



COOK SHIRE COUNCIL

**PEST
MANAGEMENT
PLAN**

2006 – 2010

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ABBREVIATIONS

CSPMP	Cook Shire Pest Management Plan
CYNHT	Cape York Natural Heritage Trust
CYPPMAG	Cape York Peninsula Pest Advisory Committee
CYWAFAP	Cape York Weeds and Feral Animals Program
DOGIT	Deed of Grant in Trust
DPI	Department of Primary Industries
MRD	Main Roads Department
LNCMG	Laura Normanby Catchment Management Group
MRWVG	Mitchell River Watershed Management Group
NRMW	Department of Natural Resources and Mines
PMO	Cook Shire Pest Management Officer
QPWS	Queensland Parks and Wildlife Service
WTWHA	Wet Tropics World Heritage Area

BACKGROUND

The first Cook Shire Pest Management Plan (CSPMP), developed in 1997, was a catalyst for substantial progress in community knowledge and understanding of pests and their impacts and management over the ensuing five years. The 1997 plan provided the strategic directions for a major pest management project for Cape York Peninsula funded by the Cape York Natural Heritage Trust (CYNHT) as well as a groundswell of community action on pest management issues. The CYNHT project – the Cape York Weeds and Feral Animals Project – commenced in 1998 and concluded in September 2002. During its four years, the project staff, Cook Shire and all community stakeholders worked together on pest mapping, management and awareness-raising and achieved tremendous progress on the priorities of the original CSPMP. In 2000, a stakeholder review of the 1997 plan was undertaken and the plan was updated to reflect advances made and a greater knowledge of the distribution and abundance of weeds and feral animals throughout the Shire. By late 2002, it was clear that a major revision of the original plan was required. Such a review accords with the requirements of the *Land Protection (Pest and Stock Route Management) Act 2002* which states that local government pest management plans should have effect for no longer than 4 years before a renewed plan is commenced.

A committed group of Council staff, Councillors, community representatives and State Government advisors overhauled the plan over a four-day period. Objectives were honed, new pests added and the priorities of some pests changed. Strategies for best management of all pests were revised in the light of solid local experience over the past 5 years. The enormous increase in community awareness of the full range of pests was recognized and suitable strategies to further develop community capacity for pest management were considered and included in the 2003 – 2006 management plan.

In April 2006, after four years of implementing a plan under the new Act, a review of progress and assessment of current objectives was undertaken at a public meeting held in Cooktown. The main changes were to reduce the number of high priority weeds and to delete the section on locally declared plants due to the limited resources available to both Council and rate payers.

Cook Shire still faces the many pest management difficulties posed by climate, rainfall, remoteness and sparse populations, and the Shire will always be at the frontline of entry for pests that pose a risk to Australia's animal, plant and human populations.

It is only through the continuing interest, vigilance and action of all Cook Shire stakeholders that our current pest problems can be reduced and new pests threatening on all our boundaries prevented from entering the Shire. We expect that the revised priorities and strategies outlined in the Cook Shire Pest Management Plan 2006 - 2010 will provide clear and accurate direction for all stakeholders for the next 4 years of pest management effort in our Shire.

Public and Stakeholder Consultation

The Cook Shire Council invited input into this Pest Management Plan from stakeholders and the general public during development of the draft. A month long community consultation period will be held where stakeholders can comment on the draft. Both written and verbal submissions from organizations and individuals will be accepted and comments received will be reviewed and incorporated into the final plan.

INTRODUCTION

Why do we need a plan?

A program to stop land degradation through exotic pest invasion is a major undertaking. A stakeholder simply allocating funds in an annual budget cannot achieve it. Without setting goals and defining the means of achieving them, any gains will be due to good luck rather than good management.

When no clear guidelines are set down, progress on pest control is continually set back by staff having to refer back to Council for decisions or instructions. This Pest Management Plan will form a policy document, which is a reference for field and administrative staff, as well as a guide for the cooperative involvement of ratepayers, residents and adjoining communities in an integrated and coordinated approach to pest management across the Shire.

A pest management plan provides the following benefits:

- i Better use of resources available within the community and Council;
- ii Improved community appreciation of Council's efforts;
- iii Better basis for making resource allocations;
- iv Addresses local government responsibilities under the *Land Protection (Pest and Stock Route Management) Act 2002*;
- v Evidence of local government accountability;
- vi Increased Council effectiveness in meeting community needs;
- vii Better coordination between all stakeholders, including integrated catchment management approaches, state-wide land protection strategies and management of conservation areas.

What is a pest?

The Cook Shire Pest Management Plan 2006- 2010 defines a pest as:

A plant or animal that has, or has the potential to have, a detrimental effect on economic, social or conservation values.

Developing the Plan

Prioritising Pests

The pest plants and animals present in Cook Shire are regarded as more or less of a threat depending on the main value for which a land manager is managing the land. In Cook Shire, land is primarily managed for one or more of the following values:

Tourism / recreational values;
Agricultural values;
Pastoral values;
Cropping / horticultural values;
Nature conservation values;
Aboriginal cultural values;
Forestry values;
Mining values;
Residential values.

Rubber Vine, for example, is a serious threat to pastoral values and nature conservation values, whereas pastoralists value the pasture grass, Para Grass, as fodder for cattle, but it is considered a threat to ecosystem integrity in some conservation areas and National Parks. In preparing this Plan, the Pest Planning Working Group considered all pests in relation to the range of land uses within the Shire.

Based on the pests' biology, ecology and distribution, each pest plant and animal was rated according to its risk – its potential “threat” to areas of high natural value or agricultural importance. The rating categories were:

- 1 = High threat
- 2 = Medium threat
- 3 = Low threat
- 4 = No threat

An “achievability” rating was then assigned to each pest as follows:

- 1 = Could be eradicated from the Shire / specific area
- 2 = Could be significantly reduced in area (plants) or numbers (animals) in the Shire / specific area
- 3 = Could be contained / prevented from spreading (plants) or could prevent major / rapid increase in numbers (animals)
- 4 = Could be managed effectively with biocontrol agents or fire

Each species was prioritised for future action as high, medium or low priority. This rating reflected:

- Achievability rating
- Strategic importance
- Declaration category (if any)
- Operational, technical, administrative, financial and social feasibility

When conflicts were evident, the group made recommendations to Council based on its knowledge of the pest's ecology, rate of spread, invasion potential, control methods available and other factors, while keeping in mind the needs for long-term sustainability of the range of land uses in Cook Shire.

The priority listing for pests in the Shire are summarised in Table 1 (p. 8) and Table 2 (p. 11).

Other considerations for planning

Pest management is not just about prioritizing pests for control. It involves developing goals and measures of success, ensuring all stakeholders are working cooperatively to achieving goals, developing community awareness of pests and their management, ensuring safe and best practice control techniques are applied at all times, and preventing new pests invading the Shire or spreading from one part of it to another (hygiene measures).

For each high priority pest species a specific management strategy was developed including the following details:

- Goal or Goals – what we want to achieve in the Shire regarding this pest / issue within the next 3 years;
- Description of performance indicators - how we would know that Council has achieved the goal for this pest eg: Isolated outbreaks are eradicated;
- Description of specific, achievable actions that will address the obstacles and achieve the goals. Nomination of who will undertake the action and when it will be undertaken; and
- Description of the monitoring process to be used.

A specific strategy was also developed for those pest species with State or Shire Codes of Practice.

This Plan addresses all these pest management matters, and should be read in its entirety to appreciate the holistic approach intended to be implemented throughout the Shire.

Life of the Plan

This Plan is certainly not the final word on pests in Cook Shire. Pest management is an evolving process, and getting it right in Cook Shire depends on the action and cooperation of all stakeholders. To meet legislative requirements this Plan will have a life of 4 years from the date of acceptance by Cook Shire Council. However, to ensure that new information is integrated during this time an annual review will be conducted to make minor changes. Within 6 months of the expiration of this Plan a formal review will be conducted enabling input from all stakeholders for development of the next 4-year plan.

Incorporating Local Experience over the Life of the Plan

Local knowledge of the spread and impacts of pest plants and animals in different environments is one of the most important tools in any pest strategy. The Pest Planning Working Group invites you to contribute your local knowledge of pests and experience in control techniques to further refining this plan, not only during the annual review, but any time over the coming years.

LEGISLATIVE REQUIREMENTS REGARDING PESTS

The *Land Protection (Pest and Stock Route Management) Act 2002* provides for the control of major pest plants and animals and the management of stock routes throughout Queensland. In it, landholders, local governments and the Department of Natural Resources & Mines have clearly defined responsibilities.

The Cook Shire is responsible for:

1. Ensuring that declared pests are controlled within its area and on lands under its control. [*Land Protection (Pest and Stock Route Management) Act 2002.*]
2. Preventing the introduction into and spread within its area of declared pests. [*Land Protection (Pest and Stock Route Management) Act 2002.*]
3. ; and
4. Enforcing relevant provisions of the *Land Protection (Pest and Stock Route Management) Act 2002.*

To fulfil these responsibilities, Council is expected to:

1. Control declared pests on land under its control;
2. Inspect private property to determine the presence of declared pests;
3. Provide advice to landholders on appropriate pest control options; and
4. Carry out procedures to ensure control of declared pests on private property in accordance with this Pest Management Plan.

The Department of Natural Resources & Mines is responsible for:

1. Identifying areas to which Council should direct its efforts;
2. Providing technical and management information and staff training to Council personnel;
3. Controlling pests on Un-allocated State Land (USL), and;
4. Ensuring that declared pests are controlled on land under the control of other Government Departments.

Landholders are responsible for:

1. Controlling declared pests on their own land.

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. This legislation is the *Land Protection (Pest and Stock Route Management) Act 2002*. Declaration is used as a preventative measure and there is no point in declaring a plant that has already spread to the limit of its habitat.

Declaration imposes legal responsibilities for control... irrespective of tenure or public or private ownership. Under the Act, all landholders, local governments and state government agencies are required to control declared pests on lands under their control. The categories of declaration are:

CATEGORY	DESCRIPTION	EXAMPLES
Class 1	A Class 1 pest is not commonly present in Queensland and, if introduced, would cause an adverse economic, environmental or social impact, Class 1 pests established in Queensland are subject to eradication from the state. Landowners must take reasonable steps to keep land free of Class 1 pests. Other powers of the Act apply.	Giant Sensitive Tree (<i>Mimosa pigra</i>)
Class 2	Class 2 pests are established in Queensland and have, an adverse economic, environmental or social impact. The management of these pests requires coordination and they are subject to Local Government-, community- or landowner- led programs. Landowners must take reasonable steps to keep land free of Class 2 pests. Other powers of the Act apply.	Parthenium Weed (<i>Parthenium hysterophorus</i>)
Class 3	Class 3 pests are established in Queensland and have, or could have, an adverse economic, environmental or social impact. A pest control notice can only be issued for land that is, or is adjacent to, an environmentally significant area. Thus, the impact of species in this class is primarily environmental. Only some of the other powers of the Act apply.	Singapore daisy (<i>Sphagneticola trilobata</i>)
<p>It is illegal to sell a declared plant or its seed anywhere in Queensland without permission from the Minister for Natural Resources, Mines and Water.</p> <p>Species not declared under the Land Protection (Pest and Stock Route Management) Act may still be subject at a Local Government level under local laws. Species declared as Class 3 may be subject to local legal control outside environmentally significant areas.</p>		

Declared Animals

Several animals are declared as Class 1 or Class 2 pests under Queensland's *Land Protection (Pest and Stock Route Management) Act 2002*. Class 1 and 2 animals represent a threat to primary industries, natural resources and the environment. There are currently no animals declared as Class 3 pests.

The 3 categories of pest animals are:

CATEGORY	DESCRIPTION	EXAMPLES
Class 1	<p>A Class 1 pest is one that is not commonly present in Queensland, and if introduced would cause an adverse economic, environmental or social impact.</p> <p>Class 1 pests established in Queensland are subject to eradication from the state. Landowners must take reasonable steps to keep land free of Class 1 pests.</p> <p>Other powers of the Act apply.</p>	<p>Indian Blackbuck (<i>Antilope cervicapra</i>)</p>
Class 2	<p>A Class 2 pest is one that is established in Queensland and has, or could have, a substantial adverse economic, environmental or social impact. The management of these pests requires coordination and they are subject to Local Government-, community- or landowner- led programs. Landowners must take reasonable steps to keep land free of Class 2 pests.</p> <p>Other powers of the Act apply.</p>	<p>Feral pig (<i>Sus scrofa</i>)</p>
Class 3	<p>Class 3 pests are established in Queensland and have, or could have, an adverse economic, environmental or social impact. A pest control notice can only be issued for land that is, or is adjacent to, an environmentally significant area. Thus, the impact of species in this class is primarily environmental.</p> <p>Only some of the other powers of the Act apply.</p>	<p>There are currently no animals declared as Class 3 pests.</p>

PRINCIPLES OF PEST MANAGEMENT

The principles of pest management for land in Cook Shire are:

- 1. Integration**
Pest management is an integral part of managing natural resources and agricultural systems.
- 2. Public awareness**
Public awareness and knowledge of pests must be raised to increase the capacity and willingness of individuals to manage pests
- 3. Commitment**
Effective pest management requires a long-term commitment to pest management by the community, industry groups and government entities.
- 4. Consultation and partnership**
Consultation and partnership arrangements between local communities, industry groups, State government agencies and local governments must be established to achieve a collaborative approach to pest management.
- 5. Planning**
Pest management planning must be consistent at local, regional, State and national levels to ensure resources target priorities for pest management identified at each level.
- 6. Prevention**
Preventative pest management is achieved by –
 - a) preventing the spread of pests, and viable parts of pests, especially by human activity; and
 - b) early detection and intervention to control pests.
- 7. Best Practice**
Pest management must be based on ecologically and socially responsible pest management practices that protect the environment and the productive capacity of natural resources.
- 8. Improvement**
Research about pests, and regular monitoring and evaluation of pest control activities, is necessary to improve pest management practices.

GOAL

The Goal Statement for Pest Management in Cook Shire is:

All stakeholders are cooperatively implementing an ongoing, coordinated and effective pest management plan for the long-term sustainable ecological and economic growth of Cook Shire.

OBJECTIVES

The goal will be achieved by:

1. To involve all stakeholders, including neighbouring Shires, in a cooperative and coordinated approach to all stages of pest management in Cook Shire
2. To gain adequate information about the Shire's pest plants and animals, and their distribution and best control methods
3. To educate local residents, visitors and relevant industries about the causes, impacts, identification and management of pests in the Shire as well as the roles of all stakeholders in pest management
4. To gain the resources and foster proactive stakeholder commitment necessary for the implementation of effective pest management and enforcement will be used as required
5. To limit the introduction of new pests and the movement of pests from one part of the Shire to another, eradicate isolated pest outbreaks and contain / reduce area / numbers of existing pests
6. To assist producers in the management and control of the impact of native birds and other native animals
7. To encourage and support best practice pest control techniques
8. To encourage and support research into more preventative measures and more effective control of pests, especially biological control

These are the eight Objectives of this Pest Management Plan

CURRENT SITUATION WITH PESTS

Pest Plants

Over 200 species of naturalised exotic plants have been recorded for Cape York Peninsula and it is reasonable to assume that Cook Shire would host many of these. At present, a total of 44 are identified in the Shire as being significant weeds, and of these 27 are rated as being of high priority for the Shire.

Table 1 lists the weeds, the level of threat they pose, the level of control that is achievable, their declaration category (if any) and their priority.

Table 1 – Pest Plants of Cook Shire

NO	COMMON NAME	SCIENTIFIC NAME	THREAT			ACHIEVABILITY	DECLARATION CATEGORY	PRIORITY
			Natural areas	Urban areas	Agricultural areas			
Threat 1 = High 2 = Moderate 3 = Low 4 = No threat		Achievability of control 1 = Could be eradicated from the Shire / specific area 2 = Could be significantly reduced in area (plants) or numbers (animals) in the Shire / specific area 3 = Could be contained / prevented from spreading (plants) or could prevent major / rapid increase in numbers (animals) 4 = Could be managed effectively with bio-control agents or fire						
1	African Tulip Tree	<i>Spathodia campanulata</i>	3 in drier 2 in wetter	4	4	2	Class 3	LOW
2	Barleria	<i>Barleria lupulina</i>	2	2	4	1	-	HIGH
3	Bauhinia	<i>Bauhinia monandra</i>	2	3	4	4	-	MEDIUM
4	Bellyache Bush	<i>Jatropha gossypifolia</i>	1	-	1	2/4	Class 2	HIGH
5	Calotrope	<i>Calotropis procera</i>	2	4	2	2	-	MEDIUM
6	Caltrop	<i>Tribulus terrestris</i>	1	3	1	2	-	HIGH in camping areas and along roads
7	Candle Bush	<i>Senna alata</i>	3	3	4	2	-	LOW
8	Cassia	<i>Cassia siamea</i>	2	4	4	2 (or 3 outside NP)	-	MEDIUM in National Parks. LOW elsewhere
9	Castor Oil Plant	<i>Ricinus communis</i>	2 (river banks)	-	3	3	-	LOW
10	Cat's Claw Creeper	<i>Macfadyena unguis-cati</i>	1	2	3	1	Class 3	HIGH
11	Chinee Apple	<i>Ziziphus mauritiana</i>	2	-	2	1 specific areas	Class 2	HIGH
12	Coffee Senna	<i>Senna occidentalis</i>	3	4	3	3	-	LOW
13	Common Sensitive Plant	<i>Mimosa pudica</i>	1	1	1	3	-	MEDIUM

14	Gamba Grass	<i>Andropogon gayanus</i>	1	-	3	1 in natural areas 3 agricultural	-	HIGH – natural LOW – elsewhere
15	Giant Rat's Tail Grass	<i>Sporobolus pyramidalis</i> and <i>S. natalensis</i>	1	-	1	1	Class 2	HIGH
16	Giant Sensitive Plant	<i>Mimosa diplotricha</i>	1	-	1	3	Class 2	HIGH
17	Grader Grass	<i>Themeda quadrivalvis</i>	2	2	2	3	-	MEDIUM
18	<i>Grewia</i> spp	<i>Grewia asiatica</i>	2	-	-	2	-	HIGH in National Parks.
19	Hymenachne	<i>Hymenachne amplexicaulis</i>	1	-	1	1 specific areas	Class 2 WONS	HIGH
20	Khaki weed	<i>Alternanthera pungens</i>	3	2	3	2	-	MEDIUM
21	Knobweed	<i>Hyptis capitata</i>	2	-	2	3	-	HIGH
22	Lantana	<i>Lantana</i> spp	2	4	2	2,4	Class 3	HIGH in environmentally sensitive areas
23	Leucaena	<i>Leucaena leucocephala</i>	1	1	2	3	Code of practice	HIGH
24	Lions Tail	<i>Leonitis nepetaefolia</i>	1	-	2	1	-	HIGH
25	Mother in Law's Tongue	<i>Sansevieria trifasciata</i>	1	2	4	2	-	MEDIUM
26	Mother of millions	<i>Bryophyllum</i> spp	2	2	2	2	Class 2	HIGH
27	Navua sedge	<i>Cyperus aromaticus</i>	2	2	2	1	-	HIGH
28	Neem Tree	<i>Azadirachta indica</i>	2	3	4	1	Code of practice	HIGH
29	Noogoora Burr	<i>Xanthium pungens</i>	3	4	3	2/4	-	LOW
30	Parkinsonia	<i>Parkinsonia aculeata</i>	1	-	1	2	Class 2 WONS	HIGH
31	Parthenium	<i>Parthenium hysterophorus</i>	1	1	1	1	Class2	HIGH
32	Pond Apple	<i>Annona glabra</i>	1	-	-	2	Class 2	HIGH
33	Praxelis	<i>Praxelis clematidea</i>	2	3	3	1	-	MEDIUM
34	Prickly Pear	<i>Opuntia</i> spp.	1	2	1	1	Class 2	HIGH
35	Rubber vine	<i>Cryptostegia grandiflora</i>	1	1	1	1 in specific areas and 2/4	Class2	HIGH
36	Salvinia	<i>Salvinia molesta</i>	1	-	1	1 and 4	Class2	HIGH
37	Sicklepod	<i>Senna obtusifolia</i> <i>Senna tora</i>	1	1	1	2	Class2	HIGH
38	Sida	<i>Sida rhombifolia</i> <i>Sida acuta</i> <i>Sida cordifolia</i>	3	3	2	3 and 4	-	LOW
39	Singapore Daisy	<i>Sphagneticola trilobata</i>	2	3	3	3	Class 3	HIGH

40	Snake Weeds	<i>Stachytarpheta cayennensis</i> (DB) <i>S. jamaicensis</i> (LB) <i>S. mutabilis</i> (pink)	3	3	2	2	-	LOW
41	Thornapple	<i>Datura stramonium</i>	3	-	3	2	-	LOW
42	Thunbergia	<i>Thunbergia grandiflora</i> <i>Thunbergia laurifolia</i>	1	2	3	2	Class2 Class 1	HIGH HIGH
43	Tobacco weed	<i>Elephantopus mollis</i>	1	-	1	1	Class 2	HIGH
44	Yellow Oleander (Cook's Tree)	<i>Thevetia peruviana</i>	1	1	-	2	Class3	HIGH

Table 2 lists other plants that have the potential to be included in Table 1 if they were to become established or increase in extent in Cook Shire. This list includes sleeper weeds within the Shire and potential weeds occurring in neighbouring Shires.

Table 2 Potential pest plants

COMMON NAME	SCIENTIFIC NAME	DECLARATION CATEGORY
Aleman Grass	<i>Echinochloa polystachya</i>	-
Alligator Weed	<i>Alternanthera philoxeroides</i>	Class1
Aeschenonome	<i>Aeschenonome paniculata</i>	-
Brillantaisia	<i>Brillantaisia lamium</i>	-
Cabomba	<i>Cabomba</i> spp.	Class2
Elephant Creeper	<i>Argyreia nervosa</i>	-
Giant Sensitive Tree	<i>Mimosa pigra</i>	Class1
Hairy Croton	<i>Croton hirtus</i>	-
Hyptage	<i>Hyptage bengalensis</i>	-
Koster's Curse	<i>Clidemia hirta</i>	Class 1
Limnocharis	<i>Limnocharis flava</i>	Class 1
Malachra	<i>Malachra fasciata</i>	-
Miconia	<i>Miconia</i> spp	Class1
Mikania Vine	<i>Mikania</i> spp	Class1
Pannicle Jointvetch	<i>Aeschenomone paniculata</i>	-
Siam weed	<i>Chromolaena odorata</i>	Class1
Small Devil's Claw	<i>Martynia annua</i>	-
Water Lettuce	<i>Pistia stratiotes</i>	Class 2

Mapping of Priority Weeds

The distribution of many of the priority weeds has been mapped using a Global Positioning System (GPS), especially along roadsides. However there is a lack of data for leasehold and freehold property including land owned by Indigenous Trusts and Corporations. It is hoped that with the development of property pest management plans that mapping on these lands will be improved. Cook Shire Council holds the mapped data in a Geographic Information System maintained by the Cape York Weeds and Feral Animals Program (CYWAFAP) staff. It is impossible here to reproduce the distribution maps, however if residents are interested they may request distribution maps or visit the CYWAFAP office in Cooktown. Similarly, if you wish to contribute your knowledge of weed distribution to

the database, please report your weeds to the Cook Shire Pest Management Officers located in the CYWAFAP office. If your outbreak is not included in current maps, an officer may be able to assist you to accurately map the infestation to enable its inclusion.

Causes of the weed problems

Land disturbance, combined with the constant introduction of potential weeds by vehicular traffic, industry, mine regeneration, dumping of garden waste, fodder, seed supplies, wind and water all contribute to weed establishment. Mining, roads, power lines, introduced animals, clearing, and changed fire regimes are just some of the disturbances that pave the way for weed invasion. The lack of consistency between Government Departments has also led to the establishment of a number of environmental weeds. Unless disturbances, weed introductions and weed spread are curbed, weeds will continue to increase in species number and densities into the future. If we do little or nothing, we risk the productivity of our lands, the maintenance of biodiversity and the loss of ecosystem integrity. We need cross-sectoral agreement on pest management and policies implemented to ensure that plants or animals, which may bring huge future eradication costs, are not deliberately introduced.

Pest Animals

Pest animals in Cook Shire are mainly a result of deliberate or accidental release of domesticated animals, which have become feral (e.g. horses, pigs, dogs and cats). Records of numbers and distribution of feral animals on Cape York Peninsula do not exist as surveys are difficult due to the size and remoteness of the area. Feral animals have the potential to impact on both conservation areas and agricultural production. Some native animals are also regarded as pests when they threaten agricultural productivity. In this Plan, 7 animal species or groups of animals have been identified as pest animals (Table 3). These are all rated as a high priority for management purposes in one or more areas. Table 3 lists the pest animals considered under this Plan, the level of threat they pose and in what area, the level of control that is achievable, their declaration category (if any) and their priority.

Table 3 – Pest Animals of Cook Shire

NO	COMMON NAME	SCIENTIFIC NAME	THREAT			ACHIEVABILITY	DECLARATION CATEGORY	PRIORITY
			Natural areas	Agriculture areas	Urban Areas			
9.	Black and white cockatoos	<i>Calyptorhynchus banksii</i> , <i>Cacatua galerita</i>	4	1 for horticulture	2	3	-	HIGH in horticulture areas
10.	Brumbies (feral horses)	<i>Equus caballus</i>	1	1 grazing	-	2	-	HIGH
11.	Feral / wandering cats	<i>Felis catus</i>	1	2	1	2	Class 2	HIGH
12.	Wild dogs / dingoes	<i>Canis familiaris dingo</i>	1	2 grazing	1	2	Class 2	HIGH in grazing areas
13.	Feral pigs	<i>Sus scrofa</i>	1	1	1	2	Class 2	HIGH
14.	Rabbits	<i>Oryctolagus cuniculus</i>	2	1	-	2	Class 2	HIGH

15.	Wallabies	<i>Various species</i>	4	2	2	3	-	HIGH in horticulture areas
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STRATEGIES TO ACHIEVE OBJECTIVES

Objective 1

To involve all stakeholders, including neighbouring Shires, in a cooperative and coordinated approach to all stages of pest management in Cook Shire.

Actions	By Whom	When	Performance Indicator
1. Continue to communicate with and approach all relevant agencies and adjoining Councils for a co-coordinated pest management effort	Cook SC CYWAFAP	Now and ongoing	Agencies are aware of and involved in the implementation of the PMP State Agencies continue to manage pests on state-controlled lands State agencies report pest management activities on State managed land to Interagency Pest Group Correspond with adjoining Councils on pest management issues.
2. Provide information to all landholders and households in the Shire regarding <ul style="list-style-type: none"> • the contents of the plan, • their responsibilities, • options available to them, through the newsletter and rates notices, and regular notices and articles in the press, on television, and on radio (see also Objective 3 strategies)	CYWAFAP/ CSC PMO	Twice yearly and opportunist ically	Newsletter included in the rates notice Pest information provided in the press as required
3. PMP available to all landholders	Cook SC	2006	Copies of plan available in Libraries, Council Office, CYWAFAP
4. Current Cook Shire Pest Management Plan on the Council web page.	IT Officer	2006 an when updated	2006 – 2010 PMP available on cookstowns.com and cyppests.com
5. Continue to support and have Councillors involvement in the Cape York Peninsula Pest Management Advisory Group (CYPPMAG).	CSC	On-going	Council continues to have two representatives on CYPPMAG and actively participates in CYPPMAG activities
6. Promote landholders / other case studies of people or groups that are actively managing pests	CSC / CYWAFAP	Ongoing	The experiences of landholders are promoted in each bi-yearly newsletter and in the Peninsula News and other regional newspapers.

7.	Ensure all parts of the Pest Management Plan are implemented and workable, and encourage local people to seek out their Councillors and CYPPMAG representatives for up-to-date information on progress of work.	CSC / PMO / CYWAFAP	Ongoing	Plan continues to be implemented. Council continues to receive regular reports on the implementation of aspects of the plan. Plan is revised by the pest management committee annually.
8.	Maintain strong links and continue to work closely with the Australian Quarantine and Inspection Service, in any further exercises for quarantining of outbreaks of exotic diseases	CSC / CYWAFAP	Ongoing	CSC has strong links with AQIS staff and operations
9.	Maintain links and work cooperatively with Govt Agencies	CSC and staff, DPI, NRMW, EPA, AQIS	Ongoing	CSC staff participates in activities with State Government agencies, AQIS etc. in relation to pest management in CYP.
10.	Work with Landcare and catchment groups on pest management activities and encourage local community groups to access funding for pest management projects.	PMOs, Councillors, CYWAFAP	As available	Community based groups in the Shire are actively engaged in joint initiatives with Council.
11.	Offer traineeships to community members in pest management. Training to be based on national competency standards.	CSC	Ongoing	Traineeships are initiated to train local people in pest plant and animal management.
12.	Assist landholders with the development of PPMP and provide a handbook of a simplified approach to developing a PPMP.	CSC	As required	Landholders are developing PPMPs using the new template and with the assistance of Cook SC staff
13.	Provide opportunities for landholders to come together and compare problems and solutions swap ideas and see how they might assist one another.	CSC	As opportunities arise	Organise or attend field days, workshops or other get-togethers for landholders and hold informal discussions as required. Invite other Shires to field days etc.

Objective 2

To gain adequate information about the Shire's pest plants and animals, and their distribution and best control methods.

Actions	By Whom	When	Performance Indicators
<p>1. Accurately map the distribution and density of pest plants and animals in the Shire:</p> <ul style="list-style-type: none"> • Continue to undertake on-ground surveys on Council managed land; • Where possible obtain mapping on Government controlled land. • Encourage local landholders to map high priority weeds on their properties; • Undertake specific pest species surveys across the Shire. 	PMOs /CYWAFAP	Ongoing	<p>Accurate mapping completed using GPS is available for major pest on all CSC controlled land.</p> <p>Mapping obtained from Govt Agencies is added to the GIS database.</p> <p>Mapping completed by landholders is incorporated into the GIS database when available.</p> <p>Surveys for specific species are conducted and mapping included into the GIS database.</p>
2. Maintain and update as required the GIS database on pest plant and animal distribution and abundance.	CYWAFAP	Ongoing	Database is maintained up to date and information is made available on request, while respecting confidentiality (NRMW data management Code of Practice)
3. Maintain the arrangements for reporting of pest plants so that new outbreaks can be recorded on the database and the extent of existing infestations monitored. The general community are made aware of the process.	PMOs /CYWAFAP	Ongoing	Reporting sheets are distributed with the Rates Notices with a returning card and ground-truthed by field staff before being entered onto the pest database. The general public are encouraged to ring the CYWFAP / PMOs. Catchment Groups are encouraged to get information back to PMOs
4. Continue to address landholders fears regarding reporting / mapping pest outbreaks on their properties.	PMOs / CYWAFAP staff	Ongoing	Landholders are trusting and confident enough to agree to provide pest distribution information for their property without fear of reprisal.
5. Provide pest mapping information to NRMW's "Pest Info" data base and other relevant agency data bases.	PMOs	Annually	Available information is sent annually.
6. Develop methods to gather information on control methods to establish "best" methods of control i.e. research, data collection, on the ground trials etc.	Weed crews, CSC and CYPPMAG	Ongoing	Methods are established and documented for gathering information on control methods.

Objective 3

To educate local residents, visitors and relevant industries about the causes, impacts, identification and management of pests in the Shire as well as the roles of all stakeholders in pest management

Actions	By Whom	When	Performance Indicator
1. Provide input and reports to Cape York Peninsula Pest Management Advisory Group (CYPPMAG) adjoining Shire Councils and Government agencies on Cook Shire pest issues.	CSC, all CYPPMAG members	Ongoing	Collaborative education, training and works programs are undertaken between organizations and communities represented on CYPPMAG. Landholder reps on CYPPMAG are fully involved in pest management issues and actions within Cook Shire.
2. Continue to disseminate information on pests, their impacts and control techniques to the general community.	PMOs / CYWAFAP / Council Office	Ongoing	Pest Fact sheets are kept up to date and made available through the Cook Shire Office, CYWAFAP office and staff members. Information on new / emerging pests continues to be collated and made available. Road signs and signs in popular camping areas that educate travellers about how they can assist in minimizing weed spread are erected and maintained.
3. Continue to make available the pocket weed ID book.	CYWAFAP	Ongoing	Weed ID book is reprinted in 2006 and distributed throughout the Shire
4. Maintain a web-site for access to the Cook Shire PMP and pest management information in Cook Shire.	CYWAFAP	Ongoing	Information is regularly updated on the cyppests.com web site.
5. Produce identification sheets for new weeds and potential weeds to the Shire.	PMOs / Technical Officers	Ongoing	Information on the identification of all threatening / potential weeds is available from the office in Cooktown
6. Utilise education materials about how to minimise new pests entering your property.	PMOs / CYWAFAP staff	Ongoing	Public is educated in the use of Voluntary Vendor Declaration Form when purchasing feed or grain from outside the Shire

7. Liaise with Northern Australia Quarantine Strategy implementation personnel in their annual visits to properties in CYP to assist in the distribution of pest information.			AQIS staff distributes Pest information annually.
8. Ensure that Council has a hygiene policy and implements it when moving Council vehicles and machinery around and outside the Shire.	CSC, EHO	2006	Council policy is clear, implemented and monitored.
9. Seek funding to build wash-down facilities at strategic points in the Shire to prevent the entry of new weeds and the movement of seeds within the Shire.	CYWAFAP	2006	Wash down bays are established in the Shire.
10. Encourage landholders have machinery washed down prior to moving it on or off property.	PMOs	Ongoing	Less weed seed spread from machinery.
11. Prepare information for newspapers and newsletters on specific Cook Shire pest issues.	PMOs	Ongoing	Articles are printed as required.

Objective 4

To gain the resources and foster proactive stakeholder commitment necessary for the implementation of effective pest management and enforcement will be used as required

Actions	By Whom	When	Performance Indicators
1. Apply for funding under appropriate State and Federal programs to assist with implementing plan.	PMOs	As available	Applications submitted. Funding obtained.
2. Keep all stakeholders informed about the plan and its implementation	PMOs	Ongoing	Stakeholders have a good general understanding of what is being undertaken for pest management in Cook Shire.
3. Encourage landholders to develop Property Pest Management Plans (PPMP) as these demonstrate commitment to ongoing pest management	PMOs / CYWAFAP	Ongoing	Pest Management Plans are developed and reviewed annually for properties
4. Advise landholders of the benefits of having an updated PPMP – eg how weed mapping and producing pest management plans may assist in the lease renewal process; accessing incentives etc.	PMOs / CYWAFAP	As required	Landholders are kept informed with benefits of a PPMP
5. Encourage participation of landholders in pest management through a system of incentives, including: <ul style="list-style-type: none"> • Herbicide subsidies for landholders with an approved Property Pest Management Plan • Assistance with developing Property Pest Management Plans • Assistance with weed mapping on properties • An award for outstanding contribution to pest management on private or leasehold land 	PMOs / CYWAFAP staff	Ongoing, as funding provides.	Information on assistance available is promoted in the newsletter to rate payers.
6. Implement an enforcement program for non-compliance under the Land Protection (Pest and Stockroute Management) Act 2002.	CSC	Annually	Awards presented for outstanding contribution to pest management
7. Garner industry support for pest management control within Cook Shire.	PMOs / CYWAFAP	2006	Meeting held to formulate program for enforcement and program implemented.
		Ongoing	Industry groups are strongly involved in the CSC Pest Management program and are advocates for the program in the community and with Government.

Objective 5

To limit the introduction of new pests and the movement of pests from one part of the Shire to another, eradicate isolated pest outbreaks and contain / reduce area / numbers of existing pests

General Management Strategies for Pest Plants

Actions	By Whom	When	Performance Indicators
1. Ensure that Council follows protocols for the introduction of new plants.	CSC	Ongoing	Procedures followed and no exotic plants introduced without assessment.
2. Request nursery people to give consideration to not selling any of the plants in this plan, and if they chose to sell them to please display information on their impacts.	PMO	2006	Nurseries approached and complying with request.
3. Request Ergon, Telstra, All Government Agencies, Cook Shire equipment operators and other private contractors to control weed outbreaks they introduce or provide funding for CSC to do the control work.	All stakeholders	2006 ongoing	Best practice hygiene measures adhered to by Agencies and contractors Those responsible for existing outbreaks are taking responsibility for their clean-up. No further outbreaks of weeds
4. Encourage Main Roads, contractors and other heavy machinery operators to utilise wash down facilities where available.	CSC	Ongoing	Wash down facilities installed, used and monitored.
5. Erect signs requesting heavy vehicles to dust their brakes and drop any other extraneous soil and plant matter at appropriate places prior to entering townships and approaching bitumen areas.	CSC, MRD	2007	Signs are erected. Soil and plant matter appropriately dropped.
6. Work with Main Roads, CSC and private roads/easements managers on an annual basis to assess the resources required to manage priority weeds on road reserves and negotiate an annual agreement on roadside spraying program.	PMO	Ongoing	Assessments done annually. Budget for control works allocated and works implemented.
7. Issue notices on reticent landholders when <ul style="list-style-type: none"> • Neighbours are undertaking systematic weed management, and • Efforts at encouragement and education have produced no action. 	CSC	As required	Council applies notice system
8. Assist Government Agencies to develop their Pest Management Plans	PMOs/CYPP MAG	Ongoing	
9. Encourage all landholders undertaking weed management to incorporate monitoring techniques. Enter into an agreement regarding the schedule of follow up control and	PMO / CYWAFAP	Ongoing	Monitoring results are available from landholders

Actions	By Whom	When	Performance Indicators
<p>monitoring that landholders involved in joint operations with the Shire are required to undertake to maintain and measure the benefits.</p> <p>10. Request copies of draft Pest Management Plans developed by Govt Agencies during development phase.</p> <p>11. Encourage neighbouring Shires to work co-operatively with Cook Shire on pest management.</p>	<p>CYWAFAP</p> <p>CSC / ROCCY</p>		<p>Letters written to Govt Agencies</p> <p>Councils undertake cooperative work programs</p>

Specific Management Strategies for High Priority Pest Plants

BARLERIA (<i>Barleria lupulina</i>)			
<p>Threat</p> <p>2 – natural areas 4 – agricultural areas</p>	<p>Achievability</p> <p>1</p>	<p>Priority</p> <p>HIGH</p>	
<p>Distribution: One infestation of what is thought to be this species found at an Old Mine site at Shipton's flats. This site has been treated and requires follow-up to monitor seedling re-growth. Another has been located at the base of grassy hill at Cooktown.</p>			
<p>Goal: Eradication in Shire</p>		<p>Performance Indicator: Any new infestations eradicated.</p>	
Actions		By Whom	When
Educate the community as to the impact of this weed and how to identify it.		CSC	Ongoing.
Monitor treated area for seedling re-growth and treat.		Landholders	Ongoing
Commence treatment of Grassy hill site.		CSC / Landholders	2006
<p>Pest Monitoring Process: Treated areas are monitored for seedling re-growth</p>			

BELLYACHE BUSH (<i>Jatropha gossypifolia</i>)		
Threat Natural areas - 1 Agricultural areas - 1	Achievability 2 &4	Priority HIGH
Distribution: Infestations reported from Palmer River and Walsh River areas.		
Goal: To eradicate from the Shire. <i>This plant is Declared</i>		Performance Indicator: No new infestations are found. Existing infestations eradicated.
Actions	By Whom	When
Continue with publicity on awareness.	CYWAFAP & MRWMG	Ongoing
Apply for funding through NHT for more onground work	PMO /CYWAFAP project manager	2006
Work with MRWMG to carryout onground control program	CSC weeds crews / MRWMG	2006-2010
Work with TWRC staff to introduce bio control	CSC / TWRC / MRWMG	2006
Pest Monitoring Process: Monitor treated sites annually.		

CALTROP (<i>Tribulis terrestris</i>)		
Threat Natural areas -1 Agricultural areas - 1	Achievability 2	Priority HIGH
Distribution: At Archer Point camping area, roadsides at Lakeland and along sandy coast at Old Mapoon.		
Goal: Control infestations along roadsides and eradicate in main camping areas.		Performance Indicator: No further spread of plant – no complaints from campers.
Actions	By Whom	When
Map existing infestations.	CSC	2006and ongoing.
Control on roadsides and main camping areas.	CSC	Ongoing
Monitor treated areas for seedling re-growth.	CSC	Ongoing
Pest Monitoring Process: Monitor treated areas for seedling re-growth.		

CASTOR OIL PLANT (<i>Ricinus communis</i>)		
Threat 2 on river banks 3 in agricultural areas	Achievability 3 specific areas 4 elsewhere	Priority HIGH in residential / traffic areas. LOW elsewhere
Distribution: Lakeland Downs, Palmer and Normanby Rivers, Pormpuraaw, along Mitchell River is thick. Seeds are toxic to humans.		
Goal: To eradicate Castor Oil plant around towns and homesteads.		Performance Indicator: Castor oil plant has been eradicated alongside roads, in camping areas and around dwellings.
Actions Treat all plants around towns and homesteads. Follow up treatment as regeneration appears.	By Whom CSC, landholders Landholders	When Annually Ongoing
Pest Monitoring Process: Survey around towns and homesteads.		

CAT'S CLAW CREEPER (<i>Macfadyena unguis-cati</i>)		
Threat 1 in natural areas 3 in agricultural areas	Achievability 1	Priority HIGH
Distribution: Outbreaks around Cooktown gardens - originated from nursery.		
Goal: To eradicate from the Shire. <i>This is a Declared plant</i>		Performance Indicator: No new infestation are found. Existing infestations eradicated.
Actions Visit owners of gardens where Cat's Claw Creeper is present and remove for them. If possible, provide a replacement plant for their garden. Educate the community as to the impact of this weed and how to identify it. Monitor treated area for seedling re-growth and treat.	By Whom CSC CSC CSC Landholders / CSC	When 2006 / 2007 when required 2006 –10 ongoing
Pest Monitoring Process: Survey of treated sites		

CHINEE APPLE (<i>Ziziphus mauritiana</i>)			
Threat Natural areas – 2 Agricultural areas – 2		Achievability 1	Priority HIGH
<p>Impact: Dense infestations produce impenetrable thickets that seriously hamper stock management and reduce pasture productivity and accessibility. This weed also devastates native plants and animals.</p> <p>Distribution: There is a small infestation in the Weipa area, and substantial infestations in neighbouring Kowanyama DOGIT. Small infestation on Merluna station and some plants in Coen</p>			
Goal: To eradicate from the Shire. <i>This is a Declared plant</i>		Performance Indicators: Current infestations are treated. Sites are monitored for regrowth. No new infestations are found.	
Actions		By Whom	When
Follow up with the landholder and offer assistance.		CSC, landholder	2006
Control new outbreaks.		CSC, landholder	2006 and ongoing
Continue to monitor old mining areas in the Shire.		CSC, landholders	Ongoing
<p>Pest Monitoring Process: Known site to be monitored regularly to control any seedlings or suckers. Old mining areas to be monitored.</p>			

GAMBA GRASS (<i>Andropogon gayanus</i>)		
Threat	Achievability	Priority
Natural areas - 1 Agricultural areas - 3	1 in natural areas 4 in other areas	HIGH in natural areas LOW elsewhere
Distribution: Gamba Grass has spread in CYP from a few sources where it was either sown as pasture or grown for commercial seed production. Infestations have been found along the PDR, in Lakefield NP (adjacent to road), along roads in the NPA and around the Cooktown, Lakeland and the Endeavour Valley areas.		
Goal: To eradicate infestations in areas managed for their natural values and outside where Gamba Grass is managed as pasture.		Performance Indicator: No infestations of Gamba Grass in natural areas
Actions		Who
Continue to monitor treated areas for weed regeneration and treat any further outbreaks that occur.		CSC, Landholders
Work with Comalco, the Napranum Land and Sea Management Centre and owners Sudley to undertake control work on infestations of Gamba Grass in their particular areas.		CSC
Develop an agreement with those parties for ongoing follow up and monitoring program for Sudley.		CSC
Educate landholders and other relevant land managers about the environmental impacts and potential fire risks associated with this plant.		CSC / CYWAFAP
Encourage control where it is not being used specifically as a pasture to feed stock.		CSC / CYWAFAP
Pest Monitoring Process: Surveys of treated areas		

GIANT RAT'S TAIL GRASS <i>(Sporobolus pyramidalis and S. natalensis)</i>		
Threat	Achievability	Priority
Natural areas - 1 Agricultural areas - 1	1	HIGH
Distribution: Small infestations on three properties in central CYP have been treated. Probably arrived in hay.		
Goal: To eradicate from the Shire. <i>This is a Declared plant</i>		Performance Indicator: Any new infestations are treated before seed set.
Actions		By Whom
Educate the community as to the potential impact of this weed (numbers of seeds, seed viability) and how to identify and treat this weed.		NRMW, CSC
Encourage landholders to report any outbreaks so these can be verified, mapped, treated and followed-up.		NRMW, CSC
Pest Monitoring Process: Landholders to monitor treated sites for regeneration		

GIANT SENSITIVE PLANT (<i>Mimosa invisa</i>)		
Threat Natural areas - 1 Agricultural areas - 1	Achievability 3	Priority HIGH
Impact: GSP will choke out crops and grassland, causing loss of crop and pasture production		
Distribution: Two infestations known in the Shire:- at the corner of Archer Point Road and the Cooktown Development Road and in the Old Starke Homestead area		
Goal: To eradicate from the Shire. <i>This is a Declared plant</i>		Performance Indicator: Existing infestation controlled and no further infestations reported
Actions Continue to treat the infestation. Investigate whether the psyllid or fungus bio-control agent is present at the site and introduce it if it is not. Monitor impact of bio-control. Promote use of residual herbicides on the infestation.	By Whom CSC, QPWS and landholders QPWS, CSC CSC, landholder	When Ongoing Ongoing Ongoing
Pest Monitoring Process: CSC to monitor the known site, and record and investigate any further reports		

GREWIA (<i>Grewia asiatica</i>)		
Threat Natural areas - 2 Agricultural areas - 4	Achievability 2 (3 outside NP)	Priority HIGH – National Parks LOW – other areas
Impact and Distribution: Grewia has invaded grassy woodland for some kilometres from the Old Laura homestead, the Laura rodeo grounds and racecourse, and Olive Vale Station. Grows in scattered arrangement as part of the understorey, rather than dominating it.		
Goal: To reduce the extent of this weed.		Performance Indicator: Current distribution is reduced.
Obstacles: Funding and staffing.		
Actions Survey and map extent of Grewia. Undertake control program, especially at camping areas in its range.	By Whom CSC / QPWS CSC / QPWS	When 2006 Ongoing
Pest Monitoring Process: Monitor distribution and re-growth with photo points.		

HYMENACHNE (<i>Hymenachne amplexicaulis</i>)		
Threat Natural areas - 1 Agricultural areas - 1	Achievability 1	Priority HIGH
Distribution: One outbreak of Hymenachne has been treated in the region. Weed crews have reported five further occurrences and 4 of these have been mapped – in the Endeavour Valley and on 2 grazing stations in the central and west of the region.		
Goal: To eradicate from the Shire – this plant is declared in Queensland and a Weed of National Significance (WONS)	Performance Indicator: Any reported outbreaks of Hymenachne are eradicated.	
Actions	By Whom	When
Accurately map all known outbreaks of Hymenachne.	CSC	Annually
Publicise known infestations of Hymenachne in the Shire and request landholders to report any new outbreaks found.	CSC	ongoing
Seek outside funding to get a control program up and running	CSC, CYWAFAP	2006-10
Pest Monitoring Process: Landholders to monitor treated sites for regeneration.		

LANTANA (<i>Lantana camara</i>)			
Threat Natural areas – 2 Agricultural areas – 2	Achievability 2 & 4	Priority HIGH in or adjacent to environmentally sensitive areas	
<p>Impact: Lantana is poisonous to stock. Lantana slows fires and invades edges of natural areas.</p> <p>Distribution: Lantana is mainly found along the wetter eastern coast of CYP, however it may be able to increase density and invade new habitats within its current range. The ecological limits of lantana are not clearly defined (Lantana National Strategic Plan) and some outbreaks may occur and flourish in drier parts of the region.</p>			
<p>Goal: To reduce the area of invasion and take advantage of the existing biocontrol in areas of dense invasion – particularly in nature conservation and grazing areas. <i>This plant is Declared and Weed of National Significance (WONS).</i></p>		<p>Performance Indicators: Reduction in the area of infestation Decrease in stock loss</p>	
Actions		By Whom	When
Encourage control of lantana on private land and control on Council lands.		CSC, landholders	Ongoing
Approach relevant land managers in the WTWHA to undertake control on public land.		CSC	2006-10
Liaise with Andrew Clark (WONS coordinator) re most effective bio-controls for the many varieties of Lantana.		CSC	Ongoing
Map and treat new and / or isolated infestations, and record flower colour with a view to determining which bio-control agent could be established in the area.		CSC, NRMW	Ongoing
<p>Pest Monitoring Process: Establish transects to record regeneration at treatment sites.</p>			

LEUCAENA (<i>Leucaena leucocephala ssp leucocephala</i>)		
Threat Natural areas - 2 Agricultural areas - 2	Achievability 3	Priority HIGH
Impact: A weed of roadsides and other disturbed areas, and potentially a serious environmental weed. Dense stands of <i>Leucaena</i> inhibit growth of other species and reduce ground cover. Extensive areas of <i>Leucaena</i> are found in the Weipa regeneration areas. Hay from the regeneration areas has been used for cattle fodder. This may be contaminated with <i>Leucaena</i> seed.		
Goal: To ensure <i>Leucaena</i> species are managed in pastures and controlled elsewhere.	Performance Indicator: Adherence to Code of Practice – see Appendix 1. No further increase in distribution beyond managed pastures.	
Obstacles: DPI continues to recommend <i>Leucaena</i> as a fodder crop in regions where it can become a serious environmental weed.		
Actions	By Whom	When
Educate landholders to only to use the sub-species <i>glabrata</i> if willing to abide by the Code of Practice which will be enforced by CSC to address any volunteer plants regenerating outside the managed area – see Appendix 1.	CSC, NRMW, DPI	Ongoing
Continue to remove any <i>Leucaena</i> on Council land.	CSC	Ongoing
Encourage landholders to remove any <i>Leucaena</i> that is not being managed according to the Voluntary Code of Practice.	CSC, NRMW	Ongoing
Request mining companies and others to remove <i>Leucaena</i> in regeneration areas and areas adjoining these and to provide a report on how it is controlling the <i>Leucaena</i> in its area.	CSC	2003
Pest Monitoring Process: Survey and reports from residents and staff.		

LION'S TAIL (<i>Leonotis nepetaefolia</i>)		
Threat Natural areas - 1 Agricultural areas - 2	Achievability 1	Priority HIGH
<p>Impact: Invades bushland along floodplains and replaces native vegetation. Has the potential to invade other disturbed areas including grazing land. Uncomfortable for people to walk through as has spiky seed heads at face level.</p> <p>Distribution: Lion's Tail has been found in Lakefield National Park and on the old Kalpowar station and this is currently the subject of a control program. Lion's Tail is also in the adjoining Torres Shire, at Somerset, Roma Flat and Seisia.</p>		
<p>Goal: To eradicate from the Shire</p>		<p>Performance Indicators: Existing infestation is eradicated. No further infestations are reported.</p>
<p>Obstacles: Minimal resources of QPWS. Rapid rate of spread of this weed</p>		
Actions	By Whom	When
Assist and encourage QPWS to continue its control program in Lakefield NP.	CSC / QPWS	2006 -10
Assist and encourage communities in the NPA to develop and implement control program in their areas.	CSC, NRMW, QPWS	2006 / 08
Educate landholders adjoining these infestations regarding Lion's Tail identification and control.	CSC, NRMW	Ongoing
<p>Pest Monitoring Process: QPWS staff to monitor existing invasion and ensure it does not expand in area. CSC to continue to look out for this weed in other places – particularly in susceptible areas which are the higher parts of low sandy deposits (just above seasonally inundated floodplains)</p>		

MOTHER OF MILLIONS (<i>Bryophyllum spp</i>)		
Threat Natural areas - 2 Agricultural areas - 2	Achievability 2	Priority HIGH
<p>Impact: These plants can invade pasture land. They are toxic to stock. The plants establish well in leaf litter or other debris on shallow soils in shady woodlands, and often grow on roadsides, along fence lines and around old rubbish dumps. They can spread from these areas, especially in flood and establish if pastures are run down.</p> <p>Distribution: Scattered throughout the Shire</p>		
<p>Goal: To significantly reduce in area within the Shire. <i>This is a Declared plant</i></p>	<p>Performance Indicators: Existing infestation are treated. Known infestations are reduced in size.</p>	
<p>Obstacles: Rapid rate of spread of this weed</p>		
Actions	By Whom	When
Existing infestations are mapped and treated	CSC, relevant land owners / managers	Ongoing
Educate landholders regarding identification and control.	CSC, NRMW	Ongoing
<p>Pest Monitoring Process: Sites are monitored for regrowth and follow-up work is continued</p>		

NAVUA SEDGE (<i>Cyperus aromaticus</i>)		
Threat Natural areas - 2 Agricultural areas - 2	Achievability 2 & 1	Priority HIGH
<p>Impact: Mainly a problem to cattle growers in wet areas as is extremely aggressive and unpalatable. Smothers pastures and native vegetation in wet areas. Produces large quantities of seeds.</p> <p>Distribution: Scattered infestations at Lakeland Downs, Lockhart River, Bloomfield, Cooktown and Hopevale areas.</p>		
<p>Goal: To eradicate from the Shire <i>This is a Declared plant</i></p>	<p>Performance Indicator: No further infestations identified</p>	
<p>Obstacles: Few people know how to identify.</p>		
Actions	By Whom	When
Map the area invaded by Navua Sedge.	CSC	Ongoing
Undertake an awareness campaign to inform people of how to identify and control.	CSC	Ongoing
Control outbreaks as found.	CSC and landholders	Ongoing

NEEM TREE (<i>Azadirachta indica</i>)			
Threat Natural areas - 1 Agricultural areas - 2	Achievability 1	Priority HIGH	
Impact: Neem trees invades native ecosystems and displaces native plants. It has the ability to quickly form monocultures along river banks.			
Distribution: Planted trees are at the Laura River and in scattered locations throughout the Shire as shade trees. Seeds spread by birds and water.			
Goal: To ensure Neem is only planted in plantation situations where proponent agrees to adhere to the Code of Practice (Appendix 2). Neem eradicated in areas outside plantations.		Performance Indicator: Existing infestations outside plantations eradicated. No new infestations are found in areas outside plantations managed according to the Code of Practice (Appendix 2).	
Actions		By Whom	When
Remove known Neem trees growing in natural and agricultural areas.		CSC, Landholders	Ongoing
Educate residents on the impacts of Neem on natural ecosystems and the ready spread of seeds by birds.		CSC, NRMW	Ongoing
Encourage residents with Neem trees in gardens to destroy them.		CSC	Ongoing
Ensure plantations are established under the Code of Practice and that the Code of Practice is enforced.		CSC	Ongoing
Pest Monitoring Process: Landholders monitor for any re-growth. Areas around plantation are surveyed for escaped seeds.			

PARKINSONIA (<i>Parkinsonia aculeata</i>)			
Threat Natural areas - 1 Agricultural areas - 1	Achievability 2	Priority HIGH	
Distribution: This is a Weed of National Significance (WONS) and has been identified and treated at Pormpuraaw , Aurukun, Kowanyama and Rutland Plains. A new infestation has been reported and confirmed on Highbury station and another on Holroyd Station which is yet to be confirmed or refuted.			
Goal: To prevent from entering Shire. <i>This plant is Declared and Weed of National Significance (WONS).</i>		Performance Indicator: No outbreaks of Parkinsonia found in the Shire.	
Actions		By Whom	When
Seek funding to assist neighbouring shires with the control of this plant		CSC	2006 and ongoing
Survey and map any new outbreaks		NRMW, CSC	2006
Confirm / refute Holroyd report		CSC	2006
Educate owners/managers, in identifying this species, on properties neighbouring known infestation areas		Landholders	Ongoing
Pest Monitoring Process: Landholders will keep a watch for appearance of Parkinsonia.			

PARTHENIUM (<i>Parthenium hysterophorus</i>)		
Threat Natural areas - 1 Agricultural areas - 1	Achievability 1	Priority HIGH
<p>Impact: Parthenium can overrun weak or overgrazed pastures with low ground cover and disturbed bare areas along roadsides, yards and watering points. It reduces the reliability of establishment of pasture, reduces pasture production potential and reduces land values. Parthenium is also a health problem as contact with the plant or the pollen can cause serious allergic reaction such as dermatitis and hay fever.</p> <p>Distribution: The CYWAFAP and affected landholders have eradicated Parthenium infestations as these have been identified over the last 4 years. Landholders are monitoring sites for any sign of regeneration. Eternal vigilance by landholders importing grain and chook feed from infested areas is required to ensure this weed does not take hold in CYP.</p>		
<p>Goal: To eradicate Parthenium from the Shire. <i>This plant is Declared and Weed of National Significance (WONS).</i></p>		<p>Performance Indicator: Current infestation is eradicated.</p>
<p>Obstacles: None known.</p>		
Actions	By Whom	When
Continue to educate landholders about the risks, identification and control of Parthenium.	CSC	Ongoing
Encourage landholders to regularly check where chook feed or grain is fed out for any sign of Parthenium growth.	CSC	Ongoing
Carryout regular monitoring of known sights	CSC	Ongoing
<p>Pest Monitoring Process: Continue to monitor treated sites and where chook feed or grain is fed out for any sign of Parthenium growth</p>		

POND APPLE (<i>Annona glabra</i>)		
Threat Natural areas - 1 Agricultural areas - 3	Achievability 2	Priority HIGH
<p>Impact: Highly aggressive tree/shrub that can invade and take over a wide range of habitats but most seriously affects seasonally inundated coastal habitats supporting <i>Melaleuca</i> and <i>Heritiera littoralis</i> mangrove communities. Forms dense thickets that exclude most native ground and shrub layer plants and prevent the regeneration of trees.</p> <p>Distribution: Cooktown <i>Melaleuca</i> lowlands, including Tickle belly Flat, Alligator Creek Swamp and racecourse area. Various other infestations have been found up the eastern coastline of CYP, from Hopevale to Thursday Island, with a big patch at Temple Bay. Two outbreaks have been recorded on the western coast of CYP, at Umagico and Injinoo.</p>		
<p>Goal: To significantly reduce the area invaded. <i>This plant is Declared and Weed of National Significance (WONS).</i></p>		<p>Performance Indicator: Reduction in extent and density</p>
<p>Obstacles: Crocodiles, access, funding for labour-intensive control</p>		
Actions	By Whom	When
Undertake control program in liaison with other agencies <ul style="list-style-type: none"> • Spray or pull seedlings • Re-vegetate the area 	CSC, all relevant agencies	Yearly
Submit funding application for continuation of control program and to survey other areas along the coast of Cape York Peninsula.	CSC	As available.
<p>Pest Monitoring Process: Visual assessments of known sites, community input on new sites.</p>		

PRAXELIS (<i>Praxelis clematidea</i>)		
Threat Natural areas - 1 Agricultural areas – 1	Achievability 1	Priority HIGH
Distribution: Small areas around Cooktown and environs, including the camp area at the Little Annan River; the Market Garden at Coen; at Laura, and the Byerstown Range. Can be easily confused with Rag weed.		
Goal: To eradicate from Shire.		Performance Indicator: No regeneration at treated sites. No further outbreaks found.
Actions	By Whom	When
Treat infestations as found.	CSC, Landholders	Ongoing
Map infested sites.	CSC, Landholders	Ongoing
Monitor treated sights.	CSC, Landholders	Ongoing
Educate the community as to the impact of this weed (sets large amount of seed, woody rhizome protects from fire) and how to identify and treat this weed.	CSC, NRMW	Ongoing
Encourage landholders to report any outbreaks so these can be verified, mapped, treated and followed-up.	CSC, NRMW	Ongoing
Pest Monitoring Process: Landholders to monitor treated sites for regeneration.		

PRICKLY PEAR (<i>Opuntia spp.</i>)		
Threat Natural areas - 3 Agricultural areas - 3	Achievability 1	Priority HIGH
Distribution: Isolated outbreak in the Cooktown area		
Goal: To eradicate from Shire. <i>This plant is Declared.</i>		Performance Indicator: No outbreaks found in Shire.
Actions	By Whom	When
Undertake survey/control on these sites.	CSC	Ongoing
Monitor sites for regrowth	CSC	2006-10
Pest Monitoring Process: Physical inspections of sights		

RUBBER VINE (<i>Cryptostegia grandiflora</i>)		
Threat Natural areas - 1 Agricultural areas - 1	Achievability 3 and 4	Priority HIGH
<p>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. It is Declared in Queensland and a Weed of National Significance (WONS). Its impacts include:</p> <ul style="list-style-type: none"> • Invasion and replacement of native flora and wildlife habitat, • Prevention of cattle accessing watering points along rivers and creeks, • Prevention of mustering, as cattle hide in thick infestations and are impossible to move, • Poisonous to stock, and • Reducing access to fishing holes and camping areas. <p>Distribution: Spread is minimal due to the combination of fire and rust, but a survey should be done. The northern boundary is the Holroyd River, with major infestations present in the Mitchell and Normanby River catchments. Rubber Vine has the potential to invade much of Cook Shire.</p>		
<p>Goal: To contain the spread of rubber vine, keeping it south of the Holroyd River, and eradicate isolated outbreaks. To manage Rubber Vine with an acceptable level of bio-control. <i>This plant is Declared and Weed of National Significance (WONS).</i></p>		<p>Performance Indicator: Any outbreaks north of the containment line and isolated outbreaks are eradicated.</p>
<p>Obstacles: Floods spread seed, difficult to get enough fuel for a fire to burn, many seeds per seed pod, wide spread and intensity of the invasion.</p>		
Actions	By Whom	When
Resurvey properties north of the containment line.	CSC	2006 /07
Eradicate isolated outbreaks.	CSC/Landholders	Ongoing
Continue to control Rubber Vine on Council-managed land.	CSC	Ongoing
Ensure all landholders have access to Property Management Planning and Rubber Vine control information.	CSC, NRMW	Ongoing
Encourage use of best practice for Rubber Vine Control.	CSC, NRMW	Ongoing
Investigate and promote funding sources to provide incentive for landholders to apply regulated grazing according to best practice for rubber vine management.	CSC, NRMW	Ongoing
Monitor populations of rubber vine rust to determine whether further controls are necessary.	NRMW, Landholders	Ongoing
Assist landholders and Indigenous communities to plan integrated control program for rubber vine on their land.	CSC	Ongoing
<p>Pest Monitoring Process: Council Pest staff interviewing landholders. Landholders monitoring results. Surveying in “quarantine” area north of the Holroyd River.</p>		

SALVINIA (<i>Salvinia molesta</i>)			
Threat Natural areas - 1 Agricultural areas - 1	Achievability 3&4	Priority HIGH	
Distribution: The first known area of Salvinia in CYP was at Perfume Gully at Lakeland where it was probably dumped. Further outbreaks have occurred downstream of Honey Dam, Lakeland township, Bullhead Creek and the Laura River.			
Goal: To eradicate from the Shire. <i>This plant is Declared and Weed of National Significance (WONS).</i>		Performance Indicator: No new outbreaks are found and current mapped area is eradicated.	
Actions	By Whom	When	
Resurvey the Laura River to see to what extent the Salvinia has spread	CSC, QPWS, Ang Gnarra rangers	2006	
Develop a management plan for this infestation	CSC, NRMW	2006	
Monitor bio-control to see if reintroduction is necessary.	CSC	Ongoing	
Educate residents of CSC about risks of releasing Salvinia into the environment and discourage people from using this species in fish tanks, fishponds and dams. Source an alternative native plant for the aquaculture industry and promote this species as an alternative.	CSC, NRMW	Ongoing	
Pest Monitoring Process: Survey of known sites and down Laura River.			

SICKLEPOD (*Senna obtusifolia*)

Threat Natural areas - 1 Agricultural areas - 1	Achievability 2	Priority HIGH
<p>Impact: Sicklepod can invade and completely dominate pastures, as nothing will grow under it. It becomes a major weed of many crops within 2 or 3 seasons. Sicklepod will only invade natural areas after significant habitat change.</p> <p>Distribution: Over the last 5 years there seems to have been an increase in the distribution of Sicklepod, though this may be as a result of increased awareness leading to identification of pre-existing patches. Some of the problem areas within Cape York Peninsula are Iron Range National Park, Wujal Wujal, Ayton, Bloomfield, Hopevale, Starcke, Sudley, Strathburn, Lakeland Downs, Laura River, Lockhart River, Archer River, Wenlock River Moorehead River, Mary Creek and the head of the Palmer River. Sicklepod is known to occur on roadsides, gravel pits and campsites.</p>		
<p>Goal: To prevent any further spread of this weed and continue to reduce areas of current outbreaks.</p>	<p>Performance Indicator: Any further outbreaks recorded are eradicated before seed set.</p>	
<p>Obstacles: Seed longevity. Some landholders are not treating their properties though Council has treated adjoining roadsides.</p>		
Actions	By Whom	When
Continue to spray Sicklepod infestations on roadsides throughout the Shire.	CSC, Main Roads	Annually
Prioritise mapping, management and control of Sicklepod infestations north of Coen.	CYWAFAP	Ongoing
Report on, map and control new outbreaks of Sicklepod.	CSC/Landholders	Ongoing
Access funding to provide equipment / resources to landholders / managers to facilitate Sicklepod control on site during the growing season when weed crews are unavailable.	CSC & Landholders	During wet.
Encourage a regional approach to Sicklepod management involving neighbouring Shire Councils.	CSC, NRMW	Annually
Encourage landholders to hold cattle in yards for an appropriate period to void Sicklepod seeds if they have come from Sicklepod infested areas.	CSC, NRMW	Ongoing
Wash down trucks that have come from Sicklepod areas on lawn or another area where control of any weed seedlings can be controlled.	All stakeholders	Ongoing
Send GIS information regarding Sicklepod infestations on Government managed lands to the relevant Government Department.	CSC	Ongoing

SINGAPORE DAISY (<i>Sphagneticola trilobata</i>)								
Threat Natural areas - 2 Agricultural areas - 3	Achievability 2	Priority HIGH in natural areas						
<p>Impact: Common garden ornamental which has escaped and is invading riparian areas, disturbed areas of coastal dunes, edges of rainforests and along roadsides</p> <p>Distribution: Has naturalised in most coastal towns from Torres Strait to Bloomfield</p>								
<p>Goal: To significantly reduce in area in the Shire / natural areas</p>		<p>Performance Indicators: Kept out of cropping areas. Infestations reduced especially in areas of high environmental value.</p>						
<p>Actions Educate landholders regarding the impacts of this weed. Educate other landholders in proper disposal of garden ornamentals. Control/ eradicate from environmentally significant areas and household yards</p>		<table border="1"> <thead> <tr> <th style="text-align: center;">By Whom</th> <th style="text-align: center;">When</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">CSC, NRMW</td> <td style="text-align: center;">Ongoing</td> </tr> <tr> <td style="text-align: center;">CSC/QPWS/ Landholders</td> <td style="text-align: center;">Ongoing</td> </tr> </tbody> </table>	By Whom	When	CSC, NRMW	Ongoing	CSC/QPWS/ Landholders	Ongoing
By Whom	When							
CSC, NRMW	Ongoing							
CSC/QPWS/ Landholders	Ongoing							
<p>Pest Monitoring Process: Monitor cropping areas, urban areas and areas of high conservation value.</p>								

THUNBERGIA (<i>Thunbergia grandiflora</i> and <i>T. laurifolia</i>)										
Threat Natural areas - 1 Agricultural areas - 3	Achievability 2	Priority HIGH								
<p>Impact: This plant climbs and smothers native vegetation, killing and often pulling down mature trees with the weight of the vine.</p> <p>Distribution: Mango Tree at old Coral Sea House, Rossville, Bloomfield, Ayton, Munburra.</p>										
<p>Goal: To eradicate from the Shire. <i>This plant is Declared.</i></p>		<p>Performance Indicators: All infestations have no regenerating seedlings. No new infestations found.</p>								
<p>Obstacles: People sometimes plant this species in gardens as it has an attractive flower.</p>										
<p style="text-align: center;">Actions</p> <p>Follow up treated areas to ensure seedlings are killed.</p> <p>Treat any new infestations immediately.</p> <p>Educate landholders regarding the threat to native vegetation and discourage from growing as a garden species.</p>		<table border="1"> <thead> <tr> <th style="text-align: center;">By Whom</th> <th style="text-align: center;">When</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">CSC</td> <td style="text-align: center;">Ongoing</td> </tr> <tr> <td style="text-align: center;">CSC</td> <td style="text-align: center;">Upon identification.</td> </tr> <tr> <td style="text-align: center;">CSC</td> <td style="text-align: center;">Ongoing</td> </tr> </tbody> </table>	By Whom	When	CSC	Ongoing	CSC	Upon identification.	CSC	Ongoing
By Whom	When									
CSC	Ongoing									
CSC	Upon identification.									
CSC	Ongoing									
<p>Pest Monitoring Process: Visual inspection of treated areas</p>										

TOBACCO WEED (<i>Elephantopus mollis</i>)		
Threat	Achievability	Priority
Natural areas - 2 Agricultural areas - 1	1	HIGH
Distribution: Small outbreak detected around cattle lick area off Hopevale road has been treated.		
Goal: To eradicate from the Shire. <i>This plant is Declared.</i>		Performance Indicator: No new outbreaks are found and current mapped area is kept clean
Actions	By Whom	When
Monitor site for regrowth	CSC, Landholder	Ongoing
Pest Monitoring Process: Landholder to monitor site		

YELLOW OLEANDER (<i>Thevetia peruviana</i>)		
Threat	Achievability	Priority
Natural areas - 2 Agricultural areas - 1	1	HIGH in gardens
Distribution Areas: Lakeland Downs, Laura River, Laura and residential gardens. This plant is drought tolerant and produces latex. All parts of the plant are poisonous to people and animals. The plant is difficult to kill.		
Goal: To remove from gardens and places where children can access the plants.		Performance Indicator: No plants accessible to children
Actions	By Whom	When
Educate about impacts and control methods.	NRMW, CSC	Ongoing
Control by pulling out, cutting and painting, spraying seedlings.	Landholders, CSC	As soon as practicable
Control escapees from home gardens.	Landholders	As soon as practicable
Map current wild infestations.	CSC	2006-10
Monitor re-growth.	CSC and landholders	Ongoing
Pest Monitoring Process: Monitor treated wild infestations.		

Management Strategies for Medium to Low Priority Pest Plants

The plants rated as medium or low priority in the development of this plan are still of concern within the Cook Shire, but have not been identified as being of such a threat at this time that specific management strategies need to be developed. That is not to say that any of these species will not be upgraded to a high priority pest plant in the future. The rating system applied is considered on a whole of Shire basis and some of these weeds may be of a higher priority in specific areas within the Shire. Where local distribution is known this information has been provided in Table 3. The strategies provided are suggested measures for management.

Table 4: Management Strategies for Medium to Low Priority Pest Plants.

No.	COMMON NAME	BOTANICAL NAME	DISTRIBUTION, STRATEGIES and CONTROL RECOMMENDATIONS	WHO	WHEN
1	African Tulip Tree	<i>Spathodia campanulata</i>	Watch out for this in wetter coastal areas. Remove wherever it is growing. Educate landholders in wetter parts of the Shire not to plant this tree	Land managers and CSC	Ongoing
3	Bauhinia	<i>Bauhinia monandra</i>	Current infestations at Cooktown, Lakefield NP and Coen Basal bark larger trees. Foliar spray seedlings	CSC, QPWS, Land managers	Ongoing
5	Calotrope	<i>Calotropis procera</i>	Isolated outbreaks in Mitchell River. Large infestation on the Gilbert River. Major problem in Kimberley's on pastoral country. Currently spreading through southern end of Cape York Peninsula. Monitoring and control by landholders.	Land managers	Ongoing
7	Candle Bush	<i>Senna alata</i>	Invades wetlands much like Pond Apple. Found in Lockhart River and Bamaga Encourage Lockhart River and Bamaga Councils to control	CSC, Land managers	Ongoing
8	Cassia	<i>Cassia siamea</i>	Only known infestation at Lakefield NP. QPWS are organising a control program	QPWS	Ongoing
9	Castor Oil Plant	<i>Ricinus communis</i>	Infestations in West Normanby river, Palmer river and neighbouring Pormpuraaw. Infestations should be foliar sprayed	CSC, Land managers	Ongoing
12	Coffee senna	<i>Senna occidentalis</i>	Scattered throughout the Shire. Foliar spray at appropriate time	CSC, Land managers	Ongoing
13	Common Sensitive Plant	<i>Mimosa pudica</i>	Widespread throughout the Shire – likes acid soil. Needs spraying with appropriate chemical	CSC, Land managers	Ongoing
17	Grader Grass	<i>Themeda quadrivalvis</i>	Mainly contained to s/e corner of Shire, Slowly spreading along roads Clean areas need to be kept clear of this plant. New outbreaks need to be treated. Do not burn. Fire promotes this plant.	CSC, Land managers	Ongoing
20	Khaki Weed	<i>Alternanthera pungens</i>	Control in recreational areas.	CSC	Ongoing
25	Mother-in-law's Tongue	<i>Sansevieria trifasciata</i>	At Alligator Creek and in gardens in Cooktown and throughout CYP. Also along Endeavour River. The Annan Endeavour has been working on the Alligator Creek infestation for a number of years. Dig out plants, ensuring underground root system is entirely removed. Put in black plastic bags and remove to the dump.	Land managers; Annan Endeavour Catchment Group	Ongoing

No.	COMMON NAME	BOTANICAL NAME	DISTRIBUTION, STRATEGIES and CONTROL RECOMMENDATIONS	WHO	WHEN
29	Noogoora Burr	<i>Xanthium pungens</i>	Wide spread, but scattered infestations throughout the Shire. Hand pull or spray with suitable herbicide. Monitor rust levels.	Land managers / CSC	Ongoing
38	Sida	<i>Sida retusa</i> <i>Sida acuta</i> <i>Sida cordifolia</i> <i>Sida rhombifolia</i>	As a priority, do not overstock. Control methods: <ul style="list-style-type: none"> • Slash before seeding • Spray at the same time as Sicklepod. • Provide pasture competition 	Land managers	Yearly
40	Snake Weed	<i>Stachytarpheta cayennensis</i> <i>Jamaicensis</i> (LB) <i>S. mutabilis</i> (pink)	Becomes a problem when ground cover is eliminated or reduced. In pastures it is an indication of overstocking. Refer to NRM Pest Facts for control details.	Land managers	Ongoing

Table 5 Strategies for preventing potential weeds and sleeper weeds to establish in the Shire`

COMMON NAME	BOTANICAL NAME	STRATEGIES	WHO	WHEN
Aeschenonome	<i>Aeschenonome paniculata</i>	DPI currently doing control program at Batavia. Monitor surrounding areas	DPI / CSC	Ongoing
Aleman grass	<i>Echinochloa polystachya</i>	Educate about the potential of this weed and how to identify	CSC	Ongoing
Alligator Weed	<i>Alternanthera philoxeroides</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Brillantasia	<i>Brillantasia lamium</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Cabomba	<i>Cabomba spp</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Elephant creeper	<i>Argyreia nervosa</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Giant Sensitive Tree	<i>Mimosa pigra</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Hairy croton	<i>Croton hirtus</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Hyptage	<i>Hyptage bengalensis</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Kosters curse	<i>Climedia hirta</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Limnocharis	<i>Limnocharis flava</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Malachra	<i>Malachra fasciata</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Miconia	<i>Miconia spp</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Mikania vine	<i>Mikania spp</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Pannicle Jointvetch	<i>Aeschenomone paniculata</i>	Educate about the potential of this weed and how to identify Support the eradication of this weed on Batavia Downs	CSC; NRMW; DPI&F	Ongoing; 2006 - 07
Siam weed	<i>Chromolaena odorata</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Small devils claw	<i>Martynia annua</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing
Water Hyacinth	<i>Eichhornia crassipes</i>	Educate about the potential of this weed and how to identify	CSC, NRMW	Ongoing

Water Lettuce	<i>Pistia stratiotes</i>	Not known in the Shire. Reportedly used for cover in aquaculture to reduce bird predation and keep water cooler. Educate residents targeting aquaculturalists.	CSC, NRMW	Ongoing
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General Management Strategies for Pest Animals

Actions	By Whom	When
1. Promote Codes of Practice for the feral animal control activities.	PMOs	Ongoing
2. Encourage landholders to monitor the re-colonisation of treated areas and record the process.	PMOs / CYWAFAP	Ongoing
3. Prepare information regarding the costs and effectiveness of different control techniques for different pest animals to provide to landholders throughout CYP to encourage them to carry out controls.	PMO	2006
4. Provide feedback regarding control outcomes to all land managers participating in joint control operations with the Shire.	PMO, landholders	Ongoing
5. Implement coordinated research program with Government agencies and tertiary education institutions.	CSC, landholders	Ongoing

Specific Management Strategies for High Priority Pest Animals

BLACK AND WHITE COCKATOOS

(Calyptorhynchus banksii and Cacatua galerita)

Note: Cockatoos are protected under the Nature Conservation Act. Landholders experiencing crop losses should contact the Environmental Protection Authority (EPA) before taking any action.

Threat Natural areas - 4 Horticulture – 1 Urban – 1	Achievability 3	Priority HIGH in Horticultural areas
Impact: Particular impact on corn and peanut crops in the Lakeland, Cooktown and McIvor River areas.		
Goal: To reduce the impact of native birds on horticultural and agricultural crops.	Performance Indicator: Loss of crops to cockatoos decreases	
Obstacles: Lack of effective scare process, high cost of nets		
Actions Work with EPA to investigate ways of limiting damage caused by cockatoos Assist affected landholders to obtain mitigation permits for cockatoos as needed	By Whom CSC, landholders, CYWAFAP CYWAFAP	When 2007 As required
Pest Monitoring Process: Landholder reports of damage.		

BRUMBIES (<i>Equus caballus</i>)		
Threat Natural – 1 Grazing – 1	Achievability 2	Priority HIGH
<p>Impact: In grazing areas – Obstruct mustering, wreck fences and foul waterholes. Spread weeds. In conservation areas – By excessive grazing, brumbies can denude ground, which can be eroded and made more susceptible to weed invasion. Brumbies spread weeds too. Habitual tracks can also lead to erosion gullies. Through close grazing, brumbies can also destroy surface habitat for small mammals, and by compressing the soil, interfere with the life of burrowing species.</p> <p>Distribution: There are about 20,000 brumbies on CYP mainly located in the central and western areas of the peninsula. These bred up when cattle were cleaned out under the B-Tech scheme. There are also large numbers in the Mungkan Kandju National Park and surrounding properties.</p>		
Goal: To significantly reduce numbers		Performance Indicators: Fewer reports of brumbies. Fewer brumbies found on surveys.
Obstacles: In small groups, spread over large distances		
Actions	By Whom	When
Investigate developing a Program of Production for field harvesting of brumbies.	CYWAFAP	2008
Offer technical assistance to help landholders reduce feral horse numbers in areas of high conservation and on pastoral properties.	CYWAFAP	Ongoing as required
Pest Monitoring Process: Reports on each action, number of brumbies shot.		

FERAL CATS (<i>Felis catus</i>)		
Strategic Importance Natural areas – 1 Grazing / Horticulture – 2 Urban - 1	Achievability 2	Priority HIGH
Impact: Cats kill many different species of wildlife in large numbers. They are also known to attack and kill small calves. The domestic cat population continually replenishes and increases the feral cat population. Roaming pet cats also prey on native wildlife, especially birds and ground-dwelling mammals and reptiles. In the community, stray, feral 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 / diggings in gardens.		
Goal: To reduce the number of stray / feral cats.		Performance Indicators: Reports to Council about problem cats decrease. Sightings of roaming cats decrease.
Obstacles: Attitude of residents that allows owned cats to roam freely in the day and night. Reluctance of owners to de-sex cats. Lack of controls on numbers and movements of cats. Despite non-domestic cats now being declared in Queensland, there is reluctance for owners of large holdings to deal with them due to the expense involved.		
Actions	By Whom	When
Educate cat owners about how to be responsible owners.	CSC	Ongoing
Support research on the impacts of feral cats.	CSC, CYWAFAP,	Ongoing
Support the development of baits for feral cats.	CSC, CYWAFAP,	Ongoing
Pest Monitoring Process: Record the number of complaints about cats. Sightings of stray cats recorded.		

DINGOES (<i>Canus familiaris dingo</i>)/ WILD DOGS (<i>C. familiaris</i>)		
Threat Natural – 1 Grazing –2 Urban - 1	Achievability 2	Priority HIGH in grazing areas
Impact: On grazing country, dingoes/wild dogs can harass, injure or kill calves and weakened cattle. Dingoes and wild dogs are also vectors of diseases such as distemper and parvo-virus, and parasites. They could pose a serious risk if the exotic disease rabies was introduced to Australia.		
Goal: To reduce the number of cattle that are attacked.		Performance Indicator: Damage by dingo or dog attack is decreased in cattle areas.
Obstacles: Damage assessment, dingoes are protected in National Parks (under the Nature Conservation Act)		
Actions	By Whom	When
Undertake coordinated baiting with 1080 in cattle areas as required. (1080 has minimal impact through secondary poisoning)	NRMW, CSC	As requested by landholders /Shire
Encourage other species specific control measures	CSC, CYWAFAP	Ongoing
Pest Monitoring Process: Damage assessment, photo's of damaged stock		

PIGS (<i>Sus scrofa</i>)			
Threat 1	Achievability 2	Priority HIGH	
Impact: Feral pigs damage crops, stock, property, natural habitat (through trampling, rooting for ground parts of plants and invertebrates and wallowing) and native wildlife (through eating eggs as well as predation on, competition with or disturbance of a range of native animals, and destroying habitat). They cause an economic loss to various industries and dig up pasture areas. One of the main potential problems in Cook Shire is that pigs transmit disease and could spread exotic diseases such as foot and mouth disease if this was introduced to Australia through Cape York. Diseases carried which are likely to affect people are: Sparganosis (a parasite that can affect the muscles of humans); Brucellosis (a bacterial disease which causes severe illness, undulant fever and possible infertility); Melioidosis (a serious bacterial disease which causes abscesses); Leptospirosis (a serious illness which causes very high temperatures, kidney trouble and jaundice) and Q Fever.			
Goal: To reduce numbers in identified high priority areas (70% kill rate necessary) in all land uses and prevent an increase in numbers elsewhere.		Performance Indicators: Surveys and observations indicate reduced numbers in target areas. Annual aerial survey by CYWAFAP shows a reduction in numbers in high priority areas.	
Obstacles: Cost of control, large distances, freezer boxes often closed (no market), need a constant supply of bait material for trapping			
	Actions	By Whom	When
1.	Adopt a coordinated, cooperative and integrated approach to pig management in identified areas in the Shire.	CSC	Ongoing
2.	Convene meetings of landholders at Lakeland Downs and Endeavour Valley to discuss the ongoing management of pigs in those areas (individual groups, Catchment groups and CSC should be present).	NR&M, CSC and CYWAFAP	2007
3.	Works with other organizations (Agforce, NFF, LGAQ) to lobby for a bounty system.	CSC	2007
4.	Apply for funding for a 6-month period for a 'bounty' (Incentive) trial.	CSC CSC, EPA, QPWS, landholders	2007 2006
5.	Develop a feral pig management plan for CYP that incorporates priority pig control locations where natural and / or cultural values need protection.	CYWAFAP	Ongoing
6.	Use trap runs in more densely settled areas and to protect particular identified economic or environmental values.	CYPPMAG	2007
7.	Consider providing access to other, more effective means of control than ground shooting to landholders through the incentive program.	CYWAFAP	2007
8.	Establish monitoring programs with one or more properties that use Safari hunters to monitor population and environmental impacts and determine the effectiveness of this control method.	CSC, CYWAFAP	2006 and ongoing
9.	Educate the community on the most humane approach to dogging pigs.	CYWAFAP	2007
10.	Develop information for landholders regarding the relative control effort needed to achieve specified outcomes for trapping, aerial shooting and poisoning (costs and benefits information);	CSC, CYWAFAP	Ongoing
11.	Continue to develop partnerships with Government Agencies, industry groups and landholders and ensure these stakeholders understand the achievements and priorities of the program for the future;	NRM&W, CYWAFAP	Ongoing
12.	Survey all of CYP for pigs (involves flying transects over 22 individual sites) on a seasonal basis for distribution and density (abundance);	NRM&W, CYWAFAP	2006
13.	Liase, educate and negotiate with Aboriginal communities on the control of feral pigs to find mutually satisfactory approaches	CSC, CYWAFAP	Annually

14. Summarise the number of pigs controlled each 6 months and send this information out with the rate notices.	CSC, CYWAFAP	Bi-annually
Pest Monitoring Process: Methodology for pig surveys and monitoring to be developed in conjunction with NRM&W zoologist.		

WALLABIES

Note: Wallabies are protected under the Nature Conservation Act. Landholders experiencing damage from wallabies should contact the Environmental Protection Authority (EPA) before taking any action.

Threat Natural areas – 4 Agriculture / horticultural – 2 Urban - 2	Achievability 3	Priority HIGH in horticultural areas	
Impact: Problem in horticultural areas. Wallabies attack bananas, passionfruit, pineapples etc. in the Shire’s growing areas. In market gardens near Cooktown – onions, sweet potatoes; corn and peanuts in Cooktown – Lakeland area.			
Goal: To ensure there is no sudden increase in numbers of wallabies in pastoral, agricultural and horticultural areas		Performance Indicator: Survey of landholders indicates no increase in wallaby numbers.	
Obstacles: Lack of effective fencing and deterrents to reduce impacts on crops.			
Actions		By Whom	When
Educate landholders on how to apply for a mitigation permit to cull.		CSC, CYWAFAP, QPWS	As required
Encourage land holders to fence crop areas.		CSC / QPWS	Ongoing
Pest Monitoring Process: Levels of damage to crops.			

Other pests in the Shire for which responsibility does not rest with Local Government

Common Name	Who can assist you?
Papaya Fruit Fly	DPI
Spiralling White Fly	DPI
Mango Leafhopper	DPI
Cattle Ticks	DPI
Buffalo Fly	DPI
Bot Fly	DPI
Anthracnose	DPI
Tilapia	DPI
European Carp	DPI
Feral Cattle	DPI
Red Banded Mango Caterpillar	DPI

Objective 6

To assist producers in the management and control of the impact of native birds and other native animals.

Actions	By Whom	When	Performance Indicators
1. Request Birds Australia to provide an estimate of the population of cockatoos in the Lakeland area and over their entire range.	PMO	2006	Letter written and populations are assessed and information made available to the community.
2. Consult with EPA to support landholders when native animals are a substantial threat to their health or livelihoods.	PMO	Ongoing	EPA are made aware when native animals are posing a problem and are willing to assist in resolving the issue.
3. Lobby Government to emulate the Northern Territory's initiative to export native animals which are above normal population levels (eg harvesting of eggs or using artificial nest boxes).	Landholders / PMO	Ongoing	Export market is established for problem native animals.
4. Investigate mitigation measures and purchase suitable equipment for loan to landholders.	PMO / CYWFAP	2006	Information on suitable mitigation options is available. Equipment for loan available.

Objective 7

To encourage and support best practice pest control techniques

Actions	By Whom	When	Performance Indicators
1. Liaise with authorities, organic growers and industry groups to make available information on practical methods of pest management.	PMOs	Ongoing	Additional practical methods suggested for the various pests of Cook Shire Least toxic chemicals used
2. Investigate what opportunities are available to give assistance for effective, cost-efficient, non-chemical control methods for pest plants	PMO/ CYWAFAP	2006 ongoing	List of opportunities made available to landholders
3. Publicise and educate the community about its Duty of Care in relation to the use of pest control chemicals.	PMOs	Ongoing	Community chemical users are aware of their Duty of Care
4. Promote drum musters (recycle old drums and collection of old chemicals).	EHO / CYWAFAP	As required	Landholders are aware of drum musters.
5. Provide an opportunity for landholders to register if they do not wish chemical spraying to occur on public lands adjoining their property, and their options to undertake control measures within an appropriate timeframe.	PMOs	Ongoing	Landholders register created and negotiated outcomes achieved.
6. Ensure all Council workers using pesticides are appropriately accredited through Ag-safe with Ag-Chem and Vet-Chem courses and 1080 accreditation through the Health Department.	WHS Officer	As required	Workers are accredited.
7. Follow-up customer request forms relating to pest management issues.	PMOs	Ongoing	Follow- ups on complaints are recorded.
8. Utilise the available labour sources to assist in pest control.	PMOs / CYWAFAP	Opportunist ic	Labour market programs used for pest projects as available

Objective 8

To encourage and support research into more preventative measures and more effective control of pests, especially biological control.

Actions	By Whom	When	Performance Indicators
1. Highlight to Government the pest problems that need research in the Shire	PMOs / CYWAFAP	Ongoing	Problems highlighted and ongoing
2. Staff to undertake initial research into appropriate control techniques for pests as required.	PMOs	Ongoing	Staff trial new techniques in liaison with NRMW
3. Involve appropriate agencies in value-adding to research and information initiated by Cook Shire.	CSC	As appropriate	Agencies become involved in research work
4. Liaise with Government agencies to exchange research findings to maximize the benefits to current and evolving control techniques	NRMW Land Protection Officer	Ongoing	Information about current Government research is available to the community.
5. Lobby politicians and agencies for funding for research, through CYPPMAG.	CYPPMAG	As required	Politicians and agencies are lobbied and ongoing Opportunities investigated
6. Encourage landholders to offer their properties as a site for relevant pest management research.	Landholders	As required	Test sites available as required

APPENDIX 1

Code of Practice LEUCAENA

Adapted from the Whole-of-Government Policy on Leucaena & The Leucaena Network Code of Practice

Leucaena is recognised to be a very valuable forage and pasture plant, which greatly increases production in the State's grazing industry especially in the tropical and sub-tropical semi-arid areas. Where it is planted and managed intensively as a forage crop, there is no problem. *The Leucaena Network Code of Practice* is recognised to be sufficient guidelines for the responsible use of Leucaena and is detailed below.

Where it is planted near creeks or in areas where cattle do not graze, or where trees are allowed to grow beyond grazing height, or allowed to set seed and the seed can wash into riparian lands or down waterways, there is potentially a serious weed problem in most of coastal and sub-coastal Queensland and along many river systems. For this reason, neither EPA nor NRMW would support large-scale plantings that will not be intensively managed for grazing. Furthermore, there is no scientific evidence of the value of Leucaena in lowering the water table, or decreasing run-off, in Australian situations. Its value for managing salinity problems is not proven in Australian situations, and its potential as a weed means that plantations other than for intensive grazing would be discouraged.

In the past, trees have been planted for shade or amenity, or have been allowed to grow along creeks and waterways, where they continue to shed seed which travels down the catchment. Such trees should be destroyed, to reduce the seed load. However, there is no intention to declare Leucaena as a declared weed in any category under State legislation. Local governments have the power to pass bylaws enforcing the removal of Leucaena from certain situations if they wish, for example where it has escaped, or in a plantation that is not being properly managed and is seeding freely.

The Leucaena seed weevil *Acanthoscelides* (a type of bruchid) has spread throughout Queensland in the last 15 years, having presumably come in accidentally in contaminated seed imported by Leucaena growers. It is destroying between 80 and 100% of seed in many areas, which is presumably reducing the spread of weedy stands of the plant. Because the mature seed remain in the pods and on the plant for some time, the bruchid population can build up over several weeks. However, we do not have any data on actual % destruction at different seasons, nor on what proportion of the total annual seed crop may escape destruction. It is therefore a valuable control agent, but the overall impact is still unknown.

In summary, Leucaena is a very valuable forage plant, but it does have weed potential and is already a serious weed in some habitats. It therefore needs to be carefully managed to maximise the benefits and minimise weed impact.

THE LEUCAENA NETWORK CODE OF PRACTICE

Purpose of the Code

This Code aims to minimise the risk of commercial Leucaena (*Leucaena leucocephala* subspecies *glabrata*) adding to the existing problems with 'common weedy' Leucaena (*Leucaena leucocephala*).

Features of the Code

The Code targets those features of Leucaena that pre-dispose it to weediness and advocates management to limit their impact.

The Code aims to achieve:

Limitations on Leucaena planting adjacent to areas where it can cause weed problems

A reduction in seed production in grazed stands,

Limiting the risks of live seed dispersal,

Control of plants that escape from sown pasture areas.

In planting Leucaena for pasture the following guidelines should be strictly undertaken:

- Only plant Leucaena if you need it and are prepared to manage it.
- Do not plant Leucaena near creeks or major waterways where it may spread. Maintain a dense grass buffer between the Leucaena and the high water mark of the creek bank.
- Control unwanted seedlings/plants that establish outside your paddock or on public roadsides, creek banks and other adjoining areas where cattle do not normally have access.
- Plant it in a fully fenced paddock so that the very small chance of stock spreading ripe seed is avoided. Keep Leucaena at least 10 m away from external fence lines
- If the original establishment within rows was sparse then allowing the Leucaena to drop ripe seed will not correct the problem. Either maintain it as it is or replant.
- Graze or cut Leucaena to keep it within reach of animals and reduce unwanted seed set.
- Graze Leucaena in summer so as to minimise flowering and seed set.
- Maintain a vigorous grass component in the inter-rows. This will provide ground cover to prevent erosion. It will also provide competition that reduces the chance of seedlings establishing in the inter-rows.
- Do not plant Leucaena in pure stands with no grass, as this system will be more prone to erosion. A pure stand on light-textured soil may also cause soil acidification over time.
- Assist your Local Government to identify any stands of escaped Leucaena so that action can be taken to control it.

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APPENDIX 2

Code of Practice NEEM TREES

Adapted from an NRMW (Unpublished Report) – Prepared June 2001: “Neem (*Azadirachta indica*) Crop or Weed?”

Weediness Potential

Proponents for the commercial development of Neem highlight the plant’s potential uses. It must be remembered that the benefits of this plant are largely unproven. Unfortunately, the same traits that indicate a successful agricultural plant are often the same as those indicative of a potential weed. Many weeds have at one time or another had beneficial uses: food for people or animals; erosion control; shade; as fibre/sweeteners in commercial processes; pharmaceuticals; and agricultural chemicals, as well as other uses.

A comprehensive search of the scientific literature available, failed to reveal any research done to investigate the weediness potential of Neem.

Weedy Attributes

Many of the following characteristics of Neem make it ideal for exploitation in a commercial setting, but they also indicate a potential weed:

Broad environmental tolerance (establishes well in a range of soil types and climates ranging from the semi arid to the wet tropics);

Adaptation to drought;

Heavy fruit production; and

Reports of spontaneous spread (from plantations and gardens into native vegetation).

The challenge is to determine whether the potential economic benefits to the nation outweigh the potential costs if Neem became a weed in Australia.

The situation in Australia

There have been reports of spontaneous spread of Neem at Humpty Doo in the Northern Territory. The Tropical Savannas Cooperative Research Centre (CRC) reports that Neem has been widely planted as a shade tree around settlements and towns in the VRD-Sturt area. About three quarters of the VRD-Sturt area lies inside the Northern Territory, with the remainder in Western Australia. The CRC reports that Neem is already spreading rapidly in this region and that it is ‘a cause for concern’ in Arnhem Land, where it has also been recorded.

The Tropical Savannas CRC have indicated that Neem has been planted in Cloncurry and to the north-east of the town, and that it has significant potential to become a weed in this area of the Gulf. Other observations from the Gulf (dry tropics) suggest that Neem appears to be a weed where it has access to water: creek, river, bore drain, garden sprinkler. In areas where Neem has been planted without an available moisture source, it appears to remain as a solitary

plant. Reports of Neem as a weed have been received by NRM Land Protection Officers since 1999.

Other reports of Neem in Queensland include:

Spread of Neem along the Gilbert River, downstream of a commercial Neem plantation (of approximately 30, 000 trees) halfway between Croyden and Georgetown;

Large number of seedlings establishing under mature Neem trees in the Mt Surprise area ;

Queensland Department of Primary Industries (QDPI) Neem plantation at Ayr;

Comalco Neem plantation at Weipa;

Nursery sales of Neem as a shade tree for semi arid areas

THE COOK SHIRE COUNCIL NEEM TREE CODE OF PRACTICE

Commercial Growers:

A Neem Plantation Owner will:-

- Install nets under all trees to enable the collection of all fruit from the Neem trees.
- Will collect fruit from nets daily to minimise availability to birds and other animals.
- Erect secure fencing around the property to prevent wallabies and other feral animals from entering the property and spreading Neem seeds beyond the property boundaries.
- Eradicate any wild Neem seedlings found growing on the buffer zone between the plantation and any riparian zone on a regular basis.
- Carry out a yearly inspection of the nearby land around the plantation. This will take place after the wet season (after fruiting) to remove any wild seedlings.
- Inspect any riparian zone for 3km on either side of any Neem tree Plantation, twice during the dry season and any wild seedlings found growing in this area will be removed.
- Remove any wild Neem tree seedlings found on any nearby properties upon the owner's request.
- Develop and submit a yearly maintenance schedule to the satisfaction of the Cook Shire Council.

Home Gardeners:

Home plantings will be discouraged and landholders requested to remove trees from around the house - alternative shade trees will be recommended;

Nurseries within the Shire will not be permitted to sell the Neem Tree.

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APPENDIX 3

Code of Practice VETIVER GRASS

The Introduction & Implications of interpretations has been extracted from a report concerning the viability of Vetiver grass seeds furnished by John Hopkinson (Post-retirement Associate with DPI at Walkamin Research Station). A full copy of this report is available on request.

Introduction

Vetiver grass (formerly *Vetiveria*, now *Chrysopogon zizanioides*) has been used by the Queensland Main Roads Dept to stabilise new road work in Cook Shire. The cultivar Monto, widely believed to be sterile, was chosen for this purpose. Care was taken to use only authentic vegetative planting material. The usual method of propagating vetiver is to split existing plants and transplant the slips. The particular value of vetiver derives from the ability of its deeply penetrating roots of high-tensile strength to stabilise batters. Its use, however, has led to controversy. Some people are unconvinced of its inability to spread, and fear it becoming an environmental weed.

Assessment of seed viability

The frequency of occurrence of caryopses (true seeds), even if viable, in samples taken from Cook Shire samples was so low as to be almost zero. The chances of vetiver spreading to the point of becoming an environmental weed from seed of existing plants of Monto may reasonably be taken to be nil. If the plant is equally ill-adapted to spread naturally by vegetative means, the ecological disadvantage of so low a level of fertility are likely be devastating. In view of the levels of fertility required for success in other species in relatively benign environments, one has to consider what chance vetiver has of producing a plant population from seed on (for example) the Byerstown Range with a fertility of 0.0025%, a tiny seed survival prospect, and a harsh and infertile environment for establishment.

CODE OF PRACTICE FOR THE GROWING OF VETIVER GRASS IN COOK SHIRE

The sterile cultivar Monto **ONLY** to be planted from slips (vegetative pieces).

All plants sprouting from the fragments of material used for an embankment site planting and not on an alignment are to be removed.

Government Agencies to hold contractors accountable, after the event, if plants spread or they use other than the approved Monto variety – to be incorporated into contracts.

No seeding varieties of Vetiver are to be introduced into the Shire.

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APPENDIX 5

The following Pest Facts relevant to this management plan are available from the Department of Natural Resources Mines and Water service centres or website <www.nrm.qld.gov.au>

Plants

Declared plants of Qld
Alligator weed
Bellyache bush
Cabomba
Calotrope
Camphor laurel
Castor oil bush
Calotrope
Chinee apple
Common sensitive plant
Giant rat's tail grass
Giant sensitive plant
Giant sensitive tree
Hymenachne
Identification of prickly bushes
Lantana
Mossman river grass
Mother of millions
Nauva sedge
Noogoora burr
Parkinsonia
Parthenium
Pond apple
Water hyacinth
Rubber vine
Salvinia
Siam weed
Sicklepod
Snakeweed
Tobacco weed
Thunbergia
Water hyacinth
Water lettuce

Animals

Declared animals
1080
Feral pigs in Queensland
Control of feral pigs
Feral pigs in the Wet Tropics
Dingoes in Queensland
Wild dog control
The rabbit
Prohibited pets