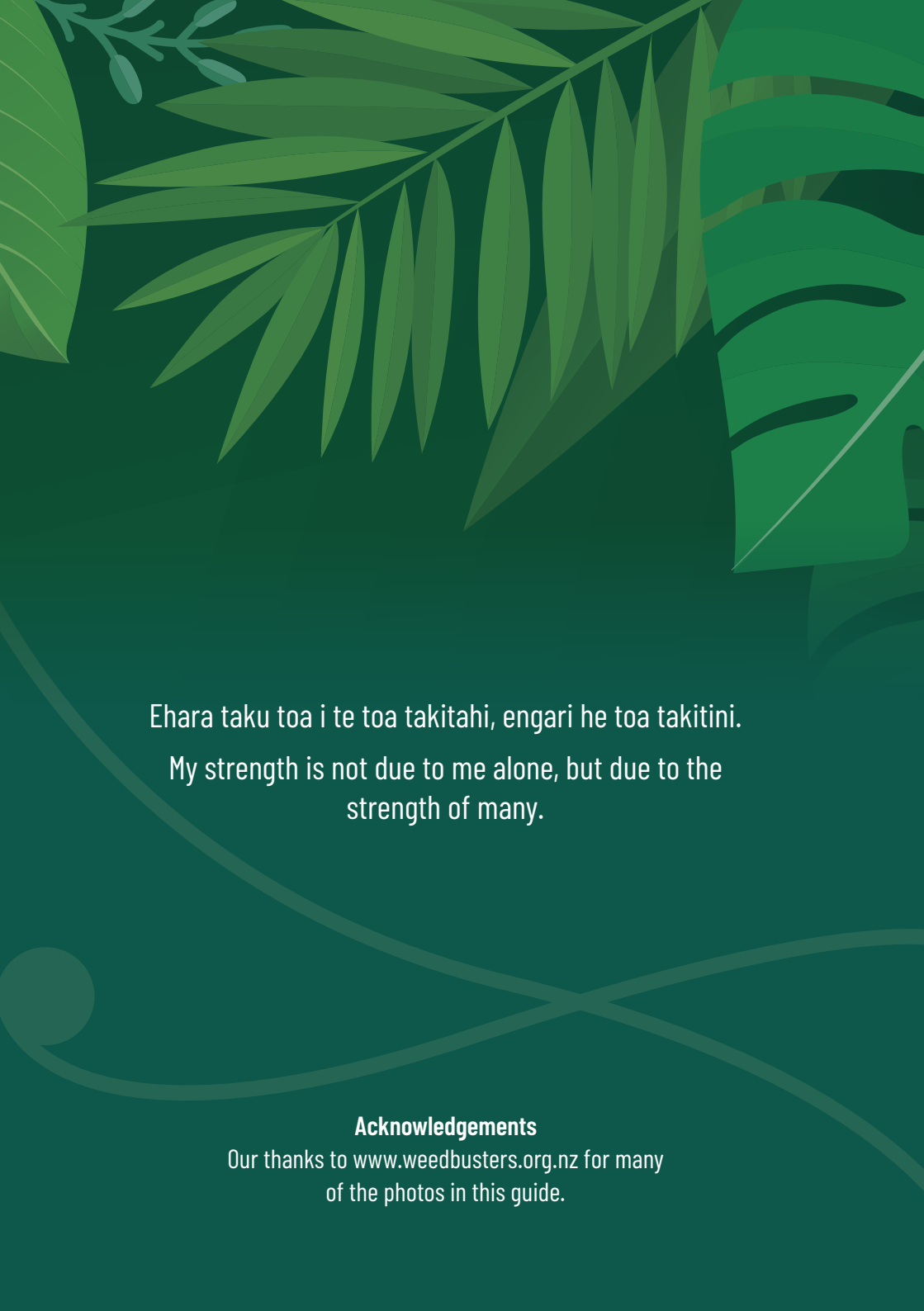




A guide to Northland's

Pest Plants

He pukapuka aratohu mō ngā taru
kino o Te Taitokerau



Ehara taku toa i te toa takitahi, engari he toa takitini.
My strength is not due to me alone, but due to the
strength of many.

Acknowledgements

Our thanks to www.weedbusters.org.nz for many
of the photos in this guide.

Introduction Kupu arataki

Pest plants are a major threat to the beauty and biodiversity of Te Taitokerau. Our sub-tropical climate means that weedy species grow fast and spread easily. To stop this growing weedy invasion, many hands are needed. Collectively, if many individuals take action on their own land and in their own neighbourhoods, we can prevent the special habitats and ecosystems of Te Taitokerau from being overwhelmed and replaced by weeds.

This booklet is a simple guide to identifying some of the most common serious weeds in Te Taitokerau and how to control them.

Most of the pest plants that are invading and damaging our natural areas are ornamental plants that have 'jumped the fence' from gardens and gone wild. Many of these plants are spread by birds. As predator control becomes a bigger part of community life, the bird population will increase, further spreading many of the weeds.

How to use this booklet

1. Pest plants in this booklet are grouped by growth forms, eg vines or trees.
2. Coded control methods are listed for each plant.
3. Fold out the last page (p24) to see details for each of the coded methods.
4. See page 22-25 for important safety information.

Key Treatment methods

Refer to foldout on Page 24



ORGANIC



STUMP TREAT



DRILL AND INJECT



FOLIAR SPRAY

Contents Rārangī take

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Groundcovers Ngā momo tupu hīpoki

Low-growing plants that form dense groundcover and prevent the growth of native plant seedlings, including ferns and mosses. Will often regrow from small pieces and are often spread by water or small wind-blown seeds.

Grasses and bulbs Ngā karaihe me ngā tōpuku

Grasses and bulbs form dense groundcover that prevent the growth of native plant seedlings. Many species are hard to kill.

Climbers and vines Ngā aka

Climbing plants that kill other plants by growing up and over them, stopping the light getting to them. Trees eventually collapse and let more weedy invaders in. Many have seeds that are spread long distances by birds or wind.

Palms Ngā momo palm rāwaho

Palms have many seeds that are spread long distances by birds. They can take over the forest from native species. Phoenix palms have dangerous spines.

Shrubs and trees Ngā mauwha me ngā rākau

Many invasive trees and shrubs have seeds that are spread long distances by birds. They can take over the forest from native species.

Aquatic weeds Ngā taru kino e tupu ana i te wai

Aquatic weeds shade out native species and choke waterways. They can be spread and will regrow from small fragments. Herbicide treatment is difficult in water so prevention is key. Always check, clean and dry gear to prevent spread.

Groundcovers Ngā momo tupu hīpoki

African club moss

Selaginella kraussiana

Soft creeping moss found on forest floor. Spores/fragments spread on footwear, tyres and machinery. »Take care not to spread fragments.

Banned from sale, propagation and distribution



 1,5

 5

Agapanthus


Agapanthus praecox

Blue or white flowers through summer. Winged seeds blown long distance. *For method 10, herbicide dicamba will also work.

Banned from sale, propagation and distribution



 1,3,5

 10* Will need repeat treatments.

Artillery plant/ aluminium plant

Lamium galeobdolon

Roots at every leaf joint. »Take care not to spread fragments.

Banned from sale, propagation and distribution



 1,5

 8

Bear's breeches


Acanthus mollis

Large green shiny leaves with toothed edges. Every piece of root will regrow. Hard to kill.

Banned from sale, propagation and distribution



 2,5

 10 Will need repeat treatments.

Groundcovers Ngā momo tupu hīpoki

Blue-eyed iris/*Aristea*

Aristea ecklonii

Leaves have distinctive longitudinal raised veins. Seeds blown long distance. Easily moved by machinery and tyres.

Banned from sale, propagation and distribution



 1,3

 7

Bushy asparagus

Asparagus aethiopicus

Small leaves creating a bushy stem. Grows well in dry environments. Bird-dispersed. *See WARNING on page 25 for metsulfuron.

Banned from sale, propagation and distribution



 1,5

 6*

*Add 2g metsulfuron.

Elephant ear

Alocasia brisbanensis

Large leaves, thick stems up to 200mm across. Bird-dispersed.

Banned from sale, propagation and distribution



 1,5

 4,8

Fairy crassula

Crassula multicava

Pitted leaves, sprays of small pink flowers. Fine seeds blown long distance.

Banned from sale, propagation and distribution



 1,5

 6

Groundcovers Ngā momo tupu hīpoki

Ice plant

Carpobrotus edulis

Fleshy leaves with triangular cross-section. Grows well in dry environments. »Contact NRC for advice on herbicide control.

Banned from sale, propagation and distribution



 1,5

Mexican daisy

Erigeron karvinskianus

Small white to pink daisy flowers. Fine, wind-dispersed seeds. Grows well in dry environments.

Banned from sale, propagation and distribution



 1,2

 5,9

Mexican devil

Ageratina adenophora

Kite-shaped leaves, brownish stems. Fine seeds blown long distance.

Banned from sale, propagation and distribution



 1,3

 6,8

Periwinkle

Vinca major

Shiny opposite leaves. Blue flowers. Hard to kill. »Repeat treatments needed. *See WARNING on page 25 for metsulfuron.

Banned from sale, propagation and distribution



 1,5

 6*

*Add 1g metsulfuron.

Groundcovers Ngā momo tupu hīpoki

Plectranthus

Plectranthus ciliatus

Leaves with purple back and strong smell when crushed.

Banned from sale, propagation and distribution



Tradescantia

Tradescantia fluminensis

Fleshy leaves and stems. »Take care not to spread fragments/pieces, as they will regrow easily.

Banned from sale, propagation and distribution



*Bag small amounts, freeze 24hrs then compost.

Tuber ladder fern

Nephrolepis cordifolia

Fronds to 1m, tubers attached to roots. Root fragments can regrow.

Banned from sale, propagation and distribution



Wild ginger

Hedychium gardnerianum

Thick tuberous roots, scented flowers in Feb-Mar.

Banned from sale, propagation and distribution



Grasses and bulbs Ngā karaihe me ngā tōpuku

Bamboo *Bambusa sp.*

Long upright stems with circular nodes. Slim leaves appear once stem is at full height. Grows in clumps.

*For method 3, cut and fill 1 stem every 400mm with undiluted glyphosate.



Giant reed *Arundo donax*

Bamboo-like grass that spreads out and downwards. Leaves attach directly to stem. Grows to about 4m. Hard to kill.

*Contact NRC for advice on foliar spraying.



Banned from sale, propagation and distribution

Green goddess

Zantedeschia aethiopica 'Green Goddess'

White or green tipped flowers. Hard to get all small tubers.



Marram grass

Ammophila arenaria

Tufts of grass on dunes. Invades coastal environments.



Banned from sale, propagation and distribution

Grasses and bulbs Ngā karaihe me ngā tōpuku

Montbretia

Crocsmia x crocosmiiflora

Bulbs grow on top of each other. Often washed down waterways. *See WARNING on page 25 for metsulfuron.



 1,2,5

 5*

*Add 5g metsulfuron.

Pampas

Cortaderia selloana, C. jubata

Light brown curled leaf bases. Many wind-dispersed seeds. Can be shaded out with planting.



 1,2,3,5

 3

 5

Banned from sale, propagation and distribution

Stinking iris

Iris foetidissima

Cream flowers and red seeds in pods. *For organic method 5, cut leaves off before covering.



 1,2,3,5*

 3

 5

Watsonia

Watsonia meriana 'Bulbillifera'

Large underground bulbs. Many small bulbs spread by gravity. *See WARNING on page 25 for metsulfuron.



 1,2,3,5

 5*

*Add 5g metsulfuron.

Climbers and vines Ngā aka

Climbing asparagus

Asparagus scandens, *A. plumosa*

Small asparagus-like tips. Climbs by twining.

*Method 1: Cut in soil around stem base (crown) and remove. Dry or dispose in rubbish.

Banned from sale, propagation and distribution



*Add 1g metsulfuron and no penetrant. See WARNING on page 25.

 1*,2

 6*


Batwing passionflower

Passiflora apetala

V-shaped leaves resemble a bat or butterfly wing, with lime green/yellow stripe down the centre of each 'wing' when young.

Banned from sale, propagation and distribution



 1 for seedlings

Report location to NRC.

Black-eyed Susan

Thunbergia alata

Hairy leaves.

Seeds disperse by popping.

Banned from sale, propagation and distribution



 1,2

 8

Blue morning glory

Ipomoea indica

Bean-shaped leaves, hairy stems and leaves.

Dispersed by people. »Take care not to spread fragments/pieces.

Banned from sale, propagation and distribution



 1,2,5

 5,8

Climbers and vines Ngā aka

Cape ivy

Senecio angulatus

Thick light green ivy-shaped leaves.
Seeds blown a long distance by wind.



Banned from sale, propagation and distribution



1,2,5



3,4



5,9

Chocolate vine

Akebia quinata

Leaves with 5 lobes. Seeds blown a long distance by wind.



Banned from sale, propagation and distribution



1

Report location to NRC.

Climbing dock

Rumex sagittatus

Large underground tuber. Seeds blown a long distance by wind.
» Repeat treatments needed.



1,2,5



8

Field bindweed

Convolvulus arvensis and *C. species*

Thin arrow-shaped leaves, white underground stems.
*Methods 5, 8 and 10 most effective in spring.



1,2



5, 8, 10*

Climbers and vines Ngā aka

German ivy

Delairea odorata

Thin ivy-shaped leaves. Seeds blown a long distance by wind.

Banned from sale, propagation and distribution



Ivy

Hedera helix

Dark green, sometimes mottled, ivy-shaped leaves. Irritant sap.

Banned from sale, propagation and distribution



Japanese honeysuckle

Lonicera japonica

Flaky bark, reddish stems.

Banned from sale, propagation and distribution



Jasmine

Jasminum polyanthum

Fern-like leaves. Scented flowers. »Take care not to spread fragments/pieces.

Banned from sale, propagation and distribution



Climbers and vines Ngā aka

Mignonette/Madeira vine

Anredera cordifolia

Fleshy leaves. Tubers form on stems. »For all herbicide methods, dig out main tubers after treatment. Do not spread tubers or fragments.

Banned from sale, propagation and distribution



Mile-a-minute

Dipogon lignosus

Pea-shaped flowers. Long-lived seed.

Banned from sale, propagation and distribution



Report location to NRC.

Moth plant

Araujia hortorum

White sap. Pods in autumn. »Pods can be bagged for 3-4 months with a little water to rot. Rotted seeds will not grow.

Banned from sale, propagation and distribution



Passionfruit - blue and banana

Tendrils on all passionfruit species. 5-7 or 3 fingers on leaves. Round orange or oval yellow fruit.

Banned from sale, propagation and distribution



Palms Ngā momo palm rāwaho

Bangalow palm

Archontophoenix cunninghamiana

Long seed stems, red seeds.
Many seeds.



Chinese windmill palm

Trachycarpus fortunei

Fan-shaped leaves, black seeds.
Many seeds.



Palm grass

Setaria palmifolia

Hairy and rough to touch. »Alternative method: Use 1-2ml undiluted glyphosate dropped at 300mm intervals throughout patch.



Phoenix palm

Phoenix canariensis

Largest palm head. Spines of adult plants can cause serious injury. Large palms require arborist removal.



Shrubs and trees Ngā mauwha me ngā rākau

Boneseed

Chrysanthemoides monilifera

Tough serrated leaves, centre of tip has white fluff. Grows well in dry environments.



Banned from sale, propagation and distribution



Cape honey flower

Melianthus major

Fronde-like leaves. Dark red tall flower. Grows well in dry environments.



Banned from sale, propagation and distribution



Chinese privet

Ligustrum sinense

White scented flowers Oct-Dec. Scent can trigger asthma and allergies.



Banned from sale, propagation and distribution



Coastal banksia

Banksia integrifolia

Yellow upright flowers in winter. Large brown seed pods. Rough leaves. Grows well in dry environments.



Banned from sale, propagation and distribution



Shrubs and trees Ngā mauwha me ngā rākau

Cotoneaster

Cotoneaster glaucophyllus

Red berries in winter, distinct leaf veins.

Banned from sale, propagation and distribution



1,5 2 4 8

Crack willow

Salix x fragilis

Often near waterways. Will regrow from all fragments. *Ring-bark above drilling if possible. *Cut down as soon as tree is completely dead.

Banned from sale, propagation and distribution



1,5 1* 3 6

Elaeagnus

Elaeagnus x reflexa

Long spines can cause serious injury. Bronze to white back of leaves.

Banned from sale, propagation and distribution



2* *Use 50g metsulfuron per litre of water.

8 Foliar: 100ml brushkiller + 5g metsulfuron-methyl and 10ml pentrant per 10 litres. See soil activity WARNING on page 25.

Hakea species

Hakea gibbosa, *H. sericea*, *H. salicifolia*

Knobbly hard seed pod. Some are very spiny. Decorative, delicate white flowers. Spines can cause injury.

Banned from sale, propagation and distribution



1,5 2 4 8

Shrubs and trees Ngā mauwha me ngā rākau

Lantana

Lantana camara var. *aculeata*

Rough stems, leaves smell unpleasant.

Banned from sale, propagation and distribution



Loquat

Eriobotrya japonica

Large shiny leaves, yellow fruit.



Mickey mouse plant

Ochna serrulata

Leaves finely serrated, speckled stems.
Very hard to kill adult plants.

Banned from sale, propagation and distribution



Report location to NRC.

Queen of the night and cestrums

Cestrum nocturnum, *C. fasciculata*, *C. elegans*

Green orange or red flowers. All parts very toxic.
*Stump treat with 100ml triclopyr (600g/L) per litre.

Banned from sale, propagation and distribution



Shrubs and trees Ngā mauwha me ngā rākau

Queensland poplar

Homalanthus populifolius

Heart-shaped leaves. Long-lived seed.

Banned from sale, propagation and distribution



1,2,5



2



4



8

Shrub balsam

Impatiens sodenii

Fleshy stems, pink flowers.

Banned from sale, propagation and distribution



1,5



3



5

Sweet pea shrub

Polygala myrtifolia

Small pink/purple pea-shaped flowers.

Grows well in dry environments.

» Dispose of seeds.

Banned from sale, propagation and distribution



1,5



4



8

Sydney golden, brush wattle, silver wattle and other wattles

Acacia longifolia, *Paraserianthes lophantha*, *Acacia dealbata*

Pods have large long-lived seeds. » Brush wattle does not need treatment after cutting.

Banned from sale, propagation and distribution



1,4,5



1



3



6,10

Shrubs and trees Ngā mauwha me ngā rākau

Taiwan cherry

Prunus campanulata

Distinctive white lines around the bark.
Prolific bird-dispersed seed.

Banned from sale, propagation and distribution

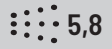


Tree privet

Ligustrum lucidum

Dark red leaf stems. Creamy flowers Dec-Mar.
Scent can cause trigger asthma and allergies.

Banned from sale, propagation and distribution



Wilding pines

Pinus contorta, *P. radiata*, *P. pinaster*

Thin needles with pine smell when
crushed.

Some species banned from sale, propagation and distribution



Woolly nightshade

Solanum mauritianum

Furry grey/green leaves, purple flowers.
Sours soil preventing regrowth of native plants.

Banned from sale, propagation and distribution



Aquatic weeds Ngā taru kino e tupu ana i te wai

Hornwort

Ceratophyllum demersum

Dark green thick finely-divided leaves.
»Take care not to spread fragments/
pieces.

Banned from sale, propagation and distribution



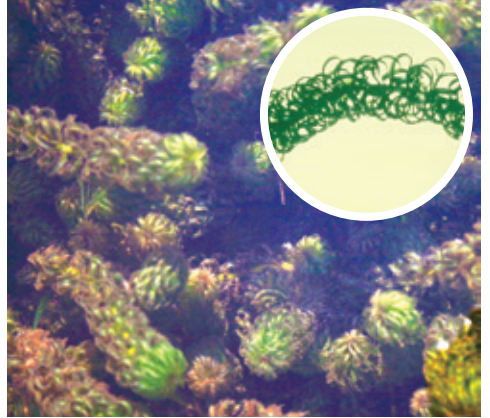
Treatment in water is difficult.
Contact NRC for advice.

Oxygen weed/egeria

Egeria densa, Lagarosiphon major

Curved leaves. »Take care not to spread
fragments/pieces.

Banned from sale, propagation and distribution



Treatment in water is difficult.
Contact NRC for advice.

Mexican waterlilies

Nymphaea mexicana

Yellow flowers, dark red underside of
leaves.

Banned from sale, propagation and distribution



Treatment in water is difficult.
Contact NRC for advice.

Alligator weed

Alternanthera philoxeroides

Opposite leaves, hollow stems. Invades
pasture. Unpalatable to stock. »Take
care not to spread fragments/pieces.

Banned from sale, propagation and distribution



8 on dry land. Limited options if
aquatic. Contact NRC for advice.

How to control shrubs and trees

He tikanga kia whakahaerehia ngā mauwha me ngā rākau



Drill and fill

Drilling and filling trees causes less disturbance than cutting them down and makes foliage spray of seedlings easier.

1. Use a 10-18mm drill bit.
2. Drill at base of tree downwards at an angle across trunk, to just under bark.
3. Make one hole every 200mm of circumference.
4. Fill holes with herbicide using a trigger spray bottle or similar.

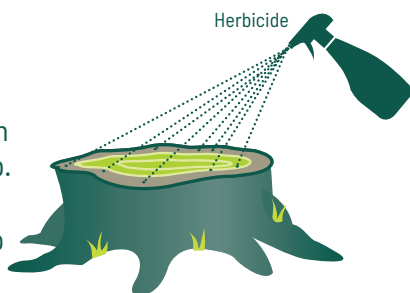


DO NOT drill trees that may later fall on people or property. Large trees that are closer than 1.5 times the height of the tree from roads, paths, walkways and property must NOT be drilled. These trees should be removed by a qualified arborist.



Cut and stump paint

1. Cut stump as low as possible.
2. Treat immediately with herbicide on both the top and sides of the stump.
3. Focus on treating the cut surface around the outer edge of the stump and the sides.



This guide provides only a selection of herbicide options. There are many more listed at these websites below.

www.weedbusters.org.nz

www.nrc.govt.nz/pestcontrolhub

<https://bit.ly/Pestsearch>

When using herbicides, **ALWAYS READ THE LABEL** and follow all instructions. Always use protective gloves, clothing, footwear and eye protection.

How to control groundcovers and climbers

He tikanga kia whakahaerehia ngā momo tupu hīpoki me ngā aka



Foliage spray

1. Spray to just wet the weeds.
2. If there is a slight breeze, stand upwind of target(s).
3. DO NOT foliar spray in windy conditions that will result in spray drifting onto neighbouring properties or sensitive areas.

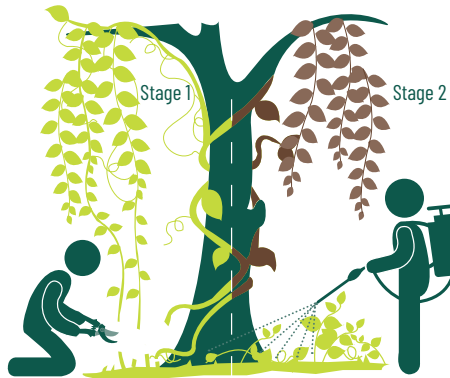


Note: Follow-up is usually required.

Cut and spray regrowth

1. Cut stems low.
2. Leave cut vines in tree.
3. Spray regrowth.

See ***WARNINGS on page 25 about herbicides that can move through soil and affect non-target plants.**



To mix a knapsack

1. Half-fill knapsack with water.
2. Add herbicide and penetrant, measure carefully. Too much can be less effective and increase the risk of off-target damage.
3. Fill knapsack and replace the lid.
4. Mix thoroughly by gently shaking knapsack.






Follow Growsafe guidelines and rules for chemical application in council's Regional Plan for Northland.

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Coded control methods











Ngā tikanga whakahaere taru kino kua tautohutia ki te waehere

ORGANIC - Check site regularly

	1	Bag up seeds first as per 2. Dig out including roots (bulbs/nuts/corms/tubers, etc). Crush or remove all bulbs from the site. Chop up roots/rhizomes/stems, or mow over with a lawn mower. Dry thoroughly and compost. Leave cut vines in the tree.
	2	Bag up seeds/seed pods and dispose of in rubbish or bury deeply.
	3	Deadhead flowers before fruiting/seeding to avoid seed dispersal. Trim hedges after flowering.
	4	Fell/cut close to ground - no need to paint stump.
	5	Cover entire plant or cut stump with polythene for up to 12 months.

HERBICIDE - Contact NRC for advice on use in or over water

 Drill and fill method  Cut and stump treat method  Foliar spray

	1	Fill hole with undiluted glyphosate. Use caution with undiluted herbicide.
	2	Fill hole with 20g metsulfuron-methyl (600g/kg) per litre water. Use mix within 24hrs. See *WARNING page 25.
	3	Glyphosate gel (240g/L eg 'Bamboo buster') or spray stump with 50% glyphosate (360g/L) and 50% water.
	4	Metsulfuron gel (eg Metgel) or spray stump with 1g metsulfuron-methyl (600g/kg) per litre water. Use mix within 24hrs. See *WARNING page 25.
	5	Foliage spray with 100ml glyphosate (360g/L) with 20ml penetrant, per 10 litres of water.
	6	Foliage spray with 200ml glyphosate (360g/L) with 20ml penetrant, per 10 litres of water.
	7	Foliage spray with 3g metsulfuron-methyl (600g/kg) and 150ml glyphosate (360g/L) with 20ml penetrant per 10 litres of water. Use mix within 24hrs. See *WARNING page 25.
	8	Foliage spray with 5g metsulfuron-methyl (600g/kg) with 20ml penetrant, per 10 litres of water. Use mix within 24hrs. See *WARNING page 25.
	9	Foliage spray with 2g metsulfuron-methyl (600g/kg) with 20ml penetrant per 10 litres of water. Use mix within 24hrs. See *WARNING page 25.
	10	Foliage spray with 60ml triclopyr (600g/L) with 20ml penetrant, per 10 litres of water. See *WARNING page 25.

Herbicide information

Pārongo mō te patu otaota

Herbicides work by interrupting the growth of plants in various ways. Some, such as ester formulations, are more volatile in the air than salt formulations. When comparing herbicides with different brand names, look for the **'active ingredient'** listed on the label. The active ingredient, concentration and formulation are always on the label and will look like this:

ACTIVE INGREDIENT: Contains **360g/litre glyphosate** as the isopropylamine salt in the form of a soluble concentrate.

Some common herbicides are listed here.

Active ingredient (strength)	Brand name	Notes *WARNING
Glyphosate (360g/L)	Round-up, Lion, WeedMaster Glyphosate360.	Most common concentration is 360g/L. Is deactivated by soil.
Metsulfuron-methyl (600g/kg) Met gels have a 6-month shelf life.	Escort, Meturon, MSF600, Prism, Associate, Eradicate 600.	Works at very low rates. *Can easily move in the soil and affect other plants. Use within 24hrs as mix will degrade.
Triclopyr (600g/L)	Grazon, Brush-off, Triclop600	*Can move in the soil and can affect other plants.

Penetrants - Pulse, Boost, Biowet, Codacide are used to improve the ability of the herbicide to penetrate the leaf cuticle and increase the rate and volume of herbicide uptake.

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www.weedbusters.org.nz

www.nrc.govt.nz/pestcontrolhub

<https://bit.ly/Pestsearch>

When using herbicides, **ALWAYS READ THE LABEL** and follow all instructions. Always use protective gloves, clothing, footwear and eye protection.



Northland 
REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

P 0800 002 004

E info@nrc.govt.nz

W www.nrc.govt.nz