



Townsville Local Government Area

pest management plan

2004 - 2008



a community & council effort



Townsville Local Government Area Pest Management Plan 2004 - 2008

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This document approved by the Minister for Natural Resources and Mines on 5 July 2005.

Original Version created December 2004
Version 1.0, December 2004

Document Control

Date	Version	Pages affected

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SUMMARY

Townsville's Local Government Area Pest Management Plan provides strategic direction for the management of pest plants and pest animals in the Townsville Local Government Area. It covers a period of four years and is consistent with principles of pest management, state pest management strategies, guidelines for pest management and Townsville's community interests.

The aim of this Pest Management Plan (PMP) is to *engage the Community¹ within the Townsville Local Government Area to work together to implement ongoing, coordinated and effective management of all pests.*

This PMP will benefit the Townsville Local Government Area (LGA) through:

- Better use of resources available within the Community and Council.
- Better basis for making resource allocations for pest management activities.
- Meeting Local Government responsibilities under the *Land Protection (Pest and Stock Route Management) Act 2002* and Regulations 2003.
- Improved community appreciation of Council's efforts.
- Providing direction to Council staff and the Community on priority pest management activities.
- Better coordination between the Community, including integrated catchment management approaches, statewide land protection strategies and management of conservation areas.
- Improved scope and opportunities for monitoring and evaluation.
- Increased Council effectiveness in meeting Community needs and promoting greater TCC accountability.
- Increased knowledge of the Community on the legal responsibility of all landholders to comply with requirements for pest management under the Act
- Reduction of eradication of pest plants and pest animals that reduce land use, degrade natural areas/native ecosystems, impact biodiversity and reduce aesthetics.

The Pest Management Plan will target six main objectives over the four year period. These are;

1. The Community is informed, knowledgeable and have ownership of pest plant and pest animal management.
2. The Community is committed to, and undertake, coordinated management of pest plant and pest animals.
3. Reliable information is available as a basis for decision making.
4. Strategic directions are established, maintained and owned by the Community.
5. Introduction, spread and establishment of pest plants and pest animals is prevented.
6. Integrated systems for managing the impacts of established pest plants and pest animals are developed and widely implemented.

The rest of the PMP details priority pest plants and pest animals in the Townsville LGA and sets out strategic directions for each year that the Plan covers.

¹ Where 'Community' is defined as *including stakeholders (ie. Townsville City Council and other Government Agencies, Industry, volunteer organisations and community groups) and the wider community including Townsville residents and landholders.*

INTRODUCTION

One of the most significant challenges facing Queensland is to minimise the impacts of the pest plants and pest animals that threaten native species and ecosystems and impose high annual costs on local primary industries. The costs to the Queensland community include over \$600 million annually in lost production and pest control, damage to environmentally significant areas, degraded land and water quality, loss of biodiversity, and interference with human health and recreation.

LEGISLATION

On the 18th of April 2002, Queensland parliament passed the *Land Protection (Pest and Stock Route Management) Act 2002*, replacing the *Rural Lands Protection Act 1985*.

The *Land Protection (Pest and Stock Route Management) Act 2002* provides legislative requirements to manage pests and address the impacts they have on the environment. The new Act and its Regulation, which lists two classes of declared pests, commenced on July 1, 2003. A third class of declared pests was adopted in November 2003.

The Act requires all Local Governments in Queensland to develop and implement a Local Government Area Pest Management Plan. *The Land Protection (Pest and Stock Route Management) Act 2002* also requires State Government Departments to have proactive pest management plans for lands under their direct control, which must be considerate of the priorities nominated within the Townsville Local Government Area Pest Management Plan.

The Townsville LGA PMP will provide strategic directions for the management of pests on all land in the Townsville LGA for a period of four years from 2004/2005.

AIMS

The aim of this Pest Management Plan is to *engage the Community within the Townsville Local Government Area to work together to implement ongoing, coordinated and effective management of all pests.*

This PMP will benefit the Townsville Local Government Area through:

- Better use of resources available within the Community and Council.
- Better basis for making resource allocations for pest management activities.
- Meeting Local Government responsibilities under the *Land Protection (Pest and Stock Route Management) Act 2002* and regulations 2003.
- Improved community appreciation of Council's efforts.
- Providing direction to Council staff and the Community on priority pest management activities.
- Better coordination between the Community, including integrated catchment management approaches, statewide land protection strategies; and management of conservation areas.
- Improved scope and opportunities for monitoring and evaluation.
- Increased Council effectiveness in meeting Community needs and promoting greater TCC accountability.
- Increased knowledge of the Community on the legal responsibility of all landholders to comply with requirements for pest management under the Act

- Reduction or eradication of pest plants and pest animals that reduce land use, degrade natural areas/native ecosystems, impact biodiversity and reduce aesthetics.

LAND AND STAKEHOLDERS IN TOWNSVILLE

Land in the Townsville Local Government Area is primarily managed for one or more of the following values:

- | | |
|--|---------------------------------------|
| ▪ Agriculture (including grazing, cropping and horticulture) | ▪ Industrial and commercial purposes |
| ▪ Biodiversity and nature conservation | ▪ Mining |
| ▪ Cultural heritage | ▪ Residential |
| ▪ Defence | ▪ Tourism, recreation and aesthetics. |

The perceived threats posed by pest plants and pest animals vary depending on the primary values of the land. For example, Hymenachne is a useful pasture plant but a serious threat to nature conservation and water management, while Chinese Apple has an edible fruit but is highly invasive in grazing, conservation and poorly managed areas.

Stakeholders who manage land in the Townsville Local Government Area, and therefore are involved in pest management on that land, and other bodies with a special interest in pest management in Townsville include;

- | | |
|---|-------------------------------------|
| ▪ Adjoining Local Governments | ▪ Ergon Energy |
| ▪ Burdekin Dry Tropics Board | ▪ HESROC- NQ |
| ▪ Council | ▪ Landcare |
| ▪ CSIRO and CRC for Weed Management | ▪ Landholders |
| ▪ Department of Defence | ▪ Nursery and Garden Industry - QLD |
| ▪ Department of Main Roads | ▪ NQ Water |
| ▪ Department of Natural Resources and Mines | ▪ Queensland Rail |
| ▪ Environmental Protection Agency/Queensland Parks and Wildlife Service | ▪ The general community |

Community responsibilities

According to the *Land Protection (Pest and Stock Route Management) Act 2002*, responsibilities for pest management lie with the landowner. Responsibilities for the Community in the Townsville Local Government Area are detailed below.

Townsville City Council is responsible for:

- The development a Pest Management Plan in accordance with Chapter 2 Part 4 of the *Land Protection (Pest and Stock Route Management) Act 2002*
- Ensuring that declared plants and declared animals are controlled within its Local Government Area (Chapter 1 Part 8) and on lands under its control (Chapter 1 Part 8).
- Preventing the introduction into and spread within its area of declared plants and animals and enforcing relevant provisions of the *Land Protection (Pest and Stock Route Management) Act 2002*.

To fulfil these responsibilities, the Council is expected to:

- Implement a proactive approach to management of declared and potential pest plants and animals;
- Manage declared plants and animals on land under its control;
- Engage the Community to determine the presence of declared plants and animals on properties within the Local Government Area;
- Provide advice to landholders and the wider community on appropriate control options of declared and potential pest plants and animals;
- Carry out procedures, including compliance and enforcement, to ensure control of declared pests on private property.

The Department of Natural Resources and Mines is responsible for:

- Identifying areas to which Council should direct their efforts;
- Providing technical information and staff training to Council personnel;
- Controlling pests on Unallocated State Land;
- Ensuring that declared pest plants and animals are controlled on land under the control of other Government Agencies;
- Ensuring lease conditions are consistent with this Pest Management Plan; and
- Implementing its responsibilities under the Memorandum of Understanding between the DNRM and the LGAQ.

Landholders are responsible for:

- Controlling declared plants and animals on their own land.

Current pest impacts and levels of control

The levels of pest infestation in the Townsville LGA area was to a large extent unknown until 2003 when Council commissioned a survey of weeds on Council land (excluding Magnetic Island). However, on other lands, the level of pest infestation was still undocumented. To date the approach to pests by various Agencies, landholders and Council has been largely uncoordinated.

The costs to the environment, economy and society could be significant if the impacts of weeds and pest animals are left unmanaged. Impacts to native flora and fauna through loss of habitat and direct competition, loss of agricultural land to weeds, loss of environmental values, disruption to recreation activities in waterways and even risks to human health through hayfever, asthma and disease spread could be enormous if pest plants and pest animals continue to take over the environment.

For pest management to be effective, an integrated approach must be taken and will be initiated with the implementation of the Townsville Local Government Area Pest Management Plan. This plan provides the necessary framework for the integration of control efforts by the Community and concentrates on achieving realistic outcomes using present technology.

Declared pests

Declared Plants

A declared plant (formerly termed “noxious plant” or “noxious weed”) is a plant considered a serious enough pest (could have a serious economic, environmental or social impact) to warrant its control being enforced under legislation.

Declaration imposes legal responsibilities for control. Under the *Land Protection (Pest and Stock Route Management) Act 2002*, all landholders, Local

Governments and State Government agencies are required to control declared plants on land under their control. The categories of declaration are:

Category	Description
Class 1	Not generally established in Queensland and has potential to cause adverse economic, environmental or social impacts.
Class 2	Established in Queensland and can cause significant adverse economic, environmental or social impacts (including in another State).
Class 3	Established in Queensland and has or could have an adverse economic, environmental or social impacts (including in another State).

Declared Animals

Under the Act, several animals have been declared as pests. Such animals represent a threat to agriculture, the environment and/or the land itself. Species are categorised according to the degree of control required. Restrictions are placed on the introduction, keeping and sale of non-native reptiles and mammals.

Category	Description
Class 1	Not generally established in Queensland and has potential to cause adverse economic, environmental or social impacts.
Class 2	Established in Queensland and can cause significant adverse economic, environmental or social impacts (including in another State).
Class 3	Established in Queensland and has or could have an adverse economic, environmental or social impacts (including in another State).

DEVELOPMENT PROCESS OF PLAN

Development process

Townsville's Local Government Area Pest Management Plan covers a period of four years, during and after which time it will be reviewed. The PMP is consistent with principles of pest management (as detailed in the *LP (P&SRM) Act 2002*), state pest management strategies, guidelines for pest management and Townsville local community interests.

The PMP was reviewed by the Minister of Natural Resources and Mines to ensure it was consistent with State Pest Management strategies, principles and guidelines. Upon approval in November 2004, the PMP was adopted for the full four year period until 2008/2009.

Pest Management Working Group

The development process of the PMP involved contributions from a number of stakeholders within the Community. Stakeholder consultation was an integral part of the process to ensure the development of an effective, practical and widely accepted plan.

This Pest Management Plan was developed in partnership with the Townsville Pest Management Working Group (PMWG). The PMWG was established in August 2004 and is a committee formed of representatives from Council, DNR&M, other relevant Government Agencies and key stakeholders from the community

The role of the PMWG is:

- To provide representation from specific areas of the Community and communicate their requirements to and from the PMWG (2-way information flow).
- To develop and review the Townsville LGA Pest Management Plan and consider public consultation outcomes.
- To monitor and evaluate the implementation of the PMP.
- To be a focus for funding submissions to implement the PMP.

An initial challenge for the PMWG was to consider the varied land uses and needs of the rural parts of the Council area and the needs of urban residents. The PMWG made recommendations based on its knowledge of the pest's ecology, rate of spread, invasive potential, control methods available and other factors, while keeping in mind the needs for long-term sustainability of the range of land uses in the area. Some weeds are considered important, even though they are not currently present in the area, due to significant costs that may be incurred should the controls on their existing distribution fail. The cost of preventing entry of these weeds into the area must be taken into account when implementing this plan.

Prioritisations of local weeds and animals

Over forty (40) introduced plant species have been identified in the PMP as current or potential pests to one or more of the various land uses and values in the Townsville LGA. These pest plants have been prioritised according to their declaration status, impact on the local community, invasive potential and the potential for success in the implementation of control measures.

Pest animals in the Townsville LGA have also been identified and prioritised in this PMP. Prioritisations are given according to declaration status, impact on the local community and the potential for success in the implementation of control measures.

Priority was given to those pest plants and pest animals that carry a declaration status and which landholders have a statutory obligation to control or manage under the *Land Protection (Pest and Stock Route Management) Act 2002*.

Introduced rats, mice and mosquitoes are subject to health legislation and will not be addressed within this Pest Management Plan

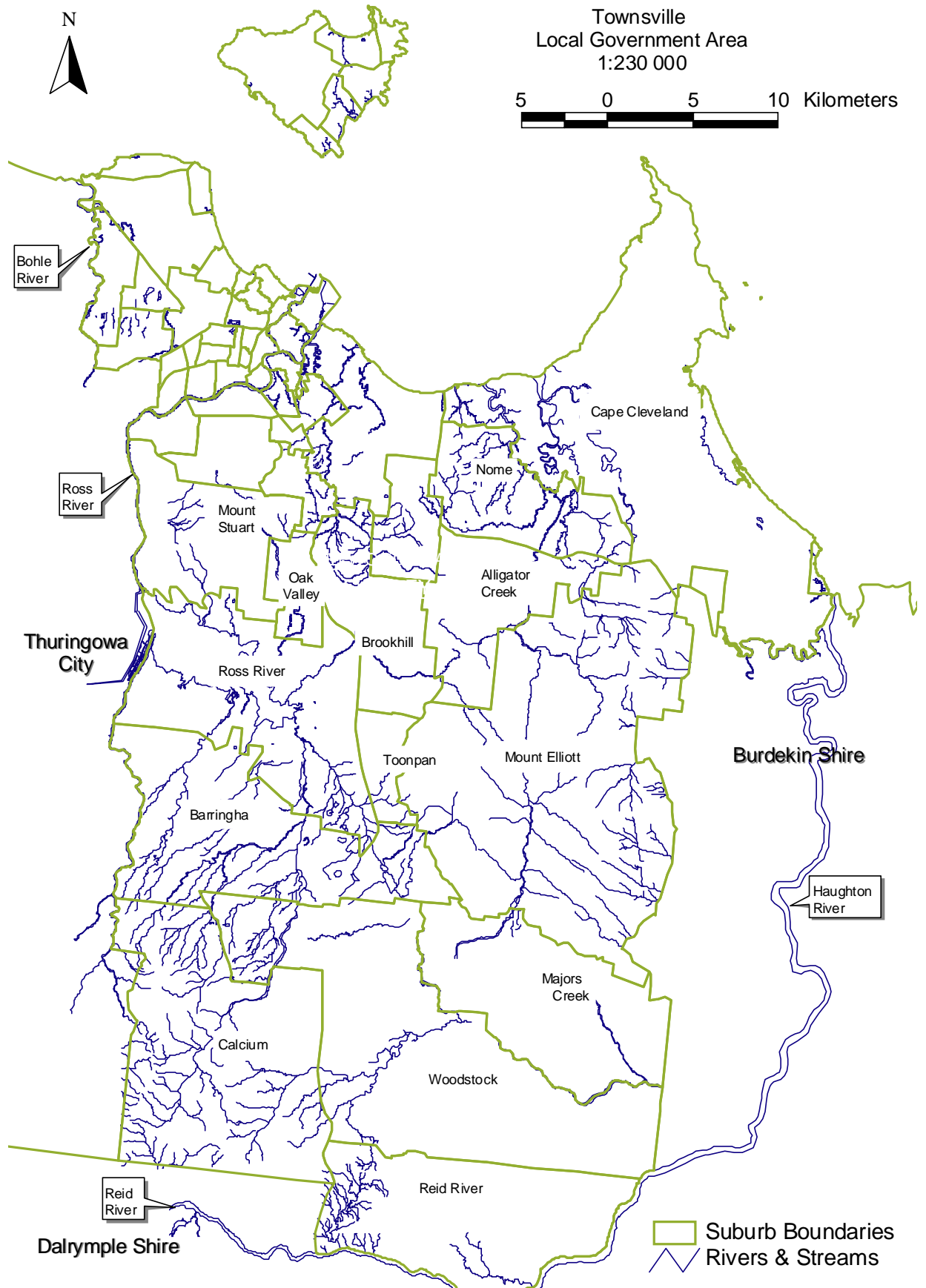
Integration with related planning

This Pest Management Plan has been developed in accordance with the requirements of the *Land Protection (Pest and Stock Route Management) Act 2002* and in line with the Queensland Pest Animal and Weeds Strategies (2002 – 2006). Other regional and local planning strategies and documents have also been considered in the development of this document

Consultation on the draft plan

When the draft Pest Management Plan was prepared, notice was given to the public that it was open for inspection and comment. The draft was available for the month of November 2004 for public comment and the Community was invited to submit comments and suggestions to the PMWG in order that the Pest Management Plan could reflect community objectives and expectations.

TOWNSVILLE LOCAL GOVERNMENT AREA MAP



PART A

Four Year Strategy - General Plan

Desired Outcomes

There are six desired outcomes that will be targeted in the PMP over the four year period. These are;

1. The Community is informed, knowledgeable and has ownership of pest plant and pest animal management.
2. The Community is committed to, and undertakes, coordinated management of pest plants and pest animals.
3. Reliable information is available as a basis for decision making.
4. Strategic directions are established, maintained and owned by the Community.
5. Introduction, spread and establishment pest plants and pest animals is prevented.
6. Integrated systems for managing the impacts of established pest plants and pest animals are developed and widely implemented.



Parkinsonia flowers

1. The Community is informed, knowledgeable and has ownership of pest plant and pest animal management

Issues: Awareness (A)
 Availability of Information (AI)
 Education and Training (ET)

Ref #	Iss	Strategic Action	Success Indicator
1.01	A	Ensure the retention of adequate and responsible Stakeholder representation on the Townsville Pest Management Working Group (PMWG)	Community well represented on the Pest Management Working Group
1.02	AI	Make available the PMP for public viewing after it has been finalised and approved	PMP available for viewing at the TCC office and on the web
1.03	A	Conduct Community awareness raising activities for potential, new and established pests, including; <ul style="list-style-type: none"> - developing and distributing user-friendly information about pests - media and newsletter articles - promoting a pest plant or pest animal of the month - publicising case studies of successful pest management - information and education sessions (ie. at schools, landcare groups etc.) - organising field days - organise/assist in Ecofiesta, Weedbuster week, World Environment day etc. - investigating options for a mobile display of education materials - developing and distributing a list of web addresses/references for practical weed control advice - conducting Weed Swap annually - running weed id/collection training days in conjunction with National Weed Detection Project 	Activities are developed and conducted
1.04	A	Lobby for statewide and regional media advertising programs	Media advertising campaigns designed and implemented
1.05	A / AI	Develop a list of safe plant alternatives for residents to replace priority and potential environmental weeds in their gardens	List is developed and made publicly available
1.06	AI	Establish access points for the Community to obtain pest information (ie. access points at TCC, libraries, TAFE, tourist centres etc)	Access points are established and advertised
1.07	A / AI	Lobby DNR&M to provide a pest kit to Local Government Councillors	Relevant kits received from DNR&M and distributed.

1.08	A / AI	Survey the Community for levels of pest management knowledge	Community awareness levels are identified
1.09	ET	Council staff in Parks, EMS and Health Services undertake relevant training to maintain skills and knowledge about pest animal and pest plants, and pest management including Agsafe courses, pesticide application courses etc	Courses attended by relevant staff as they become available
1.10	ET	Appropriate Council staff attend relevant state, regional and local workshops and forums	Workshops and forums attended



Stand of small prickly acacia trees

2. The Community is committed to and undertakes coordinated management of pest plants and pest animals

Issue: Long term commitment (C)
Compliance and enforcement (E)

Ref #	Iss	Strategic Action	Success Indicator
2.01	C	Ensure the Pest Management Plan is integrated into relevant sections of the Council's Corporate Plan	Commitment to PMP is incorporated and pest management issues remain part of Council core business
2.02	C	Ensure adequate and responsible Stakeholder representation on the Townsville Pest Management Working Group (PMWG) to develop, implement and review the Pest Management Plan	Working group established and meeting regularly
2.03	C	Educate Council staff and elected Councillors regarding Council's legal responsibilities in relation to pests and pest management practices (eg. Parks Services and CitiWorks for roadside spraying and reporting procedures)	Strategy for informing Council is developed and implemented
2.04	C	Ensure Council appoints sufficient trained pest management officers with clearly identified areas of responsibilities	Trained staff are employed and allocated to clearly identified areas
2.05	C	Ensure landholders are aware of their responsibilities for pest management	Landowner awareness of their responsibilities is increased
2.06	C	Encourage and assist landholders in the Townsville LGA to develop Property Pest Management Plans (PPMPs)	Landholders attend information sessions and PPMPs are developed
2.07	C	Continue to support development of funding applications and opportunities for pest management in the Community	Community funding applications and pest management opportunities are supported
2.08	C	Build and maintain new and ongoing partnerships with stakeholders and community groups for local pest management	New and ongoing partnerships with stakeholders are maintained
2.09	C	Ensure that all State and Commonwealth Agencies are committed to PPMPs which are adequately resourced and aligned with this PMP for land under their control in the Townsville LGA	State and commonwealth Agencies committed to individual PPMPs which are aligned with this PMP
2.10	C	Encourage all landholders (Government Agencies included) to implement and participate in effective control projects on smaller district bases	Landholders implementing and participating in control projects on smaller district bases
2.11	C	Ensure a regional commitment to pest	Increased regional

		management through the adequate ownership of issues across the Burdekin Dry Tropics areas proactively addressed through the combined HESROC group	commitment to pest management
2.12	C	Ensure adequate representation on the HESROC-NQ pest management sub-group.	Adequate representation is achieved
2.13	C	Include resource allocation in annual pest action plans	Resource allocation is included in annual action plans
2.14	C	Maintain partnerships and collaborative strategies with neighbouring councils to identify and target emerging infestations of pest plants in 'Prevention of Introduction' category	Partnerships and collaborative strategies developed and maintained
2.15	E	Develop and implement procedures for assessing and declaring pest species under Council Local Laws	Number of pest species declared under Local Laws
2.16	E	Network with compliance officers regionally and statewide	Number of officers as part of the network



Limncharis pulled out from a local aquatic site

3. Reliable information is available as a basis for decision making

Issues: Data collection and assessment (DC)
 Pest biology and pest impacts (PB)
 Community attitudes (CA)

Ref #	Iss	Strategic Action	Success Indicators
3.01	DC	Set up a system for reporting new pest plants and pest animals; <ul style="list-style-type: none"> • Produce and circulate a standard form on which staff and landholders can report information on pests (eg. species, area, density, numbers etc.) Encourage Council staff, contractors, stakeholders and others to use the pest reporting form • Investigate the feasibility of a web site for pest reporting and information • Encourage community groups, landcare, birdwatchers etc to report pests using the reporting form • Promote a shared GIS database of pest infestations with Government and Community Agencies in the Townsville LGA 	Reporting system in place and functioning
3.02	DC	Investigate feasibility of remote sensing, aerial photography or surveillance for weed mapping	Feasibility report completed
3.03	DC	Survey and monitor T LGA for infestations of pest plants in the 'Prevention of Introduction' and 'Early Detection and Eradication' categories	Annual surveys conducted
3.04	DC /PB	Conduct surveys of pest plant infestations on Council land on Magnetic Island	Surveys conducted
3.05	DC	Map all Class 1, local priority Class 2, and Class 3 pests and other nominated priority pests in the Townsville LGA	Maps are completed and appropriate information is publicly available
3.06	DC	Maintain a GIS system such as Pestinfo (if compatible with TCC and other Agency's systems) for weed mapping	GIS established and maintained for pest mapping
3.07	DC	Encourage data sharing between adjoining Local Governments to encourage proactive and collaborative approaches to pest management	Data sharing and cooperative proactive approaches established
3.08	DC	Implement appropriate pre and post treatment monitoring and evaluation techniques	Survey/monitoring technique developed that provides relevant information about the success of treatment works

3.09	DC	Allocate resources to ground truth reports	Ground-truthing of reports is conducted
3.10	DC	Produce a yearly report/update (with attached mapping) on pest incursions, management and reductions	Report written and distributed
3.11	DC /PB	Contribute local pest data to the DNR&M annual pest assessment	Number of species for which data has been contributed
3.12	CA	Assist DNR&M and other Agencies in gathering information on community awareness and attitudes	Assistance provided as appropriate
3.13	CA /PB	Conduct surveys of local community awareness and attitudes towards pests, their impacts and their control	Local surveys conducted
3.14	PB	Quantify the costs of pests to Council and ratepayers	Costings are prepared
3.15	DC	Investigate reports of feral guinea pigs and guinea fowl on Magnetic Island	Investigation conducted and appropriate course of action determined



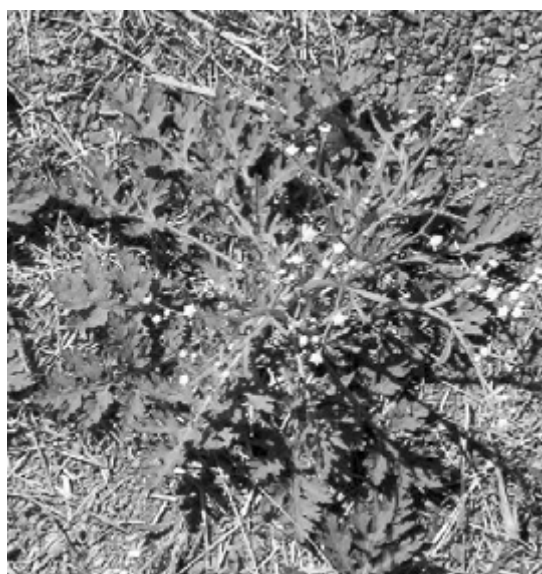
Mesquite flowers

4. Strategic directions are established, maintained and owned by the Community

Issue: Planning (P)
 Strategy management and coordination (S)
 Resources (R)
 Holistic management (H)

Ref #	Iss	Strategic action	Success indicators
4.01	P / H	Ensure consistency between the PMP and related State, regional and local pest management strategies and plans	Increasing number of related pest management plans featuring local pest management issues
4.02	P / H	Ensure consistency between the PMP and State, regional and local resource management plans	Increasing number of resource management plans that include local pest management actions
4.03	P	Encourage and assist landholders to complete Property Pest Management Plans (PPMPs)	Relevant landholders complete PPMPs
4.04	P	Develop specific management plans for identified high priority community pest problems (eg. Parthenium Weed; Siam Weed; Wild Dogs)	Specific management plans are developed
4.05	S	Implement the PMP actions for priority pest plant and pest animal management	Number of actions completed annually
4.06	S	Employment of adequate staff to maintain the plan and achieve compliance with the legislation	Adequate full time Pest Management Officers employed
4.07	S	Monitor and evaluate the implementation of the PMP	PMP monitored and evaluated
4.08	S	Consider all effective options for managing pests including using contractors for pest control work (do a cost-benefit analysis)	Options for managing pests explored and cost analysis produced
4.09	S	Provide an annual report (including outcomes against a chart) on pest management activities	Report and chart provided as part of annual report to PMWG
4.10	S	PMWG to annually review the pest plant priority lists	Pest plant priority list is reviewed and plants are added or removed as necessary
4.11	S	Review the Annual Pest Action Plans three months before the end of each financial year	Annual Pest Action Plans reviewed yearly
4.12	S	Complete a new PMP three months before the expiry of its predecessor	New PMP developed before the expiry of the existing PMP
4.13	S / R	Identify the scope of any perceived resource shortfalls	Resource shortfalls identified and actions to target extra funding established
4.14	R	Educate Councillors on the cost of pests, the benefits of control and	Education process developed and conducted, and funding

		highlight Council's legal obligations to encourage pest management funding	by Council achieved
4.15	R	Present case studies to Council via the Sustainable Development Committee or appropriate statutory committees to demonstrate the benefit of pest management and to support funding requests	Presentations undertaken and funding requests made
4.16	R	Seek in-kind and financial sponsorship from industry, government and the community (eg. agricultural chemical manufacturers; Community Groups; Government Agencies; BDTB; HESROC) for community awareness and employment programs	Approaches made to government, industry and the community
4.17	R	Investigate all potential funding sources to fund pest management	Funding sources are investigated and report on options written for PMWG
4.18	R	Explore funding opportunities of a Council/community coordinated approach to pest management on Magnetic Island	Opportunities explored and a report on options provided to PMWG
4.19	R	Lobby for Government subsidy to purchase bulk chemical for specific projects	Lobbying methods reported to PMWG
4.20	P/S	PMWG regularly reviews plants contained in the advisory section and collates research on the more contentious species	Plants are reviewed regularly by PMWG and up to date information collated conducted on the more contentious species



Parthenium weed rosette

5. Introduction, spread and establishment of pest plants and pest animals is prevented

Issue: Prevention (P)
Early detection and eradication (ED)
Containment (C)

Ref #	Iss	Strategic Action	Success Indicators
5.01	P	Educate landholders in best practice of purchase and feed out of fodder (especially fodder from external areas)	Information is provided to landholders
5.02	P	Promote machinery hygiene standards including; <ul style="list-style-type: none"> • Encourage use of weed hygiene declarations as a quality assurance measure • Promote hygiene standards to be maintained by contractors, landholders, recreational water users <i>etc.</i> • Provide list of commercial washdown facilities to the Community • Encourage earthmoving, slashing and lawn mowing contractors <i>etc.</i>, within Townsville to be diligent with washdown of machinery and vehicles • Conduct a needs analysis for washdown facilities in the LGA 	Measures taken to promote machinery hygiene standards.
5.03	P	Liaise with AQIS to produce sufficient education materials at local tourist ports to alert people to potential pests and how they are transported	Relevant education material made available at airports
5.04	P	Lobby for a statewide generic advertising campaign for pest prevention targeting the travelling public (eg., road signs, ads on RACQ maps, <i>etc.</i>)	Travelling public aware of pest spread issues and take appropriate precautions
5.05	P	Ensure groups of people that are highly mobile are aware of potential introduction of pest plants and pest animals	These target groups are addressed in Council education programs.
5.06	P	Control stock feed movements from identified weed problem areas within the LGA	Control procedures in place
5.07	P	Identify areas of high weed seed spread and encourage the support of the Community to assist with prevention of spread from those areas	Areas identified and support obtained
5.08	P	Identify and monitor areas where soil/sand extraction and quarrying enterprises are undertaken to ensure	High priority areas are identified and monitored

		limited weed seed spread	
5.09	P	Develop and maintain partnerships with community and stakeholders to report new infestations of pest plants in 'Prevention of Introduction' category	Number of partnerships developed
5.10	P / ED	Develop and implement action plans for the eradication of pest plants in 'Prevention of Introduction' and 'Early Detection and Eradication' categories if found in TCC	Action plans developed and implemented as necessary
5.11	P / ED	Ensure plant and animal retailers and aquarists are aware of current and potential pests and abide by legislation covering their movement and sale	Information is presented to relevant retailers
5.12	P / ED	Institute a regular monitoring and inspection program of nurseries, markets and pet shops for sale of pest fish, plants and animals	Program is implemented.
5.13	P / ED / C	Convene a meeting of Dry Tropics Councils to discuss mutual concerns and solutions	Meeting held
5.14	P / ED / C	Liaise closely with neighbouring authorities for a coordinated approach to pest management on cross-border infestations	Relationships with neighbouring authorities developed and achieves coordinated containment of new pest plants across borders
5.15	P / ED / C	Provide technical advice and other assistance to landholders and stakeholders	Information sourced or produced as needed
5.16	ED / P	Promote buying clean grain for processing and selling	Promotion of clean grain
5.17	ED	Create a response mechanism to; <ul style="list-style-type: none"> • document and inform of risks, and • eradicate infestations of new priority pest plants 	Response mechanisms created to assess risks and to eradicate new priority pest plants
5.18	C	Identify any necessary quarantine areas within the LGA and the implications for the Community	Quarantine areas and measures needed are considered by PMWG
5.19	C / ED	Target priority Class 2 pests for containment or eradication	Number of priority class 2 pests targeted for containment and number of Class 2 plants eradicated
5.20	C	Identify spread of non-declared invasive weeds in stock feed (eg grader grass)	Issues identified and mechanism to control spread in place.

6. Integrated systems for managing the impacts of established pest plants and pest animals are developed and widely implemented

Issue: Adoption of management techniques (Ad)
 Population and impact management (PIM)
 Environmentally significant areas (ESA)
 Development of management practices (MP)
 Incentives (I)

Ref #	Iss	Strategic actions	Success indicators
6.01	Ad	Distribute best practice publications to relevant stakeholders	Publications are distributed to landholders
6.02	Ad	Assist landholders with Property Pest Management Plans to encourage compliance with Council and lease conditions	Assistance provided to landholders and property pest management plans are developed
6.03	Ad/ PIM	Ensure appropriate biological control agents are available for distribution and adequate monitoring frameworks are established and implemented	Distribution area and species type of biological control agents are increased in the Townsville LGA
6.04	PIM	Coordinate impact reduction programs for established pest animals, including baiting, trapping and harbour removal	Impact reduction programs are coordinated
6.05	PIM	Maintain problem animal reduction programs, including registering of domestic animals	Programs maintained
6.06	PIM	Effectively manage pest animal populations on Council owned land	Pest animal impacts are reduced
6.07	PIM	Ensure landholders of private, State and Commonwealth lands effectively manage pest plants and pest animals on their land	Infestations on private, State and Commonwealth lands are contained or reduced
6.08	PIM	Investigate the feasibility of control programs for introduced animals on Magnetic Island and subsequent application for the broader Townsville LGA	Feasibility reports provided to Council
6.09	PIM	Respond to DNR&M directions to control plague pest animals	Plague pest management is coordinated
6.10	ESA	Identify and prioritise environmentally significant areas for pest management	Areas are identified and management is prioritised
6.11	MP	Use best practice management techniques in all areas of pest management and promote other landholders to follow suit	Best practice management is promoted
6.12	MP	Promote pest management initiatives of North Queensland at relevant conferences, workshops etc. within the NQ region	Pest management is included in agenda items of relevant NQ forums

6.13	MP	Investigate new monitoring and control techniques and incorporate into best practice management as appropriate	New techniques explored and incorporated
6.14	MP	Identify inadequacies in existing pest management	Improvements to pest management are recommended
6.15	MP	Define best practice for the various stakeholders and pests	Best practice for all land uses in the city is defined
6.16	MP	Publicise local examples of best practice management	Publicity generated
6.17	MP	Ensure strategic actions requiring ongoing management are maintained over time as necessary.	Number of ongoing action programs. To be reported annually to PMWG
6.18	I	Develop incentive schemes for landholders to complete priority pest control on their land	Incentive program for landholders in place
6.19	I	Explore reward or recognition programs for the control and management of priority pests and the use of best practice management	Report on potential reward/recognition programs provided to Council



Parkinsonia stand with Castle Hill in background

PART B

Four Year Strategy - Priority Pest Species

Pest plants for prevention of introduction

Pest plants listed below are not known to currently exist in the Townsville Local Government Area but are potential threats to the area.

All efforts will be taken to prevent the introduction of plants listed in this category to the Townsville Local Government Area through the implementation of relevant strategic actions in Part A of the Plan.

Common name	Scientific name	Declaration	Priority
Alligator weed	<i>Alternanthera philoxeroides</i>	Class 1/ WONS	High
Annual ragweed	<i>Ambrosia artemisiifolia</i>	Class 2	High
Balloon Vine	<i>Cardiospermum grandiflorum</i>	Class 3	High
Bitou bush	<i>Chrysanthemoides monilifera</i> ssp. <i>rotundata</i>	Class 1/WONS	High
Boneseed	<i>Chrysanthemoides monilifera</i> ssp. <i>monilifera</i>	Class 1/WONS	High
Cats claw vine	<i>Macfadyena unguis-cati</i>	Class 3	High
Giant sensitive tree	<i>Mimosa pigra</i>	Class 1	High
Harissia cactus	<i>Eriocereus</i> spp.	Class 2	High
Introduced thunbergia (except grandiflora)	<i>Thunbergia annua</i> , <i>T. fragrans</i> and <i>T. laurifolia</i>	Class 1	High
Koster's curse	<i>Clidemia hirta</i>	Class 1	High
Madras Thorn	<i>Pithecellobium dulce</i>	Class 1	High
Miconia	<i>Miconia</i> spp	Class 1/WONS	High
Mikania vine	<i>Mikania micrantha</i>	Class 1/WONS	High
Pond apple	<i>Annona glabra</i>	Class 2/WONS	High
Tobacco weed	<i>Elephantopus mollis</i>	Class 2	High

Alligator weed	<i>Alternanthera philoxeroides</i>	Class 1	High priority
Target – Prevention of Introduction			
Impact	The weed is a major threat to irrigation areas, wetlands and river systems in Queensland. It is capable of growing as a free-floating dense mat where it can prevent flow and block drainage channels, and it can grow in the soil as a herb-like plant where it can displace crops or native vegetation.		
Queensland Distribution	Occasional dense infestations have been located north of Cairns and around Brisbane.		

Annual ragweed	<i>Ambrosia artemisiifolia</i>	Class 2	High priority
Target – Prevention of Introduction			
Impact	Can invade and suppress weak pastures and is a potentially serious human health hazard as it can cause respiratory allergies like hay fever and aggravated asthma.		
Queensland distribution	It has naturalised in south eastern Queensland, with localised infestations around Atherton.		

Balloon vine	<i>Cardiospermum grandiflorum</i>	Class 3	High priority
Target – Prevention of Introduction			
Impact	Balloon vine is a dense climbing or trailing vine which can grow into the canopy of trees or spread over the ground , out-competing natural vegetation and reducing biodiversity		
Queensland Distribution	Balloon vine currently occurs in coastal south-east Queensland and around Cairns. It is commonly found in moist gullies.		

Bitou bush	<i>Chrysanthemoides monilifera</i> ssp. <i>rotundata</i>	Class 1/WONS	High priority
Target – Prevention of Introduction			
Impact	Threatens coastal dune vegetation along Australia's east coast. Can outcompete and replace native flora, and it invades undisturbed as well as disturbed areas		
Queensland distribution	Scattered infestations along the coast of southern Queensland to the Gold Coast.		

Boneseed	<i>Chrysanthemoides monilifera</i> spp. <i>monilifera</i>	Class 1/WONS	High priority
Target – Prevention of Introduction			
Impact	An aggressive invader of native bushland which threatens significant rare or threatened species.		
Queensland distribution	Scattered infestations along the coast of southern Queensland to the Gold Coast.		

Cats claw vine	<i>Macfadyena unguis-cati</i>	Class 3	High priority
Target – Prevention of Introduction			
Impact	A major environmental weed that threatens remnant forest communities and native vegetation. Trees that host the vine can be crushed by the vine's weight and can cause an inward collapse of the forest margin.		
Queensland distribution	Coastal southern Queensland and coastal northern NSW.		

Giant Sensitive tree	<i>Mimosa pigra</i>	Class 1	High priority
Target – Prevention of Introduction			
Impact	<i>Mimosa pigra</i> is an aggressive prickly shrub which forms impenetrable thickets 4 – 5 m high. Infested areas can become inaccessible and can hamper stock management and reduce pasture productivity and accessibility.		
Queensland Distribution	There is only one known infestation outside the Northern Territory, located at the Peter Faust/Proserpine Dam.		

Harissia cactus	<i>Eriocereus spp</i>	Class 2	High priority
Target – Prevention of Introduction			
Impact	Forms dense infestations that out-compete pasture species and spines are a problem for stock management. Also infests softwood country and box and iron bark stands.		
Queensland distribution	Occasional and localised infestations reaching north to Ayr and Charters Towers.		

Introduced Thunbergia except grandiflora	<i>Thunbergia laurifolia, T. annua and T. fragrans</i>	Class 1	High priority
Target – Prevention of Introduction			
Impact	These plants escape domestic gardens into native bushland and can casue serious environmental damage. The plants climb and blanket native vegetation and can pull down mature trees with the weight of their vine.		
Queensland Distribution	There are isolated infestations of <i>Thunbergia laurifolia</i> between Tully and Daintree. No infestations recorded of <i>T. annua</i> and <i>T. fragrans</i> as yet.		

Koster's curse	<i>Climedia hirta</i>	Class 1	High priority
Target – Prevention of Introduction			
Impact	Koster's curse is a highly invasive shrub native to topical America. Once established, Koster's curse can form dense thickets that smother plantations, pastures and native vegetation, much like Lantana.		
Queensland Distribution	A small infestation of Koster's curse has been found near Julatten and it may have become established elsewhere.		

Madras thorn	<i>Pithecellobium dulce</i>	Class 1	High priority
Target – Prevention of Introduction			
Impact	Not yet established as a weed in Australia, this plant has the potential to rapidly spread throughout tropical and subtropical areas of Australia. Madras thorn can form dense thickets infesting pastures and out-competing desirable species including native vegetation.		
Queensland Distribution	Madras thorn is rare in Queensland and is possibly only restricted to gardens at present.		

Miconia	<i>Miconia calvenscens micrantha</i>	Class 1	High priority
Target – Prevention of Introduction			
Impact	Rampant growth of Miconia can quickly take over environmentally sensitive areas including vine scrubs within the dryer tropical areas. Areas along Ross River would be susceptible to invasion by this plant.		
Queensland Distribution	Currently no infestations known within the Townsville LGA. This plant has become a problem in the wetter tropical areas of north Queensland and although it is more prevalent in the wet tropics, it is believed that it can grow in any areas with suitable moisture and shade.		

Mikania Vine	<i>Mikania micrantha</i>	Class 1	High priority
Target – Prevention of Introduction			
Impact	Mikania is an extremely aggressive climbing vine that can quickly take over back yards, fences and environmentally sensitive areas including vine scrubs and riverine areas within the drier tropical areas.		
Queensland Distribution	Currently no infestations known within the Townsville LGA and the closest infestations are in Ingham. Urgent inspections of all nurseries within TCC need to be undertaken to ensure Mikania vine does not enter the City.		

Pond apple	<i>Annona glabra</i>	Class 1	High priority
Target – Prevention of Introduction			
Impact	A hardy tree and aggressive invader which can form dense thickets that gradually replace everything else in the canopy to eventually create new habitats.		
Queensland Distribution	Coastal areas of northern QLD with localised infestations around the Townsville LGA.		

Tobacco weed	<i>Elephantopus mollis</i>	Class 2	High priority
Target – Prevention of Introduction			
Impact	A pest of permanent pastures, it is extremely competitive and will grow through thick healthy pasture to smother favourable grasses.		
Queensland distribution	Extensive areas in the Sarina, Miarani and Broadsound Shires. Localised occasional infestations occur north of Cardwell to Cooktown.		



The Ellrott plough: mechanical control for woody weeds

Local pest plants for early detection and eradication – High Priority pest plants

Pest plants listed below exist in the Townsville Local Government Area in scattered and relatively small infestations. They occur in such small distributions that their eradication from the T LGA may be achievable. For this reason, these pest plants are a high priority for control in the T LGA.

Efforts will be taken to detect the early appearance of these pest plants and eradicate them from the Townsville LGA through the implementation of relevant strategic actions in Part A of the Plan and the operational actions listed below for each species.

Common name	Scientific name	Declaration	Priority
Athel pine	<i>Tamarix aphylla</i>	Class 3/WONS	High
Bellyache bush	<i>Jatropha gossypifolia</i>	Class 2	High
Blue thunbergia / blue trumpet vine	<i>Thunbergia grandiflora</i>	Class 2	High
Calotrope	<i>Calotropis procera</i>	Not declared	High
Ivy gourd	<i>Coccinia grandis</i>	Not declared	High
Limnocharis	<i>Limnocharis flava</i>	Class 1	High
Lion's tail	<i>Leonotis nepetifolia</i>	Not declared	High
Mesquite	<i>Prosopis spp.</i>	Class 2/WONS	High
Milkweed	<i>Euphorbia heterophylla</i>	Not declared	High
Mother of millions	<i>Bryophyllum spp.</i>	Class 2	High
Parkinsonia	<i>Parkinsonia aculeata</i>	Class 2	High
Parthenium weed	<i>Parthenium hysterophorus</i>	Class 2/WONS	High
Porcupine flower	<i>Barleria prionitis</i>	Not declared	High
Praxelis	<i>Praxelis clematidea</i>	Not declared	High
Prickly acacia	<i>Acacia nilotica</i>	Class 2/WONS	High
Siam weed	<i>Chromolaena odorata</i>	Class 1	High
Sicklepod	<i>Senna obtusifolia, S. hirsuta, S. tora</i>	Class 2	High
Weedy sporobolous grasses	<i>Sporobolus spp. (excluding S. jacquemontii)</i>	Class 2	High
White ball acacia / fernleaf acacia	<i>Acacia angustissima</i>	Class 1	High

Athel pine	<i>Tamarix aphylla</i>	Class 3/WONS	High priority
Target – early detection and eradication			
Description	A spreading tree to 15m with a thick, rough dark grey to black bark. Leaves are minute dull green that superficially resemble pine tree needles. Athel pine is a flowering plant (not related to pine trees) and flowers are pinkish-white without stalks. Fruit are bell-shaped with a hairy tuft and contain numerous small cylindrical seeds.		
Dispersal	Dispersal is by dropping seeds which have fine hairs to aid in wind dispersal and by revegetation of plant parts.		
Control	Mechanical control through bulldozing and chemical control by cut-stumping are effective. Hand pull seedlings or spray with a registered herbicide.		
Impact	Forms dense stands along inland rivers and consumes water more quickly than native plants, reducing the number and quality of watering holes. It also concentrates salt and can cause overland flooding and bank erosion.		
Priority in local areas and statewide	High priority plant in Townsville area because of its limited distribution and potential for spread and high economic and environmental impacts. It is a Weed of National Significance.		
Queensland distribution	Common around stockyards and older homesteads in the Burnett and Darling Downs regions.		
Local Distribution	Thought to occur around some homesteads and local parks.		
Operational objective	To eradicate Athel Pine from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Identify and survey infestations in Townsville • Map all infestations and add to GIS database • Incorporate removal and monitoring of existing infestations into approved Property Pest Management Plans 		

Bellyache bush	<i>Jatropha gossypifolia</i>	Class 2	High priority
Target – early detection and eradication			
Description	An erect shrub or small tree growing to 2-3m high. Leaves are divided in to three lobes and are deep purple and sticky when young but bright green when mature. Flowers are purple with yellow centres, small and in clusters on branch stalks. Seed pods are smooth and oval, about the size of a cherry and contain 3-4 seeds about 8mm long.		
Dispersal	Major spread is by seed, though it also suckers. The capsules split open when ripe, sometimes explosively, throwing seed for some distance. Longer distance spread is in water or mud carried by animals or vehicles. Seeds are long lived.		
Control	Hand grubbing is effective for removing bellyache bush as is chemical spraying using registered herbicides for bellyache bush.		
Impact	Outcompetes native vegetation and reduces pasture growth. Fruits are extremely poisonous to humans and animals.		
Priority in local areas and statewide	High priority in Townsville due to its restricted distribution and critical threat to primary production. Class 2 pest plant in Queensland.		
Queensland distribution	Scattered infestations with varying densities from about Rockhampton and occurring north and west throughout the state.		
Local Distribution	Scattered infestations in grazing areas and along creeks. This weed is colonising natural areas along the Ross River and the northern base of Castle Hill, Oak Valley, Roseneath, Pallarenda, Many Peaks, Reid River, Stuart Creek and Alligator Creek areas. Also established on Magnetic Island.		
Operational objective	To eradicate Bellyache Bush from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Extensive media campaign in conjunction with state agencies. • Map all infestations and add to GIS database. • Remove current infestations by mechanical or chemical application during growing season. • Monitor treated locations and treat any seedlings or regrowth annually. • Incorporate removal and monitoring of existing infestations into approved Property Pest Management Plans where appropriate • Consider the provision of equipment and /or herbicide to assist and encourage landholders with control. • Consider the use of legislation on defaulting Landholders. 		

Blue thunbergia / blue trumpet vine	<i>Thunbergia grandiflora</i>	Class 2	High priority
Target – early detection and eradication			
Description	Blue thunbergia is a vigorous, perennial twining vine with choko-like leave up to 15cm long and 10cm broad. Hanging groups of large, trumpet shaped flowers with a short, broad tube, white on the outside, and yellowish on the inside, which expands to five rounded pale lavender blue petals, one larger than the others. The seedpod is inconspicuous and is cone-shaped with a rounded base. The seed is flat, up to 1cm long and covered in brown scales.		
Dispersal	Dispersal is mainly by transport of root pieces along river banks during floods, by earth removed for fill or other purposes or the dumping of garden cuttings in the bush.		
Control	Garden specimens should be destroyed and replaced with other species. Disposal by sealing in black plastic garbage bag and taking to the dump. In the bush, cutting the vine at ground level will often give a smothered tree some reprieve, but regeneration from tubers will occur. Chemical control by using Arsenal (the only chemical registered for Thunbergia) may be the best option.		
Priority in local areas and statewide	High priority in Townsville due to its threat to conservation values. A class 2 pest plant in Queensland.		
Impact	The plant climbs and smothers native vegetation, killing and often pulling down mature trees with the weight of the vine.		
Queensland distribution	Localised infestations in coastal regions between Cooktown and Airlie Beach. Also localised around the Rockhampton region.		
Local Distribution	In many home gardens.		
Operational objective	To eradicate Blue thunbergia from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Implement an active media campaign to ensure that the local community can identify the plant and are aware of its current declaration status. • Ensure that all infestations are recorded in Councils GIS pest database. • Ensure the plant is not being sold in local nurseries. • Ensure home gardeners know how to properly dispose of the plant. • Council to consider options to offer a free native substitute to landholders who eradicate Blue thunbergia. 		

Calotrope	<i>Calotropis procera</i>	Not declared	High priority
Target – early detection and eradication			
Description	A spreading tree to 4 high with smooth pal grey-green stems. Mature stems have a cork like appearance and texture. Leaves are grey-green, 10-20cm long with a heart-shaped base and a pointed tip. Flowers grow in groups of up to 15 and are white with purple tips inside. The fruit is similarly shaped to a mango, 8-12 cm long and green.		
Dispersal	Seeds have tufts of silky hairs which enable them to be carried by the wind. May spread rapidly from seedlings or the base of plants.		
Control	Best control may be achieved by integrating cut-stumping, basal barking or foliar spraying with a registered herbicide. Mechanical removal may not be effective as plants grow from underground tubers.		
Impact	Calotrope readily invades overgrazed pastoral land or disturbed areas. It forms dense thickets on floodplains and along rivers, reducing grazing and access to water. The plant is poisonous to humans and cattle may die from calotrope poisoning if they are subject to stress.		
Priority in local areas and statewide	Calotrope is not a priority weed throughout the rest of Queensland, but because of its limited distribution in the Townsville LGA, it may be eradicated from the local area.		
Queensland distribution	Calotrope has become naturalised in the semiarid north region of Queensland, particularly in the Gulf of Carpentaria Region.		
Local Distribution	Believed to have been recently present in the suburb of West End.		
Operational objective	To eradicate Calotrope from the Townsville LGA.		
Operational actions	<ul style="list-style-type: none"> • Continue to monitor suspected area of previous infestation and arrange for treatment as required. 		

Ivy Gourd	<i>Coccinea grandis</i>	Not declared	High priority
Target – Early detection and eradication			
Description	Climbing plant with leaves varying from heart to pentagon shaped to 10cm in width and length. Flowers are large and white and grow to 4cm across. Fruit looks similar to a gherkin, but bright red when mature and 60mm long.		
Dispersal	Spreads vegetatively or by seed.		
Control	Mechanical control by digging out the root of the vine is effective. Cut-stump chemical treatment using glyphosate (e.g. Roundup).		
Impact	An aggressive climbing plant that can quickly spread over trees and shrubs smothering them. It could become a damaging environmental weed in the tropics and a weed problem in irrigated plantation crops.		
Priority in local areas and statewide	It is currently only known in one location in Townsville. Due to its substantial weed potential and restricted distribution in Townsville it is considered a high priority for local control.		
Queensland distribution	Unknown.		
Local Distribution	One infestation currently known to exist on several private properties adjoining bushland in Stuart. Also in gardens in Townsville and Magnetic island.		
Operational objective	To eradicate Ivy Gourd from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Survey and map all infestations in a GIS pest database • Lobby for a registered herbicide for use through the National Registration Authority. • Investigate off-label permit for herbicide use. • Request landholders to destroy and remove the weed or to allow Council staff to destroy and remove it. • Monitor treated and existing infestations and the surrounding area. • Treat regrowth or seedlings as required. • Seek local declaration under Townsville City Council Local Laws. 		

Limnocharis	<i>Limnocharis flava</i>	Class 1	High priority
Target – Early detection and eradication			
Description	Limnocharis is light green in colour, grows up to a metre tall, and has large round to oval leaves supported by erect triangular stems. Each flower stem has 5 – 15 pale yellow, three petalled, cup shaped flowers which are relatively short lived.		
Dispersal	Each plant has the ability to set up to a million seeds per year.		
Control	Physical and mechanical removal of plants and appropriate disposal at an approved facility. Continued monitoring is required.		
Priority in local areas and statewide	Limnocharis is a Class 1 pest plant subject to eradication from the state. It is one of the two highest priorities for eradication in Townsville.		
Impact	Limnocharis is a serious weed of rice paddies, irrigation channels and drainage ditches in Asia. It has the potential to rapidly establish in suitable habitats and could threaten Australia's wetlands and waterways.		
Queensland distribution	Scattered localised infestations around Townsville, Cairns and north of Cairns south of Cooktown.		
Local Distribution	Localised infestations have been found in the Cairns area, at Anderson park in Townsville where it has been controlled, and in a single localised infestation in Thuringowa.		
Operational objective	To ensure Townsville remains free of Limnocharis.		
Operational actions	<ul style="list-style-type: none"> • Map all infestations and enter in to a GIS pest database. • Extensive regional media campaign during the primary growing and flowering period in conjunction with state agencies. • Implement regular surveys of all permanent waterways in Townsville LGA by co-opting assistance from Landcare and other community organizations and/or volunteer bodies. • Continue to monitor the known infestation site and destroy any Limnocharis plants encountered. • Eliminate any other infestations discovered in the future and report infestations to DNR&M. 		

Lion's tail	<i>Leonotis nepetifolia</i>	Not declared	High priority
Target – Early detection and eradication			
Description	Lion's tail is an erect annual herb to 3m tall and covered with short white hairs. Opposite placed leaves with toothed edges and flowers in 5-6cm globular clusters and individual flowers are orange, velvety and hairy. Seeds are small, numerous and triangular.		
Dispersal	Seeds are dispersed by water and in mud on vehicles and animals.		
Control	Physical control by hand pulling, slashing or cultivation, and chemical control by foliar spraying with a registered herbicide.		
Priority in local areas and statewide	Not declared in Queensland but has the potential to be a serious weed if not kept in check.		
Impact	Lion's tail has the ability to develop into large colonies that displace native species, particularly along river banks and flood plains.		
Queensland distribution	Known in an area near Rockhampton and in Lakefield National Park and near Bamaga on the tip of Cape York.		
Local Distribution	Unconfirmed infestations around Douglas and Annandale.		
Operational objective	To eradicate Lion's tail from the Townsville LGA.		
Operational actions	<ul style="list-style-type: none"> • Survey and map infestations in a GIS database. • Identify areas of high priority for immediate management. • Treat known infestations. • Monitor known infestations and treat any seedlings or regrowth. 		

Mesquite	<i>Prosopis</i> spp.	Class 2/WONS	High priority
Target – Early detection and eradication			
Description	Highly invasive thorny tree, 10-15m with a single main stem and a spreading canopy. Branches are zigzagged with smooth bark and leaves are blue-grey to green, with 1-4 pairs of pinnae each with 6-18 pairs of leaflets. Flowers are pale yellow to greenish-cream lambs tails, 10-20cm.		
Dispersal	Mesquite is mainly spread by animals digesting the pods and depositing the seeds.		
Control	Chemical, mechanical, fire and grazing management methods depending on size and species of infestations.		
Priority in local areas and statewide	Mesquite is a Weed of National Significance and considered one of the worst weeds in Australia because of its invasiveness, potential for spread and economic and environmental impacts. Landholders are legally required to control or treat Mesquite across Queensland.		
Impact	Mesquite causes dense impenetrable thickets and crowds out more useful pasture species. Invades bushland and reduces the productivity of pasture and grassland habitat that supports native flora and fauna.		
Queensland distribution	Varying levels of infestation throughout Queensland, mainly inland but localised infestations found in coastal Rockhampton and Townsville. It has the potential to spread throughout a large proportion of the state.		
Local Distribution	All known infestations have been at Cluden and have been treated by DNR&M or TCC.		
Operational objective	To eradicate Mesquite from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Map any newly identified infestations and add to GIS database. • Monitor known infestations and continue to treat any seedlings or regrowth. • Incorporate removal and monitoring of existing infestations into approved Property Pest Management Plans where appropriate. • Eliminate any other infestations discovered in the future. • Consider the provision of equipment and /or herbicide to assist and encourage landholders with control. • Consider the use of legislation on defaulting landholders. 		

Milkweed	<i>Euphorbia heterophylla</i>	Not declared	High priority
Target – Early detection and eradication			
Description	A milky sapped annual capable of growing more than 4 m high. The hollow main stems have side branches from almost every node. Leaves are opposite at the lower nodes then alternate over most of the stem. They have oval blades, pointed at the apex and rounded at the base. Creamy-yellow flower heads are clustered at the tops of stalks. Globular fruits contain 3-4 grey-brown seeds. These germinate deeply in the soil and plants can grow in light beneath the canopy. Seed remains viable for up to 12 months.		
Dispersal	Spread is by seed, the ripe fruit bursts open explosively scattering seeds over several metres. Also spread by birds and animals, water and in mud on vehicles/machinery.		
Control	Control by mechanical cultivation is poor because of the strong root system. Spray with starane before seed set. This should be followed by revegetation in riparian and other natural / disturbed areas. Thoroughly clean all machinery that have worked in infected areas.		
Priority in local areas and statewide	Milkweed is not a priority weed throughout the rest of Queensland, but because of its limited distribution in the Townsville LGA, it may be eradicated from the local area. It is considered a threat to horticultural production.		
Impact	Competes vigorously with sugar cane in the early growth stage when it can overtop cane in height and could decrease native biodiversity.		
Queensland distribution	Unknown.		
Local Distribution	Small areas limited to roadside and rail infestations (transport corridors) and along Ross River. Also populations at Oak Valley, Stuart Creek, Campus Creek (JCU) Pimlico and Mt Louisa. It is not a major problem weed, but because of its limited distribution, it can be eradicated.		
Operational objective	To eradicate from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Map distribution and add to GIS pest database. • Identify areas of high priority for immediate management. • Spray before flowering. • Follow-up regularly. • Incorporate removal and monitoring of existing infestations into approved Property Pest Management Plans where appropriate. • Encourage Community ownership of specific high priority sensitive areas where there is high probability of severe spread. • Consider supplying resources to assist community groups/landcare to assist with control mechanisms in highly sensitive areas. 		

Mother of Millions	<i>Bryophyllum</i> spp.	Class 2	High priority
Target – early detection and eradication			
Description	Mother of millions are erect, smooth, fleshy succulent plants to one metre or more in height. Leaves are boat shaped and elongated with serrations or cylindrical. Flowers are clusters of bell-shaped flowers at the end of tall flower spikes.		
Dispersal	Mother of millions can reproduce rapidly by producing small plantlets which they readily drop to form roots and establish new colonies.		
Control	Integrated control using a number of methods may be more effective at controlling Mother of millions. Hand pulling, control by fire and chemical control using a registered herbicide are recommended.		
Priority in local areas and statewide	High priority in Townsville area because of its ability to spread quickly and cause adverse environmental and economic impacts. It is a declared Class 2 weed in Queensland.		
Impact	Mother of Millions can completely take over and choke out all grasses.		
Queensland distribution	These plants have spread throughout south east and coastal regions of Queensland in varying density infestations. Areas include the highland areas around Emerald and the scrubland areas around Darling Downs, shady woodlands, garbage tips, and along roadsides and fence lines.		
Local Distribution	Infestations at Mount Stuart, Ross River, Meltonhill and Magnetic Island but otherwise unknown.		
Operational objective	To eradicate mother of millions from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Immediate surveys to ascertain the true distribution of this weed. • Map distribution and add to GIS database. • Treat existing infestations. • Monitor treated areas and other high risk areas for seedlings. • Encourage landholders to treat infestations on private land. • Enforce compliance when landholders do not take reasonable steps to control mother of millions on their land. 		

Parkinsonia	<i>Parkinsonia aculeata</i>	Class 2	High priority
Target – early detection and eradication			
Description	Parkinsonia is a small tree usually to 3m high and has slender green zigzag branches armed with sharp spines. Leaves are flat with small oblong leaflets along each edge. Flowers are yellow, fragrant and five petalled on a large drooping stalk. Seeds are oval, hard and about 15mm long and borne in pencil like pods 5-10cm long.		
Dispersal	Cattle and horses eat the pods and scatter the seeds. Flood water is also a great spreader of the pods and seeds.		
Control	A mixture of control techniques is available for Parkinsonia. In most situations, herbicide will be required either to mop up after mechanical control or as a stand alone using the basal bark or cut stump technique. Foliar spraying is an alternative on younger trees. It is suggested that contact is made with Council's Technical Officer to discuss the most practical technique for specific situations.		
Priority in local areas and statewide	High priority in Townsville due to its high threat to primary production and conservation values. A Class 2 pest plant in Queensland.		
Impact	Parkinsonia can form dense and often impenetrable thorny thickets along watercourses and bore drains. It can quickly colonise areas, choking out all grass and other native ecosystems.		
Queensland distribution	Parkinsonia is widespread throughout Queensland. It is adapted to an extremely wide variety of soil types and could potentially spread along watercourses and related areas throughout the sub humid and semi arid environments of Queensland.		
Local Distribution	Infestations located along Ross River, and throughout the Cluden, Nome, Alligator Creek, Cungulla, Pallarenda, Bohle/Mt St John and Garbutt areas.		
Operational objective	To progressively reduce the area of infestations in order to eradicate the species from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Statewide media coverage describing the problems associated with not controlling the plant. • Map all known infestations and add to GIS pest database. • Determine priority areas for treatment. • Coordinate control efforts with neighbouring Local Governments. • Encourage landholders to initiate control programs. • Incorporate removal and monitoring of existing infestations into approved Property Pest Management Plans where appropriate • Consider the provision of chemical subsidy as an incentive to control. • Use legislation as a last resort to ensure effective control. • Removal of all high priority plants on Council owned land. • Utilise the current WONS funded herbicide in the Bohle sub-catchment to ensure early control. 		

Parthenium weed	<i>Parthenium hysterophorus</i>	Class 2/WONS	High priority
Target – Early detection and eradication			
Description	Parthenium is an annual herb with a deep taproot and 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. Leaves are pale-green, lobed and covered with soft fine hairs. Flowers are small and creamy white on the tips of the numerous stems. Seeds are 2mm long, black with two thin white scales.		
Dispersal	Spread easily by water, machinery, feral animals, humans, vehicles, chook and stock fodder, stock movement and pasture seeds.		
Control	Prevention is better than cure. Control of any infestation should revolve around pasture management and timely herbicide treatment. This requires rehabilitation of poor pastures, followed by sound grazing maintenance program. Burning is generally not a management option. Parthenium can be sprayed early before it can set seed. A close watch needs to be kept on treated areas for at least two years.		
Priority in local areas and statewide	Parthenium weed is a Weed of National Significance and is regarded as one of Australia's worst weeds because of its invasiveness, potential for spread and economic, health and environmental impacts.		
Impact	Parthenium will grow virtually anywhere. It reduces pasture production potential, invades brigalow, gidgee and softwood scrub soils and any disturbed soil situation (eg. overgrazed). Also a health problem as contact with the plant or pollen can cause serious allergic reactions such as dermatitis and hay fever.		
Queensland distribution	Parthenium weed infests more than eight million hectares of central Queensland with serious outbreaks in the south and north of the state.		
Local Distribution	Isolated infestations at Stuart Creek, Alligator Creek, AMH, Roseneath, Oak Valley, top of Ross River Dam and at the headwaters of Majors Creek. This weed is just starting to take off.		
Operational objective	To progressively reduce the area of infestations in order to eradicate Parthenium weed from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Survey and map distribution in Townsville. • Educate landholders on identification, risk and importance of reporting new infestations to Council. • Encourage and assist landholders to participate in property pest management planning and to prioritise control of Parthenium. • Provide incentives to Landholders prepared to participate in Property Pest Management Planning. • Facilitate landholders to form small localised control groups to control infestations on a sub-catchment or district basis. • Control known infestations. • Monitor and maintain treated areas. • Issue notices as necessary. 		

Porcupine Flower / Barleria	<i>Barleria prionotis</i>	Not Yet Declared	High priority
Target – Early detection and eradication			
Description	Barleria is an erect, spiny shrub growing to 1.5 m in height. Leaf axils bear 3-5 sharp, pale spines up to 20 mm in length. Tubular yellow flowers occur in bunches on the tips of the stems and single flowers may occur at the leaf base. Seed capsules are oval shaped with a pointed beak and grow to 40 mm in length. Stems and branches are stiff and smooth, light brown to grey in colour. The oval shaped leaves narrow at each end (ellipsoid shape) and grow to 100 mm long by up to 40 mm wide. Above-ground vegetation may die-off during the dry season and re-emerge after rain.		
Dispersal	Barleria reproduces and disperses by seed movement. It may also reproduce vegetatively. Population expansion and seed dispersal may be greatest down slopes and along paths where seeds are moved by water.		
Control	Any Barleria infestations should be reported to Council's Environmental Health Services for their assistance. Control efforts that are poorly performed or not followed up may increase the problem. Appropriate herbicides may be used to control Barleria infestations and isolated plants may be carefully hand-pulled. Waste material should be burned to destroy any seeds.		
Priority in local areas and statewide	Barleria is a high priority for eradication in Townsville. It is not yet a declared pest in Queensland, although it is declared in the Northern Territory and is listed on the Federal Government's Alert List for Environmental Weeds.		
Impact	Barleria has the potential to become a very serious weed of grazing and natural landscapes in Townsville. It is unpalatable to stock and infestations reduce pastoral productivity. Dense thorny stands may also restrict access to watering points. Barleria infestations can have substantial impacts on biodiversity and natural ecosystem processes.		
Queensland distribution	Barleria occurs in the Townsville region and in the Torres Strait.		
Local Distribution	Unconfirmed reports of its presence on Castle Hill and on the Ross River near Rooney's bridge.		
Operational objective	To identify and eradicate any infestations before they become further established.		
Operational actions	<ul style="list-style-type: none"> ▪ Survey likely areas for infestations ▪ Eradicate any existing infestations and plan for follow-up ▪ Distribute information to increase community awareness and recognition ▪ Consider the declaration of Barleria under local laws 		

Praxelis	<i>Praxelis clematidea</i>	Not Yet Declared	High priority
Target – Early detection and eradication			
Description	Praxelis is very similar in appearance to Blue Billygoat Weed <i>Ageratum houstonianum</i> . It is an annual herb growing to 1 m tall. Lilac to bluish coloured florets 7-10 mm long appear in clusters at the ends of stems. The small flowers within these florets are set into cone-shaped receptacle, unlike Blue Billygoat Weed in which the florets are set in a spherical receptacle. Leaves are lanceolate in shape, tapering at the leaf base, and have strongly serrated margins. Leaves smell like cats' urine when crushed.		
Dispersal	Praxelis produces many seeds which are dispersed by wind, water or animals. Praxelis may also disperse vegetatively from branches contacting the soil.		
Control	Any Praxelis infestations should be reported to Council's Environmental Health Services for their assistance. Small infestations may be eradicated if detected early and prevented from spreading.		
Priority in local areas and statewide	Praxelis is not yet a declared pest. However it is considered a high priority for control in many areas including Townsville. Praxelis is listed on the Federal Government's Alert List for Environmental Weeds.		
Impact	Praxelis is capable of rapid dispersal over long distances. It is closely related to the Class 1 pest Siam Weed and may pose a similar threat to production systems and biodiversity.		
Queensland distribution	Infestations have been recorded along the coast from Townsville to Cairns and on the Atherton Tablelands. Other infestations occur on the Cape York Peninsula and at Gympie.		
Local Distribution	Praxelis has been found in the vicinity of Stuart and Louisa Creeks in Townsville, and at Bluewater and sections of the Bruce Highway in Thuringowa.		
Operational objective	To eradicate Praxelis from Townsville and prevent its future establishment.		
Operational actions	<ul style="list-style-type: none"> ▪ Identify and treat existing infestations ▪ Survey disturbed areas susceptible to infestation ▪ Develop a monitoring program for treated infestations ▪ Distribute information to increase community awareness and recognition ▪ Consider the declaration of Praxelis under local laws 		

Prickly acacia	<i>Acacia nilotica</i>	Class 2/WONS	High priority
Target – early detection and eradication			
Description	Prickly acacia is a thorny tree growing to 10m high, but usually 4-5m. It has ferny leaves and is usually single-stemmed except when damaged by fire or frost when it becomes multi-stemmed at the base. Young plants are very thorny but older plants tend to lose most thorns. Thorns are in pairs along the stem and usually 5-10cm long. Flowers are ball shaped, golden flowers about 1cm across in April-May. Pods are 10-15cm, flattish, have constrictions between the seeds and are greyish when ripe in Oct-Dec.		
Dispersal	Spread by cattle and water.		
Control	Control of prickly acacia can be achieved using mechanical, chemical and biological methods. Fire and pasture management can complement these treatments in some instances.		
Priority in local areas and statewide	Prickly acacia is a Weed of National Significance and is regarded as one of Australia's worst weeds because of its invasiveness, potential for spread and economic and environmental impacts.		
Impact	Forms impenetrable thickets. Once there is 30% canopy cover, no herbs can grow due to lack of light.		
Queensland distribution	Prickly acacia can be found throughout the state, with widespread infestations in areas of north west and central west Queensland.		
Local Distribution	Scattered infestations around the racecourse, Pony Club yards on the Ross River and at Alligator Creek, Vantassel Road cattle yards, old Bohle abattoir, Stuart, Oak Valley, Nome and towards Phantom Retreat. Reduced to isolated populations now due to a 3 year control program by DNR&M. At the conclusion of the current eradication program, Council will assume responsibility for monitoring and control.		
Operational objective	To eradicate Prickly Acacia from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Extensive statewide media campaign. • Map all infestations and add to GIS database. • Determine high priority areas for immediate control. • Inspect known infestation sites regularly and destroy any seedlings or regrowth. • Alert landholders to report any new infestations immediately and treat these. • Incorporate removal and monitoring of existing infestations into approved Property Pest Management plans where appropriate. • Consider the provision of incentives to assist and encourage landholders with control and to participate in PPMP process • Consider the use of legislation on defaulting Landholders. • Lobby local community groups to participate in control projects to support landholders with early eradication programs. 		

Siam weed	<i>Chromolaena odorata</i>	Class 1	High priority
Target – Early detection and eradication			
Description	Leaves are soft green and roughly triangular in shape with a distinctive 'pitch fork' three vein pattern. They have a distinctive odour when crushed. Flowers are pale lilac colour that appear white from the distance and turn darker pink when mature. Flowering occurs from May to June. In the open Siam weed grows as dense tangling bush but when trees are available, it scrambles up into them to a height of 20m. Siam weed looks very similar to billygoat weed.		
Dispersal	Wind borne seeds are produced in large quantities, also stock and human movement.		
Control	Chemical control with a registered herbicide and hand pulling of young plants.		
Priority in local areas and statewide	Siam weed is a Class 1 pest plant and is subject to eradication throughout the state.		
Impact	Siam weed has a phenomenal growth rate and can quickly invade and establish to outcompete pastures, crops and native vegetation. Young Siam weed is toxic to stock and can cause health issues for allergy prone people.		
Queensland distribution	Large infestations in the Tully/Bingil Bay areas with smaller infestations in the El Arish/Silkwood areas and Townsville/Thuringowa.		
Local Distribution	Localised infestations have appeared in Townsville along Mount Stuart Rd and in Thuringowa at the Central Creek and Alice River Watershed and are being treated immediately by DNR&M.		
Operational objective	To ensure Siam weed is eradicated from Townsville LGA.		
Operational actions	<ul style="list-style-type: none"> • Regularly monitor the Townsville infestation site. • Report regrowth / seedlings to DNR&M and treat immediately. • Coordinate surveillance and treatments with Defence, DNR&M and relevant landholders. • Continue to participate in Stakeholder meetings. • Assist with resourcing of control projects in the adjacent local government areas on request • Actively promote the identification of the plant and the need for early control. • Continue to raise this plant as an extremely high priority for resourcing with HESROC local governments. • Lobby the grazing and general community to participate in survey and control programs. 		

Sicklepod	<i>Senna obtusifolia</i>	Class 2	High Priority
Target – Early detection and eradication			
Description	A vigorously growing, very competitive woody shrub to 1.5 meters tall. It is normally an annual, though plants that have been slashed or survive chemical treatment often reshoot and survive another year depending on weather conditions. Leaves are divided into 3 opposite pairs about 4 cm long and 2 cm wide, rounded at the end and wedge shaped at the base. Flowers are small and yellow, about 1 cm across and have 5 petals. The seedpod is 10 to 15 cm long and 3 to 5 mm wide and sickle shaped. Seeds are flat, shiny and brown.		
Dispersal	When ripe, the pods burst open shedding the seeds which can remain viable for up to 15 years. Up to 2,000 seeds per m ² can build up in the soil. Spread is usually by cattle or horses eating mature seed and passing in their dung. Vehicles and machinery are also responsible for spread.		
Impact	Sicklepod can invade and completely dominate pastures. It can become a major weed of cropping areas within 2 to 3 seasons. Sicklepod usually only invades natural areas after significant disturbance.		
Control	Control should aim at preventing any further seed production and replacing with suitable competitive pasture species. Slashing is only recommended in large extensive infestations but care must be taken not to further spread the plant into clean areas on the property. Chemical application will give the best result, however the effectiveness of herbicides is optimised with sound pasture management.		
Priority in local areas and statewide	High priority in Townsville due to its high threat to primary production and conservation values. Class 2 pest plant in Queensland.		
Queensland distribution	It is well established on the wet tropical coast of Queensland, from Sarina to the tip of Cape York.		
Local Distribution	Two infestations of Sicklepod have been recorded near Calcium. Also found in Thuringowa City and the northern parts of Burdekin Shire within close proximity to the Townsville LGA boundary.		
Operational objective	To eradicate Sicklepod from Townsville.		
Operational actions	<ul style="list-style-type: none"> • Implement an active media campaign to ensure all landholders and the general community can readily identify the plant. • Map known infestations and add to the GIS pest database. • Identify priority areas of high vehicular/machinery movement. • Treat or arrange for treatment of known infestations. • Monitor infestation sites and other high risk areas for seedlings and encourage landholders to treat immediately. • Encourage landholders to participate in PPMP processes • Consider incentive programs to assist and encourage those Landholders with PPMPs • Utilise legislation on those Landholders failing to accept their responsibility to control. 		

Weedy Sporobolus Group (excluding American Rats Tail Grass)	<i>Sporobolus pyramidalis</i> , <i>S. natalensis</i> , <i>S. fertilis</i> , <i>S. africanus</i> (excluding <i>S. jacquemontii</i>)	Class 2	High Priority
Target - containment			
Description	<p>Giant rat's tail (GRT) and other species weedy <i>Sporobolus</i> group (Parramatta Grass <i>S. africanus</i> and Giant Parramatta Grass <i>S. fertilis</i>) are very similar to some native <i>Sporobolus</i> species and it can be very difficult to distinguish between the native and exotic species. GRT is a robust, tufted, perennial grass growing to 1.7 metres tall. Plant height from the base to the seed head is 1 to 1.5 metres and the seed head can be 40 cm long and 3 cm wide. Seed heads change shape from a "rats tail" spike when young to an elongated pyramid shape when flowering. Mature leaf blades are tough and difficult for stock to graze. Weedy <i>Sporobolus</i> grasses set large quantities of seed throughout the year provided soil moisture is available. Research has indicated that seed banks of up to 80,000 seeds m² per year with predictions indicating that some seed may be viable up to 10 years. Native <i>Sporobolus</i> species tend to be shorter and have less dense seed heads than weedy <i>Sporobolus</i> grasses.</p>		
Dispersal	<p>Seeds are commonly spread by water, machinery, vehicles, animals, and in pasture seed or hay. Landholders should minimize the movement of stock and vehicles in weedy <i>Sporobolus</i> infestations particularly when there are heavy dews or wet conditions as the seed sticks quite readily to anything when wet.</p>		
Control	<p>Always work from heavy to light infested areas to minimize spread. There are a number of control options available from fire through to cultivation and reeding with more desirable pasture species. Where plants are extremely isolated, digging up, bagging and then burning is the preferred control. Isolated plants can be treated with Glyphosate formulations. In the first instance, it is strongly suggested that advice is sought from Council's Technical Officer or DNR&M Land Protection Officers.</p>		
Priority in local areas and statewide	<p>High priority in Townsville due to its high threat to primary production and conservation values. Class 2 pest plants in Queensland.</p>		
Impact	<p>Cattle grazing weedy <i>Sporobolus</i> dominant pastures can take up to 12 months longer to reach equivalent weights to those grazing clean pastures. Can become a serious fire hazard in Spring when the GRT is dry.</p>		
Queensland distribution	<p>Giant Rat's Tail grasses occur in localised infestations along most of the east coast south of the Cooktown area. Areas of widespread distribution occur in the central and southern coastal regions.</p>		
Local Distribution	<p>Isolated infestations of weedy <i>Sporobolus</i> are known in several suburbs and the Calcium area. Complete distribution is unknown.</p>		
Operational objective	<p>To minimise the impact of these grasses and prevent further spread within the Townsville LGA.</p>		
Operational actions	<ul style="list-style-type: none"> • Survey and map infestations and add to GIS pest database. • Carry out periodic surveys of roadsides to identify infestations along roadsides that need urgent control. 		

	<ul style="list-style-type: none">• Encourage Council's field staff and the general community to report any outbreaks.• Maintain an active identification and control education program with assistance from DNR&M and QLD Herbarium• Ensure weedy <i>Sporobolus</i> grasses are effectively controlled on small blocks and government lands.• Control isolated infestations on larger blocks and ensure follow-up treatments.• Incorporate removal and monitoring of existing infestations into approved Property Pest Management plans where appropriate• Ensure eradication on Council and State controlled road reserves.• Examine avenues for provision of broad acre control equipment.• Liaise with adjoining Local Governments through HESROC pest management sub-group to coordinate control and minimise the opportunities for spread into Townsville LGA.
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Weedy sporobolus grass.

White Ball Acacia / Fernleaf Acacia	<i>Acacia angustissima</i>	Class 1	High priority
Target – early detection and eradication			
Description	White ball acacia is a thornless shrub or small tree growing 2-7m high. Leaves are mostly asymmetric 10-25cm long, with 10-20 pairs of pinnae and leaflets. It has white pom-pom flowers and seed pods are oblong, 3-6cm long and initially green turning brown as they ripen.		
Dispersal	Seed dispersal possibly by water and ants.		
Control	Fire could be used in areas with previously known infestations to release seeds from dormancy so they can be treated with herbicide. Chemical control is recommended.		
Impact	Possibly low but all non-indigenous <i>Acacia</i> species have high priority following the precautionary principle. Form thickets along roadsides and pastures in its native range and is possibly toxic to stock.		
Priority in local areas and statewide	Possibly low impact but as a Class 1 pest plant, control statewide is essential.		
Queensland distribution	Recorded from pastoral districts Cook and North Kennedy and South Kennedy		
Local Distribution	Previously plants existed on Campus Creek near the Townsville General Hospital and on the roadside near Rollingstone, but evidence indicates the infestations may have been eradicated.		
Operational objective	To ensure Townsville remains free of White ball acacia		
Operational actions	<ul style="list-style-type: none"> • Regularly survey and monitor known and potential infestation sites. • Treat regrowth and seedlings as they appear • Eliminate any other infestations discovered in the future. • Raise awareness of the impacts of this weed and ensure the Community is able to identify it. • Coordinate activities with relevant landholders. 		



A weedy view in rural Townsville

Local pest plants for containment

The following pest plants are widespread and/or common in the Townsville Local Government Area

All reasonable efforts will be made to ensure that the distributions of these plants are contained to their existing extents, if not reduced, in the Townsville Local Government Area by implementing appropriate actions from Part A of this Plan.

Common name	Scientific name	Declaration	Priority
African fountain grass	<i>Pennisetum setaceum</i>	Class 3	Medium
African tulip tree	<i>Spathodea campanulata</i>	Class 3	Medium
American Rat's Tail grass	<i>Sporobolus jacquemontii</i>	Class 2	Medium
Asparagus fern	<i>Asparagus aethiopicus</i> , <i>A. africanus</i> , <i>A. plumosus</i>	Class 3	Medium
Broad-leaved pepper tree	<i>Schinus terebinthifolius</i>	Class 3	Medium
Cabomba	<i>Cabomba caroliniana</i>	Class 2/WONS	Medium
Candle bush	<i>Senna alata</i>	Not declared	Medium/low
Captain cook tree	<i>Cascabela peruviana</i>	Class 3	Medium
Castor oil plant	<i>Ricinus communis</i>	Not declared	Medium
Chinee apple	<i>Ziziphus mauritiana</i>	Class 2	Medium
Coral vine	<i>Antigonon leptopus</i>	Not declared	Medium/low
Grader grass	<i>Themeda quadrivalvis</i>	Not declared	Medium
Grewia	<i>Grewia asiatica</i>	Not declared	Medium/low
Hymenachne	<i>Hymenachne amplexicaulis</i>	Class 2	High
Japanese sunflower	<i>Tithonia diversifolia</i>	Not declared	Medium/low
Lantana	<i>Lantana camara</i>	Class 3/WONS	Medium
Leucaena	<i>Leucaena leucocephala</i>	Not declared	High
Mimosa bush	<i>Acacia farnesiana</i>	Not declared	Medium
Mother in law's tongue (excluding dwarf varieties)	<i>Sansevieria trifasciata</i>	Not declared	Medium
Neem	<i>Azadirachta indica</i>	Not declared	Medium/low
Noogoora burr and Bathurst burr	<i>Xanthium pungens</i> and <i>X. occidentale</i>	Not declared	Medium
Prickly pear	<i>Opuntia spp not including O. ficus-indica</i>	Class 2	Medium
Privet	<i>Ligustrum lucidum</i> , <i>L. sinense</i>	Class 3	Medium
Rubber vine	<i>Cryptostegia grandiflora</i>	Class 2/WONS	High
Salvinia	<i>Salvinia molesta</i>	Class 1/WONS	Medium
Singapore daisy	<i>Sphagneticola trilobata</i>	Class 3	Medium
Sisal hemp / century plant	<i>Agave sisalana / americana</i>	Not declared	High (Mag Is) Medium (elsewhere)
Water hyacinth	<i>Eichhornia crassipes</i>	Class 2	Medium
Water lettuce	<i>Pistia stratiotes</i>	Class 2	Medium
Yellow bells	<i>Tecoma stans</i>	Class 3	Medium

African fountain grass	<i>Pennisetum setaceum</i>	Class 3	Medium priority
Target – Containment			
Impact	An environmental and pasture weed and unpalatable to stock.		
Local Distribution	Widespread infestations throughout the LGA. Established on Castle Hill and common in gardens.		

African tulip tree	<i>Spathodea campanulata</i>	Class 3	Medium priority
Target - Containment			
Impact	Serious environmental weed in north Queensland because it is highly invasive and forms dense stands, crowding out native vegetation.		
Local Distribution	Mostly found in gardens or planted on streets, no known occurrences of wild populations yet but can be a potential weedy threat to Mt Elliot. 8 populations located in 2003 - common on Ross River.		

American Rat's tail Grass	<i>Sporobolus jacquemontii</i>	Class 2	Medium priority
Target - Containment			
Impact	As with other Weedy Sporobolus Grasses, American Rat's Tail can be extremely difficult and expensive control. Infestations in productive land can result in reduced pasture and animal production as well as reduced land values. Weedy Sporobolus infestations often exclude other species, resulting in reduced biodiversity and impacting on environmental processes such as fire and nutrient regimes. Swampy areas may be particularly susceptible		
Local Distribution	American Rat's Tail is prevalent in suburban gardens and believed to have various outbreaks in the Woodstock, and Toonpan areas.		

Asparagus fern	<i>Asparagus aethiopicus, A. africanus, A. plumosus</i>	Class 3	Medium priority
Target - Containment			
Impact	A climbing weed with potential to smother trees and damage rainforests, vine scrubs and riparian vegetation.		
Local Distribution	Distribution in the Townsville LGA is unknown. Possibly restricted to gardens at present.		

Broad-leaved pepper tree	<i>Schinus terebinthifolius</i>	Class 3	Medium priority
Target – Containment			
Impact	The tree is choking out native plants and is becoming a serious problem. It invades coastal dune areas, wetlands and along stream banks and harbours a disease which can kill mangroves. The Broadleaved pepper tree can also affect human and animal health as it contains toxic resins.		
Local Distribution	Widely distributed throughout the Townsville LGA as a garden plant.		

Cabomba	<i>Cabomba caroliniana</i>	Class 2	Medium priority
Target – Containment			
Impact	Displaces indigenous aquatic vegetation, resulting in deleterious impacts on native fish and invertebrates. Slows water flow in drainage and irrigation channels. Dangerous for recreational water users.		
Local Distribution	Various sections of the Ross River, complete distribution unknown. Believed to be sold in pet shops for aquarium tanks.		

Candle Bush	<i>Senna alata</i>	Not Declared	Medium priority
Target – Containment			
Impact	Candle Bush invades natural systems and can form dense thickets where sufficient moisture is present. It can impede access to waterways and may be poisonous to stock.		
Local Distribution	Widely distributed around Townsville, particularly in watercourses.		

Captain cook tree	<i>Cascabela peruviana</i>	Class 3	Medium priority
Target - Containment			
Impact	Highly toxic to humans and animals and will invade dry creek banks and other dry areas adjacent to gardens and streams.		
Local Distribution	Bohle abattoir, domestic gardens and scattered localised infestations throughout the LGA.		

Castor oil plant	<i>Ricinus communis</i>	Not declared	Medium priority
Target - Containment			
Impact	Castor oil plant spreads over sandy soil areas, creek banks, and gullies. This can lead to a significant loss of prime grazing land. The seeds of castor oil contain ricin, a poison which is extremely toxic to livestock and humans. Leaves have a lesser amount of toxin		
Local Distribution	Scattered infestations throughout the LGA.		

Chinee apple	<i>Ziziphus mauritiana</i>	Class 2	Medium priority
Target - Containment			
Impact	Dense infestations produce impenetrable thickets that seriously hamper stock management and reduce pasture production and accessibility.		
Local Distribution	Throughout the LGA. Particularly high infestations in Town Common, Alligator Creek, Stuart, Toonpan Conservation Park, Ross River Dam Reserve, and roadside verges.		

Coral Vine	<i>Antigonon leptopus</i>	Not Declared	Medium priority
Target –Containment			
Impact	Invades natural systems and completely smothers plants. Leaf drop during the dry season increases fuel loads.		
Local Distribution	Local distribution is currently poorly known.		

Grader Grass	<i>Themeda quadrivalvis</i>	Not Declared	Medium priority
Target –Containment			
Impact	Grader Grass invades grazing and natural systems reducing pasture productivity and biodiversity. Grader Grass is unpalatable to stock and may increase fuel loads.		
Local Distribution	Grader Grass is widely distributed throughout the rural areas of Townsville.		

Grewia	<i>Grewia asiatica</i>	Not Declared	Medium priority
Target –Containment			
Impact	<i>Grewia asiatica</i> invades natural woodland systems, changing the structure and processes of the systems. It is resistant to fire and readily dispersed by animals.		
Local Distribution	<i>Grewia asiatica</i> is established on Castle Hill and the Mount Stuart area.		

Hymenachne	<i>Hymenachne amplexicaulis</i>	Class 2	High priority
Target –Containment			
Impact	Invades waterways, including drains, lagoons, creeks and edges of mangroves. It can completely choke these areas, displacing indigenous vegetation, increasing flooding, stagnating water and reducing oxygen levels in water which, in turn, reduces fishery values. Hymenachne also reduces access to waterways for recreation and wildlife. Hymenachne can be a significant problem to sugar producers due to its ability to block drains and cause flooding.		
Local Distribution	Threat of invasion to local wetlands by localised plantings on grazing properties. Known infestations at Cungulla, Oak Valley and the Bohle River.		

Japanese Sunflower	<i>Tithonia diversifolia</i>	Not Declared	Medium / Low priority
Target –Containment			
Impact	Japanese Sunflower can invade natural systems and displace native plants.		
Local Distribution	Common on parts of Castle Hill. Other distribution poorly known.		

Lantana	<i>Lantana camara</i>	Class 3	Medium priority
Target - Containment			
Impact	Can produce dense infestations and impenetrable thickets that seriously hamper stock management and reduce pasture productivity and accessibility. It smothers and kills native vegetation.		
Local Distribution	Throughout the LGA. Particularly high infestations in Town Common, Alligator Creek, Cungulla, Majors Creek and on roadside verges.		

Leucaena	<i>Leucaena leucocephala</i>	Not declared	Medium priority
Target - Containment			
Impact	An unsightly weed of roadsides and other disturbed areas and potentially a serious environmental weed. Dense stands inhibit growth of other species and reduce ground cover, potentially leading to soil erosion. Plants may be toxic to some livestock.		
Local Distribution	Scattered and isolated plants occur along most creeks and drainage lines in the area (eg Stuart, Peewee and Louisa Creeks and Angus-Smith Drive), with heavy infestations along Stuart Creek and Angus-Smith Drive, Nelly Bay on Magnetic Island, Ross River and lower slopes of Castle Hill .		

Mimosa bush	<i>Acacia farnesiana</i>	Not declared	Medium priority
Target –Containment			
Impact	Mimosa bush can grow and spread quickly. It forms thorny thickets which can hinder mustering and stock access to water.		
Local Distribution	Mimosa bush is naturalised in Australia and is widespread in Queensland. Localised infestations throughout the area. Common at Nome and Oak Valley		

Mother in laws tongue (excluding Dwarf varieties)	<i>Sansevieria trifasciata</i>	Not declared	Medium priority
Target - Containment			
Impact	Prevents regeneration of native plants in bushland.		
Local Distribution	Mostly in gardens but small infestations throughout the LGA, including on Magnetic Island and the Townsville Town Common Conservation Park.		

Neem Tree	<i>Azadirachta indica</i>	Not Declared	Medium priority
Target –Containment			
Impact	Neem invades natural systems and displaces native plants, particularly in environmentally important riparian areas.		
Local Distribution	Local distribution is poorly known.		

Noogoora burr and Bathurst burr	<i>Xanthium pungens</i> and <i>X. occidentale</i>	Not declared	Medium priority
Target - Containment			
Impact	Seedlings are poisonous to stock and the weed is a serious competitor in pasture and summer crops		
Local Distribution	Scattered infestations spread throughout LGA, but mostly confined to creeks and rivers		

Para grass	<i>Brachiaria Urochloa mutica</i>	Not declared	Medium priority
Target - Containment			
Impact	An aggressive invader and a common weed in cane-growing areas and a potential threat to natural wetland ecosystems. Major impediment to recreational use of Ross River		
Local Distribution	Widespread on the Town Common and scattered infestations on Ross River, Bohle River. Magnetic Island and other large waterways in the LGA.		

Prickly pear	<i>Opuntia</i> spp. (not <i>O. ficus-indica</i>)	Class 2	Medium priority
Target – Containment			
Impact	Invades grazing and weakened pastures and create management difficulties by forming thickets around water courses and other infrastructures. Invasive where salt breeze inhibits <i>Cactoblastis</i> .		
Local Distribution	Small isolated populations on Castle Hill, Cungulla and Town Common.		

Privet	<i>Ligustrum lucidum, L. sinense</i>	Class 3	Medium priority
Target – Containment			
Impact	Privet can invade natural systems, particularly riparian and rainforest systems, displacing natural vegetation.		
Local Distribution	Current distribution is poorly known.		

Rubber vine	<i>Cryptostegia grandiflora</i>	Class 2	Medium priority
Target - Containment			
Impact	Rubber Vine first invades creeks and river systems where it smothers other vegetation to form dense impenetrable thickets. It then spreads over hillsides and through pastures. Rubber vine has the potential to invade much of this region, especially along waterways.		
Local Distribution	Along most coastal creeks and widespread throughout the LGA, including Magnetic Island.		

Salvinia	<i>Salvinia molesta</i>	Class 1	Medium priority
Target – Containment			
Impact	Salvinia has the ability to completely choke waterways, dams, lakes and rivers. Thick infestations can stop fishing and other recreational activities. Children and livestock may drown if they become entangled in the roots and stolons or trapped under heavy bodies of the plant.		
Local Distribution	Most waterways around Townsville and adjoining Shires.		

Singapore daisy	<i>Sphagneticola trilobata</i>	Class 3	Medium priority
Target - Containment			
Impact	Singapore daisy spreads rapidly and smothers seedling, ferns and shrubs and will outcompete them for survival.		
Local Distribution	Localised infestations on Magnetic Island and along Ross River at Riverside Gardens and Annandale.		

Sisal hemp	<i>Agave sisalana / americana</i>	Not declared	Medium priority
Target - Containment			
Impact	Can invade bushland and beachfront, forming dense clumps.		
Local Distribution	Small groups of plants scattered throughout the LGA.		

Water hyacinth	<i>Eichhornia crassipes</i>	Class 2	Medium priority
Target - Containment			
Impact	Rampant growth of water hyacinth can destroy native wetlands and waterways, killing native fish and other wildlife, as well as reduce recreational (eg swimming, canoeing) amenity.		
Local Distribution	In all major waterways throughout the LGA.		

Water lettuce	<i>Pistia stratiotes</i>	Class 2	Medium priority
Target - Containment			
Impact	Forms dense mats that can restrict water flow and cause degradation of water quality.		
Local Distribution	Scattered infestations on Ross River and adjoining waterways.		

Yellow bells	<i>Tecoma stans</i>	Class 3	Medium priority
Target - Containment			
Impact	A garden escapee that invades disturbed areas and can grow in dense stands inhibiting regeneration of other species.		
Local Distribution	Mostly found in gardens and wild populations are common on Magnetic Island		

Advice on plants undesirable in or near natural areas

A substantial diversity of indigenous and exotic plant species occur within the Townsville Local Government Area and the greater region. These include native plants occurring in natural areas, horticultural and landscaping species used in urban areas, pastoral and agricultural species used in primary industries, and a variety of species with no known values to the community.

Some species have the potential to establish populations in areas where they are not wanted. Such populations may adversely impact upon the recognised values of the area. For example the illegal dumping of garden waste in natural areas may result in the establishment of populations of otherwise useful garden plants that interfere with important natural ecosystem processes.

In order to minimise the potential for this to occur, it is necessary to identify some of those species that are recognised as capable of establishing populations in areas where they are not wanted. This will enable the community to make informed decisions regarding the suitability of these plants for particular purposes and locations.

The intention of this section is to increase community awareness of these issues with the object of contributing to the following outcomes:

- prevention of the introduction and establishment of unwanted plant populations,
- increased community recognition and management of unwanted plant populations,
- reduction in the future cost to the community of managing unwanted plant populations, and
- the continued availability of species whose status as useful plants is not compromised by becoming classified as a plant of concern due to being used inappropriately.

Many of the plants presented in this section have no known values to the community. However some species have substantial economic and social values in particular areas. This document does not support restrictions on the use of plants in areas where they are considered valuable and have no substantial adverse impacts on other areas.

The following plant species are recognised as currently or potentially adversely impacting upon natural systems where they are used for inappropriate purposes or in inappropriate locations.

SCIENTIFIC NAME	COMMON NAME
<i>Albizia lebbek</i>	Albizia, Indian Sirus
<i>Allamanda cathartica</i> (excluding varieties other than the vigorous climbing form)	Yellow Allamanda (excluding varieties other than the vigorous climbing form)
<i>Aloe</i> spp.	Aloes
<i>Alternanthera pungens</i>	Alternanthera, Khaki weed
<i>Anacardium occidentale</i>	Cashew
<i>Anredera cordifolia</i>	Madeira vine
<i>Ardisia humilis</i>	Ardisia
<i>Argyrea nervosa</i>	Wood rose/ Monkey vine
<i>Asclepias curassavica</i>	Red-headed cotton bush
<i>Bauhinia variegata</i>	Bauhinia
<i>Brillantaisia lamium</i>	Brillantaisia
<i>Catharanthus roseus</i>	Periwinkle

<i>Celosia argentea</i>	Cockscomb
<i>Cenchrus ciliaris</i>	Buffel grass
<i>Centrosema pubescens</i>	Centro
<i>Cleome gynandra</i>	White spider flower
<i>Clitoria ternatea</i>	Butterfly pea, Clitoria
<i>Conyza bonariensis</i>	Fleabane
<i>Corchorus trilocularis</i>	Jute
<i>Cyperus involucratus</i>	Umbrella sedge
<i>Elodea canadensis</i>	Elodea
<i>Euphorbia cyathophora</i>	Painted Spurge, Dwarf Poinsettia
<i>Flacourtia jangomas</i>	Flacourtia
<i>Hydrocleys nymphoides</i>	Water poppy
<i>Hyptis suaveolens</i>	Hyptis, Horehound
<i>Ipomoea hederifolia</i>	Scarlet creeper
<i>Ipomoea purpurea</i>	Blue morning glory
<i>Ipomoea quamoclit</i>	Star of Bethlehem
<i>Jatropha curcas</i>	Physic nut
<i>Kalanchoe pinnata</i>	Kalanchoe, Air plant
<i>Macroptilium atropurpureum, M. lathyroides</i>	Sirat
<i>Martynia annua</i>	Devils claw
<i>Melinis minutiflora</i>	Molasses grass
<i>Melinis repens</i>	Red Natal grass
<i>Merremia spp.</i>	Snake vine
<i>Muntingia calabura</i>	Strawberry Tree
<i>Nymphaea mexicana</i>	Yellow Waterlily
<i>Palmentiera aculeata</i>	Cucumber tree
<i>Panicum maximum</i>	Guinea grass
<i>Passiflora foetida</i>	Stinking passionfruit
<i>Passiflora mollisima</i>	Banana passionfruit
<i>Passiflora suberosa</i>	Corky passionfruit
<i>Passiflora subpeltata</i>	White passion flower
<i>Pennisetum setaceum</i>	African Fountain Grass
<i>Pennisetum polystachion</i>	Mission Grass
<i>Pennisetum alopecuroides</i>	Swamp Foxtail
<i>Pinus caribaea</i>	Caribbean Pine
<i>Psidium cattleianum</i>	Cherry guava/ Strawberry guava
<i>Psidium guajava</i>	Guava
<i>Rivina humilis</i>	Coral berry / Blood berry
<i>Ruellia tuberosa</i>	Popping seed, Ruellia
<i>Salix spp.</i>	Willows (all species)
<i>Sanchesia parvibracteata</i>	Sanchesia
<i>Solanum seafortianum</i>	Brazilian nightshade
<i>Sorghum almum</i>	Columbus grass
<i>Stachytarpheta spp.</i>	Snakeweed, Porter Weed
<i>Syndrella nodiflora</i>	Cinderella weed
<i>Syngonium podophyllum</i>	Arrowhead vine, syngonium
<i>Syzygium cumini</i>	Java plum, jambolan plum
<i>Syzygium jambos</i>	Rose apple
<i>Thaumastochloa danielii</i>	Sweet prayer plant
<i>Thunbergia alata</i>	Black-eyed Susan
<i>Tradescantia spathacea syn. Rhoeo spathacea (excluding dwarf cultivars)</i>	Moses in a Basket / Cradle (excluding dwarf cultivars)
<i>Turbina corymbosa</i>	Turbine vine
<i>Urochloa mosambicuensis</i>	Urochloa, Sabi grass

Pest animals for prevention of introduction

Animals declared as Class 1 pests by the *Land Protection (Pest and Stock Route Management) Act 2002* do not currently exist in the Townsville Local Government Area.

Efforts will be taken to prevent the introduction of animals listed in this category to the Townsville LGA through the implementation of the strategic actions listed below.

Ref #	Strategic actions for the prevention of introduction of Class 1 pest animals
PIA1	Ensure relevant staff are trained and equipped to identify Class 1 pest animals
PIA2	Cooperate with national and state authorities where outbreaks of Class 1 pest animals occur

Pest animals for early detection and eradication

The pest animals listed below exist in the Townsville Local Government Area in scattered and small populations. They occur in such small distributions that their eradication from the Townsville LGA may be achievable.

Pest animals for early detection and eradication include;

- All Class 1 pest animals.
- Indian myna birds (Magnetic Island only).
- Feral goats.

Efforts will be taken to detect the early appearance of these animals and eradicate them from the Townsville LGA through the implementation of the strategic actions below.

Ref #	Strategic actions for the early detection and eradication of pest animals
EDA1	Develop and implement action plans for the eradication of these pests if discovered in Townsville LGA
EDA2	Target Magnetic Island for an eradication program of Indian myna birds

Pest animals for containment

The following pest animals are widespread and/or common in the Townsville Local Government Area.

All reasonable efforts will be made to ensure that the populations and distribution of these animals are contained to their existing extents, if not decreased, in the Townsville Local Government Area by implementing the strategic actions listed below for each animal.

Common name	Scientific name	Declaration	Priority
European fox	<i>Vulpes vulpes</i>	Class 2	High
European rabbit	<i>Oryctolagus cuniculus</i>	Class 2	Medium
Feral cats	<i>Felis catus</i>	Class 2	High (Mag Is.) Medium (elsewhere)
Feral pigs	<i>Sus scrofa</i>	Class 2	High
Indian Myna bird	<i>Acridotheres tristis</i>	Not declared	Medium (Townsville excluding Mag. Is.)
Locusts (migratory, spur throated and plague locust) and Yellow Wing Locust	<i>Locusta migratoria</i> , <i>Austracris guttulosa</i> , <i>Chortoicetus terminifera</i> , and <i>Gastrimargus musicus</i>	Class 2 Not declared	High High
Noxious fish - Tilapia and Gambusia	Tilapia – <i>Oreochromis mossambicus</i> , and Gambusia – <i>Gambusia holbrooki</i>	Declared noxious by the <i>Fisheries Regulation 1995.</i>	Medium
Peafowl	<i>Pavo christatus</i>	Not declared	Medium
Wild dogs and Dingoes	<i>Canis familiaris</i> and <i>C. familiaris dingo</i>	Class 2	High

European fox	<i>Vulpes vulpes</i>	Class 2	High priority
Target - containment			
Impact	Kills small ground-dwelling native animals and stock.		
Local Distribution	Rocky Springs, Bowling Green Bay, old meat works, Mt Stuart, Cape Bowling Green.		

Ref #	Strategic actions for the containment of foxes
F01	Encourage reporting of sightings and road kills by the community to monitor distribution
F02	Undertake an education program drawing attention to the presence and distribution of foxes and what the community can do
F03	Apply for NHT funding to organise volunteers to monitor areas of potential inhabitation and survey for fox scats
F04	Identify high priority areas for control and implement proactive trapping and baiting programs in areas of known populations
F05	Support mechanisms in place for landholders in fox control

European rabbit	<i>Oryctolagus coniculus</i>	Class 2	Medium priority
Target - containment			
Impact	Rabbits cause destruction of native vegetation and landscape, subsequent erosion and compete for food and shelter with native animals.		
Local Distribution	Along the Ross River, the racetrack, golf course and Defence land. Most rabbits shelter in logs, long grass and other debris rather than digging warrens.		

Ref #	Strategic actions for the containment of rabbits
R01	Educate the community about the restriction on the keeping of rabbits as pets
R02	Identify priority areas of rabbit build up
R03	Coordinate and implement appropriate control procedures in (eg. bait, release calici virus)
R04	Carry out inspections of all rabbit reports, undertake the necessary confiscations and implement legislative procedures on those landholders who continue to commit a breach of the legislation

Feral cat	<i>Felis catus</i>	Class 2	High (Mag Is.) Medium (elsewhere)
Target - containment			
Impact	Cats reportedly kill many different species of wildlife in large numbers. The domestic cat population continually replenishes and increases the feral cat population. Roaming pet cats can also prey on native wildlife, especially birds and ground-dwelling mammals and reptiles. They also carry the disease toxoplasmosis. In the community, feral, stray and roaming pet cats can all have the following additional impacts: excessive noise; fighting and spread of disease both between cats and potentially to humans (eg unvaccinated, undesexed animals); odour; and diggings in gardens.		
Local Distribution	Widespread in the Pallarenda area.		

Ref #	Strategic actions for the containment of feral cats
C01	Investigate appropriate options for cat management
C02	Implement an education program on responsible pet ownership
C03	Investigate the re-implementation of the Catscan program on Magnetic Island and for broader application elsewhere in Townsville.

Feral pigs	<i>Sus scrofa</i>	Class 2	High priority
Target - containment			
Impact	Feral pigs damage crops, stock, property, natural habitat (through trampling, rooting for plants and invertebrates, and wallowing) and native wildlife (through eating eggs, destroying habitat, as well as predation on, competition with, or disturbance of a range of native animals) and have a massive impact on turtle nesting and reproduction cycles. They cause an economic loss to the sugar industry and dig up pasture areas. Pigs transmit disease and could spread exotic diseases such as foot and mouth disease if this was introduced to Australia.		
Local Distribution	Main problem areas are Pallarenda, Rowes Bay, Stuart, Alligator Creek, Upper Ross River, Woodstock and Majors Creek.		

Ref #	Strategic actions for the containment of feral pigs
P01	Map areas of high Feral Pig incidence and add to the Council GIS pest database.
P02	Encourage landholders to trap concertededly for feral pigs
P03	Encourage landholders to bait for pigs in a coordinated campaign
P04	Enforce the requirement not to keep, transport or release wild pigs without relevant permits.
P05	Develop a list of suitably qualified pig trappers who carry relevant public liability insurance and are firearm accredited for the use by Council and the general farming and grazing community.
P06	Seek funding assistance to resource feral pig eradication projects

Indian myna bird	<i>Acridotheres tristis</i>	Not declared	High priority (Mag Is) Low priority (elsewhere)
Target - containment			
Impact	An aggressive bird, the Indian myna competes for food and displaces native birds and is a domestic nuisance.		
Local Distribution	Widespread in Townsville but small populations on Magnetic Island.		

Ref #	Strategic actions for the containment of Indian myna birds
M01	Investigate management options for Indian mynas in Townsville LGA
M02	Research and provide information to public on feasible methods of control
M03	Implement and monitor control methods for Indian myna birds (for actions relating to Magnetic Island, refer to EDA2)

Locusts	<i>Locusta migratoria, Austracris guttulosa and Chortoicetus terminifera, and Gastrimargus musicus</i>	Class 2 undeclared	High priority
Target - containment			
Impact	Plagues denude vegetation, cause loss of improved pastures and lawn and shrubs		
Local Distribution	When rain is widespread, the majority of locusts breed successfully, and population increase is very rapid. If this occurs for three or four generations, a plague can develop.		

Ref #	Strategic actions for the containment of locusts
L01	Undertake surveys of Locust reports and identify areas requiring control.
L02	Ensure Locust build ups are reported to DNR&M Land Protection staff.
L03	Control as required
L04	Provide information regarding control methods to the community

Noxious fish	Tilapia - <i>Oreochromis mossambicus</i> and Gambusia - <i>Gambusia holbrooki</i>	Declared noxious	Medium priority
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Target - containment

Impact	All species of Tilapia are declared noxious in Queensland. Tilapia are successful invaders and dominators of aquatic waterways. It is thought that they are aggressive and compete with native fish for habitat and food. Gambusia are aggressive fish and can withstand environmental conditions that native fish cannot. They compete with native fish for habitat and food.
Local Distribution	Both species are well established in Townsville's waterways

Ref #	Strategic actions for the containment of noxious fish
N01	Coordinate with DPI for the management of noxious fish species in TCC waterways
N02	Participate, encourage, and where appropriate, monitor local pest fish initiatives
N03	Educate on appropriate local fish species as alternatives for mosquito control.

Peafowl	<i>Pavo christatus</i>	Not declared	Medium priority
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Target - containment

Impact	Peafowl push out local native fauna, create noise disturbances and traffic hazards, their droppings are unpleasant and they scratch up gardens.
Local Distribution	Mount Stuart and Magnetic Island.

Ref #	Strategic actions for the containment of Peafowl
PF01	Advise landholders about their rights and obligations in relation to peafowl
PF02	Involve RSPCA in any control program of peafowl
PF03	Assist in a coordinated action by landholders to remove peafowl from properties
PF04	Develop local law provisions to limit maximum numbers of peafowl to be kept, registration of birds, and confinement requirements.

Wild dogs and Dingoes	<i>Canis familiaris</i> and <i>C. familiaris dingo</i>	Class 2	High priority
Target – containment			
Impact	Wild dogs and dingoes predate on native fauna and livestock causing loss biodiversity and loss of income to farming industries. In residential areas they attack and kill domestic pets and may pose a threat to humans.		
Local Distribution	Widespread on Castle Hill, Mt Stuart and rural areas of the City.		

Ref #	Strategic actions for the containment of wild dogs/dingoes
WD01	Increase community awareness of methods to minimise wild dog/dingo encroachment and impact on urban areas
WD02	Investigate options for wider and proactive control including potential of a 1080 baiting service to rural landholders in accordance with 1080 guidelines
WD03	Continue to trap or bait for wild dogs/dingoes on an identified needs basis
WD04	Investigate the use of alternatives to traps
WD05	Request further research on pest animal control in urban areas
WD06	Participate in regional strategy planning and resourcing for wild dog control projects
WD07	Support mechanisms to landholders to undertake wild dog control
WD08	Develop a specific management plan for wild dogs



Wild dog/dingo on Castle Hill

PART C

Annual Pest Action Plans

04/05

Strategic action	Ref #	By whom
Ensure adequate and responsible stakeholder representation on the PMWG	1.01	TCC
Make available the PMP for public viewing after approval	1.02	TCC
Ensure consistency between the PMP and related pest management plans	4.01	TCC
Ensure consistency between the PMP and related resource management plans	4.02	TCC
Encourage and assist landholders to complete PPMPs	4.03	TCC, PMWG
Investigate options for wider and proactive control including potential of a 1080 baiting service	WD02	TCC

05/06

Strategic action	Ref #	By whom
Develop list of safe plant alternatives for residents	1.05	TCC, CGs, DNR&M
Establish access points for the Community to obtain pest information	1.06	TCC, CGs DNR&M
Ensure PMP is integrated into Council's Corporate Plan	2.01	TCC
Ensure Council appoints sufficient pest management officers	2.04	TCC
Ensure landholders are aware of their pest management responsibilities	2.05	TCC, PMWG DNR&M
Ensure Agencies are committed to PPMPs for land they manage in Townsville	2.09	TCC, PMWG
Set up a system for reporting new pests	3.01	TCC, PMWG,
Survey and monitor T LGA of pest plant infestations	3.03	TCC
Conduct surveys of pest plant infestations on Mag. Is.	3.04	TCC
Implement pre and post treatment monitoring techniques.	3.08	TCC
Allocate resources to ground truth reports	3.09	TCC
Investigate reports of feral guinea pigs and guinea fowl on Magnetic Island	3.15	TCC, QPWS
Develop specific management plans for identified priority pest problems	4.04	TCC, PMWG DNR&M
Employment of sufficient staff to maintain the PMP	4.06	TCC
Consider all effective options for managing pests	4.08	TCC, PMWG
Explore funding opportunities of a Council/community coordinated approach to pest management on Magnetic Island	4.18	TCC, PMWG
Lobby for Government subsidy to purchase bulk chemical	4.19	TCC, PMWG
Educate landholders in best practice of purchase and feed out of fodder	5.01	DNR&M, DPI

Promote machinery hygiene standards, including; weed hygiene declarations; list of washdown facilities; encourage diligence with washdown of machinery and vehicles, etc	5.02	DNR&M, DPI, TCC, PMWG
Liaise with AQIS to produce sufficient education materials at local tourist ports	5.03	TCC, PMWG
Ensure groups of people that are highly mobile are aware of potential introduction of pests	5.05	DNR&M, LGAQ, stakeholders
Identify areas of high weed seed spread and encourage Community to assist in prevention of spread	5.07	TCC, PMWG DNR&M,
Identify and monitor areas where sand/soil extraction are undertaken to ensure limited weed seed spread	5.08	TCC, DNR&M
Ensure plant and animal retailers and aquarists are aware of current and potential pests and abide by legislation covering their movement and sale	5.11	TCC, CGs DNR&M,
Institute a regular monitoring and inspection program of nurseries and pet shops	5.12	TCC, DPI, DNR&M
Convene a meeting of the Dry Tropics Councils to discuss mutual concerns and solutions	5.13	TCC, Hesroc-NQ
Create a response mechanism to document and inform of risk and eradicate new infestations of priority pest plants	5.17	TCC
Identify any necessary quarantine areas within the LGA and implications for the community	5.18	TCC
Identify spread of non-declared invasive weeds in stock feed	5.20	DNR&M, TCC, DPI
Investigate the feasibility of control programs for introduced animals on Mag Is and subsequent application to broader Townsville	6.08	TCC
Identify and prioritise environmentally significant areas for pest management	6.10	TCC
Target Magnetic Island for an eradication program of Indian myna birds	EDA2	TCC
Identify high priority areas for control and implement proactive trapping and baiting programs	F04	TCC, DNR&M
Investigate appropriate options for domestic cat management	C01	TCC
Investigate the re-implementation of the Catscan program on Mag Is and for broader application elsewhere in LGA	C03	TCC
Map area of high Feral Pig incidence and add to Council GIS pest database	P01	TCC
Develop a list of qualified pig trappers	P05	TCC, PMWG
Seek funding assistance to resource feral pig eradication projects	P06	TCC, PMWG, CGs
Develop local law provisions to limit the maximum numbers of peafowl to be kept, etc.	PF04	TCC
Increase community awareness of methods to minimise wild dog/dingo encroachment and impact on urban areas	WD01	TCC, DNR&M
Investigate the use of alternatives to traps	WD04	TCC
Request further research on pest animal control in urban areas	WD05	TCC, PMWG
Develop a specific management plan for wild dogs	WD08	TCC

06/07

Strategic action	Ref #	By whom
Survey the Community for levels of pest management knowledge	1.08	TCC
Investigate feasibility of weed mapping options	3.02	TCC
Conduct surveys of local community awareness and attitudes towards pests	3.12	TCC
Quantify the costs of pests to Council and ratepayers	3.14	TCC
Define best practice for the various stakeholders and pests	6.15	TCC
Publicise local examples of best practice management	6.16	TCC, DNR&M
Develop incentive schemes for landholders to complete priority pest control on their land	6.18	TCC
Explore reward and recognition programs for the control and management of priority pests and the use of best practice management	6.19	TCC
Undertake an education program drawing attention to the presence and distribution of foxes and what the community can do	F02	TCC, DNR&M
Apply for NHT funding to organise volunteers to monitor areas of potential inhabitation and survey for fox scats	F03	TCC, CGs BDTB

07/08

Strategic action	Ref #	By whom
Complete a new PMP three months before the expiry of its predecessor	4.12	TCC, PMWG
Implement and monitor control methods for Indian myna birds (for actions relating to Magnetic Island, refer EDA2)	M03	TCC

Ongoing

Strategic action	Ref #	By whom
Conduct community awareness raising activities	1.03	TCC, CGs, DNR&M, PMWG
Lobby for statewide and regional media campaigns	1.04	TCC, DNR&M
Lobby DNR&M to provide a pest kit to Local Government Councillors	1.07	TCC, PMWG
Council staff undertake relevant training	1.09	TCC
Appropriate Council staff attend workshops and forums	1.10	TCC
Ensure adequate and responsible stakeholder representation on the PMWG	2.02	TCC
Educate staff and Councillors regarding Council's legal responsibilities in regards to pest management	2.03	TCC
Encourage and assist landholders to develop PPMPs	2.06	TCC, PMWG
Continue to support development of funding applications	2.07	TCC, BDTB, Hesroc-NQ
Build and maintain partnerships with stakeholders and	2.08	TCC

community		
Encourage landholders to implement and participate in control projects on district levels	2.10	
Ensure a regional commitment to pest management through HESROC	2.11	Hesroc-NQ, TCC, PMWG
Ensure adequate representation of the HESROC pest management sub-group	2.12	PMWG, TCC Hesroc-NQ,
Include resource allocation in annual pest action plans	2.13	TCC
Maintain partnerships with neighbouring councils to target emerging infestations	2.14	TCC
Develop and implement procedures for model local laws	2.15	TCC
Network with compliance officers regionally and statewide	2.16	LGAQ, TCC, DNRM&E
Map class 1 and local priority class 2 and 3 pests in the T LGA	3.05	TCC, stakeholders
Maintain a GIS system for weed mapping	3.06	TCC
Encourage data sharing between adjoining local governments	3.07	TCC
Produce yearly report/update on pest management	3.10	TCC
Contribute local pest data to DNR&M annual pest assessment	3.11	TCC
Implement the PMP actions	4.05	TCC, PMWG, DRN&M, CGs
Monitor and evaluate the implementation of the PMP	4.07	PMWG, TCC
Provide an annual report on pest management activities	4.09	TCC
PMWG to annually review the pest priority lists	4.10	PMWG
Review the Annual Pest Action Plans three months before the end of each financial year	4.11	PMWG, TCC
Identify the scope of any resource shortfalls	4.13	TCC
Educate Councillors on the cost of pests to encourage pest management funding	4.14	TCC
Present case studies to Council via relevant committees to demonstrate benefit or pest management	4.15	TCC
Seek in-kind and financial sponsorship for community awareness programs	4.16	TCC, PMWG, CGs
Investigate all potential funding sources	4.17	TCC, PMWG
PMWG regularly reviews plants contained in the advisory section and undertakes research on the more contentious species	4.20	PMWG
Lobby for a statewide generic advertising campaign targeting travelling public	5.04	DNR&M, PMWG, TCC
Control stock feed movements from identified weed problem areas within LGA	5.06	DNR&M, DPI
Develop and maintain partnerships with community and stakeholders to report new infestations	5.09	TCC, PMWG, NRM&E
Liaise closely with neighbouring authorities for a coordinated approach to pest management on cross-border infestations	5.14	TCC
Provide technical advice and other assistance to landholders and stakeholders	5.15	TCC, DNR&M
Promote buying clean grain for processing and selling	5.16	DPI, DNR&M
Target priority Class 2 pests for containment or eradication	5.19	TCC,

		stakeholders
Distribute best practice publications to relevant stakeholders	6.01	TCC
Assist landholders with PPMPs to ensure compliance with Council and lease conditions	6.02	TCC
Ensure appropriate biological control agents are available and adequate monitoring frameworks are established and implemented	6.03	TCC, DNR&M, stakeholders
Coordinate impact reduction programs for established pest animals	6.04	TCC, stakeholders
Maintain problem animal reduction programs	6.05	TCC
Effectively manage pest animal populations on Council owned land	6.06	TCC
Ensure landholders of private, state and commonwealth lands effectively manage pests on their land	6.07	TCC, DNR&M
Use best practice management techniques in all areas of pest management	6.11	TCC, DNR&M
Promote pest management initiatives of NQ at relevant conferences	6.12	TCC, DNR&M, stakeholders
Investigate new monitoring and control techniques and incorporate into best practice management	6.13	TCC, DNR&M
Identify inadequacies in existing pest management	6.14	TCC, PMWG
Ensure strategic actions requiring ongoing management are maintained over time as necessary	6.17	TCC, DNR&M, stakeholders
Ensure relevant staff are trained and equipped to identify Class 1 pest animals	PIA1	TCC, DNR&M, stakeholders
Encourage reporting of sightings and road kills by the community to monitor distribution	F01	TCC, EPA, DNR&M,
Support mechanisms in place for landholders in fox control	F05	TCC, DNR&M
Educate the community about restrictions on keeping rabbits as pets	R01	DNR&M, TCC
Identify areas of rabbit build up	R02	TCC, DNR&M
Coordinate and implement appropriate rabbit control procedures	R03	TCC, DNR&M, QPWS
Carry out inspections of rabbit reports, <i>etc</i>	R04	TCC
Implement an education program on responsible pet ownership	C02	TCC
Encourage landholders to trap concertededly for pigs	P02	TCC
Encourage landholders to bait for pigs in a coordinated campaign	P03	TCC, DNR&M
Enforce the requirement not to keep, transport or release wild pigs without relevant permits	P04	TCC, DNR&M
Investigate management options of Indian mynas in Townsville LGA	M01	TCC, PMWG
Research and provide information to the public on feasible methods of control	M02	TCC
Participate, encourage and where appropriate monitor local pest fish initiatives	N02	TCC, CGs, PMWG
Educate on appropriate local fish species as alternatives for	N03	TCC, CGs

mosquito control		
Advise landholders about their rights and obligations in relation to peafowl	PF01	TCC, DNR&M
Continue to trap or bait for wild dogs/dingoes on an identified needs basis	WD03	TCC, DNR&M, QPWS, landholders
Participate in regional strategy planning and resourcing for wild dog control projects	WD06	TCC, DNR&M
Support mechanisms to landholders to undertake wild dog control	WD07	TCC, DNR&M

As necessary

Strategic action	Ref #	By Whom
Assist DNR&M and other Agencies in gathering information on community awareness and attitudes	3.12	TCC
Develop and implement action plans for eradication of Prevention of Introduction and Early Detection and Eradication plants	5.10	TCC, NRM&E
Respond to DNR&M directions to control plague pest animals	6.09	TCC, stakeholders
Cooperate with national and state authorities where outbreaks of Class 1 pest animals occur	PIA2	TCC, stakeholders
Develop and implement action plans for the eradication of these pests if discovered in Townsville LGA	EDA1	TCC, stakeholders
Undertake survey of locust reports and identify areas requiring control	L01	TCC, DNR&M
Ensure locust build ups are reported to DNR&M LPOs	L02	TCC, CGs, PMWG
Control as required	L03	DNR&M, TCC
Provide information regarding control methods to the community	L04	DNR&M, TCC
Coordinate with DPI for the management of noxious fish species in TCC waterways	N01	TCC, CGs
Involve RSPCA in any control program of peafowl	PF02	TCC
Assist in a coordinated action by landholders to remove peafowl from properties	PF03	TCC, DNR&M

IMPLEMENTATION

In keeping with sections 30(2) and 32 of the Act, Council will adopt the Plan for implementation. It will be available for public inspection in both electronic and written form at the Council's office, website and library. As part of the process of implementation, Council will communicate to stakeholders their responsibilities and will oversee the coordination of pest management activities.

To ensure the successful implementation of the plan, Council will investigate the possibility of entering into contractual arrangements with suitably qualified Pest Officers, or alternatively seek to employ adequate full-time Pest Management Officers (PMOs). The PMOs will work closely with DNR&M Land Protection Officers, and all land managers and residents to achieve a cooperative, coordinated and efficient approach to pest management in the Townsville Local Government Area.

The Pest Management Working Group will monitor and review the progress of the plan against stated success indicators for the implementation of this four-year plan. Initially the group will meet quarterly with the PMOs, Technical Officer and operations supervisors, however, when appropriate planning processes and staff are in place, the group may review the frequency of its meetings.

Townsville City Council and the Pest Management Working Group will review the effectiveness of the Pest Management Plan three months before the start of each financial year. TCC will also review the Plan if a State pest management strategy is amended and ensure that the PMP is in line with the amended strategy.



Aquatic weeds in Ross River

GLOSSARY

AQIS	Australian Quarantine and Inspection Service
BDTB	Burdekin Dry Tropics Board
CGs	Community Groups
Community	Includes stakeholders (<i>ie.</i> Townsville City Council and other Government Agencies, Industry, volunteer organisations and community groups) and the wider community including Townsville residents and landholders.
CoT	Council of Thuringowa
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DNR&M	Department of Natural Resources and Mines
DPI	Department of Primary Industries
EMS	Environmental Management Services (Townsville City Council)
EPA	Environmental Protection Authority
GIS	Geographic Information System
Hesroc-NQ	Health and Environmental Services Regional Organisation of Councils – North Queensland
LGA	Local Government Area
LGAQ	Local Government Association of Queensland
LPO	Land Protection Officer
<i>LP (P&SRM) Act</i>	<i>Land Protection (Pest and Stock Route Management) Act 2002</i>
Pest animal	An exotic animal causing detrimental impacts on the environment, industry or community activities. A pest animal may be a declared animal.
Pestinfo	Statewide weed and pest animal database
PMO	Pest Management Officer
PMP	Pest Management Plan
PMWG	Pest Management Working Group
PPMP	Property Pest Management Plan
QPWS	Queensland Parks and Wildlife Service
RACQ	Royal Automotive Club of Queensland
TCC	Townsville City Council
Weed/pest plant	From the Macquarie Dictionary: 1. A plant growing wild, esp. in cultivated grounds to the exclusion or injury of the desired crop, or

2. any useless, troublesome, or noxious plant, especially one that grows profusely *and interferes with the natural processes of the environment (italics added)*.

WONS

Weed of National Significance

1080

Sodium fluoroacetate poison for vertebrate pests



Wild dog trapping site

REFERENCES

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