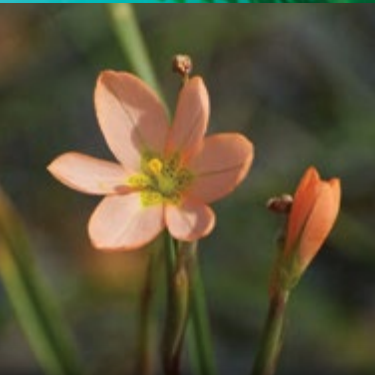


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Pests



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Nelson City Council
te kaunihera o whakatū

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INTRODUCTION

This booklet provides a summary of the requirements placed on land occupiers to carry out pest control on the land they occupy. For more detailed information, refer to the Tasman-Nelson Regional Pest Management Plan 2019 – 2029, available through the Tasman District Council or Nelson City Council websites, or by visiting regional Council offices and libraries.

The Tasman District Council is the **Management Agency** for pest management in the region.

What we can do for you

Council's Biosecurity Officers are available to help identify invasive, unusual or unwanted plants on your property. They can assist you in formulating control programmes for the pests identified in this booklet.

What you can do to help

Destroy any of these pests that occur on your property.

- Do not dump garden waste in sites such as roadsides or river banks. Invasive plants can easily grow in these areas after being dumped.
- Report any findings of unusual or invasive plants, fungi or animals to the Tasman District Council or the Nelson City Council.
- Call the Tasman District Council for further assistance with pest identification and for information on control methods.

Note: All the pests identified in this booklet are listed in the Tasman-Nelson Regional Pest Management Plan and as such, are banned from sale, distribution, breeding and propagation.

For further information:

You can find out more at tasman.govt.nz or nelson.govt.nz or by contacting the Biosecurity Officers at Tasman District Council – your Management Agency: Phone 03 543 8400 or Nelson City Council: Phone 03 546 0200.

EXCLUSION PEST PROGRAMME

Exclusion pests are pests that are not known to be present in the Tasman-Nelson region (however some have been historically present) that are capable of causing adverse impacts on economic well-being, the natural environment, human health, recreational values, or cultural values.



Cape tulip (*Moraea flaccida*)

Cape tulip is in the iris family and produces new shoots in winter, dying back to an underground corm in summer. This makes control extremely difficult. All parts of the plant are poisonous to humans and livestock. The plant has the potential to establish dense colonies in pasture which would have serious economic impacts.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Chilean needle grass (*Nassella neesiana*)

An erect, tufted perennial tussock that can grow up to 1m in height. It can replace productive pasture grasses in dry areas and is unpalatable to stock when panicle seed is present. The seed attaches to sheep's wool and can move through the pelt and muscle, downgrading wool and meat. Seed can also damage the eyes of lambs, causing blindness. It is present in Hawkes Bay, Marlborough and Canterbury.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Rooks (*Corvus frugilegus*)

A large black bird with a violet-blue glossy sheen. Large flocks cause serious damage to emerging cereal crops and some mature grain and pea crops. It is an intermittent visitor from rookeries in the lower North Island and reported sightings in the past have generated a rapid response. Effective control in adjoining regions has prevented further arrivals in recent years.

Requirement to act: Occupiers are required to report sightings of any rooks to the Management Agency.



Indian myna (*Acridotheres tristis*)

An aggressive bird that feeds on insects, fruit and berries and can cause considerable economic loss. They are strongly territorial when nesting and are reputed to destroy the eggs and nestlings of other birds in their feeding area.

Requirement to act: Occupiers are required to report any sightings of myna birds to the Management Agency.



Koi carp (*Cyprinus carpio*)

An ornamental strain of carp that can grow to 75cm in length and weigh up to 10kg. They destroy aquatic habitat and stir up bottom sediments, resulting in the muddying of waterways. It has been eradicated from the pond in the Queen's Gardens and from a number of ponds in the Lower Moutere area.

Requirement to act: Occupiers are required to report sightings of any suspected fish to the Department of Conservation.



Johnson grass (*Sorghum halepense*)

Johnson grass is a robust, aggressive, perennial, summer grass capable of forming dense thickets that exclude most other plants. Seedlings are similar to young maize plants. Mature plants vary in height from 50cm to 3m. Seed is the main dispersal mechanism. Johnson grass could have a major economic impact on New Zealand agriculture should it establish.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Phragmites (*Phragmites australis*)

A tall perennial grass producing annual cane-like stems up to 6m tall. It has thick underground roots (rhizomes) that form dense mats capable of blocking waterways. It has been eradicated from a site near Murchison.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Hornwort (*Ceratophyllum demersum*)

A vigorous invasive submerged aquatic perennial with stems up to 7m long and considered to be one of worst water weeds introduced into New Zealand. It has been eradicated from the Moutere Stream and a number of freshwater ponds in the Moutere area.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Water hyacinth (*Eichhornia crassipes*)

Water hyacinth is a freshwater plant that consists of a free-floating rosette of shiny rounded leaves with thick masses of feathery roots which hang in the water. Plants produce floating horizontal stems from which new plants arise. It is one of the world's most damaging aquatic weeds, forming dense mats that can completely smother large waterways and badly affect water quality.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Wallabies (Bennett's, Dama) (*Macropus rufogriseus*), (*Macropus eugenii*)

These marsupials browse on pasture and arable crops, reducing farm productivity. They also browse on a range of native species, depleting forest and scrub understorey and affecting regeneration. The Bennett's wallaby is spreading through South Canterbury and North Otago while the Dama wallaby is spreading through the Rotorua Lakes area.

Requirement to act: Occupiers are required to report sightings of any Wallabies to the Management Agency.



Velvet leaf (*Abutilon theophrasti*)

An annual broadleaf weed that can grow up to 1 – 2.5m tall and competes for nutrients, space, and water with other arable crops. It was imported as a contaminant in imported fodder beet seed.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Senegal tea (*Gymnocoronis spilanthoides*)

A semi-aquatic perennial herb that can reach 1.5m high when flowering. It can rapidly spread in freshwater and form dense floating mats, smothering other aquatic species and reducing oxygen availability. It has been eradicated from three ponds in Upper Moutere and Motueka.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.

ERADICATION PEST PROGRAMME

Eradication Pests are pests with a very restricted distribution in the Tasman-Nelson region, that are capable of causing adverse impacts on economic well-being, the natural or the productive environment, human health, recreational values, or cultural values.



African feather grass (*Cenchrus macrourus*) (also called *Pennisetum macrourum*)

An aggressive perennial grass that forms dense tussocks up to 2m high. It is a prolific seeder and can also spread through its rhizomes. It has low palatability and can rapidly become a major pest of sand dunes, roadsides, and wasteland.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Bathurst bur (*Xanthium spinosum*)

Bathurst bur is a shrubby annual herb up to 1m high. It has well-branched, upright stems with triple spines. The seedlings are toxic to farm animals and poultry and compete with arable crops and pasture. Seed pods have characteristic hooked bristles and can remain dormant in the soil for 15 years and germinate after disturbance.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Boxthorn (*Lycium ferocissimum*)

A densely-branched erect woody evergreen shrub with spines on branch tips. It invades production land and indigenous scrublands, forming dense impenetrable stands.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Cathedral bells (*Cobaea scandens*)

A vigorous perennial vine that can suppress native plant regeneration in disturbed or low forest, forest margins and open coastal forest. It has the potential to become a major problem in these areas.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Climbing spindleberry (*Celastrus orbiculatus*)

A vigorous perennial vine that can grow up to 12m high. It can kill trees by smothering them due to its shade tolerance and rampant growth. It is one of the few climbers with the potential to invade cooler areas.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Egeria (*Egeria densa*)

A vigorous, submerged, aquatic perennial that can grow to 5m tall in still water, forming dense stands that reduce water flow, suppress other aquatic species, degrade the natural character of rivers and lakes and restrict water traffic.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Entire marshwort (*Nymphoides geminata*)

A bottom-rooted, aquatic perennial with floating leaves growing on sediments in water up to 2.5 m deep. It can spread rapidly, out-compete water lilies and native species and obstruct water bodies.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Gambusia (*Gambusia affinis*)

Gambusia are small, silvery-green fish (3.5 – 6cm) that can rapidly reproduce. They are very aggressive and attack fish much larger than themselves. Whitebait and mudfish species are especially vulnerable. They can tolerate poor water quality and salinity, a wide range of water temperatures, and pose a major threat to aquatic organisms.

Requirement to act: Occupiers are required to report any sightings of these fish to the Department of Conservation.



Himalayan balsam (*Impatiens glandulifera*)

A tall annual plant growing rapidly up to 2.5m tall. It thrives in damp conditions and is moderately shade-tolerant. It grows wild along streams and in wetland areas, and competes with native plants for light and space. It seeds heavily, allowing it to spread down waterways.

Requirement on occupiers: Report any sightings to the Management Agency and destroy all plants.



Indian ring-necked parakeet (feral) (*Psittacula krameri*)

An introduced pet that has escaped and could threaten native birds and bats by competing for food, taking nesting places and introducing diseases. They are well-known agricultural pests of some cereal and fruit crops.

Requirement to act: Occupiers are required to report any sightings of these birds to the Management Agency.



Knotweeds (Asiatic, Giant and hybrids) (*Fallopia japonica*), (*F. sachalinensis*)

A multi-stemmed perennial shrub up to 4m high that can form dense long-lived thickets, smothering or preventing the establishment of other desirable species. It can rapidly become a major pest of riparian margins, roadsides and wasteland.

Requirement on occupiers: Report any sightings to the Management Agency and destroy all plants.



Madeira vine (*Anredera cordifolia*)

Madeira vine is a perennial climber that can climb to 7m high. It reproduces through the shedding and spread of stem tubers. It can displace native species in riparian and forest margins, especially in coastal areas, and kill small trees.

Requirement to act: Report any sightings to the Management Agency.



Perch (*Perca fluviatilis*)

Perch are an olive-green fish with prominent stripes, growing to 60cm in length and 2kg in weight. They are part of a group described as coarse fish and feed on insects, small fish and their larvae. They pose a significant threat to native aquatic fauna in the Tasman-Nelson region and to recreational trout fisheries.

Requirement to act: Occupiers are required to report any sightings of these fish to the Department of Conservation.



Red-eared slider turtles (feral) (*Chrysemys scripta elegans*)

A medium-sized freshwater turtle that is native to the southern United States and considered to be one of the world's 100 worst invasive species. Their impact in the wild in New Zealand is largely unknown, but given their omnivorous diet, they could adversely impact aquatic plants, insects, eels, small fish and ground-nesting birds.

Requirement to act: Occupiers are required to report any turtle sightings to the Management Agency.



Rudd (*Scardinius erythrophthalmus*)

Rudd is a stocky, deep-bodied, olive-backed fish, growing up to 25cm long and weighing up to 500g. They are part of a group described as coarse fish. Their feeding habits endanger native plant species, destroy indigenous habitat, remove food sources for native fish and invertebrate species, and impact negatively on water quality by stirring up bottom sediments and muddying water.

Requirement to act: Occupiers are required to report any sightings of these fish to the Department of Conservation.



Tench (*Tinca tinca*)

Tench are olive-green fish with bright orange eyes that can grow up to 4kg and form part of a group described as coarse fish. They generally live in still or slow-flowing waters and are carnivorous, feeding on insect larvae, crustaceans and molluscs. They are considered to pose a significant threat to native aquatic fauna.

Requirement to act: Occupiers are required to report any sightings of these fish to the Department of Conservation.



Saffron thistle (*Carthamus lanatus*)

Saffron thistle is a prickly annual to biennial herb with woody stems, prominent spines and small yellow flower heads. Seeds remain viable for more than 20 years. It can form impenetrable, dense stands and can potentially devalue wool, injure stock and interfere with cereal harvesting.

Requirement to act: Occupiers are required to report sightings of any plants to the Management Agency.



Spartina (coastal estuarine area) (*Spartina anglica*), (*S. alterniflora*)

Spartina is an aquatic perennial grass, growing up to 80cm high in estuaries and other coastal areas. It was originally planted to assist reclamation of tidal flats through its ability to trap sediment. Sediment trapped by Spartina can lead to flooding and restrict bird and flatfish habitat, alter drainage on adjacent flats and lead to deterioration of native plant cover.

The Management Agency and the Department of Conservation will control this plant.



Taiwan cherry and cultivars (*Prunus campanulata*)

Taiwan cherry is a deciduous tree that flowers prolifically, producing small succulent fruit that is attractive to many birds. Birds have transported the seed and it has become established in scrublands, forest margins and road sides. It has also established in forests in very low light conditions. The Tasman District and Nelson City Councils will work together to eradicate it.

Requirement to act: Occupiers are required to report sightings of any trees to the Management Agency in Tasman District or if found in the Nelson City Council area, the Nelson City Council.



Sabella (coastal marine area) (*Sabella spallanzanii*)

Sabella (Mediterranean fanworm) are marine worms in harbours and estuaries that live inside tough flexible tubes up to 40cm long. The tubes are attached to hard surfaces on vessels and structures and have a single spiral fan extending out the top. They can form dense colonies and compete for nutrients with commercial crops (e.g. mussels) and native marine organisms.

Requirement on vessel owners: Report any sightings on the vessel hull to the Management Agency.



Wild kiwifruit (including unmanaged or abandoned) *(Actinidia spp.)*

Kiwifruit can spread into forests by birds carrying seed from unmanaged or abandoned orchards, or from wild (self-propagated) plants. Vines can smother native trees or shrubs and degrade plantation forests. In some North Island regions, vines have become a reservoir for organisms that are a threat to kiwifruit production, such as PSA, a disease of kiwifruit that has resulted in devastating losses for growers.

Requirement on occupiers: Destroy all wild, unmanaged or abandoned plants.

ERADICATION PESTS IN SPECIFIC PARTS OF THE TASMAN-NELSON REGION

Eradication of three pest species is sought in specific parts of the region.



Boneseed (outside the Nelson Port Hills) *(Chrysanthemoides monilifera)*

A multi-branched bushy shrub, up to 3m high. It is an aggressive coloniser in coastal sites (dunes, cliffs, salt marshes) and can displace desirable native species. Its seed can remain dormant when deeply buried for more than 10 years. Boneseed is well established in the Port Hills area of Nelson, and the objective is to ensure that any plants found outside of this area are eradicated.

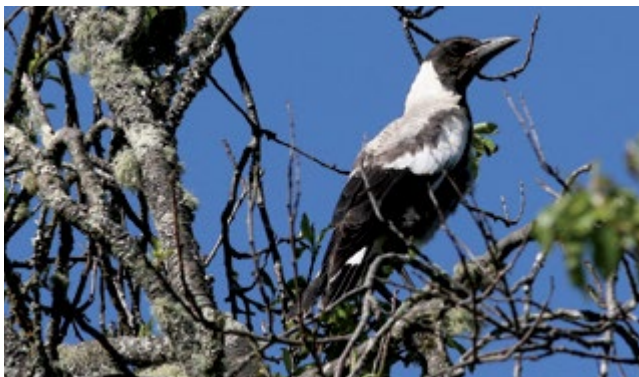
Requirement on occupiers outside the Port Hills containment area: Report sightings of any plants to the Management Agency.



Feral rabbits (Golden Bay) *(Oryctolagus cuniculus)*

Rabbits have never established in Golden Bay, and the objective is to prevent them from colonising this area in future. Rabbits compete directly with stock for grazing and reduce the amount of palatable pasture. Their overgrazing increases the amount of bare ground and causes soil erosion. They can also damage young plantation trees, horticultural crops and residential gardens.

Requirement on Golden Bay occupiers: Report any sightings to the Management Agency and destroy all rabbits on site.



Magpies (Golden Bay only) (*Gymnorhina species*)

Two sub-species, both black and white in colour, were introduced from Australia in the 1860s to control insect pests. Magpies are extremely territorial birds and show aggression to anything that may pose a threat to their territory. They also impact on native birds by excluding them from breeding territories.

Requirement on Golden Bay occupiers: Report sightings of any magpies in Golden Bay to the Management Agency.

PROGRESSIVE CONTAINMENT PESTS IN PARTS OF THE TASMAN-NELSON REGION

Progressive Containment Pests include seven pest plants with a limited distribution in the Tasman-Nelson region (but are unlikely to be eradicated because of their biological characteristics), and are capable of causing adverse impacts on economic well-being, the natural or the productive environment, human health, recreational values, or cultural values.



Bomarea (*Bomarea multiflora*)

Bomarea is a tuberous-rooted vine that produces clusters of brightly coloured trumpet-shaped flowers, orange on the outside, and yellow with red spots on the inside. It can invade remnant forest and scrubland, with the vines growing into the tree canopy and forming large masses, overtopping and smothering the supporting trees, and preventing the establishment of native species. Containment area: Richmond.

Requirement on occupiers: Report any suspected sightings of this vine to the Management Agency and destroy all plants.



Chinese pennisetum (*Cenchrus purpurascens*)

Chinese pennisetum is a tufted, perennial grass that forms large tussocks around 1m high. It is generally unpalatable to stock and can invade productive farmland and reduce pasture productivity. Containment areas: Tadmor and Brightwater.

Requirement on occupiers: Report any suspected sightings to the Management Agency and destroy all plants.



Nassella tussock (*Nassella trichotoma*)

Nassella is a perennial tussock that can invade and smother desirable grassland species on lower fertility sites. It is generally unpalatable to stock. It produces large quantities of seed with a long seed life that can be carried up to a kilometre by wind. Seed dispersal also occurs by water, animals, vehicles and agricultural produce. Containment area: Cape Soucis.

Requirement on occupiers: Destroy all plants and take all reasonable precautions to prevent spread.



Purple loosestrife (*Lythrum salicaria*)

Purple loosestrife is an erect perennial herb, growing up to 3m high. It reproduces prolifically by both seed dispersal and vegetative propagation, and can invade wetlands. The seed can remain viable for many years. If left untreated, it can almost entirely eliminate open water habitat. Containment areas: Pohara and Richmond.

Requirement on occupiers: Destroy all plants and take all reasonable precautions to prevent spread.



Reed sweet grass (*Glyceria maxima*)

Reed sweet grass grows up to 1.8m high on the edge of water bodies. It can form dense impenetrable mats that impede access and drainage, causing silt accumulation and flooding, replacing other aquatic margin vegetation and degrading habitat for aquatic fauna. It represents a significant threat to wetlands and stock. Containment area: North-west of Lake Rotoroa.

Requirement on occupiers: Destroy all plants and take all reasonable precautions to prevent spread.



Variegated thistle (*Silybum marianum*)

Variegated thistle is a conspicuous, robust, spiny annual or biennial plant, growing up to 2.5m high, and forming dense stands in pasture and wasteland. It will suppress desirable pasture and its spines can be toxic and cause injury to animals. It has the potential to have a significant impact on pastoral and crop production and is difficult to eradicate with its seeds being viable for more than 20 years. Containment area: Central Tasman District.

Requirement on occupiers: Destroy all plants and take all reasonable precautions to prevent spread.



White-edged nightshade (*Solanum marginatum*)

White-edged nightshade is a thorny, multi-branched perennial shrub found on disturbed land, waste areas and scrubland. It can invade regenerating scrubland, bush margins and pastureland, forming dense impenetrable thickets and producing berries that are poisonous to humans and stock. Containment areas: Nelson, Brook, Dodson Valley.

Requirement on occupiers: Report any sightings to the management agency and destroy all plants.

SUSTAINED CONTROL PESTS IN THE WHOLE TASMAN-NELSON REGION

Sustained Control Pests are pests that are abundant in many parts of the Tasman-Nelson region and are capable of causing adverse impacts on economic well-being, the natural environment, human health, recreational values, or cultural values.



Chocolate vine (*Akebia quinata*)

Chocolate vine has purple flowers with an odour similar to chocolate or vanilla. It can form dense mats that overrun ground cover as well as climbing and smothering shrubs/young trees.

Requirement on occupiers: Control and prevent spread to other areas.



Gunnera (*Gunnera tinctoria*) (*Gunnera manicata*)

Gunnera is an invasive, large clump-forming herbaceous plant with large, fleshy rhizomes and massive umbrella-sized leaves that can form dense stands along waterways, crowding out more desirable species. It is a prolific seeder and the seeds can be carried down waterways.

Requirement on occupiers: Control and prevent spread to other areas.



Lagarosiphon (*Lagarosiphon major*)

Lagarosiphon is an aggressive freshwater weed that grows in water down to 6m deep and forms large dense mats of interwoven stems. It will shade out desirable aquatic plants, impede water flow and restrict recreational activities. It is spread by vegetative fragments moving down waterways, in fishing nets or on boats and trailers.

Requirement on occupiers: Control and prevent spread to other water bodies.



Queensland poplar (*Homalanthus populifolius*)

Queensland poplar is a small tree up to 5m tall that seeds prolifically. The seeds are spread by birds and carried by water. It is shade-tolerant and invades roadsides and reverting scrubland and forest margins, displacing native species.

Requirement on occupiers: Control and prevent spread of this tree to other areas.



Yellow flag iris (*Iris pseudacorus*)

Yellow flag is a robust aquatic perennial that grows on swampy ground and the margins of water bodies, ditches, salt marsh and wet sandy areas. It is an internationally renowned weed of wetlands, growing up to 2m high, and forming mats of dense rhizomes that are toxic to stock and can overtop native species. Its seed is poisonous to stock and birds.

Requirement on occupiers: Control and prevent spread to other areas.



Yellow jasmine (*Jasminum humile*)

Yellow jasmine is a shade-tolerant scrambling shrub up to 2.5m tall with clusters of yellow trumpet-shaped flowers. It can form large patches in forest gaps and on coastal cliffs, smothering and excluding native species. Yellow jasmine distribution is thought to be limited to Golden Bay only.

Requirement on occupiers: Control and prevent spread to other areas.

SUSTAINED CONTROL PESTS IN PARTS OF THE TASMAN-NELSON REGION

Sustained control in parts of the region is sought for eight pest species.



Banana passion vine (Golden Bay and Upper Riwaka) (*Passiflora tripartita* var. *mollissima*), (*P. tarminiana*)

Banana passion vine is a large, vigorous, scrambling evergreen climbing vine with clinging tendrils, capable of climbing to 10m or higher. It can smother native trees and shrubs on forest margins and adjoining light wells, topple shallow-rooted trees and prevent natural regeneration. It has the potential to invade much of the regenerating lowland and represents a significant threat to indigenous biodiversity in Golden Bay and Upper Riwaka.

Requirement on Golden Bay and Upper Riwaka occupiers: Control and prevent spread of this vine to other areas.



Wild ginger (Golden Bay – Kaiteriteri) Kahili ginger (*Hedychium gardnerianum*), Yellow ginger (*H. flavescens*)

Wild ginger (both species) grow up to 2m high, producing massive branching rhizomes that can form a dense layer up to 1m thick, preventing any regeneration. Although frost sensitive, their shade-tolerance allows them to grow under an overhead canopy. These plants have invaded indigenous forest and regenerating scrublands in coastal areas at the top of the South Island.

Requirement on Golden Bay to Kaiteriteri occupiers: Destroy all plants to prevent spread to other areas.



Climbing asparagus (eastern Golden Bay, including Wainui Bay) (*Asparagus scandens*)

Climbing asparagus is a vine with thin wiry branching stems that wrap around small trees and saplings, and fine, feathery foliage with small leaves. The flowers produce small orange berries containing 1 – 2 seeds that are widely spread by birds. It is shade-tolerant and can establish in forest and scrubland understorey, carpeting the forest floor and preventing native seedling regrowth, as well as ring-barking trees and saplings.

Requirement on eastern Golden Bay and Wainui Bay occupiers: Control and prevent spread of this vine to other areas.



Woolly nightshade (Golden Bay) (*Solanum mauritianum*)

Woolly nightshade is an invasive, aggressive and fast-growing shrub that can grow up to 10m high and live for over 20 years. It forms dense colonies that prevent native plant regeneration. The dust from the leaves and stems can irritate the skin, eyes, nose and throat. It seeds prolifically and the berries are poisonous to humans, cattle and pigs.

Requirement on Golden Bay occupiers: Destroy all plants to prevent spread to other areas.



Broom (Howard – St Arnaud) (*Cytisus scoparius*)

Broom is a fast-growing invasive perennial shrub that grows to 3m with conspicuous yellow flowers, producing pods containing black seeds that are viable for many decades. These seeds have been distributed along waterways, in gravel and in dirt on machinery. It can invade pasture and reduce its productivity, and invade river beds and regenerating scrubland.

Requirement on Howard – St Arnaud occupiers: Destroy all plants to prevent spread in this area.



Gorse (Howard – St Arnaud) (*Ulex europaeus*)

Gorse is a fast-growing invasive woody perennial shrub that grows to 3m and forms dense spiny thickets that can regrow if cut or burnt. It has conspicuous yellow flowers, producing pods containing black seeds that are viable for many decades. These seeds have been distributed along waterways, in gravel and in dirt on machinery. It competes aggressively with other species for light, nutrients and moisture, provides habitat for animal pests and reduces recreational and amenity values.

Requirement on Howard – St Arnaud occupiers: Destroy all plants to prevent spread in this area.



Old man's beard (Golden Bay to Riwaka, Upper Buller) (*Clematis vitalba*)

Old man's beard is a deciduous woody climber that can reach up to 25m high. It produces conspicuous white flowers in late summer that turn into a dense down in autumn containing the seeds (up to 10,000/m²). It has the potential to invade most lowland areas of scrubland and forest up to 750m above sea level and, with a lifespan that exceeds 30 years, presents an extraordinary threat to natural values.

Requirement on Golden Bay to Riwaka, and Upper Buller catchment occupiers: Destroy all vines to prevent spread.



Yellow bristle grass (Golden Bay and Upper Buller) (*Setaria pumila*)

Yellow bristle grass is an aggressive annual-seeding plant which spreads rapidly through pasture, reducing pasture quality and causing production losses. It has low palatability and this leads to rapid re-infestation and an opening for other weeds. The barbed seed is transported in dung, fur and feathers, as well as by water, in soil, and as contaminants of hay and maize. Road edge mowing equipment can also spread seed along road corridors.

Requirement on occupiers: Destroy all plants to prevent spread to other areas.

SUSTAINED CONTROL PROGRAMME IN THE TASMAN-NELSON REGION SUBJECT TO BOUNDARY RULES

These are pests requiring boundary control throughout the whole region to prevent spread to adjoining land that is clear, or being cleared, of this pest.



Black spot (*Venturia inaequalis*)

Black spot is a fungus that grows on the leaves and fruit of apple trees. It spreads from spores in leaf material on the ground and causes premature leaf fall, degradation and rejection of fruit.

Requirement on occupiers: Control, or permit control of codling moth to the recognised industry standard within 500 metres of another pipfruit orchard.



Codling moth (*Cydia pomonella*)

Codling moth is a small grey moth that is hosted by apple, pear and walnut trees. It lays eggs that hatch into caterpillars that bore small holes in the fruit, causing degradation and rejection.

Requirement on occupiers: Control, or permit control of codling moth to the recognised industry standard within 500 metres of another pipfruit orchard.



European canker (*Neonectria ditissima*)

European canker is a fungal disease that can devastate apple orchards in locations with high autumn and winter rainfall. The fungal spores are carried by wind and in water droplets and these enter the tree through pruning wounds or scars from bud break, petal fall, harvesting and leaf fall. This causes shoot dieback and stem girdling.

Requirement on occupiers: Control, or permit control of European canker to the recognised industry standard within 500 metres of another pipfruit orchard.



Fireblight (*Erwinia amylovora*)

Fireblight is a bacteria that infects apple and pear trees causing blackening of the leaves, twigs and flowers. It is transmitted by insects, birds and contaminated orchard equipment. Fruit imported into major overseas markets must come from fireblight-free orchards.

Requirement on occupiers: Control, or permit control of fireblight to the recognised industry standard within 500 metres of another pipfruit orchard or where a commercial nursery is growing pipfruit stock.



Powdery mildew (*Podosphaera leucotricha*)

Powdery mildew is a fungus that affects the tips of growing shoots on apple trees, slowing growth and reducing fruit quality and production.

Requirement on occupiers: Control, or permit control of powdery mildew to the recognised industry standard within 500 metres of another pipfruit orchard.



Blackberry (*Rubus fruticosus agg.*)

Blackberry is a prickly scrambling perennial that can form impenetrable thickets, preventing access. Seed is produced in berries that are spread by birds and can invade lightly-grazed pastoral land and recently disturbed sites. The thickets can harbour animal pests, trap sheep, and suppress the growth of desirable plants.

Requirement on occupiers: Destroy all plants within 10 metres of a boundary.



Nodding thistle (*Carduus nutans*)

Nodding thistle is an annual or biennial plant up to 1.5 m tall with large purple flowers. It produces heavy seeds that are viable for at least 10 years. It is a very aggressive thistle and can spread quickly through pasture, reducing grazing productivity. It can restrict stock movement and provide habitat for rabbits and vermin. Its spines stick to wool, lowering its value. The seeds are spread by animals, machinery, hay and water.

Requirement on occupiers: Destroy all plants within 20 metres of a boundary.



Ragwort (*Jacobaea vulgaris*)

Ragwort is a biennial or perennial herb growing up to 60cm that can reproduce from crowns, roots and seeds. The seed can be distributed by wind, water, farm animals, hay and farm machinery. The plants are toxic to cattle and can rapidly displace more desirable grassland species, lowering pasture quality and productivity.

Requirement on occupiers: Destroy all plants within 20 metres of a boundary.

SUSTAINED CONTROL PESTS IN PARTS OF THE TASMAN-NELSON REGION SUBJECT TO GOOD NEIGHBOUR (BOUNDARY) RULES

Pest boundary control that is required on Crown and private land outside the Howard – St Arnaud area through Good Neighbour Rules.



Broom (outside the Howard – St Arnaud area) *Cytisus scoparius*

Broom is a fast-growing invasive perennial shrub that grows to 3m with conspicuous yellow flowers, producing pods containing black seeds that are viable for many decades. These seeds have been distributed along waterways, in gravel and in dirt on machinery.

Requirement on occupiers: Destroy all plants within 10 metres of a boundary.



Gorse (outside the Howard – St Arnaud area) (*Ulex europaeus*)

Gorse is a fast-growing invasive woody perennial shrub that grows to 3m and forms dense spiny thickets that can regrow if cut or burnt. It has conspicuous yellow flowers, producing pods containing black seeds that are viable for many decades.

Requirement on occupiers: Destroy all plants within 10 metres of a boundary.

SITE-LED PEST PROGRAMMES

Site-led Pests are pests, or organisms spread by the pest, in the Tasman-Nelson region that are capable of causing adverse impacts in specified sites with high natural values.

The objective and intermediate outcome is to exclude, eradicate or progressively control, contain or reduce the pests listed in the Site-led Programmes to eliminate or minimise the damage caused to those places or sites and their values.

The requirements on occupiers for control is the same for all listed pest species within the three site-led programmes: Report any suspected sightings to the management agency and destroy all plants.

SITE-LED PROGRAMME – ABEL TASMAN NATIONAL PARK AND ENVIRONS



Rosemary grevillea (*Grevillea rosmarinifolia*)

A small to medium sized shrub 0.3 – 2m high. The leaves are narrow and stiff with sharp points and curled-under margins (0.8 – 3.8cm long and 0.7 – 3mm wide-resembling rosemary). Clusters of red or pink flowers are produced from winter to spring. Competes with native shrubs for space and light.



Cotoneaster spp. (*Cotoneaster glaucophyllus*) and others

A spreading evergreen shrub growing up to 5m tall. The oblong leaves are 1.5 – 4cm wide by 3 – 8cm long, with hairy undersides when young. Clumps of red berries are produced after flowering. Competes with native shrubs for space and light.



European holly (*Ilex aquifolium*)

A small to medium sized shrub 0.3 – 2 m high. The leaves are narrow and stiff with sharp points and curled-under margins (0.8 – 3.8cm long and 0.7 – 3mm wide-resembling rosemary). Clusters of red or pink flowers are produced from winter to spring. Competes with native shrubs for space and light.



Sycamore (*Acer pseudoplatanus*)

A deciduous tree from central Europe and south-west Asia, tolerant of cold conditions, that produces large quantities of winged seeds. These are spread by wind over moderate distances and can establish on tussock grasslands, scrublands and forest land, preventing the recruitment of native species. Colonises forest edges and bare ground, but can also invade intact forests.



Kūmarahou (gumdigger's soap) (*Pomaderris kumeraho*)

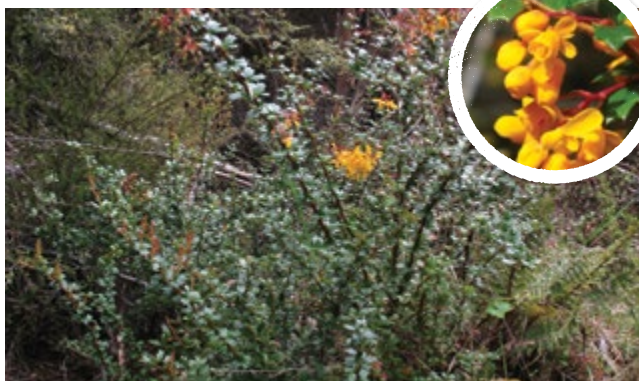
Endemic to the North Island (i.e. not naturally found in the South Island), this tree grows up to four meters in height, and flowers in September, with yellow blossoms. Colonises forest edges and bare ground, but can also invade intact forests, outcompeting other native shrubs and trees for light and space.



Douglas fir (wilding Douglas fir only) (*Pseudotsuga menziesii*)

A tall evergreen fir of commercial value, planted extensively throughout the region. Douglas fir seedlings have proved to be moderately shade-tolerant and able to establish in scrubland, on the margins of native forest, and occasionally in light wells within the forest.

SITE-LED PEST PROGRAMME – ST ARNAUD VILLAGE



Darwin's Barberry (*Berberis darwinii*)

An evergreen spiny long-lived shrub from Chile and Argentina, tolerant of cold conditions, with orange flowers that produce black berries during summer and autumn. These are eaten by birds, spreading the seeds. The young seedlings can establish and become the dominant vegetation in frost-flat scrublands, regenerating forest and mature beech forest edges.



Greater bindweed (*Calystegia sylvatica*)

A perennial climbing vine from southern Europe with funnel shaped white flowers. Greater bind weed has an extensive rhizome network and nodes with fibrous roots, capable of smothering low-growing vegetation. It is difficult to destroy once established and easily moved with the transfer of soil on machines.



European holly (*Ilex aquifolium*)

An evergreen tree from Europe, tolerant of cold conditions, that produces masses of red berries during winter. These are eaten by birds, spreading the seeds. The young seedlings are shade-tolerant and can form dense stands within intact native beech forest, crowding out native plants. Colonises forest edges and bare ground, but can also invade intact forests.



Sycamore (*Acer pseudoplatanus*)

A deciduous tree from central Europe and south-west Asia, tolerant of cold conditions, that produces large quantities of winged seeds. These are spread by wind over moderate distances and can establish on tussock grasslands, scrublands and forest land, preventing the recruitment of native species. Colonises forest edges and bare ground, but can also invade intact forests.



Rowan (*Sorbus aucuparia*)

A deciduous tree from Europe, tolerant of cold conditions, that produces moderate quantities of red berries during winter that are widely dispersed by birds. The young seedlings are shade-tolerant and can form dense stands within intact beech forest, but also in wetlands, forest edges, and regenerating forest.



Russell lupin (*Lupinus polyphyllus*)

A perennial herb from North America that produces colourful flower spikes up to 60cm. It produces large quantities of long-lived seed that are distributed by water (and inadvertently by humans) that form dense self-replacing stands in river beds and wetlands. The banks of Black Valley Stream and shingle shores of Lake Rotoiti are vulnerable to invasion by this weed.

SITE-LED PROGRAMME – WAIMEA ESTUARY (PEARL CREEK AND DOMINION STREAM AREAS)



Feral cat (*Felis catus*)

Feral cats predate on rodents, rabbits, birds and reptiles, and to a lesser extent, invertebrates. They are a major predator of native birds and animals and have had a significant impact on biodiversity values. They can carry bovine tuberculosis and spread Toxoplasmosis.



Brushtail possum (*Trichosurus vulpecula*)

The possum was introduced in the late 1800s to establish a fur trade and is now widely distributed. They are a major vector of bovine tuberculosis, have damaged extensive areas of native and exotic forests through canopy browsing, and predate on nesting birds and their eggs.



Rats (ship and Norway) (*Rattus rattus*), (*Rattus norvegicus*)

Rats are a threat to breeding birds as they prey on eggs and chicks. Ship rats are a particular problem as they are exceptional tree climbers. Many native bird species also breed very slowly and cannot keep up with the present rate of predation.



Ferrets, Stoats and Weasels (*Mustela spp*)

Mustelids were introduced to New Zealand in the 1870s and 1880s to control rabbits, but also prey on reptiles and birds. Stoats are the dominant predator, widely distributed through forest land, with the ability to climb and kill hole-nesting birds, chicks and eggs. Ferrets prefer open terrain and kill ground-nesting birds. Weasels are present in much lower numbers and will feed on lizards and insects as well as birds. Ferrets and stoats are potential vectors of bovine tuberculosis.

PHOTO CREDITS

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