5 Total Control Pests

5.1 Total Control Plant Pests (Marlborough District Council Initiative)

Common Name	Scientific Name
African Feather Grass	*Pennisetum macrourum*
Bathurst Bur	*Xanthium spinosum*
Bur Daisy	*Calotis lappulacea*
Chinese pennisetum	*Pennisteum alpecurioides*
Giant Needlegrass	*Stipa rudis*
Parrots Feather	*Myriophyllum aquaticum*
Saffron Thistle	*Carthamus lanatus*

The Council undertakes direct control of the 'Total Control' plant pests identified in this category. Land occupiers, where the infestation of these 'Total Control' plant pests occur, being an exacerbator in terms of the Strategy, fund 25% of the control costs while the Council funds the other 75% (where the land occupier is clearly identifiable). These plant pests have the potential to severely affect pastoral farming and cereal harvesting in the district and African Feather Grass and Parrots Feather also poses a threat to Marlborough's conservation values.

5.1.1 African Feather Grass (*Pennisetum macrourum*)

Description of the Problem / Reasons for the Strategy

African Feather Grass is a robust, perennial grass with spreading rhizomes that originates from tropical and southern Africa. It forms dense tussocks and produces long, narrow flowers heads, which resemble a bottlebrush. It is a garden plant that has escaped into surrounding habitat. It spreads utilising seeds and rhizomes. African Feather Grass is generally unpalatable to stock and is a threat to pasture production if left uncontrolled. This plant's vigorous growth habit will displace native species from grasslands. It has the potential to invade wetlands, roadsides, urban areas and forest margins throughout Marlborough.

African Feather Grass is recognised as a weed in the USA. In New Zealand, infestations of African Feather Grass are scattered throughout the North Island and east of the main divide in the South Island from Marlborough to Central Otago. There are also infestations near Westport.

5.1.2 Bathurst Bur (*Xanthium spinosum*)

Description of the Problem / Reasons for the Strategy

Bathurst Bur is a shrubby annual that originates from South America. It spreads utilising hooked seeds. These hooked seeds, along with their long sharp spines, injure stock and contaminate wool. Bathurst Bur will also displace preferred pasture species. It will interfere with cereal harvesting if left uncontrolled.

Bathurst Bur is recognised as a weed in Oregon in the USA and throughout Australia. Localised infestations exist throughout the North Island and infestations can be found in scattered locations in Marlborough, Nelson, Canterbury and Southland.

5.1.3 Bur Daisy (*Calotis lappulacea*)

Description of the Problem / Reasons for the Strategy

Bur Daisy is erect perennial herb, which originates from Australia. It grows up to 30 cm high and has small yellow flower heads, which form spiny burs. It displaces desirable pasture species and its spiny burs contaminate wool. It has the potential to spread throughout Marlborough's dry grassland country.

Bur Daisy is found in a limited range of locations in Canterbury and in central Otago. There is only one property with a known infestation of Bur Daisy in Marlborough.

5.1.4 Chinese Pennisetum (Pennisetum alpecuroides)

Description of the Problem / Reasons for the Strategy

Chinese Pennisetum is a perennial, tufted grass that originates from Eastern Asia. It will grow up to 1 metre high and has purple seed heads, which look like small bottlebrushes. It spreads utilising seed, which attaches itself to passing animals. This species is capable of forming dense mats and is unpalatable to stock. Chinese Pennisetum prefers higher rainfall areas and has the potential to invade large areas of Marlborough.

In New Zealand, localised infestations exist at a few localities in the North Island and in Marlborough and Nelson in the South Island.

5.1.5 Giant Needlegrass (*Stipa rudis*)

Description of the Problem / Reasons for the Strategy

Giant Needlegrass is a perennial, tussock forming grass, which originates from Eastern Australia. Its general appearance is not unlike Chilean Needlegrass (*Nassella neesiana*), but it will grow up to 1.3 metres high which is twice the height of Chilean Needlegrass. It spreads through seed, which lacks the aggressive point and barb that Chilean Needlegrass has. Giant Needlegrass will displace desirable pasture species and forms dense infestations if left uncontrolled.

Giant Needlegrass infestations exist in Auckland in the North Island and in the Wairau Valley near Blenheim.

5.1.6 Parrots Feather (*Myriophyllum aquaticum*)

Description of the Problem / Reasons for the Strategy

Parrots Feather is a stout hairless perennial semi-aquatic plant that originates from South America. It was introduced to New Zealand as an ornamental aquarium plant. It will grow up to 2 metres in length and can emerge up to 15cm above the water. It will grow in freshwater ponds, dams, ditches, lakes and streams up to 2 metres deep. It forms tangled mats of vegetation which impede drainage, displace native vegetation and disrupt recreational activities.

Parrots Feather infestations exist in waterways throughout the North Island. Isolated infestations exist on the West Coast, in Tasman and in Marlborough. The majority of Marlborough's infestations are in garden ponds.

5.1.7 Saffron Thistle (*Carthamus lanatus*)

Description of the Problem / Reasons for the Strategy

Saffron Thistle is an erect annual herb, which originates from Europe and Asia. It has woody stems, prominent spines and small yellow flower heads. It can form impenetrable strands if left uncontrolled and has the potential to devalue fibre, injure stock and interfere with cereal harvesting.

Saffron Thistle is recognised as a weed in California and Oregon in the USA and throughout Australia. Infestations exist throughout the North Island and in Nelson and Canterbury, north of the Rakaia River. There are also a number of isolated infestations of Saffron Thistle in Marlborough.

5.1.8 Pest Management Programme for African Feather Grass, Bathurst Bur, Bur Daisy, Chinese Pennisetum, Giant Needlegrass, Parrots Feather and Saffron Thistle

Objective

"To eradicate African Feather Grass, Bathurst Bur, Bur Daisy, Chinese Pennisetum, Giant Needlegrass, Parrots Feather and Saffron Thistle from Marlborough."

Means of Achievement

The Council will:

- Undertake control work to destroy these plant pests at known sites annually before they produce seed.
- Carry out inspections to ensure all plants have been destroyed where land occupiers carry out control of these plant pests.
- Carry out inspections to monitor for the presence of these plant pests on properties surrounding known sites.
- Encourage land occupiers with infestations of these plant pests to carry out control work; and
- Provide advice and information on the control of these plant pests to affected land occupiers and other interested parties.

Performance Measures

- No new infestations resulting from known sites of these plant pests established in Marlborough.
- A measured decline in the populations of these plant pests at known sites by 2017.

Strategy Rules

1. Land occupiers are required to notify the Council of any new infestation not previously known of African Feather Grass (*Pennisetum macrourum*), Bathurst Bur (*Xanthium spinosum*), Bur Daisy (*Calotis lappulacea*), Chinese Pennisetum (*Pennisetum alpecuroides*), Giant Needlegrass (*Stipa rudis*), Parrots Feather (*Myriophyllum aquaticum*) or Saffron Thistle (*Carthamus lanatus*) on land that they occupy.

   A breach of this rule will create an offence under Section 154(r) of the Biosecurity Act.

5.2 Total Control Animal Pests

Common Name	Scientific name
Rooks	*Corvus frugilegus*

5.2.1 Rooks (*Corvus frugilegus*)

Description of the Problem / Reasons for the Strategy

Rooks are large, black birds with a violet-blue glossy sheen, which originate from Europe. They will forage on fields of cereal at all stages of the crop and will tear up large areas of pasture in search of grass grub and other invertebrates. Rookeries (nests) are generally built in pine or eucalyptus trees, although they have been found in poplar and walnut trees. Where established, rookeries may approach several hundred birds.

Rooks are present throughout New Zealand but the worst infestations exist in the southern part of the North Island. Low numbers of Rooks are in Marlborough.

Objective

"To eradicate Rooks from Marlborough."

Means of Achievement

The land occupier will:

- Ensure that other than in accordance with a direction, or under the supervision, of an authorised person, no person discharges a firearm at any rookery; lays any poison bait where Rooks are known to be present from time to time, or damages, disturbs or interferes in any way with a rookery.

The Council will:

- Undertake control works to eradicate Rooks by using appropriate physical and chemical means.
- Undertake monitoring activities to determine population numbers and to determine the degree of success of control works to eradicate Rooks.
- Support appropriate research initiatives, including biological control, should it become available.
- Provide advice and information on Rooks and their behaviour to interested parties.

Performance Measures

- A measured decline in Rook numbers by 2017.

Strategy Rules

1. Land occupiers are required to notify the Council of the presence of Rooks (*Corvus frugilegus*), on land that they occupy.

   A breach of this rule will create an offence under Section 154(r) of the Biosecurity Act.

2. No person may move or interfere with any article or substance left at a place by an authorised person pursuant to this Strategy for the purposes of:

   (i) Confirming the presence, former presence or absence of Rooks (*Corvus frugilegus*), or

   (ii) Managing or eradicating Rooks (*Corvus frugilegus*), other than in accordance with a direction, or under the supervision, of an authorised person.

   A breach of this rule will create an offence under Section 154(r) of the Biosecurity Act.

5.3 Total Control Plant Pests (Marlborough District Council and Department of Conservation Joint Initiative)

Common Name	Scientific name
Boneseed	*Chrysanthemoides monilifera*
Cathedral Bells	*Cobaea scandens*
Climbing Spindleberry	*Celastrus orbiculatus*
Eel Grass	*Vallisneria australis*
Evergreen Buckthorn	*Rhamnus alaternus*
Madeira Vine	*Anredera cordifolia*
Moth Plant	*Arauja sericifera*
Senegal Tea	*Gymnocoronis spilanthoides*
Spartina Grass	*Spartina anglica*

The Marlborough District Council and the Department of Conservation have formed a joint initiative to carry out the control of the 'Total Control' plant pests identified in this category. The Council and the Department of Conservation will fund control of these plant pests as a 50/50 share on an operational basis. Infestations of these plant pests are comparatively small at present but they have the potential to invade large areas of Marlborough's indigenous forest and coastal scrubland, waterways and wetlands.

5.3.1 Boneseed (*Chrysanthemoides monilifera*)

Description of the Problem / Reasons for the Strategy

Boneseed is an evergreen perennial shrub that originates from the Cape region of South Africa. It has a vigorous root system, produces many seeds, which are resistant to fire, and tolerates very dry conditions. Birds disperse its seed as a result of eating its fruit, and the fruit falls to the ground if not eaten. It is one of New Zealand's most serious environmental weeds, as it will displace native species on coastal cliffs, in salt marshes and on sand dunes. It will grow on islands, sand dunes and coastal cliffs and in disturbed or regenerating forest, ungrazed pasture, riverbeds, roadsides, parks, quarries, wastelands and exotic plantations.

Boneseed is recognised as a weed of national significance in Australia. Infestations exist throughout New Zealand in coastal areas excluding the West Coast of the South Island and Southland's coast. It is especially prevalent on Banks Peninsula. There are a number of isolated infestations of Boneseed in Marlborough.

5.3.2 Cathedral Bells (*Cobea scandens*)

Description of the Problem / Reasons for the Strategy

Cathedral Bells is a climbing perennial evergreen vine which can grow 6 metres. The plant originates from Central and South America. The vine has distinctive large round deep purple lantern like flowers. The fruit are large and oval from 6-10cm long and release winged seeds. The plant is susceptible to frost and heavy shading. Occasionally plants will root from nodes on the stems where they touch the ground. Seed is dispersed by wind over short distances and can be spread by fragments or seed in water, gravel or soil over large distances.

It has the potential to become a major weed in a variety of habitats where it will displace native species.

Cathedral Bells infestations exist throughout the North Island. Isolated infestations exist on the West Coast of the South Island and in Marlborough.

5.3.3 Climbing Spindleberry (*Celastrus orbiculatus*)

Description of the Problem / Reasons for the Strategy

Climbing Spindleberry is a vigorous climber, which originates from Eastern Asia. It has the ability to kill trees by smothering them due to its shade tolerance and rampant growth. Birds will disperse its seed into remote areas. It has a bad record overseas, causing major problems in plantation forests and natural areas of Eastern Asia.

Localised infestations of Climbing Spindleberry exist in the Coromandel and in abandoned gardens in the South Island. There are a number of isolated infestations of Climbing Spindleberry in Marlborough.

5.3.4 Eel Grass (*Vallisneria australis*)

Description of the Problem / Reasons for the Strategy

Eel Grass is a submerged, aquatic, perennial herb that originates from Europe, Africa, Asia and Australia. It is a potential competitor with native wetland and aquatic species and will block drains, impeding water flows. It spreads by rhizome fragments, which is often aided by humans who throw this popular aquarium plant into waterways.

Eel Grass infestations exist at scattered locations throughout the North and South Island. In Marlborough, small infestations exist in the Opawa River loop and one in the main Opawa River, near Blenheim. It has also been found in Waterlea Creek.

5.3.5 Evergreen Buckthorn (*Rhamnus alaternus*)

Description of the Problem / Reasons for the Strategy

Evergreen Buckthorn is an evergreen shrub that originates from the Mediterranean region. It will grow in scrub around forest margins, in plantations and on coastal cliffs. It is spread by birds as its seed is contained in a fleshy fruit. It displaces native species and hinders regeneration of forest remnants.

Widespread Evergreen Buckthorn infestations exist in the northern half of the North Island and scattered infestations exist in the southern half of the North Island. A few localised infestations exist in the South Island. There are several small isolated infestations of Evergreen Buckthorn in an area of the Marlborough Sounds.

5.3.6 Madeira Vine (*Anredera cordifolia*)

Description of the Problem / Reasons for the Strategy

Madeira Vine is a vigorous climber, which originates from tropical South America. It grows from an underground tuber and has aerial tubers, which grow attached to the stem, and break off easily to form new plants when they land on the ground. It will also grow from rhizomes. As well as blocking light to supporting plants by smothering them, it can become so heavy that it breaks branches. It is tolerant to drought and salt spray. It prefers to grow in warm coastal sites.

Madeira Vine is recognised as a weed in Hawaii and in New South Wales in Australia. Localised infestations exist throughout the North Island's coastal areas and in the South Island's urban areas. There are a number of isolated infestations of Maderia Vine in Marlborough.

5.3.7 Moth Plant (*Arauja sericifera*)

Description of the Problem / Reasons for the Strategy

Moth Plant is a vigorous evergreen climber that will grow up to 6 metres high and originates from tropical South America. It spreads by wind-borne seeds that are released from pods as they dry out and split during autumn and winter. Moth Plant will smother native species and is a problem in gardens where it can become the dominant species. The plant is poisonous and its sap has an irritant effect on contact with the skin.

Moth Plant is recognised as a weed in California, South Africa and in Australia. Moth Plant infestations exist throughout the northern half of the North Island and localised infestations exist in the southern North Island and in Marlborough. There are a number of small isolated infestations of Moth Plant in Marlborough.

5.3.8 Senegal Tea (*Gymnocoronis spilanthoides*)

Description of the Problem / Reasons for the Strategy

Senegal Tea is a perennial, semi-aquatic herb which grows to 1.5 metres when flowering and originates from Central and South America. It spreads by vegetative fragmentation with new plants produced from stem nodes and by seed. It forms dense floating mats which can quickly cover waterbodies, excluding native flora and fauna and impeding water flows and navigation and recreational activities.

Senegal Tea infestations are scattered across the Lower North Island. It has only recently been found in the Upper South Island. There are two known isolated infestations of Senegal Tea in Marlborough, these are both located in garden ponds.

5.3.9 Spartina Grass (*Spartina anglica*)

Description of the Problem / Reasons for the Strategy

Spartina is a sward forming grass that originates from the United Kingdom. It grows from underground rhizomes, which will break off and establish elsewhere. It will also spread via seed. It grows in estuaries and displaces native plants and animals of salt marshes and mud flats. It can cause accelerated sedimentation in estuaries. It can also impede river water flows.

Spartina is recognised as a weed in both Oregon and Washington in the USA. Infestations are in scattered locations in estuaries throughout the North and South Islands and on Stewart Island. In Marlborough, it is found in the Havelock and Mahakipawa estuary.

5.3.10 Pest Management Programme for Boneseed, Cathedral Bells, Climbing Spindleberry, Eel Grass, Evergreen Buckthorn, Madeira Vine, Moth Plant, Senegal Tea and Spartina Grass

Objective

"To eradicate Boneseed, Cathedral Bells, Climbing Spindleberry, Eel Grass, Evergreen Buckthorn, Madeira Vine, Moth Plant, Senegal Tea and Spartina Grass from Marlborough."

Means of Achievement

The Council, in association with the Department of Conservation, will:

- Undertake control works to destroy these pest plants at known sites annually, before they produce seed or are able to spread by other means.
- Carry out inspections to ensure all plants have been destroyed where land occupiers carry out control of these plant pests.

- Carry out inspections to monitor for and gather information on the presence of these plant pests on properties within Marlborough.
- Encourage land occupiers with infestations of these plant pests to carry out control work.
- Provide advice and information on the control of these plant pests to affected land occupiers and other interested parties.

Performance Measures

- No new infestations resulting from known sites of these plant pests are established in Marlborough.
- A measured decline in the populations of these plant pests at known sites by 2017.

Strategy Rules

1. Land occupiers are required to notify the Council of the presence of Boneseed (*Chrysanthemoides monilifera*), Cathedral Bells (*Cobea scandens*), Climbing Spindleberry (*Celastrus orbiculatusm*), Eel Grass (*Vallisneria australis*), Evergreen Buckthorn (R*hamnus alaternus*), Madeira Vine (*Anredera cordifolia*), Moth Plant (*Arauja sericifera*), Senegal Tea (*Gymnocoronis spilanthoides*) and Spartina Grass (*Spartina anglica*).

   A breach of this rule will create an offence under Section 154(r) of the Biosecurity Act.