

Pest Management Strategy for Taranaki: Plants

Taranaki Regional Council
Private Bag 713
Stratford

March 2007

#270140

Taranaki Regional Council
PEST MANAGEMENT STRATEGY
FOR TARANAKI: PLANTS

The Taranaki Regional Council under Part V of the Biosecurity Act 1993 approved this document entitled '*Pest Management Strategy for Taranaki: Plants*'.

The Taranaki Regional Council approved the '*Pest Management Strategy for Taranaki: Plants*' at its Ordinary meeting on 21 February 2007 and it became operative on 1 March 2007.

DATED at Stratford this 21 February 2007

SIGNED by the TARANAKI REGIONAL COUNCIL

by affixing of its

common seal in the presence of



D E Walter (Chairman)

B G Chamberlain (Chief Executive)

Preface

This document is entitled the *Pest Management Strategy for Taranaki: Plants*. Its purpose is to set out the statutory framework by which the Taranaki Regional Council will undertake the management of pest plants in the Taranaki region for the next 10 years.

This Strategy is the third Strategy prepared by the Taranaki Regional Council with respect to its pest management functions. This Strategy identifies and sets out management programmes in relation to 27 harmful plants that the Taranaki Regional Council believes warrant regional intervention. For each pest plant species, the Council has identified the objective to be achieved for the duration of the Strategy and the principal means to achieve that objective. Rules are included setting out land occupier obligations and standards to destroy pest plants and which ban the sale, distribution and propagation of these plants.

With respect to the changes made from the previous Strategy, the most significant changes to note are:

- the inclusion of new pest plants - Undaria, Pink Ragwort, the Giant Gunnera species *Gunnera manicata*, and Woolly Nightshade;
- amendments to strategy rules relating to the control of Old Man's Beard and Pampas grass increasing land occupier obligations; and
- provision for the Council to undertake pest plant management on sites with regionally significant indigenous biodiversity values.

On behalf of the Taranaki Regional Council, I would like to thank all those who participated in the preparation of the *Pest Management Strategy for Taranaki: Plants*. I look forward to working with you in achieving effective pest plant management in the Taranaki region.

David Walter
Chairman of the Taranaki Regional Council

Table of contents

PART ONE: INTRODUCTION AND BACKGROUND

1.	Introduction	3
1.1	Title	3
1.2	Purpose	3
1.3	Commencement and duration	3
1.4	Area of effect	3
1.5	Structure	4
2.	Definition of terms	7
3.	Statutory and planning framework	13
3.1	Legislative framework	13
3.1.1	Biosecurity Act	13
3.1.2	Other statutes, regulations and pest management strategies	13
3.2	Pest plants to be managed	14
3.2.1	Prerequisites for proposal	14
3.2.2	Plants declared to be pests	15
3.2.2.1	Pest plants	15
3.2.2.2	Other management responses	15
4.	Management responsibilities and obligations	17
4.1	Taranaki Regional Council	17
4.1.1	Proposer of this Strategy	17
4.1.2	Management agency	17
4.2	Stakeholders	17
4.2.1	Private land occupiers	17
4.2.2	Road controlling authorities	18
4.2.2.1	Transit New Zealand	18
4.2.2.2	Territorial authorities	18
4.2.3	OnTrack	18
4.3	Other affected parties	19
4.3.1	Department of Conservation	19

PART TWO: PEST PLANT MANAGEMENT PROGRAMMES

	Preamble	23
5.	Eradication pest plants	25
5.1	Climbing Spindleberry (<i>Celastrus orbiculatus</i>)	25
5.1.1	Description of the problem	25
5.1.2	Pest plant management programme	26
5.1.2.1	Objective	26
5.1.2.2	Means of achievement	26
5.1.2.3	Strategy rules for Climbing Spindleberry	26
5.2	Darwin's Barberry (<i>Berberis darwini</i>)	27
5.2.1	Description of the problem	27
5.2.2	Pest plant management programme	28
5.2.2.1	Objective	28
5.2.2.2	Means of achievement	28
5.2.2.3	Strategy rules for Darwin's Barberry	28
5.3	Giant Reed (<i>Arundo donax</i>)	29
5.3.1	Description of the problem	29

5.3.2	Pest plant management programme	29
5.3.2.1	Objective	29
5.3.2.2	Means of achievement	30
5.3.2.3	Strategy rules for Giant Reed	30
5.4	Mignonette Vine (<i>Anredera cordifolia</i>)	31
5.4.1	Description of the problem	31
5.4.2	Pest plant management programme	32
5.4.2.1	Objective	32
5.4.2.2	Means of achievement	32
5.4.2.3	Strategy rules for Mignonette Vine	32
5.5	Pampas grass – Common Pampas (<i>Cortaderia selloana</i>) and Purple Pampas (<i>Cortaderia jubata</i>)	33
5.5.1	Description of the problem	33
5.5.2	Pest plant management programme	34
5.5.2.1	Objective	34
5.5.2.2	Means of achievement	34
5.5.2.3	Strategy rules for Pampas Grass	34
5.6	Senegal Tea (<i>Gymnocoronis spilanthoides</i>)	36
5.6.1	Description of the problem	36
5.6.2	Pest plant management programme	37
5.6.2.1	Objective	37
5.6.2.2	Means of achievement	37
5.6.2.3	Strategy rule for Senegal Tea	37
5.7	Undaria (<i>Undaria pinnatifida</i>)	38
5.7.1	Description of the problem	38
5.7.2	Pest plant management programme	39
5.7.2.1	Objective	39
5.7.2.2	Means of achievement	39
5.7.2.3	Strategy rule for Undaria	39
6.	Containment pest plants	41
6.1	Australian Sedge (<i>Carex longebrachiata</i>)	41
6.1.1	Description of the problem	41
6.1.2	Pest plant management programme	41
6.1.2.1	Objective	41
6.1.2.2	Means of achievement	41
6.1.2.3	Strategy rules for Australian Sedge	42
6.2	Giant Buttercup (<i>Ranunculus acris</i>)	43
6.2.1	Description of the problem	43
6.2.2	Pest plant management programme	44
6.2.2.1	Objective	44
6.2.2.2	Means of achievement	44
6.2.2.3	Strategy rules for Giant Buttercup	44
6.3	Giant Gunnera – <i>Gunnera</i> species	45
6.3.1	Description of the problem	45
6.3.2	Pest plant management programme	46
6.3.2.1	Objective	46
6.3.2.2	Means of achievement	46
6.3.2.3	Strategy rules for Giant Gunnera	46
6.4	Gorse (<i>Ulex europaeus</i>)	47
6.4.1	Description of the problem	47
6.4.2	Pest plant management programme	47
6.4.2.1	Objective	47
6.4.2.2	Means of achievement	48
6.4.2.3	Strategy rules for Gorse	48
6.5	Nodding Thistle (<i>Carduus nutans</i>) and Plumeless Thistle (<i>Carduus acanthoides</i>)	49

6.5.1	Description of the problem	49
6.5.2	Pest plant management programme	50
6.5.2.1	Objective	50
6.5.2.2	Means of achievement	50
6.5.2.3	Strategy rules for Nodding and Plumeless Thistles	50
6.6	Old Man's Beard (<i>Clematis vitalba</i>)	51
6.6.1	Description of the problem	51
6.6.2	Pest plant management programme	52
6.6.2.1	Objective	52
6.6.2.2	Means of achievement	52
6.6.2.3	Strategy rules for Old Man's Beard	52
6.7	Ragwort (<i>Senecio jacobaea</i>) and Pink Ragwort (<i>Senecio glastifolius</i>)	53
6.7.1	Description of the problem	53
6.7.2	Pest plant management programme	54
6.7.2.1	Objective	54
6.7.2.2	Means of achievement	54
6.7.2.3	Strategy rules for Ragwort	54
6.8	Variegated Thistle (<i>Silybum marianum</i>)	55
6.8.1	Description of the problem	55
6.8.2	Pest plant management programme	56
6.8.2.1	Objective	56
6.8.2.2	Means of achievement	56
6.8.2.3	Strategy rules for Variegated Thistle	56
6.9	Wild Broom (<i>Cytisus scoparius</i>)	57
6.9.1	Description of the problem	57
6.9.2	Pest plant management programme	57
6.9.2.1	Objective	57
6.9.2.2	Means of achievement	57
6.9.2.3	Strategy rules for Wild Broom	58
6.10	Wild Ginger – Kahili Ginger (<i>Hedychium gardnerianum</i>) and Yellow Ginger (<i>Hedychium flavescens</i>)	59
6.10.1	Description of the problem	59
6.10.2	Pest plant management programme	60
6.10.2.1	Objective	60
6.10.2.2	Means of achievement	60
6.10.2.3	Strategy rules for Wild Ginger	60
7.	Surveillance pest plants	61
7.1	Brush Wattle (<i>Paraserianthes lophantha</i>)	61
7.1.1	Description of the problem	61
7.1.2	Pest plant management programme	61
7.1.2.1	Objective	61
7.1.2.2	Means of achievement	61
7.1.2.3	Strategy rule for Brush Wattle	62
7.2	Egeria Oxygen Weed (<i>Egeria densa</i>)	63
7.2.1	Description of the problem	63
7.2.2	Pest plant management programme	63
7.2.2.1	Objective	63
7.2.2.2	Means of achievement	64
7.2.2.3	Strategy rule for Egeria Oxygen Weed	64
7.3	Japanese Walnut (<i>Juglans ailantifolia</i>)	65
7.3.1	Description of the problem	65
7.3.2	Pest plant management programme	65
7.3.2.1	Objective	65
7.3.2.2	Means of achievement	66
7.3.2.3	Strategy rule for Japanese Walnut	66

7.4	Lagarosiphon Oxygen Weed (<i>Lagarosiphon major</i>)	67
7.4.1	Description of the problem	67
7.4.2	Pest plant management programme	68
7.4.2.1	Objective	68
7.4.2.2	Means of achievement	68
7.4.2.3	Strategy rule for Lagarosiphon Oxygen Weed	68
7.5	Spanish Heath (<i>Erica lusitanica</i>)	69
7.5.1	Description of the problem	69
7.5.2	Pest plant management programme	69
7.5.2.1	Objective	69
7.5.2.2	Means of achievement	69
7.5.2.3	Strategy rule for Spanish Heath	70
7.6	Woolly Nightshade (<i>Solanum mauritianum</i>)	71
7.6.1	Description of the problem	71
7.6.2	Pest plant management programme	71
7.6.2.1	Objective	71
7.6.2.2	Means of achievement	71
7.6.2.3	Strategy rule for Woolly Nightshade	72

PART THREE: ADMINISTRATIVE PROVISIONS

8.	Powers conferred	75
9.	Implementation	77
9.1	Provision of advice and education	78
9.1.1	Policy	78
9.1.2	Procedures	78
9.2	Monitoring and inspections	79
9.2.1	Policy	79
9.2.2	Inspection programme	79
9.2.3	Monitoring the achievement of Strategy objectives	79
9.2.4	Monitoring other effects of this Strategy	80
9.3	Regulatory management	80
9.3.1	Policy	80
9.3.2	Failure to comply	80
9.3.3	Exemption provisions	80
9.4	Direct control programmes	81
9.5	Site-led pest plant control programmes in Key Native Ecosystems	82
9.5.1	Policy	82
9.5.2	Key Native Ecosystems	82
9.5.3	Direct control and other assistance	82
9.6	Biological control programmes	83
10.	Integrated management and cross-boundary issues	85
11.	Funding provisions	87
11.1	Strategy costs	87
11.2	Funding sources	87
11.3	Rating provisions	88
12.	Review of the management agency and the Strategy	89
12.1	Operational Plan	89
12.2	Review of the Strategy	89
	References	91

Appendices	93
Appendix I: Plants listed in the National Pest Plant Accord List (as revised in July 2006)	95
Appendix II: Potential and actual problems caused by and parties affected by pest plants	99
Appendix III: Legal description demarcating rules for Giant Buttercup, Nodding and Plumeless Thistles, Ragwort and Variegated Thistle	105

List of tables

Table 1: Administrative powers under the Act	75
Table 2: Summary of the means for achieving individual pest plant management objectives	77
Table 3: Indicative costs and sources of funds (exclusive of GST)	88

List of figures

Figure 1: The Taranaki region	3
Figure 2: Infestation curve model	24
Figure 3: Land occupier obligations for Giant Buttercup	43
Figure 4: Land occupier obligations for Nodding and Plumeless Thistles	49
Figure 5: Land occupier obligations for Old Man's Beard	52
Figure 6: Land occupier obligations for Ragwort and Pink Ragwort	54
Figure 7: Land occupier obligations for Variegated Thistle	55

Part One

Introduction and background

1. Introduction

1.1 Title

This regional pest management strategy is known as the '*Pest Management Strategy for Taranaki: Plants*' (the 'Strategy').

1.2 Purpose

The purpose of this Strategy is to set out the strategic and statutory framework for the effective management of pest plants in the Taranaki region, so as to:

- (a) minimise the actual or potential adverse effects of pest plants on the environment; and
- (b) maximise the effectiveness of individual pest plant management action by way of a regionally co-ordinated approach.

Objectives specific to each pest plant are set out in sections 5, 6 and 7 of this Strategy.

1.3 Commencement and duration

The Strategy is a 10 year Strategy, 2007-2017. The Strategy was approved by the Taranaki Regional Council on 21 February 2007 and became operative on 1 March 2007. The Strategy will remain in force until 2017 or until such time as a review establishes that this Strategy must be extended, amended or revoked (see Section 12.2 of the Strategy).

1.4 Area of effect

The Strategy has effect over the Taranaki region, excluding the land in the region managed by the Crown (refer Figure 1).

The Taranaki region covers a land area of 723,610 hectares on the North Island's west coast. The boundaries of the Taranaki Regional Council conform to those of water catchments and extend from the Mohakatino catchment in the north to the

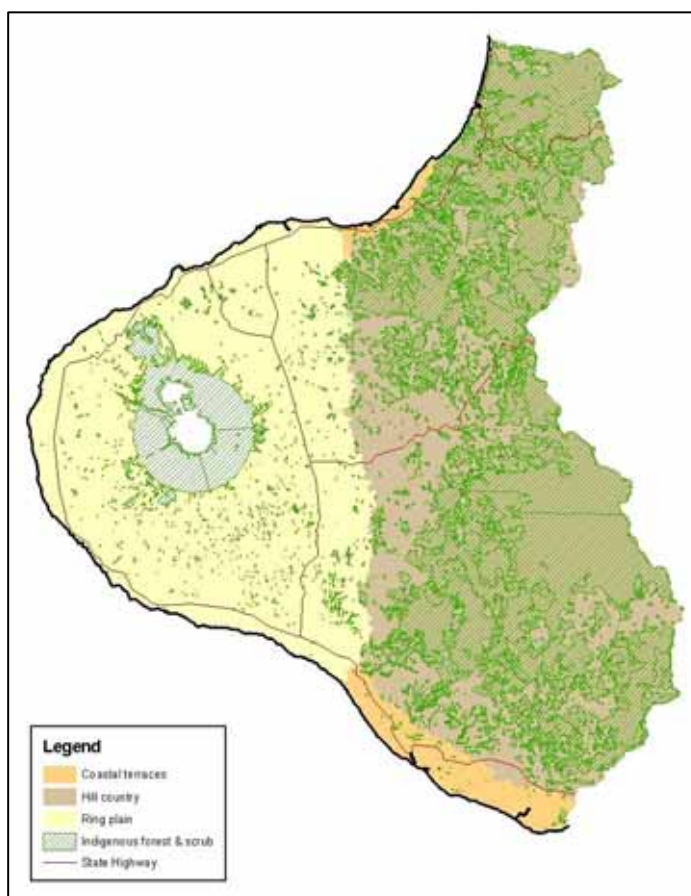


Figure 1: The Taranaki region

Waitotara catchment in the south and inland to, but not including, the Whanganui catchment.

1.5 Structure

The structure of this Strategy is based upon the requirements for a regional pest management strategy as set out in section 80A of the Biosecurity Act 1993.

Part One presents background information to facilitate the reader's understanding of this Strategy. Part One is further divided into a number of sections.

Section 1 contains the **introduction** to this Strategy. Section 1 states the title, purpose, duration, effect and structure of the Strategy.

Section 2 contains the **definition of terms** used in this Strategy.

Section 3 outlines the **statutory and planning framework** relevant to the administration and implementation of this Strategy. Section 3 also explains the criteria used in the assessment of pest plants.

Section 4 identifies the **affected parties**, ie those with management obligations and responsibilities pursuant to this Strategy.

Part Two contains the Strategy's pest plant management programmes. Part Two is also divided into a number of sections that reflect the different levels of regional intervention adopted for pest plants. For each pest plant, a management programme is set out. These programmes identify the pest plant's effects that are to be addressed, the objective to be achieved, the principal methods to achieve the objective and the strategy rules relating to that plant species.

Section 5 sets out the management programmes pertaining to **eradication pest plants**. These management programmes address pest plants not yet established in the region [with the exception of Pampas Grass] and for which the objective is eradication – these are Climbing Spindleberry, Darwin's Barberry, Giant Reed, Mignonette Vine, Pampas Grass [Common Pampas & Purple Pampas], Senegal Tea, and Undaria.

Section 6 sets out the management programmes pertaining to **containment pest plants**. These management programmes address widespread pest plants in the region and for which land occupier obligations apply to control the spread and 'externality' impacts of these plants – these are Australian Sedge, Giant Buttercup, Giant Gunnera, Gorse, Nodding and Plumeless thistles, Old Man's Beard, Ragwort, Pink Ragwort, Variegated Thistle, Wild Broom, and Wild Ginger [Kahili Ginger & Yellow Ginger].

Section 7 sets out the management programmes pertaining to **surveillance pest plants**. These management programmes address other pest plants in the region for which land occupier obligations to control these plants are **not** considered appropriate – these are Brush Wattle, Egeria Oxygen Weed, Japanese Walnut, Lagarosiphon Oxygen Weed, Spanish Heath and Woolly Nightshade.

Part Three details the Taranaki Regional Council's administrative policies and procedures pertaining to its responsibilities as the management agency for this Strategy.

2. Definition of terms

This section provides the meaning of words used in this Strategy and in the Biosecurity Act 1993. When a word is followed by an asterisk (*), the meaning which follows is the meaning provided in section 2 [Interpretation section] of the Act. Users of this Strategy are advised that they should refer to the Act (or other relevant legislation) to ensure that the definition that is included in the Strategy is the current statutory definition. In the case of any inconsistency or amendment of the definition, the statutory definition prevails.

Act* means the Biosecurity Act 1993.

Agrichemicals means substances intended by the manufacturer, distributor, vendor, or discharger to cause or promote or facilitate any of the following effects:

- (a) the control of plant growth (other than primarily as a fertiliser or soil conditioner) by the use of substances such as but not restricted to categories of herbicides, algacides, defoliants or fruit-setting hormones;
- (b) the control of bacteria, protozoa, fungi and viruses, by the use of substances such as but not restricted to the categories bactericides, fungicides or viricides; or
- (c) the control of vertebrates and invertebrates, by the use of substances such as but not restricted to the categories nematocides, miticides, acaricides, arachnicides, molluscides, insecticides, or other pesticides.

Appropriate means as determined to be appropriate by the Taranaki Regional Council or its officers acting under delegated authority.

Authorised person* means a person for the time being appointed an authorised person under section 103 of the Act.

Beneficiary means the receiver of benefits accruing from the implementation of a pest management measure or this Strategy.

Biological control means the introduction and establishment of living organisms, which will prey on, or adversely affect a pest.

Biological diversity (or biodiversity) means the variability among living organisms, and the ecological complexes of which they are a part, including diversity within species, between species, and of ecosystems.

Category A refers to an inspection category assigned to rural or urban properties that have no recent problems relating to the management of eradication pest plants or containment pest plants.

Category B refers to an inspection category assigned to rural or urban properties that have had a problem relating to the management of eradication pest plants or containment pest plants, within the last three years, but which are now being managed to the satisfaction of the Taranaki Regional Council.

Category C refers to an inspection category assigned to a rural or urban property that, in the opinion of an Authorised Person of the Taranaki Regional Council, has had a

problem relating to the management of eradication pest plants or containment pest plants.

Contain means to prevent a pest plant spreading from a property or part of a property to other properties or part of a property.

Containment pest plant refers to a pest plant species that is abundant in suitable habitats in a region or part of a region and for what the Strategy objective is prevent the spread of the plant to new areas or to neighbouring properties and, if practicable, reduce the area affected.

Crown¹

- (a) means her Majesty the Queen in right of New Zealand; and
- (b) includes all Ministers of the Crown and all departments; but
- (c) does not include:
 - i) an Office of Parliament;
 - ii) a Crown entity; or
 - iii) a State enterprise named in the First Schedule to the State-Owned Enterprises Act 1986.

Destroy, in relation to rules that apply to eradication pest plants or containment pest plants means an annual minimum 99% level of control, on land requiring treatment.

Direct control means pest plant control undertaken by or funded by the Taranaki Regional Council.

Distribute, in relation to pest plants, means to transport, or in any way spread a pest plant.

District council means a district council as defined in accordance with the Local Government Act 2002.

Effect² includes:

- (a) any positive or adverse effect; and
- (b) any temporary or permanent effect; and
- (c) any past; present or future effect; and
- (d) any cumulative effect which arises over time or in combination with other effects,
 - regardless of the scale; intensity; duration or frequency of the effect; and also includes:
- (e) any potential effect of high probability; and
- (f) any potential effect of low probability which has a high potential impact.

¹ *Public Finances Act 1989*

² *Resource Management Act 1991*

Environment includes:

- (a) ecosystems and their constituent parts, including people and their communities; and
- (b) all natural and physical resources; and
- (c) amenity values; and
- (d) the social, economic, aesthetic and cultural conditions which affect the matters stated in paragraphs (a) to (c) of this definition or which are affected by those matters.

Eradicate, in relation to an organism, means to totally clear from New Zealand, or a region or part of a region.

Eradication pest plant refers to a pest plant species that is of limited distribution or density in a region and for which the Strategy objective is to eradicate the species from the region or part of the region.

Exacerbator means a person, who by his or her activities or inaction, contributes to the creation, continuance, or exacerbation of a pest management problem.

Habitat means the place or type of site where an organism or population naturally occurs.

Indigenous means native to New Zealand.

Key Native Ecosystems refers to terrestrial sites (sites on land) identified by the Taranaki Regional Council to have regionally significant indigenous biodiversity values.

Mana whenua means customary authority and title exercised by Iwi or hapu over the general environment within tribal rohe.

Management agency* means the department, authority, or body corporate specified in a pest management Strategy as the agency given the task of implementing the Strategy. For the purposes of the Strategy, the Taranaki Regional Council is the management agency responsible for implementing this Strategy.

Means of achievement means the general management options, tactics or technical methods by which the Taranaki Regional Council or land occupiers will achieve an objective or objectives.

Mitigate means to reduce or moderate the severity of something.

Monitor means to measure and record parameters, which indicate the level of effectiveness of this Strategy.

Notice of direction refers to a notice served by officers of the Taranaki Regional Council to note non-compliance with a strategy rule and to identify and direct remedial action.

Objective means a statement of a desired, specific environmental outcome.

Occupier*

- (a) in relation to any place physically occupied by any person, means that person; and
- (b) in relation to any other place, means the owner of the place; and
- (c) in relation to any place, includes any agent, employee, or other person acting or apparently acting in the general management or control of the place.

Occupied' has a corresponding meaning.

Occupier obligations means the requirement in a strategy rule for a land occupier to undertake, or cause to be undertaken, control measures for pest plants. '

Operational plan means a plan prepared by the management agency under section 85 of the Act.

Person* includes the Crown, a corporation sole, and a body of persons (whether corporate or unincorporated).

Pest* means an organism specified as a pest in a pest management strategy.

Pest management strategy and Strategy* means a Strategy made under Part V of the Act, for the management or eradication of a particular pest or pests.

Plant means any plant, tree, shrub, herb, flower, nursery stock, culture, vegetable, or other vegetation; and also includes fruit, seed, spore and portion or product of any plant; and also includes all aquatic plants.

Principal officer* means, -

- (a) in relation to a regional council, its chief executive; and
 - (b) in relation to a region, the chief executive of the region's regional council;
- and includes an acting principal officer.

Region³, in relation to a regional council, means the region of the regional council as determined in accordance with the Local Government Act 2002.

Regional council means a regional council within the meaning of the Local Government Act 2002.

Regional significance, in relation to pest plants, means of public concern, widespread throughout the region, about, or interest in the pest's actual or potential harmful and unintended effects on the environment.

Road includes all bridges, culverts, and fords forming part of any road.

Rule* means a rule included in a pest management strategy in accordance with section 69B or section 80B [of the Act].

Sale includes bartering, offering for sale, exposing, or attempting to sell, or having in possession for sale, or sending or delivering for sale, causing or allowing to be sold,

³Resource Management Act 1991

offered or displayed for sale, and includes any disposal whether for valuable consideration or not and 'Sell' has a corresponding meaning.

Surveillance pest plant refers to a pest plant species for which there is no strategy rule requiring the land occupier to control the species.

Tangata whenua⁴, in relation to a particular area, means the Iwi or hapu that holds mana whenua over that area.

Unwanted organism* means any organism that a chief technical officer believes is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health, and

- (a) Includes—
 - (i) Any new organism, if the Authority [Environmental Risk Management Authority] has declined approval to import that organism; and
 - (ii) Any organism specified in the Second Schedule of the Hazardous Substances and New Organisms Act 1996; but
- (b) Does not include any organism approved for importation under the Hazardous Substances and New Organisms Act 1996, unless—
 - (i) The organism is an organism which has escaped from a containment facility; or
 - (ii) A chief technical officer, after consulting the Authority [Environmental Risk Management Authority] and taking into account any comments made by the Authority concerning the organism, believes that the organism is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health.

Wāhi tapu means places or things, which are sacred or spiritually endowed. These are defined locally by the hapu and Iwi.

Ward means a subdivision for electoral purposes of the district of a territorial authority.

Working day means any day except:

- (a) a Saturday, a Sunday, Good Friday, Easter Monday, Anzac Day, Labour Day, the Sovereign's birthday and Waitangi Day; and
- (b) the day observed in the region of a regional council as the anniversary day of the province of which the region forms part; and
- (c) a day in the period commencing on the 20th day of December in any year and ending with the 15th day of January in the following year.

⁴ *Resource Management Act 1991*

3. Statutory and planning framework

3.1 Legislative framework

3.1.1 Biosecurity Act

The Biosecurity Act is an Act to “...restate and reform the law relating to the exclusion, eradication, and effective management of pests and unwanted organisms”.

Under the Biosecurity Act, regional councils are not necessarily required to undertake pest plant management. Any involvement is now at the discretion of the regional council and is undertaken subject to the preparation of a regional pest management strategy.

This Strategy is the third Strategy prepared by the Taranaki Regional Council with respect to its pest plant management functions under the Biosecurity Act. The first Strategy was prepared in 1996, reviewed in 2001 and has been reviewed once more in 2006. In accordance with section 88 of the Biosecurity Act a pest management strategy that has been in force for five years must be reviewed. The review process involved the preparation of a proposed Strategy, which provided another opportunity for the regional community and other affected parties to have input into determining appropriate pest plant management programmes and funding levels for the next 10 years.

The Strategy sets objectives, methods and rules that are specific to each of the plants declared to be ‘pests’. Under the Strategy, the Taranaki regional Council and land occupiers (including road controlling authorities and the Department of Conservation) are required to take responsibility for the control of pest plants in the region (refer to section 4 of the Strategy). This Strategy empowers the Taranaki Regional Council to exercise the appropriate enforcement and funding provisions of the Act.

3.1.2 Other statutes, regulations and pest management strategies

In addition to the Biosecurity Act, there are other Acts, regulation and strategies that this Strategy must have regard to. Nothing in the Strategy should be interpreted so as to affect or derogate from other legislation, regulations or rules of law relating to pest plant management. These include, but are not restricted to those Acts specified in section 7 [Relationships with other enactments] of the Biosecurity Act such as the Health Act 1956 and the Resource Management Act 1991.

In addition to this Strategy the Council has also made a regional pest management strategy for animals by authority of section 79F of the Biosecurity Act. While both strategies are stand-alone documents they are in fact complementary and together address integrated ‘pest’ management for the Taranaki region.

Procedures addressing integrated management and cross-boundary issues are presented in section 10 of the Strategy.

3.2 Pest plants to be managed

3.2.1 Prerequisites for proposal

In the preparation of this Strategy, the Taranaki Regional Council undertook a 'screening process' for a large number of potentially harmful plants, to determine what (if any) regional intervention would be appropriate. The screening process was based on what the Council could most effectively and efficiently achieve given finite resources and those matter specified in section 72 (1) of the Act.

Section 72 (1) of the Act required the Taranaki Regional Council, before notifying the Strategy, to be satisfied that:

- (a) The nominated pest plants are capable of causing serious adverse and unintended harmful effects on the region. With respect to the consideration of these effects and of the level of regional intervention considered applicable, the Council had regard to:
 - i) **adverse impacts:**⁵ Refers to the severity of a plant's external, uncompensated, actual or potential effects on the environment (includes agricultural production, indigenous biodiversity and amenity values) and Māori culture and traditions. Regional impacts of a plant had to be ranked medium to high to warrant being declared a 'pest';
 - ii) **the biological characteristics of the plant:** Refers to the ability of a plant to occupy a habitat. The plants of most concern are those able to establish, reproduce and spread in a range of habitats. Contributing to this success are versatility, maturation, seeding ability, dispersal and establishment, cloning ability, ability to recover from adversities, and competitive ability; and
 - iii) **The distribution of the plant:** Refers to whether the plant is limited, restricted or widespread in its distribution with respect to potentially suitable habitats. Distribution will have a bearing on the type and level of regional intervention considered appropriate by the Council. The less widespread the plant, the more cost effective it is to manage or eradicate.
- (b) The benefits of having this Strategy outweigh the costs (this includes taking into account the likely consequences of inaction or alternative courses of action).
- (c) The net benefits of regional intervention exceed the net benefits, which would accrue from an individual's intervention.
- (d) For those persons required to contribute to the costs of administering and implementing this Strategy, the benefits that accrue to those persons as a group will exceed the costs, or, those persons contribute to the creation, continuance or exacerbation of the problems proposed to be resolved by the Strategy.

⁵ Refer Esler, *Lietjing and Champion (1993), 'Biological Success and Weediness of Noxious Plants of New Zealand'. MAF Quality Management.*
Auckland Regional Council (1995), 'Assessment of Plant Pests Prepared for Inclusion in Auckland Regional Council's Pest Management Strategies'.

3.2.2 Plants declared to be pests

3.2.2.1 Pest plants

Having regard to section 72 of the Act, the Taranaki Regional Council declares the following 27 plant species to be pest plants:

Common name	Botanical name	Reference in the Strategy
Australian Sedge	<i>Carex longebrachiata</i>	Section 6.1
Brush Wattle	<i>Paraserianthes lophantha</i>	Section 7.1
Climbing Spindleberry	<i>Celastrus orbiculatus</i>	Section 5.1
Darwin's Barberry	<i>Berberis darwinii</i>	Section 5.2
Egeria Oxygen Weed	<i>Egeria densa</i>	Section 7.2
Giant Buttercup	<i>Ranunculus acris</i>	Section 6.2
Giant Gunnera	<i>Gunnera manicata</i>	Section 6.3
	<i>Gunnera tinctoria</i>	Section 6.3
Giant Reed	<i>Arundo donax</i>	Section 5.3
Gorse	<i>Ulex europaeus</i>	Section 6.4
Japanese Walnut	<i>Juglans ailantifolia</i>	Section 7.3
Lagarosiphon Oxygen Weed	<i>Lagarosiphon major</i>	Section 7.4
Mignonette Vine	<i>Anredera cordifolia</i>	Section 5.4
Nodding Thistle	<i>Carduus nutans</i>	Section 6.5
Old Man's Beard	<i>Clematis vitalba</i>	Section 6.6
Pampas grass		
- Common Pampas	<i>Cortaderia selloana</i>	Section 5.5
- Purple Pampas	<i>Cortaderia jubata</i>	Section 5.5
Plumeless Thistle	<i>Carduus acanthoides</i>	Section 6.5
Ragwort		
- Ragwort	<i>Senecio jacobaea</i>	Section 6.7
- Pink Ragwort	<i>Senecio glastifolius</i>	Section 6.7
Senegal Tea	<i>Gymnocoronis spilanthoides</i>	Section 5.6
Spanish Heath	<i>Erica lusitanica</i>	Section 7.5
Undaria	Undaria pinnatifida	Section 5.7
Variegated Thistle	<i>Silybum marianum</i>	Section 6.8
Wild Broom	<i>Cytisus scoparius</i>	Section 6.9
Wild Ginger		
- Kahili Ginger	<i>Hedychium gardnerianum</i>	Section 6.10
- Yellow Ginger	<i>Hedychium flavescens</i>	Section 6.10
Woolly Nightshade	<i>Solanum mauritianum</i>	Section 7.6

Sections 5, 6, and 7 of this Strategy categorise pest plants according to the different levels of regional intervention considered appropriate. An explanation of the different levels of intervention proposed is provided in the preamble to Part Two of the Strategy.

3.2.2.2 Other management responses

Not all harmful plants are addressed in the Strategy. For many harmful plants it is not appropriate, necessary or reasonable to include them in the Strategy. Notwithstanding that, other management responses may apply, including:

- on an as need be basis, the Taranaki Regional Council undertaking small-scale management programmes for 'unwanted organisms' under section 100 of the Act particularly for harmful plants not yet found in Taranaki but which may arrive during the Strategy period;

- the Council participating in the *National Pest Plant Accord*, which involves regional councils collectively enforcing a national ban on the commercial sale, propagation and distribution of a list of recognised harmful plants (refer to Appendix I), which have been declared ‘unwanted organisms’;
- Biosecurity New Zealand undertaking national pest management programmes for harmful plants for which national intervention is considered appropriate (such as Hydrilla, Hornwort, Pyp Grass, White Bryony, Cape Tulip, Johnson Grass, Water Hyacinth and Salvinia);
- through national or regional pest management strategies prepared and implemented by other parties such as Crown agencies and industry groups; and
- voluntary actions by individuals and other interested parties.

Further to the above, the Taranaki Regional Council may still provide advice and education or undertake monitoring and surveillance of harmful or potentially harmful plants under section 13 of the Act. In other circumstances, eg, to protect regionally significant indigenous biodiversity values in Key Native Ecosystems, and with the permission of the land occupier, the Council may undertake direct control operations that target a variety of harmful plant species.

The Taranaki Regional Council will also continue to recognise and facilitate other management responses with respect to harmful plants through the integrated management measures set out in section 10 of the Strategy.

4. Management responsibilities and obligations

4.1 Taranaki Regional Council

4.1.1 Proposer of this Strategy

By authority of the Act the Taranaki Regional Council resolved to be the proposer of the Strategy.

4.1.2 Management agency

The Taranaki Regional Council is the management agency responsible for the administration and implementation of this Strategy. The Council, as the management agency, develops and implements those programmes identified in Part Two of the Strategy, including:

- (a) advisory, education and information programmes;
- (b) inspectorial and enforcement programmes;
- (c) direct control programmes; and
- (d) biological control programmes.

The Taranaki Regional Council, as management agency, also develops and implements administrative systems and programmes associated with funding this Strategy, monitoring its implementation and effectiveness and ensuring that the Strategy's implementation is undertaken in a manner that is consistent with the Act and any other statutory provisions.

4.2 Stakeholders

Strategy stakeholders are those persons that are either a beneficiary of this Strategy's implementation, or are an exacerbator of particular pest plant problems, and, accordingly, will be bound by the provisions of the Strategy and will contribute to the funding of the Strategy.

4.2.1 Private land occupiers

Private land occupiers, which for the purposes of this Strategy includes Crown agencies not covered by the Public Finances Act 1989 (eg, Transit New Zealand and OnTrack), are required to control pest plants on land that they occupy as set out in strategy rules prescribed in Part Two of this Strategy. In individual circumstances, the Taranaki Regional Council may, in accordance with section 9.3.3 of this Strategy, exempt any person from any requirement included in a strategy rule.

Private land occupiers will further contribute to funding the implementation and administration of this Strategy in accordance with the funding provisions set out in section 11 of the Strategy.

4.2.2 Road controlling authorities

4.2.2.1 Transit New Zealand

Transit New Zealand is the road controlling authority for 387 kilometres of state highways⁶ in the Taranaki region. The land on which state highways lie, including those parts of road, roadway or road margin extending to adjacent property boundaries, accounts for approximately 1,278 hectares in the Taranaki region.

Transit New Zealand is required to control pest plants on land that it occupies, including all formed roads, roadways or road margins for which Transit is responsible, in accordance with the strategy rules prescribed in Part Two of this Strategy. In individual circumstances, the Taranaki Regional Council may, in accordance with section 9.3.3 of the Strategy, exempt any person from any requirement included in a strategy rule.

4.2.2.2 Territorial authorities

There are three territorial authorities within the Taranaki region. These are the South Taranaki District Council, Stratford District Council (excluding parts of the district that lie in the Whanganui catchment) and the New Plymouth District Council. Territorial authorities are occupiers of land and are road controlling authorities in their district. With respect to roads, territorial authorities are jointly responsible for 3,467 kilometres of local roads⁷ in the Taranaki region.

Territorial authorities are required to control pest plants on land that they occupy, including formed local roads, roadways or road margins for which that authority is responsible, in accordance with strategy rules prescribed in Part Two of this Strategy. In individual circumstances, the Taranaki Regional Council may, in accordance with section 9.3.3 of the Strategy, exempt a territorial authority from any requirement included in a strategy rule.

For the purposes of this Strategy, roadside responsibilities for pest plant management apply only to 'formed' roads and do not apply to 'unformed' [paper] roads occupied by another person. Pest plant control on unformed roads remains the responsibility of the person physically occupying that land.

4.2.3 OnTrack

OnTrack is, on behalf of the Crown, the owner and manager of New Zealand's railway infrastructure. There is approximately 214 kilometres of railway line in the Taranaki region accounting for 763 hectares of railway land.^{8 9}

OnTrack is required to control pest plants on land that it administers, as set out in strategy rules prescribed in Part Two of this Strategy). In individual circumstances, the Taranaki Regional Council may, in accordance with section 9.3.3 of the Strategy, exempt any person from any requirement included in a strategy rule.

⁶ Taranaki Regional Council (2006): 'Regional Land Transport Strategy for Taranaki'.

⁷ Taranaki Regional Council (2006): 'Regional Land Transport Strategy for Taranaki'.

⁸ Taranaki Regional Council (2006): 'Regional Land Transport Strategy for Taranaki'.

⁹ Pursuant to section 87 of the Act, an Order in Council must be obtained from the Governor General should the Strategy impose obligations or costs on the Crown (ie, the Department of Conservation). OnTrack and Transit New Zealand, fall outside the definition of the 'Crown' (refer section 2 [Interpretation section] of the Public Finance Act 1989) and therefore an Order in Council is not necessary.

4.3 Other affected parties

4.3.1 Department of Conservation

The Department of Conservation manages 146,973 hectares of Crown-land in the Taranaki region (or 21% of the total land area) under the Reserves Act, the National Parks Act and the Conservation Act. The Department also has particular responsibilities and expertise in the management of pest plants that pose a threat to indigenous biodiversity.

Section 87 of the Biosecurity Act exempts the Crown from being legally bound by the funding provisions or the rules in a regional pest management strategy. The Crown under the Biosecurity Act refers to Crown departments or agencies such as the Department of Conservation (but not Crown entities or State Owned Enterprises).

The Department of Conservation (and other agencies) may however seek to be bound to the Strategy rules and seek funding from the Crown through an Order in Council (or agree to make a voluntary contribution towards the Strategy). However, the Department has neither sought an Order in Council nor agreed to it making a voluntary contribution.

Part Two

Pest plant management programmes

Preamble

Part Two of this Strategy details the pest plant management programmes in relation to each pest plant, or pest plants of a very similar type, to which the Strategy applies.

Each management programme includes: a description of the adverse effects associated with that pest plant; the reasons for including it in this Strategy; including the rationale for adopting the preferred management approach, an objective to be achieved by the Taranaki Regional Council for the duration of the Strategy; the principal measures by which the Council intends to achieve the objective; the alternative measures for achieving the objective; and the strategy rules pertaining to the pest plant.

In relation to each pest plant species, strategy rules apply. All pest plants are banned from sale, propagation and distribution. With respect to 'Eradication pest plants' and 'Containment pest plants', additional strategy rules are prescribed requiring the occupier to treat and prevent the plant from growing in, seeding, or spreading, in relation to:

- (a) the whole property; or
- (b) a prescribed distance from the property boundary (as prescribed in the relevant strategy rule).

A breach of any rule prescribed in Part Two of the Strategy would create an offence under section 154 (r) of the Act, or may result in default work under section 128 of the Act, or both.

The Taranaki Regional Council, in determining the most appropriate and cost effective management response for individual pest plants, has had regard to an ecological 'infestation curve' model and the 'reasonableness' of imposing costs and obligations on people to control the plant species.

The **infestation curve model** (refer Figure 2 overleaf) essentially has three parts:

- (a) first, is the 'lag phase', when the pest plant is just starting to become established and is very limited in its distribution (curve is 'flat', numbered 1-4);
- (b) second, is the 'explosion phase' when infestations are still restricted in range but densities and range are increasing rapidly (curve is 'steep', numbered 5); and
- (c) third, is the 'established phase' when growth of new infestations slows as the pest plant fills most of its available habitat (the curve levels off again, numbered 6-8).

The '**reasonableness**' test refers to the appropriateness of imposing costs and obligations on people to control the plant species, given: the high cost to the Taranaki Regional Council or occupier to control or manage the plant; the plant's biological and 'pest' characteristics: uncertainty about the nature or significance of the actual or potential problem; and or the lack of effective treatment options. The lack of effective integration with other parties with statutory pest management roles and responsibilities may also have a bearing on determining the appropriate management category for a pest such as where there is confusion or potential conflict with other legislation. For example, the

'surveillance pest plant' category¹⁰ includes species that lie in phase 1 and 2 of the infestation curve, however, for the aforementioned reasons it is considered unreasonable to apply a strategy rule requiring the land occupier to undertake control measures. Notwithstanding this, there is an opportunity on a case-by-case basis for the Council to consider targeted direct control of 'surveillance pest plants' (eg, to protect indigenous biodiversity values in Key Native Ecosystems) and through the enforcement of strategy rules banning the sale, propagation and distribution of surveillance pest plants the Council may contribute to restricting their spread and distribution by people.

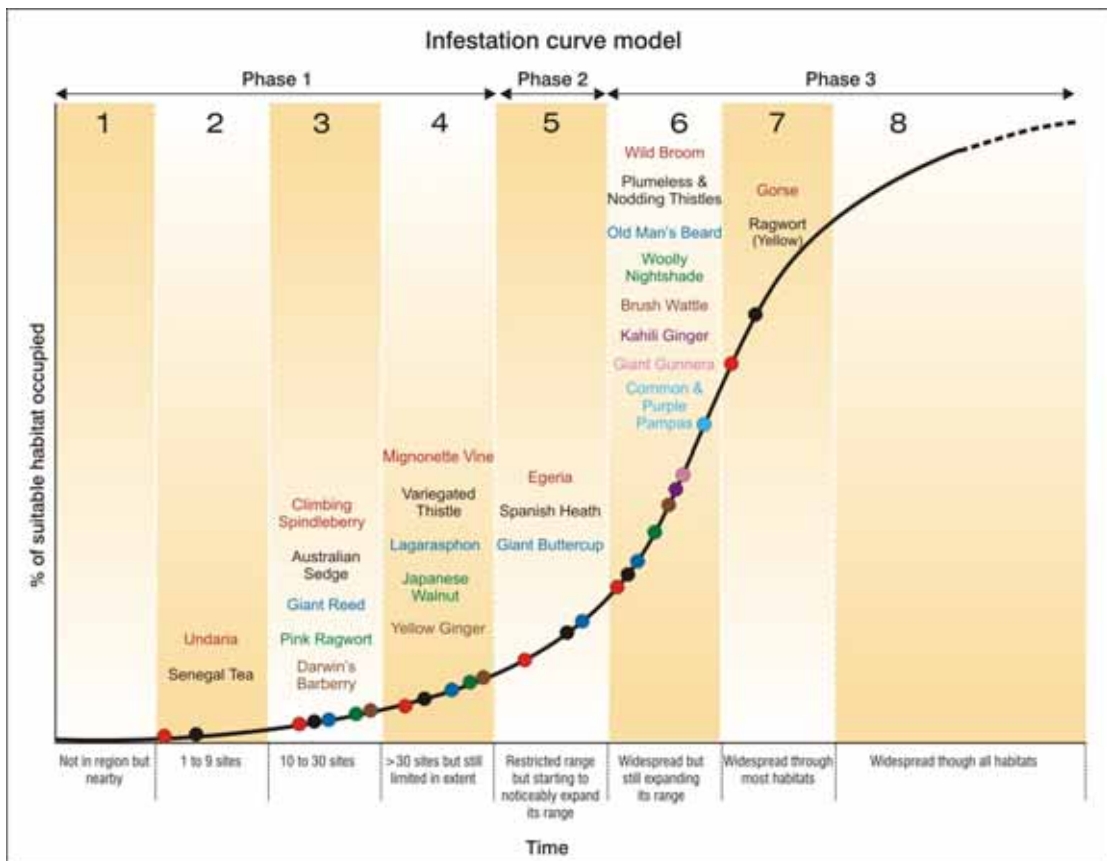


Figure 2: Infestation curve model

Sections 5, 6 and 7 of the Strategy categorise pest plants according to the different levels of regional intervention considered appropriate. A description of the specific adverse and unintended effects being avoided or mitigated, on a plant-by-plant basis, is presented, and follows, in this Part of the Strategy. These effects are further summarised in Appendix II.

¹⁰ Surveillance pest plants also includes species where it may not be cost effective or appropriate to undertake direct control or impose land occupier obligations and instead the focus is on promoting and facilitating individual and community action against these plants.

5. Eradication pest plants

5.1 Climbing Spindleberry (*Celastrus orbiculatus*)

5.1.1 Description of the problem

Climbing Spindleberry (which is also sometimes called Oriental Bittersweet) is a deciduous, perennial, twining climber that may become a spreading, trailing shrub when it gets older. The plant may grow up to 12 metres high with mature vine stems being up to 100 millimetres in diameter.



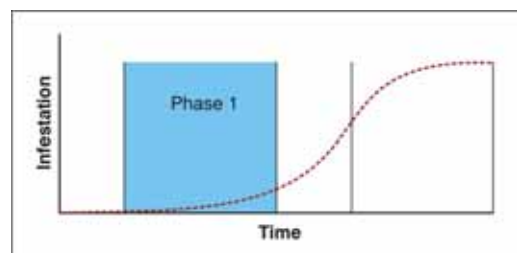
Climbing Spindleberry has alternate, round toothed, glossy leaves. The flowers are green and inconspicuous but the plant then produces showy yellow fruit containing red-coated seeds, which germinate in late spring.

Climbing Spindleberry spreads vegetatively through horizontal and vertical stems that have the ability to form adventitious roots (ie, stolons), through underground stems (ie, rhizomes) and through root suckering (the ability to send up shoots from the roots). Birds eating the fruit also spread the plant.

Climbing Spindleberry grows in urban gardens, roadside margins, forest and riparian margins, and disturbed and low indigenous forests. The plant seeds prolifically and is shade tolerant. Accordingly, the plant can establish and spread very quickly forming dense colonies, which exclude and/or compete with other plant species for soil moisture, nutrients and light. Once established, the plant is very difficult to control and becomes very invasive.

Climbing Spindleberry represents a particular threat to indigenous biodiversity. The plant has the ability to compete with and replace indigenous plants in disturbed or low forest, and forest and riparian margins. Climbing Spindleberry may smother and shade out indigenous plants (preventing photosynthesis), affecting the succession or regeneration of indigenous flora. The plant also has the ability to topple and kill small trees due to the weight of its growth. Climbing Spindleberry will also grow as a groundcover plant, suppressing desirable groundcovers.

Climbing Spindleberry has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model). Currently, there are 15 known sites around Taranaki.



5.1.2 Pest plant management programme

5.1.2.1 Objective

To eradicate all known infestations (as at 1 March 2007) of Climbing Spindleberry in the Taranaki region by 2017 and, as practicable, destroy any new infestations of Climbing Spindleberry that are identified over the duration of the Strategy.

5.1.2.2 Means of achievement

To achieve the objective for Climbing Spindleberry, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Climbing Spindleberry to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Climbing Spindleberry to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) As appropriate, undertake the **direct control** of Climbing Spindleberry in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Climbing Spindleberry where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between different agencies in accordance with section 10 of the Strategy.

5.1.2.3 Strategy rules for Climbing Spindleberry

- (a) *The occupier shall destroy all adult and juvenile forms of Climbing Spindleberry (*Celastrus orbiculatus*) on land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Climbing Spindleberry (*Celastrus orbiculatus*).*

5.2 Darwin's Barberry (*Berberis darwinii*)

5.2.1 Description of the problem

Darwin's Barberry is a small woody evergreen shrub, which may grow up to four to five metres in height. The plant has small shiny dark green leaves, small many-pronged spines, deep orange flowers and small dark berries with a white coating.



Darwin's Barberry was introduced into New Zealand as an ornamental garden plant but has since become a problem in many areas where it poses a particular threat to indigenous biodiversity values.

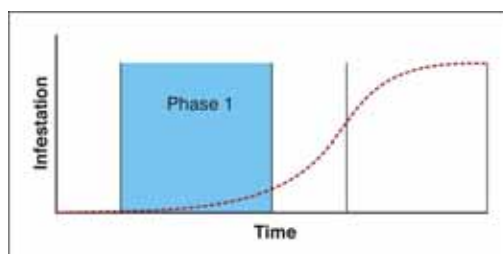
Darwin's Barberry should not be confused with the semi-deciduous Barberry, *Berberis glaucocarpa*, found commonly throughout Taranaki.

Darwin's Barberry is very free seeding with the seeds being primarily spread by birds. The plant is capable of inhabiting forest and riparian margins, scrub-land, production forests and regenerating indigenous forests and degraded pasture. Once established, the plant is very invasive and can form dense colonies, which exclude and/or compete with other plant species for soil moisture, nutrients and light.

Darwin's Barberry represents a particular threat to indigenous biodiversity values. Dense colonies will suppress the regeneration of indigenous flora and may eventually eliminate indigenous seed sources.

The plant can also pose a problem on extensively farmed land and in forestry production areas, impacting on the carrying capacity of that land, and imposing additional costs for control. The obstruction or infestation of natural and recreational areas by Darwin's Barberry may also be a problem on occasion.

Darwin's Barberry has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model). The plant is, at present, confined in Taranaki to some areas in and around Stratford and Inglewood but it has the potential to spread much further. There are approximately 10 hectares of known heavy infestation sites of Darwin's Barberry in Taranaki.



5.2.2 Pest plant management programme

5.2.2.1 Objective

To eradicate all known infestations (as at 1 March 2007) of Darwin's Barberry in the Taranaki region by 2017 and, as practicable, destroy any new infestations of Darwin's Barberry that are identified over the duration of the Strategy.

5.2.2.2 Means of achievement

To achieve the objective for Darwin's Barberry, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Darwin's Barberry to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Darwin's Barberry to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) As appropriate, undertake the **direct control** of Darwin's Barberry in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Darwin's Barberry where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

5.2.2.3 Strategy rules for Darwin's Barberry

- (a) *The occupier shall destroy all adult and juvenile forms of Darwin's Barberry (*Berberis darwinii*) on land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Darwin's Barberry (*Berberis darwinii*).*

5.3 Giant Reed (*Arundo donax*)

5.3.1 Description of the problem

Giant Reed is a tall, perennial, bamboo-like grass, which may grow up to eight metres tall. The plant has elongated pale green to blue-green leaves and, in late summer, produces plume-like flower-heads.



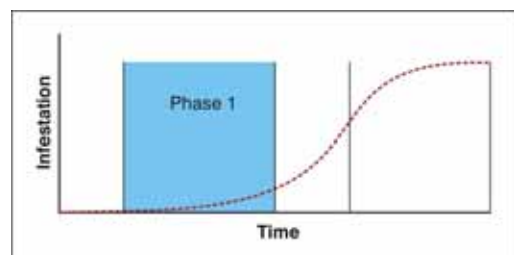
Giant Reed was introduced into New Zealand as an ornamental garden plant but has since become a problem in other areas impacting upon conservation values.

Giant Reed is primarily spread by vegetative reproduction, either from underground rhizome extensions or from plant fragments transported by water. Both the stems and the rhizomes have the ability to propagate. The plant is capable of inhabiting riparian and forest margins, scrub-land, production and regenerating indigenous forests and degraded pasture. Once established the plant is very invasive and can form dense clumps, which exclude and/or compete with other plant species for soil moisture, nutrients and light.

The plant represents a potential threat to indigenous biodiversity values, particularly along riparian and forest margins. Dense clumps of the plant quickly form to suppress the regeneration of indigenous flora and may eventually eliminate indigenous seed sources.

The obstruction or infestation of drainage channels or natural and recreational areas by Giant Reed may also be a problem on occasion.

Giant Reed has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model). The plant is, at present, confined in Taranaki to some riparian areas in and around New Plymouth, Oakura, Patea, Waitara and Onaero. Collectively, there is approximately 35 m² of known heavy infestation sites of Giant Reed in Taranaki.



5.3.2 Pest plant management programme

5.3.2.1 Objective

To eradicate all known infestations (as of 1 March 2007) of Giant Reed in the Taranaki region by 2017 and, as practicable, destroy any new infestations of Giant Reed that are identified over the duration of the Strategy.

5.3.2.2 Means of achievement

To achieve the objective for Giant Reed, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Giant Reed to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Giant Reed to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) As appropriate, undertake the **direct control** of Giant Reed in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Giant Reed where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective integrated pest plant management in accordance with section 10 of the Strategy.

5.3.2.3 Strategy rules for Giant Reed

- (a) *The occupier shall destroy all adult and juvenile forms of Giant Reed (Arundo donax) on land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Giant Reed (Arundo donax).*

5.4 Mignonette Vine (*Anredera cordifolia*)

5.4.1 Description of the problem

Mignonette Vine (also commonly known as Madeira Vine) is a perennial climber arising from a fleshy rhizome. The plant may grow up to seven metres in height. The plant has bright green fleshy leaves, long racemes of cream flowers from January to April, and warty stem tubers.



In the past, Mignonette Vine has been widely distributed as an ornamental plant. However, the plant has now become a problem in the Taranaki region and represents a significant potential threat to conservation values.

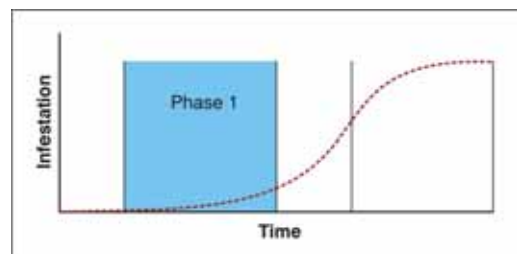
Mignonette Vine reproduces through the shedding and spread of stem tubers – each tuber capable of generating a new plant. The dumping of garden waste or moving topsoil containing tubers have been the main cause for the plant's spread.

The preferred habitat of Mignonette Vine includes gardens, forest and riparian margins, disturbed and low indigenous forests, particularly in coastal areas. The plant is very invasive and can form dense colonies, which exclude and/or compete with other plant species for soil moisture, nutrients and light. Once established, it is very difficult to control.

Mignonette Vine represents a particular threat to indigenous biodiversity values. The plant has the ability to compete with and replace indigenous plants in disturbed or low forest, forest and riparian margins, and coastal areas. Once established, the plant may affect the succession or regeneration of indigenous flora. The weight of mature vines can topple and kill small trees.

The plant can also pose a problem in urban reserves and gardens, where it competes with other plant species.

Mignonette Vine has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model). It is, at present, confined to 46 infestations throughout Taranaki.



5.4.2 Pest plant management programme

5.4.2.1 Objective

To eradicate all known infestations (as at 1 March 2007) of Mignonette Vine in the Taranaki region by 2017 and, as practicable, destroy any new infestations of Mignonette Vine that are identified over the duration of the Strategy.

5.4.2.2 Means of achievement

To achieve the objective for Mignonette Vine, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Mignonette Vine to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Mignonette Vine to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) As appropriate, undertake the **direct control** of Mignonette Vine in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Mignonette Vine where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

5.4.2.3 Strategy rules for Mignonette Vine

- (a) *The occupier shall destroy all adult and juvenile forms of Mignonette Vine (*Anredera cordifolia*) on land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Mignonette Vine (*Anredera cordifolia*).*

5.5 Pampas grass – Common Pampas (*Cortaderia selloana*) and Purple Pampas (*Cortaderia jubata*)

5.5.1 Description of the problem

Both Common Pampas and Purple Pampas are erect, tall, clump-forming, perennial grasses. Both plants have coarse abrasive leaves and will grow up to three metres high.

The distinctive and erect flower stems of Pampas grass can grow up to five metres high. Common Pampas has fluffy white flowers, which appear in mid March, while Purple Pampas has purple flower heads that appear in the late January and later fade to brown. Other than that, the plants share the same features and consequently are commonly mistaken for one another. However, any confusion between the two is unimportant because both are troublesome plants and require the same control measures.



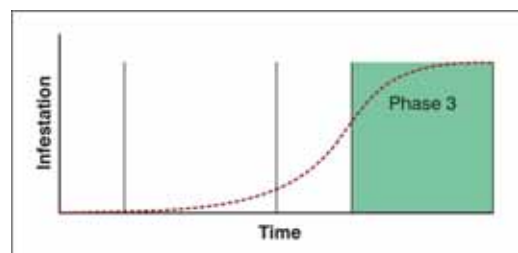
Pampas grass is very invasive, forming dense impenetrable stands. The ability of their seeds to reach distant open places quickly (seeds may travel by wind up to 100 metres or more) and blanket such areas with very rapid exclusive growth makes the plants a particular problem on roadsides and on any disturbed land such as that found in quarries, eroded hillsides and in young or regenerating forests.

Pampas grass predominantly impacts on indigenous biodiversity and, to a lesser extent, production values. In relation to indigenous biodiversity, Pampas grass is a particular threat to wetlands, scrub and forest margins, island, coastal cliffs and sand dune habitats. In such areas, the plants have the ability to suppress or exclude indigenous flora and may eventually eliminate indigenous seed sources thereby altering the structure and species composition existing in the affected areas.

In production forestry areas, the plants can interfere with the planting of exotic forests by crowding out seedlings and imposing significant costs of control on the occupier. On roadside margins, Pampas grass can be a problem in situations where the plants reduce visibility and impose control costs on road controlling authorities.

Pampas grass has a widespread distribution range in the Taranaki region (Phase 3 of the infestation curve model).

Pampas grass is widespread in open and disturbed habitats such as slip faces, wasteland and roadside margins. Therefore, for the duration of the Strategy, land occupier obligations apply requiring land



occupiers to control Pampas grass wherever it appears unless they are being used for shelterbelt and hedging purposes.

For Pampas grass used for shelterbelt and hedging purposes, a regulatory transition period has been established, whereby, until **1 July 2012**, Pampas shelterbelts and hedgerows do not need to be destroyed (but must be prevented from flowering). However, after that date, rules will apply that require land occupiers to destroy **all** Pampas grass (including those used for shelterbelts and hedgerows).

5.5.2 Pest plant management programme

5.5.2.1 Objective

To eradicate all known infestations (as at 1 March 2007 – excluding that used for hedgerows and shelterbelts) of Common Pampas and Purple Pampas in the Taranaki region by 2017, and as far as practicable, destroy any new infestations of Common Pampas and Purple Pampas that are identified over the duration of the Strategy.

To prevent the spread of Common Pampas and Purple Pampas used for hedgerows and shelterbelts in the Taranaki region up until 1 July 2012 and to eradicate all Common Pampas and Purple Pampas used for hedgerows and shelterbelts (as at 1 July 2012) in the Taranaki region by 2017.

5.5.2.2 Means of achievement

To achieve the objective for Common Pampas and Purple Pampas, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Common Pampas and Purple Pampas to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Common Pampas and Purple Pampas to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) Undertake the **direct control** of Common Pampas and Purple Pampas in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Common Pampas and Purple Pampas where the presence of those plants threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

5.5.2.3 Strategy rules for Pampas Grass

- (a) *Prior to 1 July 2012, excluding hedgerows and shelterbelts¹¹ of Common Pampas (*Cortaderia selloana*) and Purple Pampas (*Cortaderia jubata*), the occupier shall destroy all adult and juvenile forms of the plants on land that he or she occupies.*

¹¹ For the purposes of Rule 6.7.2.3(a), 'hedgerows and shelterbelts' refers to a group (five or more) of Pampas grass plants that have been planted in a row for the purpose of providing shelter or screening.

- (b) *Prior to 1 July 2012, where Common Pampas (Cortaderia selloana) and Purple Pampas (Cortaderia jubata) are used as a hedgerow or shelterbelt, the occupier shall take measures¹² to prevent the flowering and seeding of the plants on land that he or she occupies.*
- (c) *From 1 July 2012, the occupier is required to destroy all adult and juvenile forms of Common Pampas (Cortaderia selloana) and Purple Pampas (Cortaderia jubata), on land that he or she occupies.*
- (d) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Common Pampas (Cortaderia selloana) and Purple Pampas (Cortaderia jubata).*

¹² For the purposes of Rule 6.7.2.3(b), 'measures to prevent the flowering and seeding of Pampas grass' include chemical manipulation and trimming. For further information contact the Taranaki Regional Council.

5.6 Senegal Tea (*Gymnocoronis spilanthoides*)

5.6.1 Description of the problem

Senegal Tea is a perennial, semi-aquatic herb. When flowering, the plant may grow up to 1.5 metres in height. The plant has dark green leaves and white flowers. The plant flowers in summer and autumn.



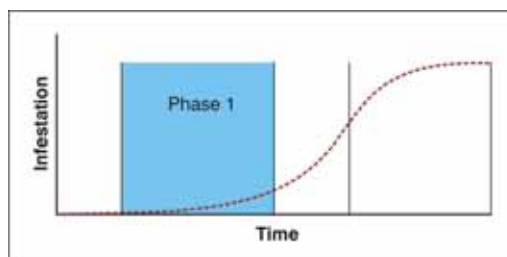
In the past, Senegal Tea has been widely distributed as an ornamental pond plant through the aquarium trade. However, the plant is now widely recognised to be a problem with respect to conservation and water quality values.

Senegal Tea is an extremely aggressive freshwater weed and inhabits wetlands and still or flowing water. The plant is spread by vegetative fragmentation, with new plants being produced from stem nodes or by seed. Stem fragments may be spread by water movement, deliberate plantings or by drainage machinery. Dispersal of seed is by water movement, or mud sticking to animals or machinery.

Senegal Tea forms dense floating mats, which can quickly cover waterways or wetland areas causing a number of serious and unintended adverse effects. Senegal Tea has the ability to exclude submerged native flora species. This effect on the ecology has an impact on the habitat and food source for some fish species and, in extreme cases, may kill fish by depleting oxygen levels in water. Senegal Tea liberates oxygen as it grows, but heavy infestations diminish oxygen available to fish by reducing water circulation and by the rotting of dead plants depleting oxygen.

By modifying habitats and smothering other useful species, Senegal Tea may displace traditional food sources of value to Maori, particularly watercress. Further to this, Senegal Tea may also impede the flow of water (problems with flooding attributable to this plant have occurred elsewhere in New Zealand) and interfere with water utilisation including navigation and recreational activities.

Senegal Tea has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model). It is, at present, confined to two known heavy infestations – one at Stratford and the other at Tarata.



5.6.2 Pest plant management programme

5.6.2.1 Objective

To eradicate all known infestations (as at 1 March 2007) of Senegal Tea in the Taranaki region by 2017 and, as practicable, destroy any new infestations of Senegal Tea that are identified over the duration of the Strategy.

5.6.2.2 Means of achievement

To achieve the objective for Senegal Tea, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Senegal Tea to affected occupiers and other interested parties.
- (b) **Inspect and monitor** plant nurseries, aquariums, retail outlets and known infestations of Senegal Tea to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rule.
- (d) As appropriate, undertake the **direct control** of Senegal Tea in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Senegal Tea where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective integrated pest plant management in accordance with section 10 of the Strategy.

5.6.2.3 Strategy rule for Senegal Tea

- (a) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Senegal Tea (*Gymnocoronis spilanthoides*).*

5.7 *Undaria (Undaria pinnatifida)*

5.7.1 Description of the problem

Undaria is a golden-brown laminarian kelp, which can reach 1-2 metres in length. Mature *Undaria* is easily distinguished from native kelp by its 'frilly' spore-producing structure (the sporophyll) near the base of the plant.



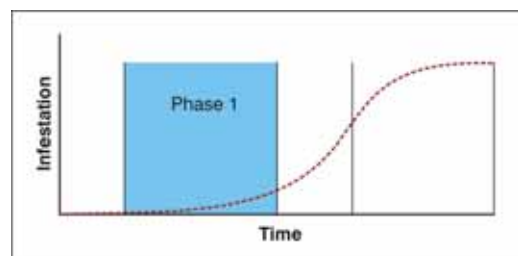
Undaria was introduced to New Zealand in the 1980s, probably in ballast water. Since its initial discovery, *Undaria* has become established in many ports and extensive parts of the eastern coastline. Without taking steps to reduce the spread of *Undaria* it is likely to eventually spread naturally and by human means (eg, vessel hulls and fishing or mooring equipment) to most suitable mainland habitats in New Zealand.

Undaria has a rapid growth rate and tolerates a wide range of wave exposures – from sheltered marinas to the open coast. Although most commonly found at depths of 1-3 metres below the surface, *Undaria* can be found at up to 18 metres below the surface. It can grow on any hard surface, including artificial substrates such as mooring ropes, pylons, vessel hulls, and floating pontoons.

Undaria is a highly invasive species. Once established it has the ability to replace or exclude native seaweed species and associated marine flora. By modifying coastal habitats and smothering other useful species, *Undaria* may displace paua, mussels, and other traditional food sources of value to Māori and other seafood gatherers.

While currently there is no marine farming in Taranaki waters, nevertheless, should such ventures be established in the region *Undaria* would pose a significant threat. *Undaria* can interfere with marine activities by fouling mussel farms, salmon farms, and boats. Heavy infestations may also clog marine farming equipment, slow growth of mussels, and restrict water circulation. Heavy fouling of boats seriously decreases their efficiency.

Undaria has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model). So far, it is confined to Port Taranaki. This infestation was discovered in March 2005. Following its discovery immediate and successful eradication measures were undertaken. However, on-going surveillance and control will be required for several years to address any new sporophytes.



5.7.2 Pest plant management programme

5.7.2.1 Objective

To eradicate all known infestations (as of 1 March 2007) of Undaria in the Taranaki region by 2017 and, as practicable, destroy any new infestations of Undaria that are identified over the duration of the Strategy.

5.7.2.2 Means of achievement

To achieve the objective for Undaria, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Undaria to affected property owners and other interested parties.
- (b) **Inspect and monitor** aquariums, retail outlets and known infestations of Undaria to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rule.
- (d) In conjunction with the Department of Conservation and, as appropriate, undertake the **direct control** of Undaria in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the direct control of Undaria where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

5.7.2.3 Strategy rule for Undaria

- (a) *The owner of any structure, boat or fishing and other marine equipment infested with Undaria (Undaria pinnatifida) shall destroy all adult and juvenile forms of the plant and in a manner that does not result in the further spread of that plant.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Undaria (Undaria pinnatifida).*

6. Containment pest plants

6.1 Australian Sedge (*Carex longebrachiata*)

6.1.1 Description of the problem

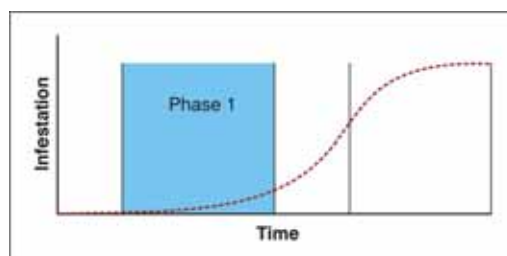
Australian Sedge is a perennial tussock-forming sedge, native to Australia. In New Zealand, there are native and introduced sedges of similar appearance. However, the plant is distinguishable from other sedges by its harsh cutting leaves, angled flowering stems and catkin-like flower spikes.



Australian Sedge is primarily a problem in dry-stock areas. Once established, Australian Sedge is a difficult plant to control and its biological characteristics are such that it will occupy large areas to the exclusion of pasture species. The seeds can be spread by animals and consequently there is potential for infestations to spread to and affect other properties.

Unpalatable to stock, infestations of Australian Sedge reduce pasture production and thereby reduce the carrying capacity of agricultural land. The consequential need to control the plant then imposes added farm production costs on the occupier.

Australian Sedge has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model) although the extent of some infestations is considerable. At present, heavy infestations of the plant occur on three adjoining properties in the Waitotara Valley, Patea Ward of the South Taranaki District Council, and four adjoining properties in the north of Clifton Ward of the New Plymouth District Council. Given that control can be relatively expensive and difficult, preventing the spread of the plant to other properties is the principal objective.



6.1.2 Pest plant management programme

6.1.2.1 Objective

To prevent the spread of, and, where practicable, reduce infestations of Australian Sedge in the Taranaki region for the duration of the Strategy.

6.1.2.2 Means of achievement

To achieve the objective for Australian Sedge, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Australian Sedge to affected occupiers and other interested parties.

- (b) **Inspect and monitor** properties with known infestations of Australian Sedge to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Australian Sedge where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (e) Undertake **liaison and advocacy** to promote effective integrated pest plant management in accordance with section 10 of the Strategy.

6.1.2.3 Strategy rules for Australian Sedge

- (a) *The occupier shall destroy all adult and juvenile forms of Australian Sedge (*Carex longebrachiata*) located 25 metres or less from the boundary¹³ of the land that he or she occupies.¹⁴*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Australian Sedge (*Carex longebrachiata*).*

¹³ For the purposes of Rule 6.1.2.3(a), 'located 25 metres or less from the boundary' means 25 metres or less measured from the boundary inwards on land that he or she occupies.

¹⁴ Most seed falls close to the parent plant. However, for the purposes of having an easily enforceable standard, the Taranaki Regional Council requires occupiers to control all Australian Sedge located 25 metres or less from the boundary.

6.2 Giant Buttercup (*Ranunculus acris*)

6.2.1 Description of the problem

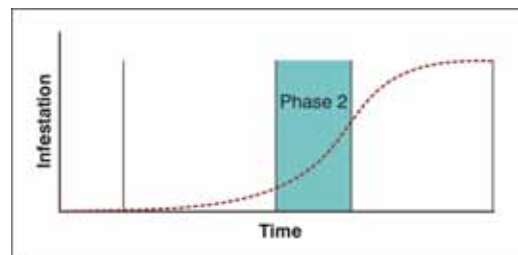
Giant Buttercup is a perennial with deeply segmented leaves – which are present all year. It grows from single crowns and has yellow flowers, November to April on branched stems up to a metre tall.



Giant Buttercup is very free seeding, with the seeds being spread by water, animals and in silage and hay. The distribution of seeds in silage and hay and the failure of occupiers to prevent Giant Buttercup from seeding have contributed to the increased distribution of the plant in Taranaki. The plant's preferred habitat is in pasture and along roadsides, particularly in areas of high rainfall.

Sheep will eat Giant Buttercup, however the plant is seasonably unpalatable to cattle so infestations of Giant Buttercup can quickly overwhelm pasture species in dairying areas thereby reducing pasture and dairy production. Once established in pasture, the plant is costly and difficult to control.

Giant Buttercup has a restricted distribution range in the Taranaki region (Phase 2 of the infestation curve model) but has the potential to spread throughout most of Taranaki's dairy and beef farmland. There are currently scattered infestations on Taranaki's ring plain and eastern hill country with the worst infestations occurring around Egmont Village, Inglewood, Stratford, Eltham and Mangatoki.



In dairying areas rules apply requiring land occupiers to control Giant Buttercup wherever the plant occurs on the property (ie, west of the 'line' identified in Figure 3). In other parts of Taranaki (ie, east of the 'line' identified in Figure 3), there is no obligation on occupiers to control Giant Buttercup – this reflects the plant not being such a significant problem in that part of Taranaki.

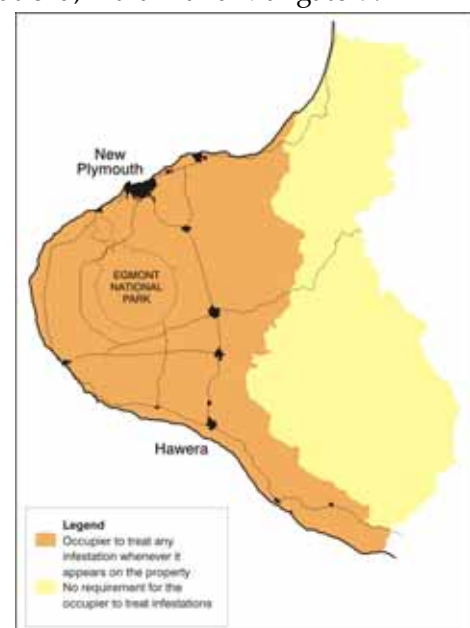


Figure 3: Land occupier obligations for Giant Buttercup

6.2.2 Pest plant management programme

6.2.2.1 Objective

To prevent the spread of infestations of Giant Buttercup in the Taranaki region for the duration of the Strategy.

6.2.2.2 Means of achievement

To achieve the objective for Giant Buttercup, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Giant Buttercup to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Giant Buttercup to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) Undertake **investigations and research** into improved technologies and techniques to control Giant Buttercup.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Giant Buttercup where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

6.2.2.3 Strategy rules for Giant Buttercup

- (a) *In areas west of the line defined in Appendix III, the occupier shall destroy all adult and juvenile forms of Giant Buttercup (*Ranunculus acris*) on land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Giant Buttercup (*Ranunculus acris*).*

6.3 Giant Gunnera – *Gunnera* species¹⁵

6.3.1 Description of the problem

All Giant Gunnera species and hybrids – including *Gunnera manicata* and *Gunnera tinctoria* (also known as Chilean Rhubarb) are covered by this Strategy. Giant Gunnera species share many of the same features and are commonly mistaken for one another. However, any confusion between these is unimportant because they are all troublesome plants that require the same control measures.



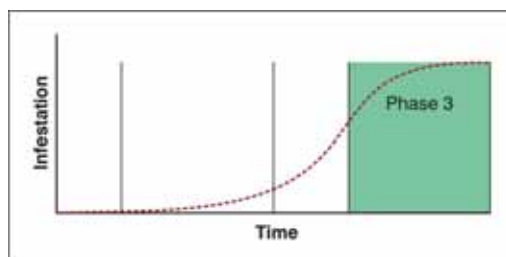
Giant Gunnera is a giant clump-forming herbaceous perennial with stout horizontal rhizomes. The plant has an exotic tropical appearance. The plant has massive umbrella sized leaves with stems up to two metres tall. The flower stems look like tall red broccoli. In severe winter conditions the plant ‘dies’ down but grows new leaves in spring.

Giant Gunnera was a popular ornamental garden plant – extensively used in bog gardens. However, its invasive tendencies have contributed to it being a serious weed problem in several areas of New Zealand, including Taranaki.

Giant Gunnera is a very free seeding plant with the seeds being spread by water and birds. Giant Gunnera represents a particular threat to indigenous biodiversity values, particularly in coastal, wetland and riparian areas. The plants, once established, are very invasive and form dense colonies, which may shade-out or suppress the regeneration of indigenous flora. The presence of Giant Gunnera in Key Native Ecosystems and other areas of high conservation value could have a disproportionately high impact on such areas, possibly impacting upon rare and endangered indigenous flora and fauna species.

Giant Gunnera may also be a problem, on occasion, through the obstruction or infestation of natural and recreational areas.

Giant Gunnera has a widespread distribution range in the Taranaki region (Phase 3 of the infestation curve model). The plant is, at present, widespread in coastal and riparian areas throughout Taranaki with an isolated infestation occurring in the Kaitake Ranges in the Egmont National Park.



¹⁵ Includes all Giant Gunnera complexes and hybrids, including *Gunnera manicata* and *G. tinctoria*.

6.3.2 Pest plant management programme

6.3.2.1 Objective

To reduce the spread, and, if practicable, reduce infestations of Giant Gunnera in the Taranaki region for the duration of the Strategy.

6.3.2.2 Means of achievement

To achieve the objective for Giant Gunnera, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Giant Gunnera to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Giant Gunnera to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) Undertake the **direct control** of Giant Gunnera in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Giant Gunnera where the presence of those plants threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

6.3.2.3 Strategy rules for Giant Gunnera

- (a) *The occupier shall destroy all adult and juvenile forms of Giant Gunnera species and hybrids¹⁶ on land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Giant Gunnera species and hybrids¹⁷.*

¹⁶ Includes all Giant Gunnera complexes and hybrids, including *Gunnera manicata* and *G. tinctoria*.

¹⁷ Includes all Giant Gunnera complexes and hybrids, including *Gunnera manicata* and *G. tinctoria*.

6.4 Gorse (*Ulex europaeus*)

6.4.1 Description of the problem

Gorse is a deep-rooted, woody perennial shrub with sharp spikes. The plant may grow up to four metres in height and has yellow flowers, which generally appear from May to November followed by black seed pods.

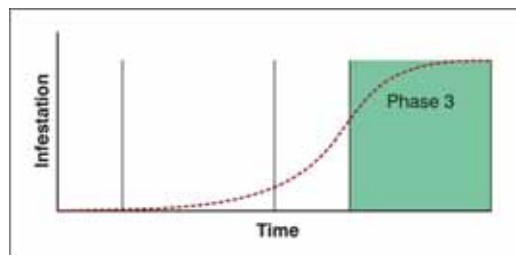
Gorse seeds are ballistic, that is they are ejected up to two metres from their pods. However, the plant can also be spread by water or animals or via human activities such as road works and gravel extraction.

Gorse seeds remain viable in the soil for many years. This coupled with the biological characteristics of Gorse and its ability to grow almost anywhere, means that the plant can be a serious problem over large areas, including pasture, riparian zones, roadside margins, scrubland, forest margins and coastal habitats.



The impact of Gorse is principally on agricultural production. Gorse forms dense spiny thickets, capable of totally suppressing pasture or restricting stock grazing in affected areas. The impacts on farm productivity and the cost to land occupiers to control Gorse may be significant – particularly on properties that are only marginally financially sustainable.

Gorse has a widespread distribution range (Phase 3 of the infestation curve model) with scattered infestations occurring throughout Taranaki. However, on most properties, land occupiers adequately manage Gorse. Problems only emerge where an occupier fails to control infestations close to the property boundary, which allows Gorse to spread to neighbouring properties (thereby imposing significant external and uncompensated costs on their neighbour).



6.4.2 Pest plant management programme

6.4.2.1 Objective

To prevent the spread of Gorse from affected properties to neighbouring properties for the duration of the Strategy.

6.4.2.2 Means of achievement

To achieve the objective for Gorse, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Gorse to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Gorse to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Gorse where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (e) Undertake the **biological control** of Gorse in accordance with section 9.6 of the Strategy.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

6.4.2.3 Strategy rules for Gorse

- (a) *The occupier is required to destroy all adult and juvenile forms of Gorse (*Ulex europeaus*) located 25 metres or less from the boundary¹⁸ of the land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Gorse (*Ulex europeaus*).*

¹⁸ For the purposes of Rule 6.4.2.3(a), 'located 25 metres or less from the boundary' means 25 metres or less measured from the boundary inwards on land that he or she occupies.

6.5 Nodding Thistle (*Carduus nutans*) and Plumeless Thistle (*Carduus acanthoides*)

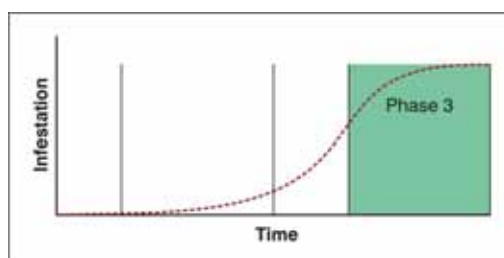
6.5.1 Description of the problem

Nodding Thistle and Plumeless Thistle are largely biennial plants. Nodding Thistle forms a flat rosette then has flowering stems up to 1.5 metres tall with a long fleshy taproot. The large purple flower heads droop or 'nod' when mature. Plumeless Thistle is similar to Nodding Thistle but grows taller (up to two metres tall) and has smaller flower heads that stay erect.

Nodding and Plumeless Thistles share many of the same features and are commonly mistaken for one another. However, any confusion between the two is unimportant because both are troublesome plants that require the same control measures.



Both thistles are extremely invasive pasture plants. They will grow in most soil types and, owing to the mixed age and size of the plants, are difficult and costly to control. If not controlled, the thistles form dense stands that suppress pasture and obstruct livestock movement. Thistle fragments and spines may also injure livestock, damage the fleeces or hides of livestock, and may cause 'scabby mouth' in lambs.



Nodding and Plumeless Thistles have a widespread distribution range in the Taranaki region (Phase 3 of the infestation curve model). In Taranaki, there are scattered infestations throughout the region with the worst affected areas occurring in the frontal and eastern hill country.

For the duration of the Strategy, strategy rules have effect requiring land occupiers in areas relatively free of infestations to control Nodding and Plumeless Thistles wherever the plants occur on the property. In other parts of Taranaki (see Figure 4), occupiers are required to control the thistles in boundary situations only – this reflects the plant being more widespread and costly to control in these areas.

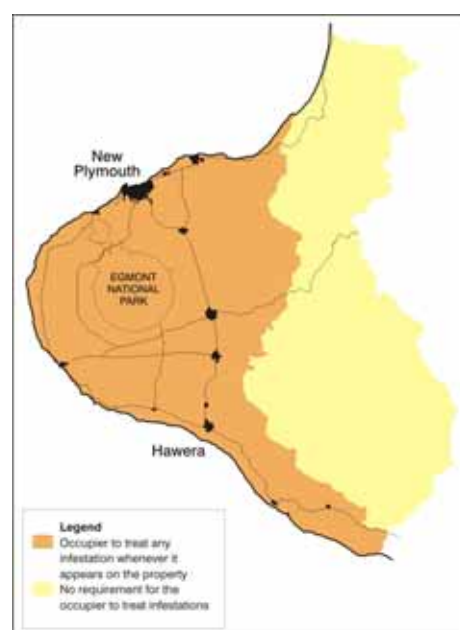


Figure 4: Land occupier obligations for Nodding and Plumeless Thistles

6.5.2 Pest plant management programme

6.5.2.1 Objective

To prevent the spread of infestations of Nodding Thistle and Plumeless Thistle for the duration of the Strategy.

6.5.2.2 Means of achievement

To achieve the objective for Nodding and Plumeless Thistles, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Nodding and Plumeless Thistles to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Nodding and Plumeless Thistles to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Nodding and Plumeless Thistles where the presence of those plants threatens regionally significant indigenous biodiversity values.
- (e) Undertake the **biological control** of Nodding and Plumeless Thistles in accordance with section 9.6 of the Strategy.
- (f) Undertake **liaison and advocacy** to promote effective integrated pest plant management in accordance with section 10 of the Strategy.

6.5.2.3 Strategy rules for Nodding and Plumeless Thistles

- (a) *In areas west of the line defined in Appendix III, the occupier shall destroy all adult and juvenile forms of Nodding Thistle (*Carduus nutans*) and Plumeless Thistle (*Carduus acanthoides*) on land that he or she occupies.*
- (b) *In areas east of the line defined in Appendix III, the occupier shall destroy all adult and juvenile forms of Nodding Thistle (*Carduus nutans*) and Plumeless Thistle (*Carduus acanthoides*) located 100 metres or less from the boundary¹⁹ of the land that he or she occupies.*
- (c) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Nodding Thistle (*Carduus nutans*) and Plumeless Thistle (*Carduus acanthoides*).*

¹⁹ For the purposes of Rule 6.5.2.3(b), 'located 100 metres or less from the boundary' means 100 metres or less measured from the boundary inwards on land that he or she occupies.

6.6 Old Man's Beard (*Clematis vitalba*)

6.6.1 Description of the problem

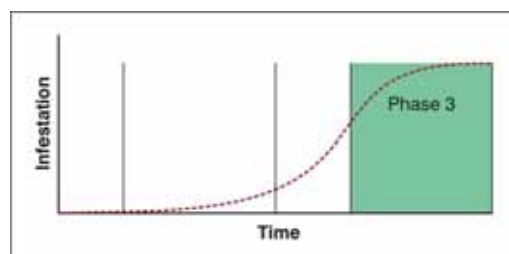
Old Man's Beard is a deciduous, woody, perennial climber that may reach 25 metres in height. In summer it has creamy white flowers (2-3 centimetres in diameter) followed by 'fluffy' seed heads in autumn and winter.

The plant will grow in well-drained alluvial soils and will occupy a wide range of habitats including riparian margins, forest remnants, gardens, and hedgerows. Wind, water and birds disperse the seeds.



Old Man's Beard, which is recognised as the most damaging alien climber in New Zealand, is a significant threat to indigenous biodiversity values in the Taranaki region. It has the potential to infest most lowland forested areas (under 750 metres above sea level) of Taranaki and is particularly troublesome in second growth or damaged indigenous forests (typical of many of the small but important remnant areas on the ring plain). One plant is capable of blanketing an area up to 180 m². The plant climbs high into the canopy, forming a thick blanket of growth, which prevents light reaching the support trees, eventually smothers, and kills them. Old Man's Beard also prevents the establishment of native seedlings.

Old Man's Beard has a widespread distribution range in the Taranaki region (Phase 3 of the infestation curve model). The most significant infestations of Old Man's Beard lie in and around New Plymouth and Stratford, and riparian margins and hedges along the Kaupokonui Stream, Patea River and Waingongoro River.



For the duration of the Strategy, rules have effect requiring land occupiers to control Old Man's Beard wherever it appears on the property – excluding three river catchment areas where no land occupier obligations shall apply in areas immediately adjacent to the river. In areas immediately adjacent to those parts of the Kaupokonui Stream, Patea River and Waingongoro River south of Opunake Road or east of State Highway 3 (see Figure 5 overleaf) the plant is considered too widespread for land occupiers to undertake effective control.²⁰ Instead the Taranaki Regional Council will implement biological control and advocacy programmes in these areas to reduce infestations to a manageable level with a view of extending occupier obligations to these areas in the next Strategy.

²⁰ Land occupier obligations still apply to the upper parts of the Kaupokonui Stream, Patea River and Waingongoro River to protect the Egmont National Park.

6.6.2 Pest plant management programme

6.6.2.1 Objective

To prevent the spread and, if practicable, reduce infestations of Old Man's Beard in the Taranaki region for the duration of the Strategy.

To reduce heavy infestations of Old Man's Beard in the Kaupokonui Stream, Patea River and Waingongoro River through the release and distribution of biological control agents.

6.6.2.2 Means of achievement

To achieve the objective for Old Man's Beard, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Old Man's Beard to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Old Man's Beard to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) Undertake the **direct control** of Old Man's Beard in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking **the direct control** of Old Man's Beard where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **biological control** of Old Man's Beard in accordance with section 9.6 of the Strategy.
- (g) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

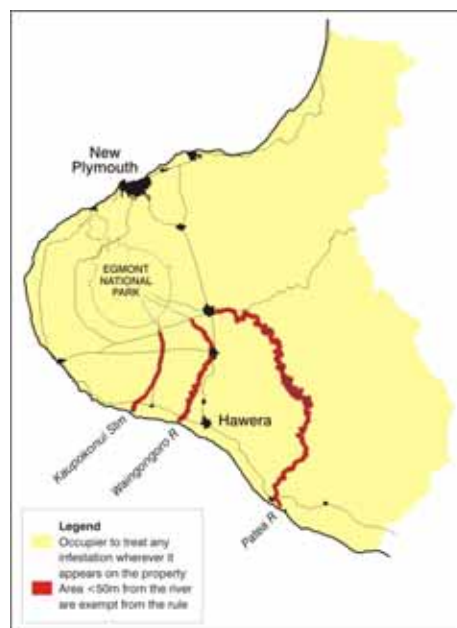


Figure 5: Land occupier obligations for Old Man's Beard

6.6.2.3 Strategy rules for Old Man's Beard

- (a) *Excluding properties or parts of a property that lie within 50 metres of the Kaupokonui Stream, Patea River and Waingongoro River south of Opunake Road or east of State Highway 3, the occupier shall destroy all adult and juvenile forms of Old Man's Beard (*Clematis vitalba*) on land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Old Man's Beard (*Clematis vitalba*).*

6.7 Ragwort (*Senecio jacobaea*) and Pink Ragwort (*Senecio glastifolius*)

6.7.1 Description of the problem

Ragwort and Pink Ragwort share many of the same 'biological' features and 'pest' characteristics. Both are troublesome plants and require the same control measures.

Ragwort is a herbaceous biennial or perennial with conspicuous yellow flowers during summer. The majority of plants flower in their second season, from December to March, followed by mature seeds a few weeks after the first appearance of flowers. A large plant can produce 150,000 seeds in one season. It commonly grows 45 to 60 centimetres high.

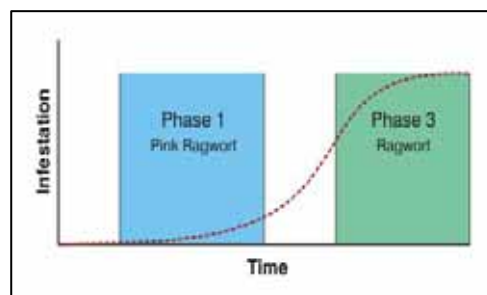
Pink Ragwort is a herbaceous perennial. The flowers are purplish-pink with a yellow carpel (centre). The plant flowers from August to December and can grow up to 1.5 metres tall.



Both plants can be a serious pasture weed. However, they can also be found in waste places, riparian margins, open forests and swamps. Once established, the plants have the ability to spread rapidly and invade 'clean' pasture areas. They seed freely and are dispersed principally by wind (for Ragwort, which is the more established plant, 99% of seeds fall within 14 metres of the parent plant) and, to a lesser extent, by water and animals, and in hay.

Ragwort is a particular problem in dairying parts of Taranaki. Heavy infestations of Ragwort will reduce pasture production, thereby reducing the carrying capacity of dairy land. The consequential need to control the plant then imposes added farm production costs on the occupier. Ragwort is toxic to cattle and horses so they avoid the plant and pasture nearby. This enhances the smothering effects of the plant and further reduces pasture utilisation.

Ragwort has a widespread distribution range in the Taranaki region (Phase 3 of the infestation curve model). However, while there are scattered infestations of Ragwort throughout the region, most land occupiers are effectively managing the plant. Pink Ragwort has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model). So far it is only noticeable on road frontages in the Waverley and Waitotara area.



For the duration of the Strategy, rules have effect requiring land occupiers to control Ragwort and Pink Ragwort wherever the plant occurs on the property. In other parts of Taranaki (see Figure 6 overleaf), land occupiers are required to control Ragwort and Pink

Ragwort in boundary situations only – this reflects the plants being less of a problem in that part of Taranaki.

6.7.2 Pest plant management programme

6.7.2.1 Objective

To prevent the spread of infestations of Ragwort and Pink Ragwort in the Taranaki region for the duration of the Strategy.

6.7.2.2 Means of achievement

To achieve the objective for Ragwort and Pink Ragwort, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Ragwort and Pink Ragwort to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Ragwort and to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Ragwort and Pink Ragwort where the presence of those plants threaten regionally significant indigenous biodiversity values.
- (e) Undertake the **biological control** of Ragwort and Pink Ragwort in accordance with section 9.6 of the Strategy.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

6.7.2.3 Strategy rules for Ragwort

- (a) *In areas west of the line defined in Appendix III, the occupier shall destroy all adult and juvenile forms of Ragwort (*Senecio jacobaea*) and Pink Ragwort (*Senecio glastifolius*) and on land that he or she occupies.*
- (b) *In areas east of the line defined in Appendix III, the occupier shall destroy all adult and juvenile forms of Ragwort (*Senecio jacobaea*) and Pink Ragwort (*Senecio glastifolius*) located 25 metres or less from the boundary²¹ of the land that he or she occupies.*
- (c) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Ragwort (*Senecio jacobaea*) and Pink Ragwort (*Senecio glastifolius*).*

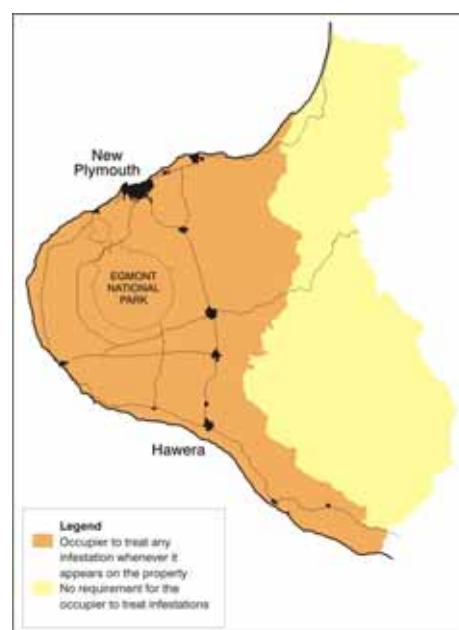


Figure 6: Land occupier obligations for Ragwort and Pink Ragwort

²¹ For the purposes of Rule 6.7.2.3(b), 'located 25 metres or less from the boundary' means 25 metres or less measured from the boundary inwards on land that he or she occupies.

6.8 Variegated Thistle (*Silybum marianum*)

6.8.1 Description of the problem

Variegated Thistle is a conspicuous spiny biennial, easily recognised by cream marks on its leaves, which give it a variegated appearance.

Variegated Thistle matures very rapidly and seeds prolifically. Wind and animals spread it. After germination of the large seed in autumn, growth is very rapid through winter, with plants maturing in early summer before the ground can dryout. It grows best on high fertility soils in pasture, along roadside margins, and in waste ground

Variegated Thistle is very invasive and grows in crops and pasture reducing the carrying capacity of agricultural land.

The need to control the plant imposes added farm production costs on the occupier. The plant is reported to be poisonous to cattle and sheep. The broad leaves smother pasture causing bare ground for its seeds to germinate.

Variegated Thistle has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model) although the extent of some infestations is considerable. At present, heavy infestations of the plant occur in the eastern hill country and the Waitotara area.

For the duration of the Strategy, strategy rules have effect requiring land occupiers in areas relatively free of infestations to control Variegated Thistle wherever the plant occurs on the property (ie, west of the 'line' identified in Figure 7). In other parts of Taranaki (ie, east of the line identified in Figure 7), land occupiers are required to control Variegated Thistle in boundary situations only – this reflects the plant being more widespread and costly to control in these areas.

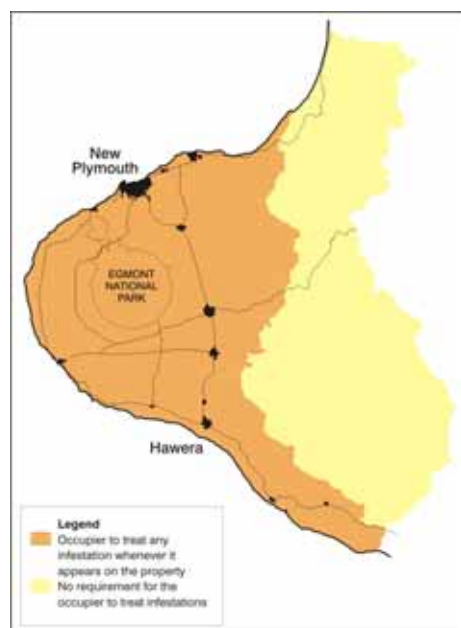
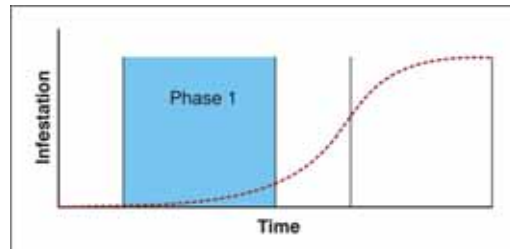


Figure 7: Land occupier obligations for Variegated Thistle

6.8.2 Pest plant management programme

6.8.2.1 Objective

To prevent the spread of infestations of Variegated Thistle in the Taranaki region for the duration of the Strategy.

6.8.2.2 Means of achievement

To achieve the objective for Variegated Thistle, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Variegated Thistle to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Variegated Thistle to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Variegated Thistle where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (e) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

6.8.2.3 Strategy rules for Variegated Thistle

- (a) *In areas west of the line defined in Appendix III, the occupier shall destroy all adult and juvenile forms of Variegated Thistle (*Silybum marianum*) on land that he or she occupies.*
- (b) *In areas east of the line defined in Appendix III, the occupier shall destroy all adult and juvenile forms of Variegated Thistle (*Silybum marianum*) located 100 metres or less from the boundary²² of the land that he or she occupies.²³*
- (c) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Variegated Thistle (*Silybum marianum*).*

²² For the purposes of Rule 6.8.2.3(b), 'located 100 metres or less from the boundary' means 100 metres or less measured from the boundary inwards on land that he or she occupies.

²³ Variegated Thistle is primarily dispersed by wind, and the destruction of all infestations within 100 metres is considered necessary to ensure there are no impacts on neighbouring properties.

6.9 Wild Broom (*Cytisus scoparius*)

6.9.1 Description of the problem

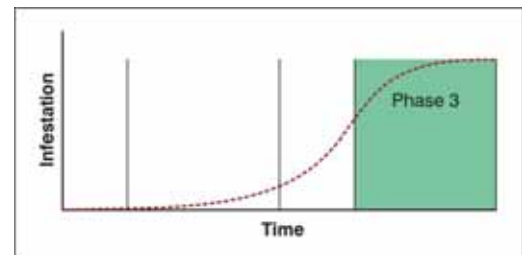
Wild Broom is a much-branched shrub, up to 2.5 metres tall. The plant has bright yellow flowers, which occur in October and November, and are followed by flat, dark seed pods. The seeds are ballistic, although animals and flowing water also have a role in their dispersal.

Wild Broom seeds prolifically and can grow under a wide variety of soil and climatic conditions. The plant is principally a problem in pastoral situations where it forms thickets and shades out pasture grasses, affecting agricultural production and imposing costs of control on the occupier.

Wild Broom also invades and modifies semi-open indigenous ecosystems such as riparian areas. In some areas, Wild Broom may affect aesthetic or recreational values by inhibiting access to riparian margins and or reducing indigenous biodiversity values generally.



Wild Broom has a widespread distribution range in the Taranaki region (Phase 3 of the infestation curve model) with light infestations occurring throughout the region. Most infestations occur on waste areas, roadsides, riparian margins or poorly grazed pasture on the ring plain.



6.9.2 Pest plant management programme

6.9.2.1 Objective

To prevent the spread of, and, if practicable, reduce infestations of Wild Broom in the Taranaki region for the duration of the Strategy.

6.9.2.2 Means of achievement

To achieve the objective for Wild Broom, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Wild Broom to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Wild Broom to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) As appropriate, undertake the **direct control** of Wild Broom in accordance with section 9.4 of this Strategy.

- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Wild Broom where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

6.9.2.3 Strategy rules for Wild Broom

- (a) *The occupier shall destroy all adult and juvenile forms of Wild Broom (Cytisus scoparius) on land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Wild Broom (Cytisus scoparius).*

6.10 Wild Ginger – Kahili Ginger (*Hedychium gardnerianum*) and Yellow Ginger (*Hedychium flavescens*)

6.10.1 Description of the problem

Kahili Ginger and Yellow Ginger share many of the same features and are commonly mistaken for one another. However, any confusion between the two is unimportant because both are troublesome plants and require the same control measures.



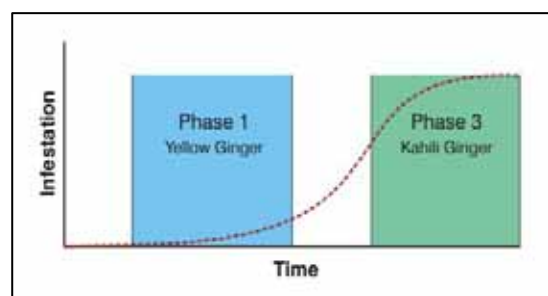
Kahili Ginger is a native of India and the lower slopes of Himalayas. The flowers are lemon yellow with red centre stamens and are seen during the late summer and early autumn followed by red seeds. The leaves are wide and smooth.

Yellow Ginger is a native of India and Madagascar. The flowers are cream coloured and are seen in late autumn and early winter. The leaves of Yellow Ginger are narrower than those of the Kahili variety. Both varieties can grow up to two metres or more and produce many branching rhizomes, which spread outwards and over themselves to create a rhizome bed a metre or more deep.

Kahili Ginger and Yellow Ginger are ecologically versatile plants that once established, are extremely difficult to control or eradicate. Once popular garden plants, Kahili Ginger and Yellow Ginger are now generally recognised to be insidious plants that have a significant impact on indigenous biodiversity values. Once established in indigenous forested areas and other habitats, the tough rhizomes form a solid web over large areas smothering and replacing under-storey species and seedlings. Kahili Ginger and Yellow Ginger can suppress indigenous regeneration by up to 90%, however, Kahili Ginger is the more insidious plant given its seeding ability.

Kahili Ginger and Yellow Ginger can also block streams and drains and obstruct walking tracks, reducing access to some recreational and conservation areas and the aesthetic appeal of such areas.

At present Wild Ginger infestations are widespread throughout Taranaki. Most infestations occur in and around New Plymouth where it has extensively been used for streambank stabilisation purposes. The plants are also found in many home gardens and waste areas in Taranaki. The plants are not yet found in areas where they may affect rare and endangered species.



6.10.2 Pest plant management programme

6.10.2.1 Objective

To reduce known infestations of Wild Ginger in the Taranaki region over the duration of the Strategy.

6.10.2.2 Means of achievement

To achieve the objective for Wild Ginger, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Wild Ginger to affected occupiers and other interested parties.
- (b) **Inspect and monitor** properties with known infestations of Wild Ginger to establish the extent of any infestations and to identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) As appropriate, undertake the **direct control** of Wild Ginger in accordance with section 9.4 of this Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Wild Ginger where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective integrated pest plant management in accordance with section 10 of the Strategy.

6.10.2.3 Strategy rules for Wild Ginger

- (a) *The occupier shall destroy all adult and juvenile forms of Kahili Ginger (*Hedychium gardnerianum*) and Yellow Ginger (*Hedychium flavescens*) on land that he or she occupies.*
- (b) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Kahili Ginger (*Hedychium gardnerianum*) and Yellow Ginger (*Hedychium flavescens*).*

7. Surveillance pest plants

7.1 Brush Wattle (*Paraserianthes lophantha*)

7.1.1 Description of the problem

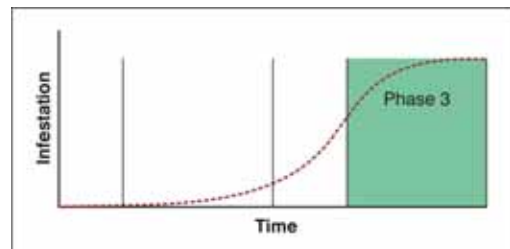
Brush Wattle is an evergreen tree, which can grow up to 10 metres tall. It has yellow-green flowers, which appear between May to August, followed by flat brown seed pods.



Brush Wattle seeds freely and, once established, is very difficult to control. Brush Wattle will inhabit grasslands, scrub-lands, forest and riparian margins, marginal hill country, coastal habitats and waste ground.

The impact of Brush Wattle is principally on indigenous biodiversity values. Brush Wattle is very free seeding with the seeds being spread by flowing water, and soil and gravel movement. The plant matures quickly and competes very effectively with other tree seedlings for soil moisture, nutrients and light. The plant thereby suppresses the regeneration of indigenous flora and may eventually eliminate indigenous seed sources.

Brush Wattle has a widespread distribution range in the Taranaki region (Phase 3 of the infestation curve model). It is becoming increasingly widespread in coastal Taranaki, particularly in the Clifton Ward and the New Plymouth urban area, and has the biological characteristics to spread much further.



7.1.2 Pest plant management programme

7.1.2.1 Objective

To promote public understanding and gather information on the 'pest' characteristics of Brush Wattle for the duration of the Strategy.

7.1.2.2 Means of achievement

To achieve the objective for Brush Wattle, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Brush Wattle to affected occupiers and other interested parties.
- (b) **Inspect and monitor** plant nurseries and retail outlets and identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rule.

- (d) Undertake the **direct control** of Brush Wattle in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Brush Wattle where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management in accordance between agencies with section 10 of the Strategy.

7.1.2.3 Strategy rule for Brush Wattle

- (a) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Brush Wattle (*Paraserianthes lophantha*).*

7.2 Egeria Oxygen Weed (*Egeria densa*)

7.2.1 Description of the problem

Egeria Oxygen Weed is a perennial aquatic herb, growing wholly submerged in fresh water. Egeria is usually found rooted in bottom mud but can be found as a free-floating mat. The plant has dark green leaves that grow from nodes on brittle branched stems. It may grow up to six metres long and has small white flowers that appear in summer and early autumn.

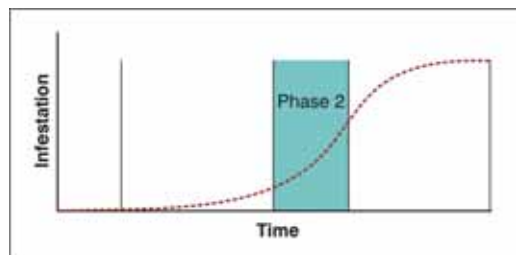


Egeria has an exceptional ability to spread by vegetative fragments. Dispersed by water flow or by people transporting fragments on their boats, trailers and fishing nets, its biological characteristics are such that even a small fragment can become a problem infestation that is very difficult to control once established. Egeria poses an extraordinary threat to Taranaki waterways. The plant is extremely competitive and replaces indigenous aquatic flora species reducing species diversity in affected water bodies.

Egeria may also increase sedimentation rates and alter the chemical and physical characteristics of a water body. By modifying habitats and smothering other useful flora species, Egeria affects the amount and type of food available for some fish species and may displace traditional food sources of value to Maori such as watercress.

Extremely dense growth of Egeria below the water surface may retard water flow and may interfere with hydroelectric output and urban water supplies. Such growth can result in significant public costs of repairs and also the costs associated with lost production. Surface beds further reduce the aesthetic appeal of waterways and may interfere with recreational activities such as boating, swimming and fishing.

Egeria has a restricted distribution range in the Taranaki region (Phase 2 of the infestation curve model). It is present in small infestations throughout Taranaki with a large infestation in Lake Rotorangi.



7.2.2 Pest plant management programme

7.2.2.1 Objective

To promote public understanding and gather information on the 'pest' characteristics of Egeria Oxygen Weed for the duration of the Strategy.

7.2.2.2 Means of achievement

To achieve the objective for Egeria Oxygen Weed, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Egeria Oxygen Weed to affected occupiers and other interested parties.
- (b) **Inspect and monitor** plant nurseries, aquariums, retail outlets and known infestations of Egeria Oxygen Weed and identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) Undertake the **direct control** of Egeria Oxygen Weed in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Egeria Oxygen Weed where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

7.2.2.3 Strategy rule for Egeria Oxygen Weed

- (a) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Egeria Oxygen Weed (Egeria densa).*

7.3 Japanese Walnut (*Juglans ailantifolia*)

7.3.1 Description of the problem

Japanese Walnut is a quick growing, hardy, deciduous tree, which may grow up to 15 metres tall.

Japanese Walnut has wide spreading branches. The young branches and leaf stalks are hairy. The leaves are large, up to 60 centimetres. The flowers, which appear between October and November, are green or pinkish in long catkins (spikelike group of flowers). These are followed by thick-shelled walnuts when mature.

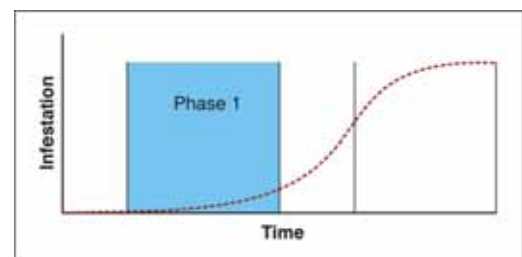


Japanese Walnut are often found near rivers and streams (as the nuts float downstream from mature trees and seed on the riverbanks and floodplains). However, the plant is frequently seen in farm and garden situations where the tree has been planted for shade or ornamental purposes

Japanese Walnut represents a potential threat to indigenous biodiversity values, particularly along riparian, wetland and forest margins. The plant matures very quickly and, once established, competes very effectively with other tree seedlings for soil moisture, nutrients and light. The plant thereby may suppress the regeneration of indigenous flora and reduce the vigour and density of indigenous flora species in such areas.

The obstruction or infestation of drainage channels or natural and recreational areas by Japanese Walnut may also be a problem on occasion.

Japanese Walnut has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model). It can frequently be found on more established properties where the tree has been planted for shade or ornamental purposes. However, outside these situations and with the exception of Uruti (where the plant is locally abundant), the tree is not yet believed to be very widespread or abundant.



7.3.2 Pest plant management programme

7.3.2.1 Objective

To promote public understanding and gather information on the 'pest' characteristics of Japanese Walnut for the duration of the Strategy.

7.3.2.2 Means of achievement

To achieve the objective for Japanese Walnut, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Japanese Walnut to affected occupiers and other interested parties.
- (b) **Inspect and monitor** plant nurseries and retail outlets and identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rule.
- (d) Undertake the **direct control** of Japanese Walnut in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Japanese Walnut where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

7.3.2.3 Strategy rule for Japanese Walnut

- (a) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Japanese Walnut (*Juglans ailantifolia*).*

7.4 Lagarosiphon Oxygen Weed (*Lagarosiphon major*)

7.4.1 Description of the problem

Lagarosiphon Oxygen Weed is a perennial aquatic plant, which grows wholly submerged in fresh water. The plant has spiralled green leaves on slender brittle stems that may grow up to five metres long. The plant has tiny pink flowers that appear in mid-summer.

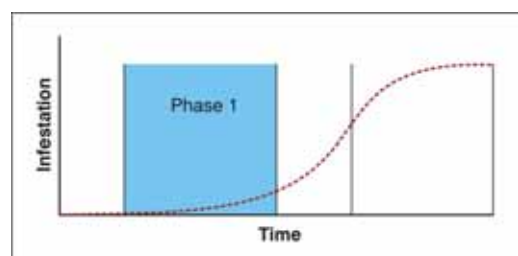
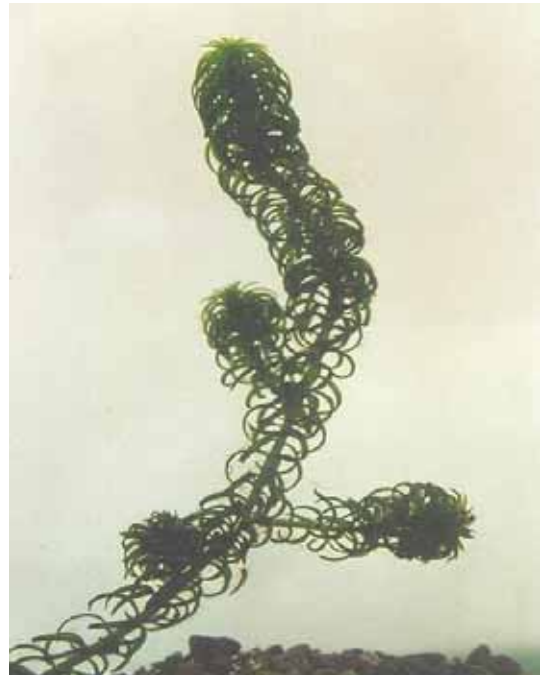
Lagarosiphon is spread by vegetative fragments. Dispersed by water flow or by people transporting fragments on their boats, trailers and fishing nets, it is very difficult to control once established.

Lagarosiphon poses an extraordinary threat to Taranaki waterways. The plant is extremely competitive and shades out indigenous aquatic flora species, thereby reducing species diversity in affected water bodies. Lagarosiphon may also kill fish by depleting oxygen levels in water. The plant also liberates oxygen as it grows, but heavy infestations diminish oxygen available to fish by reducing water circulation and by the rotting of dead plants withdrawing oxygen.

By modifying habitats and smothering other useful species, Lagarosiphon may displace traditional food sources of value to Maori such as watercress.

Large dense mats of Lagarosiphon may impede water flow and may interfere with water utilisation. The plant has the potential to interfere with hydroelectric power generation output²⁴ and urban water supplies resulting in significant public costs of repairs and also the costs associated with lost production. Surface beds further reduce the aesthetic appeal of waterways and may interfere with recreational activities such as boating, swimming and fishing.

Lagarosiphon has a limited distribution range in the Taranaki region (Phase 1 of the infestation curve model). Lagarosiphon's favoured habitats are fresh water ponds and lakes, and slow-moving streams with silty or sandy bottom mud. It is predominantly in the Patea catchment although smaller infestations may be found in other water bodies.



²⁴ For example, in 1968 at the Aratiatia hydroelectric station, blocked intakes resulted in the station's temporary closure.

7.4.2 Pest plant management programme

7.4.2.1 Objective

To promote public understanding and gather information on the 'pest' characteristics of Lagarosiphon Oxygen Weed for the duration of the Strategy.

7.4.2.2 Means of achievement

To achieve the objective for Lagarosiphon Oxygen Weed, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Lagarosiphon Oxygen Weed to affected occupiers and other interested parties.
- (b) **Inspect and monitor** plant nurseries, aquariums, retail outlets and known infestations of Lagarosiphon Oxygen Weed and identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rule below.
- (d) Undertake the **direct control** of Lagarosiphon Oxygen Weed in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Lagarosiphon Oxygen Weed where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management between agencies in accordance with section 10 of the Strategy.

7.4.2.3 Strategy rule for Lagarosiphon Oxygen Weed

- (a) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Lagarosiphon Oxygen Weed (Lagarosiphon major).*

7.5 Spanish Heath (*Erica lusitanica*)

7.5.1 Description of the problem

Spanish Heath is an erect, woody perennial scrub that grows up to two metres tall. Spanish Heath is identified by its upright woody stems and dense short narrow leaves, and its many white to light pink flowers on the extremities, which make an impressive display through the spring and summer.

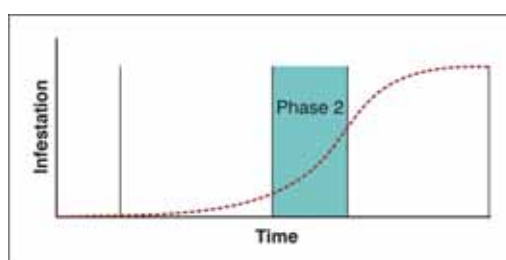


Spanish Heath may grow in dense stands or in isolated patches. The plant has dust-like seeds, which are easily spread by wind. Once established, Spanish Heath is difficult to control.

The current impacts of Spanish Heath are primarily on agricultural production – particularly on lightly grazed land. The plant is better adapted than most pasture species to infertile soils and is capable of totally suppressing pasture or restricting stock grazing in affected areas. The impacts on farm productivity and the cost to land occupiers to control Spanish Heath may be significant – particularly on properties that are only marginally financial sustainable.

Spanish Heath also represents a potential threat to indigenous biodiversity values by altering short, open indigenous scrub and tussock habitats and displacing indigenous flora species in those areas.

Spanish Heath has a restricted distribution range in the Taranaki region (Phase 2 of the infestation curve model). The plant is largely contained on the fringes of the eastern hill country, from Mount Messenger through to Waverley but it has become more common on roadside margins throughout the region. It grows abundantly on some hillsides although it is largely confined to poor and acidic soils or open disturbed habitats such as steep embankments, roadside margins and old landslides.



7.5.2 Pest plant management programme

7.5.2.1 Objective

To promote public understanding and gather information on the 'pest' characteristics of Spanish Heath for the duration of the Strategy.

7.5.2.2 Means of achievement

To achieve the objective for Spanish Heath, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Spanish Heath to affected occupiers and other interested parties.

- (b) **Inspect and monitor** plant nurseries and retail outlets and identify any remedial action that needs to be undertaken.
- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rules.
- (d) Undertake the **direct control** of Spanish Heath in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Spanish Heath where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective integrated pest plant management in accordance with section 10 of the Strategy.

7.5.2.3 Strategy rule for Spanish Heath

- (a) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Spanish Heath (*Erica lusitanica*).*

7.6 Woolly Nightshade (*Solanum mauritianum*)

7.6.1 Description of the problem

Woolly Nightshade is a fast-growing, short-lived shrub or tree, which can grow up to 10 metres tall. Its small purple flowers are produced year-round, and develop into marble sized green/yellow bird-dispersed fruit.

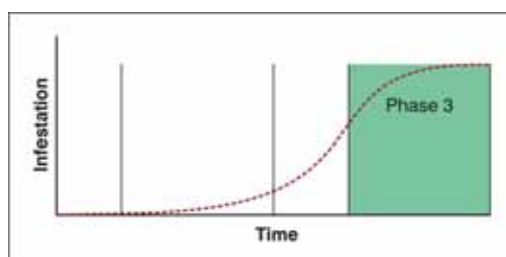
Woolly Nightshade tolerates semi-shade and can be invasive in forest margins, disturbed forests, rough pasture, coastal habitats and waste ground.

The impact of Woolly Nightshade is principally on indigenous biodiversity values. Woolly Nightshade is very free seeding with the seeds mainly being spread by birds. The plant matures quickly and forms dense, often pure stands that restrict the regeneration rate of native species.



Woolly Nightshade is moderately toxic to humans and livestock; the hairs from the leaves can irritate skin, eyes, nose and throat on contact.

Woolly Nightshade has a widespread distribution range in the Taranaki region (Phase 3 of the infestation curve model). The plant is relatively widespread in coastal Taranaki, particularly in riparian areas, bush remnants in farmed areas, roadside margins, railway premises²⁵, waste areas, and urban parks and gardens. It has the biological characteristics to spread much further.



7.6.2 Pest plant management programme

7.6.2.1 Objective

To promote public understanding and gather information on the 'pest' characteristics of Woolly Nightshade for the duration of the Strategy.

7.1.2.2 Means of achievement

To achieve the objective for Woolly Nightshade, the Taranaki Regional Council shall:

- (a) Provide **advice and information** on the control of Woolly Nightshade to affected occupiers and other interested parties.
- (b) **Inspect and monitor** plant nurseries and retail outlets and identify any remedial action that needs to be undertaken.

²⁵ As defined in part 1 of the Railways Act 2005,

- (c) **Enforce** the provisions of the Act in circumstances where a person is not complying with the Strategy rule.
- (d) Undertake the **direct control** of Woolly Nightshade in accordance with section 9.4 of the Strategy.
- (e) In relation to **Key Native Ecosystems** and in accordance with section 9.5 of the Strategy, the Council will consider undertaking the **direct control** of Woolly Nightshade where the presence of that plant threatens regionally significant indigenous biodiversity values.
- (f) Undertake **liaison and advocacy** to promote effective pest plant management in accordance between agencies with section 10 of the Strategy.

7.6.2.3 Strategy rule for Woolly Nightshade

- (a) *No person shall knowingly sell, offer to sell, display in a place where plants are offered for sale or exhibition, distribute or propagate Woolly Nightshade (*Solanum mauritianum*).*

Part Three

Administrative provisions

8. Powers conferred

To achieve the objectives of this Strategy and to give effect to its objectives and means of achievement, the Taranaki Regional Council shall use the statutory powers from Part VI of the Act as listed in Table 1 below.

The Principal Officer of the Taranaki Regional Council shall appoint Authorised Persons and accredit Accredited Persons for the purpose of exercising functions, powers and duties under the Act. Most of these functions, powers and duties relate to the implementation of this Strategy.

When carrying out his or her duties, an Authorised Person shall be limited to using those powers specified in his or her Instrument of Appointment. The powers specified in an Authorised Person's Instrument of Appointment are based upon those powers identified in Table 1 below and reflect the officer's experience, technical competence and qualifications relevant to his or her responsibilities. Authorised persons also have the power to request information from land occupiers under section 43 of the Act.

Table 1: Administrative powers under the Act

Administrative powers	Reference in the Biosecurity Act
The appointment of authorised and accredited persons	Section 103(3) and (7)
Delegation to authorised persons	Section 105
Power to require assistance	Section 106
Power of inspection	Sections 109, 110 and 112
Power to record information	Section 113
General powers	Section 114
Use of dogs and devices	Section 115
Power to seize abandon goods	Section 119
Power to intercept baggage etc	Section 120
Power to examine organisms	Section 121
Power to give directions	Section 122
Power to act on default	Section 128
Liens	Section 129
Options for cost recovery	Section 135
Failure to pay	Section 136

9. Implementation

This section of the Strategy sets out the policy and provisions relating to achieving and giving effect to the objectives for individual pest plants. Table 2 below summarises the means of achievement.

Table 2: Summary of the means for achieving individual pest plant management objectives

Pest Plants	Advice & educate	Monitor & inspect	Enforce Strategy rules			Direct control (KNEs)	Direct control (to eradicate)	Biological control
			Sale, distribute & exhibit controls	Boundary controls	Total property controls			
Eradication pest plants								
Climbing Spindleberry	◆	◆	◆		◆	◆	◆	
Darwin's Barberry	◆	◆	◆		◆	◆	◆	
Giant Reed	◆	◆	◆		◆	◆	◆	
Mignonette Vine	◆	◆	◆		◆	◆	◆	
Senegal Tea	◆	◆	◆			◆	◆	
Pampas grass [Common & Purple]	◆	◆	◆		◆	◆		
Undaria	◆	◆	◆		◆	◆	◆	
Containment pest plants								
Australian Sedge	◆	◆	◆	◆		◆		
Giant Gunnera	◆	◆	◆		◆	◆		
Giant Buttercup	◆	◆	◆	◆	◆	◆		
Gorse	◆	◆	◆	◆		◆		◆
Nodding & Plumeless Thistle	◆	◆	◆	◆	◆	◆		◆
Old Man's Beard	◆	◆	◆		◆	◆		◆
Ragwort & Pink Ragwort	◆	◆	◆	◆	◆	◆		◆
Variiegated Thistle	◆	◆	◆	◆	◆	◆		
Wild Broom	◆	◆	◆		◆	◆		
Wild Ginger [Kahili & Yellow]	◆	◆	◆		◆	◆		
Surveillance pest plants								
Brush Wattle	◆	◆	◆			◆		
Egeria	◆	◆	◆			◆		
Japanese Walnut	◆	◆	◆			◆		
Lagarosiphon	◆	◆	◆			◆		
Spanish Heath	◆	◆	◆			◆		
Woolly Nightshade	◆	◆	◆			◆		

In addition to implementing the objectives above, the Taranaki Regional Council, as the management agency shall be responsible for the general administration of the Strategy. General administration includes servicing the Council in relation to general reporting, liaison and advocacy, fiscal planning and rate collection associated with the administration of the Strategy, the maintenance of information database, and the preparation of, and reporting on, the Operational Plan for the Strategy (refer section 12.1 of the Strategy).

9.1 Provision of advice and education

9.1.1 Policy

Policy

The Taranaki Regional Council shall, in relation to each pest plant, provide technical advice and information to land occupiers and the wider community for the purposes of:

- (a) promoting greater public awareness of the potential or actual adverse effects associated with pest plants;*
- (b) promoting greater public awareness of an individual's responsibilities under this Strategy; and*
- (c) promoting effective pest plant control or the adoption of management techniques that will avoid, minimise or remedy the adverse impacts associated with pest plants.*

9.1.2 Procedures

The Taranaki Regional Council shall use the following procedures in relation to its advisory and educational programmes:

- (a) respond to **public requests** for information or enquiries in relation to the identification of pest plants, their impacts, and appropriate control options;
- (b) **disseminate advice** to land occupiers when undertaking property inspections and other pest plant management activities;
- (c) prepare and distribute **pamphlets and other educational material** in relation to pest plant management;
- (d) undertake, on request, **presentations** to interested groups;
- (e) as appropriate, organise timely and relevant **media and publicity programmes** to highlight particular pest plant management issues; and
- (f) as appropriate, organise and attend **field days, meetings and discussion groups**.

9.2 Monitoring and inspections

9.2.1 Policy

Policy

The Taranaki Regional Council shall monitor the location, nature and extent of pest plant infestations in order to:

- (a) establish whether, and to what degree, land occupiers are complying with the strategy rules prescribed in Part Two of this Strategy; and*
- (b) establish the extent to which the objectives set out in Part Two of this Strategy are being achieved.*

9.2.2 Inspection programme

The Taranaki Regional Council shall monitor land occupier compliance with the strategy rules prescribed in Part Two of the Strategy by:

- (a) inspecting **Category C properties** at least three times a year²⁶ to ensure land occupiers are undertaking an adequate control programme;
- (b) inspecting **Category B properties** at least once every two years to ensure land occupiers are undertaking an adequate control programme;
- (c) inspecting **Category A properties**, as time and resources permit, or in the event of a public complaint;
- (d) annually inspecting **plant nurseries and retail outlets** to ensure no pest plants are being propagated, sold or offered for sale;
- (e) annually inspecting **roadside margins, quarries and other gravel producers** to ensure land occupiers are undertaking an adequate control programme;
- (f) inspecting **other properties** following the identification of a problem either by the public or by an Authorised Person of the Council; and
- (g) recording the number of **public complaints** pertaining to individual pest plants, **instances of non-compliance** with the strategy rules, and the **Council's response**.

9.2.3 Monitoring the achievement of Strategy objectives

The Taranaki Regional Council shall monitor the extent to which the objectives set out in Part Two of the Strategy are being achieved, by:

- (a) annually surveying and mapping, for each pest plant, the **presence and distribution of heavy infestations of pest plants**;
- (b) annually surveying and mapping the **direct control** of pest plants undertaken by the Council identified in section 9.4 and 9.5 of the Strategy;
- (c) annually surveying and mapping the **release and distribution of biological control agents** for pest plants identified in section 9.6 of the Strategy;
- (d) recording the number of **public complaints** pertaining to individual pest plants and **instances of non-compliance** with the strategy rules; and

²⁶ The inspection programme is based on the effectiveness of control measures on a particular property in the past. For an explanation of the Category A, B and C categories, the reader is referred to the definition of terms.

- (e) recording the number of **public enquiries** in relation to individual pest plants, including requests for information.

9.2.4 Monitoring other effects of this Strategy

The provisions of this Strategy do not replace other legislation or regulations relating to the use of toxins and impacts on Maori culture and traditions, and public health and safety. Where appropriate, the Taranaki Regional Council shall monitor and report on any impacts arising through the use of toxins through systems and processes established under the Resource Management Act. The Taranaki Regional Council will also routinely record and report any adverse effects arising from its direct control operations, including non-target kills.

Agencies other than the Taranaki Regional Council are more likely to undertake monitoring and respond to any problems under the Health and Safety in Employment Act 1992, the Hazardous Substances and New Organisms Act 1996, and the Agricultural Compounds and Veterinary Medicines Act 1997.

9.3 Regulatory management

9.3.1 Policy

Policy

In the event that a land occupier fails to comply with any requirement included in a rule prescribed in Part Two of this Strategy, an Authorised Person of the Taranaki Regional Council shall:

- (a) advise the occupier of their non-compliance and direct him or her to take remedial action; and*
- (b) follow up the initial inspection to confirm what remedial action has been taken and identify any outstanding requirements.*

In instances of continued non-compliance, the Authorised Person will report to Council.

9.3.2 Failure to comply

In instances of continued non-compliance, the Taranaki Regional Council shall consider enforcement action. Depending upon the individual circumstances of the case, the Taranaki Regional Council may undertake one or both enforcement options:

- (a) **prosecute** under section 154 of the Act; or
- (b) undertake **default action** under section 128 of the Act. Default action involves the Council undertaking the works or measures specified in a Notice of Direction and recovering the costs and expenses of that work from the occupier to whom the Notice was given.

9.3.3 Exemption provisions

The Taranaki Regional Council may, upon the written request of a land occupier, exempt any person from any requirement in any strategy rule included in Part Two of this Strategy.

Before granting an exemption under section 80D of the Act, the Taranaki Regional Council shall be satisfied that:

- (a) the requirements have been substantially complied with and that further compliance is unnecessary; or
 - (b) the action taken or provision made in respect of the matter to which the requirement relates is as effective or more effective than actual compliance with the requirement; or
 - (c) the prescribed requirements are clearly unreasonable or inappropriate in the particular case; or
 - (d) events have occurred that make the prescribed requirements unreasonable or inappropriate in the particular case; and
- that the granting of the exemption will not significantly prejudice the attainment of the objectives of this Strategy.

On receipt of any request, the Taranaki Regional Council shall advise that person within ten (10) working days of its decision whether or not to exempt him or her from any requirement in any strategy rule included in Part Two of this Strategy.

Any exemption may be subject to conditions ensuring that:

- (a) measures are taken to minimise any adverse and unintended effects of the pest plant; or
- (b) any beneficial effects associated with the pest plant are safeguarded or enhanced.

9.4 Direct control programmes

Land occupiers are generally responsible for pest plant management in the first instance. However, the Taranaki Regional Council shall consider undertaking and funding the direct control of pest plants in the following circumstances:

- (a) Direct control to facilitate the eradication of Climbing Spindleberry, Darwin's Barberry, Giant Reed, Mignonette Vine and Senegal Tea²⁷ on privately-owned land.
- (b) In conjunction with the Department of Conservation, direct control to facilitate the eradication of Undaria in Taranaki's coastal waters.
- (c) Direct control of pest plants (and other harmful plants) having an impact on indigenous biodiversity values associated with privately-owned Key Native Ecosystems (refer section 9.5 on the next page).²⁸
- (d) On a case-by-case basis, and as time and resources permit, direct control of pest plants where such action is necessary, appropriate, and cost effective, having regard to the following matters:
 - an occupier has endeavoured to achieve effective pest plant control but has failed despite his or her best efforts; or

²⁷ For pest plants that are of limited or restricted distribution, proactive control can be undertaken at a relatively modest cost. The more widespread the plant, the more difficult and costly the control for both the region and individual land occupiers.

²⁸ While the focus of direct pest plant control to protect sites with regionally significant indigenous biodiversity values is likely to focus on the aforementioned plants, in some cases the control of other pest plant or weeds will be appropriate and will be considered by the Taranaki Regional Council.

- control undertaken by the Council will be as effective or more effective than the control undertaken by the occupier; or
- the prescribed requirement for the occupier to undertake control is clearly unreasonable or inappropriate in the particular case; or
- an occupier is neither the beneficiary of that control nor exacerbator of the problem, or can not be readily identified.

Where direct control is considered appropriate, the Taranaki Regional Council shall destroy all adult and juvenile forms of the aforementioned pest plants using the most appropriate and cost effective treatment techniques.

9.5 Site-led pest plant control programmes in Key Native Ecosystems

9.5.1 Policy

Policy

The Taranaki Regional Council shall consider undertaking and funding the direct control of any pest plant (and other harmful plants) having significant and adverse impacts on indigenous biodiversity values associated with privately-owned Key Native Ecosystems.

9.5.2 Key Native Ecosystems

Key Native Ecosystems refers to terrestrial sites (ie, sites on land) identified by the Taranaki Regional Council as having regionally significant indigenous biodiversity values.²⁹

The Taranaki Regional Council has a mandate under the Resource Management Act to maintain indigenous biodiversity. As part of that mandate, the Council will assess and identify sites that contain values of regional significance and apply a targeted (ie, site-led) approach to prioritise the protection of these sites, particularly in relation to pests and weeds.

The targeted approach seeks to focus on maintaining and enhancing indigenous biodiversity values that are particularly threatened or rare in the region. As appropriate, the Taranaki Regional Council will consider the use of financial incentives and other forms of assistance, including pest and weed control, to maintain and enhance regionally significant values associated with Key Native Ecosystems.

9.5.3 Direct control and other assistance

In relation to this Strategy the aim of any pest plant control assistance is to manage potentially harmful plant species in a manner and to a level that protects the regionally significant values associated with a particular site.

Taranaki Regional Council assistance will be considered on a case-by-case basis with particular regard being given to the following matters:

²⁹ The Taranaki Regional Council has identified Key Native Ecosystems pursuant to criteria set out in the Draft 'Proposed Regional Policy Statement for Taranaki' (2006).

- (a) **Privately owned land:** Regionally significant indigenous biodiversity values have been identified throughout the region – on both private and Crown land. The Department of Conservation is separately empowered and resourced to manage the public conservation estate. Therefore the Council’s focus will be on privately owned land in Key Native Ecosystems.
- (b) **Self-help:** The Council may undertake initial pest plant and other weed control where private land occupiers agree to undertake subsequent control and treat any re-infestation or new infestations.
- (c) **Working with other private land occupiers:** In some cases, Council assistance may facilitate private land occupier efforts to control pest plants (and other harmful plants) that have actual or potential adverse effects on the values of a Key Native Ecosystems. This assistance may be in the form of site specific advice and information or the provision of pest plant control chemical and equipment for the land occupier to use. In other circumstances, it may be more appropriate for the Council to undertake the direct control of infestations.
- (d) **Working with other agencies:** The Council’s actions are in addition to actions that will be undertaken by other agencies and, where appropriate, the Council will endeavour to co-ordinate and collaborate with other agencies to maximise benefits of respective efforts.
- (e) **Weed threats:** Direct control and other assistance is not confined to plants declared to be ‘pests’ in this Strategy. Other plants such as Willows, Agapanthas, and those plants listed in Appendix I of the Strategy may also threaten regionally significant values associated with Key Native Ecosystems. All harmful plants will be controlled to a level that protects the regionally significant values associated with a Key native Ecosystem.

9.6 Biological control programmes

The Taranaki Regional Council shall implement biological control programmes for pest plants, where appropriate, throughout the region³⁰. The Council has determined that it will commit itself to biological control programmes for the following widespread pest plants:

Common name	Botanical name	Reference in the Strategy
Gorse	<i>Ulex europeaus</i>	section 6.4
Nodding Thistle	<i>Carduus nutans</i>	section 6.5
Old Man’s Beard	<i>Clematis vitalba</i>	section 6.6
Pink Ragwort	<i>Senecio glastifolius</i>	section 6.7
Plumeless Thistle	<i>Carduus acanthoides</i>	section 6.5
Ragwort	<i>Senecio jacobaea</i>	section 6.7

Biological control programmes consist of the Taranaki Regional Council releasing, propagating and re-distributing appropriate biological control agents, managing release sites, collecting data and training field staff.

³⁰ Generally the land occupier is considered responsible for pest plant management on their land. However, the Taranaki Regional Council believes investing in regional biological control programmes is appropriate given the significant public good benefits. For pest plants that are well established, biological control, in conjunction with other control methods, is expected to provide the most effective long-term control. Biological control also has high initial establishment costs and the benefits of biological control will in time accrue to the region rather than to the individual.

In addition to the above, the Taranaki Regional Council may provide financial and logistical support in relation to research for additional biological control agents for the aforementioned pest plants and for any other listed pest plants or harmful plants³¹. Should other suitable biological control agents be developed during the duration of the Strategy, the Council may undertake to release, propagate and re-distribute those agents.

The Taranaki Regional Council shall undertake regular monitoring in relation to the effectiveness of the various biological control agents. Where biological control agents have successfully been propagated and have become established, consideration will be given to their further distribution.

³¹ Of note, the Taranaki Regional Council contributes towards the Biocontrol Collective, The Biocontrol Collective is an agreement between Landcare Research and regional councils to fund research on biological control agents for harmful plants of common concern to councils.

10. Integrated management and cross-boundary issues

The aim of integrated management is to promote the purpose of the Strategy (refer section 1.2 of the Strategy) by minimising the effects of cross-boundary issues and promoting complementary, efficient and effective pest plant management.

Cross-boundary issues may occur in a number of ways. For example, when the environmental effects of one resource use are felt in another part of the environment (for example, water quality may be affected by the discharge of herbicides) or when management approaches and techniques are constrained by administrative boundaries. To minimise the effects of cross-boundary issues the Taranaki Regional Council shall adopt the following procedures:

- (a) pursuant to section 76(4) of the Act, have regard to any national or regional pest management strategy concerning the same plant, any regulation, or any Regional Policy Statement, or regional plan prepared under the Resource Management Act;
- (b) liaise, as appropriate, with the Ministry of Agriculture and Forestry (including Biosecurity New Zealand) over pest plant management issues which are best dealt with or co-ordinated at the national level. In particular, the Council will participate in the National Pest Plant Accord, which involves regional councils collectively enforcing a national ban on the sale, propagation and distribution of a list of recognised harmful plants, which have been declared 'unwanted organisms' (refer Appendix I);
- (c) liaise, as appropriate with Environment Waikato and Horizons.mw (the Manawatu-Wanganui Regional Council) on cross-boundary issues pertaining to pest plant management;
- (d) develop a Memorandum of Understanding between the Council and Horizons Regional Council that sets out an agreed, clear and effective approach for addressing cross boundary operational issues between the two councils;
- (e) liaise, as appropriate, with other regional councils on matters of pest plant management which are relevant to more than one region;
- (f) liaise, as appropriate, with other stakeholders with an interest in pest plant management, including but not limited to the QEII National Trust, the Department of Conservation, community groups, and district councils;
- (g) advocate and encourage other authorities to adopt policies, practices or measures which will avoid, mitigate or remedy adverse effects associated with pest plants; and
- (h) make submissions in respect of documents prepared by other authorities in relation to pest plants.

Co-ordination with other pest management strategies will be achieved through a process based on consultation and communication between the Taranaki Regional Council and other persons or organisations proposing and implementing strategies.

Any other pest management strategies made by the Taranaki Regional Council under section 79F of the Biosecurity Act will not be inconsistent with this Strategy.

11. Funding provisions

11.1 Strategy costs

In the first year of the Strategy the total cost to the region to administer and implement the Strategy is **\$367,663**. The costs of administering and implementing the Strategy principally relate to:

- (a) The provision of advice and education;
- (b) Monitoring;
- (c) Enforcement of the Strategy's rules;
- (d) Undertaking direct control;
- (e) Undertaking biological control; and
- (f) General administrative functions.

The cost of the Strategy reflects a similar level of pest plant management funding to previous years. The Taranaki Regional Council expects that the relative cost of pest plant management will be similar for the duration of the Strategy.

11.2 Funding sources

The Taranaki Regional Council has determined that achieving the purpose and objectives of this Strategy benefits land occupiers collectively and is a 'public good' (that is, the regional community generally benefits from the implementation of the Strategy). Therefore, to ensure equity, encourage collective efficiencies, and minimise transactional costs associated with collecting Strategy funds, Strategy costs will be recovered from land occupiers by the means and to the extent identified below.

(a) General rate and investment revenue

Private land occupiers will contribute to the Strategy through a proportion of the general rate that is levied on every separately rateable property in the region under Section 33 of the Rating Powers Act 1988, and a proportion of the Taranaki Regional Council's investment revenue.

(b) Recovery of direct costs

The Council will recover costs for a particular function or service under section 135 of the Act. In the event that the Council incurs costs arising from a land occupier's failure to comply with a notice of direction, the Council may:

- recover actual and reasonable costs associated with additional inspections for pest plant infestations; and
- recover actual and reasonable costs associated with undertaking the control of pest plant infestations.

The amount of money recovered from direct charges will vary from year-to-year depending on the number of cost recovery pest plant control operations undertaken, if any.

Table 3 below sets out a snapshot of the indicative revenues and costs up until the 2010/11 period of the Strategy including the effect of inflation. Funding sources include direct charges (usually arising from enforcement action), and a proportion of the general rate.

Table 3: Indicative costs and sources of funds (exclusive of GST)³²

	2006/07	2007/08	2008/09	2009/10	2010/11
	\$	\$	\$	\$	\$
Expenditure					
Pest plant management	367,663	378,048	383,889	391,126	396,098
Total expenditure	367,663	378,048	383,889	391,126	396,098
Revenue					
Direct charges	1,000	1,000	1,000	1,000	1,000
Total revenue	1,000	1,000	1,000	1,000	1,000
Net cost of service	366,663	377,048	382,889	390,126	395,098
Funded by:					
General rates and investment revenue	366,663	377,048	382,889	390,126	395,098
Total Funding	366,663	377,048	382,889	390,126	395,098

11.3 Rating provisions

Rate remissions, postponements and additional charges

The New Plymouth, Stratford and South Taranaki district councils collect general rates on behalf of the Taranaki Regional Council. The policies adopted by the Taranaki Regional Council in relation to rate remissions, postponements and additional charges are those adopted by the respective district councils.

Compensation

In terms of section 80A(h) of the Act, no compensation will be payable by the Taranaki Regional Council in respect of losses incurred as a direct result of this Strategy's implementation. Notwithstanding that, in incidents where any person as a result of an Authorised Person's negligence or unreasonable action has incurred losses, the Council will consider all means for resolving any disagreement including the payment of compensation.

Administrative problems or costs

No unusual administrative problems or costs are expected in recovering the costs from any of the persons who are required to pay.

³² Taranaki Regional Council (2006) *Long-Term Council Community Plan 2006/2016*.

12. Review of the management agency and the Strategy

12.1 Operational Plan

Under section 85(1)(a) of the Act, the Taranaki Regional Council, as the management agency, must prepare an Operational Plan (to be reviewed annually) within three months of this Strategy being approved.

As required under section 85(1)(b) and (c) of the Act, the Operational Plan will be reviewed annually and a report prepared for the Taranaki Regional Council on its implementation. Assessment of the Council's performance, as the management agency, will be reported each year in the Annual Report for Pest Plant Management. These reports are available to any stakeholder or member of the public, on request.

12.2 Review of the Strategy

A review of the Strategy will be carried out in the following circumstances:

- (a) When and if new issues arise with respect to other harmful plants, or if regional monitoring shows a significant change in an existing issue or shows that a review would otherwise be appropriate.
- (b) As required by the Act, a full review (within the meaning of section 88 of the Act) will be carried out no later than five years after the date upon which this Strategy was made. That review will include a review of the Strategy, as well as any minor changes made to the Strategy under section 88A of the Act, and will involve re-notifying a proposal for a regional pest management strategy.

References

- Auckland Regional Council: 'Assessment of Plant Pests Proposed for Inclusion in Auckland Regional Council's Pest Management Strategies'. Consultants report ARC 315 prepared by Paul Champion, Auckland, January 1995.
- Biosecurity Generic Guidelines Group: 'Regional Plant Pest Management Strategies - A guide to their purpose, preparation and content'. Unpublished report, Taranaki Regional Council, Stratford, August 1994.
- Biosecurity Generic Guidelines Group: 'A Guide for Preparing Regional Pest Management Strategies - A report prepared by the Biosecurity Generic Guidelines Group'. Unpublished report, Taranaki Regional Council, Stratford, 2006.
- Department of Conservation: 'Conservation Management Strategy: Wanganui Conservancy'. Technical Report ISSN 0-478-01919-1, Wanganui Conservancy Management Planning Series 1997/2, April 1997.
- Esler, Liewing and Champion: 'Biological Success and Weediness of the Noxious Plants of New Zealand'. Prepared for MAF Quality Management, Auckland, 1993.
- New Zealand Plant Protection Society: 'An Illustrated Link to Common Weeds of New Zealand'. Technical Report. ISSN 0-473-052, 96-2, 1998.
- Taranaki Regional Council: 'Plant Pest Management Field Procedure'. Taranaki Regional Council, Stratford, April 1999.
- Taranaki Regional Council: 'Pest Management Strategy for Taranaki: Plants', Taranaki Regional Council, Stratford, May 2001.
- Taranaki Regional Council: 'Taranaki - Our Place, Our Future'. Report on the state of the environment of the Taranaki region'. Taranaki Regional Council, Stratford, February 2003.
- Taranaki Regional Council: 'Pest Plant Management: Annual Report 2002/2003'. Taranaki Regional Council, Stratford, 2003.
- Taranaki Regional Council: 'Pest Plant Management: Annual Report 2003/2004'. Taranaki Regional Council, Stratford, 2004.
- Taranaki Regional Council: '2004/2014 Long Term Council Community Plan'. Taranaki Regional Council, Stratford, 2004.
- Taranaki Regional Council: 'Pest Plant Management: Annual Report 2004/2005'. Taranaki Regional Council, Stratford, 2005.
- Taranaki Regional Council: 'Long Term Council Community Plan 2006-2016'. Taranaki Regional Council, Stratford, 2006.
- Taranaki Regional Council: 'The Cost of Plant Pest Management for the Region'. Taranaki Regional Council, Stratford, 17 February 2006.
- Taranaki Regional Council: 'Section 72 Assessment of Plants Considered for Inclusion in the Pest Management Strategy for Taranaki: Plants'. Taranaki Regional Council, Stratford, June 2006.
- Taylor, R L: 'Weeds of Ponds and Streams in New Zealand'. Technical Report ISBN 0-9597592-1-2, Caxton Press, Port Nelson, December 1980.
- Taylor, R L: 'Weeds of Lawns, Pasture and Lucern in New Zealand'. Caxton Press, Christchurch, March 1981.
- Taylor, R L: 'Weeds of Roadsides and Waste Ground in New Zealand'. Caxton Press, Christchurch, December 1981.

Webb, CJ, Sykes, Garnock-Jones, PJ: 'Flora of New Zealand' . Volume IV.

Appendices

Appendix I: Plants listed in the National Pest Plant Accord List (as revised in July 2006)

The National Pest Plant Accord is a co-operative agreement between regional councils and Government departments with biosecurity responsibilities (primarily the Ministry of Agriculture and Forestry and the Department of Conservation), in consultation with the Nursery and Garden Industry Association. All plants listed in the Accord have been declared 'unwanted organisms' under the Biosecurity Act. This prevents their sale, propagation or distribution across the country. Regional councils undertake surveillance and enforcement to prevent the commercial sale and/or distribution of these plants. Members of the Nursery and Garden Industry Association undertake not to knowingly sell, propagate or distribute these plants.

It should be noted that the Accord List is current at the time of printing this strategy and will be altered in the future.

Further information and updates on the list can be obtained directly from Biosecurity New Zealand or visiting their website on: <http://www.biosecurity.govt.nz/pests-diseases/plants/accord/plant-list.htm>

Scientific Name	Common Name/s
<i>Acmena smithii</i>	Monkey apple
<i>Ailanthus altissima</i>	Tree of heaven, Tree from Hell, Lacquer tree, Copal tree, Varnish tree, Ailanthus, Rotting carrion tree, Baked sewage tree, Kerosene tree
<i>Alternanthera philoxeroides</i>	Alligator weed, alligatorweed, pigweed
<i>Anredera cordifolia</i>	Madeira vine, Mignonette vine
<i>Araujia sericifera</i>	Moth plant, cruel plant, white bladder flower
<i>Arundo donax</i>	Giant reed, arundo grass
<i>Asparagus asparagoides</i>	Smilax, Bridal creeper
<i>Asparagus densiflorus</i>	Bushy asparagus, fern asparagus, emerald feather, Sprengeri fern, Sprenger's asparagus, foxtail fern, possum tail
<i>Asparagus scandens</i>	Climbing asparagus
<i>Berberis darwinii</i>	Darwin's barberry
<i>Bryonia cretica</i>	White bryony
<i>Calluna vulgaris</i> (excluding double flowered cultivars)	Heather, ling
<i>Cardiospermum grandiflorum</i>	Balloon vine
<i>Cardiospermum halicacabum</i>	Balloon vine
<i>Carpobrotus edulis</i> and hybrids	Iceplant
<i>Celastrus orbiculatus</i>	Climbing spindle berry, Oriental bittersweet
<i>Ceratophyllum demersum</i>	Hornwort, coontail
<i>Cestrum parqui</i>	Green cestrum
<i>Chrysanthemoides monillifera</i>	Boneseed
<i>Clematis vitalba</i>	Old man's beard
<i>Cobaea scandens</i>	Cathedral bells
<i>Cortaderia jubata</i>	Purple pampas grass
<i>Cortaderia selloana</i>	Pampas grass
<i>Cotoneaster simonsii</i>	Khasia berry
<i>Crassula multicava</i>	Pitted crassula, fairy crassula
<i>Dipogon lignosus</i>	Mile-a-minute
<i>Drosera capensis</i>	cape sundew
<i>Eccremocarpus scaber</i>	Chilean glory creeper, Chilean glory vine, glory vine, Chilean glory flower
<i>Egeria densa</i>	Egeria, oxygen weed, brazilian elodea
<i>Ehrharta villosa</i>	Pyp grass
<i>Eichhornia crassipes</i>	Water hyacinth
<i>Eomecon chionantha</i>	Snow poppy, poppy of the dawn, Chinese bloodroot
All species in <i>Equisetum</i> genus	Horsetail
<i>Eragrostis curvula</i>	African love grass
<i>Erigeron karvinskianus</i>	Mexican dairy

Scientific Name	Common Name/s
<i>Euonymus japonicus</i>	Japanese spindle tree
<i>Ficus rubiginosa</i>	-
<i>Fuchsia boliviana</i>	-
<i>Galeobdolon luteum</i>	Aluminium plant, artillery plant
<i>Gunnera tinctoria</i>	Chilean rhubarb
<i>Gymnocoronis spilanthoides</i>	Senegal tea, temple plant, costata
<i>Hedychium flavescens</i>	Yellow ginger
<i>Hedychium gardnerianum</i>	Kahili ginger
<i>Heracleum mantegazzianum</i>	Giant hogweed, cartwheel flower, wild parsnip, white rhubarb
All species in <i>Hieracium</i> genus	Hawkweed
<i>Homalanthus populifolius</i>	Queensland poplar, bleeding heart tree, poplar leaved omalanthus
<i>Homeria collina</i>	Cape tulip
<i>Houttuynia cordata</i>	Chameleon plant
<i>Hydrilla verticillata</i>	Hydrilla
<i>Hydrocleys nymphoides</i>	Water popy
<i>Hypericum androsaemum</i>	Tutsan, sweet amber
<i>Ipomoea indica</i>	Blue morning glory
<i>Iris pseudacorus</i>	Yellow flow, yellow flag iris
<i>Jasminum humile</i>	Italian jasmine, yellow jasmine, Italian yellow jasmine, yellow bush jasmine
<i>Lagarosiphon major</i>	Lagarosiphon, oxygen weed
<i>Lantana camara</i>	Lantana
<i>Ligustrum lucidum</i>	Tree privet
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Ludwigia peploides</i>	Primrose willow, floating primrose willow, water primrose
<i>Lythrum salicaria</i>	Purple loosestrife
<i>Macfadyena unguis-cati</i>	Cat's claw creeper, cat's claw vine, cat's claw ivy, yellow trumpet vine
<i>Menyanthes trifoliata</i>	Bogbean
<i>Myoporum insulare</i> and hybrids	Tasmanian ngaio
<i>Myrica faya</i>	Fire tree, Candle-berry myrtle
<i>Myricaria germanica</i>	False tamarisk
<i>Myriophyllum aquaticum</i>	Parrot's feather, thread of life, Brazilian watermilfoil
All species in <i>Nassella</i> genus	
<i>Nephrolepis cordifolia</i>	Tuber ladder fern
<i>Nuphar lutea</i>	Yellow water lily, spatterdock, cow lily, brandybottle
<i>Nymphaea mexicana</i>	Mexican water lily, banana water lily
<i>Nymphoides geminata</i>	Marshwort, entire marshwort
<i>Nymphoides peltata</i>	Fringed water lily
<i>Ochna serrulata</i>	Mickey Mouse plant
<i>Osmunda regalis</i>	Royal fern
<i>Panicum maximum</i>	Guinea grass, green panic, buffalo grass
<i>Passiflora caerulea</i>	Blue passionflower
<i>Passiflora tarminiana</i>	Northern banana passioinfruit
<i>Passiflora tripartita</i>	Banana passionfruit
All species in <i>Pennisetum</i> genus (excluding <i>P. clandestinum</i> and <i>P. glaucum</i>)	(excluding kikuyu grass and pearl millet)
<i>Phragmites australis</i>	Phragmites
<i>Pinus contorta</i>	Lodgepole pine
<i>Pistia stratiotes</i>	Water lettuce
<i>Pittosporum undulatum</i>	Australian cheesewood, Victorian box, mock orange, sweet pittosporum, New Zealand daphne, Victorian laurel, orange pittosporum, wild coffee, Australiese kasuur, soet pittosporum
<i>Plectranthus ciliatus</i>	Plectranthus, blud spur flower
<i>Polygala myrtifolia</i> (excluding <i>Grandiflora</i>)	Sweet pea shrub, sweet pea bush, myrtle-leaf milkwort
<i>Potamogeton perfoliatus</i>	Clasped pondweed
<i>Pyracantha angustifolia</i>	Firethorn, orange firethorn, yellow firethorn
<i>Reynoutria japonica</i>	Asiatic knotweed, German sausage, Japanese knotweed, Mexican bamboo
<i>Reynoutria japonica x sachalinensis</i>	
<i>Reynoutria sachalinensis</i>	Giant knotweed
<i>Rhamnus alatenus</i>	Evergreen buckthorn
<i>Sagittaria montevidensis</i>	Arrowhead, sagittaria, Californian arrowhead
<i>Sagittaria platyphylla</i>	Sagittarian, delta arrowhead
<i>Sagittaria sagittifolia</i>	Arrowhead

Scientific Name	Common Name/s
<i>Salix cinerea</i>	Grey willow, pussy willow, grey willow
<i>Salix fragilis</i>	Crack willow
<i>Salvinia molesta</i>	Salvinia, Kariba weed
<i>Schinus terebinthifolius</i>	Christmas berry, Brazilian pepper tree
<i>Schoenoplectus californicus</i>	Californian bulrush
<i>Selaginella kraussiana</i>	Selaginella, African club moss
<i>Solanum marginatum</i>	White-edged nightshade
<i>Solanum mauritianum</i>	Wild tobacco tree, tobacco nightshade, woolly nightshade, tobacco weed, kerosene plant, flannel plant
<i>Tradescantia fluminensis</i>	Wandering Jew
<i>Tropaeolum speciosum</i>	Chilean flame creeper
<i>Tussilago farfara</i>	Coltsfoot
<i>Typha latifolia</i>	Great reedmace, cumbungi, common cattail
<i>Utricularia arenaria</i>	
<i>Utricularia gibba</i>	bladderwort, humped bladderwort
<i>Utricularia livida</i>	
<i>Utricularia sandersonii</i>	
<i>Vallisneria gigantea</i>	Eelgrass
<i>Vallisneria spiralis</i>	Eelgrass
<i>Zantedeschia green goddess</i>	
<i>Zizania latifolia</i>	Manchurian wild rice, Manchurian ricegrass

Appendix II: Potential and actual problems caused by and parties affected by pest plants

Pest plants	Weediness Score*	Potential and actual adverse effects	Principal beneficiary/exacerbator	Beneficiary			Exacerbator		
				Minor	Med	Major	Minor	Med	Major
Australian Sedge (<i>Carex longebrachiata</i>)	22	Diminished pasture and livestock production	Occupier			✓			✓
			Neighbouring occupier		✓				
			Dairy, meat and wool sector	✓					
			Regional community	✓					
Bush Wattle (<i>Paraserianthes lophantha</i>)	24	Diminished ecological values	Occupier						✓
			Conservation interests			✓			
			Regional community			✓			
Climbing Spindleberry (<i>Celastrus orbiculatus</i>)	30	Diminished ecological values	Occupier						✓
			Conservation interests			✓			
			Regional community			✓			
Common Pampas (<i>Cortaderia selloana</i>)	28	Diminished forestry production values	Occupier	✓					✓
			Neighbouring occupier	✓					
			Forestry sector			✓			
			Regional community	✓					
		Diminished ecological values	Conservation interest			✓			
			Regional community			✓			
Darwin's Barberry (<i>Berberis darwinii</i>)	26	Diminished ecological and recreational values	Occupier						✓
			Conservation interests			✓			
			Regional community			✓			
		Diminished production values	Occupier	✓					✓
			Neighbouring occupier	✓					
			Forestry sector		✓				
			Regional community	✓					

Pest plants	Weediness Score*	Potential and actual adverse effects	Principal beneficiary/exacerbator	Beneficiary			Exacerbator		
				Minor	Med	Major	Minor	Med	Major
Egeria Oxygen Weed (<i>Egeria densa</i>)	24	Diminished ecological values	Occupier				✓		
			Conservation interests		✓				
		Water quality	Regional community		✓				
		Maori values	Tangata Whenua		✓				
		Recreation	Recreationalist			✓			✓
		Diminished production values	Power companies			✓			
			Regional community	✓					
Giant Buttercup (<i>Ranunculus acris</i>)	Unknown	Diminished pasture and livestock production	Occupier			✓			✓
			Neighbouring occupier			✓			
			Dairy sector		✓				
			Regional community		✓				
Giant Gunnera species (<i>Gunnera tinctoria</i>) (<i>Gunnera manicata</i>)	30	Diminished ecological values	Occupier						✓
			Conservation interests			✓			
			Regional community			✓			
		Maori values	Tangata Whenua		✓				
Giant Reed (<i>Arundo donax</i>)	29	Diminished ecological values	Occupier						✓
			Conservation interests			✓			
			Regional community			✓			
		Maori values	Tangata Whenua		✓				
Gorse (<i>Ulex europeus</i>)	28	Diminished pasture and livestock production	Occupier			✓			✓
			Neighbouring occupier			✓			
			Farming industry	✓					
			Regional community		✓				
Japanese Walnut (<i>Juglans ailantifolia</i>)	21	Diminished ecological and water quality values	Occupier						✓
			Conservation interests			✓			
			Regional community			✓			

Pest plants	Weediness Score*	Potential and actual adverse effects	Principal beneficiary/exacerbator	Beneficiary			Exacerbator		
				Minor	Med	Major	Minor	Med	Major
Kahili Ginger (<i>Hedychium gardnerianum</i>)	31	Diminished ecological value	Occupier						✓
			Conservation interests			✓			
			Regional community			✓			
Lagarosiphon Oxygen Weed (<i>Lagarosiphon major</i>)	27	Diminished ecological and water quality values	Occupier				✓		
			Conservation interests		✓				
		Maori values	Tangata Whenua		✓				
		Recreation	Recreationalist			✓			✓
		Diminished production values	Power companies			✓			
Regional community		✓							
Mignonette Vine (<i>Anredera cordifolia</i>)	27	Diminished ecological and recreational values	Occupier						✓
			Conservation interests			✓			
			Regional community			✓			
Nodding Thistle (<i>Carduus nutans</i>)	20	Diminished livestock and production values	Occupier			✓			✓
			Neighbouring occupier			✓			
			Farming sector		✓				
			Regional community	✓					
Old Man's Beard (<i>Clematis vitalba</i>)	34	Diminished ecological values	Occupier						✓
			Conservation interests			✓			
			Regional community			✓			
Pink Ragwort (<i>Senecio glastifolius</i>)	23	Diminished livestock and production values	Occupier			✓			✓
			Neighbouring occupier			✓			
			Dairy sector		✓				
			Regional community	✓					
Plumeless Thistle (<i>Carduus acanthoides</i>)	Unknown		Neighbouring occupier			✓			
			Dairy sector		✓				
			Regional community	✓					
			Regional community	✓					

Pest plants	Weediness Score*	Potential and actual adverse effects	Principal beneficiary/exacerbator	Beneficiary			Exacerbator		
				Minor	Med	Major	Minor	Med	Major
Purple Pampas (<i>Cortaderia jubata</i>)	28	Diminished production values	Occupier	✓					✓
			Neighbouring occupier	✓					
			Forestry sector			✓			
			Regional community	✓					
		Diminished ecological values	Conservation interests			✓			
			Regional community			✓			
Ragwort (<i>Senecio jacobaea</i>)	23	Diminished livestock and production values	Occupier			✓			✓
			Neighbouring occupier			✓			
			Dairy sector		✓				
			Regional community	✓					
Senegal Tea (<i>Gymnocoronis spilanthoides</i>)	29	Diminished ecological values	Occupier				✓		
			Conservation interests		✓				
		Water quality	Regional community		✓				
		Maori values	Tangata Whenua		✓				
		Recreation	Recreationalist			✓			✓
		Diminished production values	Power companies			✓			
			Regional community	✓					
Spanish Heath (<i>Erica lusitanica</i>)	23	Diminished livestock and production values	Occupier		✓				✓
			Neighbouring occupier		✓				
			Sheep and wool sector	✓					
			Regional community	✓					
		Diminished ecological values	Conservation interests	✓					
			Regional community	✓					
Undaria (<i>Undaria pinnatifida</i>)	31	Diminished ecological values	Occupier				✓		
			Conservation interests			✓			
		Water quality	Regional community	✓					
		Maori values	Tangata Whenua		✓				
		Recreation	Recreationalist		✓				✓
		Diminished production values	Marine farming		✓				

Pest plants	Weediness Score*	Potential and actual adverse effects	Principal beneficiary/exacerbator	Beneficiary			Exacerbator		
				Minor	Med	Major	Minor	Med	Major
Variegated Thistle (<i>Silybum marianum</i>)	Unknown	Diminished production values	Power companies			✓			
			Regional community	✓					
			Dairy, meat and wool sector	✓					
		Diminished ecological values	Regional community	✓					
			Conservation interests	✓					
Wild Broom (<i>Cytisus scoparius</i>)	25	Diminished livestock and production values	Occupier			✓			✓
			Neighbouring occupier	✓					
			Farming sector	✓					
			Regional community	✓					
		Diminished ecological and recreational values	Conservation interests	✓					
Regional community	✓								
Woolly Nightshade (<i>Solanum mauritianum</i>)	24	Diminished ecological values	Occupier						✓
			Conservation interests			✓			
			Regional community		✓				
		Diminished livestock and production values	Occupier	✓					✓
Yellow Ginger (<i>Hedychium flavescens</i>)	24	Diminished ecological and recreational values	Occupier						✓
			Conservation interests			✓			
			Recreationalist	✓					
			Regional community			✓			

* The Weediness Score is based upon Department of Conservation weed risk assessment system. The weed risk assessment provides a combined risk score for individual plant species that pose an environmental threat. It, amongst other things, takes into account the effects of the plant on systems (eg, changing composition or structure of habitat, suppression of regeneration, and persistence over time) and its biological success rate (eg, maturation rate, seeding ability, persistence of seedbank, effectiveness of dispersal, establishment growth rate, and vegetative reproduction). The higher the score the greater the adverse environmental threat.

Appendix III: Legal description demarcating rules for Giant Buttercup, Nodding and Plumeless Thistles, Ragwort and Variegated Thistle

Strategy rules 6.2.2.3(a) [Giant Buttercup], 6.5.2.3(a) [Nodding and Plumeless thistles], 6.7.2.3(a) [Ragwort] and 6.8.2.3(a) [Variegated Thistle] apply to that part of the Taranaki region west of the Waikaramarama stream to its intersection with the Waikaramarama road, along that road to the bush line and then following the bush line to Rowe road along Waiiti Road to the tributary of the Waiiti stream, then along the bush line to the Mimi River and then to the Mimi Road/SH 3 junction at Q19:378-482 then, along Mangamaio road to the second bridge at Q19:384-458 then south to Okoki Road /Kaka Road intersection, along Okoki Road and then along Piko Road then south to Tarata Road along Tarata Road to Purangi, along Mangaoapa Road to Mohakau Road along Mohakau Road to Makuri Road past Akama Road to bridge over Makuri stream down Makuri stream to Walter road, to Ohura Road, East along Ohura Road to the Makuri stream down the Makuri stream to Huinga Road (Clay Road) to the Raupuha Road, West along Raupuha Road to the Makuri stream along Makuri stream to Patea River along Patea River and Makaria stream to Wingrove road along Wingrove to Rawhitiroa road, along Rawhitiroa Road to Sangster Road and along Sangster Road to the source of the Ararata Stream at Lake Rotokare down the Ararata Stream to the northern boundary of Lot 2 DP 674 BLK III Hawera Survey District: along the north eastern boundary of Lot 4 DP 674 to the point at which it adjoins the Ararata Road, across the Ararata Road to the most northerly corner of Lot II BLK III Hawera Survey District, then generally south westerly along the south eastern boundary of the Ararata Road to a point at which it adjoins the north western corner of 2 PT Lot 2 DP 645, then north easterly and south easterly along the boundary of the said PT Lot 2 DP 645 and south easterly along the north eastern boundary of PT Lot 1 DP 1031 to the south western boundary of Rimutoto Road, then generally south easterly along the said road boundary to Meremere Road, then directly across such road to its south western boundary and then in a generally south easterly direction along such boundary to Allen Road, then generally southerly along the western boundary of such road to a point opposite the north western corner of Lot 2 DP 13459, then directly across Allen Road to the northern boundary of the said Lot 2, then generally in an easterly, southerly, westerly, then southerly again and south easterly direction along the northern, eastern and southern boundaries of the said Lot 2, along the eastern and north eastern boundaries of Lot 31 BLK XII Hawera Survey District and along the north eastern boundary of Lot 20 BLK XII Hawera Survey District to Ingahape Road, then easterly along the southern boundary of Section 22 BLK XII Hawera Survey District to a point opposite the south western corner of Section 23 BLK XII Hawera Survey District directly across Ingahape Road, then easterly along the southern boundary of the said Section 23 to the Hawera Ward and Patea Ward boundary; along the south western boundary of Lot 16 Opaku Survey District Block IX Kawaiti Road to Ball Road - Wilford Road junction, then along Wilford Road to Wainoa Road, along this road where it joins at a point on BLK VII DP 2018. From there a point on the boundary of this block and the Patea River - across the Patea River and along the western boundary of Lot 28 Patea Ward to a point on the Otauto Road - along this road to Kaharoa Road - along this road in a Southerly direction to Matuku Road - along Matuku Road to a point on the boundary of Lots 36 and 35. From here to a point on the Whenuakura River, across the river and along the boundary of Lot 444 to the Karahaki Road - along this road in a north easterly direction to Kohi Road, then in a westerly direction to Hughes Road to a point on the boundary of Lot 129 in the Wairoa Survey District VII - along the boundaries of Lots 129 and 128 to a point on Kelly Road - along this road to McDonald Road, across

McDonald Road to Monks Road in a northerly direction to Upper Okatuku Road to Johnston Road to a point on Lot 6a Wairoa Survey District VII along the boundary of Lot 479 to Whites Road – along Whites Road across to the Ngutuwera Road- along this road in a southerly direction to the Waitotara River bridge – then south along the western side of State Highway 3 to Russell Road, (Nukumaru Station road) extending to the sea and along eastern boundaries of the properties fronting State Highway 3 on the eastern side of the highway to Pakaraka Road.

Strategy rules 6.2.2.3(b) [Giant Buttercup], 6.5.2.3(b) [Nodding and Plumeless thistles], 6.7.2.3(b) [Ragwort] and 6.8.2.3(b) [Variegated Thistle] apply to that part of Taranaki east of the line defined above.