowth or recovery of the plant. Following up with spot spraying will minimise the

use of expensive chemical and stop the annual seed cycle. It must be noted that this method can potentially spread seeds, so always carry out weed hygiene practices when moving machinery. I.e. Always wash down machinery and slasher decks.

#### 12.1.11. Mechanical/Machinery removal



Large-scale infestations sometimes call for mechanised removal or control. Excavators, backhoes, mulching bobcats, aquatic harvesters or even bulldozers may be employed where funding permits. With large tree species, machinery may be required to clean up after chainsaw work. Often, weeds infestations are associated

with eroded creek and riverbanks so best practice repair work often requires earthworks bank reinstatement, rock works and revegetation. Note: always wash down machinery to prevent the spread of seed and stem fragments.

#### 12.1.12. Fire



Despite being labour, risk and planning intensive, fire can be a useful pest management tool. Fire can be used to:

1) Remove spoils from weed treatments including felled trees. Burn heaps may require attendance by earthworks machinery and fire crews.

2) Stimulate seed regeneration in certain seed banks.

3) Kill certain species where fuel loads allow a hot fire.

4) Kill dormant seeds.

Agricultural landholders and State Government land managers know the value of fire for broad acre weed control.

There is generally a limited window of opportunity for use of fire. Site preparation, permits, public notification and resources may limit its widespread use.

#### 12.1.13. Exclusion Fencing/netting



Fencing is used to exclude animal pests throughout world, particularly to mitigate pest damage to agriculture. Although often considered an expensive option, fencing is sometimes a sound investment to:

1) Contain livestock or exclude predators.

2) Protect Crops from terrestrial pests such as pigs and rabbits.

3) Protect fruit orchards with netting where it is not viable to control the birds/bats that may try to eat the fruit.

Increasingly urban landholders are fencing to exclude pests such as wild pigs and dogs. Residents are advised to utilise netting to exclude access to urban roosts by exotic birds. Eradication of most naturalised vertebrate pests is not viable or cost effective, so exclusion is considered a logical control option. There are many materials available- some have been in production for over 100 years e.g. Chicken/bird wire, Pigwire/ringlock, barbed-wire, chain-wire, smooth wire, pickets, palings, colorbond and electric fences. An experienced agricultural fencer can advise and cost a suitable fence design that will exclude pests ranging from snails to horses.

#### 12.1.14. Poison baits



There are special circumstances where poison may be approved for use on vertebrate pests. Commercial baits and poisons are available for rodents and insects at supermarkets.

However, strict regulations control the distribution of poisons and toxins that may be used on larger pest animals. Dogs, cats, pigs, rabbits and foxes may be controlled under strict conditions with a toxin known as 1080 or fluoracetate. Use of 1080 is limited to lower density and agricultural areas and is distributed under regulation and guidance from local government, DEEDI and Queensland Health. A bait program must involve a community response, consultation, signage and observation of all policy direction.

#### 12.1.15. Trapping



Trapping is a widely used control method for feral pigs in the wet tropics and to a lesser extent to manage wild dogs in close proximity to settlement. Trapping is done in accordance with well established guidelines relating to off target minimisation, firearms policy, humane treatment of animals, public/workplace health and safety

and efficiency.

All queries regarding management of native wildlife should be directed to Queensland Parks and Wildlife Service QPWS.

#### 12.1.16. Shooting/hunting



Hunting is a popular sporting pursuit in the region. Despite its recreational appeal and popularity, hunting has generally proved to be an ineffective and at times, a disruptive pest management practice. Hunting either with dogs or firearms can be an effective *complement* to an integrated property pest management strategy. Some

landholders use hunting as their primary animal control option to good effect, but usually when a population is very small. However, hunting is best utilised after effective trapping/baiting programs to remove any remaining individuals. More often though, uninvited hunters will target the biggest pigs and/or scatter them throughout an area making the whole population nervous and unpredictable. Urban fringe areas where inexperienced hunters/dogs often visit, pose a great challenge to landholders and Councils as these pigs are usually the hardest to trap. Aerial shooting is noted to be very effective in dry savannah to open woodland country but it is not suited to the Wet Tropics Area given the extensive cover and high residential population. Sniper style shooting can be effective when used with a feed station on both dogs and on the occasional pig. Individual wild dogs can be singled out where foot trapping and baiting may be too indiscriminate.

Note: Council does not condone, practice or contract any form of dog based hunting, but recognises that it is a very common practice in agricultural and rural residential areas in the region.

#### 12.2 *Methods of Spread*

(Text and icons adapted with kind permission from Matt Birch, Cairns Regional Council Pest Management Plan 2012)

#### 12.2.1. Cuttings-Vegetative



Further to normal seed reproduction, many plants will reproduce from cuttings, stem or root fragments or even by leaf fragments. Some species reproduce only vegetatively.

Many aquatic and riparian weeds reproduce from cuttings washed downstream with flood water.

#### 12.2.2. Irresponsible and illegal dumping



A common way for plants and animals to escape and colonise natural areas is by accidental or at times intentional release and cultivation by people. Often people will travel long distances to dump vegetation to avoid a small tipping fee. Others will throw exotic cuttings and weeds over their back fence and into creeks.

#### 12.2.3. Machinery and vehicles



Machinery of many forms can move plant material and pest animals. Slashers and earthworks equipment are most commonly blamed, but cars, 4wds, motorcycles, boats and caravans are all capable of moving pest plants and animals great distances.

#### 12.2.4. People/Animals



By sticking to either peoples' clothes or animals' fur, some plants have adapted seeds that can move long distances. Many of these seeds also find themselves attached to car radiators; livestock tails and can easily travel interstate and even overseas.

#### 12.2.5. Droppings



Many seeds have evolved as a food source for animals with the advantage of being relocated and dispersed in droppings. This can result in very difficult to predict and often relatively long distance dispersal patterns as pigs, cassowaries, cockatoos and bats all move certain fruits in various directions.

#### 12.2.6. Water



The Wet Tropics area is home to many aquatic species which are adapted to water based reproduction. Many weeds are adapted to benefit from annual floods to spread down a catchment. Seeds may float or they may send vegetative material and fragments with normal river flow or during annual flood events. Aquatic plants

can also move across catchments attached to birds or boats.

#### 12.2.7. Wind



Many plant species use wind as a seed dispersal mechanism. Seeds are lightweight and either wing shaped or adorned with hairs to ensure that upon release they will travel away from the parent plant. Light weight seeds often get caught on vehicles.

## Clidemia hirta (Kosters curse)

										/
National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
5/5	5/5	5/5	4.2/5	3.7/5	2.6/5	2.6/5	4.3/5	3.8/5	36.2	

DECLARI CLASS O

**Description:** Perennial shrub 0.5 to 2m high. Distinctive opposite leaves with parallel veins with a quilted appearance and covered in short stiff hairs. Small white flowers and deep purple/blue berries covered in short hairs. Can be easily confused with native bluetongue

**Distribution:** Current Australian distribution is Isolated to several properties in the Julatten area. Fruit spread by birds, contaminated machinery and soil

**Impacts:** Kosters' curse is a serious pest of the environment and agriculture in over 16 countries. It has potential to spread to humid coastal districts of Australia if not eradicated from Julatten

**Key projects:** All known infestations within the Julatten area are the target of the National costshared Four Tropical Weeds Eradication Program. Landholders are required to report suspected infestations immediately to Biosecurity Queensland on 13 25 23

Delimitation	1	n/	′a									
Prevention	Er cu su	Ensure control action, and machinery, soil or stock movements at current locations do not spread Kosters' curse. Respond to any suspected sightings.										
Removal	Ar in	An ongoing eradication program is underway on the only known infestation in Julatten .										
ntensive co	n/	′a										
mpact redu	iction	n/	′a									
flower				•								•
flower	•	•	•	•	•	•	•	•	•	•		
flower seed spray	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>	•	•	•	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>•</li> 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flower seed spray mechanical manual Biology	<ul> <li>•</li> <li>•&lt;</li></ul>	● ● ● ● ● ●	● ● ● ● ● ● ●	● ○ ○ ○ A	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	J ast flush	● ○ ○ ○ ↓	● ● ● ● ● ● ● ● ● ● ● ● ●	() () () () () () () () () () () () () (	<ul> <li>•</li> <li>•&lt;</li></ul>	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	● ○ ○ ○ ●

Management aims

### Clidemia hirta (Kosters curse)









Spread



### Parthenium hysterophorus (Parthenium weed)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
5/5	4/5	5/5	3.4/5	2.9/5	4.0/5	2.6/5	4.3/5	3.6/5	35.9	

**Description:** Parthenium weed is an annual herb with a deep tap root and an erect stem that becomes woody with age. As it matures, the plant develops many branches in its top half and may eventually reach a height of two metres.

**Distribution:** Localised infestations around Mareeba. Heavier Infestations occur to the south of Mareeba Shire in the Upper Hebert and Burdekin. Introduction often associated with poultry feed or contaminated machinery from outside the region.

**Impacts:** Parthenium is a weed of crops and grasslands causing loss of crop and pasture production. Parthenium weed also causes severe allergic reactions including hay fever and dermatitis in susceptible people

Key projects: An Pest Survey Program annual treatment and surveillance program is underway

Delimitatio	n	ll n	/a									
Prevention		lı o a E	mpleme perator warene insure s	ent hygi rs and v ess targ stock a	iene re wider c geted to nd pou	quirem ommur o areas Itry fee	ents for hity whe where d is fror	r roads ere this Parthe m a cle	side ma s pest is enium v ean and	anagen s prese veed is d secur	nent ent. Pul absen re sourc	olic it. ce.
Removal		N	lonthly	revisits	s and m	nonitori	ng of a	ll knov	vn loca	tions		
ntensive co	ontrol	n	/a									
Impact reduction			/a									
flower	•			•	•			0	0	0	0	
flower seed	•	•	•	•	•	•	•	0	0	0	0	0
flower seed spray	() •	•		•	•	•	<ul><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li><l< td=""><td>0</td><td>0</td><td>0</td><td>() () ()</td><td>0</td></l<></ul>	0	0	0	() () ()	0
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flower seed spray mechanical manual	() () () () () () () () () () () () () (	• • • ×	•	• • • ×	• • • •	● ● ○ ⊗ ⊗		<ul><li>○</li><li>○</li><li>○</li><li>○</li><li>⊗</li><li>⊗</li></ul>	○ ○ ○ ⊗	○ ○ ○ ⊗	<ul> <li>○</li> <li>●</li> <li>●</li> <li>●</li> <li>⊗</li> <li>⊗</li> <li>⊗</li> </ul>	
flower seed spray mechanical manual biocontrol	<ul> <li>●</li> <li>●</li> <li>●</li> <li>⊗</li> <li>⊗</li> <li>●</li> <li>●</li> </ul>	● ● ◎ ⊗ ⊗	• • • • • • • • • • • • • • • • • • •	• • • * *	● ● ◎ ⊗ ◎			<ul> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>⊗</li> <li>⊗</li> <li>●</li> </ul>	<ul> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>⊗</li> <li>⊗</li> <li>●</li> </ul>	<ul> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>⊗</li> <li>⊗</li> <li>●</li> </ul>		
flower seed spray mechanical manual biocontrol	() () () () () () () () () () () () () (	● ● ◎ ◎ ◎ ◎ ●	● ● ● ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎	• • • • • • • • • • • • • • • • • • •	● ● ② ◎ ◎	● ● ○ ◎ ◎ ●	<ul> <li>•</li> <li>•&lt;</li></ul>	○ ○ ○ ◎ ◎ ◎ ○ ○ ○	<ul> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>⊗</li> <li>⊗</li> <li></li> <li>S</li> </ul>	<ul> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>⊗</li> <li>⊗</li> <li>●</li> <li>&gt;</li></ul>	<ul> <li>○</li> <li>●</li> <li>●</li></ul>	
flower seed spray mechanical manual biocontrol	() () () () () () () () () () () () () (	• • • • • • • • • • • • • • • • • • •	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	• • • • • • • • • • • • • • • • • • •	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●		<ul> <li>•</li> <li>•&lt;</li></ul>	○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○	<ul> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>S</li> <li>mal</li> </ul>		<ul> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>N</li> <li>∞</li> <li>n/a</li> </ul>	

### Parthenium hysterophorus (Parthenium weed)



### Jatropha spp. (Bellyache bush)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
5.0/5	4.0/5	4.0/5	4.0/5	3.8/5	4.2/5	1.6/5	4.0/5	4.4/5	35.0	

**Description:** Squat, thick stemmed shrub 2.4-4m tall . Seedlings single stemmed with deeply divided purple leaves. Mature leaves brighter green with up to 5 lobes with coarse dark brown hairs on the margins. Small red flowers followed by green fleshy pods. Sometimes confused with castor oil plant which is taller with more (7-9 lobes) which are pointed rather than rounded

Distribution: Currently restricted to riparian areas in the Lower Walsh River and Emu Creek

**Impacts:** The fruits are poisonous to humans and livestock which when eaten lead to symptoms of gastroenteritis and sometimes death. Bellyache bush has a devastating impact on rangeland river systems and pastures.

**Key projects:** A coordinated top-of-catchment down management program is continuing on Bellyache bush and its relative *Jatropha curcas* in the Emu Creek and Upper Walsh

Delimitation	Bellyache bush has potential to spread along watercourses. Landholders downstream of Emu Creek and Walsh River infestations should be on the look out for new or established infestations to assist the management response
Prevention	Spell stock in holding yards prior to releasing to pasture/rangeland. Ensure quarry and raw materials are free of seed
Removal	n/a
Intensive control	The management program is targeting the current infestation from the top down
Impact reduction	Management of roadside and pastures to prevent spread to adjoining paddocks and properties.

flower												
seed		$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	0					
herbicide												
mechanical	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$
	J	F	Μ	Α	Μ	J	J	Α	S	0	Ν	D
Biology		F	● Peak		0 First/las	) st flush		O Occasio	onal		⊗ n∕a	
Control		O	• otimal		Go	od		O Margir	nal	Not	⊗ recomme	ended

Management aims

Details



### Miconia species (Miconia tree)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
5/5	5/5	5/5	3.9/5	3.1/5	2.0/5	2.1/5	4.4/5	4.0/5	34.5	

DECLARED CLASS ONE

**Description:** Small tree (up to 15 m), with large leaves up to 70 cm long. The underside of the leaves is a distinct, deep iridescent purple.

**Distribution**: A major infestation in the Kuranda area has been the target of eradication for over 10 years. Also recorded in smaller incursions from Mareeba and Julatten

**Impacts:** It can produce hundreds of small berries every year which are attractive to birds and are spread long distances. Under favourable conditions, it forms dense thickets in rainforest understoreys, potentially replacing native plants and affecting wildlife populations

**Key projects:** Target of the National cost-shared Four Tropical Weeds Eradication Program led by Biosecurity Queensland. All plants should be reported to Biosecurity Queensland immediately on 13 25 23



Details

### Miconia species (Miconia tree)



### What do I need to do?

Report new outbreaks and sightings - help determine the extent of the pest

Come clean, go clean - keep weed and pest animal free areas clean

Be vigilant- remove all seeds (seedbank) and plants or all the pest animals from the zone

Think big and plan for the long term - reduce infestations to a size that can be removed

Maintain buffers and protect important places - protect assets and minimise the risk of spread

For more information on management aims in each zone refer to Using the pest plan templates







Control







Spread



### Andropogon gayanus (Gamba grass)

-	National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
	5/5	4/5	4/5	4.1/5	3.6/5	3.6/5	3.3/5	3.1/5	2.8/5	33.4	

**Description:** A robust, upright perennial 2-4metres with distinctive plumed seed heads.

**Distribution:** Dense infestations currently restricted to the Hann Tableland and surrounding stations. Isolated stands on road network and private properties.

**Impacts:** Gamba grass was planted as a tropical pasture but has escaped from intensively managed grazing systems and outcompetes native pastures and fuels intense fires. Late season Gamba fires are very difficult to manage and pose a significant threat to life and property.

**Key projects:** An active management plan is being implemented for Gamba grass across Far North Queensland and Cape York Peninsula . An industry code of practice for containment of retained plantings has been drafted and can assist graziers manage risk of spread from planted sources.

Delimitatio	ì	Si w	Survey is required to establish the distribution of Gamba grass in western rangelands									
Prevention		SI Hi in de	pread v ay from troduct etect ai	ria vehi i clean tion. Ro ny new	cles an source adside outbre	d cont s shou s shou aks	amina Ild be s Ild be r	ted hay sought 1 monitor	needs to preve red in g	to be a ent acc rowing	address idental seasor	sed. n to
Removal		n	/a									
Intensive co	ontrol	0 รเ e:	Outlier infestations and recent introduction on roadsides are subject to an intensive control program to remove risk of establishment of dense infestations									
Impact redu	mpact reduction			nent of bads ca idequat	plante an redu te stocl	d sour Ice the king ra	ces an sprea tes to	d main d and ii prevent	tenanco mpact o t seedir	e of bu of Gam ng and	ffers or ba gras rank gr	n SS. rowth
flower	npact reduction					$\bigcirc$						
seed	flower seed							$\bigcirc$	$\bigcirc$			
spray					0							
Mechanical				0	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$			
manual						$\bullet$						
burn		0				$\bigcirc$						
	J	F	Μ	Α	Μ	J	J	Α	S	0	Ν	D
Biology	Biology		Occasional				8					
			oun		1 11 3 9 10 3	LIIUSII		Uccasio	nai		n/a	

Management aims

Details

### Andropogon gayanus (Gamba grass)



### Cryptostegia grandiflora (Rubber vine)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
5.0/5	4.0/5	4.0/5	4.2/5	4.1/5	3.9/5	1.6/5	3.3/5	3.1/5	33.2	

**Description:** A vigorous twining climber which begins as a multi-stem shrub with long whip like shoots. Can form low shrubs or canopy of vines. Distinctive glossy, paired leaves and large white to purple funnel shaped flowers. Produces paired rigid seedpods with fine cotton like seed.

**Distribution:** Widespread ranging from sparse to common . More prevalent in areas protected from fire like riparian zones, vine forests and rocky outcrops. Far eastern areas are within the national containment line for rubber vine

**Impacts:** Smothers native vegetation and pasture, impedes stock movement. Alters fire regimes and vegetation composition. Is poisonous to stock.

**Key projects:** A successful rust bio-control agent seasonally suppresses outbreaks. Healthy rangeland pastures and appropriate fire regimes are key tools in broad acre management





### Salvinia molesta (Salvinia)

Nation	State interes	Local interes	Consei & biod	Riparia Aquati	Agricul Produc	Reside Urban	Achiev	Extent	Priority	
al ts	ស	ts	vation iversity	° n &	ture & tion	ntial &	ability		' score	
5.0/5	4.0/5	4.0/5	3.9/5	4.7/5	2.9/5	1.8/5	3.3/5	2.9/5	32.4	

**Description:** A floating fern with small, coarsely hairy oval leaves which repel water. As the plant matures it turns from bright green to brown and bunches up into tight rafts.

**Distribution:** Widespread and common in most disturbed creek systems in the Barron River, Granite and Rifle Creek. Can seasonally choke farm dams and waterways in summer growing period. Currently not in western watersheds

**Impacts:** An aquatic weed that can choke waterways. It floats on still or slow-moving water and can grow rapidly to cover the entire water surface with a thick mat of vegetation. This shades out any submerged plant life and impedes oxygen exchange impacting fish and aquatic organisms

**Key projects:** Periodic release of bio-control weevil and spraying of dense infestations are conducted in key locations including landholders dams , water supplies and intakes



### Salvinia molesta (Salvinia)



alvinia weevil



Kilometers



floating aquatic perennial Control

INT MOLLOY

DIMBULA

IRVINEBANK

CHILLAGOE

ALMADEN

Spread



### Chromolaena odorata (Siam weed)

Chro	Chromolaena odorata (Siam weed)											
National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score			
0/5	5/5	5/5	4.3/5	3.6/5	3.4/5	2.6/5	4.1/5	3.8/5	31.7			

Description: A scrambling woody shrub to 3 metres (higher as a scrambling climber) with distinctive forked leaf venation and purple flush on new leaves. Clusters of white flowers in May-June and October. Distinguish from other weeds Bluetop, Praxelis and Billy goat weed which all have mauve to purple flowers and are shorter than Siam

Distribution: Single location in the Emu Creek region. Widespread but localised in the Upper Herbert from Ravenshoe to Blencoe and in Mossman, Tully/Murray and Lower Johnstone.

Impacts: This species can form dense thickets and outcompete native species and pasture in both disturbed and undisturbed sites. Prefers richer soils in alluvial and riparian zones but will grow in rock and escarpment.

Key projects: Subject of an National Eradication Program up until 2012, Siam weed is now in a transition to management.



Details



### Hymenachne amplexicaulis (Olive hymenachne)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
5/5	4/5	4/5	4.1/5	4.6/5	2.3/5	1.8/5	2.1/5	2.8/5	30.8	

**Description:** A robust, upright perennial aquatic grass 1-2 metres with distinctive stem clasping leaves.

**Distribution:** Widespread in the Barron River, Rifle/Devil Devil Creek, Upper Walsh and Lake Mitchell. The Lake Mitchell infestation is possibly the largest single infestation in Queensland

**Impacts:** Blocks drainage systems and waterways. Readily invades and outcompetes native plants in wetlands and waterways. Prevents fish passage and breeding opportunity for key recreational species. Can block irrigation and damage infrastructure.

Key projects: On ongoing survey and control program is continuing on the Barron River

Delimitatio	n	) r	n/a									
Prevention		H N t	lymena ⁄litchell be on th	chne is Rivers e lookc	prese . Natur out for i	nt in th al and new inf	e uppo irrigati estatic	er reac on wat ons to p	hes of t ers dow protect ;	the Wa vnstrea gulf wa	lsh and am sho iterway	d ould s
Removal		r	n∕a									
Intensive c	Intensive control											
Impact red	mpact reduction			key ass Ensure s with	ets like e furthe stock a	e infras er sprea ind ma	atructur ad is pr chiner	e and l evente y .	biodive d by ap	rsity in opropria	infeste ate hyg	ed jiene
flower			$\bigcirc$	0				$\bigcirc$	$\bigcirc$			
seed					0				$\bigcirc$	0		
spray	$\bigcirc$	0	0			$\bigcirc$	$\bigcirc$	$\bigcirc$				
mechanical	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$
burn								$\bigcirc$				0
	J	F	Μ	Α	Μ	J	J	Α	S	0	Ν	D
Biology			Peak		0 First/las	) st flush		O Occasio	onal		⊗ n/a ⊗	
Control	Control		ptimal		Go	od		Margir	nal	Not	recomme	ended

### Hymenachne amplexicaulis (Olive hymenachne)



### T. laurifolia and grandiflora (Thunbergia vines)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
0/5	5.0/5	5.0/5	3.5/5	3.3/5	3.3/5	2.5/5	3.3/5	4.0/5	29.9	

**Description:** A rapidly growing vine which forms significant underground tubers. Thunbergia climbs and smothers native vegetation. *T. laurifolia* is very similar in appearance and habit to *T. grandiflora*. It has similar flowers, leaves are similar size but a different shape and texture, being oval and narrowing to a pointed tip.

**Distribution:** Thunbergia vine occurs at several isolated outbreaks near Kuranda, Myola, Speewah and Julatten.

**Impacts:** Thunbergia climbs and smothers native vegetation, killing and often pulling down mature trees with the weight of the vine.

Key projects: Eradication of infestation from dumped garden waste in Julatten.



Details

### T. laurifolia and grandiflora (Thunbergia vines)



Maintain buffers and protect important places - protect assets and minimise the risk of spread

For more information on management aims in each zone refer to Using the pest plan templates







Spread



### Lantana camara (Lantana)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
5.0/5	3.0/5	3.0/5	3.7/5	3.6/5	4.0/5	2.1/5	2.6/5	2.6/5	29.5	

**Description:** Lantana is a heavily branched shrub that can grow in compact clumps, dense thickets or as a climbing vine. The stems of lantana are square with small, re-curved prickles. The small leaves (6cm) are covered in fine hairs, bright green above, paler underneath and have round-toothed edges. Flowers are variable ranging from purple to orange.

**Distribution:** Common and widespread across the Wet Tropics ranges less abundant in drier districts where it is often restricted to monsoon scrubs and waterways

**Impacts:** a significant weed of natural systems and grazing areas. Lantana displaces understorey species and alters fire regimes. Lantana can cause poisoning in stock not familiar with it.

**Key projects:** Lantana is one a suite of widespread weeds managed in key area environmental area. It is also a serious weed of management for graziers.





### Senna obtusifolia (Sicklepod)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
0.0/5	4.0/5	3.0/5	4.2/5	4.1/5	4.3/5	3.0/5	2.4/5	2.0/5	26.8	

**Description:** S. obtusifolia is a vigorously growing, very competitive woody shrub to 1.5-2m tall and 1m wide with yellow senna flowers and long curved seed pods. Normally an annual though plants that have been slashed or survive chemical application often re-shoot and survive another year. S. occidentalis woody shrub to 2m which grows as a short lived perennial. Its has yellow senna flowers and short cylindrical seed pods.

Distribution: S. obtusifolia is restricted in distribution.

**Impacts:** Sicklepod can invade and completely dominate pastures. It becomes a major weed of crops within 2 or 3 seasons. Sicklepod will invade natural areas especially following disturbance.

Key projects: intensive control programs are underway in outliers.

Delimitation n/a Spread to new areas can be reduced by spelling stock in holding Prevention paddocks prior to movement. Populations on roadsides should be treated as a priority to prevent further spread. n/a Removal **Intensive control** Intensive control to remove isolated outbreaks Both species should be managed as a weed of pasture and Impact reduction sensitive environmental areas.  $\bigcirc$  $\bigcirc$ flower seed  $\bigcirc$ () $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$ spray  $\otimes$  $\bigcirc$  $\otimes$  $\otimes$  $\otimes$  $\otimes$ slash burn  $\bigcirc$  $\bigcirc$ J F Α J J S Μ Μ Α 0 Ν D 0 8 Biology Occasional Peak First/last flush n/a 0 8 Control Not recommended Optimal Good Marginal

Priority

Management aims

![](_page_50_Figure_0.jpeg)

### Leonotis nepetifolia (Lion's tail)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
0.0/5	0.0/5	4.0/5	3.0/5	3.0/5	4.0/5	1.0/5	5.0/5	5.0/5	21.0	

**Description:** Lions tail is a erect, sparsely branched annual herb 1-2m Four angled stems with opposite leaves and compound orange flowers. Spherical seed pods are held long into the dry season

**Distribution:** A single localised infestation occurs in the Wrotham district . Most outbreak of lions tail are associated with gardens, particularly around older or historical settlements

**Impacts**: A weed of environment and production Lions tail can outcompete native grasses and pastures.

**Key projects:** An ongoing management program is removing a single outbreak scattered over a 3km square area

![](_page_51_Figure_6.jpeg)

Details

### Leonotis nepetifolia (Lion's tail)

![](_page_52_Figure_2.jpeg)

### What do I need to do?

Report new outbreaks and sightings - help determine the extent of the pest

Come clean, go clean - keep weed and pest animal free areas clean

Be vigilant- remove all seeds (seedbank) and plants or all the pest animals from the zone

Think big and plan for the long term - reduce infestations to a size that can be removed

Maintain buffers and protect important places - protect assets and minimise the risk of spread

For more information on management aims in each zone refer to Using the pest plan templates

![](_page_52_Picture_10.jpeg)

![](_page_52_Picture_11.jpeg)

![](_page_52_Picture_12.jpeg)

Spread

Control

10

![](_page_52_Picture_14.jpeg)

### Giant Rats tail grasses (GRT and other Sporobolis spp.)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
0.0/5	4.0/5	4.0/5	3.7/5	3.1/5	4.6/5	2.7/5	2.5/5	2.3/5	26.8	

**Description:** A group of robust, upright perennial grasses 0.6 - 1.7 metres tall. Flower spikes are about 40 cm long and transform from a distinctive dark 'rats tail' shape when young to an open pyramid when mature. Leaves are narrow and tough and can be rasp like to touch.

**Distribution:** Scattered across most of the eastern Tablelands but in higher densities in Mareeba and surrounds. Prefers drier savannah climate

**Impacts:** A large stature species which can drastically outcompete desirable pastures. Unpalatable to stock. Is a major problem in overgrazed or disturbed systems. Invades creek lines and woodlands in drier savannah environments

**Key projects:** Priority is to remove GRT from roads and accesses to prevent further spread. Individual properties should ensure property is kept clean and fence lines /access tracks are managed.

Delimitation		n	/a									
Prevention Removal Intensive control			Spread to new areas can be reduced by spelling stock in holding paddocks prior to movement. Populations on roadsides should be treated as a priority to prevent further spread. Sources of hay and feed should be managed as a priority.									
			/a									
			/a									
Impact redu	iction	P re s	Priority s educe fi pelling i	hould urther infeste	be give spread d areas	n to m . Caref s while	anagin ul man manag	g roads nageme gement	ide infe nt of pa takes	estation astures place	ns to and	
flower		$\bigcirc$				0						
seed								0	0			
spray			Soil t	ased he	rhicides						0	
residual			Cont		i bioloco					0		
Mechanical				$\bigcirc$	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$			
manual												
	J	F	Μ	Α	Μ	J	J	Α	S	0	Ν	D
Biology		I	Peak First/last flush			O Occasional			⊗ n/a ⊗			
Control		0	ptimal		Goo	bd		Margir	al	Not	recomme	nded

### Giant rats tail grasses (GRT and other Sporobolis spp.)

![](_page_54_Figure_1.jpeg)

### Mimosa invisa (Giant sensitive plant)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
0.0/5	4.0/5	4.0/5	3.6/5	3.3/5	3.0/5	2.2/5	3.4/5	3.7/5	26.6	

**Description:** A shrubby or sprawling annual that has four angled branches with a line of sharp, hooked prickles along the angles. Similar to the common sensitive weed but grows as a small shrub rather than a ground cover. Seed is very long-lived

Distribution: Isolated to several small outbreaks on rural properties in Julatten and Kuranda

**Impacts:** GSP chokes up cane, pastures and crops causing lost productivity and contaminating produce.

**Key projects:** All known sites are under monitoring in the Mareeba Shire area. Any suspected sightings should be reported to MSC. A successful bio-control agent is present in the Wet Tropics which significantly impacts developing seeds. Selective herbicide or grubbing of individual plants prior to flowering is essential to prevent further seed development

![](_page_55_Figure_6.jpeg)

### Mimosa invisa (Giant sensitive plant)

![](_page_56_Figure_1.jpeg)

### Sus scrofa (Feral Pig)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
0.0/5	4.0/5	5.0/5	4.0/5	4.0/5	4.0/5	2.0/5	2.0/5	1.5/5		

**Description:** Feral pigs are usually black, buff or spotted black or white. They are generally nocturnal, and camp in thick cover during the day. Feral pigs are omnivorous and can range from 5 to 50 square kilometres. Feral pigs breed throughout the year often producing two weaned litters per year.

**Distribution:** Common and widespread within some areas of the Mareeba Shire. Feral pigs range are able to exist wherever there is water available from rainforest to drier woodlands.

**Impacts:** Feral pigs damage crops, stock, property and the natural environment. They transmit disease and could spread exotic diseases such as foot and mouth if this was introduced to the country.

Key projects: local trapping and baiting programs can assist where pigs impact on key assets

Delimitatio	on	l r	n/a									
Prevention			ı/a									
Removal		r	n/a									
Intensive o	ontrol	r	n/a									
		F	eral pig	gs can b	be man	aged t	hrough	strate	gic bai	ting ,tra	apping	and
Impact red	luction	S a	hooting issets c	g progra an be p	ams. Ho protecto	ouse ga ed by e	ardens exclusio	,small on fenc	crops ing or s	and bio silo trap	odiversi os	ty
Impact red	luction	s a	shooting assets o	g progra an be p	ams. Ho protecto	ouse ga ed by e	ardens exclusio	,small on fenc	crops ing or s	and bic silo trap	odiversi os	ty
breed	luction ①	s a ()	shooting assets o	g progra an be p	ams. Ho protecto	ouse ga ed by e	ardens exclusio	,small on fenc	crops ing or s	and bic silo trap	odiversi os	ty ①
breed young trap	luction		shooting assets c	g progra an be p	ams. Ho protecto	ouse ga ed by e	erdens exclusio	,small on fenc	crops ing or s	and bic silo trap	odiversi os	ty () () ()
breed young trap shoot	luction () () () () () () () () () ()	s a 0 0	shooting assets o	g progra an be p	ams. Ho protecto	ouse ga ed by e	erdens exclusio	,small on fenc	crops ing or s	and bic silo trap	odiversi os	ty
breed young trap shoot bait	luction () () () () () () () () () ()		shooting assets o	g progra an be p	ams. Ho protecto	ouse ga ed by e	ardens exclusio	,small on fenc	crops ing or s	and bic silo trap	odiversi os	ty
breed young trap shoot bait fence	luction () () () () () () () () () ()		shooting assets of 0	g progra an be p	ams. Ho protecto	ouse ga ed by e	ardens exclusio	,small on fenc	crops sing or s	and bic silo trap	odiversi os	ty () () () () ()
breed young trap shoot bait fence	luction () () () () () () () () () ()	• • • • • • • • • •	shooting assets of () () () () () () () () () () () () ()	g progra an be p	Ams. Ho protecto	ouse ga ed by e	ardens exclusio	,small on fenc	crops sing or s	and bic silo trap	odiversi os	ty
Impact red breed young trap shoot bait fence Biology	luction () () () () () () () () () ()	s a 0 0 0 0 7 F	shooting assets of	g progra an be p	Ams. Ho protecto	ouse ga ed by e	ardens exclusio	,small on fenc	crops a ing or s	and bic silo trap	odiversi os	ty

Management aims

Details

### Sus scrofa (Feral Pig)

![](_page_58_Figure_2.jpeg)

### What do I need to do?

Report new outbreaks and sightings - help determine the extent of the pest

Come clean, go clean - keep weed and pest animal free areas clean

Be vigilant- remove all seeds (seedbank) and plants or all the pest animals from the zone

Think big and plan for the long term - reduce infestations to a size that can be removed

Maintain buffers and protect important places - protect assets and minimise the risk of spread

For more information on management aims in each zone refer to Using the pest plan templates

![](_page_58_Picture_10.jpeg)

![](_page_58_Picture_11.jpeg)

![](_page_58_Picture_12.jpeg)

## Control

omnivore

![](_page_58_Picture_14.jpeg)

![](_page_58_Picture_15.jpeg)

![](_page_58_Picture_16.jpeg)

![](_page_58_Picture_17.jpeg)

### Canis familiaris (Wild dog)

Details

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score
0.0/5	4.0/5	5.0/5	3.0/5	2.0/5	4.0/5	3.0/5	2.5/5	2.0/5	

**Description:** Wild dogs include dingoes, wild domestic dogs and hybrids. The term 'wild dog' refers collectively to purebred dingoes, dingo hybrids, and domestic dogs that have escaped or been deliberately released.

**Distribution:** Wild dogs are widespread in both the agricultural and natural landscape. They often exist in close proximity to towns if there is adequate resources for them.

**Impacts:** Wild dogs can cause stock losses in calving season and often carry parasites and pathogens. Near towns they can cause nuisance and impact on domestic animals.

**Key projects:** An ongoing strategic baiting program is in place to work with landholders in coordinated control operations at key times throughout the year. Dingoes are a protected species within National Parks.

Delimitatio	on	<u>n</u>	/a									
Prevention	I	n	/a									
Removal	n	/a										
Intensive c	ontrol	ņ	/a									
Impact reduction												
Impact red	luction	A a ir b	n ongo ssist g ndividu asis	oing coo raziers al issu	ordinate manag es as th	ed baiti ge wild ney aris	ng and dog por e will b	contro pulation e cond	I progr ns. Res ucted	am is i sponse on a ca	n place to ase by o	e to case
Impact red	luction	A a ir b	n ongo ssist g ndividu asis	oing coo raziers al issu	ordinate manag es as th	ed baiti ge wild ney aris	ing and dog pop æ will b	contro oulation e cond	I progr ns. Res ucted	am is i sponse on a ca	n place to ase by o	e to case
Impact red breed young	luction	A a ir b	n ongo ssist g ndividu asis	oing coo raziers al issue O	ordinate manag es as th	ed baiti ge wild ney aris	ing and dog pop se will b	contro oulation e cond	I progr ns. Res ucted	am is i sponse on a ca	n place to ase by o	e to case
Impact red breed young trap	luction	A a ir b	n ongo ssist g ndividu asis	oing coo raziers al issu	ordinate manag es as th	ed baiti ge wild ney aris	ing and dog pop se will b	contro pulation e cond	I progr ns. Res ucted	am is i sponse on a ca	n place to ase by o	e to case
Impact red breed young trap shoot	luction	A a ir b	n ongo ssist g ndividu asis	oing coo raziers al issu	ordinate manages as th	ed baiti ge wild ney aris	ing and dog pop se will b	contro oulation e cond	I progr ns. Res ucted of	am is i sponse on a ca	n place to ase by o	e to case
Impact red breed young trap shoot bait	luction	A a ir b	n ongo ssist g ndividu asis	oing coo raziers al issu	ordinate manages as th	ed baiti ge wild ney aris	ing and dog pop e will b	contro oulation e cond	I progr ns. Res ucted	am is i sponse on a ca	n place to ase by o	e to case
Impact red breed young trap shoot bait	luction ① J	A a ir b	n ongo ssist g ndividu asis	oing coo raziers al issu () () () () () () () () () () () () ()	ordinate manages as the	ed baiti ge wild ney aris	ing and dog pop e will b	contro oulation e cond	I progr ns. Res ucted	am is i sponse on a ca	n place to ase by o	e to case
Impact red breed young trap shoot bait Biology	luction () () J	A a ir b C F	n ongo ssist g ndividu asis	oing coo raziers al issu () () () () () () () () () () () () ()	ordinate manages as the ordinate es as the ordinate ordinate es as the ordinate ordina	ed baiti ge wild ney aris	ing and dog pop e will b	contro oulation e cond	I progr ns. Res ucted of O S mal	am is i sponse on a ca	n place to ase by o N N %	e to case

### Canis familiaris (Wild dog)

![](_page_60_Figure_2.jpeg)

### What do I need to do?

Report new outbreaks and sightings - help determine the extent of the pest

Come clean, go clean - keep weed and pest animal free areas clean

Be vigilant- remove all seeds (seedbank) and plants or all the pest animals from the zone

Think big and plan for the long term - reduce infestations to a size that can be removed

Maintain buffers and protect important places - protect assets and minimise the risk of spread

For more information on management aims in each zone refer to Using the pest plan templates

![](_page_60_Picture_10.jpeg)

![](_page_60_Picture_11.jpeg)

![](_page_60_Picture_12.jpeg)

#### Control

![](_page_60_Picture_14.jpeg)

![](_page_60_Picture_15.jpeg)

![](_page_60_Picture_16.jpeg)

![](_page_60_Picture_17.jpeg)

### Orictolagus cuniculus (Rabbit)

National interests	State interests	Local interests	Conservation & biodiversity	Riparian & Aquatic	Agriculture & Production	Residential & Urban	Achievability	Extent	Priority score	
0.0/5	4.0/5	5.0/5	3.0/5	2.0/5	3.0/5	2.0/5	3.0/5	3.0/5		

**Description:** Grey brown with a pale belly. Long hind legs and short front legs with large ears and dark eyes. Can also be black, white or ginger. All rabbits (wild, pet, meat) are declared pests in Queensland and cannot be kept without a permit.

**Distribution:** Localised populations occur across the eastern districts of Mareeba Shire. Rabbits are often associated with farm infrastructure and human settlement .

**Impacts:** Rabbits cause destruction of native vegetation and subsequent erosion .They also compete or food and shelter with native animals and may support feral predators like foxes and cats. Northern populations tend to harbour under cover rather than build warrens.

**Key projects:** ongoing release of bio-control or baits assists to reduce seasonal numbers. Targeted shooting and harbour removal will assist in reducing number around properties.

![](_page_61_Figure_6.jpeg)

Details

### Orictolagus cuniculus (Rabbit)

![](_page_62_Figure_1.jpeg)

### What do I need to do?

Report new outbreaks and sightings - help determine the extent of the pest

Come clean, go clean - keep weed and pest animal free areas clean

Be vigilant- remove all seeds (seedbank) and plants or all the pest animals from the zone

Think big and plan for the long term - reduce infestations to a size that can be removed

Maintain buffers and protect important places - protect assets and minimise the risk of spread

For more information on management aims in each zone refer to Using the pest plan templates

![](_page_62_Picture_9.jpeg)

![](_page_62_Picture_10.jpeg)

![](_page_62_Picture_11.jpeg)

### Control

![](_page_62_Picture_13.jpeg)

![](_page_62_Picture_14.jpeg)

![](_page_62_Figure_15.jpeg)