



**Cairns Region Biosecurity Plan
2019 – 2024**

Acronyms and Glossary

4TW	Four Tropical Weeds Program – A National Eradication Program delivered by Biosecurity Queensland (BQ), targets the eradication of five weeds listed as restricted matter (category 2,3,4 & 5) – <i>Mikania vine</i> , <i>Miconia calvescens</i> , <i>Miconia racemosa</i> , <i>Miconia nervosa</i> and <i>Limnocharis flava</i> .
BQ	Biosecurity Queensland coordinates the government's efforts to prevent, respond to, and recover from pests and diseases that threaten the economy and environment. BQ is made up research, operations and policy. BQ is part of the Department of Agriculture and Fisheries (DAF).
BWG/PWG	Biosecurity Working Group prev. Pest Working Group; Local forum established to regularly bring all the relevant stakeholders together to discuss a range of land management priorities
CRC	Cairns Regional Council – Council for Local Government area covered by this plan.
DES	Department of Environment and Science (Queensland Parks and Wildlife Service).
EPBC	Environment Protection and Biodiversity Conservation (Federal Act)
FNQROC	Far North Queensland Regional Organisation of Councils is made up of membership of Councils from Ingham north to Cooktown and west to Carpentaria in Far North Queensland. The organisation fosters cooperation and resource sharing between councils and advocates regional positions and priorities.
NAMAC	Natural Asset Management Advisory Committee.
Terrain NRM	Terrain Natural Resource Management - Regional Natural Resource Management organisation working over the Wet Tropics region which takes in the local government areas of Hinchinbrook Shire Council, Cassowary Coast Regional Council, Tablelands Regional Council and Cairns Regional Council.

Key terms and definitions – Biosecurity Act 2014

General Biosecurity Obligation

The general biosecurity obligation applies to a person who deals with biosecurity matter or a carrier, or carries out an activity, if the person knows or ought reasonably to know that the biosecurity matter, carrier or activity poses or is likely to pose a biosecurity risk. The person has an obligation (a general biosecurity obligation) to take all reasonable and practical measures to prevent or minimise the biosecurity risk. Also, the person has an obligation (general biosecurity obligation) to prevent or minimise adverse effects on a biosecurity consideration of the person's dealing with the biosecurity matter or carrier or carrying out the activity; and to minimise the likelihood of causing a biosecurity event, or to limit the consequences of a biosecurity event caused, by dealing with the biosecurity matter or carrier or carrying out the activity; and not to do or omit to do something if the person knows or ought reasonably to know that doing or omitting to do the thing may exacerbate the adverse effects, or potential adverse effects, of the biosecurity matter, carrier or activity on a biosecurity consideration.

Biosecurity Matter

Biosecurity matter is a living thing, other than a human or part of a human; or a pathogenic agent that can cause disease in a living thing, other than a human; or in a human, by the transmission of the pathogenic agent from an animal to the human; or a disease; or a contaminant.

Biosecurity Risk

A biosecurity risk is a risk of any adverse effect on a biosecurity consideration caused by, or likely to be caused by biosecurity matter; or dealing with biosecurity matter or a carrier; or carrying out an activity relating to biosecurity matter or a carrier.

Biosecurity Event

A biosecurity event is an event comprising something that has happened, is happening or may happen; and has had, is having or may have a significant adverse effect on a biosecurity consideration and was or is being caused by, or may be or may have been caused by, biosecurity matter.

Biosecurity Consideration

A biosecurity consideration is defined as being; human health, social amenity, the economy or the environment.

Carrier

A carrier is any animal or plant, or part of any animal or plant, or any other thing capable of moving biosecurity matter attached to, or contained in, the animal, plant or other thing from a place to another place. Or containing biosecurity matter that may attach to or enter another animal or plant, or part of another animal or plant, or another thing.

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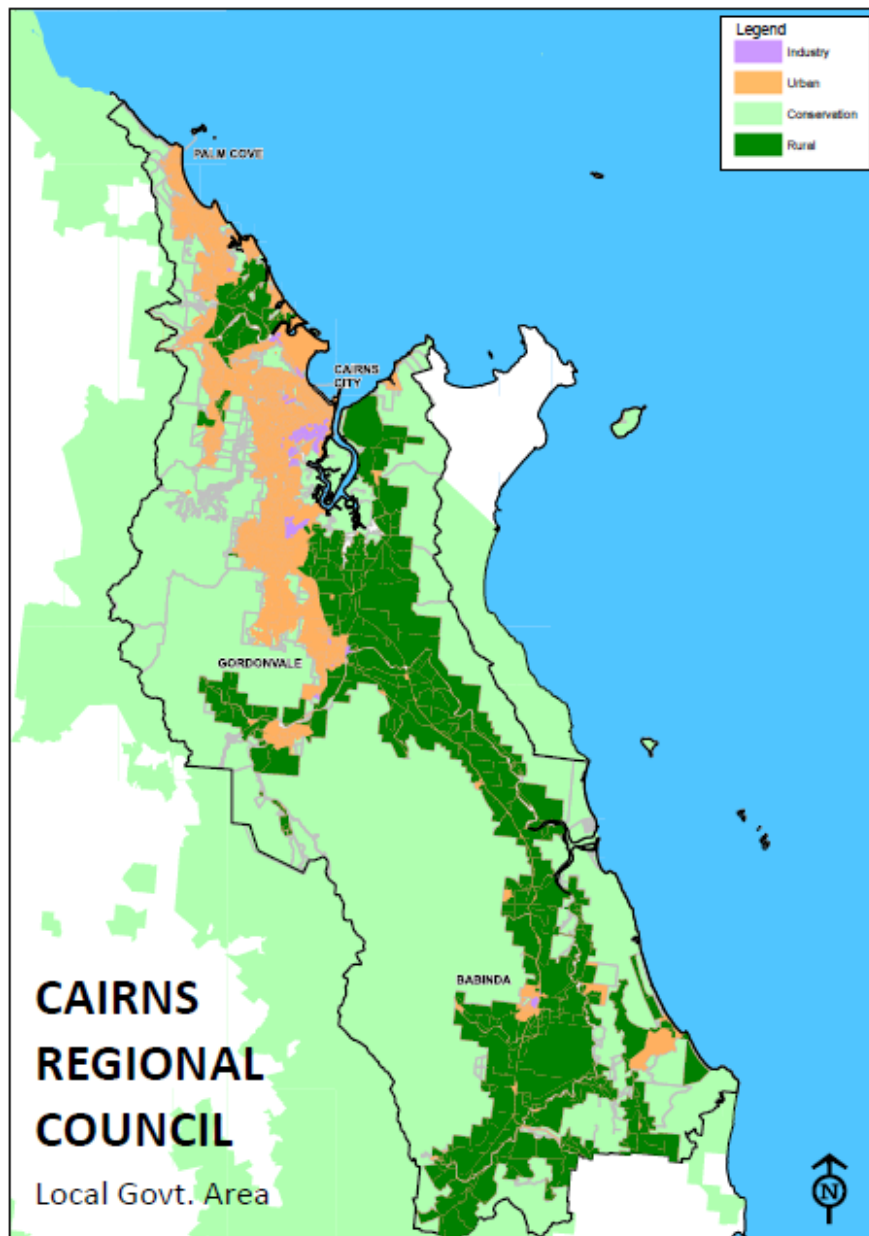
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Introduction

The Cairns Regional Council area extends from Wangetti Beach in the north to Waugh's Pocket in the south. Cairns is fringed by World Heritage rainforests lining the Great Dividing Range and is the largest urban centre in the Wet Tropics Area. Cairns is the largest tourism and commercial hub of the wet tropics comprising a wide mix of land uses including urban development, peri urban, agriculture and conservation areas.

The diversity of land uses in the Cairns area is both an asset and a challenge for managing biosecurity. Managing biosecurity in such a diverse region requires an integrated approach tailored to meet the needs of the many different stakeholder groups.

The Cairns Region Biosecurity Plan 2019 - 2024 is a guiding document for managing biosecurity which has been formulated by Cairns Regional Council and Far North Queensland Regional Organisation of Councils (FNQROC) with the direct input of the Cairns Regional Pest and Biosecurity Working Groups.



Objectives of this Biosecurity Plan

The Cairns Region Biosecurity Plan provides strategic direction for the management of invasive biosecurity matter and other priority pests on all land tenures within the Cairns Regional Council area and has been developed by and for the entire community. The plan has identified species that pose or are likely to pose a significant biosecurity risk to agricultural production and the environment in the Cairns Regional Council area.

The key objectives of the Cairns Region Biosecurity Plan are as follows:

- Prioritises invasive biosecurity matter and locally declared pests, prevents their spread and introduction, prevents spread of invasive biosecurity matter and animals within the Cairns Regional Council area;
- Identify the roles and responsibilities of all stakeholders involved and provides direction on priority pest management activities;
- Outlines obligations to minimize the impact of biosecurity risks on people, the economy and the environment;
- Clearly identifies practical management of pests and outlines the priorities so that resources are managed efficiently protecting the environment and clearly identify actions needed for effective management of pests;
- Ensures appropriate management of invasive biosecurity matter and improved scope and opportunities for monitoring the efficiency and implementation of the Plan.
- Identifying benchmarks for strategic success for continued monitoring and evaluation of pest management in the region.

Background

In 2015, Cairns Regional Council endorsed the Pest Management Plan 2015-2018. This plan outlined the roles and responsibilities of stakeholders as specified in the QLD Land Protection (Pest and Stock Route Management) Act 2002. The Biosecurity Act 2014 effectively replaced the Land Protection Act and required every local government in Queensland to develop a biosecurity plan for their area.

This plan provides up-to-date regional objectives building on the previous Pest Management Plan. This new planning framework represents a shift with a stronger focus on risk and activity based obligations and the General Biosecurity Obligation.

Plan Development

The Cairns Biosecurity Plan 2019 – 2024 has been developed following the Local Government Pest Assessment, Prioritisation and Planning Framework developed by FNQROC www.fnqroc.qld.gov.au. The plan development aligns with a regional partnership with neighbouring councils and the natural assets management action committee (NAMAC) which CRC is a contributing member.

The Cairns Biosecurity Working Group

The Cairns Region Biosecurity Working Group (BWG) was originally formed in 1997. The BWG is the local forum established to regularly bring all the relevant stakeholders together to discuss a range of land management priorities in the Cairns Regional Council area.

The primary roles of the Biosecurity Working Group are:

- To acknowledge the roles and responsibilities of all stakeholders.
- To provide advice to the Cairns Regional Council, Regional and State agencies, organisations and stakeholders of the biosecurity management priorities and requirements of the CRC area.
- Prioritise invasive biosecurity matter and local priority pest species including the development of locally specific obligations to ensure pests are being managed, to a standard that is accepted by the community.
- Ensure all stakeholders formally know, accept and acknowledge their roles and responsibilities in relation to the Biosecurity Management Plan. Key stakeholders are involved in monitoring, reviewing, and coordinating the implementation of the Biosecurity Plan.

The current Biosecurity Working Group consists of stakeholders invited from the following groups as well as other interested parties:

- Far North QLD Regional Organisation of Councils
- Cairns Regional Council
- Biosecurity QLD
- Department of Agriculture and Fisheries
- Wet Tropics Management Authority
- QLD Parks and Wildlife Service
- Wet Tropics Biodiversity Foundation
- Terrain Natural Resource Management
- Cairns Airport
- MSF Sugar
- Canegrowers
- Roadtek/ Department of Main Roads
- Ergon Energy
- Conservation Volunteers Australia
- Regional Landcare Groups
- Treeforce
- Local Indigenous Groups
- Local Councillors and other representatives

One of the challenges in the development of a Biosecurity Plan is to balance the needs of rural land uses with those expectations from urban areas and the growing concern for natural resources within the community.

When conflicting needs in the community were evident, recommendations were made based on knowledge of the pest's ecology, invasion potential, control methods available and other

factors, while keeping in mind the need for long-term sustainability of the range of land uses in the Cairns Regional Council.

Some pests are not yet present in the area but are considered important for their potential impact on the natural or productive values in our region. Table 6. Lists such plants.

Legal Requirements

Under the Biosecurity Act 2014 local governments are responsible for ensuring **invasive biosecurity matter** s48 (1) (a-d) for the local government's area is being managed in compliance with the Act.

Biosecurity Plans

The *Cairns Region Biosecurity Management Plan 2019 – 2024* will guide the management of all invasive biosecurity matter and locally declared pests in the Cairns Regional Council area as per section 53 of the Act.

To fulfil these responsibilities, Council is expected to:

- (a) Control invasive biosecurity matter on land under its control.
- (b) Inspect private property to determine the presence of invasive biosecurity matter.
- (c) Provide advice to landholders on appropriate pest control options.
- (d) Carry out procedures to ensure control of invasive biosecurity matter on private property.

The State government is responsible for:

- (a) Providing technical and management information and staff training to Council personnel.
- (b) Ensuring that invasive biosecurity matter controlled on land under the control of other Government Departments.

The Biosecurity Act provides Authorised Officers a broad range of powers, and tools needed to ensure the level of response is appropriate to the level of biosecurity risk.

The Biosecurity Action Plan defines what council and the community expects of individuals to discharge their **General Biosecurity Obligation (GBO)** regarding the priority invasive pests in specific areas.

The General Biosecurity Obligation

The General Biosecurity Obligation (GBO) is one of the core principles of the Biosecurity Act and represents a major shift in thinking – from prescriptive to outcome based management.

What is a general biosecurity obligation and who does it apply to?

The GBO is an overarching obligation that requires all persons who deal with biosecurity matter or a carrier to take all reasonable and practical measures to prevent or minimise the risk. However, the obligation only arises when the person *knows or ought reasonably to know* that the biosecurity matter, carrier or activity pose or is likely to pose a biosecurity risk.

How is compliance with a GBO used to achieve local pest management outcomes?

The GBO imposes an obligation on all relevant persons – individuals, industry and government to take an active role in preventing, managing and addressing biosecurity risks that relate to their activities. It provides a capacity for flexibility and ensures that the focus is on the management of biosecurity risk rather than following a prescribed process.

The Cairns Regional Biosecurity Plan provides management outcomes for specific high priority pests. These management outcomes are outlined in the pest specific strategies and have been developed by the BWG based on priority, knowledge of distribution, feasibility,

achievability and the existing and potential impacts on the biosecurity considerations (human health, social amenity, the economy or the environment) in the local area. The management outcomes guide or set the standard for the actions and measures thought to be reasonable and practical by the Cairns Community that will help in addressing the biosecurity risk posed by these pests and achieve the identified local management objectives.

How to meet Your General Biosecurity Obligation?

The following tables identify different groups of land owners, managers, or organisations that have a role to play in management of invasive biosecurity matter (Pest plants and animals). To meet your GBO in each of the identified zones the identified actions are the minimal actions required.

Table 1. Primary producers and community members

Sector	Actions	Obligation (GBO)
<p>Primary producers sugar cane/ bananas</p>	<ul style="list-style-type: none"> • Headland and crop/risk area checks • Survey for weeds/animals during routine maintenance • Vehicle/machinery hygiene protocols • Weed declarations when moving plant material or machinery • Spot spraying, Manual removal, Bagging seed heads, use of fire or other control methods to reduce weed infestations and pest animal harbourage • Property and site specific signage identifying issue/risk • Crop rotation and Cover cropping • Manage off crop weeds on headlands, watercourse and adjacent roadways • Develop strategic pest plans for managed properties • Be aware of priority pest species in the region. 	<ul style="list-style-type: none"> • Participate in feral animal control programs • Reduce declared weeds on your property • Prevent the spread of declared weeds by focusing on high risk spread areas such as watercourses, roadways and property boundaries • Provide/maintain access for biosecurity programs
<p>Primary producers wet/dry grazing</p>	<ul style="list-style-type: none"> • Boundary/risk area checks • Survey for weeds/animals during routine maintenance • Vehicle/ machinery hygiene • Weed declarations • Holding paddocks • Spot spraying, Manual removal, Bagging seed heads, use of fire or other control methods to reduce weed infestations and pest animal harbourage • Property and site specific signage identifying issue/risk • Chopper rolling, slashing, boom or aerial spraying • Develop strategic pest plans for managed properties • Install pest appropriate fencing • Be aware of priority pest species in the region. 	<ul style="list-style-type: none"> • Participate in feral animal control programs • Reduce declared weeds on your property • Prevent the spread of declared weeds by focusing on high risk spread areas such as watercourses, roadways and property boundaries • Provide/maintain access for biosecurity programs

Sector	Actions	Obligation (GBO)
Landholders fruit production/horticulture	<ul style="list-style-type: none"> • Crop/risk area checks • Survey during routine maintenance • Ensure equipment leaving or entering your property is clean of contaminants • Weed declarations • Spot spraying, Manual removal, Bagging seed heads, use of fire or other control methods to reduce weed infestations and pest animal harbourage • Property and site specific signage identifying issue/risk • Ground cover management • Develop strategic pest plans for managed properties • Install pest appropriate fencing • Reduce priority pests on your property • Be aware of priority pest species in the region. 	<ul style="list-style-type: none"> • Participate in feral animal control programs • Reduce declared weeds on your property • Prevent the spread of declared weeds by focusing on high risk spread areas such as watercourses, roadways and property boundaries • Provide/maintain access for biosecurity programs
Nursery industry and plant sellers	<ul style="list-style-type: none"> • Find out weed risk information before new stock lines are introduced • Spot spraying, Manual removal, Bagging seed heads, use of fire or other control methods to reduce weed infestations and pest animal harbourage • Property and site specific signage identifying issue/risk • Develop strategic pest plans for managed properties • Reduce declared weeds on your property • Be aware of priority pest species in the region. 	<ul style="list-style-type: none"> • Report unusual plants and animals • Prevent sale of state, local and problem environmental weeds • Provide/maintain access for biosecurity programs • Reduce declared weeds on your property
Landholders rural residential and lifestyle	<ul style="list-style-type: none"> • Report unusual plants and animals • Dispose of green waste responsibly • Select locally suitable garden plants • Participate in local area management activities • Report recurrence of priority pest and weeds • Develop strategic pest plans for managed 	<ul style="list-style-type: none"> • Participate in baiting and trapping programs • Prevent the spread of declared weeds by focusing on high risk spread areas such as watercourses, roadways and property boundaries • Provide/maintain access for biosecurity programs

Sector	Actions	Obligation (GBO)
	<ul style="list-style-type: none"> properties • Install pest appropriate fencing • Reduce priority weeds on your property • Be aware of priority pest species in the region. 	
Landholders urban and residential	<ul style="list-style-type: none"> • Dispose of green waste responsibly • Select locally suitable garden plants • Cooperate in delivering local management priorities • Report recurrence of priority pest and weeds • Develop strategic pest plans for managed properties • Install pest appropriate fencing • Reduce priority weeds on your property • Be aware of priority pest species in the region. 	<ul style="list-style-type: none"> • Participate in baiting and trapping programs where practical • Reduce declared weeds on your property • Prevent the spread of declared weeds by focusing on high risk spread areas such as watercourses, roadways and property boundaries • Provide/maintain access for biosecurity programs
Forestry	<ul style="list-style-type: none"> • Crop/risk area checks • Survey during routine maintenance • Ensure equipment leaving or entering your property is clean of contaminants • Spot spraying, Manual removal, Bagging seed heads, use of fire or other control methods to reduce weed infestations and pest animal harbourage • Property and site specific signage identifying issue/risk • Ground cover management • Develop strategic pest plans for managed properties • Install pest appropriate fencing • Be aware of priority pest species in the region. 	<ul style="list-style-type: none"> • Participate in feral animal control programs • Prevent the spread of declared weeds by focusing on high risk spread areas such as watercourses, roadways and property boundaries • Provide/maintain access for biosecurity programs

Table 2. Government departments, asset managers and non-government organisations

Agencies/NGO's	Actions	Obligation
FNQROC Natural Area Management Advisory Committee	<ul style="list-style-type: none"> • Maintain collaborative partnerships, advocacy and coordination across regional stakeholders • Undertake regional approaches to planning where relevant 	<ul style="list-style-type: none"> • Liaise with local, state and commonwealth government • Liaise with research organisations and programs
Biosecurity Working Group	<ul style="list-style-type: none"> • Maintain collaborative partnerships, advocacy and coordination across local stakeholders • Seek internal/external resources • Participate in risk assessment • Liaise with research organisations and programs • Cost and develop long term operational works programmes • Deploy coordinated early intervention to new outbreaks • Deliver extension and communication • Deliver disaster weed spread prevention protocols when required • Monitor effectiveness of BQ plan 	<ul style="list-style-type: none"> • Disseminate information to represented groups • Deploy early intervention to new outbreaks • Deliver extension and communication • Deliver disaster weed spread prevention protocols when required • Report on progress • Negotiate management programs with road and fire management agencies • Maintain operational works programs • Discuss effectiveness of BQ Plan in implementation at regular meetings
Local Government	<ul style="list-style-type: none"> • Education Awareness • Risk assessment • Pest surveillance • Vehicle/ equipment hygiene • Visitor/user management • Data collection • Monitoring 	<ul style="list-style-type: none"> • Develop strategic pest plans for managed properties and procedures • Fire planning & management • Pest management treatment in line with pest risk on Council land
Biosecurity Queensland (DAF)	<ul style="list-style-type: none"> • Education Awareness • Risk assessment • Aerial/ ground surveys • Vehicle/ equipment hygiene • Education and awareness • Capacity building • Data collection • Monitoring • Legislative advice 	<ul style="list-style-type: none"> • Invasive biology and management research • Release and monitor biocontrol • Conduct control and impact research
Corridor and infrastructure managers (Road and Rail, Power and Communications, Water and Sewage Network)	<ul style="list-style-type: none"> • Ensure best management practice from operations. • Allocate appropriate resource, • Report any outbreaks immediately • Risk assessment • Aerial/ ground surveys • Ensure clean equipment enters clean zones. • Adjust maintenance and design practices • Allocate resources to prevention activities 	<ul style="list-style-type: none"> • Engage contractors to manage removal targets on managed easements • Engage with neighbouring land owners in joint management programs • Allocate sufficient resources to support management activities • Maintain GIS data for operational and design activities • Monitoring • Work with biosecurity staff and contractors to maintain buffer areas

Agencies/NGO's	Actions	Obligation
	<ul style="list-style-type: none"> • Vehicle/ equipment hygiene • Signage in high risk areas 	
Queensland Parks & Wildlife & Unallocated State Land Management	<ul style="list-style-type: none"> • Education Awareness • Risk assessment • Aerial/ ground surveys • Vehicle/ equipment hygiene • Visitor/user management • Data collection • Monitoring 	<ul style="list-style-type: none"> • Engage with neighbouring land owners in joint management programs • Maintain GIS data • Maintain operational works programs • Fire planning & management • Release and monitor biocontrol • Engage with neighbouring land owners in joint management programs
Natural Resource Management Bodies (Terrain NRM)	<ul style="list-style-type: none"> • Education and awareness • Capacity building • Distribute information and facilitate the securing of resources for management • Promote prevention targets and activities across stakeholder networks • Capacity building integration into management programs • Distribute information and facilitate the securing of resources for management 	<ul style="list-style-type: none"> • Align landscape restoration targets with pests management priorities • Facilitate education and awareness programs for tourists and recreational users • Engage with stakeholders • Liaise with local, state and commonwealth government
Indigenous, Catchment & Community groups	<ul style="list-style-type: none"> • Distribute information and facilitate the securing of resources for management • Participate in on-ground activities • Record and report on local issues and projects • Actively search to make sure the area is free of target pests • Report any outbreaks immediately • Ensure clean equipment enters clean zones. • Collaborate with management agencies where possible • Report any outbreaks immediately • Collaborate with pest management staff on management programs 	<ul style="list-style-type: none"> • Align landscape restoration targets with pests management priorities • Implement on-ground works • Facilitate education and awareness programs for tourists and recreational users • Liaise with local, state and commonwealth government

Compliance and Enforcement Strategy

A general expectation is that failure to comply with obligations related to pest management will result in some form of compliance or enforcement activity.

Wherever possible and considering the urgency and priority of pest issues, education is considered the first response. Parties should reasonably be given opportunity to discharge their GBO and meet legislative obligations.

As such the *Pest Notice and Compliance Workflow* is a rough guide for compliance activities and actions expected in the region and can be found in Appendix 4.

Biosecurity Orders

A biosecurity order is the main enforcement tool that may be given to a person if an authorised officer reasonably believes that a person has failed, or may fail, to discharge their GBO (s373) or other biosecurity obligations.

A person fails to discharge their GBO if they do not take 'all reasonable and practical measures' to mitigate a biosecurity risk.

A biosecurity order can direct a person to treat, control, eradicate, destroy or dispose of biosecurity matter or a carrier in a particular way, clean or disinfect something, stop using the place or remove something from the place.

A biosecurity order **must** be directed at ensuring the recipient discharges their GBO at the place; and **may** relate to a specific biosecurity matter. In addition, the biosecurity order may propose stated times or intervals for re-entry to the place, a vehicle or another place, to check compliance with the order; or state how the recipient may show that the stated action has been taken.

Biosecurity Programs

Biosecurity programs (surveillance or prevention and control programs) have been implemented by the Department of Agriculture and Fisheries and Cairns Regional Council to enable proactive management of weeds and pest animals.

The Cairns Regional Council surveillance program is intended to provide a mechanism for undertaking proactive surveillance to determine the presence or absence of stated invasive biosecurity matter, monitoring compliance with the Act or the effect of measures taken in response to a biosecurity risk, or levels of biosecurity matter in a carrier – within Cairns Regional Council local government area.

A copy of all Biosecurity Programs can be obtained on request from those agencies that have implemented them.

The Cairns Regional Council's prevention and control program/s are aimed at strategically managing, reducing or eradicating a limited number of high priority pests that currently pose a significant risk to the biosecurity considerations in the region. Copies of the CRC Biosecurity programs are available for inspection at the CRC public office 119-145 Spence St, Cairns QLD 4870 or on the Council website.

Invasive Biosecurity Matter

Prohibited Matter

Prohibited matter is listed in the Act, and includes a range of invasive plants and invasive animals in the Act that have the potential to have significant impacts and are currently not present or known to be established in Queensland.

Identifying prohibited matter

It is the responsibility of all Queenslanders, as well as visitors from interstate and overseas, to be aware and take steps to prevent prohibited matter from entering our state. You are

expected to reasonably know about the prohibited matter that you may come across as part of your environment, business or hobby.

Reporting prohibited matter

It is an offence to deal with prohibited matter and fail to report its presence. If you become aware of prohibited matter or you believe, or ought reasonably to believe, that something is prohibited matter you need to report it immediately to Biosecurity Queensland. You must also take all reasonable steps to minimise the risks of the prohibited matter and not make the situation worse. If you are unsure or to report suspected prohibited matter, contact Biosecurity Queensland on 13 25 23.

Restricted Matter

Restricted matter is listed in the Act, and includes a range of invasive plants and animals that are present in Queensland. These invasive plants and animals are having significant adverse impacts in Queensland and it is desirable to manage them and prevent their spread, thereby protecting un-infested parts of the State.

Categories of restricted matter

There are seven categories for restricted matter. Categories are established based on the risks associated with the pests and severity. Each category places restrictions on the dealings with the biosecurity matter or requires actions to be taken to minimise the spread and adverse impact of the biosecurity matter.

- ***Category 1*** Biosecurity Queensland needs to be made aware of this restricted matter to take action to contain and eradicate it. You must report category 1 restricted matter to a Department of Agriculture and Fisheries inspector within 24 hours of becoming aware of its presence. You may reach an inspector by contacting Biosecurity Queensland on 13 25 23.
- ***Category 2*** For category 2 restricted matter there are requirements to report this to an inspector or authorised person. You may reach an inspector or authorised person by contacting Biosecurity Queensland on 13 25 23. Restricted matter is listed in Schedule 2 of the *QLD Biosecurity Act 2014*.
- ***Category 3*** restricted matter must not be distributed or disposed. This means it must not be given as a gift, sold, traded or released into the environment unless the distribution or disposal is authorised in a regulation or under a permit.
- ***Category 4*** restricted matter must not be moved. This is to ensure that it does not spread into other areas of the state.
- ***Category 5*** restricted matter must not be possessed or kept under person's control. You may only keep this restricted matter under a permit.
- ***Category 6*** restricted matter must not be fed unless kept under a permit. Feeding for the purpose of preparing for or undertaking a control program is exempted.
- ***Category 7*** must be killed as soon as practicable and disposed of in a way described under legislation. Generally limited to noxious fish.

Multiple categories can apply to any specific biosecurity matter.

Prioritisation Scoring

An extensive prioritisation process has been undertaken utilising the Local Government Pest Assessment, Prioritisation and Planning framework. This process was modified to meet the needs of Cairns Regional Council region, community and subsequently workshopped with the Biosecurity Working Group. Additional categories of *Human health impacts*, *Achievability* and *Local Impacts* have been included in the Cairns prioritisation process to assist in the decision making process for determining local priorities.

The Biosecurity Working Group assessed each priority species in a detailed process to sub-catchment level to ensure that it was the most up-to-date information. The group determined which pests that would merit individual action plans listed below. Management strategies for each sub-catchment have been identified using the *Management Target Workflow*, (a copy of which is under Appendix 3).

Table 3. Pest Risk Matrix and Priority Scoring



















Theme		Category	Description	Key questions	Score
Impacts and threats		Human health	Local residents and visitors	Does it have human health impacts or is it a human disease carrier?	1= Insignificant 2= Minor 3= Moderate 4= Major 5= Significant
		Social amenity	Community areas, living places, lifestyle properties, parks, gardens and public areas	How does it or is it likely to impact on the places people live and recreation areas?	1= Insignificant 2= Minor 3= Moderate 4= Major 5= Significant
		Economy	Agriculture, industry, local business and water supplies	How does it or how is it likely to impact on the local economy? What are the costs of treatment in a catchment? Does it impact water supplies?	1= Insignificant 2= Minor 3= Moderate 4= Major 5= Significant
		Environment	Plants, animals, waterways and ecosystems	How does it or how is it likely to impact on plants, animals and ecosystems?	1= Insignificant 2= Minor 3= Moderate 4= Major 5= Significant
Capacity		Achievability	Herbicides and other tools, easy to locate or identify, seed life known, reproduction rate. Current distribution and suitable habitats	Are there effective tools and approaches to manage it? Is it affordable and do you have the skills and the resources to achieve an outcome?	1.1= Insignificant 2.2= Minor 3.2= Moderate 4.4= Major 5.5= Significant
Existing priorities		Local impact/values	Concern identified by local residents or groups, locally isolated, impacting community	Does it raise community concerns? Is it present in neighbouring areas? Are community and cultural values affected?	3= Low 4= Medium 5= High
		Declaration status	Biosecurity Act 2014 classification	Is it declared under Queensland Legislation?	1= Environmental weed 1.5= Restricted Category 3,4,5,6,7 2.5= Restricted Category 1,2
		National priority	Weeds of National Significance (WONS) and National Eradication Program targets	Is it a WONS weed or the target of a National Cost Shared Eradication Program?	5= Funded by National cost shared projects 2.5= all WONS listed weeds receive this score

Table 4. Priority Pest Plants in the Cairns Region

The highest identified priorities are at the top of list

Common and species Name		Human Health	Social Amenity	Economy	Environment	Achievability	Local Impact	Declaration Status	National Priority	Priority Score
	Limnocharis, yellow burrhead (<i>Limnocharis flava</i>)	1	2	3	3	5.5	3	2.5	5	25
	Miconia tree (<i>Miconia calvescens</i>)	1	1	4	3	4.4	3	2.5	5	23.9
	Senegalia spp.	1	3	4	2	5.5	3	5	0	23.5
	Parthenium weed (<i>Parthenium hysterophorus</i>)	3	2	2	3	5.5	3	1.5	2.5	22.5
	Salvinia/Water fern (<i>Salvinia molesta</i>)	1	3	2	4	4.4	4	1.5	2.5	22.4
	Olive hymenachne (<i>Hymenachne amplexicaulis</i> and hybrids)	1	4	2	4	3.3	4	1.5	2.5	22.3
	Glush weed (<i>Hygrophila costata</i>)	1	3	2	4	4.4	5	1.5	0	20.9
	Thunbergia (<i>Thunbergia grandiflora</i> syn. <i>T. laurifolia</i>)	1	2	3	4	4.4	5	1.5	0	20.9
	Pond apple (<i>Annona glabra</i>)	2	2	3	4	2.2	3	1.5	2.5	20.2
	Water lettuce (<i>Pistia stratiotes</i>)	1	3	3	3	4.4	3	1.5	0	18.9














	Mexican bean tree (<i>Cecropia pachystachya</i> , <i>C. palmata</i> and <i>C. peltata</i>)	1	1	4	3	4.4	3	2.5	0	18.9
	Siam weed (<i>Chromolaena odorata</i>)	2	2	4	3	3.3	3	2.7	3.1	18.8
	Opuntoid cacti	2	1	1	1	5.5	3	5	0	18.5
	Water hyacinth (<i>Eichhornia crassipes</i>)	1	2	2	2	4.4	3	1.5	2.5	18.4
	Brillantaisia (<i>Brillantaisia lamium</i>)	1	2	3	2	4.4	5	1	0	18.4
	Water Mimosa (<i>Neptunia oleracea</i> and <i>N. plena</i>)	1	2	2	2	5.5	3	2.5	0	18
	Lantana (<i>Lantana camara</i> and <i>L. montevidensis</i>)	2	2	2	3	1.1	3	1.5	2.5	17.1
	Giant rat's tail grass (<i>Sporobolus pyramidalis</i> and <i>S. natalensis</i>)	1	2	3	2	3.3	4	1.5	0	16.8
	Cabomba (<i>Cabomba caroliniana</i>)	1	3	2	2	1.1	3	1.5	2.5	16.1
	Amazon frogbit (<i>Limnobium laevigatum</i>)	2	3	2	3	1.1	4	1	0	16.1
	Kudzu (<i>Pueraria montana</i> var. <i>lobata</i> syn. <i>P. lobata</i> , <i>P. triloba</i>)	1	2	2	2	4.4	3	1.5	0	15.9
	Sicklepods (<i>Senna obtusifolia</i> , <i>S. hirsute</i> and <i>S. tora</i>)	1	2	3	2	3.3	3	1.5	0	15.8
	Panama Rubber tree (<i>Castilla elastica</i>)	1	1	1	1	5.5	5	1	0	15.5

Table 5. Priority Pest Animals in the Cairns Region

The highest identified priorities are at the top of the list.






Common and species Name		Human Health	Social Amenity	Economy	Environment	Achievability	Local Impact	Declaration Status	National Priority	Priority Score
	Electric Ants (<i>Wasmannia auropunctata</i>)	3	2	3	4	3.3	4	2.5	0	21.8
	Feral Deer (all species)	3	2	2	2	5.5	4	1.5/ 2.5	0	21/22
	Yellow Crazy Ants (<i>Anoplolepis gracilipes</i>)	2	3	3	4	2.2	5	1.5	0	20.7
	Feral Pig (<i>Sus Scrofa</i>)	2	2	5	3	3.3	3	1.5	0	19.8
	Wild Dog (<i>Canis familiaris</i>)	2	2	3	2	2.2	3	1.5	0	15.7

Table 6. Priority Pests Watch List

These Pests are not known in the Cairns region currently but are considered high risk for entry.

Common Name	Species	Category
Red-eared slider turtle	<i>Trachemys scripta elegans</i>	2,3,4,5,6
Alligator weed	<i>Alternanthera philoxeroides</i>	3
Fire weed	<i>Senecio madagascariensis</i>	3
Gamba grass	<i>Andropogon gayanus</i>	3
Mikania vine	<i>Mikania micrantha</i>	2,3,4,5
Koster's curse	<i>Clidemia hirta</i>	2,3,4,5
Bog moss/weed	<i>Mayaca fluviatilis</i>	Environmental weed
Hiptage	<i>Hiptage benghalensis</i>	Locally declared
Sagittaria	<i>Sagittaria platyphylla</i>	3

Control Methods

The individual action plans list the current best practice management techniques for each species represented as the following icons.



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.



Basal Bark

Basal Bark technique refers to the spraying of a lower trunk (basal area) of a tree or vine with herbicide which is usually suspended in diesel. This mixture is suited to many woody 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.



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 Local Government for best practice management advice.



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.



Drill/Stem Injection

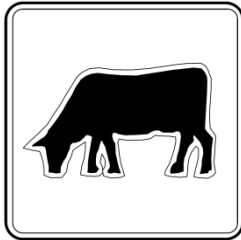
Herbicide may be directly applied to the vascular system of the plant by way of drilling or stem injection. Holes are drilled in the bark of a tree or woody section of a vine so that access is opened to the cambium tissue. This technique is also used with tuberous vines.

Operators must ensure that the holes are drilled low to the ground and there are sufficient number of 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 Local Government for best practice management advice.



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 Local Government or contact QDAF for information regarding grazing and pasture management.



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.



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 *QLD Agricultural Chemical Distribution Control Act 1966* (ACDC Act). Herbicides, target species and situations for spraying is 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 for best practice management advice.



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 calicivirus, rubber vine rust and the giant sensitive plant psyllid.



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.



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.



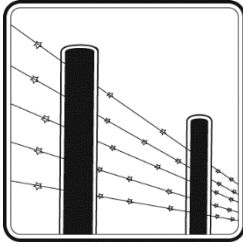
Fire

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.



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, chainwire, 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.



Poison

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.

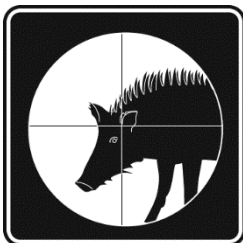
However, strict regulations control the distribution of poisons and toxins that may be used on larger pest animals. Dogs, cats, pigs, rabbits and foxes may be controlled under strict conditions with a toxin known as 1080 or fluoracetate. Use of 1080 is generally limited to lower density and agricultural areas and is distributed under regulation and guidance from local government, Biosecurity Queensland and Queensland Health. A bait program has legal requirements including signage, notification and risk management actions.



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. Cage or ring fence traps are the most effective trapping techniques for feral pigs. Wild dogs can be targeted with soft jaw traps and domestic/stray dogs and cats are usually trapped using cage traps.

All queries regarding management of native wildlife should be directed to Queensland Department of Environment and Science.



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 dogs, deer and on the occasional pig. Individual wild dogs can be singled out where trapping and baiting may be too indiscriminate.

Methods of Spread



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.



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.



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.



People/Animals

By sticking to either people's clothes or animal's 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.



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.



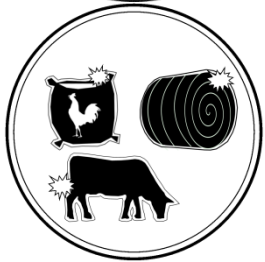
Water

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.



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.



Contaminated materials and produce

Raw materials such as gravel, sand and mulch and produce including hay, animal feed, seed mixes and even livestock can contain or carry weed seed or other biosecurity risks like invasive ants, pathogens or diseases.

Miconia (*Miconia calvenscens*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

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. Produces clusters of small white flowers followed by red/purple berries.

Distribution Current incursions and infestations occur in Babinda, Deeral, Frenchman’s Creek, Harvey Creek, Russell River and Whitfield. *Miconia* was typically introduced as a garden plant and then spread into neighbouring rainforest and creek lines by birds.

Impacts *Miconia* produces hundreds of small berries every year which are attractive to birds and are spread long distances. It forms dense thickets in rainforest understoreys, potentially replacing native plants and affecting wildlife populations.

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

Background

Miconia is a serious weed in Tahiti and Hawaii, where it forms dense thickets in rainforests and displaces native flora and fauna. *Miconia* was initially brought into Australia via botanic gardens, and was sold in some nurseries and markets between 1978 and the mid-1990s. Dispersal to new locations has been mainly via cultivation – gardeners and plant collectors. Fruit eating birds are then the primary mechanism of dispersal into surrounding forests and gardens.

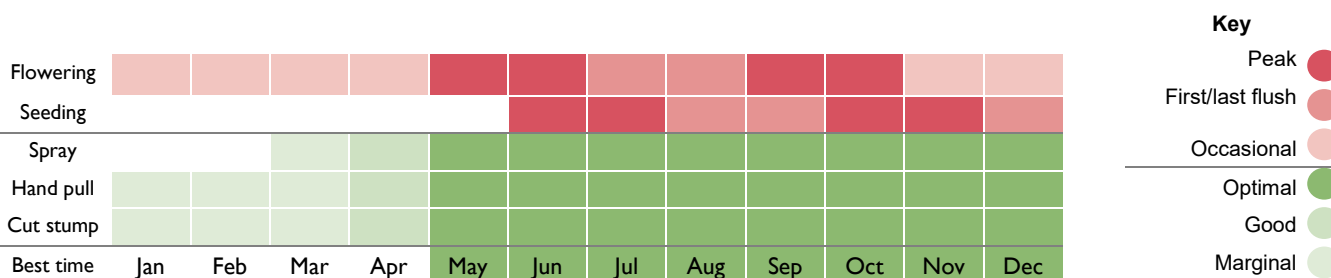
A community education and awareness program is an important part of the eradication program. Managing the risk of spread to new areas through hygiene protocols for impacted nurseries and growers play an important role in preventing new infestations establishing. Hygiene protocols are also in place for survey and control operations.

Miconia calvenscens was first discovered in Cairns Regional Council in 1997 at the Flecker Botanical Gardens. *Miconia* has been detected at 14 locations in the CRC area since 1997.

A National eradication program is underway and is targeting survey, control and monitoring of all known infestations. Bi-annual surveys are conducted to monitor all known infestations and to ensure no new outbreaks have gone undetected; and that plants do not produce seed.

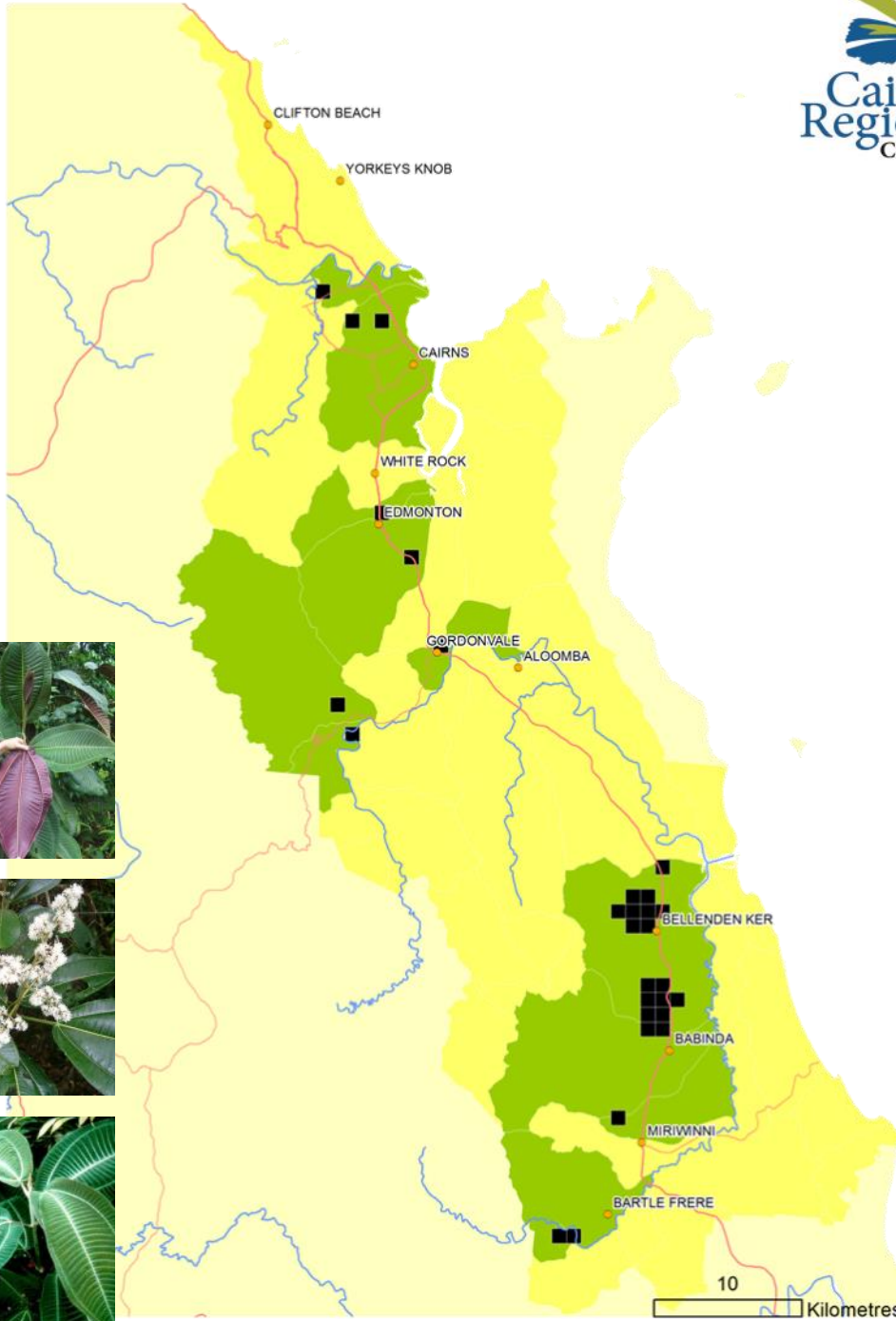
Birds can disperse the small seeds out to many hundreds of metres. The seed of *Miconia* can remain viable for at least 16 years so it is important to not disturb areas where mature plants have occurred in the past.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Miconia (*Miconia calvescens*)



Woody

Terrestrial

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the prevention zone

Currently the target of the National cost-shared Tropical Weeds Eradication Program. Landholders are required to report suspected infestations immediately to Biosecurity Queensland on 13 25 23. For more information refer to the biosecurity programs of the Tropical Weed Eradication Program.

In the eradication zone

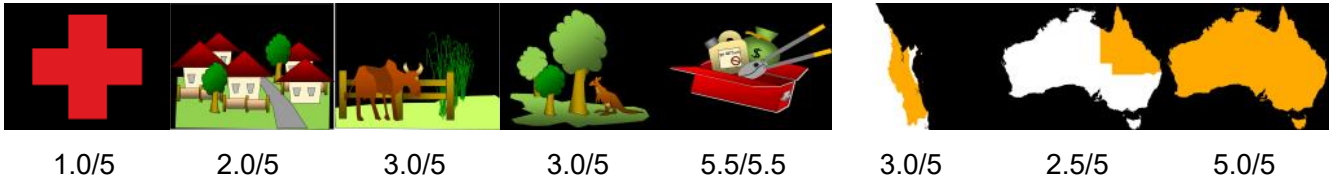
If you have an active infestation on your property you can assist the survey and control team by maintaining property access points and tracks, and ensuring you do not move soil or plant material from the infestation area.

Landholders are required to report suspected infestations immediately to Biosecurity Queensland on 13 25 23. For more information refer to the biosecurity programs of the Tropical Weed Eradication Program.

Limnocharis (*Limnocharis flava*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description Limnocharis is a perennial aquatic weed which can grow to a height of 1 metre. It has pale green leaves and small yellow cup-shaped flowers. Stems of leaves are triangular in cross-section.

Distribution Limnocharis can occur in natural or artificial water features and wetlands. There are active infestations in Centenary Lakes, Cairns CBD, Mirriwinni, White Rock, Smithfield and Redlynch. Historical infestations have also occurred in Manunda, Clifton Beach, Woree, East Russell and Trinity Beach.

Impacts A major weed in many countries. Limnocharis is a perennial aquatic plant which will colonise shallow wetlands and margins of deeper waterways. It competes with native plants, blocks drains and displaces native flora and fauna.

Key projects All known infestations within the Cairns Region are currently the target of the National cost-shared Tropical Weeds Eradication Program. Landholders are required to report suspected infestations immediately to Biosecurity Queensland on 13 25 23.

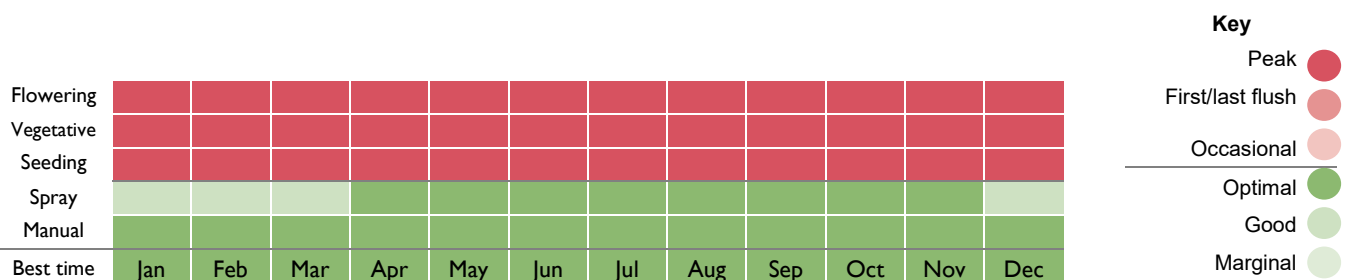
Background

Due to its scattered occurrence across the Cairns region it is important to be on the lookout for Limnocharis in natural and artificial water features and wetlands. Regular media campaigns and community displays can assist to identify new infestations. Limnocharis was first discovered in Cairns Regional Council area in 2001. Anecdotal information from the Cairns botanical gardens suggests that it may have been present there since the 1980s. Limnocharis was introduced as an ornamental wetland plant and has escaped from cultivation into drains, creeks and wetlands. Ensuring that aquatic plants are sourced from a weed free source is essential to prevent further spread of invasive aquarium plants. The seed is long-lived and can re-emerge many years after being buried in mud or soil in waterways.

The distinctive yellow flowers help distinguish it from native or introduced water hyacinth which have purple flowers. The leaf stems are also triangular on cross section. The seed longevity is at least fourteen years with plants reaching reproductive maturity in 58 days. Thus infestations must be monitored every 3 -4 weeks to stop all seeding events. Dispersal to new locations has been mainly via cultivation – gardeners and plant collectors. Local movement is via water dispersal of seed or vegetative plantlets.

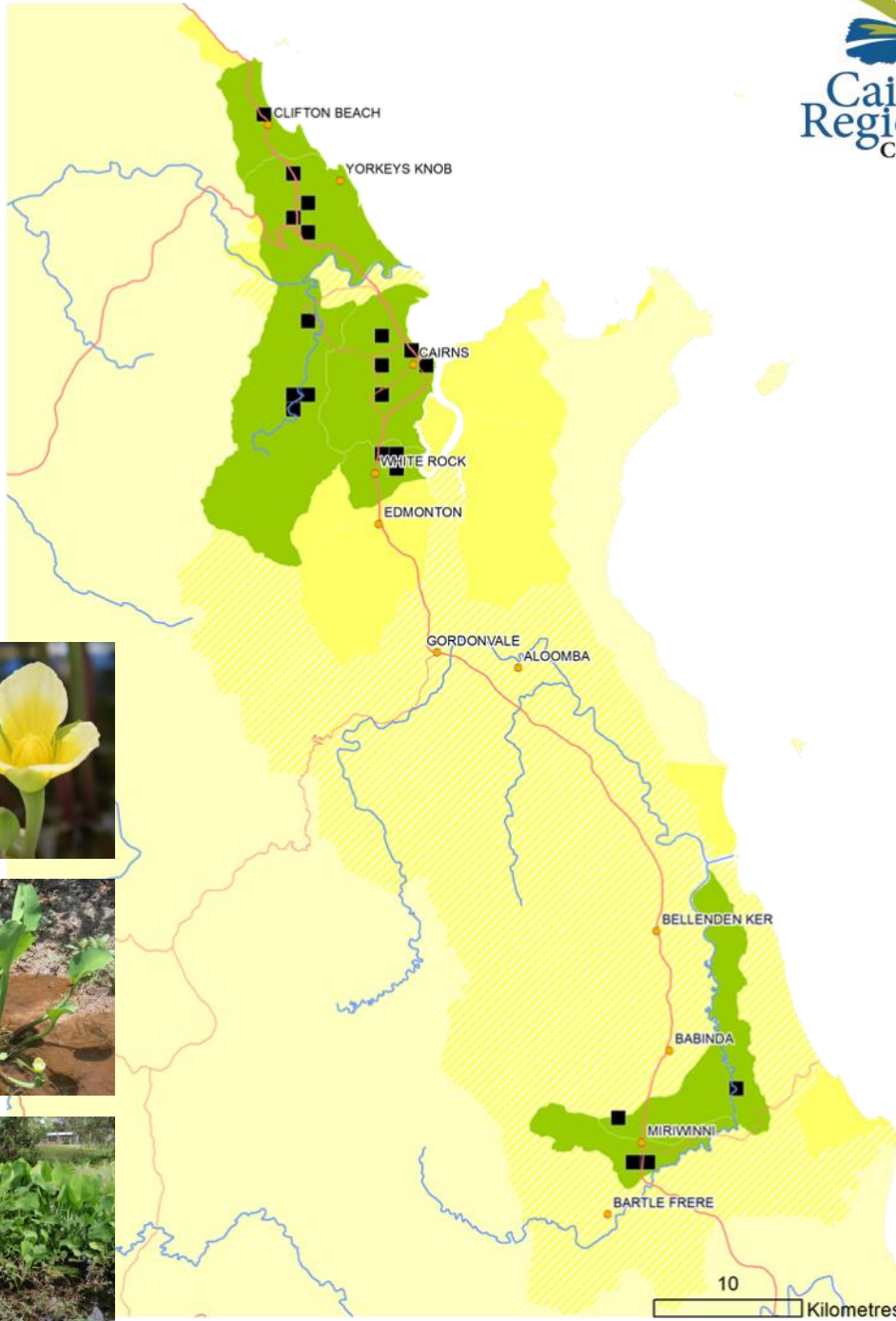
The seed can remain viable buried in mud and soil for many years so any works in the vicinity of known sites require strict hygiene protocols, contact the eradication team on 13 25 23 for more information or if unsure of the risk.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Limnocharis (*Limnocharis flava*)



Cairns Biosecurity Plan 2019–2024

Herb

Aquatic

Perennial

Biosecurity Act Restricted matter category

2
Must be reported

3
Do not distribute

4
Do not move

5
Do not keep

6
Do not feed

Control



Spread



What is my biosecurity obligation?

In the delimitation zone

Ensure wetland and pond plants are sourced from a weed free area. Do not dump wetland, aquarium plants or fish into waterways. Landholders are required to report suspected infestations immediately to Biosecurity Queensland on 13 25 23. For more information refer to the biosecurity programs of the Tropical Weed Eradication Program.

In the prevention zone

Do not move soils and plants from infested sites. Ensure machinery and other plant operating in vicinity of the known infestation is operating under strict weed hygiene protocols.

In the eradication zone

If you have an active infestation on your property you can assist the survey and control team by maintaining property access points and tracks, and ensuring you do not move soil or plant material from the infestation area. Landholders are required to report suspected infestations immediately to Biosecurity Queensland on 13 25 23. For more information refer to the biosecurity programs of the Tropical Weed Eradication Program.

Mexican bean tree (*Cecropia peltata*, *C. pachystachya* *C. palmata*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A rapidly growing tree to 20m with hollow stems and large deeply lobed leaves with flocked white undersides. The tree has distinctive leaf scars on trunk which are similar to a paw paw. *Cecropia* has separate male and female plants with the female plant producing long finger-like fruiting spikes.

Distribution There are three known infestations in the Cairns Regional Council area located at Clifton Beach, Cairns City and Garradunga which extends into Cassowary Coast Regional Council.

Impacts *Cecropia* spp. are rapid growing rainforest pioneers which can invade and dominate rainforests, urban gardens, agricultural land and riparian areas. *Cecropia* seed profusely and are spread by birds and bats and subsequently can be dispersed long distances into adjoining landscapes and forests.

Key projects All known locations are the target of a regional eradication program led by Biosecurity Queensland. *C. pachystachya*, *C. palmata* are under monitoring towards eradication as they have not been detected since early 2017.

Background

Seed longevity in *Cecropia* is short at less than 2 years. This gives great confidence in eradication programs as sites can be considered free quickly. Properties need to be free of *Cecropia* for a minimum of three years following the removal of last mature female plant to be considered clear.

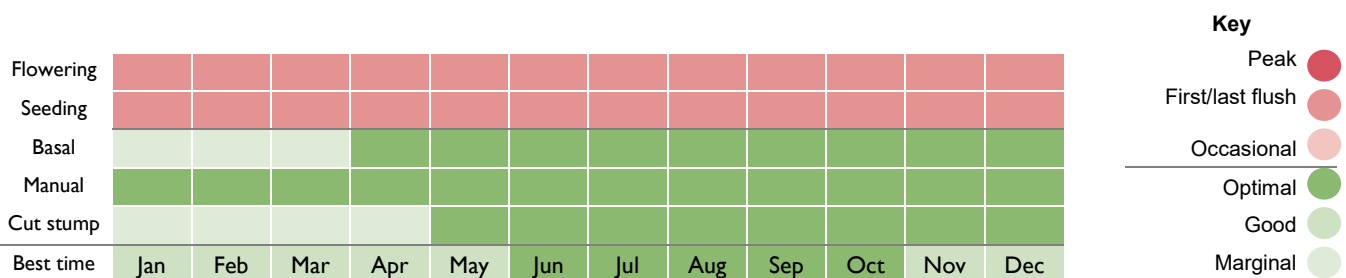
All infestations are believed to have originated from plant collections and subsequently spread and naturalised in the surrounding environment via vectors including birds, bats and water. Dispersal by birds or bats of up to 2km has been observed in Far North Queensland, however data suggests a management area which buffers 1.5km from female plants is suitable.

Due to dispersal by birds and flying fox it is important to be on the lookout for *Cecropia* in gardens, forests and riparian areas.

A community education and awareness program is an important part of the eradication program. Managing risk of spread to new areas through hygiene protocols for impacted nurseries and growers play an important role in prevention. Hygiene protocols are also in place for survey and control operations.

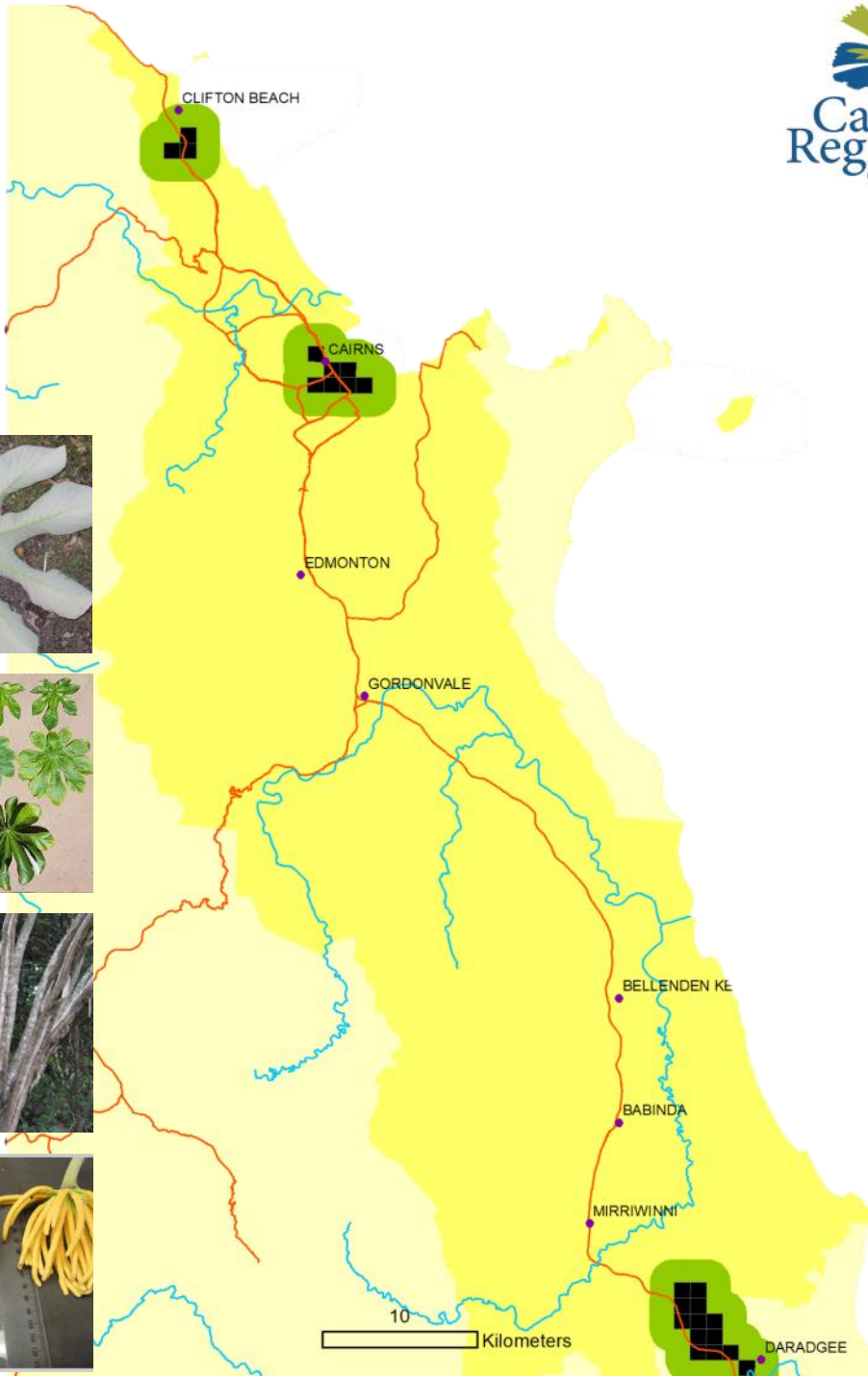
When searching for *Cecropia* in the field, programs have learnt to adopt three techniques to maximise detection success, namely; 1) look up into the canopy, searching for the unique leaf shape and the leaves' silvery/white underside; 2) look ahead for the distinctive leaf scars on the stems; and 3) look down for the large, dry, silvery grey leaves on the ground.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Mexican bean tree (*Cecropia peltata*, *C. pachystachya*, *C. palmata*)



Woody

Terrestrial

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the prevention zone

All suspected sightings of this plant must be reported to Biosecurity Queensland on 13 25 23 within 24 hours. It is an offence under the Biosecurity Act 2014 to sell, distribute or give away *Cecropia* plants or seeds. If moving to a new property with a history of nursery or fruit tree production, be on the lookout for *Cecropia* plants.

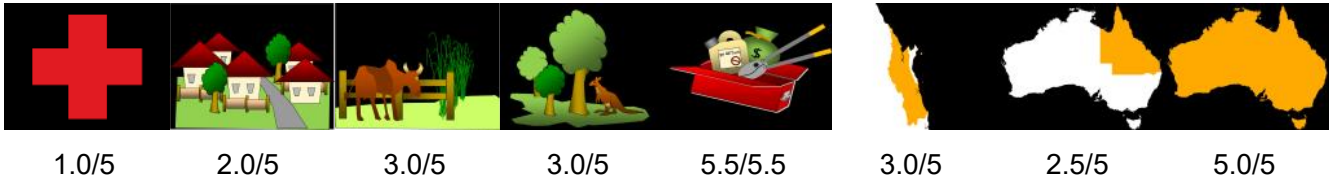
In the eradication zone

All suspected sightings of this plant must be reported to Biosecurity Queensland on 13 25 23 within 24 hours. If you have an active infestation on your property you can assist the survey and control team by maintaining property access points and tracks, and ensuring you do not move soil or plant material from the infestation area. Land managers are required to control all known infestations on their land. As plants take 3 years to reach sexual maturity land managers are required to survey their part of the management area twice in the first three years following detection and once every 2 years after until deemed eradicated by an Authorised Officer under the Biosecurity Act 2014.

Cha-om (*Senegalia insuavis*) and Soap Pod Wattle (*Senegalia rugata*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description Three *Senegalia* species have been detected in the Cairns Regional Council area including the near-threatened native *S. albizioides* and the invasive pests *S. insuavis* and *S. rugata* introduced from South-East Asia. All three of these species start as shrubs but have tendency to climb and scramble like a vine when competing for light. Their leaves are bi-pinnate and their flowers are yellow-cream and the fruit are a flattened pod.

Distribution There have been multiple detections of both *S. insuavis* and *S. rugata* (predominately the first) scattered throughout the entire Cairns Regional Council including, Kamerunga, Brinsmead, Bentley Park, Cairns City, Bayview and Babinda. All detections have been linked with traditional Asian food gardens and subsequently spread and naturalised in the surrounding environment, through vegetative and seed propagation.

Impacts It has potential to impact on tropical pastures, beef production and the natural environment. It prefers disturbed habitats, generally near rainforests so it poses a specific threat to the Wet Tropics World Heritage Area.

Key projects As part of a regional eradication program, Biosecurity Officers in collaboration with Local Government have responded to all detections of invasive *Senegalia spp.* in in the region. Preventative management is continuing.

Individual species can be distinguished through the following unique characteristics:

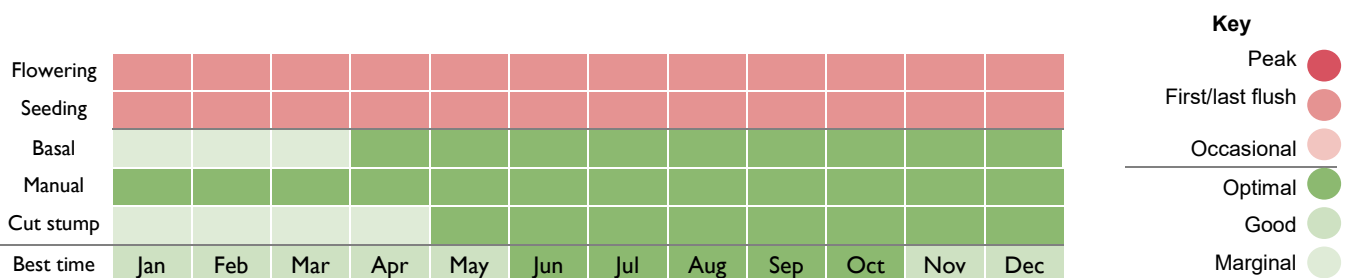
S. insuavis - being invasive it forms dense thickets, it has scattered thorns along the stems and the leaflets are fine and feather-like. *S. insuavis* is also known as sewerage plant as it has a strong, distinctive odour.

S. rugata – also an invasive, it forms dense thickets, it has scattered thorns along the stems and these are larger and recurved compared with *S. insuavis*, the leaflets are larger than that of *S. insuavis* and lacks the distinctive odour. It is used as a vegetable in Asian cooking as an ingredient in soup.

S. albizioides - It is a native and 'near threatened' species found in the Wet Tropics from around Innisfail north. This plant is not as aggressive like the exotics, the leaflets are the largest, thorns are spares and it lacks the distinctive odour of *S. insuavis*.

S. insuavis and *S. rugata* may be confused with a range of other weeds and garden plants which have similar bi-pinnate leaves, including *Leucaena* (*Leucaena leucocephala*) and *Poinciana* (*Delonix regia*) with both lacking a distinctive strong odour and thorns. *Poinciana* grows into a large tree to 10m, has bright red flowers and produces large woody seed pods up to 60 cm in length. *Leucaena* is a woody weed of disturbed and sometimes riparian areas. *Leucaena* has much larger flowers.

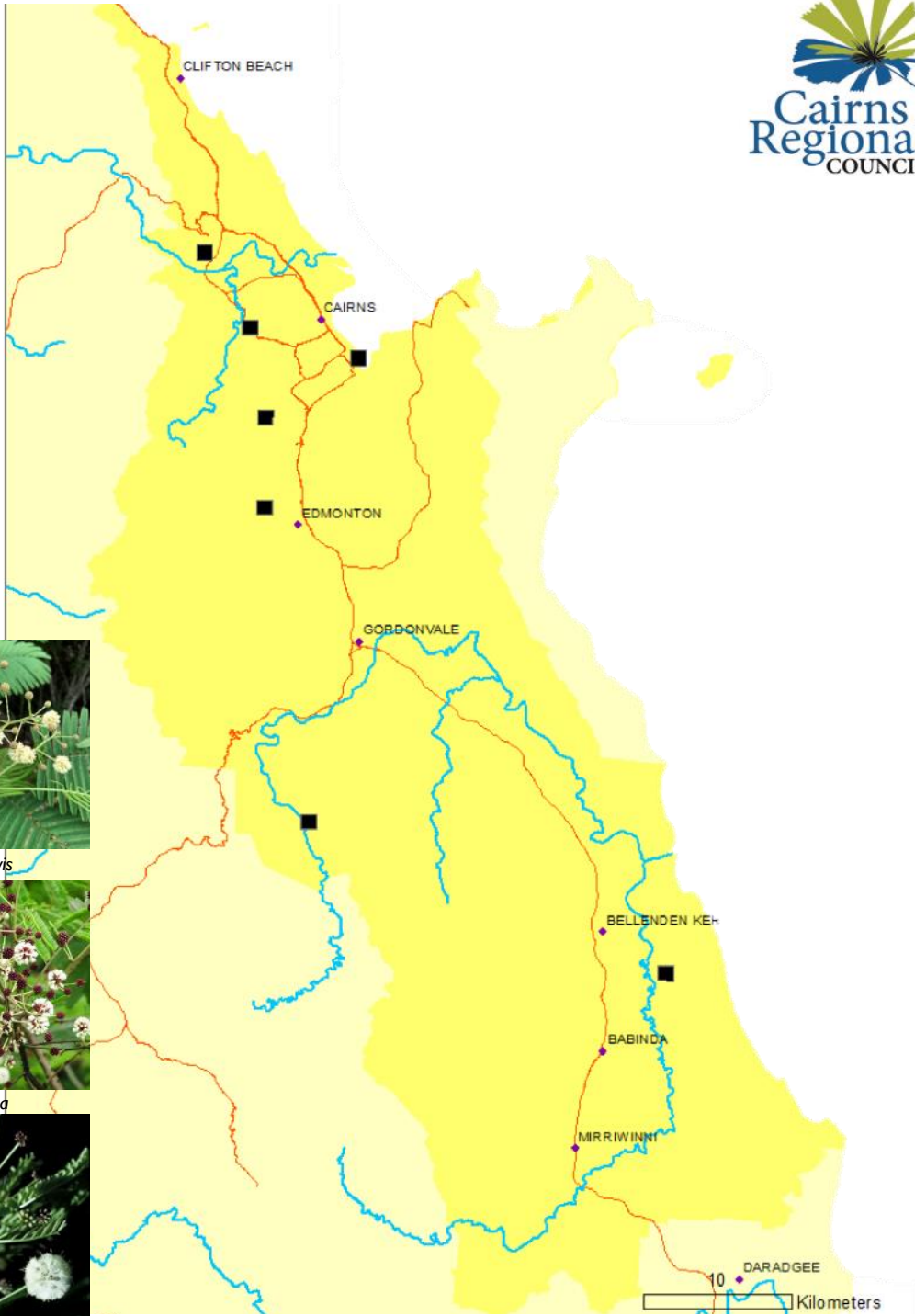
Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Cha-om (*Senegalia insuavis*) and Soap Pod Wattle (*Senegalia rugata*)

Cairns Biosecurity Plan 2019–2024



S. insuavis



S. rugata



S. albizoide (Native)

In the prevention zone

In the eradication zone

What is my biosecurity obligation?

All suspected sightings of this plant must be reported to Biosecurity Queensland on 13 25 23 within 24 hours of sighting, unless previously reported.

By law, everyone has a general biosecurity obligation (GBO) to take all reasonable and practical steps to minimise the risk of spread of *S. insuavis* and *S. rugata* until they receive advice from an authorised officer. It must not be kept, moved, given away, sold, or released into the environment.

Managing risk of spread to new areas through hygiene protocols for impacted properties plays an important role in prevention. Hygiene protocols are also in place for survey and control operations.

Properties affected by *S. insuavis* and *S. rugata* must not allow reproductive material or carrier's of to leave the property. Properties need to be free of *S. insuavis* and *S. rugata* for a minimum of seven years following the removal of the last mature plant. With a surveillance schedule of years 1, 2, 5 and 7.

Woody

Terrestrial

Perennial

Biosecurity Act Prohibited invasive plant

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



Parthenium weed (*Parthenium hysterophorus*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

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. Parthenium weed forms small dense clusters of white flowers on the tips of numerous stems.

Distribution Known only from a single, isolated infestation in Edmonton. Individual plants have been sporadically found along Bruce Highway but thought to be eradicated.

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 All known locations are surveyed annually to monitor for any seedlings or flowering plants.

Background

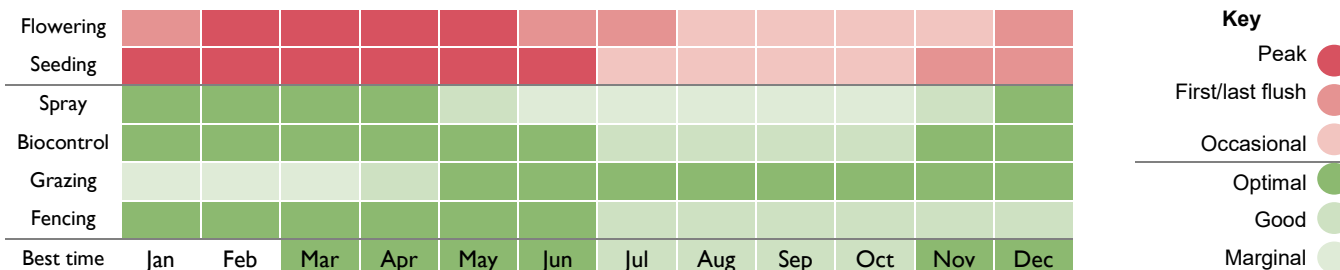
Parthenium weed is often spread as a contaminant in stock and poultry feed. Keep a close watch on areas where feed has been spread. Ensure that the supplier you source from can confirm the product is free from weed seed and not from a known infested area.

Ensure imported vehicles and machinery are free from weed seed and soil. Spell any stock in a holding paddock for at least 7 days to allow seed to pass through the gut or fall from the fur of livestock.

Hygiene for roadside management operators and wider community will assist to reduce the risk. Public awareness targeted to areas surrounding infestations because it most likely is not familiar to many Cairns residents. Parthenium weed can develop a large and persistent soil seedbank. It's fast germination rate and ability to undergo dormancy make it well adapted to semi-arid and drier environments. It also releases chemicals that inhibit the germination and growth of pasture grasses and other plants. Parthenium weed can germinate, grow and set seed within four weeks so close monitoring of known locations is critical in preventing more seed being added to the seedbank.

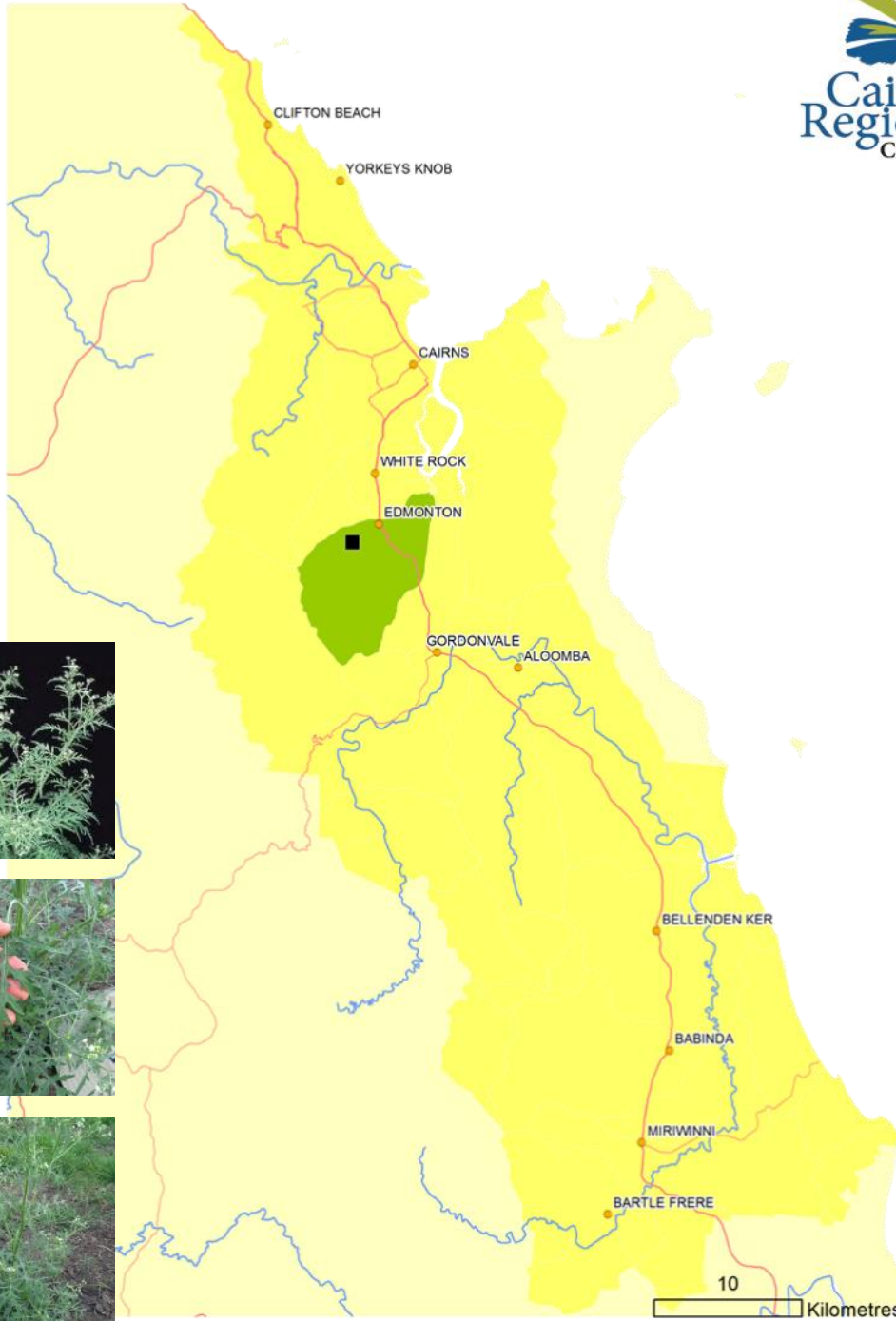
Parthenium weed prefers alkaline soils but will tolerate a wide range of soil types. It does not usually do well in established, healthy pastures and cannot compete with undisturbed vegetation. Maintaining healthy pastures and ground cover will reduce the risk of establishment.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Parthenium weed (*Parthenium hysterophorus*)



Herb

Terrestrial

Annual

Biosecurity Act Restricted matter category

2 Must be reported

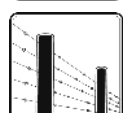
3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



Cairns Biosecurity Plan 2019–2024

What is my biosecurity obligation?

In the prevention zone

Ensure that the supplier you source stock or poultry feed from can confirm the product is free from weed seed and not from a known infested area. Spell any stock in a holding paddock for at least 7 days to allow seed to pass or fall from animals coats. Report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247.

In the eradication zone

Make sure any machinery or vehicles moving from the infested areas are free from plant material and soil. Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations. Maintain weed free areas. Report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247.

Salvinia (*Salvinia molesta*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

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. Reproduces by rapidly dividing into smaller plants.

Distribution Common and localised within several Cairns northern suburbs. Southern infestations include, Edmonton, Mulgrave River, Fishery Falls, Babinda and Bramston Beach. Salvinia occurs in the Barron to Lake Tinaroo so re-infestation is always likely from upstream sources.

Impacts An aquatic weed that can choke waterways. It floats on still or slow-moving water and can rapidly spread to cover the entire water surface with a thick mat of vegetation. This shades out any submerged plant life and impedes oxygen exchange, making the water unsuitable for fish and other aquatic animals.

Key projects As of publication, Council has implemented a Biosecurity Prevention and Control Program for this pest in riparian areas.

Areas marked for delimitation require on ground surveys to determine extent of distribution. No infestations are currently known in these areas.

Salvinia is most likely to be introduced as a contaminant of wetland plants sourced from infested locations or aquariums. It may also spread on floodwaters from known locations.

Keep an eye out in weed free areas. Promote land maintenance and active inspections in those areas. Ensure that Salvinia is not introduced to ornamental ponds or water features.

Background

Report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247.

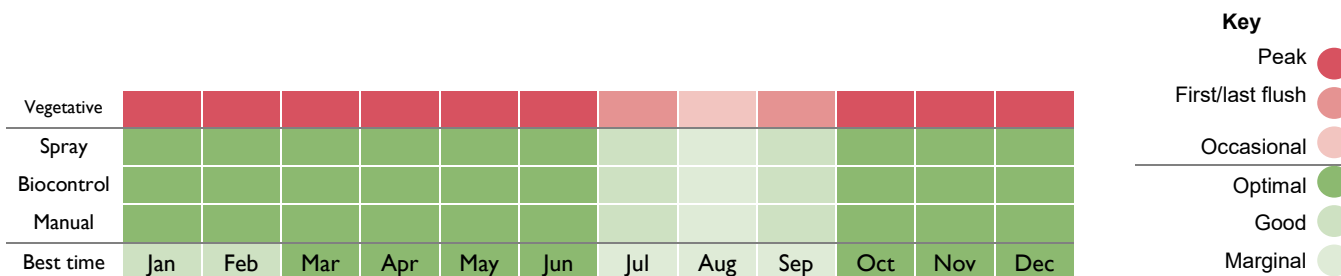
A systematic and top-of-catchment down approach is the most effective means of managing Salvinia as it can quickly reinfest an area if any plants are missed.

Infestations are currently controlled with herbicide and follow-up surveys are conducted to ensure all plant fragments have been treated.

Targeted control of key environmental and visitor assets and ongoing release of Salvinia weevil biocontrol agent are the primary means to reduce the impacts of Salvinia.

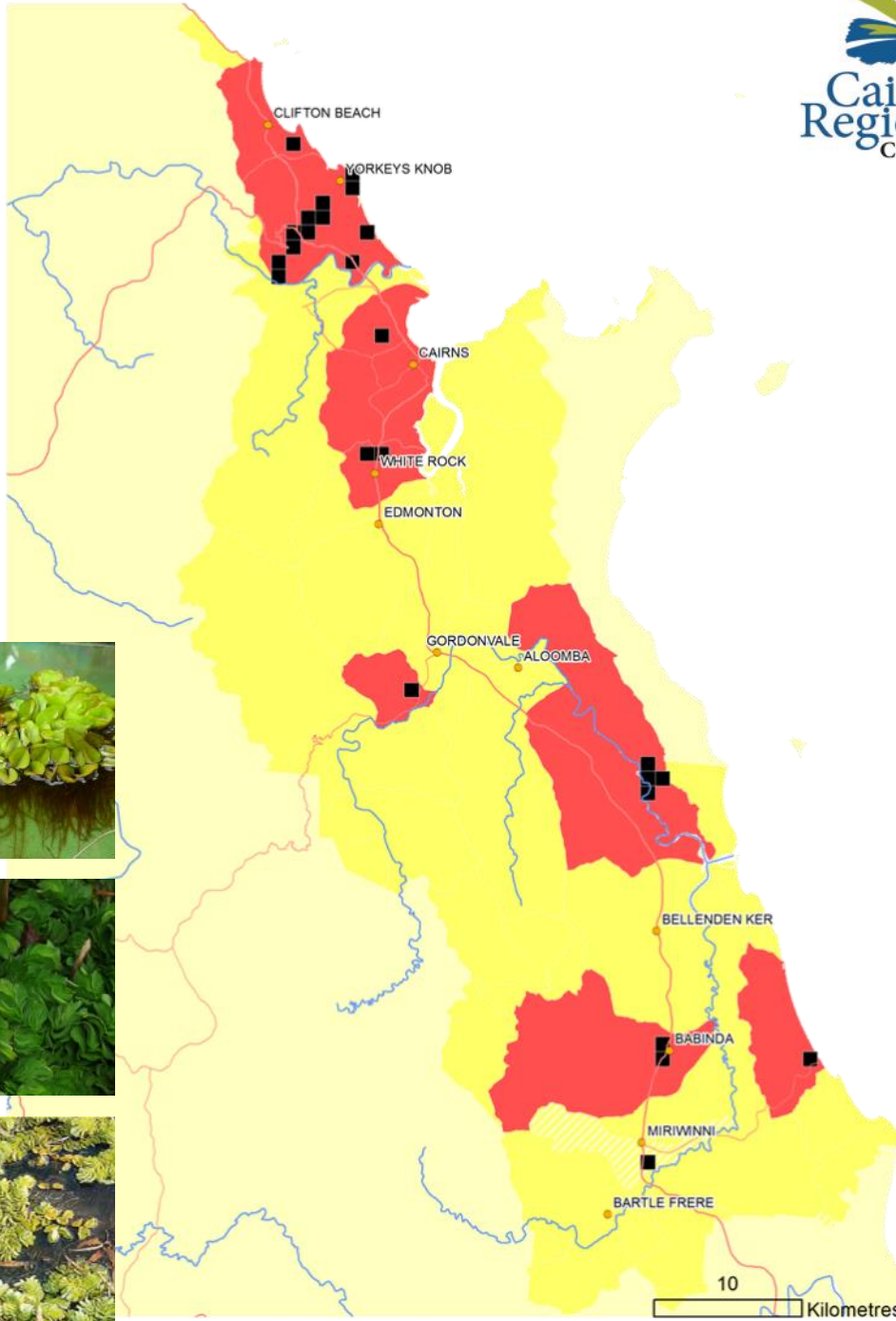
The Salvinia weevil biocontrol agent is an effective management tool in dense infestations. The weevils are seasonal, often slowing down in the winter months then re-emerging when warmer weather arrives. The weevil may reduce the density and cover of an infestation but will not remove it completely. In doing so they assist in keeping infestations at a manageable threshold.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Salvinia (*Salvinia molesta*)



In the delimitation zone

In the prevention zone

In the asset protection zone

What is my biosecurity obligation?

In the delimitation zone
Report any suspected outbreaks or detections to Contact Cairns Regional Council on 1300 692 247.

In the prevention zone
It is an offence under the Biosecurity Act to move, share, give away or sell this plant. Ensure wetland and pond plants are sourced from a reliable supplier and are from a weed free area. Do not dump aquarium plants or fish into waterways. Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

In the asset protection zone
Maintain weed free areas. Ensure best practice treatment of water bodies by reporting new infestations outside of known areas. Treat isolated infestations with a high risk of spread.

Floating

Aquatic

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



Olive hymenachne (*Hymenachne amplexicaulis*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A robust, upright perennial aquatic grass 1-2m tall with distinctive stem clasping leaves. Olive hymenachne has distinctive long cylindrical spike-like flowers. Hymenachne is capable of growing in water up to 1.2m metres deep and often rafts out over water on floating, pithy stems. Native hymenachne may co-occur with Olive.

Distribution Localised and abundant across the Cairns Region within the Mulgrave, Russell River and Barron Catchments. Olive hymenachne is most likely to be encountered in the waterways and wetlands of the floodplain.

Impacts Olive hymenachne blocks drainage systems and waterways. It readily invades and outcompetes native plants in wetlands and waterways. Dense mats can prevent fish passage for key species like Barramundi and provide a breeding opportunity for pest fish species like Tilapia. It often blocks cane drains and can damage infrastructure.

Key projects As of publication, Council has implemented a Biosecurity Prevention and Control Program for this pest in riparian areas.

Background

Areas marked for delimitation require on ground surveys to determine extent of distribution.

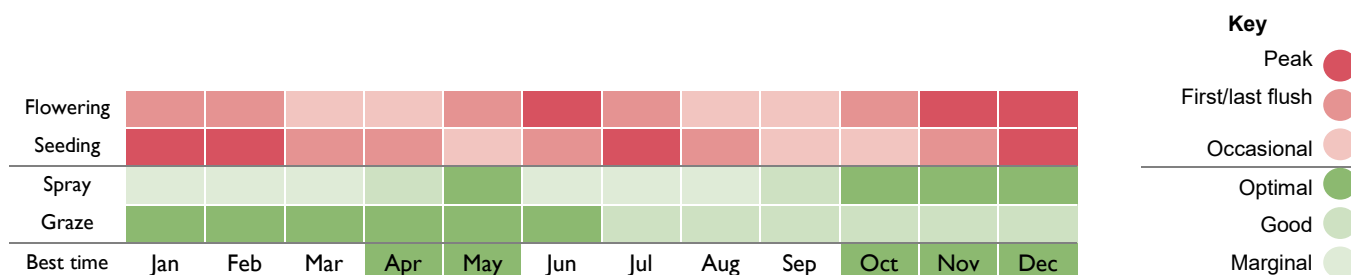
Hymenachne is likely to be moved around during flood events. Monitoring wetlands, waterways and drains on your property will assist to detect new outbreaks early. A native Hymenachne species *Hymenachne acutigluma* may occur in the same location. The native lacks the clasping leaf base, has narrow upright leaves and distinctive reddish nodes where the leaf joins the stem.

Participating in catchment management and water quality projects will assist to promote wider community awareness of the damaging effects of weeds to agricultural land and water ways. Improving water quality and the condition of riparian vegetation will assist in making waterways more resilient to weed impacts into the future.

Maintaining weed free areas and treating isolated infestations will reduce the risk of further spread. Ensure best practice treatment and weed hygiene measures are in place for private water bodies and reporting new infestations outside of known areas.

Identify high value assets and protect them from impacts where possible. This should include targeted maintenance of key fish passage areas, cane drains and farm infrastructure to allow for the breeding cycle of native fish species to take place. Landholders can assist by maintaining key flow areas, re-instating stream –side vegetation and reducing nutrients and sediment into wetlands.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

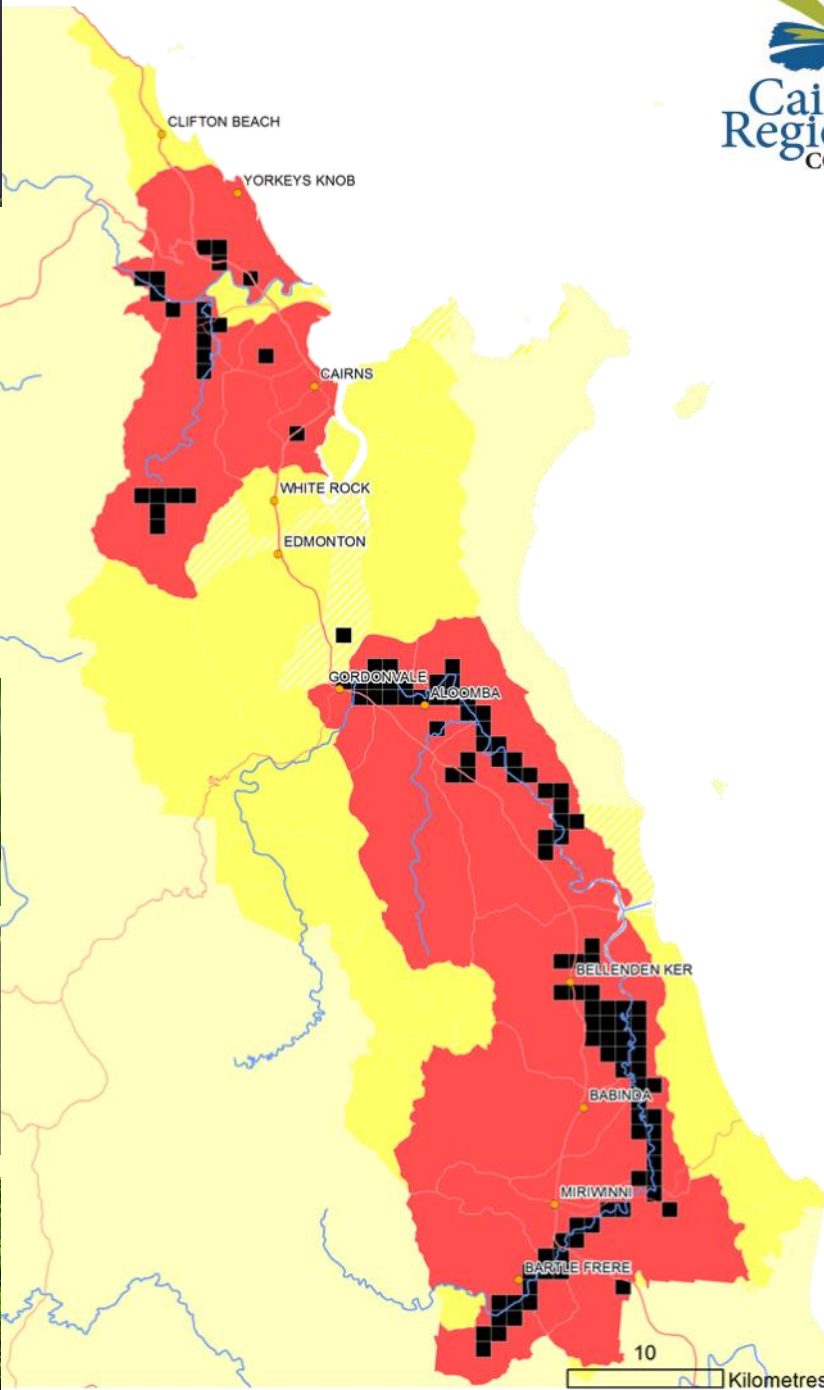
Olive hymenachne (*Hymenachne amplexicaulis*)



Native hymenachne
(*Hymenachne acutigluma*)



Olive hymenachne
(*Hymenachne amplexicaulis*)



Grass

Aquatic

Perennial

Biosecurity Act
Restricted matter category

2
Must be reported

3
Do not distribute

4
Do not move

5
Do not keep

6
Do not feed

Control



Spread



Cairns Biosecurity Plan 2019–2024

What is my biosecurity obligation?

In the delimitation zone

Report any suspected outbreaks or detections to Contact Cairns Regional Council on 1300 692 247.

In the prevention zone

It is an offence under the Biosecurity Act to move, share, give away or sell this plant. Ensure wetland and pond plants are sourced from a reliable supplier and are from a weed free area. Do not dump aquarium plants or fish into waterways.

Ensure any machinery or vehicles moving from infested areas are free from plant material and soil.

Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

In the asset protection zone

Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations. Maintain weed free areas. Identify high value assets and protect them from impacts where possible.

Treat isolated infestations with a high risk of spread.

Provide access to waterways for council to continue control programs.

Hygrophila (*Hygrophila costata*)

Human Health

Social Amenity

Economy

Environment

Achievability

Local Impact/
Values

Declaration
Status

National priority

Priority



Details

Description An erect, aquatic herb up to 1m tall. Generally growing in a thick mat on banks and waters edge but also extending over the water especially in still water. Hygrophila prefers full sun and tends not to grow as well in the shade. Small papery white flowers are developed at the junction of the stem and leaf.

Distribution Widespread and common throughout the lower Russell River and Babinda Creek. Localised occasionally within Little Mulgrave Creek and Mulgrave River.

Impacts Hygrophila grows in a thick mat which smothers riparian vegetation. It blocks waterways and drainage infrastructure in both natural and artificial water ways. May provide habitat for pest fish species like Tilapia and obstruct movement of native species.

Key projects Historical efforts combined with local environmental organisations based out of Babinda have worked to reduce the infestations within the Russell River Catchment.

Background

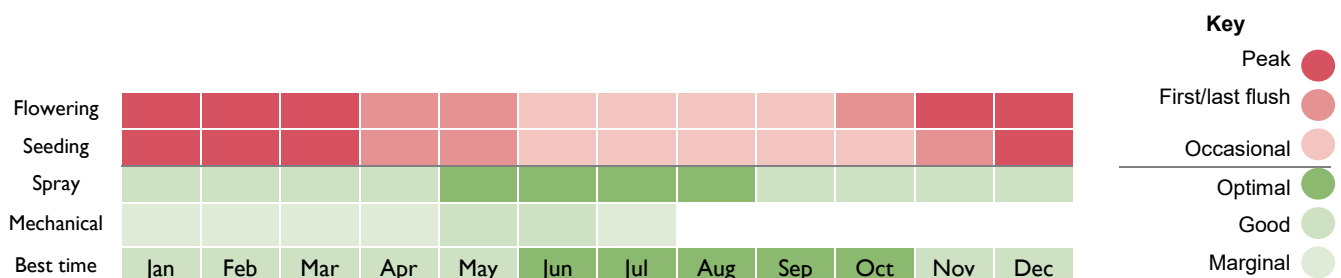
Participating in catchment management and water quality projects will assist to promote wider community awareness of the damaging effects of weeds to agricultural land and water ways.

Improving water quality and the condition of riparian vegetation will assist in making waterways more resilient to weed impacts into the future. Infestations are currently controlled with herbicide and follow-up surveys to ensure all plant fragments have been treated. On-going treatment efforts are required to continue the reduction of infested sites across the catchments.

Monitoring of treated areas after control effort is essential to ensure infestations do not re-establish. Minimize the risk of spread with best practice weed hygiene. Systematic treatments from the top down of each catchment.

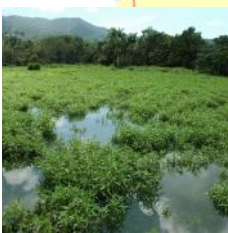
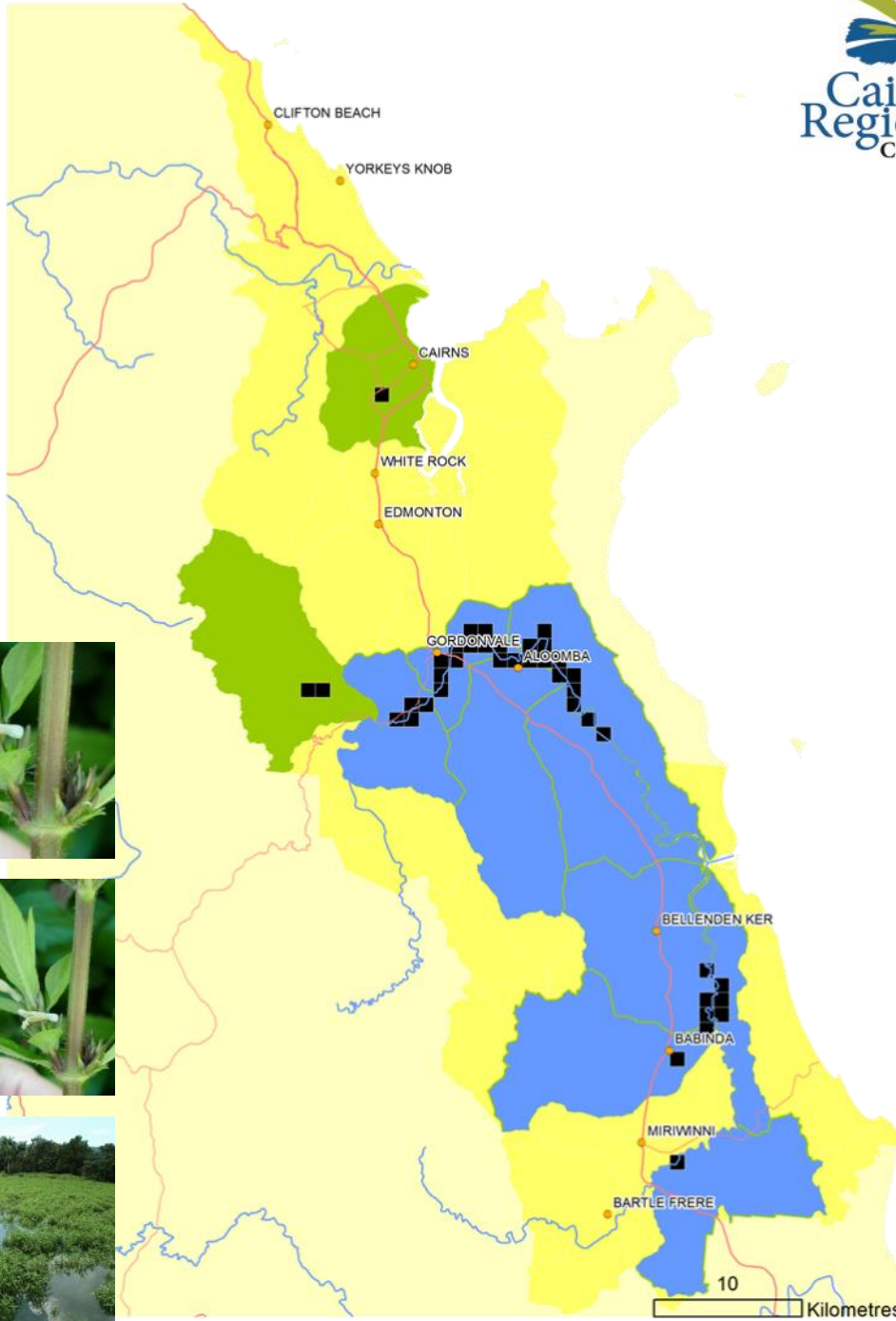
Effective management should include treating new incursions as reported and treating existing outlying areas to prevent spread.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Hygrophila (*Hygrophila costata*)



Cairns Biosecurity Plan 2019–2024

Herb

Aquatic

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the prevention zone

Ensure wetland and pond plants are sourced from a reliable supplier and are from a weed free area. Do not dump aquarium plants or fish into waterways. Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

In the eradication zone

If you have an active infestation on your property you can assist the survey and control team by maintaining property access points and tracks. Contact Cairns Regional Council on 1300 692 247 to report any suspect plants beyond known sites.

In the intensive control zone

Provide access to waterways for council to continue control programs. Maintain best practice weed hygiene and do not remove plant matter from infested sites. Manage accessible infestations to reduce risk of spread to new locations. Maintain current infestations to prevent spread into weed free areas. Treat isolated infestations with a high risk of spread.

Thunbergia (*Thunbergia grandiflora*)

Human Health

Social Amenity

Economy

Environment

Achievability

Local Impact/
Values

Declaration
Status

National priority

Priority



1.0/5

2.0/5

3.0/5

4.0/5

4.4/5.5

5.0/5

1.5/5

0.0/5

Details

Description A rapidly growing vine which forms significant underground tubers. The separate species of *T. laurifolia* and *T. grandiflora* have been merged into a single species. The lavender-blue trumpet shaped flowers are identical but the leaves may vary. Leaves form a choko-like shape to an oval shape with a narrow pointed tip.

Distribution Infestations occur in scattered but localised infestations throughout the entire Cairns region particularly on forest edges, waterways and disturbed areas. The heaviest infestations occur in the Little Mulgrave area.

Impacts Thunbergia vine climbs and smothers native vegetation, killing and often pulling down mature trees with the weight of the vine. Dense infestations can prevent the recruitment and growth of native vegetation. In urban areas it can smother fences, buildings and degrade remnant vegetation in reserves and along waterways.

Key projects A council led control program is underway on many of the known infestations in priority areas. Council is focusing first on upstream infestations. As of publication, Council has implemented a Biosecurity Prevention and Control Program for Thunbergia vine.

Background

Areas marked for delimitation require on ground surveys to determine extent of distribution.

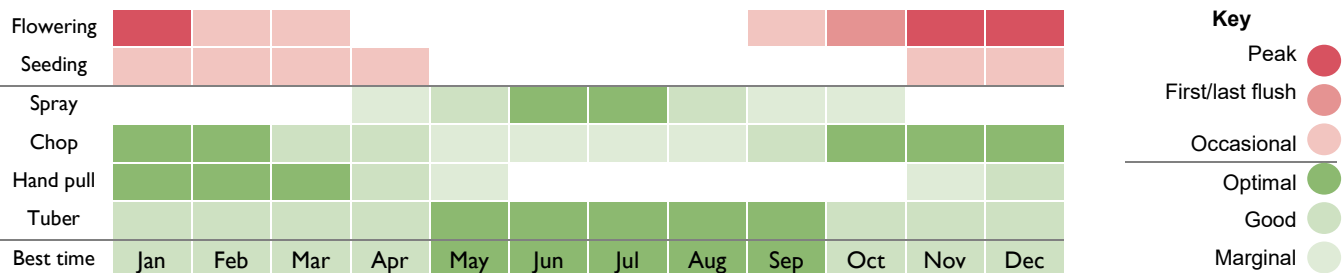
The main method of spread for Thunbergia vine is through the sharing plants between gardeners. It is an offence under the Biosecurity Act to move, share, give away or sell this plant.

Because it often grows on the banks of creeks and rivers Thunbergia may be spread during floods and cyclones, or during clean-up work afterwards. You can reduce the risk of spread by reporting any suspect vines with purple or mauve flowers to council and by making sure machinery used is clean before arriving to do any work.

Targeted treatment of upstream properties before downstream infestations is the most effective way to manage Thunbergia on a catchment scale. Repeat treatments are required to ensure underground tubers do not re-establish. Define assets to protect. As they become impacted, take reasonable measures to reduce impact on assets.

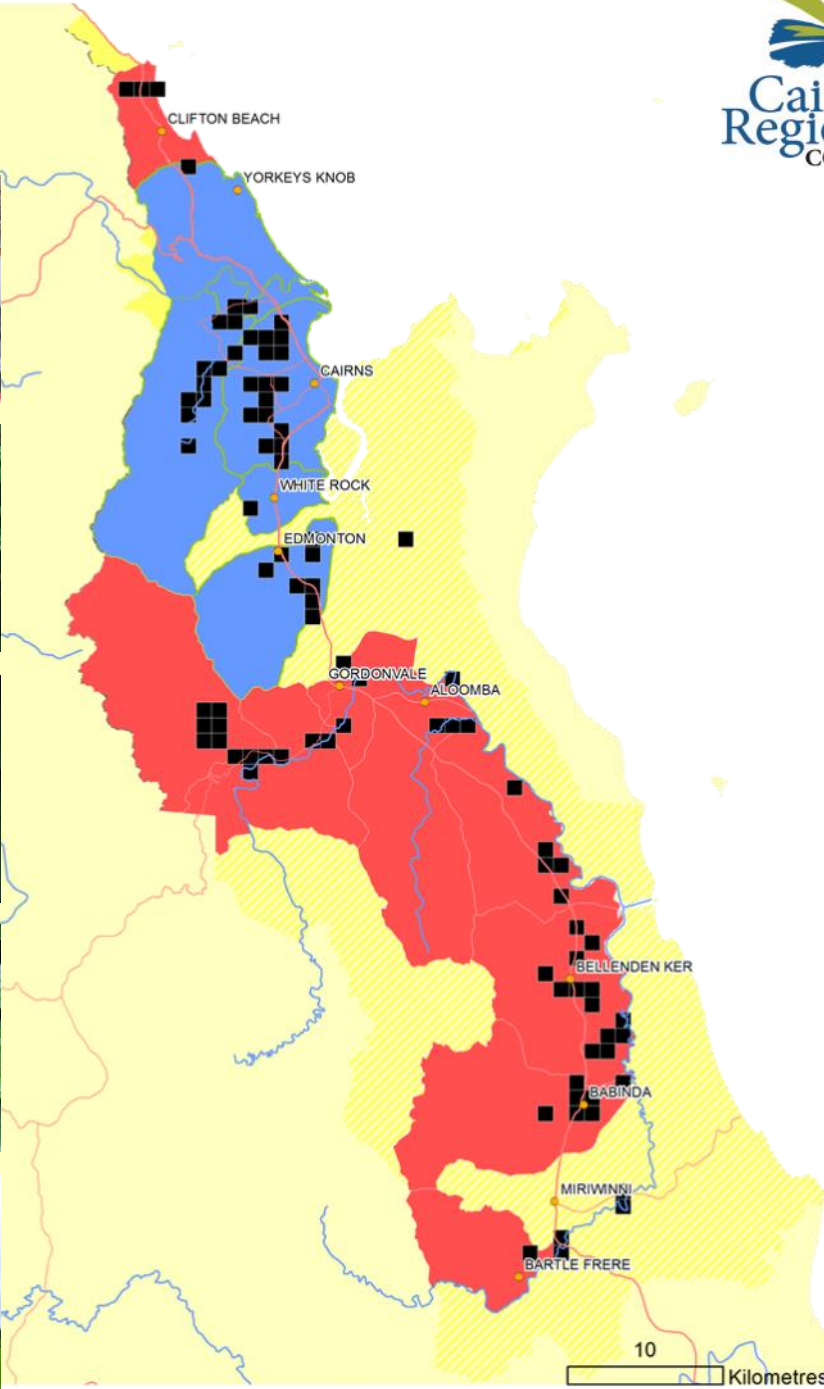


Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Thunbergia (*Thunbergia grandiflora*)



Vine

Terrestrial

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the delimitation zone

Report any suspected outbreaks or detections to Contact Cairns Regional Council on 1300 692 247

In the prevention zone

Ensure any machinery or vehicles moving from known infestation areas are free from plant material and soil.
Make sure garden and green waste is disposed of at your local transfer station or processed on site.
Report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247.

In the intensive control zone

Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations. Maintain weed free areas. Identify high value assets and protect them from impacts where possible.

In the asset protection zone

Treat isolated infestations with high a risk of spread.
Make sure garden and green waste is disposed of at your local transfer station or processed on site. It is an offence under the Biosecurity Act to move, share, give away or sell this plant.

Pond apple (*Annona glabra*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description Tall semi-deciduous shrub or tree reaching around 15m but typically 3-6 m. Pond Apple is most likely to occur in wetlands and along stream margins but it may occur along beaches as well. Leaves are lighter below than above and have a green apple scent when crushed. The large fruit is similar to a custard apple and are filled with floating seeds similar in size and shape to a pumpkin seed.

Distribution Pond apple is widespread at elevations below 20m throughout the southern half of Cairns region, and there are scattered infestations in the north. Seed is dispersed on river and ocean currents and flood water.

Impacts Pond apple invades a wide range of natural and artificial wetlands and waterways. It forms dense thickets that exclude most native ground and shrub layer plants, prevents regeneration of native vegetation and chokes drains. It is a significant modifier of wetlands and freshwater mangrove communities.

Key projects As of publication, Council has implemented a Biosecurity Prevention and Control Program for this pest in riparian areas.

Background

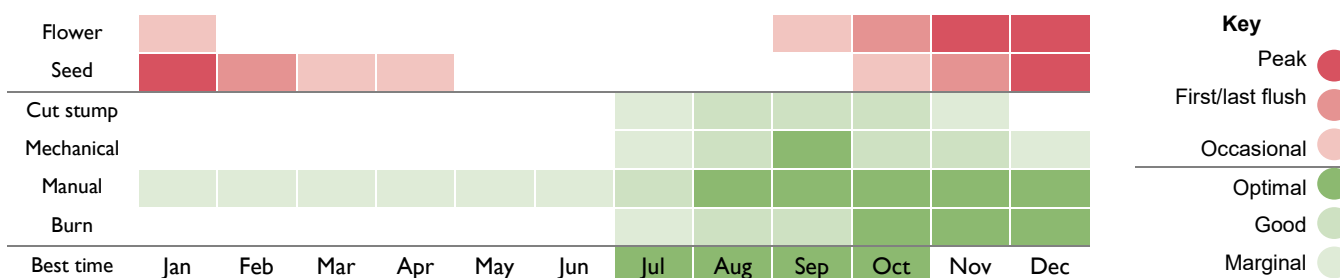
Areas marked for delimitation require on ground surveys to determine extent of distribution.

Pond Apple is most likely to grow along creeks and in wetlands but it may also be found in old orchards where it was used as graft stock in the past or appear along beaches and beach swales where it arrives as floating seeds. Keep an eye out for pond apple in swamps, mangroves, estuaries or islands and report any suspect plants to council.

Participating in catchment management and water quality projects will assist to promote wider community awareness of the damaging effects of weeds to agricultural land and water ways. Improving water quality and the condition of riparian vegetation will assist in making waterways more resilient to weed impacts into the future.

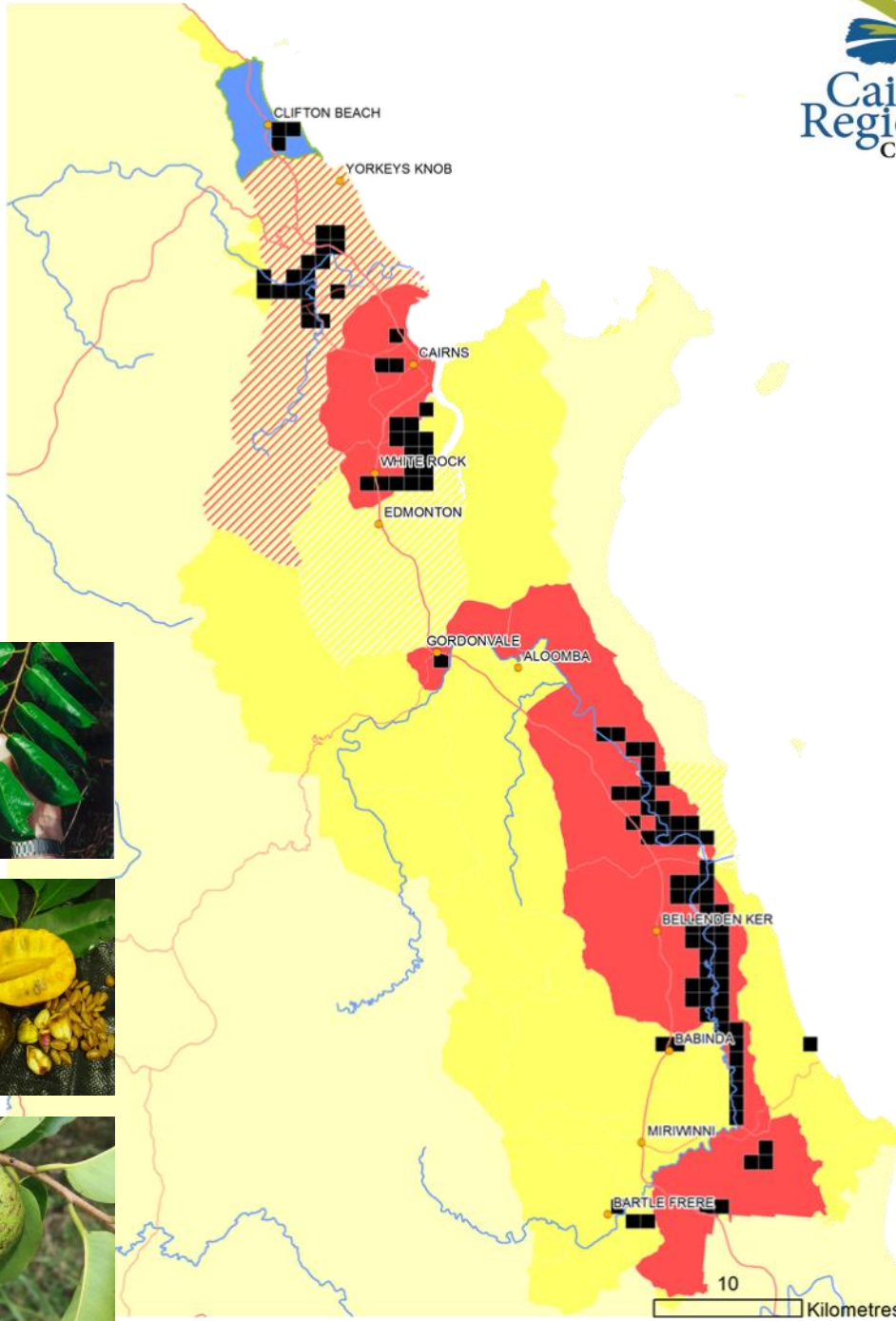
Effective management includes identifying clean catchments and promoting maintenance and active inspections in those areas. Treating new incursions when detected and controlling existing outlying infestations and high risk areas will assist to prevent spread to new locations. Reducing the spread and distribution of known infestations will decrease the amount of seed entering waterways and wetlands. Targeted management and restoration of native vegetation in a top-of-catchment down approach is the most effective way to protect downstream assets.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Pond apple (*Annona glabra*)



Woody

Terrestrial

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



What is my biosecurity obligation?

In the delimitation zone

Report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247.

In the prevention zone

Maintain awareness, weed hygiene and report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247.

In the intensive control zone

Treat all infestations. Report unmanaged infestations to Cairns Regional Council on 1300 692 247.

In the containment zone

Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations. Maintain weed free areas. Identify high value assets and protect them from impacts where possible.

In the asset protection zone

Treat isolated infestations with high risk of spread. Control plants in creeks and drains. Assist management programs by providing and maintaining with access to water ways and wetlands. Report new infestations.

Water lettuce (*Pistia stratiotes*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A free floating, aquatic weed which resembles an open head of lettuce. Leaves are spongy, light green and water repellent. Water lettuce produces Small green flowers and reproduces from seeds or division. It can form dense mats on the surface of slow moving water, often in conjunction with other water weeds.

Distribution Isolated and occasional infestations occur in slow moving water bodies with high nutrients including the lower Mulgrave River lagoons, Holloways Beach and Smithfield. Water lettuce may also be present in artificial water bodies, water features, ponds and aquariums.

Impacts It floats on still or slow-moving water and can rapidly spread to cover the entire water surface with a thick mat of vegetation. This shades out any submerged plant life and impedes oxygen exchange making the water unsuitable for fish and other aquatic animals. Provides breeding opportunities for mosquitoes.

Key projects As of publication, Council has implemented a Biosecurity Prevention and Control Program for this pest in riparian areas.

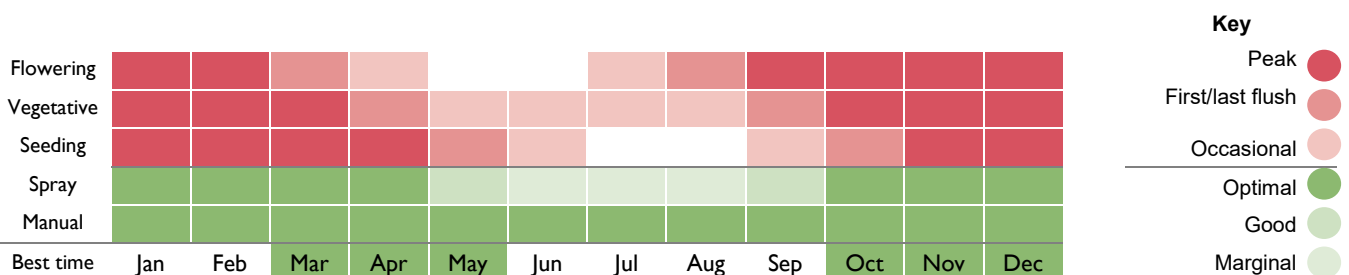
Background

Water lettuce is most likely to be introduced via aquariums or water features. The plant could potentially be spread as a contaminant in water plants sourced from infested areas. Ensuring that sources of water plants like water lily are weed free and do not contain water lettuce or other water weeds is the most effective way to prevent accidental introductions. Carefully disposing of aquarium or water feature plants and fish will prevent them making their way into man-made or natural waterways.

Water lettuce has a limited distribution in the Wet Tropics so maintaining weed free areas by preventing spread to new locations is the most effective strategy for reducing the impact on waterways and wetlands. There are a range of native alternatives for ornamental ponds and aquarium which don't carry the same weed risk or potential penalties.

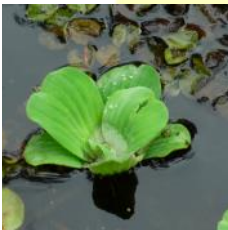
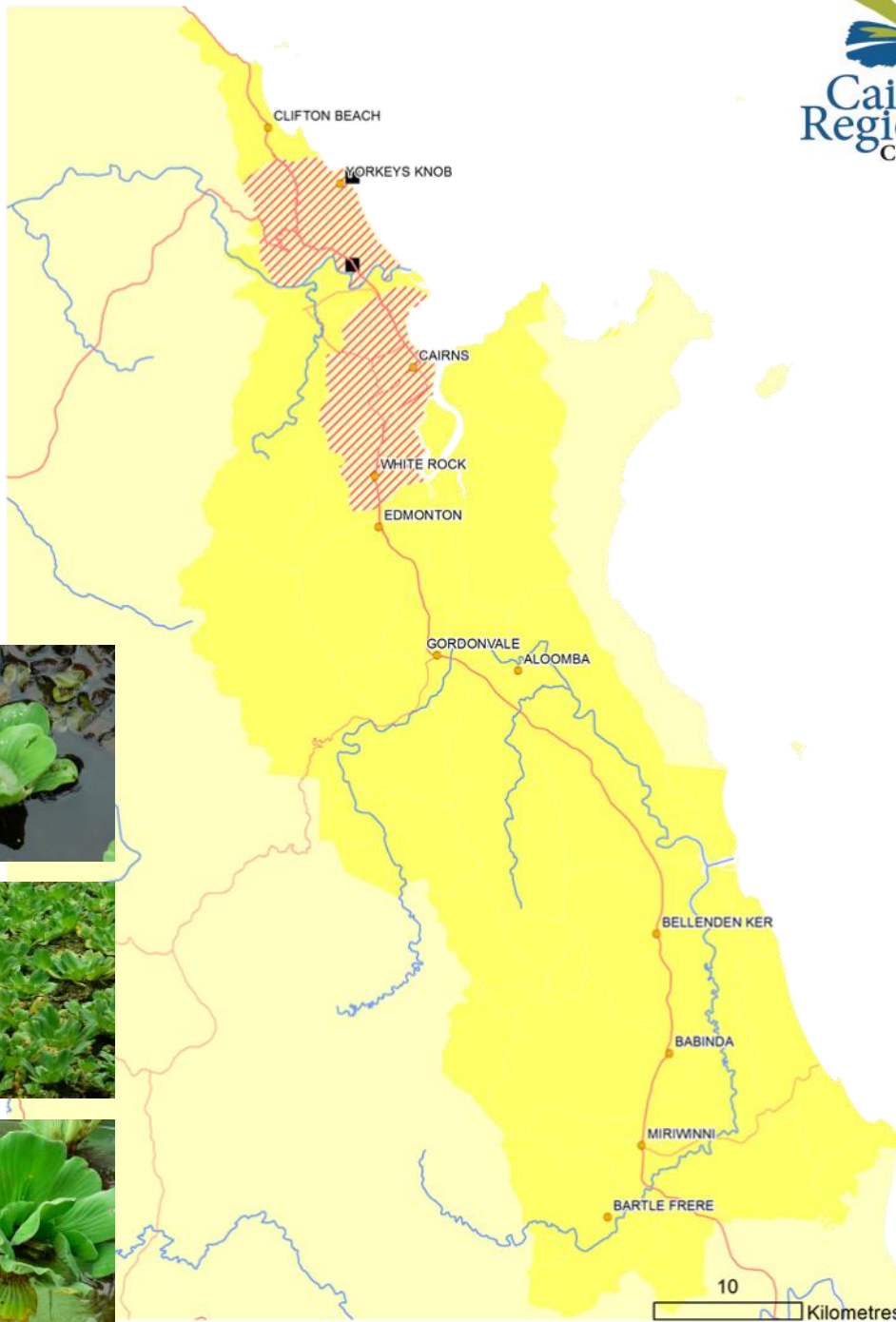
Most infestations in the Cairns region are currently small in size and restricted to slow moving water bodies or ornamental ponds. By continuing to control known infestations and treating or removing new incursions when they are reported the wetlands and drainage infrastructure of the floodplain will be protected.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Water lettuce (*Pistia stratiotes*)



- Floating
- Aquatic
- Perennial

Biosecurity Act
Restricted matter category

- 2
Must be reported
- 3
Do not distribute
- 4
Do not move
- 5
Do not keep
- 6
Do not feed

Control



Spread



What is my biosecurity obligation?

In the prevention zone

In the containment zone

It is an offence under the Biosecurity Act to move, share, give away or sell this plant.

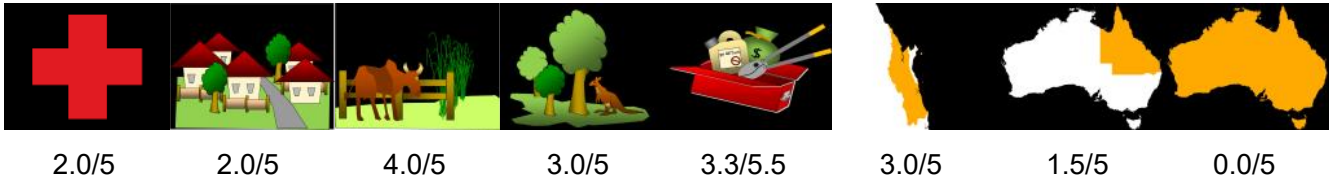
Ensure wetland and pond plants are sourced from a reliable supplier and are from a weed free area. Do not dump aquarium plants or fish into waterways. Ensure any machinery or vehicles moving from infested areas are free from plant material and soil. Keep an eye out for water lettuce in any natural or man-made freshwater ponds or features. Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

Manage infestations systematically from top of catchment down. Ensure treatments occur in flood prone areas prior to flooding events. Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations. Maintain weed free areas. Do not move, distribute, sell or give away water lettuce.

Siam weed (*Chromolaena odorata*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

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 to lilac flowers in May-June and October. Distinguish from the weeds Bluetop and Praxelis, which have short-tasselled mauve to purple flowers and different leaves.

Distribution There are occasional infestations of Siam weed in Goldsborough Valley and Little Mulgrave. Larger infestations are throughout the Russell Catchment in Woopen Creek and Bartle Frere areas. A large infestation has recently been detected in Waugh's pocket.

Impacts Siam weed forms dense thickets and outcompetes native species and pasture in both disturbed and undisturbed sites. It prefers richer soils in alluvial and riparian zones but will grow in woodlands and coastal zones.

Key projects The target of a National Eradication Program up until 2012, Siam weed was devolved to local governments for further management. Contact Cairns Regional Council to report any suspect plants on 1300 692 247. As of publication, Council has implemented a Biosecurity Prevention and Control Program for this pest.

Areas marked for delimitation require on ground surveys to determine extent of distribution. No infestations are currently known in these areas.

Siam weed is likely to arrive with contaminated stock, produce, vehicles or machinery from adjoining infested areas. Ensuring weed hygiene measures are in place and materials/produce are sourced from a clean site will assist to protect your property.

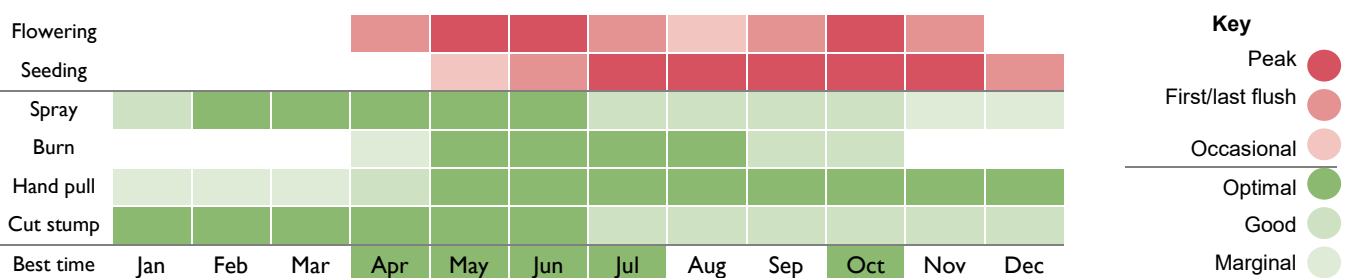
Siam weed has a peak flowering period in May-June with another, less vigorous flowering in October. It is most visible at these times and this feature is used to detect plants prior to seeding. Siam weed is able to be spread by wind and water as well as machinery and vehicles.

The seeds of Siam weed have been confirmed to remain viable in the soil for at least 7 years. Maintaining records of historical infestations and restricting disturbance and movement of soil is essential to prevent spread to new locations.

Conducting surveys during the peak flowering time in May-June is the best way to detect any new outbreaks or to monitor previously controlled areas. Monitoring along forest edges, degraded pastures and riparian areas is a useful strategy to detect new infestations or single plants. Maintaining healthy native vegetation along watercourses and vigorous pastures will assist to reduce opportunities for Siam weed to establish in new locations.

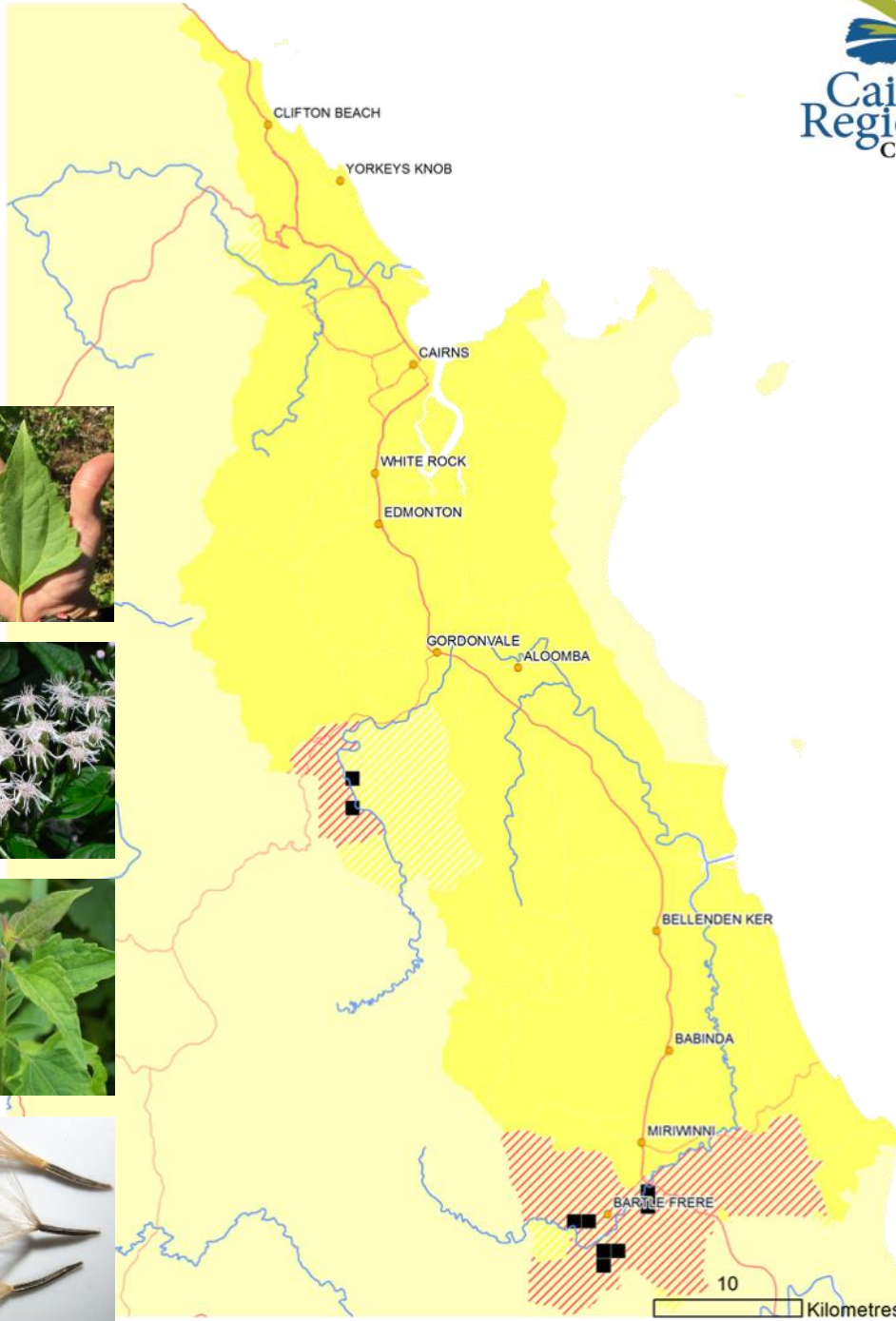
Background

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Siam weed (*Chromolaena odorata*)



Woody

Terrestrial

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the delimitation zone

Report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247. Conduct surveys during peak flowering period of May-June.

In the prevention zone

Report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247. Ensure weed hygiene measures are in place and materials/produce are sourced from a clean site.

In the containment zone

Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations. Maintain weed free areas. Identify high value assets and protect them from impacts where possible. Treat isolated infestations with high risk of spread. Conduct annual surveys during peak flowering time to detect any new outbreaks or recruitment of new plants from dormant seeds in known locations.

Opuntoids (*Austrocylindropuntia*, *Cylindropuntia* and *Opuntia* spp.)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



2.0/5

2.0/5

3.0/5

4.0/5

2.2/5.5

3.0/5

1.5/5

2.5/5

Details

Description Opuntoid cacti vary significantly in their form and habit, ranging from low-growing shrubs under 50 cm to erect trees up to 8 m tall. Plants are normally leafless succulent shrubs. Stems are divided into segments (pads or joints) that are flat and often incorrectly called leaves. Young shoots have true leaves resembling small fleshy scales that fall off as the shoot matures. Flowers are large, normally seen during spring and can be yellow, orange, red, pink, purple or white depending on the species. Fruits vary between species and can be red, purple, orange, yellow or green. Areoles (spots with clusters of spines) are found on both the pads (joints, segments) and fruit. In addition to spines, areoles often have clusters of sharp bristles (glochids) and tufts of fibre ('wool'). Each areole contains a growing point that can produce roots or shoots.

Distribution Isolated small infestations of Prickly Pear are known across the Cairns Region and other Opuntoids are infrequently discovered in isolated cases usually through plant sellers or collectors.

Impacts Dense infestations compete with native vegetation, limiting the growth of small shrubs and groundcover species.

Background

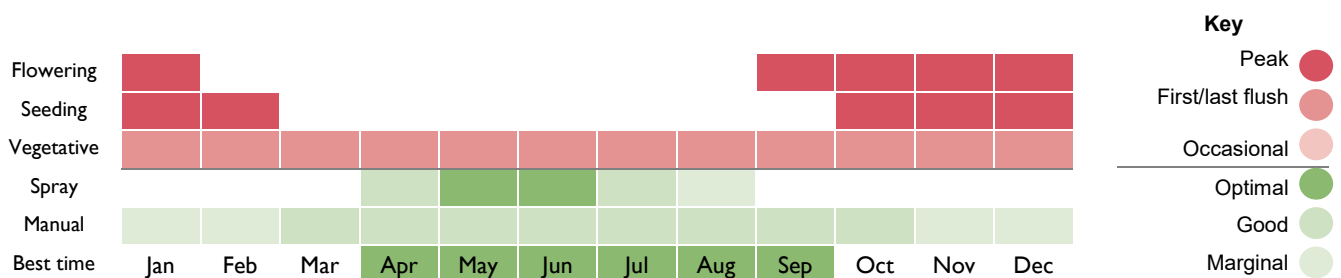
Different species have different legislative requirements. Contact Council or Biosecurity QLD for more information regarding any pest Opuntoids and specific obligations.

The plant's sharp spines or barbs can cause injury to stock and native animals and contaminate produce reducing or preventing grazing and recreation activities. The spines are capable of causing serious injury to animals and humans.

Animals and flooding can spread sections of plant, reshooting on contact with soil. Plant sections can survive long periods separated from soil before reattachment. Gardeners and collectors often contribute to spread.

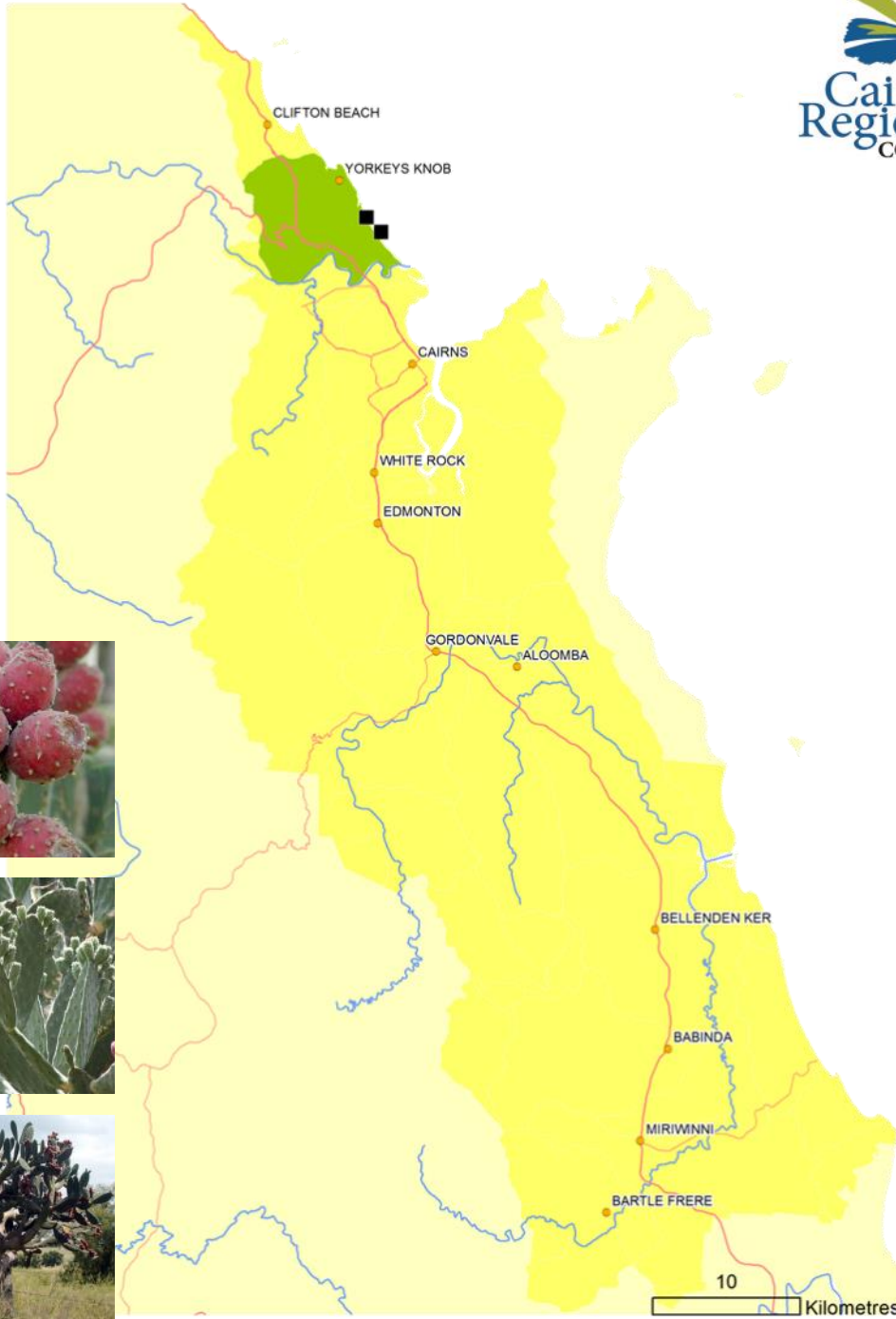


Control calendar



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Opuntoids (*Austrocylindropuntia*, *Cylindropuntia* and *Opuntia* spp.)



Succulent

Terrestrial

Perennial

Biosecurity Act
Restricted or
Prohibited
matter

2
Must be
reported

3
Do not
distribute

4
Do not
move

5
Do not
keep

6
Do not
feed

Control



Spread



What is my biosecurity obligation?

**In the
prevention
zone**

Report any suspected Opuntoids to Cairns Regional Council on 1300 692 247. Be aware of restrictions on the movement and import of species into and out of state if purchasing cactus varieties.

Effective Management should target identification of new incursions as they are found and identifying new outbreaks before established.

Limit the introduction to the region through quick identification of specimens by surveillance of vectors such as collectors.

Educating the public on identification and restrictions on movements of these pest plants.

Targeted surveillance of digital platforms and on ground sales have successfully identified many incursions as they occur.

**In the
eradication
zone**

Contact Cairns Regional Council on 1300 692 247 to advise on best treatment practices or for dense infestations to arrange biocontrol agents.

Water hyacinth (*Eichhornia crassipes*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A free-floating, aquatic herb with glossy, spoon shaped leaves and distinctive purple/lilac flowers. Water Hyacinth forms dense blankets over waterways and wetlands. A similar native species occurs but can be distinguished by its yellow flowers and spear-shaped leaves

Distribution Occasional and localised in the lower Mulgrave River catchment and Caravonica suburb, within waterways.

Impacts Water Hyacinth floats on still or slow-moving water and can rapidly spread to cover the entire water surface with a thick mat of vegetation. This shades out any submerged plant life and impedes oxygen exchange, making the water unsuitable for fish and other animals.

Key projects As of publication, Council has implemented a Biosecurity Prevention and Control Program for this pest in riparian areas.

Background

Water Hyacinth is most likely to be introduced in water features and ponds or as an aquarium plant. Ensure water features and ornamental gardens do not contain Water Hyacinth. Water Hyacinth grows from seed and by division of mature plants and may be spread in contaminated soil from water features containing the weed in other areas.

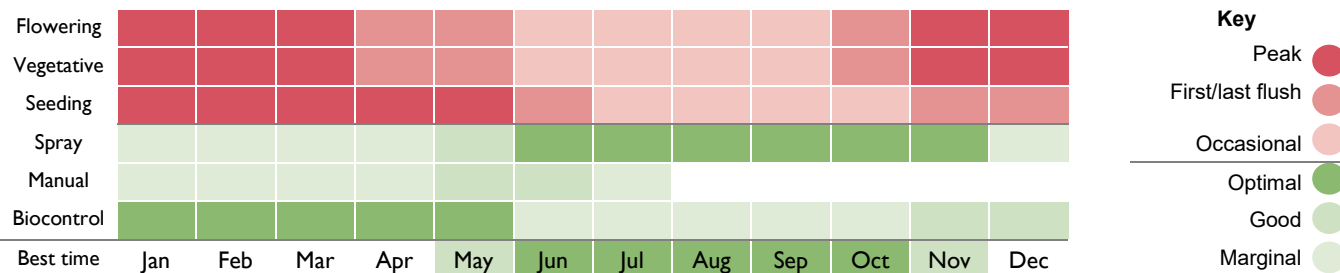
Infestations are currently controlled with herbicide and follow-up surveys to ensure all plant fragments have been treated. Treat new incursions as they are reported or found.

Water hyacinth can be moved on floodwaters, checking wetlands and water features after flooding events. Define assets to protect. As they become impacted, take reasonable measures to reduce impact on asset. Targeted maintenance of drainage and waterway systems.

Water Hyacinth is most likely to be introduced in water features and ponds or as an aquarium plant. Ensure water features and ornamental gardens do not contain Water Hyacinth. Water Hyacinth grows from seed and by division of mature plants and may be spread in contaminated soil from water features containing the weed in other areas.

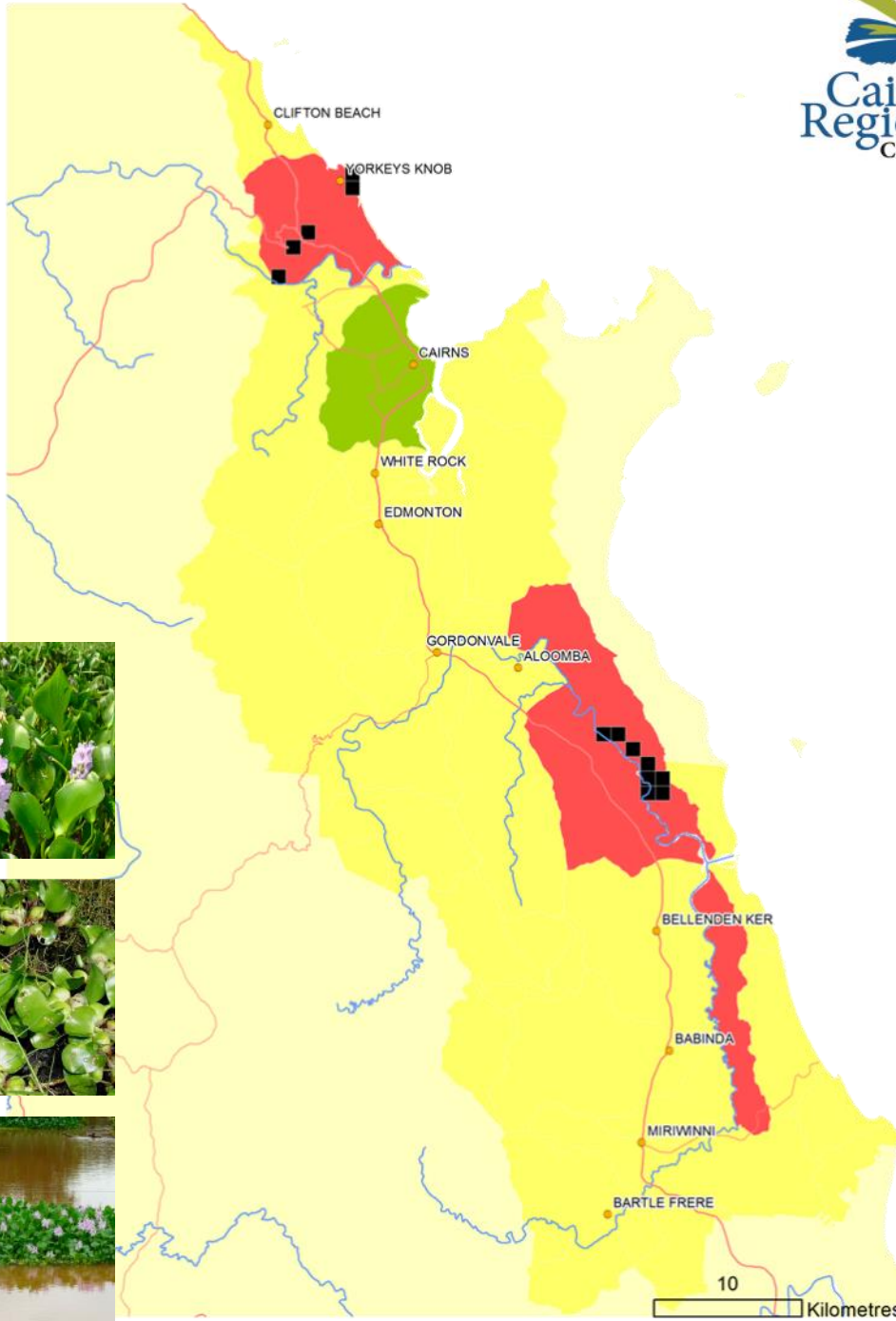


Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Water hyacinth (*Eichhornia crassipes*)



Floating

Aquatic

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the prevention zone

It is an offence under the Biosecurity Act to move, share, give away or sell this plant. Ensure wetland and pond plants are sourced from a reliable supplier and are from a weed free area. Do not dump aquarium plants or fish into waterways. Ensure any machinery or vehicles moving from infested areas are free from plant material and soil. Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

In the eradication zone

Ensure control measures are performed prior to flooding events where spread has a higher risk of occurring. Contact Cairns Regional Council to report any suspect plants on 1300 692 247.

In the asset protection zone

Identify high value assets and protect them from impacts where possible. Maintain best practice weed hygiene measures to reduce risk of spread.

Brillantaisia (*Brillantaisia lamium*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A small shrubby herb from 20cm to 2m in height. *Brillantaisia* has hairy square stems with heart shaped leaves. Purple (sometimes white) pea-like flowers are held on thin stems prior to forming cigar shaped seed pods. *Brillantaisia* can grow in to a dense, thick ground cover right down to the waters edge.

Distribution Localised in Freshwater Creek and becoming widespread and common from Babinda south concentrating into the Wooten Creek sub-catchment. There is also an isolated infestation in the East Russell.

Impacts *Brillantaisia* forms a dense mat and outcompetes native plants in riparian zones. It can take over domestic gardens and roadsides. The small seeds spread easily on machinery, vehicles and waterways. It grows well in both full shade and/or full sunlight.

Key projects *Brillantaisia* is locally declared under Cairns Regional Council local laws.

Areas marked for delimitation require on ground surveys to determine extent of distribution. No infestations are currently known in these areas.

Brillantaisia spreads readily on machinery and within contaminated soils. It was introduced into the Wet Tropics via a nursery in the Mossman area from where it has been spread in garden plants. Because the plant has rapid growth and seed production it can quickly establish and become infestations which are difficult to manage. It causes impact to ground storey vegetation along riparian zones, roadsides and in pastures.

Brillantaisia grows rapidly and can flower and seed all year round requiring survey and treatment on a continual basis. Isolated outbreaks are treated every six weeks to prevent plants from seeding. Survey in and around the known infestations are conducted to ensure all locations are detected.

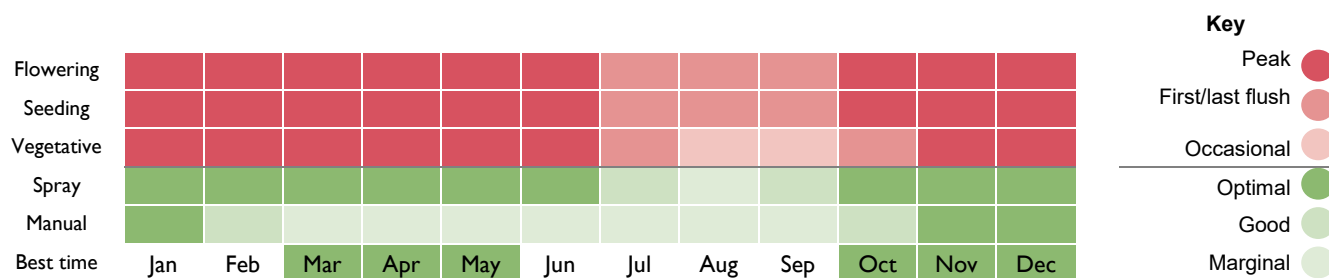
Small infestations can be hand pulled, however all roots and stem fragments must be removed. Plant fragments should either be double bagged and taken to the dump or preferably hung up to prevent contact with the ground and reshooting.

Larger infestations should be herbicide treated.

For any treatment to be considered effective, follow-up monitoring must occur to identify any new seedlings. Areas marked for delimitation require on ground surveys to determine extent of distribution. No infestations are currently known in these areas.

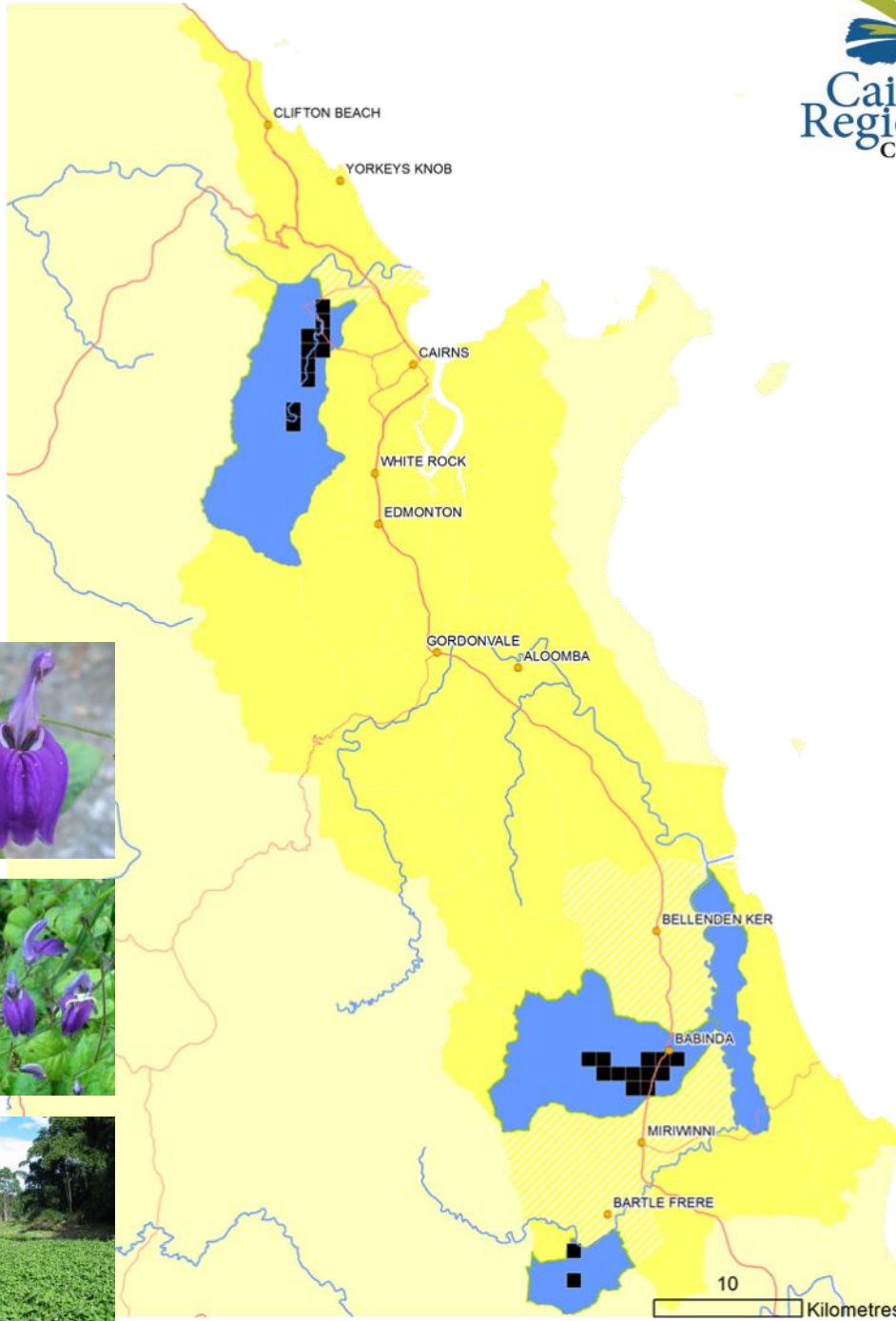
Background

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Brillantaisia (*Brillantaisia lamium*)



In the delimitation zone

In the prevention zone

In the intensive control zone

What is my biosecurity obligation?

Keep an eye out for the distinctive purple flowers, allowing timely detection and treatment of new infestations. Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

Brillantaisia is a locally declared plant and under local laws cannot be distributed, given away or sold. Ensure sources of garden plants are weed free. Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

Maintaining healthy pastures and keeping an eye out for the distinctive purple flowers will assist in the timely detection and treatment of new infestations. Do not move soils and plants from infested sites. Restrict stock and machinery movements unless adequate weed hygiene measures are implemented.

Herb

Terrestrial

Perennial

Local laws apply

Must not breed

Must not propagate

Must not introduce

Must not sell or supply

Must not provide harbour

Control



Spread



Water mimosa (*Neptunia oleracea* & *N. plena*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description Water mimosa is an aquatic floating perennial herb that anchors at the waters edge and sends stems out over the water where they form a spongy, fibrous covering between the nodes. Leaves are olive green and are arranged in opposite pairs along the stem. When disturbed or touched the leaflets close up. Water mimosa flowers are yellow, ball-shaped and grow from the base of the leaves.

Distribution Several isolated infestations have been detected and removed. Records occur from Lake Placid, Smithfield, Brinsmead and Babinda areas. Water mimosa is associated with South East Asian cuisine where it used as a green vegetable and so may have been introduced as a food plant.

Impacts Water mimosa forms dense, floating rafts which can impede flows, reduce light penetration and oxygen levels in the water. The physical barriers can disrupt native fish and wildlife, restrict access for recreation and provide favourable habitat for mosquito.

Key projects All known locations the target of a regional eradication program led by Biosecurity Queensland. All suspected sightings of this plant should be reported to Biosecurity Queensland on 13 25 23.

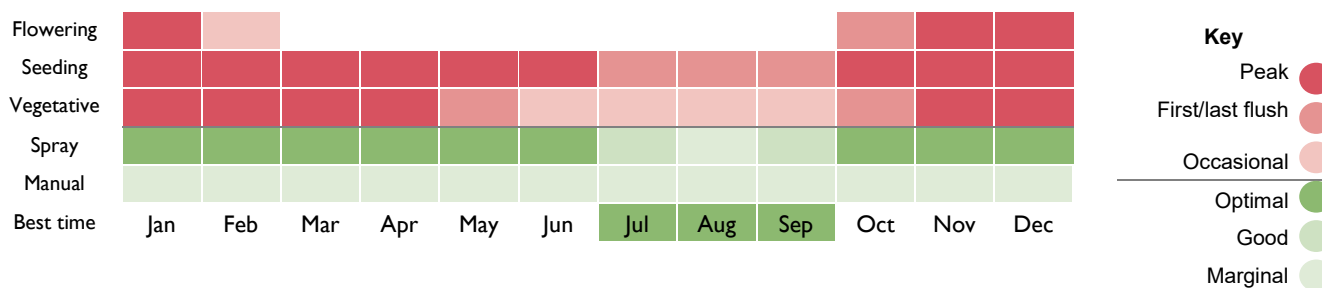
Background

Water mimosa is often used as a culinary plant in South East Asia and so is most likely to be introduced as food plant in the tropics.

The rooted land form has smaller leaves and flowers, and has no spongy floating tissue. It establishes from small plant pieces in water and from seed. Under favourable conditions, water mimosa grows out from the banks to form floating rafts of dense interwoven stems. These can be dislodged by water movement, (especially during floods), and are soon replaced by more water mimosa. These floating rafts can restrict water flow in creeks, channels and drains. It can impede recreational water sports and boating access. The rafts are so dense they can reduce water quality by preventing light penetration and reducing oxygenation of water. This creates favourable habitat for mosquitoes, reduces fish activity, and causes the death of native, submerged water plants and fish.

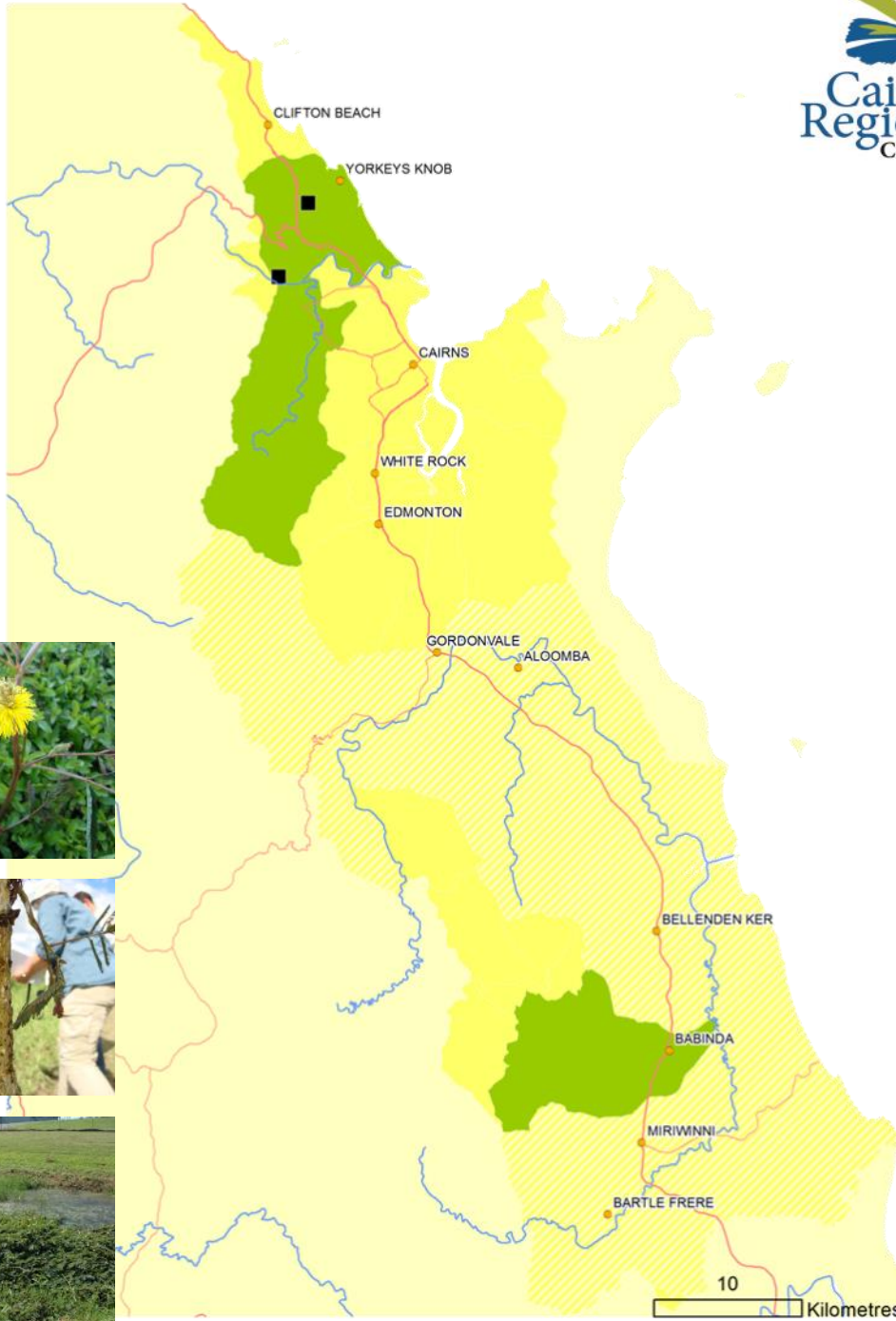
Management is targeting destruction of all known infestations and complete removal of all infestations in these areas. Infestations are currently controlled with herbicide and follow-up surveys to ensure all plant fragments have been treated.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Water mimosa (*Neptunia oleracea* & *N. plena*)



In the delimitation zone

In the prevention zone

In the eradication zone

What is my biosecurity obligation?

Keep an eye out for Water Mimosa in any natural or man-made freshwater ponds or features. All suspected sightings of Water Mimosa must be reported to Biosecurity Queensland on 13 25 23.

Keep an eye out for Water Mimosa in any natural or man-made freshwater ponds or features.

All suspected sightings of Water Mimosa must be reported to Biosecurity Queensland on 13 25 23. For more information refer to Biosecurity Queensland's Invasive Plants and Animals Biosecurity Program.

All suspected sightings of Water Mimosa must be reported to Biosecurity Queensland on 13 25 23. For more information refer to Biosecurity Queensland's Invasive Plants and Animals Biosecurity Program.

Floating

Aquatic

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



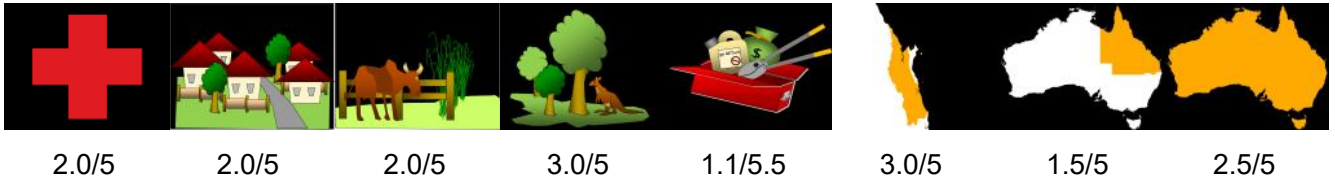
Spread



Lantana (*Lantana camara*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

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.

Distribution Common and widespread across most land types. Lantana fruit is spread by birds so it is a common coloniser of disturbed ground, forest edges and riparian areas across the Wet Tropics.

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

Key projects Given the spread and level of infestation across the region, no significant projects are currently primarily targeting Lantana. Lantana is one of a suite of widespread weeds managed in key environmental areas.

Background

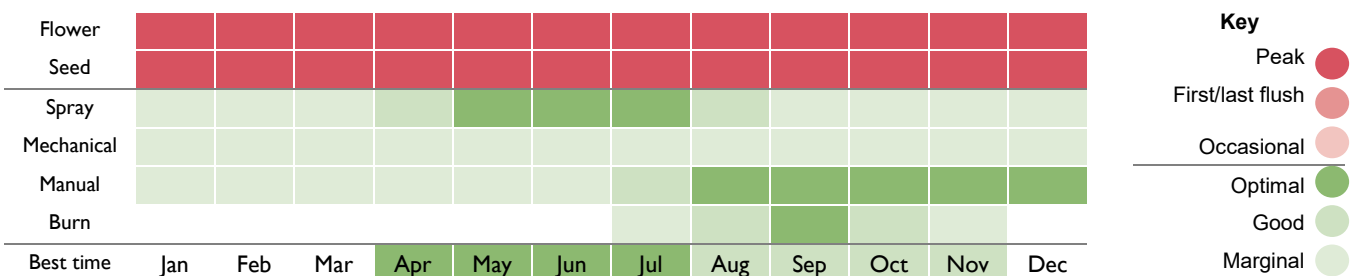
Lantana is widespread and is considered to occur in all areas where the habitat is suitable across the Cairns region.

Integrated management to reduce impacts including strategic herbicide control and fire management are essential in key environmental areas.

Because it is bird dispersed it can quickly re-infest areas which have been cleared of the weed if no ongoing management is in place. The use of appropriate fire regimes, mechanical control and grazing practices can assist to protect both environmental and grazing assets in woodland areas.

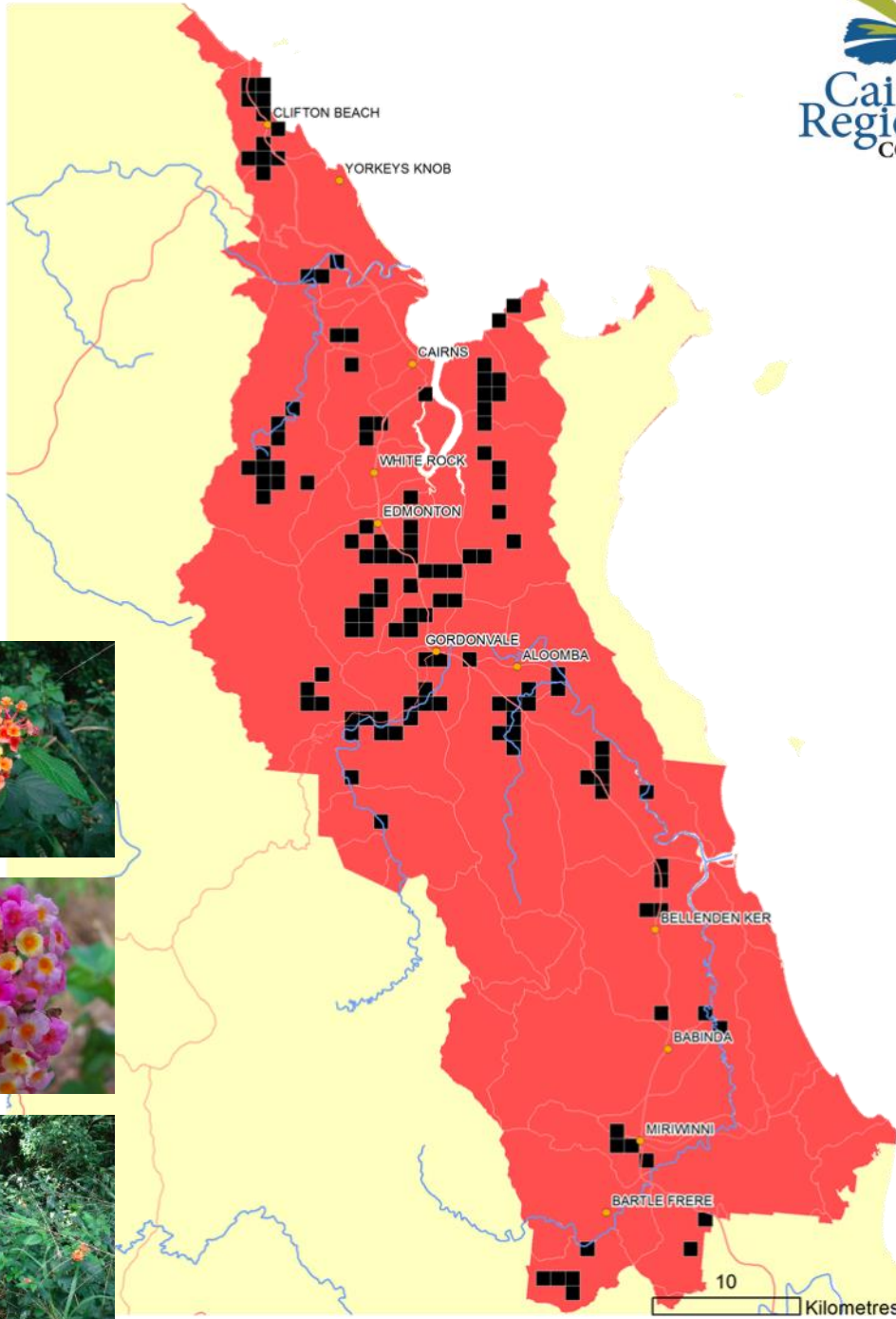
There are a wide range of biocontrol agents present in wild populations which may assist to reduce the vigour or reproduction of lantana. Most are seasonal and will respond when conditions are suitable so they should not be relied upon as the sole management tool.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Lantana (*Lantana camara*)



Woody

Terrestrial

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the asset protection zone

Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations.

Maintain weed free areas. Identify high value assets and protect them from impacts where possible. A wide range of biocontrol agents are established in the wild to assist with management. For more information on best management tools and approaches refer to the Lantana best practice control guide produced by Weeds of National Significance.

Giant sensitive plant (*Mimosa diplotricha*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A shrubby or sprawling annual that has four-angled branches with a line of sharp, hooked prickles along the angles. Giant sensitive plant (GSP) produces small pale pink, fluffy and ball-like flowers. It generally grows as a scrambling shrub and is more upright than common sensitive weed. Seed pods are thorny and clustered.

Distribution A weed of roadsides, cane fields, wetter pastures and riverbanks. Giant sensitive plant has a limited distribution in the Cairns region.

Impacts Giant sensitive plant can choke cane, other crops and grasslands causing loss of crop and pasture production. It has a very long seed longevity (30+) years. Plants as small as 10cm can develop seed.

Key projects An effective bio-control agent, a psyllid which predate on growing tips of the plant, has proven to be successful in reducing infestations.

Background

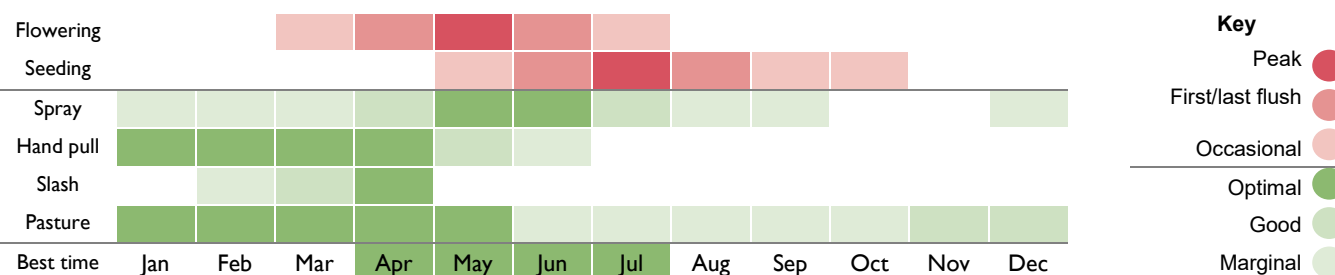
Giant sensitive plant seeds are often spread via vehicles, machinery, stock or contaminated hay and raw materials. Hay from clean sources should be sought to prevent accidental introduction. Roadsides should be monitored in growing season to detect any new outbreaks. Stock should be spelled for 7 days prior to be released to drop any ingested seed.

Taking care to clean down vehicles and avoiding infested areas altogether are useful strategies to prevent spread. Because of long seed life of GSP it is imperative to reduce the seed set and production by controlling known sites with an integrated approach using biocontrol, herbicide and pasture competition.

Ensuring adequate buffers are maintained between active (growing) and dormant (seeds in soil) infestations will reduce likelihood of spread along watercourses and road ways. There are two biocontrol agents, the GSP psyllid which attacks growing tips, and a stem-spot fungus. Populations of psyllid should be checked between November to April to ensure they are active. Follow up biocontrol with slashing and herbicide immediately after the wet. In very hot and humid conditions the stem-spot fungus will also reduce the production of flowers and seeds. Cultivation and slashing prior to seed development can be used to control plants in intensive production areas and pastures.

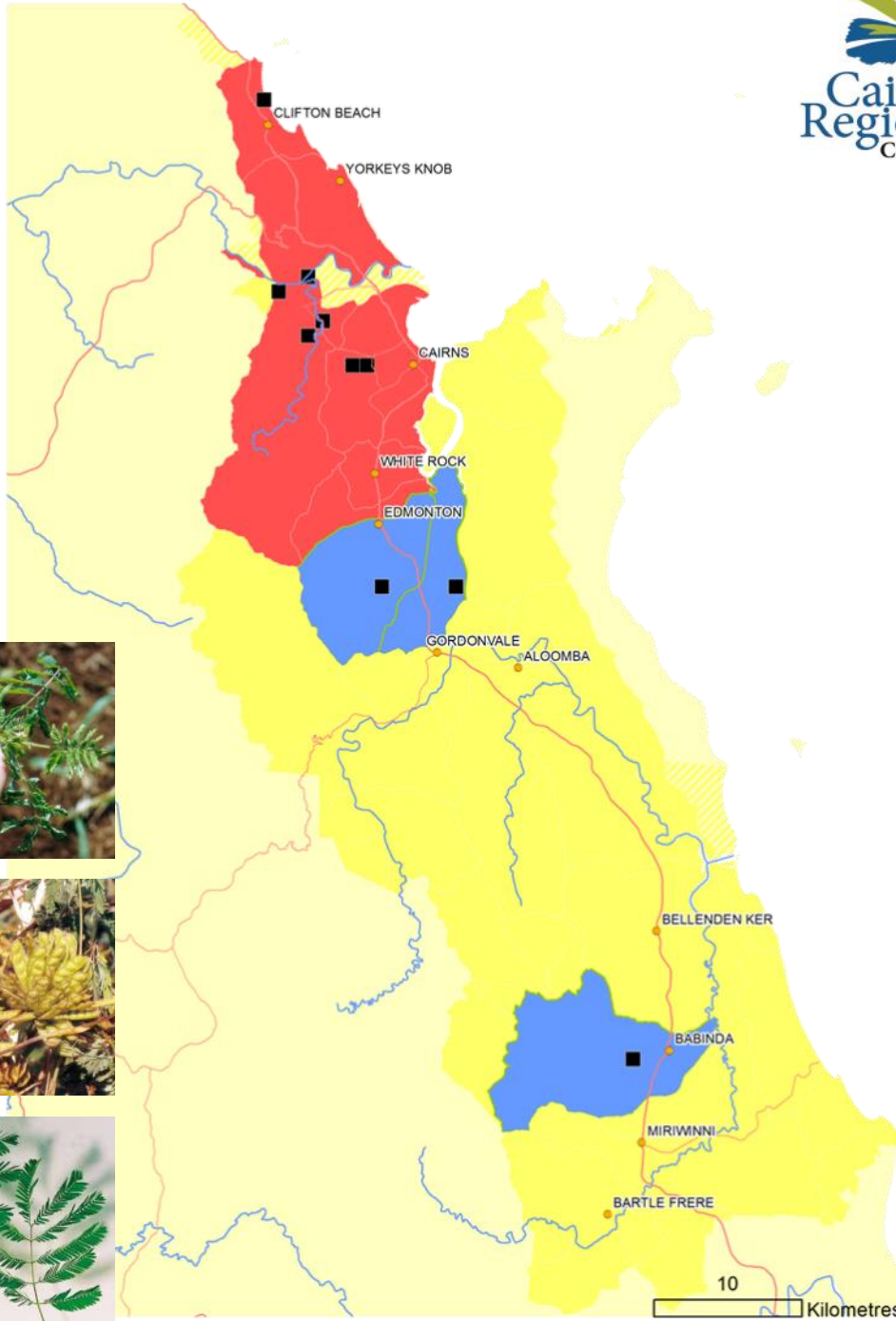
Maintaining weed hygiene measures including holding stock for 7 days prior to movement and machinery and implement clean-down can help to reduce spread to new locations.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Giant sensitive plant (*Mimosa diplotricha*)



Woody

Terrestrial

Annual

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the prevention zone
In the intensive control zone
In the asset protection zone

Seek advice prior to works in vicinity of known locations. Do not move or accept plant material or soil unless you are sure it is from a clean source. Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

Maintaining healthy pasture and ground cover will assist in the management of GSP. Ensure best practice weed hygiene measures are in place to reduce risk of spread. Restricting stock and machinery movement to and from infested areas is essential to reduce spread to new locations.

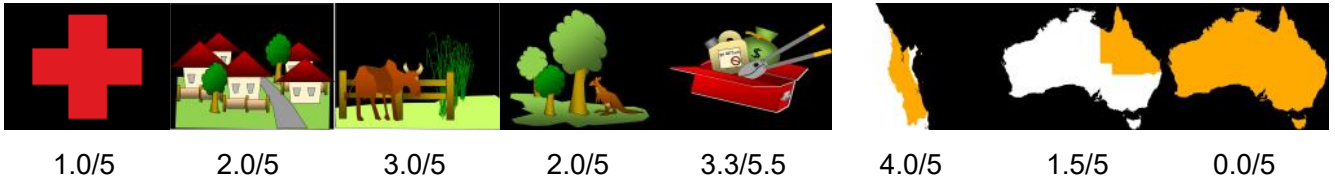
Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations. Maintain weed free areas. Identify high value assets and protect them from impacts where possible. Promoting healthy pastures through stocking rates and liming will assist to reduce the vigour and germination of giant sensitive plant.

Cattle should be held or at least 7 days prior to moving from infested areas to allow seed to pass.

Weedy Sporobolus grasses (*Sporobolus spp.*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A group of robust, upright perennial grasses 0.6 –1.7 metres tall. Often referred to as giant rats tail grasses, 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 Relatively common but localised around the Bellenden Kerr, Babinda and Bramston Beach area where transport corridors exist, this includes railway lines and roadsides. Outside of areas of know distribution a herbarium specimen should be collected to aid identification.

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.

Background

Areas marked for delimitation require on ground surveys to determine extent of distribution. No infestations are currently known in these areas.

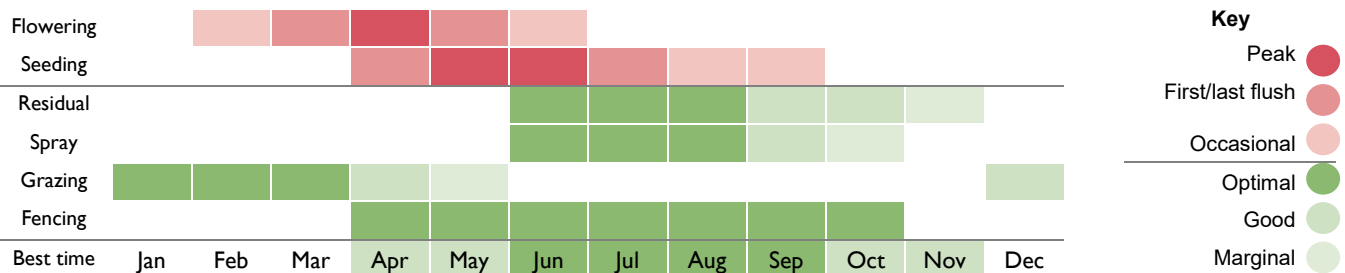
Identification of weedy Sporobolus grasses can be difficult and often a herbarium sample may be required to confirm identification.

Weedy Sporobolus grasses are spread via vehicles, machinery, stock and contaminated hay. Hay and fodder from clean sources should be sought to prevent accidental introduction. Roadsides should be monitored in growing season to detect any new outbreaks. Stock should be spelled for 7 days prior to be released to drop any ingested seed.

Take care to brush down camping equipment, clean down vehicles and avoid infested areas altogether if visiting areas outside of the Cairns region where weedy sporobolus grasses are known to occur.

Maintaining healthy pasture and ground cover will assist in the management of rats tail grasses. Restricting stock and machinery movement to and from infested areas is essential to reduce the risk of spread to new locations. Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Weedy Sporobolus grasses (*Sporobolus spp.*)



Grass

Terrestrial

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the delimitation zone

Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

In the prevention zone

It is an offence under the Biosecurity Act to move, share, give away or sell produce contaminated with this plant. Seek advice prior to works in vicinity of known locations. Do not move or accept plant material or soil unless you are sure it is from a clean source. Report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247.

In the intensive control zone

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. Grazing withholding periods for certain registered herbicides apply. The *Weedy Sporobolus- best practice manual* provides detailed management options for pasture situations.

Amazon frogbit (*Limnobium laevigatum*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A floating or emergent freshwater weed. Leaves are smooth, roughly circular, floating, glossy on top, thick and spongy. Reproduces from seeds and runners resulting in juveniles which form in rosettes. As the plant matures leaves are held upright on swollen, fleshy leaf stems. Has a small white flower. Can be mistaken for Water hyacinth due to superficial similarities.

Distribution Known from an isolated infestation in the Yorkeys Knob area. May be in use as an aquarium plant elsewhere in the region and traded through online trading sites. Amazon frogbit is present in tributaries of the Barron River upstream of Cairns.

Impacts A large mat of runners and adult plants can develop very quickly resulting in the entire water surface having a thick mat of vegetation. This shades out any submerged plant life and impedes oxygen exchange making the water unsuitable for fish and other animals.

Key projects Trials into control tools and techniques have taken place in the Cairns region. Amazon frogbit is one of a series of aquarium plants in Wet Tropics which have potentially negative impacts on wetlands and waterways.

Originally from Central and South America. Already a significant Biosecurity threat in NSW.

Keep an eye out for Amazon frogbit in any natural or man-made freshwater ponds or features, and report any suspect plants to Cairns Regional Council on 1300 692 247.

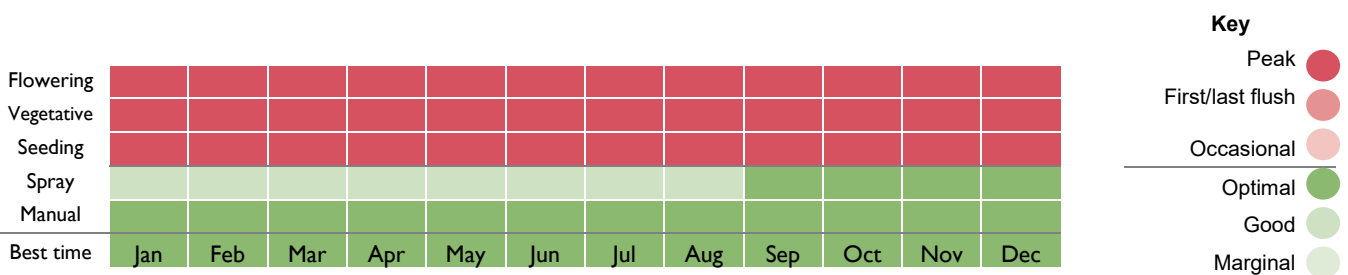
Background

Ensuring wetland, aquarium and pond plants are obtained from infestation free sources is essential to prevent introduction of Amazon frogbit to new areas. Being careful to dispose of aquarium plants or fish so they do not enter the regions waterways is the most effective way to prevent weeds like Amazon frogbit from establishing in the wild.



Sustained effort is required for effective control, treating systematically from the top of river or catchment systems down.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Amazon frogbit (*Limnobium laevigatum*)



Floating

Aquatic

Perennial

Environmental Weed

General Biosecurity Obligation (GBO) applies

Control



Spread



Cairns Biosecurity Plan 2019–2024



What is my biosecurity obligation?

In the prevention zone

Report any suspected outbreaks or plants by contacting Cairns Regional Council on 1300 692 247.

Ensure wetland and pond plants are sourced from a reliable supplier and are from a weed free area. Do not dump aquarium plants or fish into waterways.

Ensure any machinery or vehicles moving from infested areas are free from plant material and soil.

Ensure treatments occur in flood prone areas prior to flooding events. Maintain best practice weed hygiene and do not remove plant matter from infested sites.

Kudzu vine (*Pueraria montana var. lobata*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A perennial scrambling vine with alternate leaves, that produces underground tubers. The large leaves are a lobed shape and form in groups of three, (like a dinosaur footprint). It produces purple, pea-like flowers and spreads rapidly when nodes come in contact with soil.

Distribution Common and localised infestations along creek lines within the Edmonton, Mount Sheridan, Kanimbla and Edge Hill suburbs, It has also been located within Wright's Creek and Behana Creek Overflow.

Impacts A fast growing vine which has the potential to encroach into thick rainforest and riparian zones, smothering native vegetation. Poses a significant threat to agriculture and infrastructure. Can grow to over 30 metres in height, smothering vegetation and infrastructure. Seed pods can be spread by sticking to clothing and the fur of animals.

Key projects Included in riparian restoration and management works.

Background

Kudzu is often introduced as a medicinal plant, so it is likely to be associated with gardens. It often escapes cultivation and spreads along watercourses and into adjoining forest.

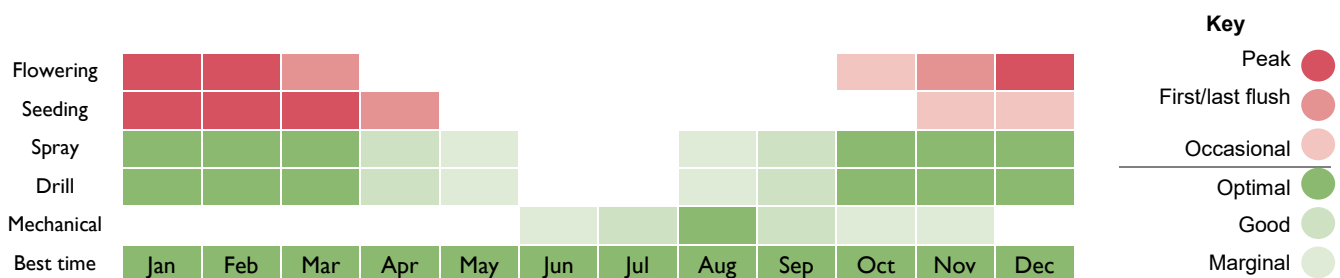
The distinctive lobed leaves and deep purple flowers help distinguish it from other common vines of gardens and forest edges.

Effective treatment programs target existing fringe areas to prevent spread, manage infestations from upstream/up-catchment down and define assets worth protecting and taking resulting actions.

It is important to note that effective treatment considers this weed's ability to regrow from underground tubers. If above ground treatment does not sufficiently starve the plant of energy or treat the tubers, reinfestation will occur. Otherwise care can be taken to dig up and remove all tubers.

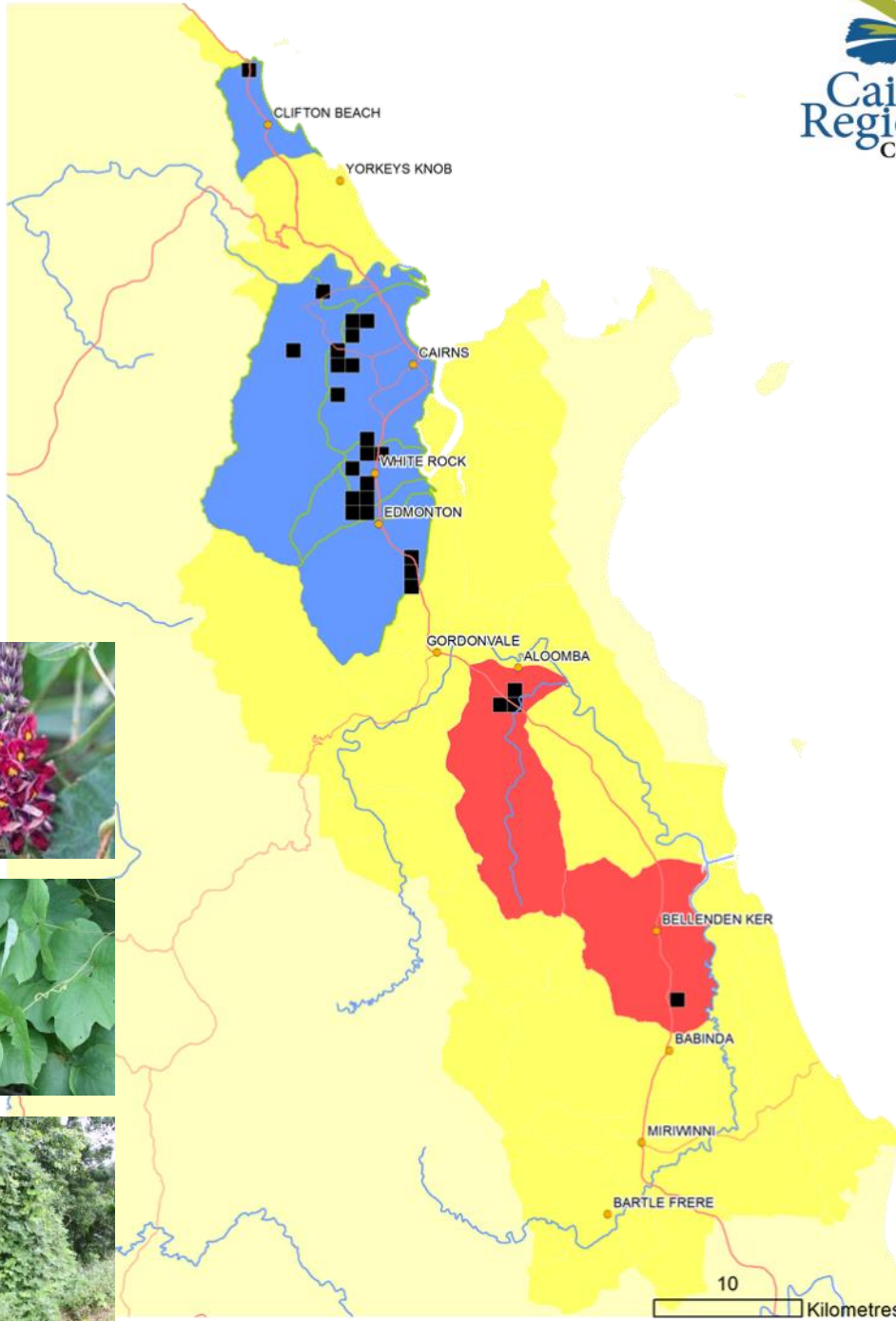


Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Kudzu vine (*Pueraria montana* var. *lobata*)



Vine

Terrestrial

Perennial

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the prevention zone

Report any suspected outbreaks or detections to Cairns Regional Council on 1300 692 247. Ensure any machinery or vehicles moving from infested areas are free from plant material and soil. Dispose of green waste at a transfer station or compost at home.

In the intensive control zone

Ensure best practice weed hygiene measures are in place to reduce risk of spread to new locations. Maintain weed free areas. Identify high value assets and protect them from impacts where possible. Treat isolated infestations with high risk of spread.

In the asset protection zone

Control plants in creeks and drains. Assist management programs by assisting with access to water ways and wetlands. Report new infestations.

Sicklepod (*Senna obtusifolia*, *S. hirsuta*, *S. tora*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description A vigorously growing woody shrub to 1.5-2m tall and 1m wide. Soft bright green oval leaves. Bright yellow pea-like flowers form into characteristic long, slender, curved pods. Seed remains standing on the dead plant and is viable for up to 10 years. Distinguish from rattlepod which has shorter, fatter pea like pods.

Distribution Widespread throughout the Cairns Region, with new incursions occurring on new land developments and disturbance of land.

Impacts Sicklepod can invade and completely dominate pastures. It becomes a major pest of crops within 2 or 3 seasons. Sicklepod will invade natural areas especially following disturbance. Often abundant in road corridors and fallowed/vacant land.

Key projects Given the spread and level of infestation across the region, no significant projects are currently primarily targeting Sicklepod. Sicklepod is one of a suite of widespread weeds managed in key environmental areas.

Background

Normally an annual, although plants that have been slashed or survive chemical application often re-shoot and survive another year. Sicklepod is widespread and is considered to occur in all areas where the habitat is suitable across the Cairns region.

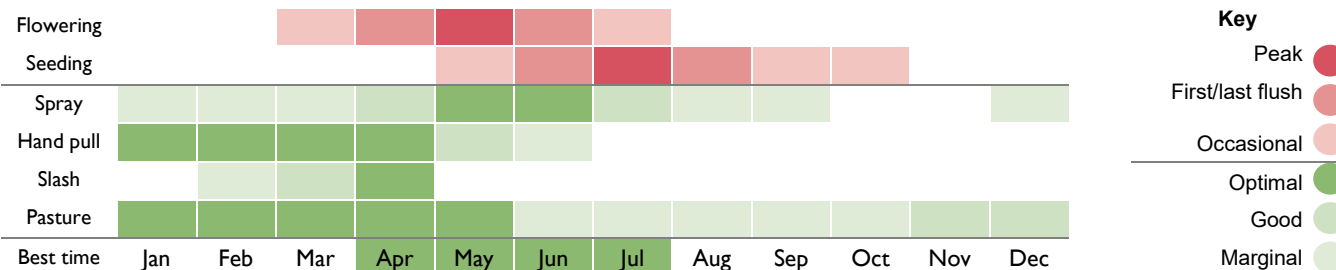
Targeting management before flowering or seeding reduces seed loads being produced substantially, limiting management activities required and reducing future germination events from the seed bank.

Integrated management is required to reduce impacts including strategic herbicide control and fire management. This is essential for large infestations in key environmental areas.

Due to the large amount of seed produced, Sicklepod can quickly re-infest areas which have been cleared of the weed if no ongoing management is in place. The use of appropriate fire regimes, mechanical control and grazing practices can assist to protect both environmental and grazing assets in woodland areas.

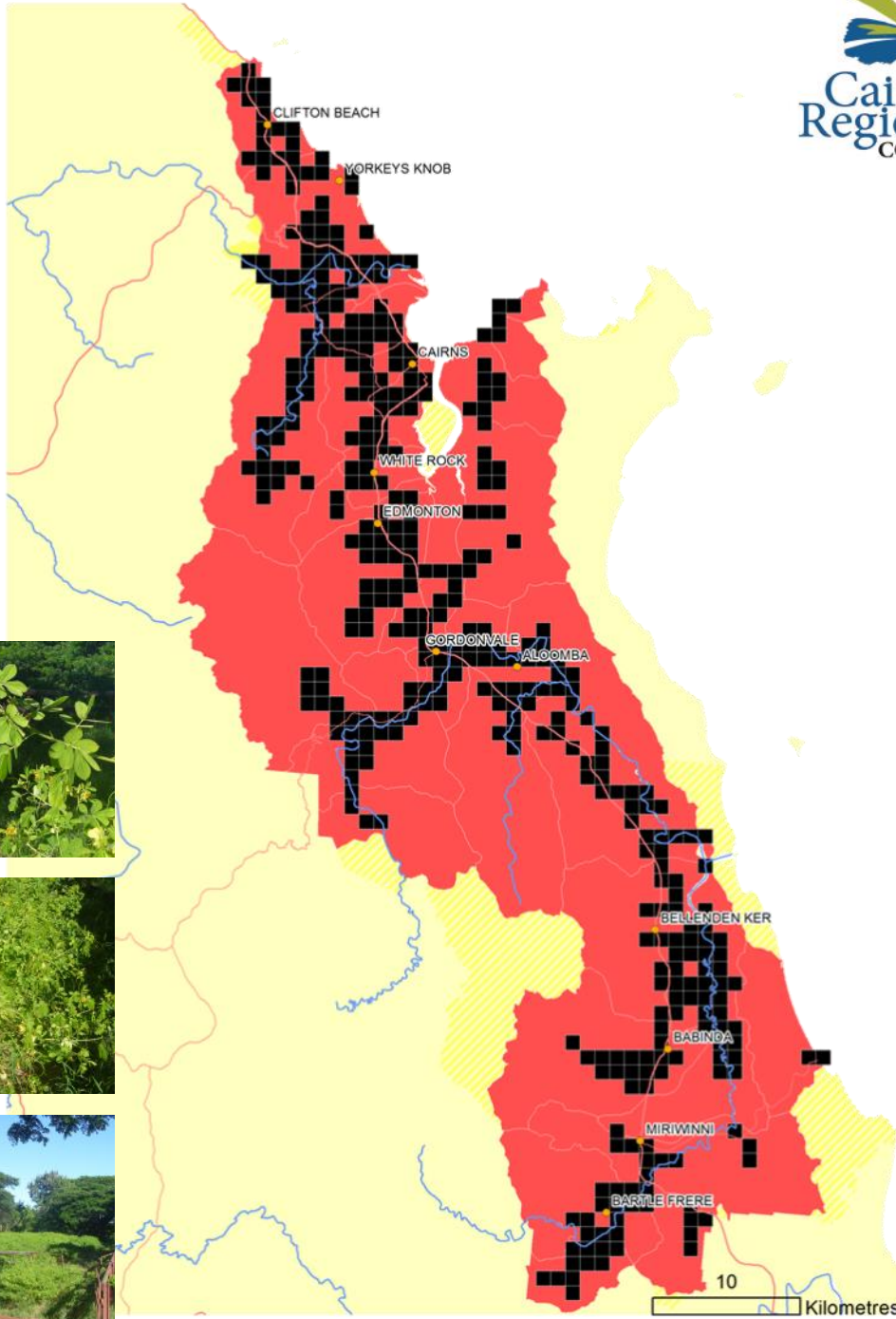
Effective management in urban areas is highly achievable through regular land maintenance activities.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Sicklepod (*Senna obtusifolia*, *S. hirsuta*, *S. tora*)



Woody

Terrestrial

Annual

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



Spread



What is my biosecurity obligation?

In the prevention zone

Sicklepod seed is easily spread on machinery, vehicles, stock and in raw materials. Detailed hygiene is required to prevent spread to new locations. Cleaning down machinery and plant between movements between properties will assist to reduce spread. Spelling stock in a holding paddock for at least 7 days prior to turnout or movement will ensure any ingested seed is passed before moving. Ensuring raw materials like quarry products are sourced from a clean site will assist to prevent the introduction of Sicklepod.

In the asset protection zone

Identify high value assets and protect them from impacts where possible. Urban areas can manage infestations through regular mowing and whippersnipping grassed areas.

Panama rubber tree (*Castilla elastica*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description *Castilla elastica* is a fast-growing tree to 15m. The large leaves have longitudinal veins and are hairy on the lower surface and stems. Stems have distinctive segments similar to a fig. Leaves and stems exude a sticky white sap. Flowers are held in squat clusters on short stalks that form into tightly grouped conical bright orange/red fruit.

Distribution Historical small infestations known along the upper lower reaches of the Barron River near Lake Placid and Lake Placid to Kamerunga Conservation Park.

Impacts *Castilla elastica* has the potential to compete with mature rainforest through lightly disturbed areas. Its ability to be carried by flying animals to higher altitudes is always a concern with species that are able to pioneer and colonise rainforest areas.

Key projects An ongoing project is aimed at removing isolated outbreaks with management plans aiming at reducing the number of leading to eventual eradication for larger infestations.

Background

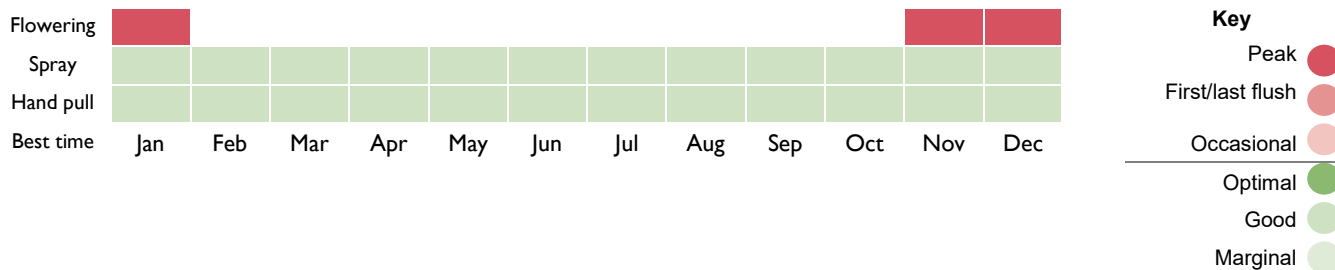
Because it is dispersed by birds and possibly flying fox it is likely Panama rubber tree may have reached other areas of the Cairns region. The native species *Trichosperma pleiostigma*, shares the same habitat and is easily mistaken at a glance. *Castilla elastica* always has latex. Confirm identification of new incursions as they are found. Areas marked for delimitation have uncertain infestation areas and extent must be determined.

The speed of growth and recruitment appears to be fast and effective causing management problems in terms of minimising the spread and killing/felling large trees in remote and difficult terrain. It is expected that urban areas within the bird/bat roost vectors could be reinfested and control in these areas provides further difficulties, cost and resistance.

Community awareness programs assisting with identification and management advice will prevent spread and new infestations of the Panama rubber tree.

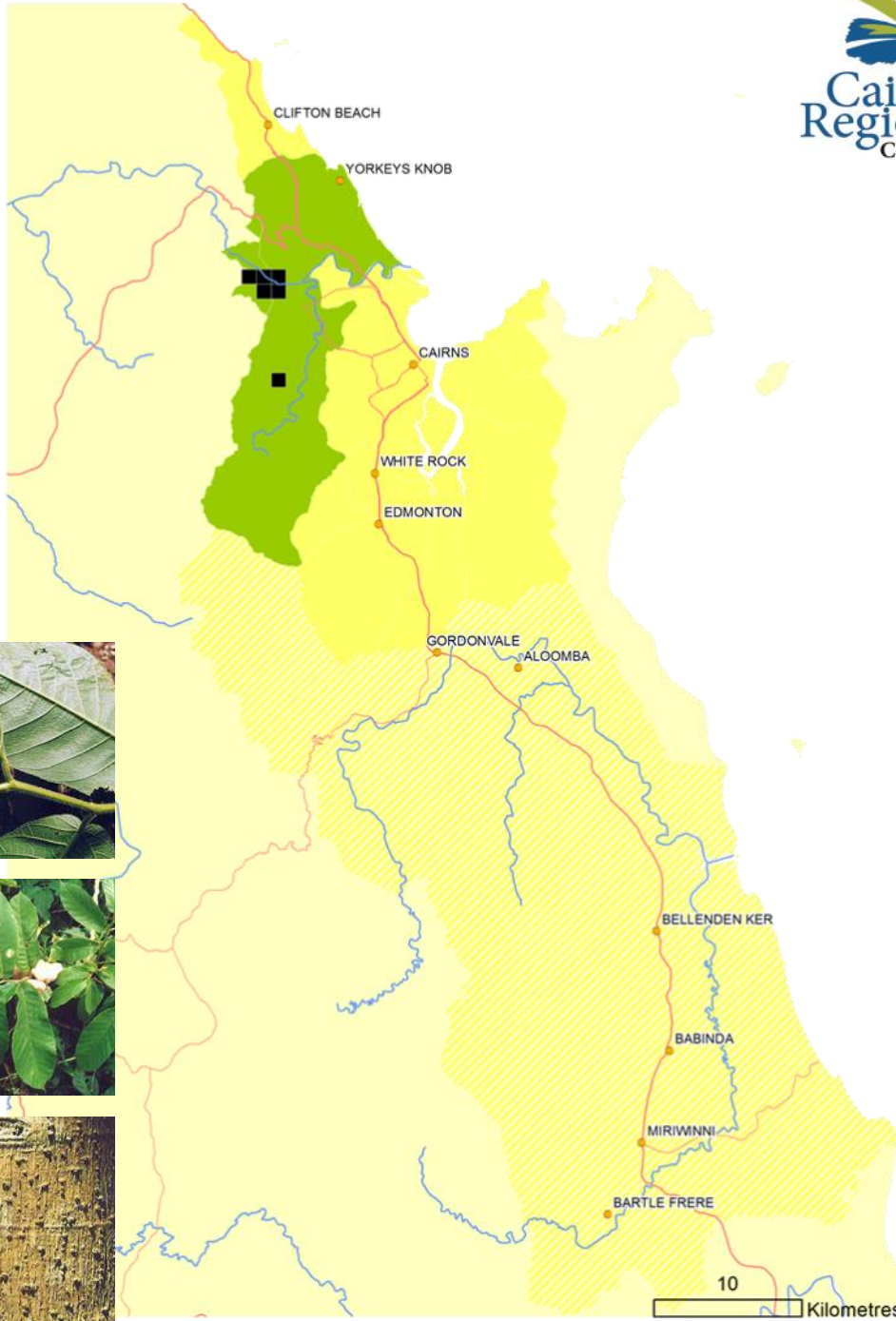
Infestations should be removed in isolated cases. Larger infestations should have management plans aiming at reduction of numbers leading to eventual eradication.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Panama rubber tree (*Castilla elastica*)



Woody

Terrestrial

Perennial

Local laws apply

Must not breed

Must not propagate

Must not introduce

Must not sell or supply

Must not provide harbour

Control



Spread



What is my biosecurity obligation?

In the delimitation zone

Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

In the prevention zone

Panama Rubber Tree is a locally declared plant and under local laws cannot be distributed, given away or sold. Ensure sources of garden plants are weed free. Contact Cairns Regional Council on 1300 692 247 to report any suspect plants.

In the eradication zone

Contact Cairns Regional Council on 1300 692 247 to receive best practice management advice.

Yellow crazy ant (*Anoplolepis gracilipes*)

Human Health

Social Amenity

Economy

Environment

Achievability

Local Impact/
Values

Declaration
Status

National priority

Priority



2.0/5

3.0/5

3.0/5

4.0/5

2.2/5.5

5.0/5

1.5/5

0.0/5

Details

Description Yellow crazy ants (YCA) are slender ants, about 4mm long, with long legs, large eyes and very long antennae. Coloured yellow to orange, they have a brown abdomen which may be faintly striped. They move in a distinctly erratic or 'crazy' manner when disturbed.

Distribution Yellow crazy ants were first introduced to Cairns in 2001. They are now found over about 1500ha in numerous infestations south of Cairns between Bayview Heights and Gordonvale. The ants have now invaded about 90ha of the adjacent World Heritage Area. They thrive in a wide range of natural and man-made environments.

Impacts Yellow crazy ants are one of the world's worst invasive species. They are a significant threat to the biodiversity of the Wet Tropics. They can inhibit the photosynthesis and pollination of plants, causing environmental and agricultural impacts. They are also a significant hazard to human health and enjoyment of the outdoors.

Key projects The Wet Tropics Management Authority operates the Yellow Crazy Ant Eradication Program which started in 2013. It is currently funded to June 2019 through the National Landcare Program and the Queensland Government.

Background

While the exact origin of Yellow crazy ants remains unclear, their current distribution extends through the tropical islands of the Indian and Pacific Oceans, where they are a major pest. This broad distribution is closely linked to human movement activities such as cargo ships and trade which has ultimately assisted them to reach Australian shorelines. In Australia, yellow crazy ants are now present in a number of sites throughout Queensland and Arnhem Land. In the Wet Tropics infestations YCA are found in a variety of habitats including residential areas, sugarcane fields and rainforest.

Delimitation surveys have defined the main infestations. However, several new infestations were found in 2017. Community and industry are being educated to identify Yellow crazy ants and asked to report any additional sightings. Yellow crazy ant queens are not known to disperse by flying; instead they move by 'budding' where a queen and accompanying workers walk to a new location, sometimes rafting on waterways to move downstream. The other key mode of dispersal is human assisted, moving as stowaways in soil, machinery, building materials, pot plants, and dry or green waste. It is crucial that high risk waste is treated on site and that any waste is disposed of at your local landfill so it can be monitored and treated if any outbreaks occur.

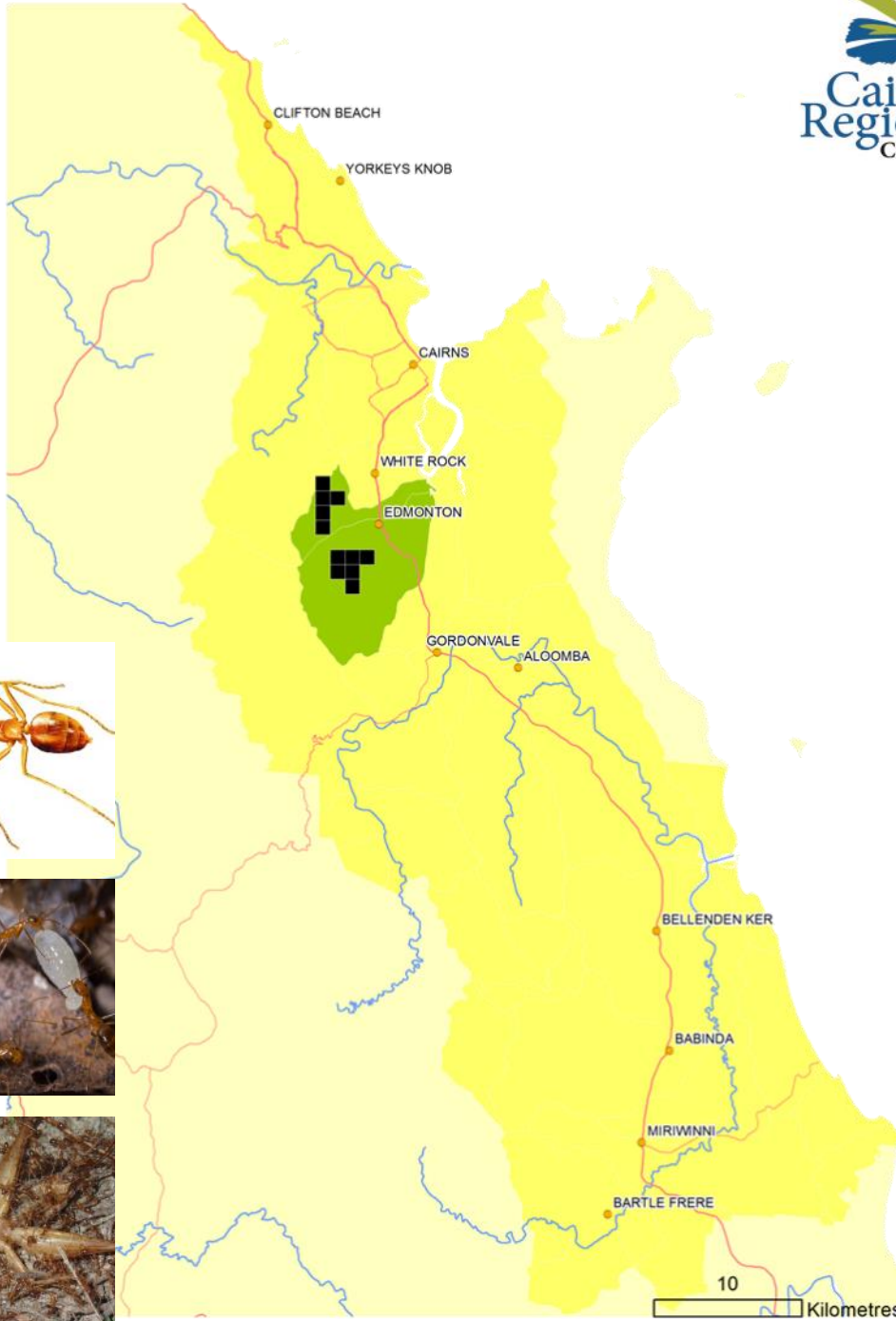
Regular treatments, about three times a year using ant specific granular baits have drastically reduced yellow crazy ant numbers in most areas. Eradication has been achieved in some small areas.

Life cycle

- Eggs hatch after 18-20 days.
- Worker larvae develop in 16-20 days
- Pupae of workers develop in 20 days, while queen pupae develop in 30-34 days.
- Total lifespan of a worker ant is approximately 76- 84 days.
- Yellow crazy ants are most active in dry weather in temperatures over 17°C.

For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Yellow crazy ant (*Anoplolepis gracilipes*)



Invertebrate

Omnivore

Biosecurity Act Restricted matter category

2 Must be reported

3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



What is my biosecurity obligation?

In the prevention zone

Dispose of all green waste and other rubbish at your local landfill. Taking your waste to the local landfill allows for the monitoring and treatment of any outbreaks.

In the eradication zone

If you are unsure of the risk posed on your property then contact the eradication program for advice or assistance in treating your waste before transporting it off site.

You can assist the eradication effort by maintaining access tracks, reducing weeds and rank grass along creek lines and providing access to your yard for any required survey or treatment operations. Yellow Crazy Ants Eradication Program - 07 4241 0525, yca@wtma.qld.gov.au

Spread



Electric ant (*Wasmannia auropunctata*)

Human Health

Social Amenity

Economy

Environment

Achievability

Local Impact/
Values

Declaration
Status

National priority

Priority



Details

Description Electric ants are very small, about 1-1.5mm long. They are light brown to golden brown in colour, although the abdomen is sometimes darker. They are slow moving in comparison to many native ants and form distinctive foraging lines. They have a powerful, venomous sting.

Distribution Electric ants were first found in the northern beach suburb of Smithfield in May 2006. They are predominantly spread by humans in pot plants, other plant material and illegal dumping of green waste and can now be found in many of the northern beach and city suburbs and one infestation in the southern suburb of Bentley Park.

Impacts Electric ants are one of the world's worst invasive species. They have a powerful venomous sting and present a significant threat to biodiversity, agriculture and lifestyle. They are also a hazard to human health with their venomous sting providing a significant danger to sufferers of anaphylaxis.

Key projects The National Electric Ant Eradication Program, managed by Biosecurity Queensland, operates an eradication program which began in 2006. It is currently funded by the Queensland Government while a decision on national funding is being considered.

Background

Electric ants are a notifiable Category 1 pest under the Biosecurity Act 2014 and residents within infestations (restricted zones) cannot move live electric ants or electric ant carriers, such as plants, plant material and soil, without getting a Biosecurity Instrument Permit (BIP) from the Program.

Known infestations are regularly treated with various granular pesticide products, depending on where the infestations are. The active ingredients can be either toxicants, or insect growth regulators (IGR). A gel bait has been developed for use in difficult, wetter areas and other new bait formulations are being trialled. Treatments are undertaken a minimum of 1 month apart until no more ants are found. All people within FNQ have a general biosecurity obligation (GBO) not to move electric ants.

The longest recorded movement of electric ants was from the relocation of pot plants from Kewarra Beach to Bingil Bay. Most dispersal events occur through the movement of pot plants and plant material.

Life cycle

- Queens live for approximately 12 months and lay up to 70 eggs a day.
- Eggs are incubated for 8-10 days.
- Larvae develop for 14-16 days.
- Nymphal stage lasts 13-14 days.
- Adult workers live for more than 40 days.
- Males live for several weeks.

For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.



www.cairns.qld.gov.au
council@cairns.qld.gov.au



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119-145 Spence St, Cairns Q 4870

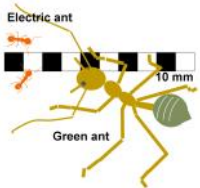
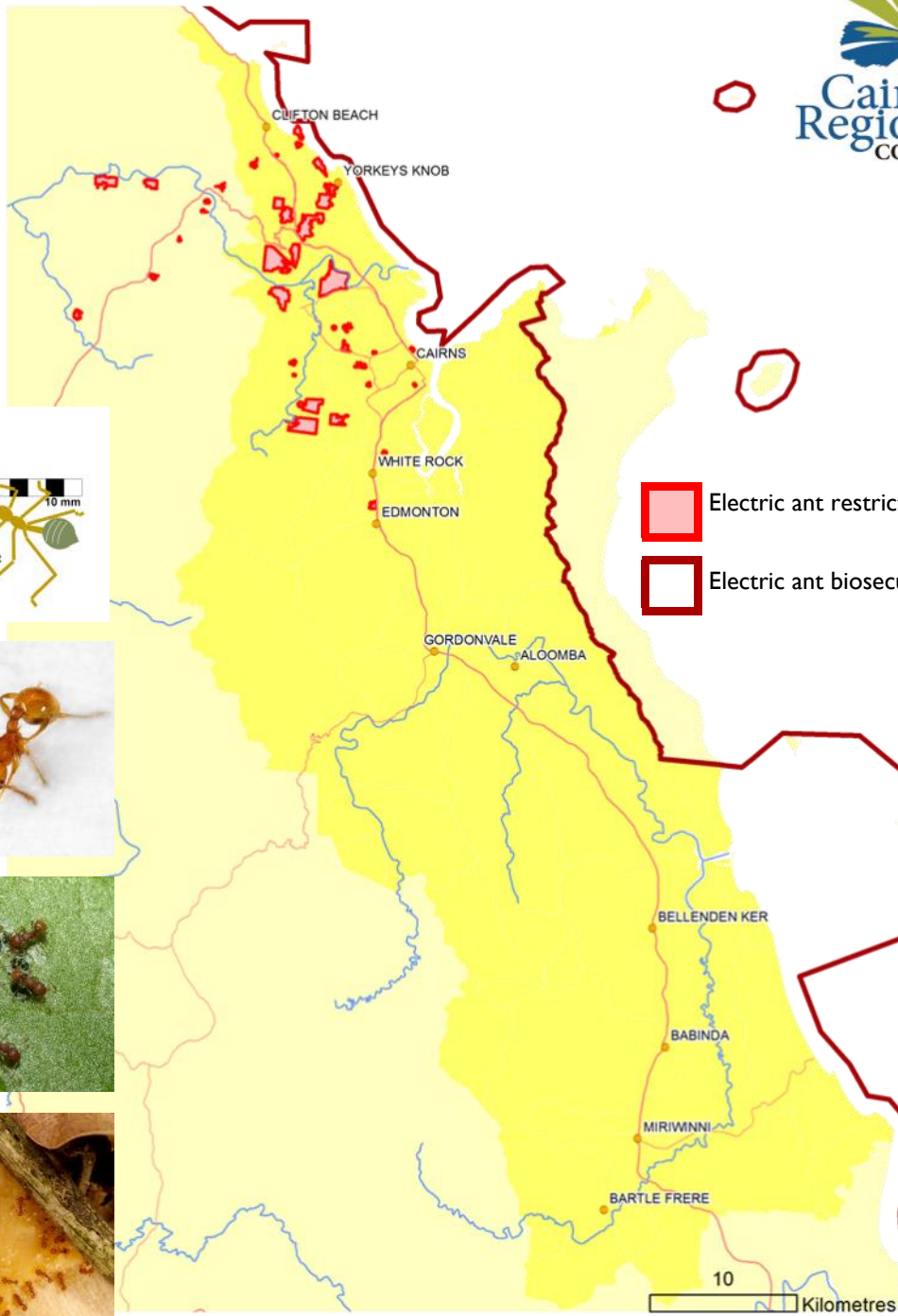




Ph: 1300 69 22 47
24 hours / 7 days



A Great Barrier Reef Marine Park Authority initiative

Electric ant (*Wasmannia auropunctata*)



 Electric ant restricted zone
 Electric ant biosecurity zone

Invertebrate

Omnivore

Biosecurity Act Restricted matter category

1
Must be reported

3
Do not distribute

4
Do not move

5
Do not keep

6
Do not feed

Control



What is my biosecurity obligation?

In the electric ant restricted zone

Electric ants are a notifiable Category 1 pest under the Biosecurity Act 2014. New detections are required to be reported to the eradication program within 24 hours. Call Biosecurity Queensland on 13 25 23.

Residents within infestations (restricted zones) cannot move live electric ants or electric ant carriers, such as plants, plant material and soil, without getting a Biosecurity Instrument Permit (BIP) from the Program.

In electric ant biosecurity zone

All people within FNQ have a general biosecurity obligation (GBO) not to move electric ants.

Along with carefully adhering to movement control of potentially contaminated materials and items you can assist the eradication effort by providing clear access to your property for any required survey or treatment operations.

Spread



Feral pig (*Sus scrofa*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description Feral pigs are usually coarsely haired and coloured 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 10 square kilometres. Feral pigs breed year-round if the conditions are suitable often producing two litters a year.

Distribution Feral pigs are common and widespread in the floodplains and forests of the entire Wet Tropics region. Feral pigs occupy most suitable habitat in the Cairns region including farmland, wetlands, riparian areas, forests, reserves and peri-urban areas. Distribution is often seasonal based on the availability of food and water.

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. They have been identified as a likely vector of Panama Tropical Race 4 (TR4), a disease of bananas.

Key projects Council offers trapping and baiting assistance for feral pigs in the region, dependent on resources, landholder capabilities and obligations. Council also operates a series of traps along the coast to reduce the numbers of pigs.

Background

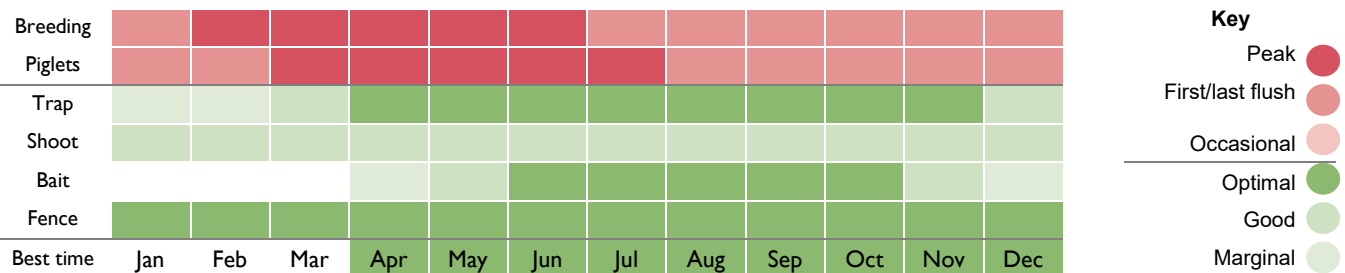
Feral pigs are thought to number around 24 million in Queensland and are one of the most widespread and destructive invasive animals in the State. Their distribution and impacts are often seasonal and are heavily influenced by the availability of food, water and cover.

An individual animal or a small band of pigs can do a large amount of damage in a single night so it is important to be alert to any early signs of feral pig presence in your area; and to take steps to protect key assets like gardens, crops and vulnerable natural areas. Ensure best practice management actions are in place to reduce opportunities for feral pigs.

Pig proof fencing is by far the most effective means of reducing the impacts of feral pigs on domestic gardens and small crops. It is also a useful strategy for protecting vulnerable natural areas.

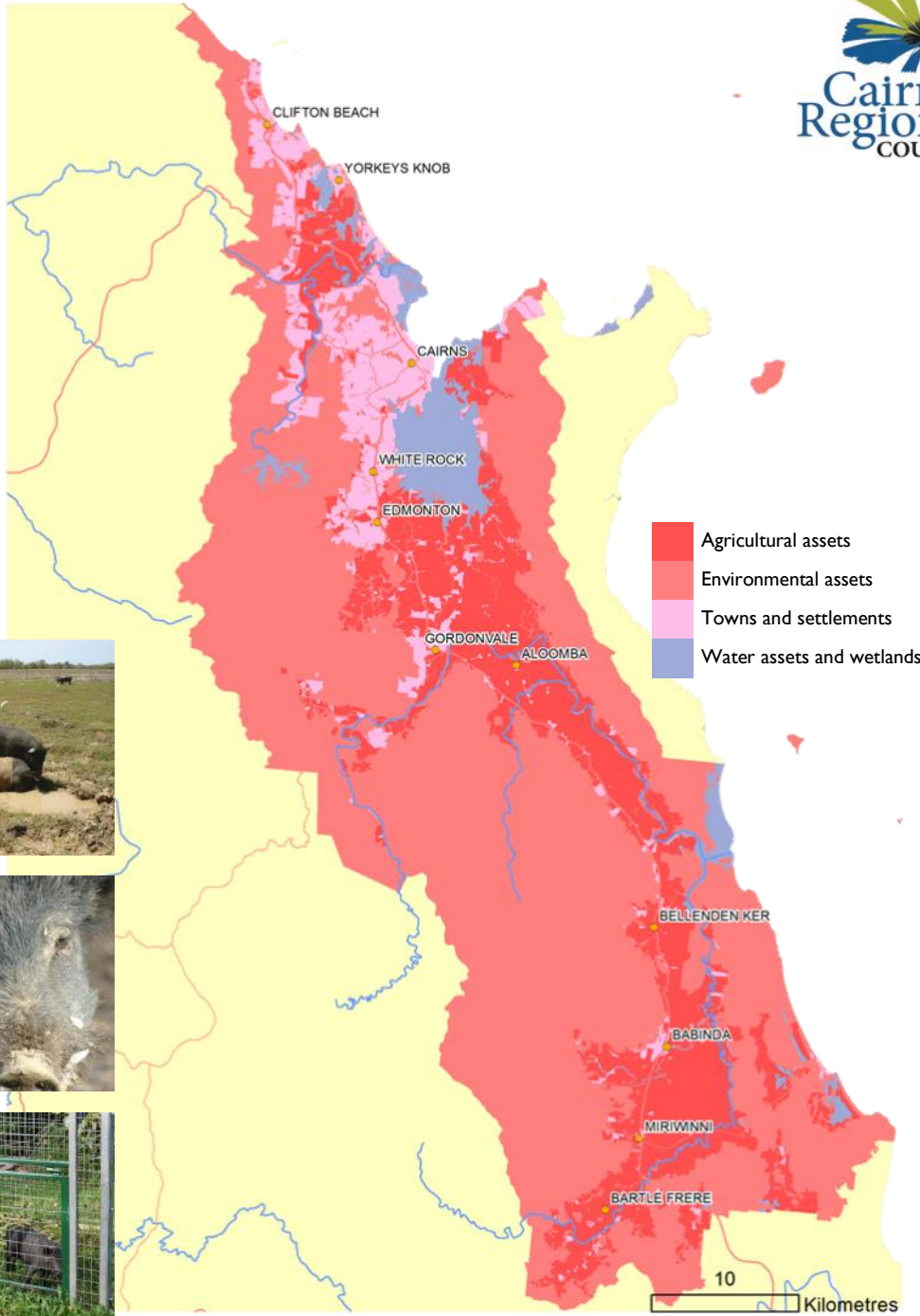
A range of control options from shooting, to trapping and baiting are used to control feral pigs when required. No individual solution leads to permanent management and feral pigs will be an ongoing management issue in the region. In the Cairns region, trapping is the preferred method of pest animal management ahead of poison baiting. This is due to the relatively higher potential for off-target risks to the community, (population and land use), and wildlife (cassowaries etc.). However, 1080 poison baiting as a control method is considered more efficient for large numbers of pest animals. Ground shooting is considered the least effective method for controlling pig populations but can be useful for controlling small populations in limited access areas. 1080 poison baiting is only available in rural agricultural areas. This is for both poison baiting requirements and risk management necessities. Additional requirements depending on property and identified risks can be discussed.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Feral pig (*Sus scrofa*)



Vertebrate

Omnivore

Biosecurity Act Restricted matter category

2 Must be reported

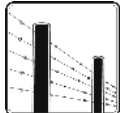
3 Do not distribute

4 Do not move

5 Do not keep

6 Do not feed

Control



What is my biosecurity obligation?

Ensure best practice biosecurity hygiene measures are in place to prevent spread of other biosecurity matter when controlling, trapping or hunting pigs.

Residents in rural areas should consider various management solutions including fencing, shooting, baiting and trapping, dependant on their location and capability. Residents in urban areas should consider temporary fencing, alternatives to mulching or garden arrangements and trapping.

Speak to Council on 1300 69 22 47 for best practice management advice and discuss the range of assistance options available. To be eligible for assistance, residents or community groups must be able to:

- Give permissions for activity and entry consent requirements on the land on which the problem persists. Failing that, the land in question must be Council land where permissions can be arranged.
- Be able to monitor any traps placed on land for humane requirements and to monitor against off-target native wildlife capture.
- In agricultural areas, be ready and willing to destroy and/or dispose of any trapped pest animals if practical and reasonable to do so.

In the asset protection zone

Wild dog (*Canis familiaris*)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description Wild dogs include dingoes, wild populations of dogs and hybrids.

Distribution Wild dogs are widespread in both the agricultural and natural landscape. They also frequently exist on the outskirts of towns and even within urban areas. Small populations of feral dogs are known throughout the Cairns region.

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. Wild dogs will prey on native animals and may assist maintaining healthy population of animals like wallabies; however they may also impact on more vulnerable animals like cassowary.

Key projects Council offers trapping and baiting assistance for wild dogs in the region. This is dependent on resources, landholder capability and obligations.

Background

Wild dogs have defined home territories but are able to cover large distances when moving to new areas either through competition for resources or by being pushed out of areas by more dominant animals.

In urban and settled areas Council will respond to individual issues as they arise on a case by case basis. Whilst wild dogs are generally not aggressive to people, they may display threatening behaviour such as attacking domestic dogs, scavenging or stalking.

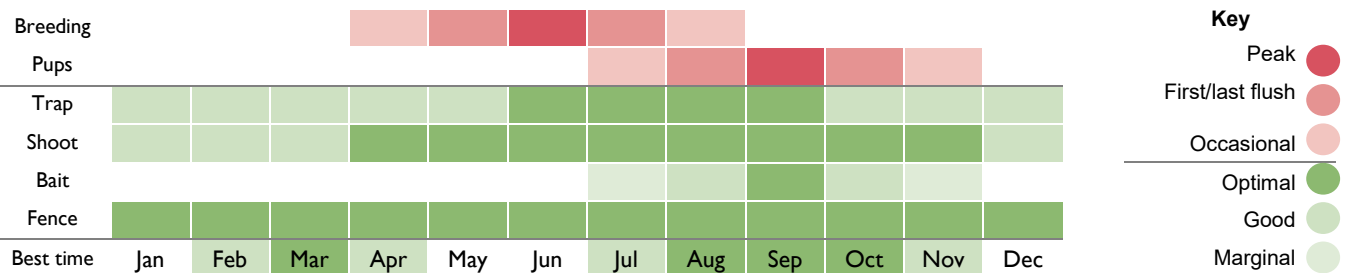
Domestic pets and poultry are best protected by dog mesh fencing. Fencing also restrains your domestic animals and may assist in preventing other animals such as wallabies or pigs entering your property. Wild dogs are opportunistic and scavenging can form a regular part of their diet. Ensuring appropriate security and disposal of domestic rubbish and food scraps will assist to reduce food sources for wild dogs.

For advice on best practice wild dog management and possible assistance, contact Council on 1300 69 22 47.

For domestic or escaped dog issues contact Council's Local Laws department on the same number.

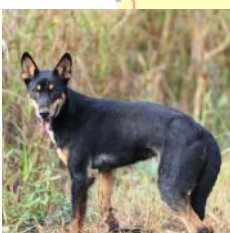
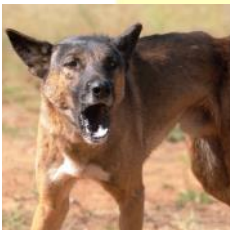
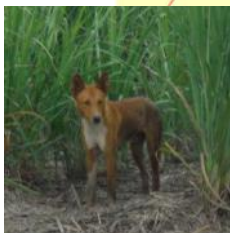
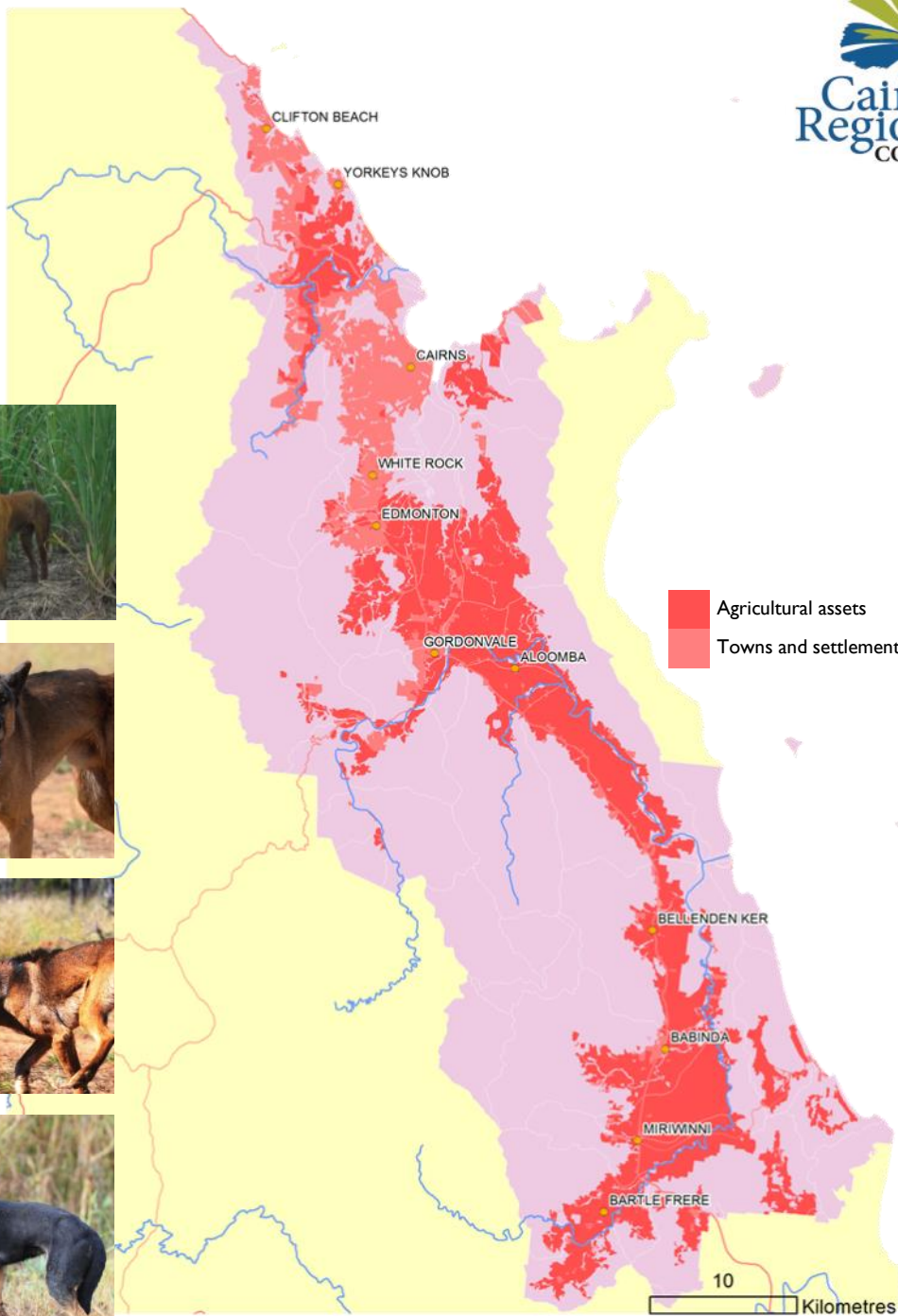
Wild and Feral Dog trapping can be very difficult to practically achieve. As such, residents, where reasonable and practical, are encouraged to ground shoot wild dogs as the most efficient method of management. Residents are advised that this does not endorse any illegal or irresponsible actions and does not cover any advice associated with the management of stray dogs or domestic dogs.

Control calendar



For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Wild dog (*Canis familiaris*)



■ Agricultural assets
■ Towns and settlements

Vertebrate

Carnivore

Biosecurity Act Restricted matter category

2
Must be reported

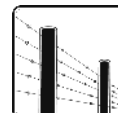
3
Do not distribute

4
Do not move

5
Do not keep

6
Do not feed

Control



What is my biosecurity obligation?

Wild dogs are a restricted invasive animal under the Biosecurity Act 2014. It must not be moved, kept (if a dingo), fed, given away, sold, or released into the environment without a permit.

Fencing your property is the most effective means of reducing the risk of wild dog impacts on domestic pets and poultry. Participating in cluster and district control programs is the most effective means of controlling wild dogs in grazing areas.

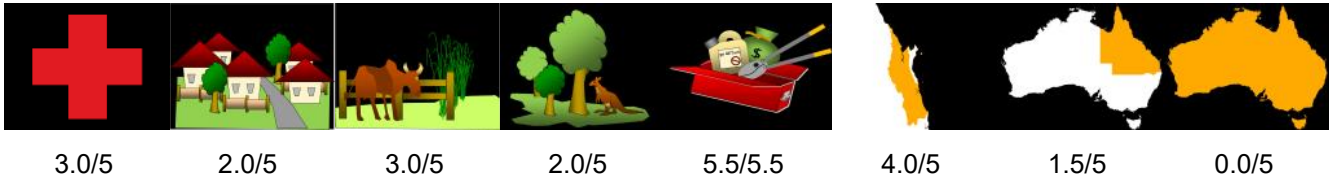
The coordinated management of wild dogs outlined in this plan does not include management of straying or problematic domestic dogs (including hunting dogs). These animals are domestic animals and are managed in accordance with Cairns Regional Councils Local Laws. For all requests or enquiries contact Council on 1300 69 22 47.

In the asset protection zone

Feral deer (*Rusa*, Red, Fallow & Sambar deer)

Human Health Social Amenity Economy Environment Achievability Local Impact/ Values Declaration Status National priority

Priority



Details

Description Feral deer in the Cairns region include Rusa deer (*Cervus timorensis*), Red deer (*Cervus elaphus*), Fallow deer (*Dama dama*) and Sambar deer (*Rusa unicolor*). There are also hybrids of these species recorded. Most deer species require a permit or State approval to keep or farm. As soon as deer is not actively being farmed and is in a wild state it can be considered a feral animal. In addition, Sambar deer, a species found in the region, cannot generally be kept or farmed without a permit and is considered a pest. Hybridised deer e.g. a Sambar/Rusa cross, are considered as Sambar, (the species with the higher pest status), and cannot be kept or farmed.

Actively farmed or kept deer under permit are considered livestock. Reasonable effort must be made to contact an owner for recovery. Contact Council's Local Laws team on 1 300 69 22 47 for livestock issues or reporting escaped livestock. Suitable fencing is required for keeping or farming deer. Council considers the fence design and construction standard set in the *Feral deer management strategy 2013–18* as suitable guidelines for deer fencing.

Distribution Feral deer are found at multiple locations throughout the south of Cairns. The largest infestation is in the East Russell area. Other small infestations are known and are thought to be less than 6 animals each location.

Impacts Feral deer have a wide range impacts including posing a traffic hazard, harassment of domestic stock, competition for pasture, and damaging crops and gardens. They can have a range of environmental impacts from grazing/browsing sensitive vegetation, contribute to erosion, to competition for resources. Feral deer may carry diseases of livestock.

Key projects Council has actively been addressing known feral deer populations across multiple locations with monitoring and management activities ongoing.

Background

Identify new feral deer populations as they occur. Feral deer can be costly and complex to manage in forested and peri-urban situations due to their ability to cover large areas and traverse rugged terrain. The most effective strategy for preventing the impact of feral deer in the Cairns region is to ensure farmed animals do not escape enclosures, and that further animals are not released into the wild. Cairns Regional Council is actively working to identify the species, extent and number of all known feral deer populations so that effective continued action can be taken. Management actions on individual populations or animals will continue on a case by case basis.

Generally the minimum escape-proof enclosure for farmed deer or an exclusion fence for feral deer is a well-maintained high netting fence or equivalent. An example of an effective deer fence is one that; is 2.1 metres high; has strainers and posts made of heavy-duty material (such as hardwood or metal) set deeply into the ground no more than 9 metres apart; has netting of 17/190/15 or 13/190/30 (for Red deer), supported by well-strained top, bottom and belly wires and pegged securely to the ground; has gates of similar standard and the same height; and has cleared fence lines to minimise the chance of trees falling on the fence. Note that this is an example only and fence construction should be appropriate for the individual circumstances.

Trapping is generally not considered effective or practical for known feral deer species in the region and 1080 poison baiting is not permitted for feral deer.

For more information on using this biosecurity action plan fact sheet, and further information on control tools, refer to the Cairns Biosecurity Plan available at cairns.qld.gov.au and customer service centres.

Feral deer (*Rusa*, Red, Fallow & Sambar deer)



Rusa deer stag



Rusa deer doe



Red deer stag



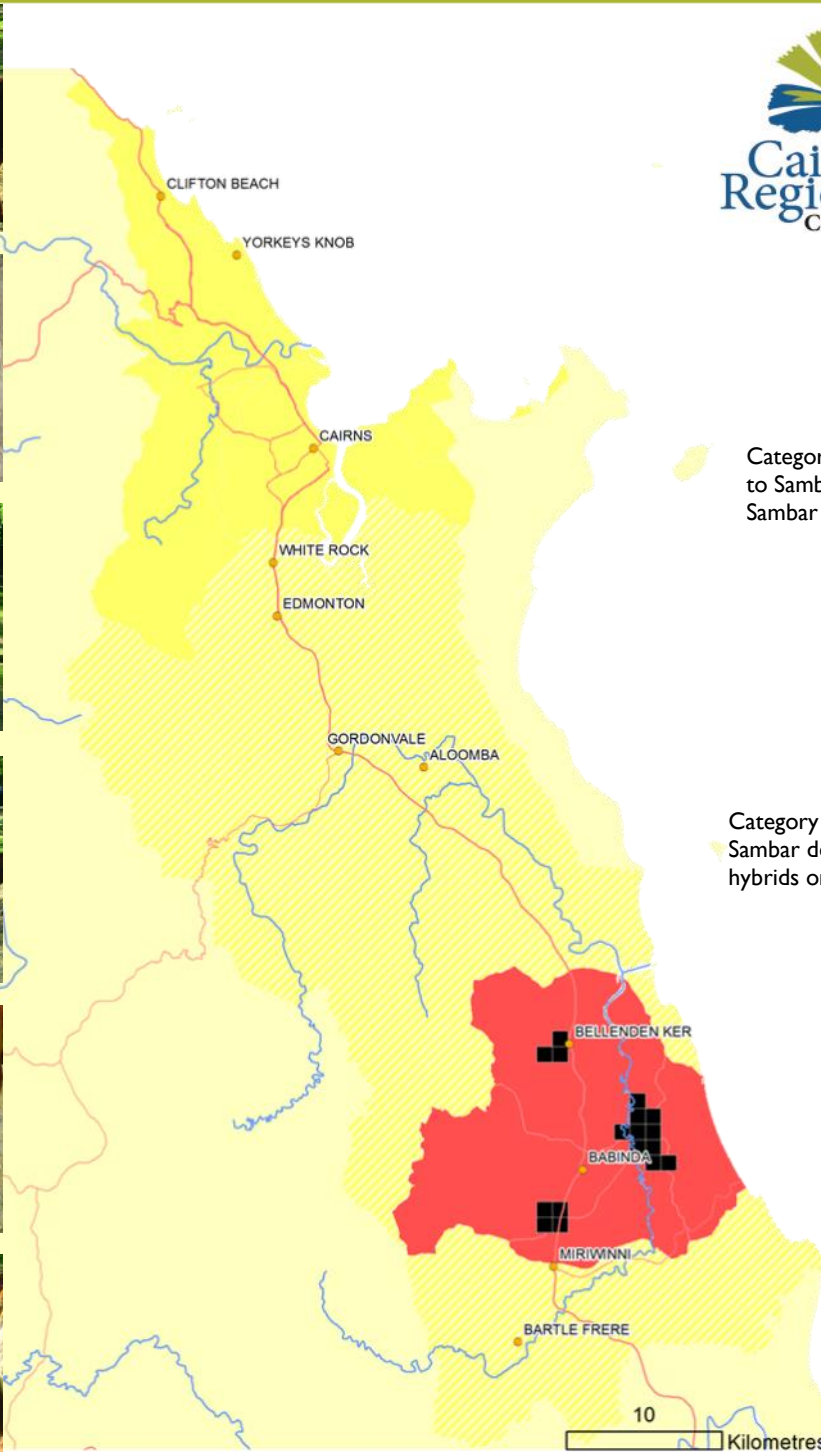
Red deer group



Fallow deer stag



Fallow deer hinds



Category 2 applies to Sambar deer and Sambar hybrids only.

Category 5 applies to Sambar deer and Sambar hybrids only.



Vertebrate

Herbivore

Biosecurity Act Restricted matter category

2
Must be reported

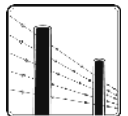
3
Do not distribute

4
Do not move

5
Do not keep

6
Do not feed

Control



What is my biosecurity obligation?

Report any suspected sightings of feral deer to council on 1300 69 22 47. All sightings of Sambar deer must be reported to Biosecurity Queensland within 24 hours of the sighting. Other feral deer species should be reported to Council on 1300 69 22 47.

Deer contained within a deer-proof fence (e.g. on farms or in game parks) are not restricted invasive pests. Any deer not actively being farmed within a deer-proof fence is considered feral or wild and subject to control. Report all deer sightings to Council on 1300 69 22 47.

Speak to Council on 1300 69 22 47 for best practice management advice and discuss the range of assistance options available. Landholders should consider various management solutions including fencing and shooting, dependant on their location and capability.

Fencing requirements are enforceable under Local Law No. 2 (Animal Management) s11 (2) (a) Minimum standards for keeping animals and s33 Duty to provide proper enclosure and prevent animal from wandering.

In the delimitation zone

In the prevention zone

In the asset protection zone

Additional Resources

FNQROC - Regional Pest Management Strategy 2010 - 2015

FNQROC - Weed Spread Prevention Strategy

<http://www.fnqroc.qld.gov.au/regional-programs/natural-asset-management.html>

Pest Plant and Animal Fact sheets: <https://www.daf.qld.gov.au/business-priorities/plants/weeds-pest-animals-ants/educational-resources-and-careers/publications/fact-sheets>

National approach to weeds: www.environment.gov.au

Australian Weed Committee: www.environment.gov.au/biodiversity/invasive/weeds

Pest Animal Fact Sheets: www.feral.org.au

References

Sydes, T. (2012) Using a local management zoning framework to foster a management continuum. Is the 'big four' a defeatist mindset and are there alternatives at a local and regional level? Proceedings of the 18th Australasian Weeds Conference. CAWS Australia

Appendices

APPENDIX 1. Biosecurity Matter listing

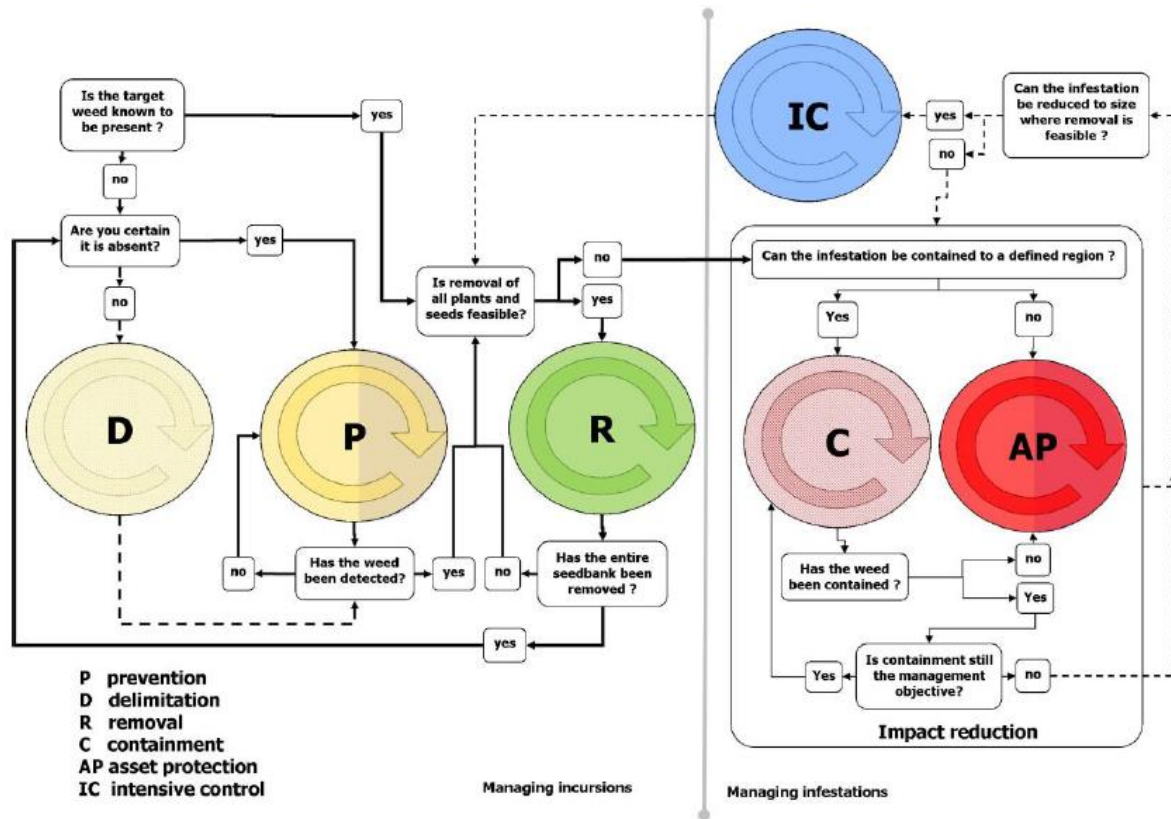
Prohibited and Restricted matter can be found listed in the [QLD Biosecurity Act](#) Schedules 1 and 2.

APPENDIX 2. Locally Declared Pests

Pests declared under the Subordinate Local Law No 3 (Community and Environment) 2016

Hiptage	<i>Hiptage senegalensis</i>
Brillantaisia	<i>Brillantaisia lamium</i>
Ceara rubber tree	<i>Manihot glaziovii</i>
Panama rubber tree	<i>Castilla elastica</i>

APPENDIX 3. Management Targets Workflow.



(from Sydes 2012)

APPENDIX 4. Pest Notice and Compliance Workflow

