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Introduction

The National Pest Plant Accord (NPPA) is an agreement to prevent the sale and/ or distribution of specified pest plants where either formal or casual horticultural trade is the most significant way of spreading the plant in New Zealand.

This manual contains photographs and descriptions of the pest plants listed in the NPPA. All of these plants are unwanted organisms, and are banned from sale, propagation and distribution throughout New Zealand.

Species, in the context of the Accord list is considered to include all sub-species, cultivars, varieties and forms of that species (including genetically modified variants), unless specifically excluded. However a species is considered to exclude any hybrids of that species with another species, unless otherwise stated.

The information included in this manual is correct at the time of printing (February 2020). Information will be updated on a regular basis. The NPPA page at www.mpi.govt.nz has an electronic version of this manual, and contains the most up-to-date information. If you have questions relating to the NPPA, please email nppa@mpi.govt.nz

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Key for plant types



Regional councils and unitary authorities by region

New Zealand regional map

Northland TEL 0800 002 004 www.nrc.govt.nz Auckland TEL (09) 301 0101 www.aucklandcouncil.govt.nz Waikato TEL 0800 800 401 www.waikatoregion.govt.nz Bay of Plenty TEL 0800 884 880 www.boprc.govt.nz Gisborne TEL (06) 867 2049 www.gdc.govt.nz Taranaki TEL (06) 765 7127 www.trc.govt.nz Hawke's Bay TEL (06) 835 9200 www.hbrc.govt.nz Manawatu TEL 0508 800 800 www.horizons.govt.nz Wellington TEL 0800 496 734 www.gw.govt.nz Chathams TEL (03) 305 0033 www.cic.govt.nz Tasman TEL (03) 543 8400 www.tasman.govt.nz Nelson TEL (03) 546 0200 www.nelsoncitycouncil.co.nz Marlborough TEL (03) 520 7400 www.marlborough.govt.nz West Coast TEL 0508 800 118 www.wcrc.govt.nz Canterbury TEL 0800 324 636 www.ecan.govt.nz Otago TEL 0800 474 082 www.orc.govt.nz Southland TEL 0800 768 845 www.es.govt.nz

National Pest Plant Accord List · by Scientific Name (A-E)

Ailanthus altissima Akebia quinata Alternanthera philoxeroides Anredera cordifolia Araujia hortorum Aristea ecklonii Arundo donax Asparagus aethiopicus Asparagus asparagoides Asparagus plumosus Asparagus scandens Berberis darwinii Bomarea multiflora Bryonia cretica Calluna vulgaris (excluding double flowered cultivars) Cardiospermum grandiflorum Cardiospermum halicacabum Carex pendula Carpobrotus edulis Celastrus orbiculatus Cenchrus (all species, excluding cenchrus species C clandestinus and C americanus) Ceratophyllum demersum Cestrum aurantiacum Cestrum elegans

tree of heaven akebia, chocolate vine, five-leaved akebia alligator weed, pigweed Madeira vine, mignonette vine moth plant, cruel plant, white bladder flower aristea, blue iris giant reed, arundo grass bushy asparagus smilax, bridal creeper asparagus fern climbing asparagus Darwin's barberry bomarea, climbing alstromeria white bryony heather, ling halloon vine small balloon vine drooping sedge. Otahuna sedge ice plant climbing spindle berry. Oriental bittersweet

hornwort, coontail orange cestrum red cestrum

Cestrum fasciculatum Cestrum nocturnum Cestrum parqui Chrysanthemoides monilifera Clematis flammula Clematis vitalha Clerodendrum trichotomum Cobaea scandens

Cortaderia jubata Cortaderia selloana Cotoneaster simonsii Cotvledon orbiculata Crassula multicava Cvathea cooperi Dipogon lignosus Drosera capensis Eccremocarpus scaber

Egeria densa Ehrharta villosa Eichhornia crassipes Fomecon chionantha

Equisetum (all species) Eragrostis curvula

red cestrum, early jessamine queen of the night green cestrum boneseed clematis, fragrant virgin's bower, plume clematis old man's beard clerodendrum cathedral bells, cup and saucer vine purple pampas pampas Khasia berry pig's ear pitted crassula, fairy crassula Australian tree fern, lacy tree fern mile-a-minute. Dolichos pea Cape sundew Chilean glory creeper. Chilean glory vine. glory vine, Chilean glory flower egeria, oxygen weed, Brazilian elodea pyp grass water hyacinth snow poppy, poppy of the dawn, Chinese bloodroot horsetail African love grass

National Pest Plant Accord List · by Scientific Name (E-N)

	Erigeron karvinskianus	Mexican daisy		Juglans ailantifolia	Japanese walnut
	Euonymus japonicus	Japanese spindle tree		Kennedia rubicunda	dusky coral pea, coral pea, running postman
	(excluding small-leaved	ad		Lagarosiphon major	lagarosiphon, oxygen weed
	cultivars such as 'Microphylla' and 'Emerald Gem')			Lamium galeobdolon	aluminium plant, artillery plant
	Fallopia japonica (and hybrids)	Asiatic knotweed, Japanese knotweed,		Lantana camara	lantana
		Mexican bamboo		Ligustrum lucidum	tree privet
	Fallopia sachalinensis (and hybrids)	giant knotweed	L	Lilium formosanum	Formosa lily, trumpet lily, St. Joseph's lily, Taiwan lily
	Ficus rubiginosa	Port Jackson fig		Lonicera japonica	Japanese honeysuckle
	Fuchsia boliviana	Bolivian fuchsia		Ludwigia peploides subsp.	primrose willow, floating
	Gunnera tinctoria	Chilean rhubarb	montevidensis Lythrum salicaria Macfadyena unguis-cati Maytenus boaria Megathyrsus maximus var. pubiglumis Menvanthes trifoliata	primrose willow, water primrose	
	Gymnocoronis spilanthoides	Senegal tea, temple plant, costata		purple loosestrife	
	Hedychium flavescens	yellow ginger		Macfadyena unguis-cati	cat's claw creeper, cat's claw vine, cat's claw ivy, yellow trumpet vine
	Hedychium gardnerianum	Kahili ginger		Maytenus boaria	Chilean mayten, mayten, maiten
	Heracleum mantegazzianum	giant hogweed, cartwheel flower, wild parsnip, wild rhubarb			Guinea grass, green panic, buffalo grass
	Hieraceum (all species)	hawkweed		Menyanthes trifoliata	bogbean
	Homalanthus populifolius	Queensland poplar, bleeding heart tree,		Moraea flaccida	Cape tulip
		poplar leaved omalanthus		Morella fava	fire tree, candleberry myrtle
	Houttuynia cordata	chameleon plant		Myoporum insulare and hybrids	Tasmanian ngaio, boobialla
	Hydrilla verticillata	hydrilla		Myricaria germanica Myriophyllum aquaticum	false tamarisk
	Hydrocleys nymphoides	water poppy tutsan, sweet amber			parrot's feather, thread of life, Brazilian water milfoil
	Hypericum androsaemum				
	Ipomoea indica	blue morning glory	Nassella (all species)	nassella	
	Iris pseudacorus	yellow flag iris		Nephrolepis cordifolia	tuber ladder fern
	Jasminum humile	Italian jasmine		Nuphar lutea	yellow water lily, spatterdock, cow lily, brandybottle

National Pest Plant Accord List · by Scientific Name (N-Z)

Nymphaea mexicana Nymphoides geminata Nymphoides peltata Ochna serrulata Osmunda regalis Passiflora apetala Passiflora caerulea Passiflora tarminiana Passiflora tripartita (all varieties) Phragmites australis Pilosella (all species) Pinus contorta Pistia stratiotes Pithecoctenium crucigerum Pittosporum undulatum

Plectranthus ciliatus Polygala myrtifolia (excluding cultivar 'Grandifora') Polypodium vulgare Potamogeton perfoliatus Prunus serotina Pyracantha angustifolia Rhamnus alaternus Rhododendron ponticum Mexican water lily, banana water lily marshwort, entire marshwort fringed water lily Mickey Mouse plant, birds-eye bush royal fern bat-wing passion flower blue passion flower northern banana passionfruit banana passionfruit

phragmites, common reed hawkweed lodgepole pine, contorta pine water lettuce monkey's comb, monkey's hairbrush sweet pittosporum, Victorian box, Australian cheesewood plectranthus, blue spur flower sweet pea shrub, sweet pea bush. myrtle leaf milkwort polypody, common polypody clasped pondweed rum cherry firethorn, orange firethorn, yellow firethorn rhamnus, evergreen buckthorn wild rhododendron, Pontic rhododendron, Pontian rhododendron

Sagittaria montevidensis Sagittaria platyphylla Sagittaria sagittifolia Salix cinerea Salix ×fragilis Salvinia × molesta Schinus terebinthifolius Schoenoplectus californicus Selaginella kraussiana Solanum magrinatum

Syzygium smithii Tradescantia fluminensis Tropaeolum speciosum Tussilago farfara Typha latifolia Utricularia arenaria Utricularia arenaria Utricularia gibba Utricularia sandersonii Vallisneria australis Zantedeschia aethiopica 'Green Goddess' Zizania latifolia arrowhead, sagittaria, Californian arrowhead sagittaria, delta arrowhead arrowhead, Hawaiian arrowhead grey willow, pussy willow, grey sallow crack willow salvinia. Kariba weed Christmas berry, Brazilian pepper tree Californian bulrush African club moss, selaginella white edged nightshade woolly nightshade, tobacco weed, wild tobacco tree monkey apple, lily pilly tradescantia Chilean flame creeper coltsfoot great reedmace, cumbungi, common cattail bladderwort bladderwort, humped bladderwort bladderwort bladderwort eelgrass, ribbonweed green arum lily

Manchurian wild rice, Manchurian rice grass

National Pest Plant Accord List · by Common Name (A-C)

African club moss African love grass akehia alligator weed aluminium plant aristea arrowhead arrowhead artillery plant arundo grass Asiatic knotweed asparagus fern Australian cheesewood Australian tree fern balloon vine banana passionfruit banana water lily bat-wing passion flower birds-eye bush bladderwort bladderwort bladderwort bladderwort bleeding heart tree blue iris blue morning glory blue passion flower blue spur flower bogbean Bolivian fuchsia homarea

Selaginella kraussiana Eragrostis curvula Akebia guinata Alternanthera philoxeroides Lamium galeobdolon Aristea ecklonii Sagittaria montevidensis Sagittaria sagittifolia Lamium galeobdolon Arundo donax Fallopia japonica (and hybrids) Asparagus plumosus Pittosporum undulatum Cvathea cooperi Cardiospermum grandiflorum Passiflora tripartita (all varieties) Nymphaea mexicana Passiflora apetala Ochna serrulata Utricularia arenaria Utricularia gibba Utricularia livida Utricularia sandersonii Homalanthus populifolius Aristea ecklonii Ipomoea indica Passiflora caerulea Plectranthus ciliatus Menyanthes trifoliata Fuchsia boliviana Romarea multiflora

boneseed boobialla brandybottle Brazilian elodea Brazilian pepper tree Brazilian water milfoil bridal creeper buffalo grass bushy asparagus Californian arrowhead Californian bulrush candleberry myrtle Cape sundew Cape tulip cartwheel flower cat's claw creeper cat's claw ivv cat's claw vine cathedral bells cenchrus species chameleon plant Chilean flame creeper

Chilean glory creeper Chilean glory troeper Chilean glory vine Chilean nayten Chilean rhubarb Chinese bloodroot chocolate vine Christmas berry Chrysanthemoides monilifera Myoporum insulare and hybrids Nuphar lutea Egeria densa Schinus terebinthifolius Myriophyllum aquaticum Asparagus asparagoides Megathyrsus maximus var. pubiglumis Asparagus aethiopicus Sagittaria montevidensis Schoenonlectus californicus Morella faya Drosera capensis Moraea flaccida Heracleum mantegazzianum Macfadvena unguis-cati Macfadvena unguis-cati Macfadyena unguis-cati Cobaea scandens Cenchrus (all species, excl C, clandestinus, C. americanus and C. caliculatus) Houttuynia cordata Tropaeolum speciosum Eccremocarpus scaber Eccremocarpus scaber Eccremocarpus scaber Maytenus boaria Gunnera tinctoria Eomecon chionantha Akebia guinata Schinus terebinthifolius

National Pest Plant Accord List · by Common Name (C-J)

clasped pondweed clematis clerodendrum climbing alstromeria climbing asparagus climbing spindle berry coltsfoot common cattail common polypody common reed contorta pine coontail coral pea costata cow lilv crack willow cruel plant cumbungi cup and saucer vine Darwin's barberry delta arrowhead Dolichos pea drooping sedge dusky coral pea early jessamine eelgrass egeria emerald feather entire marshwort evergreen buckthorn fairy crassula

Potamogeton perfoliatus Clematis flammula Clerodendrum trichotomum Romarea multiflora Asparagus scandens Celastrus orbiculatus Tussilago farfara Typha latifolia Polypodium vulgare Phragmites australis Pinus contorta Ceratophyllum demersum Kennedia rubicunda Gymnocoronis spilanthoides Nuphar lutea Salix xfragilis Arauiia hortorum Typha latifolia Cobaea scandens Berberis darwinii Sagittaria platvphylla Dipogon lignosus Carex pendula Kennedia rubicunda Cestrum fasciculatum Vallisneria australis Egeria densa Asparagus aethiopicus Nymphoides geminata Rhamnus alaternus Crassula multicava

false tamarisk fire tree firethorn five-leaved akebia floating primrose willow Formosa lilv fragrant virgin's bower fringed water lilv giant hogweed giant knotweed giant reed glory vine great reedmace green cestrum green goddess green panic grev sallow grey willow Guinea grass Hawaiian arrowhead hawkweed heather hornwort horsetail humped bladderwort hydrilla ice plant Italian iasmine Japanese honevsuckle

Japanese knotweed

Mvricaria germanica Morella fava Pyracantha angustifolia Akebia quinata Ludwigia peploides subsp. montevidensis Lilium formosanum Clematis flammula Nymphoides peltata Heracleum mantegazzianum Fallopia sachalinensis (and hybrids) Arundo donax Eccremocarpus scaber Typha latifolia Cestrum parqui Zantedeschia aethiopica 'Green Goddess' Megathvrsus maximus var. pubiglumis Salix cinerea Salix cinerea Megathyrsus maximus var. pubiglumis Sagittaria sagittifolia Hieracium, (all species) Pilosella (all species) Calluna vulgaris (excluding double flowered cultivars) Ceratophyllum demersum Equisetum (all species) Utricularia gibba Hydrilla verticillata Carpobrotus edulis lasminum humile Lonicera iaponica Fallopia japonica (and hybrids)

National Pest Plant Accord List · by Common Name (J-Q)

Japanese spindle tree

Japanese walnut Kahili ginger Kariba weed Khasia berry lacy tree fern lagarosiphon lantana lily pilly ling

lodgepole pine Madeira vine maiten Manchurian rice grass Manchurian wild rice marshwort mavten Mexican bamboo Mexican daisy Mexican water lily Mickey Mouse plant mignonette vine mile-a-minute monkey apple monkey's comb monkey's hairbrush moth plant

Euonymus japonicus (excluding small-leaved cultivars such as 'Microphylla' and 'Emerald Gem') Juglans ailantifolia Hedychium gardnerianum Salvinia x molesta Cotoneaster simonsii Cvathea cooperi Lagarosiphon maior Lantana camara Syzygium smithii Calluna vulgaris (excluding double flowered cultivars) Pinus contorta Anredera cordifolia Mavtenus boaria Zizania latifolia Zizania latifolia Nymphoides geminata Mavtenus boaria Fallopia japonica (and hybrids) Erigeron karvinskianus Nymphaea mexicana Ochna serrulata Anredera cordifolia Dipogon lignosus Syzygium smithii Pithecoctenium crucigerum Pithecoctenium crucigerum Arauiia hortorum

nassella northern banana passionfruit old man's beard orange cestrum orange firethorn Oriental bittersweet Otahuna sedge oxygen weed oxygen weed oxygen weed pampas parrot's feather phragmites pig's ear pig weed pitted crassula

plectranthus

polypody

plume clematis

Port Jackson fig

primrose willow

purple pampas

pussy willow

pyp grass queen of the night

purple loosestrife

Pontian rhododendron

Pontic rhododendron

poplar leaved omalanthus poppy of the dawn

myrtle leaf milkwort

Polygala myrtifolia (excluding cultivar 'Grandiflora') Nassella (all species) Passiflora tarminiana Clematis vitalha Cestrum aurantiacum Pvracantha angustifolia Celastrus orbiculatus Carex pendula Egeria densa Lagarosiphon major Cortaderia selloana Mvriophvllum aquaticum Phragmites australis Cotyledon orbiculata Alternanthera philoxeroides Crassula multicava Plectranthus ciliatus Clematis flammula Polypodium vulgare Rhododendron ponticum Rhododendron ponticum Homalanthus populifolius Fomecon chionantha Ficus rubiginosa Ludwigia peploides subsp. montevidensis Lythrum salicaria Cortaderia jubata Salix cinerea Ehrharta villosa Cestrum nocturnum

National Pest Plant Accord List · by Common Name (Q-Y)

Queensland poplar red cestrum red cestrum rhamnus ribbonweed roval fern rum cherry running postman sagittaria sagittaria salvinia selaginella Senegal tea small balloon vine smilax snow poppy spatterdock Sprenger's asparagus Sprengeri fern St Joseph's lily sweet amber sweet pea bush

sweet pea shrub

sweet pittosporum Taiwan lily Tasmanian ngaio temple plant thread of life Homalanthus populifolius Cestrum elegans Cestrum fasciculatum Rhamnus alaternus Vallisneria australis Osmunda regalis Prunus serotina Kennedia rubicunda Sagittaria montevidensis Sagittaria platyphylla Salvinia x molesta Selaginella kraussiana Gymnocoronis spilanthoides Cardiospermum halicacabum Asparagus asparagoides Eomecon chionantha Nuphar lutea Asparagus aethiopicus Asparagus aethiopicus Lilium formosanum Hypericum androsaemum Polygala myrtifolia (excluding cultivar 'Grandiflora') Polygala myrtifolia (excluding cultivar 'Grandiflora') Pittosporum undulatum Lilium formosanum Mvoporum insulare and hybrids Gymnocoronis spilanthoides Myriophyllum aquaticum

tobacco weed tradescantia tree of heaven tree privet trumpet lilv tuber ladder fern tuber sword fern tussock weed tutsan Victorian box water hyacinth water lettuce water poppy water primrose white bladder flower white bryony white edged nightshade wild parsnip wild rhododendron wild rhubarb wild tobacco tree woolly nightshade vellow firethorn vellow flag vellow flag iris yellow ginger yellow trumpet vine yellow water lily

Solanum marginatum Tradescantia fluminensis Ailanthus altissima Ligustrum lucidum Lilium formosanum Nephrolepis cordifolia Nephrolepis cordifolia Hieraceum lepidulum Hypericum androsaemum Pittosporum undulatum Eichhornia crassipes Pistia stratiotes Hvdroclevs nymphoides Ludwigia peploides subsp. montevidensis Araujia hortorum Brvonia cretica Solanum marginatum Heracleum mantegazzianum Rhododendron ponticum Heracleum mantegazzianum Solanum mauritianum Solanum mauritianum Pvracantha angustifolia Iris pseudacorus Iris pseudacorus Hedychium flavescens Macfadyena unguis-cati Nuphar lutea

Ailanthus altissima · tree of heaven



Photos courtesy of Trevor James

Tree

SYNONYM · Ailanthus glandulosa

DESCRIPTION · Tree of heaven is a fast-growing deciduous tree. It has compound leaves composed of smaller alternating leaflets, and yellow-green flowers. All parts of the tree have an odour that is similar to peanuts or cashews.

IMPACT • Tree of heaven is a prolific seed producer that grows rapidly. It has an aggressive suckering root system and produces toxins that prevent other plant species establishing.

Akebia quinata · akebia, chocolate vine, five-leaved akebia





Photos courtesy of Trevor James

SYNONYM · Rajania quinata

DESCRIPTION - Akebia is a twining vine or ground cover, with leaves of five oval shaped leaflets (3 cm) which meet at a central juncture. It has chocolate-purple coloured flowers, which have an odour that is similar to chocolate or vanilla, and appear from August to October in New Zealand. Each flower bunch contains two large female flowers and 10–12 smaller male flowers.

IMPACT · Akebia can form dense patches which outcompete and kill ground cover and shrubs/young trees. Birds can spread the seeds, but mostly this plant is spread by human activity.

WHAT TO DO · Contact your regional council to determine the status of this species and the responsibility for control and/or advice on control.

Α

Alternanthera philoxeroides · alligator weed, pig weed



Marginal Aquatic Plant



Photo courtesy of Carolyn Lewis

SYNONYM · Telanthera philoxeroides

DESCRIPTION · This is a perennial aquatic or terrestrial herb with dark-green waxy leaves in opposite pairs. Stems are hollow and often reddish in colour. White clover-like flower clusters, 1-2 cm in diameter, appear during summer.

IMPACT · Alligator weed forms extensive floating mats. These outcompete other species and block waterways, causing silt accumulation, flooding and degradation of habitat for aquatic flora and fauna. Alligator weed is also invasive in terrestrial areas affecting crops and pasture. It is toxic to livestock.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control. This plant is widespread in Northland and Auckland, but rare or absent elsewhere.

Anredera cordifolia · Madeira vine, mignonette vine





Photo courtesy of Trevor James

SYNONYM · Boussingaultia cordifolia

DESCRIPTION · Madeira vine is a perennial hairless vine with fleshy rhizomes and slender reddish stems with small aerial tubers. It has heart-shaped leaves $(2-11 \times 2-10 \text{ cm})$ which are glossy and arranged alternately on the stems. It produces slender drooping flower heads (18 cm long) of small fragrant cream flowers from January to April. Seeds are not produced. New Zealand plants correspond to *Andredera cordifolia* subspecies *cordifolia*.

IMPACT • This vine forms heavy long-lived masses that dominate medium to high canopy. It tolerates a wide range of conditions. Although no seeds are produced, it spreads via the aerial tubers.

Araujia hortorum · mothplant





OTHER COMMON NAMES · cruel plant, white bladder flower **SYNONYM** · *Araujia sericifera* (misapplied in New Zealand) **DESCRIPTION** · This is an evergreen vine that grows to 10 m tall with pungent, milky sap and down stems which are woody near the base. It has dark-green leaves $(3-12 \times 2-6 \text{ cm})$ which are hairless and dull on the top, greyish-downy underneath and arranged alternately on the stems. Clusters of 2–4 bell-shaped white flowers (20–25 mm in diameter), occasionally with pink streaks, appear from December to May, followed by thick choko-like pods (10 × 7 cm) which contain hundreds of black thistledown-like seeds.

IMPACT · Mothplant produces abundant wind-dispersed seeds. It is long-lived, fast-growing and shade-tolerant, forming dense, heavy, smothering masses that overtop and strangle supporting plants. It invades intact or disturbed forest and is poisonous, with the sap also being a skin irritant. Mothplant has a very wide environmental tolerance, with frost the main limiting factor.

Aristea ecklonii · aristea, blue iris





Photos courtesy of Trevor James

DESCRIPTION · Aristea is a perennial with stiff, upright, iris-like leaves that grow in clumps up to 70 cm tall. In spring, dozens of small blue flowers are produced, which then turn into seed capsules 2 cm long containing flat dark brown seeds.

IMPACT · Aristea tolerates a wide variety of conditions. It spreads by seeds and also by division of the rooted clumps. It can form dense stands, displacing other species and opening canopy to invasion from other weeds.

WHAT TO DO · Contact your regional council to determine the status of this species and the responsibility for control and/or advice on control.

Α

4*rundo donax* **.** giant reed, arundo

Arundo donax · giant reed, arundo grass



Photos courtesy of Trevor James

DESCRIPTION · Giant reed is a clump-forming bamboo-like grass with a dense root mass and short rhizomes. It can grow up to 5 m in height. Hollow stems, up to 4 cm across, are initially erect but become semi-lax over time. Bluish-white (occasionally white-striped) bamboo-like leaves $(30-90 \times 5 \text{ cm})$ with parallel veins are arranged alternately, clasping the stems. A plume-like flowerhead is produced at the top of the stem in late summer.

Grass

IMPACT • This grass forms tall dense clumps, usually on wasteland, but is a potential weed of river and stream margins that can block waterways, promoting flooding. It provides a habitat for rats and possums, and poses a fire risk.



Asparagus aethiopicus · bushy asparagus (excluding cultivar 'Meyersii')





Photos courtesy of Trevor James

SYNONYM · A. densiflorus (misapplied in New Zealand).

DESCRIPTION · A trailing scrambler with thin wiry stems that grow from small tubers. The stems are branched towards the tips and have sparse cladodes (flattened leaf-like stems, 10-25 mm) that are flat in cross section. It has tiny pinkish flowers and bright red berries. It is sometimes confused with the foxtail fern (*Asparagus aethopicus* 'Meyersii'), which has upright stems with denser cladodes, and is excluded from the NPPA (it should be noted that there are variations of this cultivar name such as 'Myersii').

 $\label{eq:intermediate} \textbf{IMPACT} \cdot \textbf{Bushy} \text{ asparagus forms dense patches, is touch} \\ \textbf{and has long-lived tubers that resprout.}$

Asparagus asparagoides · smilax, bridal creeper





Photo courtesy of Carolyn Lewis

SYNONYM · *Myrsiphyllum asparagoides*

DESCRIPTION · Smilax is a scrambling or twining perennial with dense clusters of white tuberous roots and thin-branched green stems to 3 m. The true leaves are inconspicuous, but it has ovalish pointed cladodes which resemble leaves $(10-35 \times 4-15 \text{ mm})$ scattered along the stem. Greenish-white flowers (5–6 mm) appear from July to August, followed by round red berries (6-10 mm) each containing 2–8 tiny black seeds.

IMPACT · Smilax has tough wiry stems and a smothering growth habit. It has long-lived tubers that resprout following control, making it a difficult species to kill. The seeds are dispersed by birds. Smilax is a serious weed in Australia, where it is known as bridal creeper.

Asparagus plumosus · asparagus fern





Photos courtesy of Trevor James

SYNONYM · A. setaceus (misapplication in New Zealand)

DESCRIPTION · This slender, scrambling, evergreen vine has stems that are feathery and flattened with fine, round leaves in bunches of between 7 to 20 from each node. The flowers are small and white and are found at the end of the stems in groups of up to four. Asparagus fern has small round dark purple berries (approximately 6 mm in diameter) that contain up to three black seeds.

IMPACT · Asparagus fern competes with forest regeneration through scrambling and strangling surrounding vegetation.

Asparagus scandens · climbing asparagus



Photos courtesy of Trevor James

SYNONYM · *Myrsiphyllum scandens*

DESCRIPTION · This vine is a scrambling or climbing perennial with tuberous roots, and green, thin, wiry stems (2–4 m long) that are branched at the top. The true leaves are inconspicuous, but it has flat cladodes (5–15 mm × 1–1.5 mm) that are leaf-like (resembling miro). These are usually in groups of three at each node. Tiny whitish flowers appear from September to December, and are followed from October to February by round berries (8 mm in diameter) that ripen from green to yellow.

Vine

IMPACT · Climbing asparagus forms dense patches on the ground or sub-canopy in most forest types. The combination of wiry stems and dense foliage smothers small plants. It has tough long-lived tubers that resprout easily, a moderate growth rate and well-dispersed seeds.

Berberis darwinii · Darwin's barberry





Photos courtesy of Department of Conservation & Trevor James

DESCRIPTION • This is an evergreen shrub that grows up to 4 m high. It has small clusters of dark-green leaves (each up to 3 cm long) with spiny edges and five short sharp spines below each group of leaves. Small yellow-orange flowers are produced in small clusters from September through to February, and are followed by hanging groups of purple-black berries with a white bloom on the surface.

IMPACT · Birds eat the berries and spread the seeds of this plant. It can invade native bush and replace native species.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Shrub

Bomarea multiflora · bomarea, climbing alstromeria



Vine



Photos courtesy of Department of Conservation

SYNONYM · B. caldasii

DESCRIPTION · Bomarea has tuberous-rooted vines with thin, pale green, elongated and pointed leaves. It produces trumpet-shaped flowers in dense drooping clusters of 15–20 or more; flowers are tinged red on the outside, and bright yellow with red spots on the inside. Flowering is mainly in the spring or summer. The fruit is a capsule that ripens and splits to reveal bright orange/red fleshy seeds.

IMPACT • If uncontrolled, bomarea can smother and destroy garden plants. It also invades remnant forest and shrubland interiors, with the vines growing into the tree canopy forming large masses which overtop and smother the supporting trees. Extensive infestation in the tree canopy can alter light levels, damage trees and prevent the establishment of native species.

Bryonia cretica · white bryony





Photos courtesy of Jaap Knegtmans and Trevor James

DESCRIPTION • White bryony is a soft green cucumber like vine that climbs up to 6 m by means of its curled tendrils. It produces clusters of small cream white flowers in spring/summer, with male and female flowers on separate plants. On female plants these are followed by 8 mm berries, in bunches of 3-8 that ripen to light red from January to April. The shoots die back in autumn to a persistent perennial tuber. New Zealand plants correspond to *Bryonia cretica* subspecies *dioica*.

IMPACT · White bryony smothers and shades out whatever it grows on. It is dispersed by birds and its tubers are hard to find. The fruit and tubers contain toxic alkaloids, which may be poisonous if consumed in quantity. White bryony is of very limited distribution in the wild in New Zealand.

WHAT TO DO · All sightings must be reported to Ministry for Primary Industries on 0800 80 99 66.

В

Shrub

Calluna vulgaris · heather, ling (excluding double flowered cultivars)



Photos courtesy of Trevor James

DESCRIPTION · Heather is an evergreen plant that can grow up to 60 cm high. Its leaves are tiny and are arranged in four rows. Individual flowers are small, purple or pink, and arranged in dense spikes produced between December and March. Although individual flowers are small, groups of plants can make a colourful display. The fruit capsule breaks open to disperse seeds.

IMPACT · This plant tolerates cold, some shade and poor soils. In some parts of New Zealand (for example Tongariro National Park) it is an invasive weed of tussock grasslands.



Cardiospermum grandiflorum · balloon vine





Photo courtesy of G. D. Carr, Dept of Botany, University of Hawaii

DESCRIPTION · Balloon vine is a perennial climber. Its name comes from the light-green thin-walled papery 4-8 cm long inflated capsule containing three black seeds. The light-green leaves are divided into three sets of three leaflets. White four-petalled flowers occur throughout the year.

IMPACT · The fruits are carried by wind or water. The plant grows in moist areas along river edges, forest margins and road edges. It can climb up to 10 m high, smother taller vegetation and shade small plants.

Cardiospermum halicacabum · small balloon vine





Photo courtesy of J. Manhart, Herbarium, Dept of Biology, Texas A & M University

DESCRIPTION · This is a smaller version of balloon vine, growing up to 3 m high. Each leaf has three coarsely toothed leaflets. The flowers are minute (3 mm across) and greenish-white in colour. Flowers are followed by 2 cm papery inflated fruits like a three-sided balloon containing black seeds, each with a pale heart-shaped mark. This vine has a pair of tendrils in each flower cluster.

IMPACT · This plant thrives in full sun and well-drained soil. Small balloon vine can climb over and smother other plants.

Carex pendula · drooping sedge, Otahuna sedge

Grass



DESCRIPTION • This species is a tall-growing sedge with stems that can be up to 2.5 m tall. These smooth stems are three sided, with leaves that are between 15 and 20 mm wide. The flower spikes are up to 15 cm long and have a distinctive drooping appearance.

IMPACT · This plant can displace native species in a wide range of habitats (particularly wetlands) due to its large size and prolific seeding capacity.

Carpobrotus edulis · iceplant



Photo courtesy of Trevor James

Includes ×*Carpophyma mutabilis*

DESCRIPTION · Iceplant is a low-growing perennial with fleshy succulent leaves 7-12 cm long. Large (up to 10 cm diameter) many-petalled yellow flowers can be produced year-round but are most common from October to February. Flowers are followed by fleshy fruit. Hybrid plants are slightly smaller with pink, orange, yellow or whitish flowers. Hybrid plants do not form seeds but spread by stem fragments.

IMPACT · Iceplant forms mats over sand dunes and open areas, displacing other vegetation. It can also change the structure of sand dunes. The South African iceplant species (*Carpobrotus edulis*) hybridises with and replaces the much smaller pink-flowered native iceplant (*Disphyma australe*).

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Ground Cover

Celastrus orbiculatus · climbing spindle berry





Photos courtesy of Salisbury University Arboretum

OTHER COMMON NAMES · Oriental bittersweet

DESCRIPTION · Climbing spindle berry is a deciduous vine that can grow up to 12 m tall. Leaves taper to a point, are 5-10 cm long and serated. Climbing spindle berry has inconspicuous flowers, followed by brilliant orange fruit with a scarlet centre. It is easiest to find in the autumn when the leaves turn yellow.

IMPACT · Climbing spindle berry is a vigorous vine that prefers sunny spots but is also shade-tolerant. Once established, it can 'wait' for a disturbance in forest canopy and then compete with native species for resources.

Cenchrus (all species*)



Photos courtesy of Trevor James

SYNONYMS · Pennisetum

DESCRIPTION · The *Cenchrus* genus comprises large annual or perennial grasses growing to 1-4 m tall. Most species are prolific seeders with conspicuous feathery seed heads. The four most common NPPA species are:

Grass

- Cenchrus macrourus African feather grass, veld grass.
- Cenchrus purpurascens Chinese pennisetum, fountain grass, swamp fox-tail grass.
- Cenchrus longisetus feather top.
- Cenchrus setaceus African fountain grass, fountain grass.

IMPACT · *Cenchrus* competes with native species and can establish populations in pasture and grasslands.

WHAT TO DO \cdot Contact your regional council to determine the status of this species and responsibility for control and/ or advice on control.

*excludes *C. clandestinum* (kikuyu grass), *C. americanus* (pearl millet) and *C. caliculatus*.

Ceratophyllum demersum · hornwort, coontail



Photos courtesy of Rohan Wells

DESCRIPTION · Hornwort is a submerged freshwater weed found in still and flowing waters, growing to depths of 16 m in clear deep lakes. Leaves are finely divided, with minute teeth which make the plant feel rough to the touch. It lacks roots but has modified leaves that anchor the plant in bottom sediments.

IMPACT • New plants can form from each piece of the easily broken stems. Hornwort rapidly invades water of varying clarity, temperature, light and nutrient level, and its dense growth habit crowds out native species. It is a major weed in hydroelectric dams, also impeding irrigation, drainage and other water uses.

WHAT TO DO · Hornwort is still of limited distribution in much of New Zealand, and has only recently been discovered in the South Island. In the North Island contact your regional council to determine the status of this species and responsibility for control and/or advice on control. **Report all sightings in the South Island to Ministry for Primary Industries** on 0800 80 99 66.

Aquatic Plan

Cestrum aurantiacum · orange cestrum



Photos courtesy of Trevor James

DESCRIPTION · Orange cestrum is a shrub that grows to 2 m high, characterised by its clusters of orange tubular flowers that appear from November to July. The stem becomes woody as the plant matures. It is uncommon to see berries on this plant but, when present, they are white.

IMPACT • This plant invades both native bush and exotic forest. It prevents native plant seedlings from establishing through formation of dense stands in forest understorey and shrubland. All *Cestrum* species are reported to be poisonous to livestock.



Cestrum elegans · red cestrum



Photos courtesy of Trevor James

Shrub

SYNONYM · Cestrum purpureum

DESCRIPTION · Red cestrum is a shrub that grows 2-4 m high. It has dense clusters of scentless magenta-crimson red flowers from January to December, with pale green hairy leaves that omit an offensive smell if crushed or bruised. The green stem becomes woody as the plant matures. It is uncommon to see berries on this plant but, when present, they are crimson to dark red.

IMPACT • This plant invades both native bush and exotic forest. It prevents native plant seedlings from establishing through formation of dense stands in forest understorey and shrubland. All *Cestrum* species are reported to be poisonous to livestock.
Shrub

Cestrum fasciculatum* · red cestrum, early jessamine



Photos courtesy of Trevor James

*Including Cestrum 'Newellii'

DESCRIPTION · This species is an upright woody shrub, growing up to 4 m in height. It has clusters of hairy scarlet red-purple flowers that form over August to March. It has dark red berries which are uncommon. The leaves omit an offensive smell if crushed or bruised.

IMPACT • This plant invades both native bush and exotic forest. It prevents native plant seedlings from establishing through formation of dense stands in forest understorey and shrubland. All *Cestrum* species are reported to be poisonous to livestock.

Cestrum nocturnum · queen of the night





Photos courtesy of Trevor James

DESCRIPTION • This species is a shrub that grows between 1.5 and 2.5 m in height with a stem that becomes woody as it matures. It produces greenish white flowers which are fragrant at night, appearing from November to March. Glossy white berries, between 5 and 10 mm in diameter, can be found on this plant.

IMPACT · This plant invades both native bush and exotic forest. It prevents native plant seedlings from establishing through formation of dense stands in forest understorey and shrubland. All *Cestrum* species are reported to be poisonous to livestock.

Cestrum parqui · green cestrum





Photos courtesy of Trevor James

DESCRIPTION · Green cestrum is a shrub that grows 1-3 m high. Its erect stems become woody as it matures. Leaves are hairless, up to 120 cm long and 2.5 cm wide, and foul-smelling when crushed. They are arranged alternately on the stems. The greenish-yellow tubular flowers (15–23 mm long), in dense clusters at the end of the branches, appear from November to June. Flowers are followed by glossy purplish-black berries about 1 cm long.

IMPACT • This plant grows anywhere with high temperatures and high rainfall, and forms dense stands in the forest understorey, preventing the establishment of native plant seedlings. **The whole plant is toxic to both animals and humans.**

Chrysanthemoides monilifera · boneseed

Shrub



Photo courtesy of Trevor James

DESCRIPTION • This is a bushy shrub that grows 2–3 m high. Stems are ribbed and woolly when young but become smooth as they mature. Smooth, leathery, bright-green leaves (7 × 3.5 cm) have irregularly toothed edges and are arranged alternately on the stems. Bright-yellow daisy-like flowers (25–30 mm across) are produced from September to February, followed by hard, oval, green fruit (6–9 mm) which ripen to black and contain a hard seed.

IMPACT · Boneseed replaces lower-growing native species and prevents the establishment of native plant seedlings. It colonises disturbed sites faster than native species, and creates heavy shade in otherwise open spaces.

Vine

Clematis flammula · clematis, fragrant virgin's bower, plume clematis



Photos courtesy of Trevor James

DESCRIPTION · Fragrant virgin's bower is a deciduous climbing vine with long woody round and weakly ribbed stems. Leaves are in opposite pairs on the stem and are bipinnate with thick, sparsely hairy, unlobed small leaflets that fall in Autumn. Its white flowers appear in large bunches from January to March, and are followed by dense, fluffy clusters of hairy seeds (5–6 mm long) with distinctive white-plumes (3–4 cm long) in May.

IMPACT · Fragrant virgin's bower grows rapidly and can smother plants to medium canopy height. This can prevent native species establishing. It moves readily into shrub land and forest margins as stems take root where they touch the ground.

Clematis vitalba · old man's beard





DESCRIPTION • This is a deciduous climbing vine that grows to 20 m tall. It has very long woody stems with six prominent ribs, and pale easily rubbed-off bark. Leaves are arranged in opposite pairs on the stems, and are made up of five leaflets. The thin leaftlets are sparsely hairy and have bluntly toothed or smooth edges. Fragrant creamy-white flowers (2–3 cm in diameter) are produced from December to May. Flowers are followed by grey hairy seeds with distinctive white plumes (3–4 cm long) in dense fluffy clusters persisting over winter (hence the name 'old man's beard').

IMPACT · This vine smothers and kills all plants to the highest canopy, and prevents the establishment of native plant seedlings. It moves readily into established forest over the canopy by layering. Seeds are spread by wind, water, the movement of soil, etc.

Clerodendrum trichotomum · clerodendrum





Photos courtesy of Trevor James

SYNONYM · Sometimes sold as *Clerodendrum fargesii*

DESCRIPTION \cdot This species is a large shrub or small tree (up to 6 m in height) with clusters of fragrant white flowers on branching stems from December to March. The fruit is bright blue surrounded by a magenta red calyx.

IMPACT · Naturalises in pastoral land and has the potential to invade open disturbed sites and semi-shaded habitat. Seeds are poisonous, and handling the plant can cause skin irritations.

Cobaea scandens · cathedral bells, cup and saucer vine





Photos courtesy of Trevor James

DESCRIPTION · Cathedral bells is a fast-growing perennial vine. It grows over trees and shrubs in open forest-edge situations after escaping from gardens. It has bell-shaped flowers that are green when young but turn purple once pollen is shed. Capsules are hard, oval and usually 5.5–8.5 cm long. They split into sections to release numerous flat, winged seeds.

IMPACT · The vines can grow over trees and shrubs, forming a dense canopy and smothering desirable plants.

Cortaderia jubata · purple pampas



Photos courtesy of Department of Conservation

DESCRIPTION • This is a giant clump-forming grass growing up to 3 m or more. The leaves tend to droop, and each has sharp edges and a wide conspicuous midrib but no secondary veins between midrib and leaf edge. Both leaf surfaces are dark green. Leaves snap readily when tugged, and dead leaf bases curl like wood shavings (unlike the related native toetoes). From January to March dense, erect, fluffy, brightpurple flower heads are produced well above the foliage. They later fade to a dirty brown.

Grass

IMPACT · Windborne seeds allow the grass to easily spread far and wide. It readily colonises disturbed sites, quickly becomes dense and can suppress the growth of other species. It replaces ground cover, shrubs and ferns, creates a fire hazard, provides habitats for possums and rats, and impedes access.

Cortaderia selloana · pampas





Photo courtesy of Department of Conservation

DESCRIPTION · Pampas is a giant, clump-forming grass that can grow to 4 m or more. The leaves are bluish-green above and dark-green below, and have a conspicuous midrib and sharp edges but no secondary veins between midrib and leaf edge. The leaves snap readily when tugged. Dead leaf bases curl like wood shavings, (unlike the related native toetoes). Fluffy white-pinkish flower heads are produced from mid-March to June and fade to a dirty white colour as seeds form.

IMPACT · Windborne seeds allow the grass to easily spread far and wide. It readily colonises disturbed sites, quickly becomes dense and can suppress the growth of other species. It replaces ground cover, shrubs and ferns, creates a fire hazard, provides habitats for possums and rats, and impedes access.

Cotoneaster simonsii · Khasia berry



Shrub



Photo courtesy of Department of Conservation

DESCRIPTION · Khasia berry is a deciduous or semievergreen shrub that grows up to 4 m. Young stems are covered with dense brown downy hairs. As the plant ages, stems become hairless and brownish-grey and are often covered in sooty mould. Leaves are shiny pale-green $(13-25 \times 7-15 \text{ mm})$ and have thin hairs on top when young but are hairless when mature. Clusters of one to four small whitish to pale-pink flowers appear from November to December. Flowers are followed by shiny orange-red or scarlet berries (5–10 mm long).

IMPACT · This shrub forms the understorey in open forest and invades margins. It overtops and replaces shrub species, and prevents the establishment of native plant seedlings.

Cotyledon orbiculata · pig's ear



Photos courtesy of Trevor James

DESCRIPTION · Pig's ear is a succulent species with greygreen opposite leaves with red margins. The leaves appear greyish and powdery. In summer, clusters of orange bell shaped drooping flowers form on 60 cm stalks from the centre of the leaf rosette. Flowers are about 2.5 cm in length.

 $\ensuremath{\textbf{IMPACT}}$ \cdot Pig's ear competes with and replaces native species, mainly in coastal areas. It can also be poisonous to stock.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Cotyledon orbiculata · pig's ear

Shrub

Crassula multicava · fairy crassula, pitted crassula





Photo courtesy of Department of Conservation

DESCRIPTION - Fairy crassula is a creeping succulent herb. Leaves are fleshy, about 4×4 cm and covered with small, pitted dots. Flowers are pale pink and small, but in large clusters. Small plantlets develop in these clusters after flowering.

IMPACT · Fairy crassula spreads easily by small fragments, particularly on rocky sites. While it grows well in open areas it also tolerates some shade, competing with native species.

Cyathea cooperii · Australian tree fern, lacy tree fern



Fern / Fern Ally



SYNONYM · Sphaeropteris cooperi

DESCRIPTION - Australian tree fern can grow up to 12 m in height, and has a slender trunk of about 7.5–15 cm thick. It looks similar to native tree ferns, but the stipe base has two different types of scales, the first being dark small scales, and the other being large, pale papery scales. The fronds can grow up to 5 m long.

IMPACT · Australian tree fern is a fast growing fern that can displace native vegetation by forming dense stands. Its spores also spread easily by wind and germinate rapidly.

Vine

Dipogon lignosus · mile-a-minute, Dolichos pea



Photos courtesy of Trevor James

SYNONYMS · Dolichos capensis, Dolichos gibbosus, Dolichos lignosus, Verdcourtia lignosa

DESCRIPTION · Mile-a-minute is an evergreen climbing vine. Stems are rounded and moderately hairy. Leaves, green above and pale below, are made up of three heart-shaped leaflets (25–55 mm long). Pea-like white, lavender and white, or pink to reddish-purple flowers (10–15 mm long) are produced from July to January. Flowers are followed by sickle-shaped seed pods (30–40 mm long).

IMPACT • A fast-growing vine, it smothers and kills most plants from ground level to medium canopy and prevents the establishment of native plant seedlings. It thrives in bare sites and increases nitrogen in impoverished soil types, potentially changing the species that can grow there.

Drosera capensis · Cape sundew





Photos courtesy of Department of Conservation

DESCRIPTION - Cape sundew is a perennial, with linear leaves up to 6.5 cm long, arranged in a basal rosette. The leaves are densely covered with tentacle-like hairs, each tipped with a sticky sap that attracts and captures small insects. Leaves curl around captured prey and then enzymes are secreted to digest it. Cape sundew is easily distinguished from New Zealand native species. It has dark-pink flowers borne in long flower spikes, whereas the New Zealand plants do not.

IMPACT · Cape sundew grows well in a range of New Zealand wetlands, displacing small native plant species. It spreads rapidly by seed. Seeds spread by water and animals (that drink seed heads in water).

Eccremocarpus scaber · Chilean glory creeper





Photo courtesy of Department of Conservation

OTHER COMMON NAMES · Chilean glory vine, glory vine, Chilean glory flower

DESCRIPTION · Chilean glory creeper is a rapidly growing perennial vine and is evergreen or deciduous in colder climates. The leaves are bipinnate and there are three to seven leaflets. It has numerous orange-red tubular flowers in summer. Seeds have a prominent wing that aids dispersal.

IMPACT · Chilean glory creeper is a rapid-growing vine that prefers open, sunny, well-drained areas.

Egeria densa · egeria, oxygen weed, Brazilian elodea

Aquatic Plant



Photos courtesy of Rohan Wells

SYNONYMS · Anacharis densa, Elodea densa

DESCRIPTION · Egeria is a freshwater aquatic herb. It is bottom-rooted, and grows up to 5 m tall. It is denser and leafier than other oxygen weeds elodea, hydrilla and lagarosiphon, and produces white flowers which protrude to just above the waterline.

IMPACT · Stems of egeria reroot, and then form new colonies which grow taller than other native species. Once established, egeria is very difficult to manage. It is a major weed in hydroelectric dams, also impeding irrigation, drainage and other water uses.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

F

Ehrharta villosa · pyp grass





Photos courtesy of Horizons Regional Council, Trevor James, and The Conservation Company

DESCRIPTION · Pyp grass is a perennial grass growing from long, creeping rhizomes. The jointed stems are robust and usually around 90 cm tall, although they can be up to 150 or even 200 cm tall. Leaves are bluish-green and short in proportion to the stems, about 1.5–13 cm long. The leaves may be absent. The inflorescence is a panicle up to 25 cm long, narrow and rather lax.

IMPACT • Pyp grass has a limited distribution in New Zealand, being known from three sites where it has invaded sand dunes. Pyp grass is a serious agricultural weed in South Australia. It commonly grows as a dense sward displacing most other species, in some cases even scrambling over shrubs up to 2–3 m in height. Pyp grass is a significant threat to sand dune systems throughout New Zealand. It has potential to invade dunes and contribute to the degradation of sand dune habitats.

WHAT TO DO \cdot All sightings must be reported to Ministry for Primary Industries on 0800 80 99 66.

F

Eichhornia crassipes · water hyacinth



Aquatic Plant



Photo courtesy of Melanie Newfield, Ministry for Primary Industries

DESCRIPTION · Water hyacinth plants consist of a freefloating rosette of shiny rounded leaves with thick masses of feathery roots which hang in the water. The roots are dark in colour and can reach 2.5 m in length. A single flowering stalk with a cluster of mauve-blue flowers, each with a vellow spot. is produced from the rosette. The stalk grows up to 50 cm above the leaf canopy. Plants produce floating horizontal stems from which new plants arise. Mature mats of this plant are held together by these stems.

IMPACT · Water hyacinth forms dense mats, completely smothering large waterways and badly affecting water quality. These mats kill off native plants, attract breeding mosquitoes, block dams and irrigation systems, remove oxygen from the water and create a drowning risk for people and animals.

WHAT TO DO · All sightings must be reported to Ministry for Primary Industries on 0800 80 99 66.

Ε

Eomecon chionantha · snow poppy





Photos courtesy of Trevor James

OTHER COMMON NAMES · poppy of the dawn, Chinese bloodroot

SYNONYM · Eomecon chionanthum

DESCRIPTION · This is a herbaceous perennial which spreads by underground rhizomes. Snow poppy grows low to the ground and has small oval leaves with scalloped edges. In spring, a pure-white four-petalled flower blooms, with bright golden-yellow stamens.

IMPACT · Snow poppy is a shade-tolerant ground cover which has recently gone wild in New Zealand and begun spreading into the bush.

Equisetum (all species) · horsetail



Fern / Fern Ally



Photos courtesy of Environment Canterbury / Trevor James

DESCRIPTION · Horsetails are mostly small perennials (but one species can be as tall as 2 m) that grow from creeping rhizomes. They often have separate sterile and fertile shoots, the latter producing spores. The sterile stems are hollow and jointed, with bristle-like branches growing from the joints. All species grow in wet places.

IMPACT · Invasive in wet places, species in this genus are extremely hard to control once they are established, being resistant to most herbicides.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Ε

Eragrostis curvula · African love grass



Photo courtesy of Department of Conservation

DESCRIPTION • African love grass is a vigorous deep-rooted clump-forming perennial grass growing 1.5 m tall. It is densely tufted, with narrow leaves that are harsh to the touch, have margins rolled inwards and are usually hairless. It has pyramid-shaped flower heads with small white flowers.

Grass

IMPACT · African love grass quickly forms dense strands in open country, displacing other grasses.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Ε

Erigeron karvinskianus · Mexican daisy





Photo courtesy of Department of Conservation

SYNONYMS · Erigeron mucronatus

DESCRIPTION • This is a sprawling perennial daisy which grows to 40 cm tall with fibrous roots and long thin stems. It has small narrow leaves (the upper leaves are usually three-lobed) which are fragrant when crushed, and white, white-purplish or pink daisy-like flowers with a central yellow disc from January to December, followed by masses of fluffy seeds.

IMPACT · Mexican daisy forms dense mats and produces huge amounts of seeds that travel long distances.

Euonymus japonicus · Japanese spindle tree



Photos courtesy of Trevor James

Includes large-leaved, variegated cultivars, but excludes smallleaved *Euonymus* cultivars such as 'Microphylla' and 'Emerald Gem'.

Shrub

DESCRIPTION • This is a hairless, evergreen shrub or small tree growing to 7 m. It has round or slightly ribbed twigs which are usually smooth but wrinkle when dry, and glossy, ovalish, finely toothed leaves (25–70 mm long) in opposite pairs along the stems. Japanese spindle tree is usually grown as a variegated yellow-leaved cultivar, but all seedlings revert to the green form. Its flowers are green. It has fleshy, round, pink seed capsules (6–10 mm in diameter) which are four-celled with orange to red flesh surrounding the seeds.

IMPACT · It forms dense stands in open or shady sites including forest margins, disturbed and secondary inland and coastal forest and shrubland, and coastal cliffs and sand dunes preventing the establishment of native plant seedlings.

Fallopia japonica (and hybrids) · Asiatic knotweed

Herb





Photo courtesy of Trevor James

OTHER COMMON NAMES · Japanese knotweed, Mexican bamboo

SYNONYMS · Polygonum cuspidatum, Polygonum reynoutria, Reynoutria japonica

DESCRIPTION · Asiatic knotweed is an upright shrub-like herbaceous perennial that can rapidly grow to 3 m in height. It has red-purple shoots which appear early in spring but, as the canes grow, the leaves unfurl and the plant turns green. The mature canes are hollow and have a characteristic pattern of purple speckles. The leaves are long and triangular (15 × 10 cm) and pointed at the tip, with a characteristic flattened leaf base. In late summer it produces masses of creamy white flowers.

IMPACT · Once established, Asiatic knotweed forms dense stands that shade and crowd out all other vegetation, displacing native flora and fauna.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

F

Fallopia sachalinensis (and hybrids) · giant knotweed

Fallopia sachalinensis (and hybrids) · giant knotweed





Photos courtesy of Trevor James

SYNONYMS · *Reynoutria sachalinensis, Polygonum sachalinense*

DESCRIPTION · Giant knotweed is similar to Asiatic knotweed but is taller, growing to heights of 4 m. Note: Hybrid plants (*Fallopia* ×*bohemica*) have characters intermediate between the two parents.

IMPACT · Once established, giant knotweed forms dense stands that shade and crowd out all other vegetation, displacing native flora and fauna.

Ficus rubiginosa · Port Jackson fig



Photo courtesy of Trevor James

DESCRIPTION • Port Jackson fig is an evergreen tree (to about 15 m) that often begins life as an epiphyte. Young stems are finely hairy and become hairless as they mature. Its leaves are narrow-oval and leathery (6-12 cm long). The tops of leaves are shiny and hairless, while the underside is densely covered in fine hairs and is pinkish-brown in colour. Small round green flowers with rusty hairs develop into deep-yellow to dull-red fruit (12-20 mm long).

IMPACT · Port Jackson fig is a strangler fig that grows into a long-lived large tree. It can damage or kill its supporting plant, and can invade scrub and forest in any successional phase and regardless of disturbance. It is very droughttolerant, and is a major threat to native lava communities (for example, Rangitoto Island).

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Tree

Fuchsia boliviana · Bolivian fuchsia





Photo courtesy of Department of Conservation

DESCRIPTION · Bolivian fuchsia is a small erect shrub (2–5 m tall) with grey-green opposite leaves (5–10 cm long). Red (or sometimes white) trumpet-like flowers are produced in hanging, terminal clusters, followed by cylindrical dark-purple berries.

IMPACT • Bolivian fuchsia forms dense tall thickets of up to 2 m. It establishes along track and stream sides, along forest margins, and in disturbed and intact forest, and is very shade-tolerant. It is also able to disperse large distances from cultivated and naturalised individuals via bird dispersal.

Gunnera tinctoria · Chilean rhubarb





Photo courtesy of Department of Conservation

DESCRIPTION · Chilean rhubarb is a large clump-forming herbaceous plant which can grow up to 2 m high. It has stout rhizomes, and massive umbrella-sized leaves which, along with the stems, are covered in rubbery prickles. Overall the plant resembles a giant rhubarb, hence its name. In summer, tiny green flowers are formed on a spike which is up to 1 m long. The flowers are followed by tiny red fruit.

IMPACT · Chilean rhubarb forms dense colonies and displaces native vegetation. For example, it has invaded coastal cliffs in Taranaki which are home to a number of low-growing endangered plants. Birds spread the seeds into remote areas.

Gymnocoronis spilanthoides · Senegal tea



Marginal Aquatic Plant



Photos courtesy of D. Burnett / P. Mabin / R. Smart

OTHER COMMON NAMES · temple plant, costata

DESCRIPTION • This is a perennial aquatic herb which grows to more than 1 m tall. It has hollow stems (1–1.5 m long and 5–10 mm in diameter at first, increasing to 20 mm with age) which become prostrate and take root at nodes. It also has dark-green, slightly waxy, lanceshaped leaves ($50-200 \times 25-50$ mm) with serrated edges. From November to April, highly scented clover-like flower heads are produced with many thin white 'petals' (florets). Flowers are followed by small seeds. Senegal tea is dormant over winter and dies back to rootstock if chilled.

IMPACT · Senegal tea grows very quickly, and is known to rapidly cover water bodies with a floating mat, excluding other plants and the animals that rely on them. The effects of flooding are made much worse because infestations block drainage channels. Recreational activities, irrigation and navigation may also be affected.

Hedychium flavescens · yellow ginger





Photo courtesy of Trevor James

DESCRIPTION • This plant is a non-woody ginger-scented perennial growing to 2.5 m tall, with massive taro-like rhizomes that are long and shallow-rooted and grow over each other to form deep beds. Each rhizome segment $(4 \times 10 \text{ cm})$ usually produces an aerial stem each year. These stems grow to 2.5 m and are erect. Leaves $(50 \times 10 \text{ cm})$ are alternate and shiny, and point upwards. Flower heads $(15 \times 10 \text{ cm})$ with fragrant cream-coloured flowers in clusters are produced in May to June. However, no fruit is produced.

IMPACT · Yellow ginger is long-lived and fast-growing, and forms deep rhizome beds. Rhizomes resprout from any fragment, and can survive for years away from soil. They can also survive crushing and immersion in the sea. No seed is produced so virtually all spread is the result of human activity, such as dumping garden waste.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

н

Hedychium gardnerianum · Kahili ginger



Photo courtesy of Trevor James

DESCRIPTION · Kahili ginger is a non-woody perennial growing to 2 m tall, which is also ginger-scented. Like yellow ginger, it has long shallow-rooted rhizomes which grow over each other close to the ground surface and form deep beds. Each rhizome segment produces an aerial stem and has shiny, slightly hanging, alternate leaves ($20-45 \times 10-15$ cm). The flower heads (which are 25-45 cm tall with fragrant lemon-yellow flowers with conspicuous red stamens) are different from yellow ginger. These develop into fruiting spikes with fleshy orange fruits (15-20 mm long) which contain many bright scarlet seeds.

Herb

IMPACT · Kahili ginger is extremely shade-tolerant. It is long-lived and fast-growing and forms deep rhizome beds. It is spread by birds and also by human activity, such as dumping garden waste.

Heracleum mantegazzianum · giant hogweed

Herb



Photo courtesy of Trevor James

OTHER COMMON NAMES · cartwheel flower, wild parsnip, wild rhubarb

DESCRIPTION · Giant hogweed is a perennial that grows 4–6 m in height. It has stout dark-reddish-purple stems, and spotted leaf stalks with sturdy pustulate bristles which contain a toxic sap. The stems and stalks are hollow, the stems being 5–10 cm in diameter. Giant hogweed has extremely large leaves (up to 1.5 m) and tuberous root stalks. When the plant is two to three years old it produces large umbrella-like clusters of greenish-white flowers. It usually grows on the banks of rivers or creeks.

IMPACT · Giant hogweed is poisonous to humans. Touching it, or exposure to dust from weed-eating, can irritate skin and cause blisters and swelling. The toxin actually causes photosensitisation so that the skin reacts badly to sunlight.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

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Hieracium (all species) · hawkweed



Photo courtesy of Trevor James

DESCRIPTION · Hawkweeds, both *Hieracium* and *Pilosella*, comprise small hardy plants which colonise tussock lands. Tussock hawkweed (*H. lepidulum*) has 2 - 7 bright yellow flowerheads on each stem with hairy leaves that are purple underneath.

IMPACT · Hawkweeds grow rapidly in tussock grasslands, displacing native species.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

* also refer to Pilosella

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Ground Cover

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Homalanthus populifolius · Queensland poplar



Photos courtesy of Jonathan Boow, Auckland Regional Council

OTHER COMMON NAMES · bleeding heart tree, poplar leaved omalanthus

DESCRIPTION · Queensland poplar is a shrub or tree up to 5 m tall. It has smooth heart-shaped leaves which turn distinctively red with age. Individual flowers are small and inconspicuous, and occur in spikes up to 17 cm long. Fruits are up to 1 cm in diameter.

IMPACT · Queensland poplar produces prolific seeds and is spread by birds. It is shade-tolerant and competes with native species.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

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Houttuynia cordata · chameleon plant[|]

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Houttuynia cordata* · chameleon plant



Photos courtesy of Carolyn Lewis and Trevor James

DESCRIPTION - Chameleon plant is a perennial ground cover. The leaves are heart-shaped and are usually variegated cream, bronze, scarlet and green but may revert to a plain green colour. They have a peppery scent when crushed. The leaves are opposite along thin erect stems which arise from slender rhizomes, and the plant has minute flowers which are densely clustered on short spikes, with four white petal-like bracts at the base.

IMPACT · Chameleon plant has a very rapid growth rate, overtaking gardens where it is planted and being likely to displace native plants in forest and wetland ecosystems.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

* known in cultivation as H. cordata 'chameleon'.



Hydrilla verticillata · hydrilla, water thyme



Aquatic Plant



Photos courtesy of Rohan Wells / J. Clayton

DESCRIPTION · Hydrilla is a submerged perennial aquatic oxygen weed that can grow up to 9 m long in still or slow-flowing fresh water. The bottom-rooted plant forms underground tubers on the tips of rhizomes. Its thin many-branched stems are produced in whorls of three to eight with obvious toothed edges.

IMPACT · Hydrilla is spread primarily through stem fragments which are easily transported to other waterways by machinery, boats, trailers or nets. At present it is only found in four Hawkes Bay lakes, but once established is virtually impossible to eliminate, forming dense mats which clog waterways.

WHAT TO DO · You must report all sightings of this plant to Ministry for Primary Industries on 0800 80 99 66.

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18

Hydrocleys nymphoides · water poppy



Photos courtesy of Trevor James

Aquatic Plant



DESCRIPTION · Water poppy is a water lily-like perennial plant. Leaves are thick and shiny and float on the surface, with each shoot connected by a network of elastic creeping stems that form a dense mat. It has a distinctive three-petalled solitary pale-yellow flower with a dark-purple centre. Flowers are up to 8 cm across.

IMPACT · Water poppy grows rapidly in warm well-lit water bodies to depths of 2 m. It can completely choke streams, shallow ponds and lake margins, causing flooding and excluding native species.

Hypericum androsaemum · tutsan, sweet amber



Photos courtesy of Trevor James

DESCRIPTION · Tutsan is a small, perennial, semievergreen shrub. This plant grows to 1.5 m with fibrous roots and no rhizomes. Fragrant ovalish leaves (35–100 \times 25–50 mm) are usually bluish underneath and turn red in autumn. Yellow five-petalled flowers (15-25 mm in diameter) with long stamens appear from November to February. Flowers are followed by round red berries (1 cm in diameter) that ripen to black. The berries contain cylindrical or curved seeds (9–10 mm long).

IMPACT · Tutsan invades regenerating sites, forms dense stands and prevents the establishment of native plant seedlings. It is usually succeeded by taller vegetation, but is persistent in shorter habitats.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

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Ipomoea indica · blue morning glory



Photo courtesy of Trevor James

SYNONYM · Ipomoea congesta

DESCRIPTION - Blue morning glory is a high-climbing vine with tough hairy stems and tough fibrous roots without rhizomes. Its leaves are usually three-lobed and silky-hairy underneath. From late spring to early winter it produces groups of three to 12 deep-blue-purple, funnel-shaped flowers that are pink at the base, which wither in the midday sun.

IMPACT · Blue morning glory is very fast-growing, producing dense smothering blankets of foliage that can reach into the canopy. It quickly becomes the dominant vine wherever it occurs.

Iris pseudacorus · yellow flag iris



Marginal Aquatic Plant



Photo courtesy of Carolyn Lewis

DESCRIPTION • This is an aquatic perennial growing in leafy clumps up to 2 m tall, and arising from dense rhizomes (up to 3 cm in diameter). Sword-like leaves emerge in fans from a reddish base. From October to December it produces pale-yellow to golden-orange flowers (up to 12 cm in diameter), followed by seed capsules containing many brown, flattened, three-sided disc-like seeds.

IMPACT · Yellow flag iris is poisonous to humans and animals. Rhizomes form dense floating mats, and the plant overtops native species that grow on margins of water bodies, including estuarine areas. It can also invade flood-prone pasture.

Jasminum humile · Italian jasmine





Photos courtesy of Department of Conservation & Trevor James

DESCRIPTION · Italian jasmine is a scrambling shrub up to 2.5 m tall. Leaves are pinnate, usually with 3–7 oval leaflets up to 5 cm long but often much less in the wild. Yellow, trumpet-shaped flowers are up to 2 cm long and in clusters of up to 10. Flowers are followed by black fruit. It is sometimes confused with primrose jasmine (*Jasminum mesnyi*), but this species, which isn't reported as fruiting in New Zealand, has dark green leaves with only three leaflets and solitary flowers that are much larger.

IMPACT · Italian jasmine is particularly invasive around Golden Bay, where it forms large patches in forest gaps and cliffs, excluding native species. The fruit is spread by birds.

Juglans ailantifolia · Japanese walnut



Photos courtesy of Trevor James

SYNONYM · J. seiboldiana

DESCRIPTION · Japanese walnut is a tree that can grow to about 15 m in height. It produces fruit (2.5 to 4 cm long) that are walnut-like in appearance, with a green husk surrounding the nut. The leaves are large with up to 17 stalkless leaflets. Japanese walnut produces long, hanging male catkins and upright purple-pink female catkins.

IMPACT · Japanese walnut is a long-lived canopy tree that forms dense stands that prevent recruitment of other plant species. Many seedlings can occur close to the parent tree, outcompeting other vegetation. Japanese walnut invades disturbed forests, shrubland and edges of water courses.

Κ

Kennedia rubicunda · dusky coral pea, coral pea, running postman





Photos courtesy of Sheldon Navie, Technigro Pty Ltd

SYNONYM · *Glycine rubicunda*

DESCRIPTION · This large vine has leaves composed of three oval leaflets with brown hair on the lower surfaces. The leaves are spaced alternatively along the stem. The flowers are a dull red colour (35×15 mm). It forms flattened seed pods (15 to 100 mm in length) that are not dissimilar to pea pods.

IMPACT · *Kennedia rubicunda* grows rapidly and has the ability to shade, smother and suppress the growth of both low-growing and canopy species. It is invasive in a wide range of dry habitats where it can have an impact on native plant species. It is a potential weed of forestry.

Lagarosiphon major · lagarosiphon, oxygen weed

Aquatic Plant



Photos courtesy of Rohan Wells

DESCRIPTION - Lagarosiphon is a submerged bottomrooting perennial which grows up to 5 m tall. Leaves are arranged spirally around the stem, and are curved backwards or downwards. All other oxygen weed species have leaves arranged in groups (whorls) of three to eight, rather than alternately. Tiny pinkish flowers are produced.

IMPACT · Lagarosiphon grows quickly, forming dense mats which block waterways and displace native plants. It is a major weed in hydroelectric dams, also impeding irrigation, drainage and other water uses.

Lamium galeobdolon* · aluminium plant, artillery plant

Ground Cover



Photos courtesy of Trevor James / Department of Conservation

SYNONYMS · Galeobdolon luteum, Galeobdolon argentatum

DESCRIPTION · This is a mat-forming perennial ground cover. Stems are square and purple in colour. Aromatic mint-like oval leaves ($30-80 \times 25-60$ mm) are coarsely serrated along the edges, and arranged alternately on the stems. The leaves are hairy below, with large pale-silvery-grey patches on the upper surface. From December to May, tubular hairy lemon-yellow flowers (20-25 mm long) are produced.

IMPACT · This herb forms a dense ground cover in shaded areas and prevents seedlings of native species establishing.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

* includes cultivar 'Variegatum'.

Lantana camara (all varieties) · lantana

Shrub



Photos courtesy of Department of Conservation

DESCRIPTION · Lantana is a significant weed with more than 600 varieties. It is a low, erect or scrambling shrub with backwards-pointing prickles and a strong root system. Its leaves are wrinkly and more or less oval, with dense and often prickly hairs on the upper surface. The small flowers can be many different colours and occur in clusters, often with more than one colour in a single cluster, for example yellow and pink. Flowers are followed by small blue-black fruit. *Lantana camara* var. *aculeata* is the most common variety of lantana found in New Zealand. It has small cream and pink flowers in bunches, but other varieties may have other flower colours, such as orange.

IMPACT · Overseas, lantana is a major weed of both natural and agricultural ecosystems, and is spreading in New Zealand as the climate warms. It grows in clumps or dense thickets and crowds out more desirable species. It is sometimes toxic to livestock.

Ligustrum lucidum · tree privet



Photos courtesy of Department of Conservation & Trevor James

DESCRIPTION • This is an evergreen hairless tree that can grow to more than 15 m. This plant has distinctive lumpy warts on the stems. Dark-green leaves $(5-13 \times 3-6 \text{ cm})$ are glossy on the top surface and arranged in opposite pairs on the stems. Tiny fragrant creamy flowers $(25 \times 20 \text{ cm})$ are produced from November to March. The smell is unpleasant to some people. Flowers are followed by bluish or purplish-black berry-like fruit $(6 \times 5 \text{ mm})$ coated with a powdery 'bloom'.

Tree

IMPACT • Tree privet forms a dense carpet of seedlings on the forest floor, and grows through the understorey to dominate and replace canopy trees in most forest types. Poisonous berries may possibly impact on native fauna, especially insects. Privet species are commonly believed to cause hay fever and asthma, although privet allergies are less common than most people think.

Lilium formosanum · Formosa lily, trumpet lily, St Joseph's lily, Taiwan lily



Photo courtesy of Trevor James

DESCRIPTION · Formosa lily grows up to a metre tall and has narrow, lance-shaped leaves up to 13 cm long and coming off the main stem. It produces purple-tinged white, trumpet-shaped flowers which are 15 to 18 cm long.

IMPACT · Formosa lily is a common garden escape, forming colonies in the wild. It is salt-tolerant, and has become naturalised in roadside areas and dunes, mainly in the North Island.

WHAT TO DO · Contact your regional council to determine the status of this species and the responsibility for control and/or advice on control.

Herb

Lonicera japonica · Japanese honeysuckle





DESCRIPTION • This plant is a vigorous evergreen (semievergreen in cold districts) climber. Young stems are purple and hairy. As the plant ages the stems become woody. Stems are long and tough and twine clockwise. Leaves (3–12 \times 2-6 cm) sit in opposite pairs on the stems. Upper surfaces of leaves are shiny dark-green (occasionally yellowish) and lighter-green on the underside. Pairs of two-lipped sweetly scented tubular white flowers (2–5 cm long) that age to yellow are produced from September to May. Flowers are followed by egg-shaped glossy black berries (5–7 mm in diameter).

IMPACT • The vine climbs over and smothers most plants from the ground to the medium canopy. It can cause canopy collapse and subsequent invasion of grasses or ground vines. It also provides support for faster-growing weedy vines (for example, morning glory and mothplant). Most spread is by the movement of stem fragments, such as the dumping of garden rubbish, rather than by seed.

Ludwigia peploides subsp. montevidensis · primrose willow



Marginal Aquatic Plant



Photo courtesy of Trevor James

OTHER COMMON NAMES · floating primrose willow, water primrose

DESCRIPTION · Primrose willow is a sprawling perennial aquatic herb with long many-branched stems, alternate shiny leaves and a 2 cm-wide yellow flower produced in summer/ autumn. It either grows on water body margins or can spread to form floating mats, especially in autumn.

IMPACT · Primrose willow quickly invades and colonises when introduced, particularly on water edges, smothering other vegetation and impeding water movement.

Lythrum salicaria · purple loosestrife



Marginal Aquatic Plant



Photo courtesy of Paul Champion

DESCRIPTION · This is an erect, summer-green perennial herb growing to 1–2 m (occasionally to 3 m) with a taproot and fibrous roots that form dense surface mats and produce up to 50 stems per rootstock. Its many-branched stems are four- to eight-sided, are pink at the base and die off in winter. Narrow leaves (20–100 × 5–25 mm) are usually paired, clasping around the stem. From December to February a showy dense flower spike (20–25 cm long) is produced, made up of purple-magenta flowers with five to six petals which are followed by blackish seed capsules (3–5 mm long).

IMPACT • This plant rapidly invades damp ground, wetlands and shallow water. It overtops native species with dense bushy growth, is long-lived and produces millions of longlived highly viable seeds from an early age. It tolerates hot or cold conditions and low to high nutrient levels in the water, but is intolerant of salt water.

Macfadyena unguis-cati · cat's claw creeper





Photos courtesy of Forest & Kim Starr, USGS

SYNONYM · Doxantha unguis-cati

OTHER COMMON NAMES · cat's claw vine, cat's claw ivy, yellow trumpet vine

DESCRIPTION · Cat's claw creeper is a tendril climber from South America with large yellow trumpet flowers in late spring, followed by long bean-like seed pods. It is named because the leaves have branched claw-like tendrils which cling tightly to whatever they are climbing on.

IMPACT • This is a smothering vine that is difficult to control and has become a serious problem overseas, especially in Australia. It has naturalised near Napier and may become a more widespread problem in New Zealand in future.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

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Maytenus boaria · Chilean mayten, mayten, maiten



Photos courtesy of Ian Bell

SYNONYM · M. chilensis

DESCRIPTION · Chilean mayten is an evergreen tree. The leaves can be up to 55 mm long, with almost no stalk, and are finely serrated and hairless. Small green flowers, which appear in spring, are located where the leaf joins the branch. Female flowers produce fleshy orange-red seed capsules in autumn.

Tree

IMPACT · Seedlings are able to grow quickly under dense shade in reasonably undisturbed areas. The root suckers eventually form dense colonies of stems. Plants can outcompete both native and exotic trees to form monocultures. It occurs in the understorey of native bush, and amongst scrub and grasses.

Megathyrsus maximus var. pubiglumis · Guinea grass



Photos courtesy of Forest & Kim Starr, USGS

OTHER COMMON NAMES · green panic, buffalo grass

Grass

SYNONYM · Panicum maximum

DESCRIPTION · Guinea grass is a large tufted perennial grass which grows up to 3 m tall.

IMPACT · Guinea grass seeds profusely and is spread by birds, wind, etc. Seeds can survive long periods of drought and the plant can regenerate rapidly due to underground rhizomes.

Menyanthes trifoliata · bogbean







Photos courtesy of P. Champion / T. James

OTHER COMMON NAMES · buckbean, marsh trefoil

DESCRIPTION · Bogbean is a perennial plant that can grow in bogs and marshes and at the fringes of lakes or slow-flowing rivers. Bogbean has a creeping rootstock and thick green stems that often trail along the surface of the water body. It has very characteristic three-lobed light-green hairless leaves that emerge from the water. These die back in winter. In early summer long stalks bear pale-rose-coloured flowers (2.5 cm across) clustered together in a thick short spike. The inner petals are white and hairy, with reddish stamens. The flowers produce round orange seeds.

IMPACT · Bogbean grows rapidly and clogs waterways.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Moraea flaccida · Cape tulip





Photos courtesy of Plant Protection Society

SYNONYM · Homeria collina (misapplied in New Zealand)

DESCRIPTION · Cape tulip has a single strap-like drooping leaf, and branched flower stalks that can grow up to 90 cm in height. The flowers are attractive, have six petals, are about 5 cm wide and are variable in colour from yellow-orange and orange-scarlet to salmon pink.

IMPACT · Cape tulip is reputedly poisonous to animals and humans. It has been under official control since the 1940s, but still persists in a few places.

WHAT TO DO \cdot All sightings must be reported to Ministry for Primary Industries on 0800 80 99 66.

Morella faya · fire tree, candleberry myrtle

Μ

Morella faya · fire tree, candleberry myrtle



Photos courtesy of Forest & Kim Starr, USGS

SYNONYM · Myrica faya

DESCRIPTION • Fire tree is an evergreen shrub or small tree that usually grows around 8 m tall. Its branches are covered with reddish hairs and its leaves are narrow and leathery (4–11 cm long). Flowers are on short spikes and the fruit are purple-black and warty in appearance.

IMPACT · Overseas, this is a fast-growing small tree which forms dense invasive colonies edging out native species. It has yet to naturalise in New Zealand, but if it does it is expected to become a serious problem.



Myoporum insulare (and hybrids) · Tasmanian ngaio



Photos courtesy of Trevor James

OTHER COMMON NAMES · boobialla

DESCRIPTION · Tasmanian ngaio is very similar to New Zealand ngaio, *Myoporum laetum*. The main difference is the almost universally green, sticky leaf buds of the Tasmanian ngaio, whereas the New Zealand ngaio usually has black buds and leaves dotted with glands. Also the Tasmanian ngaio has smaller flowers (7–8 mm) than the New Zealand ngaio (10–15 mm).

IMPACT · Where naturalised, Tasmanian ngaio competes with the New Zealand ngaio as the natural habitats are very similar. Tasmanian ngaio is commonly planted in the mistaken belief that it is the native species.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Myricaria germanica · false tamarisk



Photos courtesy of Department of Conservation



Shrub

IMPACT · False tamarisk has invaded stoney ground in riverbeds. It is expected to have a similar impact to that of other weeds which invade braided riverbeds, such as reducing the habitat available for the birds that nest in braided riverbeds, while also providing cover for the predators that attack them.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Myriophyllum aquaticum · parrot's feather

Aquatic Plant



Photos courtesy of P. Champion / T. James

 $\label{eq:common state} \textbf{OTHER COMMON NAMES} \cdot thread of life, Brazilian water-milfoil$

SYNONYM · Myriophyllum brasiliense

DESCRIPTION · Parrot's feather is a bottom-rooted, perennial, sprawling, mat-forming emergent plant with stems that grow to 2 m long, emerging 10 cm above water. Featherlike blue-green leaves $(25-45 \times 7-15 \text{ mm})$ are in whorls of five to six, and are each divided into 25–30 leaflets (7 mm long).

IMPACT · Parrot's feather, like savinia and hydrilla, forms dense floating mats which clog waterways.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Nassella (all species) · nassella





Photos courtesy of Ben Minehan, Marlborough District Council

DESCRIPTION · Includes nasella tussock (*Nassella trichotoma*), Chilean needle grass (*Nassella neesiana*) and finestem needle grass (*Nassella tenuissima*). The nassella grasses are tussock-forming perennial grasses, with fibrous roots from small shallot-like bases. They all have extremely tough, thin, elongated leaves (300–500 × 1 mm) which do not break when pulled.

IMPACT · Nassella are long-lived and form pure colonies, producing masses of long-lived seeds which are extremely well picked up and dispersed.

Nephrolepis cordifolia · tuber ladder fern



Fern / Fern Ally



DESCRIPTION • This is a terrestrial or epiphytic fern that grows to 1 m tall. This plant has small, erect, scaly rhizomes. Rhizomes produce many long runners and round (1–3 cm) hairy potato-like tubers. Fronds (40–100 \times 5–8 cm) are erect or arching when long, with serrated divided leaflets.

IMPACT · It crowds out ground cover, shrubs and other ferns, and can contribute to streamside erosion.

Nuphar lutea · yellow water lily



Photos courtesy of Trevor James

OTHER COMMON NAMES · spatterdock, cow lily, brandybottle

SYNONYM · Nymphaea lutea

DESCRIPTION · Yellow water lily is a yellow-flowered water lily growing from large far-spreading spongy rhizomes, up to 10 cm thick. It has thick oval-shaped waxy floating leaves and thin lettuce-like submerged leaves. The flower is smaller than other water lilies, yellow, six-petalled and 6 cm across. It is very similar to a large buttercup flower. It has an alcoholic smell, and when fertilised produces a green flaskshaped fruit.

IMPACT · It forms dense mats of floating leaves which clog waterways, displacing other plants and obstructing recreational water users.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Aquatic Plant

Nymphaea mexicana · Mexican water lily, banana water lily



Aquatic Plant



Photos courtesy of Trevor James

DESCRIPTION • Mexican water lily is similar to other water lilies. It has underwater rhizomes and heart-shaped floating leaves. It often has dark-brown flecks on the upper surface of its leaves and lower leaf surfaces that are red to purple with a prominent central vein. Flowers are pale-yellow with many petals. Unlike other true water lilies (*Nymphaea* and *Nuphar* species), Mexican water lily produces far-reaching fleshy stems (stolons) with banana-shaped tubers.

IMPACT · It forms dense mats of floating leaves which clog waterways, displacing other plants and obstructing recreational water users.

Nymphoides geminata · marshwort, entire marshwort





Photos courtesy of Trevor James

DESCRIPTION · Marshwort is a bottom-rooted perennial water lily-like plant. It has long-branched running stems which extend for several metres and lie just beneath the water surface, producing groups of leaves, roots and/or flowers on each node. Its leaves are broadly ovate to rounded and are somewhat smaller than the leaves of other water lilies, being 30–80 mm long. It differs from other water lilies by its bright-yellow five-lobed flowers with distinct hair-like margins, which sit above the water surface on long stalks that grow in pairs. The flowers are 25–35 mm wide and have distinctive fringed wings. Flowers are produced from November through to April.

IMPACT · Marshwort rapidly colonises shallow water, forming dense mats which block waterways and smother other aquatic plants.

Nymphoides peltata · fringed water lily



Aquatic Plant



Photos courtesy of Trevor James

DESCRIPTION - Fringed water lily is very similar to marshwort. The main difference is its leaves, which are frequently purple underneath and have scalloped margins. The flowers are golden-yellow, five-petalled and 3–4 cm in diameter, and are held above the water surface on long stalks, with one to several flowers per stalk. However, the flower edges are distinctively fringed and solid (rather than having hair-like processes). It also produces fruit, which is a capsule up to 2.5 cm long containing numerous seeds. These seeds are flat, oval and about 3.5 mm long, with hairy edges.

IMPACT · Fringed water lily has the potential to colonise waterways, forming dense mats which block them and restrict water activities.

Ochna serrulata · Mickey Mouse plant, birds-eye bush



Photos courtesy of Trevor James

DESCRIPTION • Mickey Mouse plant is a small shrub of 1–2 m in height. It produces spherical black berry-like fruits attached to red sepals, which resemble the face of Mickey Mouse. Mickey Mouse plant has elliptic leaves which are 13–50 mm long with toothed leaf margins, and fragrant yellow flowers about 20 mm in diameter which precede the black fruit. The young spring foliage starts as pinkish-bronze and matures to glossy green.

IMPACT · Mickey Mouse plant is easily dispersed, and could spread and naturalise in the wild. It has recently naturalised in New Zealand. It is regarded as a weed in Australia.



Osmunda regalis · royal fern



Fern / Fern Ally



Photo courtesy of Trevor James

DESCRIPTION · Royal fern is a deciduous fern whose rhizomes form a short woody trunk up to 1.5 m high, bearing large fronds up to 3 m long and 75 cm wide. The fronds are feather-like, subdivided twice, yellow-green and tough. Its spores are produced in brown fertile fronds resembling tiny bunches of grapes. They may have green leaflets towards their bases. Plants die back to the woody trunk in winter.

IMPACT · Royal fern can naturalise and form dense colonies in a range of wetland types in New Zealand, especially in disturbed areas and under the shade of willows and/or mānuka. They displace other small-stature native wetland plants.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

O

Passiflora apetala · bat-wing passion flower



Photos courtesy of Trevor James

DESCRIPTION - Bat-wing passion flower is a shade tolerant vine that has distinctive bat wing shaped leaves that may have a pale green strip along the midrib. It has small yellow / light green coloured flowers (7 to 12 mm in diameter) and produces small black berries the size of a small grape (7 to 17 mm in diameter). The berries are inedible and non-toxic to humans but are very attractive to birds.

IMPACT · Bat-wing passion flower is very invasive, with the ability to smother, shade and strangle the vegetation it grows on. This vine can produce a lot of fruit and many hundreds of seedlings have been found under some adult plants.



Passiflora caerulea · blue passion flower





Photos courtesy of Department of Conservation

DESCRIPTION • This is a vigorous evergreen high-climbing vine which grows to 6 m. Stems are long and angular with spiralling tendrils. Leaves are very thin and five-lobed almost to the base, each lobe being 3–8 cm long and narrow. Hanging whitish-purple flowers (6–9 cm in diameter) with purple filaments are produced from December to April. Flowers are followed by hanging round fruit (3–5 cm in diameter) that ripen from green to yellow. The fruit have small amounts of inedible pulp, and contain silver-brown seeds (4 mm long).

IMPACT · This plant smothers the canopy, can strangle host stems and prevents the establishment of native plant seedlings. It appears in light wells away from the parent plant.
Passiflora tarminiana · Northern banana passionfruit





Photos courtesy of Department of Conservation / Trevor James

SYNONYM · Passiflora mixta (misapplied in New Zealand)

DESCRIPTION · Northern banana passionfruit is a highclimbing vine which produces pink tubular flowers throughout the year. These develop into oval fruit that turn yellow or orange-yellow when ripe. It is very similar to banana passionfruit. A useful way to tell them apart is by the flowers: the length of the floral tube is shorter in northern banana passionfruit (6–8 cm) than in banana passionfruit (8– 9.5 cm), while the flower lobes are longer in northern banana passionfruit (4–6.5 cm compared to 2–3.8 cm in banana passionfruit). Both species are pest plants.

IMPACT · Northern banana passionfruit is an aggressively invasive vine native to the Andes that invades disturbed areas. Its effects include the smothering of trees, a reduction in biodiversity and the encouragement of invasive species such as feral pigs, which feed on the fruit. This species is a major weed in Hawaii.

Passiflora tripartita (all varieties) · banana passionfruit





Photo courtesy of Department of Conservation & Trevor James

SYNONYM · Passiflora mollissima

DESCRIPTION · Banana passionfruit is very similar to Northern banana passionfruit (see the previous page for how to distinguish the two species). There are two varieties in New Zealand, *P. tripartita* var. *azuayensis*, *P. tripartita* var. *mollissima*.

IMPACT · Banana passionfruit is an aggressively invasive tropical vine native to the Andes that invades disturbed areas. Its effects include the smothering of trees, a reduction in biodiversity and the encouragement of invasive species such as feral pigs, which feed on the fruit.

Phragmites australis · phragmites, common reed



Photos courtesy of Trevor James

DESCRIPTION • Phragmites is a perennial grass that grows up to 3 m tall on water margins. It has bamboo-like stems which carry long, wide, flat leaves that taper to a point. It has large, fluffy, purplish-brown flower heads, and seed grain which is covered in silky hairs. It is similar to giant reed (*Arundo donax*), but phragmites is smaller and the stems are narrower in proportion to the leaves.

Grass

IMPACT • Phragmites reproduces asexually by rhizomes and, in its native range, forms dense patches on the edges of waterways. It is expected to invade waterways in New Zealand if it becomes more widespread, however it is unlikely to spread much unless distributed by people spreading rhizome fragments.

WHAT TO DO · Contact Ministry for Primary Industries on 0800 80 99 66 if you find this plant.

Pilosella (all species) · hawkweed



DESCRIPTION ·

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Ground Cover

Hawkweeds, both *Hieracium* and *Pilosella*, comprise small hardy plants which colonise tussock lands.

IMPACT · Hawkweeds grow rapidly in tussock grasslands, displacing native species.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

* also refer to Hieracium

Pinus contorta · lodgepole pine, contorta pine



Photos courtesy of the Department of Conservation

DESCRIPTION - Lodgepole pine is an evergreen tree that can grow to a height of 6–24 m depending on the variety and growing conditions. Its bark is reddish-brown, and it has two yellow-green to dark-green needles together in a twisted bunch. Cones are egg-shaped, 3–6 cm long and 2–4 cm across, and tend to point backwards on the branch.

IMPACT · Lodgepole pine is a prolific seeder which spreads its seed across a large distance. If ungrazed it will form dense thickets, making access impossible. It invades natural grassland at medium to high altitudes and displaces native species. It has already done so in Tongariro National Park and in parts of the South Island, where it is regarded as a major problem.

Pistia stratiotes · water lettuce



Aquatic Plant



Photos courtesy of Trevor James

DESCRIPTION · Water lettuce is a free-floating rosette of pale-green to bright-green leaves that are densely hairy, with thick masses of feathery roots which hang in the water. It produces smaller 'daughter plants' on short horizontal stems which can form a dense floating mat, and also produces small flower spikes enclosed in a green hooded bract.

IMPACT · Water lettuce is an invasive and aggressive weed that could potentially cause serious damage to New Zealand's waterways. It also reduces biological diversity and degrades water quality.

WHAT TO DO · All sightings must be reported to Ministry for Primary Industries on 0800 80 99 66.

Pithecoctenium crucigerum · monkey's comb, monkey's hairbrush





Photos courtesy of Colin Ogle

SYNONYMS · Amphilophium crucigerum, P. echinatum, Bignonia crucigera

DESCRIPTION • This slender climbing vine is semievergreen. It has large tubular creamy flowers with a yellow inside. Monkey's comb is named after its fruit, which is large, spiny and woody, containing winged seeds.

IMPACT · Monkey's comb forms a dense root mat and can climb into canopy, smothering native vegetation and inhibiting native regeneration.

Pittosporum undulatum · sweet pittosporum



Photos courtesy of Department of Conservation

OTHER COMMON NAMES · Victorian box, Australian cheesewood

DESCRIPTION · Sweet pittosporum is a slender-branched shrub or tree which can grow to 12 m tall in its natural habitat. It has smooth grey bark. Its leaves are shiny and pointed at both ends, with wavy prominent margins. They are alternating, although often crowded at the ends, and 6-15 cm long and 1.5-4 cm wide. The plant has fragrant white flowers with five petals which bend abruptly downward at the ends. It also has globe-shaped fruit.

IMPACT · Sweet pittosporum invades native forest areas and shades out native plants. Its leaves contain toxins that can inhibit the growth of other plants. In Australia it is spreading outside its original range and has become a serious problem.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Ρ

Plectranthus ciliatus · plectranthus, blue spur flower





Photo courtesy of Carolyn Lewis

DESCRIPTION · Plectranthus is a trailing or straggling herb with stems covered in purple hairs. It has hairy, oval, textured leaves $(5-12 \times 3-7 \text{ cm})$ with serrated edges, the underside of which is purple. Erect stems (up to 30 cm tall) of tubular white flowers (1 cm long) with purple dots inside the lower lip appear from December to August.

IMPACT · This plant creeps along the ground, forming thick smothering mats that prevent seedling establishment.

Polygala myrtifolia (excluding cultivar 'Grandiflora') · sweet pea shrub

Shrub



OTHER COMMON NAMES · sweet pea bush, myrtle leaf milkwort

DESCRIPTION · Sweet pea shrub is many-branched and grows up to 2 m high. It has alternating leaves which are oval and up to 30 mm long. Pea-like purple or veined-purple flowers are clustered in simple racemes at the ends of the branches.

IMPACT · Sweet pea shrub rapidly colonises forest margins, coastal cliffs, shrublands and dunes, competing with and inhibiting regeneration of native species, primarily in northern New Zealand. It is also drought-tolerant.

Polypodium vulgare · polypody, common polypody





Photos courtesy of Jeremy Rolfe

DESCRIPTION · Polypody is a small evergreen fern with fronds that grow from horizontal rhizomes. Triangular leathery leaflets grow more-or-less opposite each other along the midrib of the frond. Large round clusters of brown spores are found on the underside of the leaflets.

IMPACT · Polypody is an aggressive spreading fern that thrives on rocky terrain in relatively open conditions. It occupies micro-sites suited to native plants, and suppresses low-growing species by smothering them.

Potamogeton perfoliatus · clasped pondweed

A

Aquatic Plant



Photo courtesy of J. Clayton

DESCRIPTION · Clasped pondweed is a submerged freshwater aquatic plant that occurs in still and flowing water. The most characteristic feature of this species is the way the leaves wrap around the stem, a feature not found in other pond weeds in New Zealand. The stems are long, trailing and leafy, and the leaves are very thin with wavy margins. They appear translucent and are either pale-green or bronze. Flowers and fruit are produced in summer and autumn on a short spike floating on the surface.

IMPACT · Clasped pondweed is an invasive weed that poses a serious threat to New Zealand waterways if allowed to establish here.

Prunus serotina · rum cherry





Photos courtesy of Trevor James

OTHER COMMON NAMES · wild black cherry, mountain black cherry, black cherry

DESCRIPTION · Rum cherry is a deciduous tree growing to 18 m tall and 8 m across with a trunk diameter of 70–120 cm, occasionally more. The leaves are 6–14 cm long and are deciduous. The flowers are small, usually 10–15 mm diameter, with 5 white petals and about 20 stamens, and are fragrant. There are about 40 flowers on each raceme. The fruit changes from green to red at first, ripening to black, and are about 1 cm in diameter.

IMPACT · Rum cherry invades forests in Europe and dense stands of seedlings have been reported from open forest in New Zealand. The leaves contain toxins and are sometimes reported as causing livestock poisoning overseas.

Pyracantha angustifolia · firethorn



Photos courtesy of Trevor James

OTHER COMMON NAMES · orange firethorn, narrow-leaf firethorn

DESCRIPTION · Firethorn is a shrub growing up to 4 m tall. It has oblong-shaped leaves up to 5 cm long, and small branches which are tipped with thorns. Small white flowers occur in bunches and are followed by abundant small brightorange berries.

IMPACT · Firethorn is a prolific seed producer whose bright orange seeds are readily dispersed by birds. It displaces native species in shrublands.

Rhamnus alaternus · rhamnus, evergreen buckthorn





Photo courtesy of Jonathan Boow, Auckland Council

DESCRIPTION • This plant is an evergreen shrub that grows to 2-3 m tall. Ovalish leathery leaves $(15-60 \times 10-30 \text{ mm})$ are glossy and slightly toothed. It has small green petal-less fragrant flowers (3–4 mm in diameter) which are produced from May to November. Flowers are followed by showy glossy berries (5–7 mm long) which ripen from dark-red to black from December to January. It is commonly mistaken for a native plant.

IMPACT · Rhamnus forms dense stands and prevents the establishment of native plant seedlings. It acts as a low shrub on windswept rocky shores or as an understorey shrub in tall canopy. Seeds are capable of germinating and growing through a thick sward of kikuyu grass.

Rhododendron ponticum · wild rhododendron





OTHER COMMON NAMES · Pontic rhododendron, Pontian rhododendron

DESCRIPTION · Wild rhododendron is a dense suckering shrub growing to 5 m tall. The leaves are evergreen, 6–18 cm long and 2–5 cm broad. The flowers are a violet purple, often with a small greenish-yellow spots or streaks, and are about 3.5–5 cm in diameter. While wild rhododendron resembles the cultivated garden rhododendrons, it is the only rhododendron in New Zealand that spreads easily by setting down roots from its branches.

IMPACT · Wild rhododendron is a serious pest in Britain but isn't widely naturalised in New Zealand yet. It forms dense patches as the branches take root and form an impenetrable mass. The thick leaved canopy starves native plants of light and makes it difficult for anything to grow and establish underneath. As well as spreading by rooting branches, the wind disperses the tiny seeds.

Sagittaria montevidensis · arrowhead





Photos courtesy of D. Burnett and DOC

OTHER COMMON NAMES · sagittaria, Californian arrowhead, giant arrowhead

SYNONYMS · S. andina, S. multinervia, S. pugioniformis var. montevidensis

DESCRIPTION · Arrowhead is a perennial aquatic herb that grows in static or slow-moving shallow fresh water, such as drains and pond margins. It has a thick rootstock without creeping stems (unlike other sagittarias). Its large glossy arrow-shaped leaves are carried on stalks of up to 1 m above the water. Its flowers are composed of three large white petals with a purple blotch at the base.

IMPACT · Arrowhead is an invasive weed with the potential to block waterways.

Sagittaria platyphylla · sagittaria, delta arrowhead





Photos courtesy of Trevor James

SYNONYM · Sagittaria graminea var. platyphylla

DESCRIPTION · Sagittaria is an emergent aquatic plant that grows up to 80 cm in height, and is found in flowing or still fresh water and in marshes and swamps. It has long rhizomes which produce small tubers similar to *S. sagittifolia*. Large, lance-shaped leaves are held above the water on stems. It also produces strap-shaped submerged leaves. White flowers (6 cm across) are produced on spikes about the same height as leaves, each producing hundreds of seeds.

IMPACT · Sagittaria is an invasive weed with the potential to block waterways.

Sagittaria sagittifolia · arrowhead, Hawaiian arrowhead







Photo courtesy of Trevor James

DESCRIPTION · Arrowhead is a herbaceous aquatic perennial that is very similar to *S. montevidensis*, the difference being its production of rhizomes and tubers. It is not known to flower in New Zealand.

IMPACT · Arrowhead is an invasive weed with the potential to block waterways.

Salix cinerea · grey willow





Photos courtesy of Trevor James

OTHER COMMON NAMES · pussy willow, grey sallow

DESCRIPTION · Grey willow is a deciduous shrub or small tree that can grow to 7 m tall. This plant spreads by seed or by suckering from the roots. Plants are either male or female. Leaves $(20-70 \times 15-35 \text{ m})$ are oval and serrated. Topsides of leaves are shiny, and undersides of leaves are grey-blue with dense soft grey hairs underneath. Erect cylindrical catkins (15-35 mm long) are produced from September to October before leaves appear. Seed capsules are bivalved and contain many seeds which have fluffy outgrowths and are dispersed by wind.

IMPACT • This plant replaces native species in wetlands, and forms vast dense stands and thickets. It causes blockages, flooding and structural changes in waterways.

Salix × fragilis · crack willow



Photos courtesy of Trevor James

DESCRIPTION · Crack willow is a deciduous tree that grows to 25 m. This tree has spreading rather than hanging branches with rough and fissured bark. Root suckers and rootlets are bright-red when in or near water. Shoots and leaves are silky when young but become hairless as they mature. Leaves are narrow lance-shaped with tiny serrations. Undersides of leaves are pale, and the upper surface is shiny, green and often covered with bright-red galls. Narrow downward-curving catkins (40–75 mm long) appear from September to October. As there are only male plants in New Zealand, no fruit is formed unless hybridised with other species such as golden willow. Spread is by stem fragments carried by water movement which readily produce new plants.

Tree

IMPACT • This plant replaces native species in wetlands, and forms vast dense stands and thickets. It causes blockages, flooding and structural changes in waterways.

Salvinia x molesta · salvinia, Kariba weed



Aquatic Plant



Photos courtesy of Trevor James

DESCRIPTION · Salvinia is a perennial aquatic fern that forms floating mats on still waters and swamps. It has crowded brown-green leaves up to 4 cm long that are folded across the midrib. The upper surfaces of the leaves are densely covered in strongly water-resistant hairs. Finely dissected, submerged root-like structures hang down into the water, often with chains of small round spore-bearing organs.

IMPACT · Salvinia quickly forms extensive mats, completely smothering waterways and badly affecting water quality. It can double in area within 10 days. The mats kill off native plants, attract breeding mosquitoes, block dams and irrigation systems, remove oxygen from the water and create a drowning risk for people and animals.

WHAT TO DO · All sightings must be reported to Ministry for Primary Industries on 0800 80 99 66.

S

Schinus terebinthifolius · Christmas berry, Brazilian pepper tree



Photo courtesy of Trevor James

DESCRIPTION · Christmas berry is an evergreen shrub or tree up to 6 m tall. It has a short trunk, which is usually hidden by dense and intertwining branches. It has aromatic leaves with three to 13 finely toothed leaflets. Its white flowers produce short-branched clusters of glossy, green, juicy fruit that turn red and dessicate into a papery shell surrounding the single seed.

IMPACT · Christmas berry is a serious weed in several countries overseas. It is only recently naturalised in New Zealand, but sightings in the wild are becoming more common.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

Tree

Schoenoplectus californicus · Californian bulrush



Marginal Aquatic Plant



Photos courtesy of Trevor James

SYNONYM · Scirpus californicus

DESCRIPTION • This is a large aquatic perennial sedge, with tall rounded or triangular bright-green stems, growing up to 3 m tall. Instead of leaves it has thin papery sheathing bracts at the base of the stem, which produce small groups of flowers on drooping stalks near the tip. It grows from dense woody rhizomes buried in bottom sediments, usually in tidal reaches of large rivers like the Waikato and Northern Wairoa. It is very similar to the native *S. tabernaemontani*, which has bluish-green stems and erect flower stalks (not drooping).

IMPACT · It forms tall dense beds that colonise mobile sand deposits and river margins, where it may displace smaller native species.

Selaginella kraussiana · African club moss, selaginella



Fern / Fern Ally



Photos courtesy of Trevor James

DESCRIPTION • This is a small carpet-forming fern-like plant with long fine roots and creeping, slender, irregularly branched stems. The tiny leaves (up to 4 mm long) are in four rows along the stem. The strobili, or cones that produce spores, are usually four-sided and stand up from the stem.

IMPACT · This species invades the forest floor, inhibiting the establishment of native plant seedings.

Solanum marginatum · white edged nightshade

Shrub



Photos courtesy of Trevor James

DESCRIPTION · White edged nightshade is a perennial shrub that can grow up to 5 m. It is easily recognised by characteristic prickly leaves that have a chalky-white underside and edge of the upper side. It has white flowers, sometimes with purplish veins, which bloom in clusters of two to 10 at the edges of branches. Berries, which mature from green to yellow, are borne on the end of stout prickly stalks.

IMPACT · White edged nightshade invades the forest floor, inhibiting the establishment of native plant seedings and leading to higher light levels and succession by more aggressive weeds, especially vines. It is a classic example of a small initial impact leading to a catastrophic outcome. This species also invades pastures.

Solanum mauritianum · woolly nightshade





Photo courtesy of Trevor James

OTHER COMMON NAMES · tobacco weed, wild tobacco tree

DESCRIPTION · Woolly nightshade is a spreading capsicumsmelling shrub that grows to 10 m. The entire shrub is covered in dusty hairs. Leaves $(10-35 \times 3-15 \text{ cm})$ are velvety, oval, and grey-green in colour. Dense clusters of mauve to purple flowers (15–20 mm in diameter) with yellow anthers appear from January to December. Flowers are followed by clusters of round berries (1 cm diameter) that ripen from hard green to soft, dull yellow.

IMPACT · This shrub forms dense, often pure stands. It inhibits or prevents the establishment of native plant seedlings and slows the regeneration rate of native forests. It also invades pastures, reducing pasture production. It is possibly poisonous to livestock.

Syzygium smithii · monkey apple, lily pilly





SYNONYMS · Eugenia smithii, Acmena smithii

DESCRIPTION · Monkey apple is a tree, 6–20 m tall, which grows in forest, scrub and shrub-lands. It has glossy oval leaves which are aromatic when crushed, whitish flowers, and berry-like fruit that are white or pink-mauve.

IMPACT · Birds disperse the abundant seed, spreading it into nearby native forest. Seedlings are shade-tolerant and form dense carpets. They can grow rapidly into long-lived canopy trees, outcompeting native trees.

Ground Cover

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Tradescantia fluminensis · tradescantia



Photos courtesy of Department of Conservation

OTHER COMMON NAMES · wandering Willie

DESCRIPTION · Tradescantia is a trailing, soft, hairless, perennial ground cover with succulent creeping stems that root at all nodes touching the ground. Dark-green, shiny, smooth and slightly fleshy leaves (3-6 cm long) are oval, with pointed tips. White flowers (2 cm in diameter), produced from December to January, are three-petalled and in small clusters. Seeds are not produced.

IMPACT • This plant smothers ground in light to deep shade, preventing the seedlings of native species from establishing. It causes habitats to open and be invaded by exotic shrubs and vines. Mats growing on riverbanks can break away with water flow and contribute to flooding. It is spread by stem fragments, and via human activity such as the dumping of garden waste.

Tropaeolum speciosum · Chilean flame creeper





Photo courtesy of Department of Conservation

DESCRIPTION · Chilean flame creeper is a perennial vine with slender stems and delicate five-fingered leaves. Its leaf stalks coil round, allowing the plant to climb. It has scarlet flowers that are about 4 cm across, followed by blue berries.

IMPACT · Chilean flame creeper can suppress and replace native species by shading and smothering. It invades small gaps in native forest.

Tussilago farfara · coltsfoot





Photo courtesy of Department of Conservation

DESCRIPTION · Coltsfoot is a perennial mat-forming herb with long creeping rhizomes. Its large, leathery, kidneyshaped leaves are finely toothed at the margins. The top surface is smooth and green but the underside is covered with greyish-white woolly hairs. The leaves appear after flowers have faded and set seed. The dandelion-like yellow flowers appear in early spring, and are followed by dandelionlike seed heads. The plants die back in autumn.

IMPACT · Coltsfoot forms low-growing mats with the potential to swamp low-growing native species, especially on gravel soils. The roots and flowers contain alkaloids that can cause liver damage.

Typha latifolia · great reedmace



Marginal Aquatic Plant



© Paul Busselen – www.kuleren-kortriyk.bc

OTHER COMMON NAMES · cumbungi, common cat-tail

DESCRIPTION · Great reedmace is an erect perennial aquatic herb that grows up to 3 m tall. Its stems grow from thick underground rhizomes, and it has wide flat sheathing leaves which are pale-greyish-green. It flowers in early summer, producing distinctive dark-brown to black erect sausage-shaped flower spikes and fruit.

IMPACT · Great reedmace forms dense growths in shallow sheltered water bodies, displacing native vegetation. It could potentially hybridise with our native rāupo (*Typha orientalis*).

Herb

Utricularia arenaria, Utricularia livida, Utricularia sandersonii



Photo courtesy of Department of Conservation

COMMON NAME · bladderwort

DESCRIPTION • Utricularias are creeping terrestrial bladderworts. They have broad green leaves up to 2.5 cm long that lie flat on the ground, thin creeping stems (stolons) at the base of these leaves, and underground roots containing tiny 'sacs' which trap insects. The main difference between the utricularias are their flowers, which are produced in summer and range from white to pale blue/mauve. *U. sandersonii* has an upper flower lobe divided into two spreading lobes (like rabbit ears). *U. livida* and *U. arenaria* both have undivided upper flower lobes, but have a differing flower spur length. *U. arenaria* has a long spur projecting below the flower lobe, whereas *U. livida* has a shorter spur hidden behind the flower lobe.

IMPACT · Bladderworts have specially adapted to low nutrient environments, such as bogs and swamps, and outcompete native bladderworts also adapted to similar environments.

Utricularia gibba · bladderwort, humped bladderwort

Aquatic Plant



Photos courtesy of Trevor James/Paul Champion

SYNONYMS · was initially identified as *Utricularia biflora* (*Flora* Vol. 4), *Utricularia exoleta*

DESCRIPTION · Bladderworts are mat-forming perennials that are submerged just below the surface of the water or entangled with other plants. *U. gibba* is a carnivorous plant with complex modified underwater appendages or 'sacs'. These sacs trap insects and other small animals. It has no roots, and very thin stems with filament-like leaves which are either single or paired with sacs (1–2 mm long). From December to May yellow flowers (6 mm in diameter) are produced that protrude up to 20 cm above the water surface. **There are several native species of bladderwort, including a very similar plant (***Utricularia australis***) which is endangered.**

IMPACT · Bladderwort has specially adapted to low-nutrient environments, such as bogs and swamps, and outcompetes native bladderworts also adapted to similar environments.

Vallisneria australis · eelgrass, ribbonweed



Photos courtesy of Paul Champion

DESCRIPTION · Eelgrass is a submerged perennial freshwater aquatic plant which can grow up to 5.5 m long. It is bottom-rooting with stout rhizomes, and produces long ribbon-like light-green leaves from nodes at regular intervals. Both male and female plants are known in New Zealand. Male flowers consist of large pollen-filled sacs produced at the base of mature plants. These are released when ripe, with pollen spreading over the surface of the water. Female flowers are small and green produced on the end of a very long spirally coiled stalk. This stalk arises from the base of the plant and can extend to the water's surface.

IMPACT · Eelgrass forms dense beds of vegetation which displace native plants, and may affect recreational activities, impede navigation and obstruct water out-takes.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control. For more information about the change of classification please contact the Ministry for Primary Industries on nppa@mpi.govt.nz

NOTE - Two invasive Vallisneria species, Vallisneria "Lake Pupuke variety" and Vallisneria "Meola Creek variety", have been known in pest management strategies as Vallisneria spiralis and Vallisneria gigantea. Recent DNA testing has revealed that these two species are, in fact, a single species known as Vallisneria australis. Therefore, Vallisneria australis (eelgrass) has been classified as a pest plant on the NPPA. As a result, V. australis replaces the plants that are classified as V. spiralis and V. gigantea and has been determined an unwanted organism.

Zantedeschia aethiopica 'Green Goddess' · green arum lily





Photos courtesy of Trevor James

DESCRIPTION · Green arum lily is similar to the whiteflowered arum lily, but is most easily distinguished by its green 'flowers'. It is an evergreen plant with large arrowshaped leaves, growing in clumps up to 1.5 m tall. The flower spathe is white at the base but green towards the tip. The amount of green on the 'flower' can vary. Fruits remain somewhat encased by the old flower spathe.

IMPACT · Green arum lily is a common garden escapee, forming colonies in the wild. It is spread by birds and is particularly invasive in wet areas.

WHAT TO DO · Contact your regional council to determine the status of this species and responsibility for control and/or advice on control.

NOTE · all other forms of *Z. aethiopica* are **excluded** from the NPPA.

z

Zizania latifolia · Manchurian wild rice



Marginal Aquatic Plant



Photos courtesy of Paul Champion, NIWA & Trevor James

OTHER COMMON NAMES · Manchurian rice grass

DESCRIPTION • Manchurian wild rice is a tall rhizomeproducing perennial grass that grows up to 3 m tall. It has harsh, erect, dull-grey-green leaves (2-3 cm wide) up to 2.5 m long, which have a stout midrib and taper to a point. From November to December a purplish or red-brown flower head (40–60 cm long) is produced. Unlike raupo, which can look similar, it remains green over winter.

IMPACT · It forms dense long-lived stands on land and water margins, overtopping other riparian species. It blocks drains and destabilises stopbanks, promoting flooding, and also invades flood-prone pastures and wetlands.

WHAT TO DO · In Northland, Auckland, Waikato and Wellington contact your regional council. In all other regions contact Ministry for Primary Industries on 0800 80 99 66 if you find this plant.

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