Weed Management Strategy

DRAFT
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Acknowledgement of Country

Banyule City Council is proud to acknowledge the Wurundjeri Woi-wurrung people as the Traditional Custodians of the land and we pay respect to all Aboriginal and Torres Strait Islander Elders, past, present and emerging, who have resided in the area and have been an integral part of the region's history.

We recognise that Aboriginal and Torres Strait Islander people have a deep connection to country and have cared for the land, water and natural values for thousands of years. This strategy draws inspiration from the examples established by our Traditional Owners in managing our natural environments and creating a connection between people and the environment.

We would like to thank the Wurundjeri Woi-wurrung people for their continued work on country and look forward to working collaboratively with our Traditional Owners to protect and enhance our natural environment for generations to come.

Collaboration with our Traditional Owners

The Narrap Unit – the Natural Resource Management (NRM) department of the Wurundjeri Woi-wurrung Corporation – are committed to restoring and managing the health of Country. The team of dedicated land management professionals deliver high quality environmental services, that blends conventional NRM practices with Wurundjeri cultural approaches. The Unit is also driven by the objective of providing meaningful and secure employment opportunities for Wurundjeri Woi-wurrung people and the local Aboriginal community more broadly.

The Narrap Rangers have been working alongside Banyule Council Bushcrew's to care for Banyule Flats. This has included treating weed species, re-vegetating areas and monitoring the health of the Water Sensitive Urban Design (WSUD) system. This relationship has been a positive example of two-way learning and knowledge building, with both Narrap Rangers and Council staff sharing commitment to improving and maintaining the health of the area.

1. Introduction

In July 2021 Banyule City Council adopted a vision for the future shaped by the entire community:

We in Banyule are a thriving, sustainable, inclusive and connected community. We are engaged, we belong, and we value and protect our environment.

It is unsurprising that the environment features strongly in this vision. The City of Banyule is fortunate to be home to many important wildlife corridors, conservation reserves and public open spaces. Approximately 6,300 hectares in size, Banyule has three large creeks and two major rivers systems running through the municipality, providing significant habitat corridors for local wildlife. Banyule's vegetation communities are highly varied, from the Box Stringybark Woodlands in Eltham North, to the Plains Grassy Woodlands and the edge of the basalt plains of the Darebin Creek with their stunning River Red Gums. Banyule's well cared for public open spaces — parks, sporting ovals, amenity gardens, and green spaces of historical significance — also provide important amenity to our community and their wellbeing.

The challenge of managing our public open spaces are increasing due to increased use associated with a growing population, development densification and the impacts of climate change. Within this broader context, the strategic management of weeds only becomes more important.

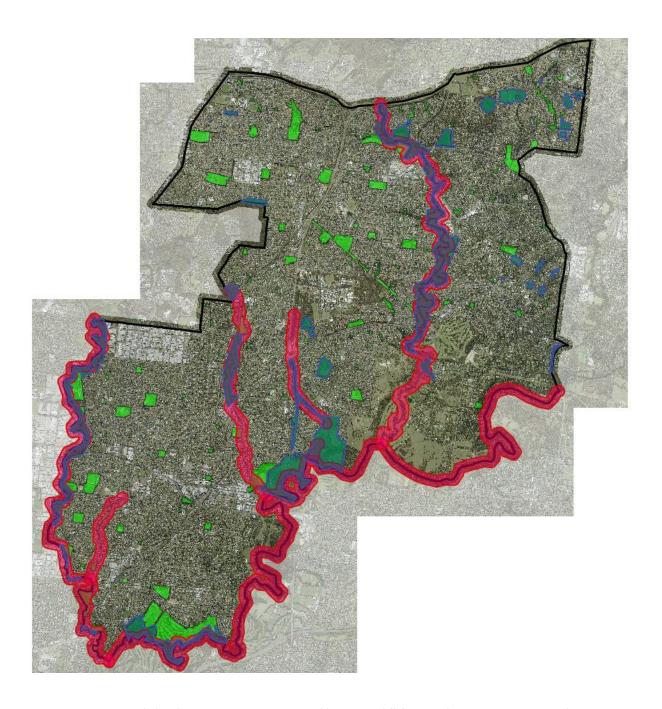


Image 1: Councils land management areas and known wildlife corridors. Demonstrating how different management areas cross over and land management practices and decisions intertwine

- **Council managed parks** encompass parks and open spaces such as sporting ovals, dog parks, public amenity plantings and playgrounds, which are managed primarily for public use and aesthetics.
- Conservation areas managed primarily for conservation values and local indigenous species.
- **Wildlife Corridors** Known wildlife corridors in Banyule that assist wildlife to move freely, these areas are supported with indigenous planting and high threat weeds are controlled.

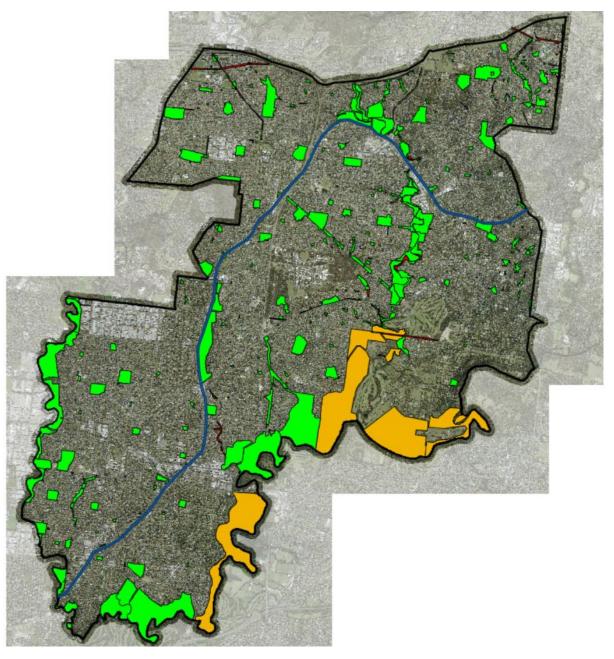


Image 2: Banyule's different land management areas



Managing weeds is a critical part of protecting our natural environment and ultimately delivering on our vision. Weeds have the potential to significantly impact our valuable natural and public open spaces. They also place a resource and financial burden on Council.

This strategy is supported by an Action Plan that highlights the critical actions that will deliver on the five goals of this strategy:

- We understand the current weed status across Banyule and the effectiveness of our weed management programs
- 2. We actively manage and sustainably control weeds in Banyule
- 3. We minimise the impact of all priority weeds in Banyule
- 4. We protect our conservation reserves and wildlife corridors through better plant selection
- 5. We continually improve weed management across Banyule in partnership with the community and other stakeholders



Image 3: Gorse – Ulex europaeus

This strategy defines, documents and prioritises weeds that have the biggest impact on green spaces in Banyule and provides an action plan for Council to lead and support over the next four years to manage weeds generally, to control high risk weeds and minimise their impact – valuing and protecting Banyule's natural environment.

The strategy outlines:

- How we manage weeds in Banyule our standard approach and the longer-term strategic goals, actions, and targets.
- The highest priority weeds across five different classifications being conservation reserves, constructed open spaces, gardens, berry and stormwater areas and new and emerging.
- Species specific weed management plans for Banyule's 10 highest threat weeds across all settings.

The problem with weeds

A simple definition of a weed is a plant that is growing in the wrong place. Weeds can negatively impact our natural environments, wildlife corridors, green open spaces and overall biodiversity values in Banyule. They do this by:

- Preventing natural regeneration
- Competing with native species for nutrients, space, water and sunlight
- Reducing suitable wildlife habitat
- Increasing fuel loads and fire risk
- Removing amenity value and reduce aesthetic appeal
- Harbouring pest animals and insects
- Presenting physical dangers (i.e. toxicity, thorns, tripping hazards, increase loads on trees)

They can also place a significant resource and financial burden on land managers, through the time and efforts it takes to control or eradicate them, taking away from other green space management objectives.

Climate change is set to further impact the pervasiveness and management of weeds. Increased temperatures, changed rainfall, increased carbon dioxide levels, more extreme weather and changed land use are all expected to lead to a faster distribution of invasive plants and weeds than native species. Climate change is also likely to foster the appearance of a new set of weed species.

We have developed this strategy through detailed research, in-depth analysis, and consultation with a range of internal and external stakeholders and the broader community to understand:

- The national, state, and local legislative obligations as they relate to weeds and their management,
- The most up-to-date definition of a weed that reflects current industry standards,
- A revised and updated list of Banyule's weeds as a reference for planning and other relevant issues,
- Banyule's highest priority weeds (according to an industry approved weed risk assessment).

The very nature of how weeds spread, means that collaboration is one of our best defences. Through this strategy we invite our community, neighbouring councils and state government to work together to effectively manage weeds in our precious natural and open spaces, and our private gardens. We aim to help our community understand the importance of managing weeds and to create an opportunity for everyone who either works, lives, or owns land in Banyule to play a part.

Community Involvement

There are many different ways the community can help with weed management in Banyule:

- Join a local friend's group to remove weeds from conservation reserves
- Become informed of priority and common weeds featured in Banyule's Weed Brochure
- Plant local indigenous plants, which can be sourced from local indigenous nurseries
- Dispose of weeds correctly in the green waste bins provided
- Inform council of priority weed outbreaks that may not be known
- Attend workshops provided throughout the year on weed management and indigenous plants.

2. Weed Management in Banyule

Council plays a critical role in managing weeds and minimising their impact on Banyule's green spaces. The importance of this is highlighted in several key Council strategies, policies and plans. These plans include the Biodiversity Plan, Urban Forest Strategic Plan, Public Open Space Plan, Conservation Management Plans for Council reserves, and Banyule's annual State of the Environment Report. Each of these works together with the Weed Management Strategy to:

- Acknowledge the importance of preventing weed establishment in our natural environments,
- Protect the amenity value of our public open spaces,
- Make plant selections that won't adversely impact on our natural ecosystems or present issues for public open space management, and
- Educate the community of ways to contribute to reducing the impact of weeds.

Council also has legal obligations relating to weed control. There are three key pieces of State legislation that Council must address:

- 1) Catchment and Land Protection Act 1994
- 2) Flora and Fauna Guarantee Amendment Act 2019
- 3) Fisheries Act 1995

Council land managers are our on-ground experts who hold extensive, localised knowledge of their sites. Council management staff are responsible for making broader strategic decisions about weed management, including budgets and resource allocation. Both land managers and management staff influence outcomes, balancing specific site needs with the broader municipality, and collaborating to maximise impact.

Partnerships within Banyule

Banyule works collaboratively with all organisations who actively manage land within its boundaries. These partnerships include works to improve existing environmental values, control pest species on land that boarder's management responsibilities and partner in key programs relating to environmental improvements. Key stakeholders managing land in Banyule include:

- Melbourne Water
- Parks Victoria
- Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation
- Darebin Creek Management Committee
- Vic Roads
- VicTrack
- Port Phillip and Western Port Catchment Authority



Image 4: Japanese Honeysuckle – Lonicera japonica

This strategy identifies three key types of "green space" that all have different priorities and are impacted differently by weeds. Each of these spaces and their management play an important role in overall weed management in Banyule. It is important to define the different categories, so the weeds that impact on them can be prioritised based on the core value of each space.

- Conservation Areas are spaces with a distinctive bushland character, including wetlands,
 wildlife corridors and indigenous vegetation reserves, which are managed primarily for
 biodiversity. In Conservation Reserves, weeds are any plant species that are non-indigenous
 to the specific ecosystem for each space.
- Public Open Spaces encompass Council managed parks and open spaces such as sporting ovals, dog parks, public amenity plantings and playgrounds, which are managed primarily for

- public use and aesthetics. In Public Open Spaces, weeds are any plant that detracts from the usability and aesthetics of the space or have the potential to escape into conservation ar; and
- Private Garden Spaces are areas of planted vegetation on private properties. These are
 managed by the property owner primarily for aesthetics or as a hobby. In Gardens, weeds are
 any planted species pose a high risk of escaping into the Council managed spaces.



Image 5: Example of the intertwined management areas that impact on each other

These three types of green spaces often overlap, and teams managing weeds in one can often influence outcomes in another. It is therefore important for all land managers to understand each management areas current priority weeds and work collaboratively with neighbouring councils and surrounding land managers to reduce their overall impact.

This strategy also identified two additional top 10 weed lists, Berry and Stormwater and New and Emerging, to highlight species which impact on all management areas.

Weeds have different influences and impacts depending on the settings they are found in, managing them requires an integrated, species-specific weed management approach. Each of these spaces in Banyule will have an overarching site plan developed and implemented by the land manager that includes a focus on identifying, controlling and managing weeds, with minimal disturbance of the intended flora and fauna.

The site plans take an integrated weed management approach that combining the use of complimentary weed control methods to ensure weeds do not build resistance to one particular method and reduce an overall reliance on chemicals. This approach also allows for a more environmentally friendly and cost-effective approach to weed management as some techniques can be expensive.

Integrated Weed Management is explained in more detail in Appendix 1.

Banyule's Weed List

Currently Banyule's Vegetation Protection Overlay (VPO), Environmental Significance Overlay (ESO) and Significant Landscape Overlay (SLO) do not require permits for the removal of species listed in *Banyule Weed Management Strategy 2006*. A planning scheme amendment will be required to reflect the current Weed List in this updated strategy.

The 2006 Weed List included a number of non-indigenous but Australian native trees, such as Sugar Gums (*Eucalyptus cladocalyx*), Southern Mahogany (*Eucalyptus botroyoides*) and Giant Honey-myrtle (*Melaleuca armillaris*). Each of which can present an environmental weed threat in a conservation area, while still providing significant canopy cover and potential habitat for some arboreal dwelling animals in built up, urbanised areas.

This highlights the current challenges in retaining canopy and habitat trees in the private realm while still controlling weed spread in areas of environmental significance through Banyule.



Image 6: A Powerful Owl (Ninox strenua) using a Eucalyptus Tree as a perching spot. They require very large nesting hollows that will only be found in old mature canopy trees and will utilise large non-indigenous trees that have suitable hollows present.

3. High Priority Weeds

Weeds are pervasive and resources are finite. Therefore, it is critical to identify the highest priority weeds in Banyule to focus on across the municipality.

Council has developed and applied an overarching decision-making methodology to prioritise weeds across the entire municipality. This methodology, outlined below, can also be applied by land managers to assess and prioritise weeds at specific sites. A more detailed process for applying this methodology is presented in **Appendix 2**.

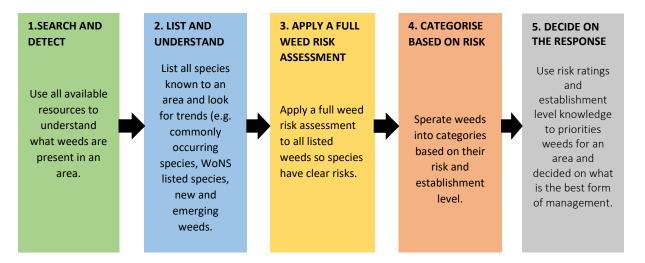


Figure 1: A decision making methodology that shows how to asses, understand and prioritise weed management in a given area.

After applying this methodology across the entire municipality, an extensive list of weeds in Banyule was developed (see Appendix 3). Overall, 417 weeds have been recorded in Banyule to date. These include:

- 398 exotic species (species originating outside of Victoria, most from overseas),
- 19 non-indigenous Victorian species,
- 25 of these Weeds of National Significance (WoNS), and
- 54 weeds which have been identified by the Victorian Catchment and Land Protection Act (CaLP Act 1994).

The ten most commonly recorded weed species in Banyule are:

1.) Blackberry Rubus fruticosus spp. agg	6.) Cleavers Galium aparine
2.) Yorkshire fog Holcus lanatus	7.) Sweet Vernal-grass Anthoxanthum odoratum
3.) Soursob <i>Oxalis pes-caprae</i>	8.) Spear Thistle <i>Cirsium vulgare</i>
4.) Panic Veldt Grass Ehrharta erecta	9.) Hawthorn <i>Crataegus monogyna</i>
5.) Capeweed Arctotheca calendula	10.) Kikuyu Cenchrus clandestinus

Table 1: Most commonly recorded weed species in Banyule according to current records. Note these are not the highest priority weeds, simply the most common.

The top ten priority weeds across each of Banyule's identified green space areas are identified in the following tables. It is important to note that these lists highlight current priority species and do not reflect the entire weed management practices of land managers.

The Weed Risk Assessment that this strategy has used is *DELWPS's Advisory List of Environmental Weeds in Victoria*. ARI-Technical-Report-287-Advisory-list-of-environmental-weeds-in-Victoria.pdf

Top 10 Conservation Area Weeds in Banyule

	Weed S	pecies	Potential	5	Weed	51.1	Weed of	
Rank	Common Name	Scientific Name	for invasion	Rate of Dispersal	Risk Score	Risk Rating	National Significance (WoNS)	Victorian CaLP Act
1	Chilean Needle Grass	Nassella neesiana	Highly Invasive	Rapid	33.3	Very High	~	~
2	Blackberry	Rubus fruticosis spp. agg	Highly Invasive	Rapid	33.3	Very High	>	~
3	Japanese Honeysuckle	Lonicera japonica	Highly Invasive	Rapid	33.3	Very High		
4	English Ivy	Hedra Helix	Highly Invasive	Rapid	33.3	Very High		
5	Serrated Tussock	Nassella trichotoma	Highly Invasive	Rapid	33.2	Very High	>	~
6	Panic Veldt Grass	Ehrharta erecta	Highly Invasive	Moderate	32.2	Very High		
7	Kikuyu	Cenchrus clandestinus	Highly Invasive	Moderate	32.2	Very High		
8	Soursob	Oxalis pes-caprae	Highly Invasive	Slow	31.3	Very High		~
9	Bridal Creeper	Asparagus asparagoides	Highly Invasive	Rapid	23.3	High	>	~
10	Sweet Vernal Grass	Anthoxanthum odoratum	Highly Invasive	Rapid	23.2	High		

Table 2: Priority Conservation Area Weeds



Image 7: Chilean Needle Grass (Nassella neesiana), a highly invasive weed in Banyule's conservation areas, parks and nature strips.

Top 10 Public Open Space Weeds in Banyule

	Weed	Species			Weed		Weed of	
RANK	Common Name	Scientific Name	Potential for Invasion			Risk Rating	National Significance (WONS)	Victorian CaLP Act
1	Desert Ash	Fraxinus angustifolia subsp. angustifolia	Highly Invasive	Rapid	32.3	Very High		
2	Soursob	Oxalis pes-caprae	Highly Invasive	Slow	31.2	Very High		\
3	Galenia	Galenia secunda	Moderately Invasive	Slow	31.1	High		
4	Toowoomba Canary-grass	Phalris aquatica	Hiianumghly Invasive	Rapid	23.2	High		
5	Patersons Curse	Echium plantagineum	Moderately Invasive	Rapid	22.3	High		>
6	Wire Weed	Polygonum aviculare	Moderately Invasive	Rapid	22.2	High		
7	Paspalum	Paspalum dilatatum	Moderately Inveasive	Moderate	21.1	Moderately High		
8	Suckling Clover	Trifolium dubium	Highly Invasive	Rapid	13.2	Moderatelty High		
9	Varigated Thistle	Silybum marianum	Moderately Invasive	Rapid	12.1	Medium		>
10	Capeweed	Arototheca calendula	Moderately Invasive	Rapid	12.1	Medium		

Table 3: Priority Public Open Spaces weeds

Managing established weeds

Desert Ash (*Fraxinus angustifolia subsp. angustifolia*), is a highly invasive species that currently appear in some public amenity plantings, street tree locations and conservations areas through Banyule. These trees can still be seen as a legacy of old plantings around Council managed green spaces.

Removal of established weeds, like Desert Ash, in Banyule takes a long-term approach. An immediate, large-scale removal project would place a significant resource strain on departments.

The long-term strategy would be to replace established weedy species over time with ones that don't pose any weed threat and are suitable to the local environment. Smaller weedy trees and seedlings would still be managed as part of ongoing weed management work.



Image 8: Desert Ash (Fraxinus angustifolia subsp. angustifolia)

Top 10 Private Garden Space Weeds in Banyule

	Wee	d Species			Weed		Weed of	
RANK	Common Name	Scientific Name	Potential for Invasion	Rate of Dispersal	Risk Score	Risk Raiting	National Significance (WONS)	Victorian CaLP Act
1	Blackberry	Rubus futicosis spp.agg	Highly Invasive	Rapid	33.3	Very High	>	~
2	English Ivy	Hedra helix	Highly Invasive	Rapid	33.3	Very High		
3	Flax-leaf Broom	Genista linifolia	Highly Invasive	Moderate	32.2	Very High	>	~
4	Montpellier Broom	Genista monspessulana	Highly Invasive	Moderate	32.2	Very High	>	~
5	Wandering Trad	Tradescantia fluminensis	Highly Invasive	Moderate	32.2	Very High		
6	Cape Ivy	Delairea odorata	Highly Invasive	Moderate	32.2	Very High		
7	Soursob	Oxalis pes-caprae	Highly Invasive	Slow	31.3	Very High		~
8	Angled Onion	Allium triquertum	Highly Invasive	Slow	31.2	High		~
9	Small-flowered Mallow	Malva parviflora	Moderately Invasive	Moderate	22.2	High		
10	Common Sow- thistle	Somchus oleraceus	Highly Invasive	Rapid	13.3	Moderately High		

Table 4: Priority Private Garden Space weeds



Image 9: Flax-leaf Broom (Genista linifolia), a highly invasive species that appears in some gardens and conservation areas throughout Banyule.

Top 10 Berry and Stormwater Weeds in Banyule

Berry and Stormwater weeds cross over into each of the above three management areas and need to be considered by all land managers when designing weed management works plans.

	Weed :	Species			Weed		Weed of	
RANK	Common Name	Scientific Name	Potential for Invasion	Rate of Dispersal	Risk Score	Risk Rating	National Significance (WONS)	Victorian CaLP Act
1	Blackberry	Rubus fruticosis spp.agg	Highly Invasive	Rapid	33.3	Very High	>	>
2	Large-leaf Cotoneaster	Cotoneaster glaucophyllus	Highly Invasive	Rapid	33.2	Very High		
3	Sweet Pittosporum	Pittosporum undulatum	Highly Invasive	Rapid	33.2	Very High		
4	Large-leaf Privet	Ligustrum lucidium	Highly Invasive	Rapid	33.2	Very High		
5	Cape Ivy	Delairea odorata	Highly Invasive	Moderate	32.2	Very High		
6	Wandering Trad	Tradescantia fluminensis	Highly Invasive	Moderate	32.2	Very High		
7	African Boxthorn	Lycium ferocissimum	Highly Invasive	Rapid	23.3	High	>	>
8	Hawthorn	Crataegus monogyna	Highly Invasive	Rapid	23.2	High		>
9	White Bladder- flower	Araujia sericifera	Somewhat Invasive	Rapid	21.2	Moderately High		
10	Drain Flat-sedge	Cyperus eragrostis	Moderately Invasive	Rapid	12.2	Medium		

Table 5: Priority Berry and Stormwater weeds



Image 10: Blackberry (Rubus fruticosis spp agg), a well-known weed that can overtake waterways, terrestrial ecosystems, amenity plantings and gardens

Top 10 New and Emerging Weeds in Banyule

Some species present in the New and Emerging weeds category may not have been recorded in Banyule but have been found in surrounding Councils and land management areas. They are therefore crucial to capture in order to prevent them becoming an issue in Banyule.

	Weed !	Species	Potential	Rate of	Weed		Weed of	Victorian
RANK	Common Name	Scientific Name	for Invasion	Dispersal	Risk Score	Risk Rating	National Significance	CaLP Act
1	South African Weed Orchid	Disa bracteata	Highly Invasive	Rapid	33.3	Very High		
2	Serrated Tussock	Nasella trichotoma	Highly Invasive	Rapid	33.2	Very High	>	>
3	Bulbil Watsonia	Watsonia meriana var. bulbillifera	Highly Invasive	Rapid	33.2	Very High		>
4	Lobed Needle- grass	Nasella charruana	Highly Invasive	Rapid	33.2	Very High		
5	Texas Needle- grass	Nasella leucotricha	Highly Invasive	Rapid	33.2	Very High		
6	Parrot's Feather	Myriophyllum aquaticum	Highly Invasive	Moderate	32.2	Very High		
7	Madera Vine	Anredera cordifolia	Highly Invasive	Slow	31.2	High	~	>
8	African Boneseed	Chrysanthemoides monilifera subsp. monilifera	Highly Invasive	Moderate	22.3	High	>	>
9	Pattersons Curse	Echium plantagineum	Moderately Invasive	Rapid	22.3	High		>
10	Pampas Lily of the Valley	Salpichroa originfolia	Somewhat Invasive	Moderate	21.1	Moderately High		>

Table 6: Priority New and Emerging weeds



Image 11: South African Weed Orchid (*Disa bracteata*), a species currently not identified in Banyule, but is an issue in neighboring Councils. It is essential that all efforts a made to remove any plants that are found.

4. The Action Plan

To effectively control and manage weeds in Banyule, this strategy has identified 5 main goals with associated actions and targets.

This list of goals and actions is not intended to encompass all the weed-management works that will happen in Banyule over the next four years. Rather, it is expected that current works programs will continue, with the following goals integrated into these works plans or in new initiatives.

Goals

- 1. We understand the current weed status across Banyule and the effectiveness of our weed management programs
- 2. We actively manage and sustainably control weeds in Banyule
- 3. We minimise the impact of all priority weeds in Banyule
- 4. We protect our conservation reserves and wildlife corridors through better plant selection
- 5. We continually improve weed management across Banyule in partnership with the community and other stakeholders

The critical actions that this strategy will deliver to better manage weeds and protect our natural environment include those below and detailed in **Table 7**.

- Continue to work collaboratively with the Narrap Team at the Wurundjeri Woi-wurrung
 Cultural Heritage Aboriginal Corporation to protect and enhance our natural environment
- Developing a Weed Reporting project to ensure Council is capturing valuable data about the status of weeds and the impact of specific weed management plans, on the ground experience and more accurately recording, tracking and planning for weed identification, prioritisation and management
- Working with land managers to deliver an integrated weed management approach, ensuring
 that weeds don't build up a tolerance for any one strategy and to reduce the reliance on
 chemicals (this is discussed in more detail in Appendix 1)
- Establishing the Banyule Bushland Neighbours program to support private property owners who border local conservation reserves to better identify and manage weeds
- Working with the community to strengthen weed control on private land (including the creation of a local law to complement education efforts)

Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation holds charitable organisational status and works to advocate for the Wurundjeri Woi-wurrung people and the land that sustains them with a focus on:

- Protecting, managing and enhancing environmentally and culturally significant places on Wurundjeri Woi-wurrung Country
- Establishing a centre and keeping place for the Wurundjeri Woi-wurrung people for the protection of our cultural heritage
- Offering a range of cultural practices that can be experienced by the wider community
- Reinforcing spiritual, social and cultural connection with the land.

Council works closely with the Corporation's Narrap Team who undertake a range of natural resource management activities on Country at the request of clients, including:

- The maintenance of firebreaks in accordance with local council by-laws
- Restoration and regeneration of landscapes
- Establishment of biodiversity corridors
- Fencing
- Managing the impact of feral animals and pest plants
- Environmental weed control
- Ecological cultural burns

The Action Plan

	Cool	Action	Towart/o)			Yea	r		Lead
	Goal	Action	Target(s)	1	2	3	4	5	Department
	We understand the	Establish a Weed Reporting Project to capture changes in weed coverage and presence of species across Banyule that allows crews to identify sites, weeds and coverage data for priority weeds	Established in the first year						Biodiversity Adviser
1	current weed status across Banyule and the	Education around use and reporting through the Weed Reporting Project for operational staff	Established in the first year						Biodiversity Adviser
	effectiveness of our weed management	Conduct an annual assessment to identify changes in weed cover and report changes in the biodiversity section of the State of Environment Report	Conducted annually						Biodiversity Adviser
	programs	Upload all known weed species to the State Government database (VBA) as well as those identified in all current and future Conservation Management plans	Ongoing						Bushland Management
	We actively manage	Develop and implement an Integrated Weed Management approach with Banyule's land managers. This will include training on the approach, support to develop Integrated Weed Management Plan for their sites and information packs outlining control techniques to be used for the priority species throughout the year	Established by Year 2						Biodiversity Adviser
2	and sustainably	Using non-chemical alternatives in some high public use amenity planting areas. Including (but not limited to) steam and hot water weeders.	Ongoing						Open Spaces Presentation
	control weeds in Banyule	Develop 'Council Weed Hygiene Guidelines' for all Council land managers. This will include blow down procedures on site and better hygiene practices for vehicles generally	Established in the first year						Biodiversity Adviser
		The Banyule Planning scheme is amended as part of normal review process to reflect updated weed list in the Banyule Weed Management Strategy	Amendment made by Year 2						Strategic Planning
		 Manage Conservation Areas and Public Open Space weeds: Ensure all priority weeds present at each site are recorded in the Weed Reporting Project Estimate the percentage cover of priority weeds at each site Complete an annual assessment via the Weed Reporting Project to track results 	15-20% annual reduction in coverage per species on sites where priority weeds have been identified						Bushland Management
3	We minimise the impact of all priority weeds in Banyule	Manage Private Garden Space weeds: Distribute weed information packs to properties identified as having priority species present Update Council website to highlight current priority species in Private Garden Spaces Ensure all known locations are reported in the Weed Reporting Project Complete annual assessment with properties identified having priority species present and report on progress in Weed Reporting Project	Ongoing						Biodiversity Adviser
		 Manage Berry and Stormwater weeds: Ensure all priority weeds present at all sites are recorded in the Weed Reporting Project Categorise the level of cover at each site as high, medium or low Undertake staged removal of Top 10 Berry and Stormwater weeds from all sites categorised as high Monitor medium and low cover sites and remove propagules Complete annual assessments via the Weed Reporting Project to track results 	10-15% annual reduction across all sites categorised with <i>high</i> coverage						Bushland Management

		Prevent the establishment of New and Emerging weeds by: Identify sites where the Top 10 New and Emerging weeds are present and record percentage cover in the Weed Reporting Project Eradicate all known current and future infestations of the priority species Monitor for new outbreaks with land managers and the community (design an online reporting tool for the community to alert Council of any sightings)	All listed species eradicated from sites where they are detected.			Bushland Management
	We protect our	Develop guidelines for planting around conservation reserves and major wildlife corridors on public land. These guidelines will include: a priority system for local vegetation a process for assessing weed risk potential using the Advisory List of Environmental Weeds in Victoria and consider local vegetation community (EVC) when making plant selection.	Within 2 years			Biodiversity Adviser
4	conservation reserves and wildlife corridors through better plant selection	Ensure that all new street tree and amenity plantings consider Banyule's current weed list and indigenous species are used in conservation areas and wildlife corridors to support existing conservation work. Any new species to be introduced are put through a full weed risk assessment to ensure nothing planted will cause an environmental weed issue.	Ongoing			Urban Forestry
		New and Existing Council Water Sensitive Urban Designs (WSUD) use species that align with the local vegetation community or pose no weed risk to natural waterways.	Ongoing			Environmental Operations
		Establish the Banyule Bushland Neighbours Program to work directly with private property owners who border local conservation reserves	Established by Year 3			Biodiversity Adviser
	We continually improve	Develop and distribute information packs on priority weed species identified each of the priority categories for land managers and the broader community to better understand control techniques	Within first year			Biodiversity Adviser
5	weed management across Banyule in partnership with the	Establish a Weed Management Working Group with key external stakeholders that manage land in Banyule or manage land that borders the municipality.	Established in Year 1			Biodiversity Adviser
	community and other stakeholders	Develop a community engagement and education plan to support private property owners manage weeds on their properties and to identify and report weeds throughout Banyule. This would include: a set of information packs detailing management plans for the Top 10 weeds across Banyule, bi-annual workshops, regular updates to the Council website, an online reporting tool for new and emerging weeds.	Plan developed in Year 1 – implementation is ongoing			Biodiversity Adviser
		Create a local law to strengthen the current educational approach for managing priority weeds across all categories on private land.	Within 2 years			Local Laws

Table 7: Banyule's Weed Management Action Plan

5. Top 10 Weed Management Plans

The strategy has also identified Banyule's highest priority weeds to control. Each of these has a corresponding detailed, integrated management plan that can be used by Council's land managers, our partners and residents to manage weeds in any green space they are responsible for.

The Top 10

- 1. Chilean Needle Grass Nassella neesiana
- 2. Blackberry Rubus fruticosus aggregate
- 3. Desert Ash Fraxinus angustifolia subsp. angustifolia
- 4. Soursob Oxalis pes-caprae
- 5. English Ivy Hedra helix
- 6. Flax-leaf Broom Genista linifolia
- 7. Large-leaf Cotoneaster Cotoneaster glaucophyllus
- 8. Sweet Pittosporum Pittosporum undulatum
- 9. South African Weed Orchid Disa bracteata
- 10. Serrated Tussock Nassella trichotoma



Image 12: Artistic interpretation from community awareness sketch video of a healthy ecosystem in Banyule. Image supplied by Sketch Group.

Chilean Needle Grass

Nassella neesiana

Origin: South America

Flowering Times: October – February Risk Rating: Very High Score: 33.3

Distinguishing Characteristics:

- Large forming tussock plant that can reach 1-1.5 m tall;
- Leaves can be 300mm long, flat to 5mm wide with rough edges
- Wiry twisted awn (seed tail);
- Many flowering maroon coloured heads produced per plant;
- Small 'crown' shape at between the base of the seed and the awn (seed tail).

Impact:

It threatens natural ecosystems by rapidly colonising areas and outcompeting other local indigenous species. Its large tussock form enables it to smother surrounding native grasses and ground covers and its high amount of seed means it can persist in an area of a long time. It impacts on amenity plantings in the same way and will quickly establish in a garden bed or sports field if left unmanaged.



- Chemical: grass specific herbicides prior to flowering and at early germination or germination after other control methods;
- **Physical:** handweeding smaller plants in more sensitive areas and in smaller infestations, can also be useful at flowering time if there is a small infestation;
- **Grazing:** mechanical grazing, like mow and catch when plants are flowering to reduce seed spread. Follow up control is required for persistent seed banks;
- Burning: can effectively reduce flowering seed heads in large infestations but follow up control of germinates is important.

Control	Summer	Autumn	Winter	Spring
Chemical	During flowering (follow up)		Prior to flowering	Prior to and during flowering
Physical	At flowering times		Prior to flowering	At flowering times
Grazing	At flowering times			At flowering times
Burning		Cool season with follow up	Cool season with follow up	Cool season with follow up

Blackberry

Rubus fruticosus aggregate

Origin: Europe

Flowering Times: November – February

Risk Rating: Very High Score: 33.3

Distinguishing Characteristics:

- Oval tear shaped leaves that vary from evergreen to full deciduous with serrated edges;
- Can form very dense shrub like clumps;
- Many intertwined canes that have thorns or spines present;
- Flowers that form late spring to early summer and coloured white pink;
- Berries that start out red and ripening to black.

Impact:

Due to its level of invasiveness, potential to spread and environmental impacts in cool to warm temperate to sub-tropical areas, it is considered one of the worst weeds in Australia. It can infest large areas quickly through both seed dispersal and its extensive root system. It can smother indigenous ground covers, shrubs and germinating trees. It can also form dense and extensive enough clumps to become a major fire hazard in some areas and smother small trees.



- Chemical: control is the most commonly used and accepted method for control. Spraying prior to flowering allows enough time for the plant to absorb the chemicals before it can fruit and set seed;
- **Physical:** handweeding is possible for smaller germinates and slashing of larger infestations can provide access into larger thickets, promote new growth to better absorb herbicides and reduce the amount of herbicide use overall;
- Burning: will not kill blackberry, but will reduce the biomass and seeds present, then germinates that appear after fire can be easily targeted;
- **Biological:** rust fungus has been trialed in Australia in the past and was shown to be effective on marge infestations, in particular ones that had limited access. It has had varied results more recently and should be used in conjunction with other methods.

Control	Summer	Autumn	Winter	Spring
Chemical	Prior to flowering			Prior to flowering
Physical			Before flowering (regrowth)	Prior to flowering
Burning				Late season burn
Biological			Periods before flowering	Periods before flowering

Desert Ash

Fraxinus angustifolia subsp. angustifolia

Origin: South-West Asia and Parts of Europe

Flowering Times: September – November

Risk Rating: Very High Score: 32.3

Distinguishing Characteristics:

- Large spreading tree that can grow up to 12m tall;
- Deciduous leaves that are opposite on branches and slightly toothed;
- Growing buds are dark brown in colour;
- Flowers are inconspicuous and in small branched clusters.
- Bark is smooth and grey on young trees becoming square-cracked, light brown and knobbly on older trees



Impact:

Desert Ash grows rapidly, easily outcompeting more desirable species and can from dense clusters quickly. It grows particularly well in creeks, rivers and wetlands where it competes for moisture, light and nutrients with more desirable indigenous plants. It spreads through suckers and seed and can spread far through wind and water-courses.

- Physical: handweed smaller tress before they establish root systems and when in smaller infestations. Larger plants can be cut and paint at the base (as close to the soil surface as possible) using handsaws, loppers or secateurs and then applying an amount of herbicide through a dabber bottle to the cut stump of the tree;
- **Mulching:** Removed and chipped Desert Ash trees often end up in mulches that get re-used, these reused mulches can often cause new trees to emerge. Desert Ash trees that are chipped should not be incorporated into reusable mulch and disposed of into landfill;
- **Steam:** can be used on smaller plants or early stage germinates that are in high infestations. This should be done before roots are allowed to establish otherwise it may not be effective.

Control	Summer	Autumn	Winter	Spring
Physical	Active growth time			Active growth times
Mulching	Appropriate removal times			Appropriate removal times
Steam	Early germinates			Early germinates

Soursob

Oxalis pes-caprae

Origin: South Africa

Flowering Times: June – November Risk Rating: Very High Score: 31.2

Distinguishing Characteristics:

- Small upright perennial her that can grow to 400mm high;
- Heart shaped, clover like leaves;
- Distinctive trumpet, yellow flowers;
- Densely clumped and often multi layered leaves;

Impacts:

In native ecosystems it spreads quickly across the ground covering geminates and smaller plants, which in turn smother and prevent them from getting enough light, water and nutrients. Its root system has many bulbs underground taking away valuable space for other indigenous species that create similar underground bulbs. In urban amenity plantings and private gardens, *Oxalis* species can rapidly colonise spaces and smother more desirable plants if left unmanaged. It is also known to be toxic to some animals if consumed in large quantities.



- Chemical: bulb specific herbicides are the most common control method used. Some herbicides take time to be fully absorbed by the plant, so timing is crucial. Sprays should be applied well before flowering, or as soon as flowering is observed to allow for the chemical to reach the bulb.
- **Physical:** handweeding can remove smaller infestations, but care needs to be taken to fully remove bulbs from the ground. This can also mean the smaller bulbils break off and germinate after physical removal. Repeat efforts of physical removal can result in bulb exhaustion.
- Cultivation: tilling of the soil and ground where Oxalis occurs can mean bulbs are exposed to sun and dry out, but repeat tillage is required.
- **Burning:** will not kill off plants entirely but can help to reduce larger amounts of biomass. A method called 'melting' with weed burners effectively removes the plants ability to photosynthesise and forces the plant to re-shoot where it can be re-treated and again resulting in bulb exhaustion.

Control	Summer	Autumn	Winter	Spring
Chemical		Prior to flowering	Prior and during flowering	
Physical			Prior and during flowering	During flowering
Cultivation		Prior to flowering	Prior to flowering	
Burning		Reduce biomass	Stop spread	

English Ivy

Hedra helix

Origin:

Flowering Times: February to May Risk Rating: Very High Score: 33.3

Distinguishing Characteristics:

- Vigorous and hardy, spreading, climbing vine;
- Leaves are dark green, waxy and somewhat leathery and arranged alternately along the stem;
- Flowers are umbrella like small clusters of a greenish-white colour;
- Berry fruits are purplish to black and have a fleshy outer cover

Impacts:

In natural ecosystems and amenity plantings it is an aggressive invader that threatens all vegetation levels. It achieves this by smothering vegetation, reducing the plants ability to photosynthesise eventually killing it. When reaching for light, it will climb large trees and



structures, significantly increasing their overall load increasing their potential to fall over. The berries are attractive to birds who ingest them and then distribute them further through their digestive systems. It is also known to be toxic to humans and its leaves can cause skin irritations and berries can cause gastrointestinal issues if ingested.

- Physical: ground cover and smaller plants can be handweeded ensuring roots are removed from the soil. Larger plants will need their roots cut at a comfortable reaching level with roughly a 50-100mm gap between them. If this is done at ground level, the lower half can be treated with herbicide through a dabber.
- Chemical: being an evergreen plant, herbicides can be applied at any time of the year as long as temperatures are above 12 degrees. Care should be taken and only applied below hip level to avoid off target damage to larger areas. It is best spray smaller plants

Control	Summer	Autumn	Winter	Spring
Physical	Applied anytime	Applied anytime	Applied anytime	Applied anytime
Chemical	Applied anytime	Applied anytime	Applied anytime	Applied anytime

Flax-leaf Broom

Genista linifolia

Origin: Mediterranean

Flowering Times: August to November

Risk Rating: Very High Score: 32.2

Distinguishing Characteristics:

- An evergreen perennial shrub that is erect or spreading to 3m in height
- Leaves are dark green but can look silvery from a distance and thin (1-4mm wide) and sparsely hairy.
- Flowers are a classic pea shape and bright yellow
- Stems are ribbed and covered in many short soft hairs.

Impacts:

It can form dense clumps and hedges quickly, outcompeting more desirable species. It is a nitrogen fixing plant that allows its seeds to establish quickly by increasing the soil fertility to a level suitable for broom plants. Larger infestations have also been known to increase fuel loads and create an increased fire risk.



- Chemical: herbicides can be used on larger infestations of smaller plants. Once plants get to a more established stage, herbicide application will increase the potential for off target damage. Cut and pain it another solution for larger plants or ones found growing near desirable vegetation.
- **Physical:** handweeding smaller or medium sized plants can be effective in small to medium density infestations, but care needs to be taken to not disturb the soil too much, as broom species easily invade disturbed areas
- **Burning:** controlled burning of geminate rosettes has proven to be effective in removing a seasons seed bank. This also allows local indigenous species (who have adapted to fire in Australia) to regenerate and even germinate for some species.

Control	Summer	Autumn	Winter	Spring
Chemical	Prior to flowering	Prior to flowering		
Physical			Ideal at flowering times	Ideal at flowering times
Burning				Germination times

Large-leaf Cotoneaster Cotoneaster glaucophyllus

Origin: Europe and Asia

Flowers: September – October Risk Rating: Very High Score: 33.2

Distinguishing Characteristics:

- A multi branched shrub or tree that can grow up to 4m tall and wide.
- Leaves are oval shaped and have and orange-reddish boarder.
- Flowers are grouped in clusters of 20-60 and are white in colour.
- Mostly recognised by its vast amount of grouped red berries.

Impacts:

It produces an abundant amount of highly viable seeds that birds are strongly attracted to and can be distributed over vast distances. It can form dense clusters quickly and take over areas of more desired vegetation. It is highly tolerant to a range of environmental conditions, meaning it has adapted well to the Australian environment. The berries, if ingested in large quantities, have been known to be toxic to humans and pets.



- **Physical:** smaller plants can be easily removed by handweeding and larger ones can be cut and painted, using handsaws, loppers or secateurs then a small amount of herbicide applied to the cut stump. This can be achieved any time of year due to its regular production of fruits.
- **Competition:** all physical removals should be followed up with replating as the high viability of seeds will enable *Cotoneaster* species to re-grow quickly in exposed soils.
- Chemical: herbicides can be applied to very dense, low growing (below knee height) seedlings. Care must always be taken to avoid off target damage.

Control	Summer	Autumn	Winter	Spring
Physical	Ideal cut and paint time	Ideal cut and paint time	Germinate handweeding	Germinate handweeding
Competition		Ideal planting season	Ideal planting season	Early spring
Chemical			Germination times	Germination times

Sweet Pittosporum

Pittosporum undulatum

Origin: Eastern Australia

Flowering Times: August to October Risk Rating: Very High Score: 33.2

Distinguishing Characteristics:

- A tall evergreen tree that can grow to 25m tall in some parts of Australia.
- Dense foliage that creates areas of deep shade beneath.
- Leaves are alternately arranged, dull green with wavy edges.
- Flowers appear in clusters of 4-5 and are creamy white.
- Fruits are most obvious characteristic and are green, then ripening to orange capsules.

Impacts:

Even though it is native Eastern Australia, it's become highly weedy outside of its natural range (wet forests in coastal areas). Its dense foliage creates deep shade areas, meaning ground covers and smaller shrubs lack suitable light to establish and grow. The leaves, when dropped form dense,

nutrient rich patches, meaning the soil often becomes too rich for native plants to establish. Reductions in natural fire regimes have meant that this species can easily overtake natural bushland areas.



- Physical: smaller plants and germinates can easily be removed by hand. Larger trees need to be removed in staged processes as they will still provide some habitat value for native animals. cut and painted, using handsaws, loppers or secateurs then a small amount of herbicide applied to the cut stump. Germination is often stimulated by the removal of the parent plant and seedlings will pop up after removal. Staged removal is again recommended to reduce the amount of germinate plants.
- Chemical: spraying is possible for smaller, germinate plants in high density areas. This option may be viable after larger trees have been removed an germinates appear.

Control	Summer	Autumn	Winter	Spring
Physical			Flowering, before fruiting	Flowering, before fruiting
Chemical		Seeds previously dormant	Germinate seeds	Germinates – small plants



South African Weed Orchid

Disa bracteata

Origin: South Africa

Flowering Times: September to November

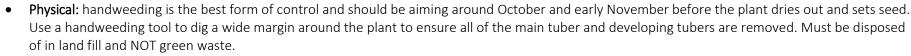
Risk Rating: Very High Score: 33.3

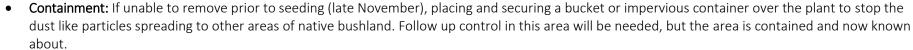
Distinguishing Characteristics:

- Erect and fleshy perennial orchid that can grow to between 30 and 50 cm high.
- Mature leaves form numerous green-grass like leaves with a purplish under surface.
- Forms clumps of 20-60 flowers from a single stalk with hooded re-brown upper parts.
- Fruits are small brown capsules that contain minute dust-like seeds

Impacts:

Its vast amounts of dust-like seeds means if left to seed, can easily germinate in areas of native bushland and rapidly colonise. It outcompetes other orchid species for the same nutrients and fungal relationships in the soil. It is also highly problematic for native wildflowers and lilies, as it will rapidly colonise an area and take water, space and nutrients from local native plants.





Control	Summer	Autumn	Winter	Spring
Physical				Handweed before flowering
Containment				Contain late November



Serrated Tussock

Nassella trichotoma

Origin: South America

Flowering Times: September to December

Risk Rating: Very High Score: 33.2

Distinguishing Features:

- Perennial tussock forming grass that can grow between 60 and 70 cm in height.
- Leaves are narrow and tightly rolled with small serrations along the length.
- Flower heads are open and branching producing many (up to 100,000) flowers per plant.
- Seeds are distinct and have small warts covering the surface.

Impacts:

Due to its vast amounts of seed per plant and its vigorous growing habit, it can easily colonise an area and displace more desirable native grasses, ground covers, lilies and wildflowers. It has an extensive rhizomous root system that makes it hard to physically remove and allows the plant to



regenerate this way as well as its seed. It is unpalatable to any native animal due to its serrations on the leaves, meaning natural grazing control isn't possible.

- Chemical: spraying is to most common and effective control method for all plant sizes, but also best used in conjunction with other methods, as they have been known to build resistance to herbicides in some areas of Australia.
- **Burning:** fire has been used successfully to reduce biomass and kill seeds present on flowering plants. Follow up spraying of regrowth reduces the amount of herbicide needed and impacts the plant further as it is putting energy back into regrowth, thereby takin up herbicide quicker.
- **Mulching:** trials of thick mulching after another control has found that regrowth of serrated tussock has been stopped in small infestations (as mulching large areas is often impractical).
- Physical: handweeding is possible but requires a mattock to remove the rhizome root system. This is only possible for small infestations.

Control	Summer	Autumn	Winter	Spring
Chemical	Flowering or regrowth spray			Prior to flowering
Burning				Early spring burns
Mulching	Prior to germination	Prior to germination		
Physical		Germinate stage	Prior to flowering	

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Appendix 1 – Integrated Weed Management

An integrated weed management approach combines the use of complimentary weed control methods to ensure weeds do not build resistance to one particular method and reduce an overall reliance on chemicals. This approach also allows for a more environmentally friendly and cost-effective approach to weed management as some techniques (herbicides) can be expensive.

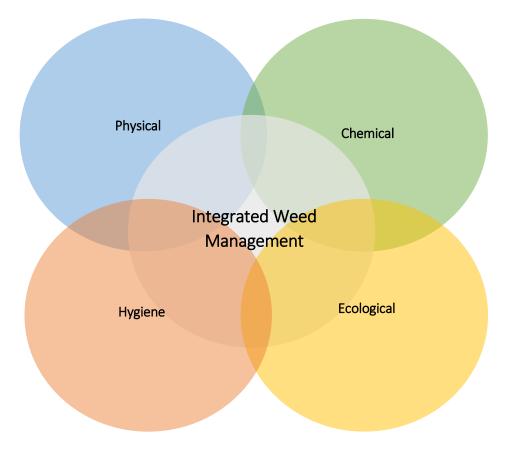


Figure 2: Integrated weed management overview (source, Science Direct)

The four weed management controls are explained further below and should be considered by all land managers in Banyule and incorporated into their current weed management practices.

Physical controls are weed management techniques performed by physical or mechanical means. The method used will be determined by the weed type, area covered, sites purpose and season (allowing for differing plant growth times). Some physical control methods include.

- Handweeding
- Burning
- Mulching
- Steam Weeders
- Slashing or Mowing
- Cutting and Painting (which use herbicides in a concentrated area)
- Tilling soil

All of these methods have differing energy inputs, pros and cons and need to be used at times when plants are in their active growth stage for best results.



Image 13: Handweeding is a manual control technique, often used around sensitive vegetation to reduce the chance off target damage.

Chemical controls refer to the use of herbicides in weed management. In some situations, herbicides offer the only practical, cost effective and selective method of managing certain weeds. Some weed species can form resistance to herbicides and build ups in the environment can cause off target damage if used incorrectly. Conditions such as wind speed and direction, possibility of rain and proximity to waterways need to be considered when using herbicides. It is extremely important to read and follow the information outlined on the herbicide's label and material safety data sheet (MSDS).

This strategy recognises the increased concerns around herbicide use within public spaces, and therefore recommends and integrated weed management approach to achieve better overall weed control and ultimately reduce reliance on herbicide use.

Ecological controls are based on the concept of competition and weeds and more desirable and suitable plants at a site. This often refers to the revegetation of larger canopy trees which over time reduce soil moisture content of the soil, light and compete for nutrients. When appropriate tree species are used and local vegetation communities are considered, Australian mid and understory plants are better suited, as they have naturally adapted to the tree canopy dynamics of that particular ecosystem. This method extends to middle and lower story revegetation and land managers can plant in denser clusters where the same theory of completion with weeds applies.

Hygiene or weed hygiene is one of the more important control methods in an integrated weed management approach. Weed seeds can easily spread on equipment, machinery and clothing, potentially over large distances. This also applies to seed and mulch selection for revegetation projects as both that have weed seeds mixed in, can add to a site's weed issues. By ensuring good hygiene practices are being followed allows land managers to ensure weed seeds are being confined to and area and not spreading further.

Each of these methods outlined above have their pros and cons and it is easy to see that some methods require a long-term approach, compared to others that are short term – quick fix solutions. An integrated weed management approach allows land managers to be adaptive depending from site to site which will vary in their priorities.

Appendix 2 – Prioritising Weeds: A 3-step Method

1. Understand the extent

It is important to understand what weeds are present to any given area and their current extent before priorities can be established. There are many functions available to determine weed extent including, existing records, visual searches and localised knowledge. Some these, such as visual searches, may result in highly accurate localised records, but are very resource prohibitive over a large scale like a local government area. With this in mind, the approach to integrate different methods will help form a clear picture of current weed extent in an area.

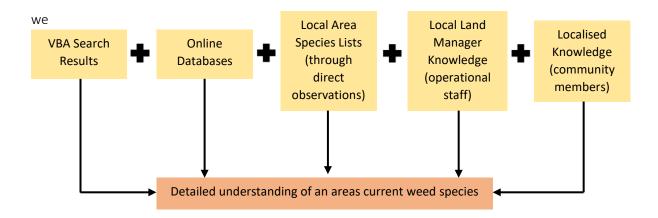


Figure 3: Visual representation of the resources that can be used to understand weed presence and extent to an area

2. Subject species to a Weed Risk Assessment

Weeds pose different levels of risk depending on their different attributes, such as their impact on systems, potential area of distribution, rate of dispersal and range of susceptible habitats. The Weed Risk Assessment that this strategy has used is *DELWPS's Advisory List of Environmental Weeds in Victoria*. <u>ARI-Technical-Report-287-Advisory-list-of-environmental-weeds-in-Victoria.pdf</u>

By putting weeds through a risk assessment, they can be assigned a numerical score and risk rating which enables them to start to be prioritised based on their threat level. **Table 2** outlines a risk ranking score and the associated risk rating to demonstrate how weeds can be separated based on their threat level.

Risk Ranking Score Range	Risk Rating
31.3 – 33.3	Very High
22.2 – 31.2	High
13.2 – 22.1	Moderately High
11.1 – 13.1	Medium
0	Low
Unscored	Potential

Table 8: Risk ranking score ranges and associated risk ratings table from *DELWP's Advisory List of Environmental Weeds in Victoria*

3. Understand a weeds level of establishment

Established weeds have generally been in an area for a long period of time, have substantial seed banks and require large inputs to control, making eradication unrealistic with limited resources. Conversely, weeds that are new to a site, can easily be prevented from establishing with relatively low inputs. By acting early and eradicating weeds before they establish, it reduces the long-term cost associated with controlling established weeds. In terms of risk, establishment is important to consider and not just rely on a weeds risk assessment score alone as species with lower ratings that may have been allowed to establish over time, may end up requiring greater resources to control.

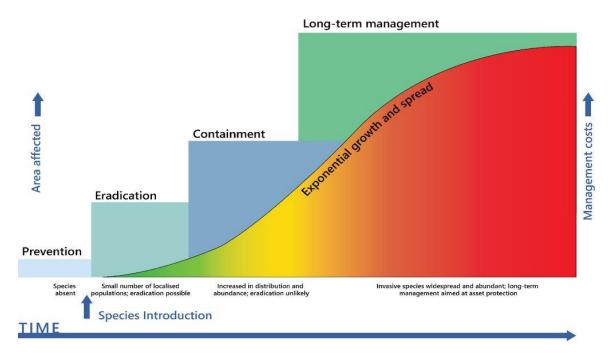


Figure 4: Invasion curve for weed management – showing the benefit of investing in control at different stage of establishment (Invasive Species Council Australia 2021)

Where weed control works are limited by time and budget, understanding establishment principles helps to plan which weeds to focus on. It is important to consider as a weed that is new to a site may be easier to control straight away, as opposed to only concentrating on the priority weeds, thereby allowing the new weed to later become an issue.

Using the steps to understand the priorities

Using the methodology and the steps outlined above, a clear pathway can be outlined to get to a point of being able to prioritise weeds in the different management categories.

To begin there needs to be an understanding of what weeds are present in a given area. From there, applying a full weed risk assessment to further understand which weeds pose the greatest risks. They can then be further grouped into categories, depending on their risk levels and used to prioritise which weeds are of highest priority to a particular management area.

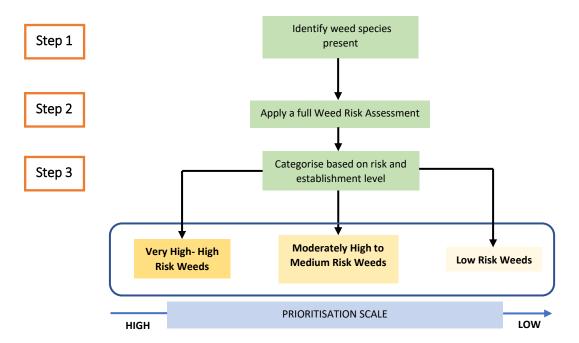


Figure 5: The three steps to identify priority weeds for a management area

Appendix 3 – Changes from the 2006 Weed List

Some introduced and native tree species commonly found in private gardens are listed in Banyule's 2006 Weed Management Strategy.

Banyule's planning scheme references Banyule's 2006 Weed Management Strategy and therefore any tree species appearing on the weed list within private property is exempt from obtaining a planning permit for their removal. Allowing the removal of highly weedy trees without a permit from private property is a way of helping to control their spread into our conservation areas and wildlife corridors.

Some of these introduced and native trees listed in the previous strategy, when found on private property, actually present a very low threat of escape into our natural systems. The implication of these trees remaining on an updated weed list and allowing their removal without a permit, could result in large scale canopy cover loss, decrease in shading and loss of habitat value.

Scientific Name	Common Name	Family
Cordyline australis	New Zealand Cabbage-tree	Asparagaceae
Eucalyptus botryoides	Southern Mahogany	Myrtaceae
Eucalyptus cladocalyx	Sugar Gum	Myrtaceae
Hakea salicifolia subsp. salicifolia	Willow-leaf Hakea	Proteaceae
Melaleuca armillaris	Giant Honey-myrtle	Myrtaceae
Ulmus procera	English Elm	Ulmaceae

Table 9: Tree species that don't appear in the updated weed list which were previously in Banyule's 2006 Weed Management

Within Banyule's conservation areas and wildlife corridors, these species are still considered important to manage.

The trees that remain on the updated weed list in this strategy have a high potential to spread outside of their current locations and can potentially impact on our natural systems.

Canopy Cover, Habitat Retention and Urban Cooling

Banyule's conservation areas and wildlife corridors support a high diversity of native animals and local indigenous plants. An important part of these areas are their established local indigenous trees which are crucial for the overall make up of an area's ecosystem.

Larger canopy trees around Banyule that are not considered indigenous still provide a variety of benefits; maintaining a 'green' municipality that our residents love Banyule for and providing urban cooling critical for reducing the impacts of climate change. Private gardens with large established

trees complement trees within the public realm, adding canopy cover and creating habitat stepping stones for local wildlife.

Even though these trees aren't indigenous, they are still important to protect and retain in some areas, due to the broader benefits they provide.

This strategy talks about the importance of appropriate plant selection in and near conservation areas and wildlife corridors, to help build on their existing values.

All new established tree plantings within Banyule's public spaces should support biodiversity, consider their weed risk and avoid planting species that pose any risk of escaping into our natural areas.



Image 14: An example of how street trees and private garden trees can complement natural areas and provide canopy cover, increased shading, provide more habitat and create connections.

Appendix 4 – Full List of Weeds in Banyule

The following table is a record of all known weed species recorded in the City of Banyule, which were combined with records from the VBA and existing species lists from plans and team works programs at Banyule.



Image 14: Cape Ivy (Delairea odorata) a weed that is found in high numbers along the Plenty River. It easily outcompetes more desirable plants, climbing over shrubs and small trees. It can easily disperse through wing, water and animals.

Key:

*	Introduced
N	Native to Victoria
WoNS	Weeds of National Significance
CaLP Act	Victorian Catchment and Land Protection Act classified weeds
CA	Conservation Areas
POS	Public Open Space
PG	Private Gardens
BSW	Berry and Stormwater
NE	New and Emerging Weeds

Scientific Name	Common Name	Family	Origin	Invasiveness	Dispersal Rate	Score	Risk Rating	Management Category	WoNS	CaLP Act
Acacia baileyana	Cootamundra Wattle	Fabaceae	*	Highly Invasive	Slow	21.2	Moderately High	CA, POS, PG		
Acacia boormanii	Snowy River Wattle	Fabaceae	N	Somewhat Invasive	Slow	21.3	Moderately High	CA, POS, PG		
Acacia cognata	Narrow-leaf Bower-wattle	Fabaceae	N	Somewhat Invasive	Slow	21.1	Moderately High	CA, POS, PG		
Acacia decurrens	Early Black-wattle	Fabaceae	*	Highly Invasive	Moderate	22.2	High Risk	CA, POS, PG		
Acacia elata	Cedar Wattle	Fabaceae	*	Highly Invasive	Slow	31.2	High Risk	CA, POS, PG		
Acacia fimbriata	Fringed Wattle	Fabaceae	*	Moderately Invasive	Moderate	22.2	High Risk	CA, POS, PG		
Acacia floribunda	White-sallow Wattle	Fabaceae	N	Highly Invasive	Moderate	32.2	Very High	CA, POS, PG		
Acacia howittii	Sticky Wattle	Fabaceae	N	Moderately Invasive	Moderate	22.3	High Risk	CA, POS, PG		
Acacia iteaphylla	Willow-leaved Wattle	Fabaceae	*	Moderately Invasive	Slow	21.2	Moderately High	CA, POS, PG		
Acacia longifolia subsp. longifolia	Sallow Wattle	Fabaceae	N	Highly Invasive	Moderate	32.2	Very High	CA, POS, PG		
Acacia longifolia subsp. sophorae	Coast Wattle	Fabaceae	N	Highly Invasive	Moderate	32.2	Very High	CA, POS, PG		
Acacia pravissima	Ovens Wattle	Fabaceae	N	Moderately Invasive	Moderate	22.2	High Risk	CA, POS, PG		
Acacia prominens	Golden Rain Wattle	Fabaceae	*	Moderately Invasive	Slow	31.2	High Risk	CA, POS, PG		
Acacia provincialis	Wirilda	Fabaceae	N	Moderately Invasive	Moderate	32.2	Very High	CA, POS, PG		
Acacia saligna	Orange Wattle	Fabaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, POS, PG		
Acer negundo	Box-elder Maple	Sapindaceae	*	Somewhat Invasive	Rapid	31.3	Very High	CA, POS, PG		
Acetosa sagittata	Turkey Rhubarb	Polygonaceae	*	Moderately Invasive	Moderate	22.3	High	CA, PG		
Acetosella vulgaris	Sheep Sorrel	Polygonaceae	*	Highly Invasive	Rapid	13.2	Moderately High	BSW		
Achillea millefolium	Common Yarrow	Asteraceae	*	Moderately Invasive	Moderate	21.1	Moderately High	CA, BSW		
Agapanthus praecox subsp. orientalis	Agapanthus	Amaryllidaceae	*	Highly Invasive	Moderate	32.2	Very High	POS, PG		
Agave americana var. picta	Variegated Century Plant	Asparagaceae	*	Somewhat Invasive	Slow	31.1	High	POS, PG		

Scientific Name	Common Name	Family	Origin	Invasiveness	Dispersal Rate	Score	Risk Rating	Management Category	WoNS	CaLP Act
Agrostis capillaris var. capillaris	Brown-top Bent	Poaceae	*	Moderately Invasive	Rapid	22.2	High	CA		
Agrostis gigantea	Red-top Bent	Poaceae	*	Moderately Invasive	Rapid	32.1	Very High	CA		
Agrostis stolonifera	Creeping Bent	Poaceae	*	Highly Invasive	Rapid	23.2	High	CA		
Aira caryophyllea subsp. caryophyllea	Silvery Hair-grass	Poaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Aira cupaniana	Quicksilver Grass	Poaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Aira elegantissima	Delicate Hair-grass	Poaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Aira praecox	Early Hair-grass	Poaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Albuca bracteata	Pregnant Onion	Asparagaceae	*	Moderately Invasive	Slow	21.1	Moderately High	PG		
Alisma lanceolatum	Water Plantain	Alismataceae	*	Highly Invasive	Rapid	23.1	High	BSW		
Allium triquetrum	Three-cornered Garlic	Amaryllidaceae	*	Highly Invasive	Slow	31.2	High	CA, POS, PG		~
Aloe maculata	Common Soap Aloe	Asphodelaceae	*	Moderately Invasive	Slow	21.3	Moderately High	PG		
Alopecurus pratensis	Meadow Fox-tail	Poaceae	*	Moderately Invasive	Moderate	22.2	High	CA		
Alstromoeria psittacina	Parrot Alstromoeria	Alstroemeriaceae	*	Somewhat Invasive	Slow	21.2	Moderately High	PG		
Alternanthera philoxeroides	Alligator Weed	Amaranthaceae	*	Highly Invasive	Moderate	32.3	Very High	NE	~	~
Alternanthera pungens	Khaki Weed	Amaranthaceae	*	Highly Invasive	Moderate	22.1	Moderately High	NE, BSW		~
Amaranthus deflexus	Spreading Amaranth	Amaranthaceae	*	Somewhat Invasive	Moderate	11.1	Medium	CA, POS		
Ambrosia tenuifolia	Perrennial Ragweed	Asteraceae	*	Highly Invasive	Rapid	33.1	Very High	CA, POS		~
Anredera cordifolia	Madeira Vine	Basellaceae	*	Highly Invasive	Slow	31.2	High	CA, PG, BSW	~	~
Anthoxanthum odoratum	Sweet Vernal-grass	Poaceae	*	Highly Invasive	Rapid	23.2	High	CA		
Aphanes arvensis	Parsley Piert	Rosaceae	*	Highly Invasive	Rapid	13.2	Moderately High	POS, PG		
Apium graveolens	Celery	Apiaceae	*	Moderately Invasive	Slow	21.1	Moderately High	POS, PG		

Scientific Name	Common Name	Family	Origin	Invasiveness	Dispersal Rate	Score	Risk Rating	Management Category	WoNS	CaLP Act
Aptenia cordifolia	Heart-leaf Ice-plant	Aizoaceae	*	Moderately Invasive	Slow	21.3	Moderately High	PG		
Araujia sericifera	White Bladder-flower	Apoacnaceae	*	Somewhat Invasive	Rapid	21.2	Moderately High	CA, BSW		
Arctotheca calendula	Cape Weed	Asteraceae	*	Moderately Invasive	Rapid	12.1	Medium	POS, PG		
Artemisia arborescens	Silver Wormwood	Asteraceae	*	Somewhat Invasive	Slow	11.2	Medium	POS, PG		
Arum italicum subsp. italicum	Italian Cuckoo-pint	Araceae	*	Somewhat Invasive	Slow	21.1	Moderately High	BSW		
Asparagus aethiopicus	Ground Asparagus	Asparagaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA	>	>
Asparagus asparagoides	Bridal Creeper	Asparagaceae	*	Highly Invasive	Rapid	23.3	High	CA, PG	>	~
Asparagus officinalis	Asparagus	Asparagaceae	*	Highly Invasive	Rapid	23.1	High	CA, PG		
Asparagus scandens	Asparagus Fern	Asparagaceae	*	Highly Invasive	Rapid	33.2	Very High	CA, PG	~	~
Asphodelus fistulosus	Onion Weed	Asphodelaceae	*	Moderately Invasive	Rapid	12.3	Medium	CA, POS, PG		
Atriplex prostrata	Hastate Orache	Chenopodiaceae	*	Moderately Invasive	Moderate	22.2	High	CA, BSW		
Avena barbata	Bearded Oat	Poaceae	*	Moderately Invasive	Rapid	22.2	High	POS		
Avena fatua	Wild Oat	Poaceae	*	Moderately Invasive	Rapid	22.2	High	CA, POS		
Bellis perennis	English Daisy	Asteraceae	*	Moderately Invasive	Moderate	12.2	Medium	POS, PG		
Beta vulgaris subsp. vulgaris	Beet	Chenopodiaceae	*	Somewhat Invasive	Slow	11.1	Medium	CA, BSW		
Billardiera fusiformis	Australian Bluebell	Pittosporaceae	*	Highly Invasive	Rapid	33.3	Very High	CA		
Billardiera heterophylla	Bluebell Creeper	Pittosporaceae	*	Highly Invasive	Rapid	33.2	Very High	CA		
Brachypodium distachyon	False Brome	Poaceae	*	Highly Invasive	Rapid	33.2	Very High	CA		
Brachythecium albicans	Pale Feather-moss	Brachytheciaea	*	Moderately Invasive	Rapid	12.1	Medium	CA		
Brassica fruticulosa	Twiggy Turnip	Brassicaceae	*	Highly Invasive	Moderate	22.2	High	CA, POS		
Brassica nigra	Black Mustard	Brassicaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA, POS		
Brassica rapa	White Turnip	Brassicaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA, POS		
Briza maxima	Large Quaking-grass	Poaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA		

Scientific Name	Common Name	Family	Origin	Invasiveness	Dispersal Rate	Score	Risk Rating	Management Category	WoNS	CaLP Act
Briza minor	Lesser Quaking-grass	Poaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA		
Bromus alopecuros	Mediterranean Brome	Poaceae	*	Moderately Invasive	Rapid	22.2	High	CA, POS		
Bromus catharticus var. catharticus	Prairie Grass	Poaceae	*	Moderately Invasive	Rapid	22.2	High	CA, POS		
Bromus diandrus	Great Brome	Poaceae	*	Moderately Invasive	Rapid	12.3	Medium	CA, POS		
Bromus hordeaceus subsp. hordeaceus	Soft Brome	Poaceae	*	Moderately Invasive	Rapid	12.3	Medium	CA, POS		
Bromus madritensis	Madrid Brome	Poaceae	*	Highly Invasive	Rapid	23.3	High	CA, POS		
Bromus rubens	Red Brome	Poaceae	*	Highly Invasive	Rapid	23.2	High	CA, POS		
Buglossoides arvensis	Corn Gromwell	Boraginaceae	*	Moderately Invasive	Rapid	12.2	Medium	CA, POS		
Callitriche brutia	Water-starwort	Plantaginaceae	*	Highly Invasive	Rapid	23.1	High	BSW		
Calystegia silvatica	Greater Bindweed	Convolvulaceae	*	Somewhat Invasive	Slow	21.1	Moderately High	CA		
Capsella bursa-pastoris	Shepherd's Purse	Brassicaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA, POS		
Cardamine flexuosa	Wood Bitter-cress	Brassicaceae	*	Somewhat Invasive	Rapid	11.1	Medium	CA, POS		
Cardamine hirsuta	Common Bitter-cress	Brassicaceae	*	Somewhat Invasive	Rapid	11.2	Medium	CA, POS		
Cardamine occulta	Flick Weed	Brassicaceae	*	Somewhat Invasive	Rapid	11.1	Medium	CA, POS		
Carduus pycnocephalus	Slender Thistle	Asteraceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Carduus tenuiflorus	Winged Slender-thistle	Asteraceae	*	Moderately Invasive	Rapid	12.3	Medium	CA, POS		
Cassinia sifton	Drooping Cassinia	Asteraceae	N	Somewhat Invasive	Rapid	11.2	Medium	CA		
Catapodium rigidum	Fern Grass	Poaceae	*	Highly Invasive	Rapid	23.1	High	CA, BSW		
Cenchrus clandestinum	Kikuyu	Poaceae	*	Highly Invasive	Moderate	32.2	Very High	CA		
Cenchrus setaceus	Fountain Grass	Poaceae	*	Highly Invasive	Moderate	22.2	High	CA, PG		
Centaurea melitensis	Malta Thistle	Asteraceae	*	Moderately Invasive	Rapid	22.2	High	CA, POS, PG		
Centaurium erythraea	Common Centaury	Gentianaceae	*	Highly Invasive	Rapid	13.3	Moderately High	PG		

Scientific Name	Common Name	Family	Origin	Invasiveness	Dispersal Rate	Score	Risk Rating	Management Category	WoNS	CaLP Act
Centaurium tenuitlorum	Slender Centaury	Gentianaceae	*	Highly Invasive	Rapid	13.3	Moderately High	PG		
Centranthus ruber subsp. ruber	Red Valerian	Valerianaceae	*	Moderately Invasive	Moderate	22.1	Moderately High	POS, PG		
Cerastium glomeratum	Common Mouse-ear Chickweed	Caryophyllaceae	*	Somewhat Invasive	Rapid	11.3	Moderately High	CA, POS, PG		
Cerastium semidecandrum	Little Mouse-ear Chickweed	Caryophyllaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS, PG		
Cerastium vulgare	Common Mouse-ear Chickweed	Caryophyllaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS, PG		
Ceratodon purpureus subsp. convolutus	Redshank Moss	Ditrichaceae	*	Highly Invasive	Rapid	22.3	High	CA		
Chamaecytisus palmensis	Tree Lucerne	Fabaceae	*	Highly Invasive	Moderate	32.3	Very High	BSW		
Chasmanthe bicolor	Cobra Lily	Iridaceae	*	Moderately Invasive	Moderate	32.3	Very High	BSW		
Chasmanthe floribunda	African Cornflag	Iridaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, POS, NE		
Chenopodium album	Fat Hen	Chenopodiaceae	*	Moderately Invasive	Rapid	12.1	Medium	CA, POS		
Chenopodium murale	Sowbane	Chenopodiaceae	*	Moderately Invasive	Rapid	12.1	Medium	CA, BSW		
Chenopodium vulvaria	Stinking Goosefoot	Chenopodiaceae	*	Somewhat Invasive	Rapid	11.1	Medium	C, ABSW		
Chlorophytum comosum	Spider Plant	Asparagaceae	*	Moderately Invasive	Slow	21.2	Moderately High	PG		
Chrysanthemoides monilifera subsp. monilifera	African Boneseed	Asteraceae	*	Moderately Invasive	Moderate	22.3	High	CA, BSW	~	~
Cicendia filiformis	Slender Cicendia	Gentianaceae	*	Highly Invasive	Rapid	13.1	Medium	CA		
Cicendia quadrangularis	Square Cicendia	Gentianaceae	*	Highly Invasive	Rapid	13.1	Medium	CA		
Cirsium vulgare	Spear Thistle	Asteraceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS, PG		
Clematis vitalba	Traveller's Joy	Ranunulaceae	*	Highly Invasive	Rapid	33.2	Very High	CA, PG		
Conium maculatum	Hemlock	Apiaceae	*	Moderately Invasive	Moderate	22.1	Moderately High	CA, BSW		~
Convolvulus arensis	Common Bindweed	Convolvulaceae	*	Moderately Invasive	Moderate	22.2	High	CA, BSW		~
Coprosma repens	Mirror Bush	Rubiaceae	*	Highly Invasive	Rapid	33.1	Very High	BSW		
Coprosma robusta	Karamu	Rubiaceae	*	Highly Invasive	Rapid	33.2	Very High	BSW		

Scientific Name	Common Name	Family	Origin	Invasiveness	Dispersal Rate	Score	Risk Rating	Management Category	WoNS	CaLP Act
Cortaderia jubata	Pink Pampas-grass	Poaceae	*	Moderately Invasive	Rapid	32.3	Very High	CA		
Cortaderia selloana	Pampas Grass	Poaceae	*	Highly Invasive	Rapid	23.1	High	CA		
Cotoneaster franchetii	Grey Cotoneaster	Rosaceae	*	Moderately Invasive	Rapid	32.4	Very High	BSW		
Cotoneaster glaucophyllus	Large-leaf Cotoneaster	Rosaceae	*	Highly Invasive	Rapid	33.2	Very High	BSW		
Cotoneaster pannosa	Velvet Cotoneaster	Rosaceae	*	Highly Invasive	Rapid	33.3	Very High	BSW		
Cotula coronopifolia.	Water Buttons	Asteraceae	*	Somewhat Invasive	Moderate	11.1	Medium	BSW		
Cotyledon orbiculata var. oblonga	Pig's ear	Crassulaceae	*	Highly Invasive	Slow	31.2	High	POS		
Crassula multicava subsp. multicava	Shade Crassula	Crassulaceae	*	Highly Invasive	Slow	31.1	High	CA		
Crassula natans var. minus	Water Crassula	Crassulaceae	*	Highly Invasive	Rapid	23.2	High	BSW		
Crataegus monogyna	Hawthorn	Rosaceae	*	Highly Invasive	Rapid	23.2	High	CA, BSW		~
Crataegus X sinaica	Hawthorn	Rosaceae	*	Moderately Invasive	Moderate	22.1	Medium	CA, BSW		
Crepis setosa	Bristly Hawksbeard	Asteraceae	*	Moderately Invasive	Rapid	12.2	Medium	CA, POS, PG		
Crocosmia x crocosmiiflora	Montbretia	Iridaceae	*	Highly Invasive	Moderate	32.3	Very High	CA, PG, NE		
Cuscuta epithymum	Common Dodder	Convolvulaceae	*	Moderately Invasive	Moderate	22.2	High	CA, NE		~
Cyclospermum leptophyllum	Slender Celery	Apiaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA, BSW		
Cynara cardunculus	Spanish Artichoke	Asteraceae	*	Moderately Invasive	Rapid	12.1	Medium	CA		
Cynara cardunculus	Artichoke Thistle	Asteraceae	*	Moderately Invasive	Rapid	12.2	Medium	CA		~
Cynodon dactylon var. dactylon	Couch	Poaceae	*	Moderately Invasive	Slow	21.2	Moderately High	CA		
Cynosurus echinatus	Rough Dog's-tail	Poaceae	*	Moderately Invasive	Rapid	22.2	High	CA, POS		
Cyperus eragrostis	Drain Hat-sedge	Cyperaceae	*	Moderately Invasive	Rapid	12.2	Medium	CA, BSW		
Cytisus multiflorus	White Spanish Broom	Fabaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, POS		
Cytisus scoparius	English Broom	Fabaceae	*	Highly Invasive	Moderate	22.3	High	CA, POS	~	~

Scientific Name	Common Name	Family	Origin	Invasiveness	Dispersal Rate	Score	Risk Rating	Management Category	WoNS	CaLP Act
Dactylis glomerata	Cocksfoot	Poaceae	*	Highly Invasive	Rapid	23.2	High	CA		
Datura stramonium	Common Thorn-apple	Solanaceae	*	Moderately Invasive	Moderate	22.1	Moderately High	BSW		~
Daucus carota	Carrot	Apiaceae	*	Moderately Invasive	Moderate	22.2	High	CA		
Delairea odorata	Cape Ivy	Asteraceae	*	Highly Invasive	Moderate	32.2	Very High	CA, BSW		
Dicondra micrantha	False Pennywort	Convolvulaceae	*	Somewhat Invasive	Moderate	21.2	Moderately High	BSW		
Dietes iridioides	African Iris	Iridaceae	*	Moderately Invasive	Moderate	32.2	Very High	BSW		
Digitaria sanguinalis	Summer Grass	Poaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA		
Dimorphotheca fruticosa	Trailing African Daisy	Asteraceae	*	Moderately Invasive	Slow	31.2	High	POS		
Diplotaxis muralis	Wall Rocket	Brassicaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA, BSW		
Diplotaxis tenuifolia	Sand Rocket	Brassicaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA, BSW		~
Dipogon lignosus	Common Dipogon	Fabaceae	*	Highly Invasive	Moderate	32.3	Very High	CA, POS, BSW		
Dittrichia graveolens	Stinkweed	Asteraceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA		~
Dysphania multifida	Scented Goosfoot	Chenopodiaceae	*	Somewhat Invasive	Moderate	11.1	Medium	CA		
Echinochloa crus-galli	Barnyard Grass	Poaceae	*	Somewhat Invasive	Moderate	11.1	Medium	CA		
Echium plantagineum	Patterson's Curse	Boraginaceae	*	Moderately Invasive	Rapid	22.3	High	CA, BSW, NE		~
Ehrharta erecta	Panic Veldt Grass	Poaceae	*	Highly Invasive	Moderate	32.2	Very High	CA		
Ehrharta longiflora	Annual Veldt-grass	Poaceae	*	Highly Invasive	Rapid	23.2	High	CA		
Eichhornia crassipes	Water Hyacinth	Pontederiaceae	*	Highly Invasive	Moderate	32.2	Very High	BSW	~	~
Eleocharis parvula	Dwarf Spike-rush	Cyperaceae	*	Moderately Invasive	Moderate	32.1	Very High	CA, BSW		
Eleusine tristachya	American Crow's-foot Grass	Poaceae	*	Somewhat Invasive	Moderate	21.1	Moderately High	CA		
Elytrigia repens	English Couch	Poaceae	*	Moderately Invasive	Moderate	22.1	Moderately High	CA		
Epilobium ciliatum	Glandular Willow-herb	Onagraceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA		
Epilobium hirsutum	Great Willow-herb	Onagraceae	*	Highly Invasive	Rapid	23.2	High	CA, BSW		

Scientific Name	Common Name	Family	Origin	Invasiveness	Dispersal Rate	Score	Risk Rating	Management Category	WoNS	CaLP Act
Eragrostis curvula	African Love-grass	Poaceae	*	Highly Invasive	Moderate	32.2	Very High	CA		~
Eragrostis mexicana	Mexican Love-grass	Poaceae	*	Highly Invasive	Moderate	32.2	Very High	CA		~
Eragrostis pilosa	Soft Love-grass	Poaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA		
Erigeron bonariensis	Flaxleaf Fleabane	Asteraceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Erigeron karvinskianus	Seaside Daisy	Asteraceae	*	Moderately Invasive	Moderate	22.2	High	CA, POS		
Erigeron sumatrensis	Tall Fleabane	Asteraceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA		
Eriobotrya japonica	Loquat	Rosaceae	*	Somewhat Invasive	Moderate	21.1	Moderately High	POS		
Erodium botrys	Big Heron's-bill	Geraniaceae	*	Highly Invasive	Rapid	13.3	Moderately High	BSW		
Erodium cicutarium	Common Heron's-bill	Geraniaceae	*	Highly Invasive	Rapid	13.3	Moderately High	BSW		
Erodium moschatum	Musky Heron's-bill	Geraniaceae	*	Moderately Invasive	Rapid	22.2	High	BSW		
Euphorbia peplus	Petty Spurge	Euphorbiaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA, PG		
Fallopia japonica var. compacta	Dwarf Japanese Knotweed	Polygonaceae	*	Moderately Invasive	Slow	31.2	High	CA, BSW		~
Festuca arundinacea	Tall Fescue	Poaceae	*	Moderately Invasive	Moderate	22.2	High	CA, POS		
Festuca rubra	Red Fescue	Poaceae	*	Somewhat Invasive	Moderate	21.2	Moderately High	CA, POS		
Ficus carica	Fig	Moraceae	*	Highly Invasive	Rapid	23.1	High	POS		
Foeniculum vulgare	Fennel	Apiaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, POS, BSW		~
Fraxinus angustifolia subsp. angustifolia	Desert Ash	Oleaceae	*	Highly Invasive	Moderate	32.3	Very High	POS, PG		
Fraxinus ornus	Manna Ash	Oleaceae	*	Highly Invasive	Moderate	32.2	Very High	POS, PG		
Freesia leichtlinii	Freesia	Iridaceae	*	Highly Invasive	Slow	31.2	High	PG		
Fumaria bastardii	Bastard's Fumitory	Papaveracea	*	Moderately Invasive	Moderate	22.2	High	CA, POS		
Fumaria capreolata	White Fumitory	Papaveracea	*	Moderately Invasive	Moderate	22.2	High	CA, POS		

Scientific Name	Common Name	Family	Origin	Invasiveness	Dispersal Rate	Score	Risk Rating	Management Category	WoNS	CaLP Act
Fumaria muralis subsp. muralis	Wall Fumitory	Papaveracea	*	Moderately Invasive	Moderate	22.2	High	CA, POS		
Galenia secunda	Galenia	Aizoaceae	*	Moderately Invasive	Slow	31.1	High	CA, POS		
Galium aparine	Cleavers	Rubiaceae	*	Highly Invasive	Moderate	11.2	Medium	CA, POS		
Galium divaricatum	Slender Bedstraw	Rubiaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA, POS		
Galium murale	Small Goosegrass	Rubiaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA, POS		
Gamochaeta calviceps	Silky Cudweed	Asteraceae	*	Somewhat Invasive	Rapid	11.2	Medium	CA, BSW		
Gamochaeta purpurea	Purple Cudweed	Asteraceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA, BSW		
Gaudinia fragilis	Fragile Oat	Poaceae	*	Moderately Invasive	Moderate	22.3	High	CA		
Gazania linearis	Gazania	Asteraceae	*	Highly Invasive	Moderate	22.3	Very High	CA, POS,P G		
Genista linifolia	Flax-leaf Broom	Fabaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, PG	~	~
Genista monspessulana	Montpellier Broom	Fabaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, PG	~	~
Gladiolus undulatus	Wild Gladiolus	Iridaceae	*	Highly Invasive	Rapid	33.2	Very High	PG		
Gomphocarpus fruticosus subsp. fruticosus	Swan Plant	Apocynaceae	*	Somewhat Invasive	Slow	11.3	Medium	BSW		
Hainardia cylindrica	Common Barb-grass	Poaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA		
Hedera helix	English Ivy	Araliaceae	*	Highly Invasive	Rapid	33.3	Very High	CA, POS, BSW, PG		
Heliotropium europaeum	Common Heliotrope	Boraginaceae	*	Moderately Invasive	Moderate	12.2	Medium	CA, POS, PG		
Helminthotheca echioides	Ox-tongue	Asteraceae	*	Moderately Invasive	Rapid	22.2	High	CA, POS		
Hirschfeldia incana	Buchan Weed	Brassicaceae	*	Highly Invasive	Moderate	22.2	High	CA, BSW		
Holcus lanatus	Yorkshire Fog	Poaceae	*	Highly Invasive	Rapid	23.2	High	CA		
Homalanthus populifolius	Bleeding Heart Tree	Euphorbiaceae	*	Somewhat Invasive	Moderate	11.1	Medium	POS		
Hordeum glaucum	Northern Barley-grass	Poaceae	*	Moderately Invasive	Rapid	12.3	High	CA		
Hordeum leporinum	Barley-grass	Poaceae	*	Moderately Invasive	Rapid	22.3	High	CA		

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Hydrocotyle bonariensis	American Pennywort	Araliaceae	*	Highly Invasive	Moderate	12.1	Medium	CA		
Hypericum perforatum subsp. veronense	Perforated St John's Wort	Hypericaceae	*	Highly Invasive	Moderate	22.2	High	CA		~
Hypochaeris glabra	Smooth Cat's-ear	Asteraceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Hypochaeris radicata	Flatweed	Asteraceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Ipomaea indica	Blue Morning-glory	Convolvulaceae	*	Highly Invasive	Slow	31.1	High	CA, PG		
Iris pseudacorus	Yellow Flag Iris	Iridaceae	*	Highly Invasive	Rapid	33.2	Very High	BSW		
Ixia maculata	Yellow Ixia	Iridaceae	*	Highly Invasive	Moderate	32.2	Very High	BSW		
Ixia polystachya	Variable Ixia	Iridaceae	*	Highly Invasive	Moderate	32.2	Very High	BSW		
Jasminum polyanthum	Winter Jasmine	Oleaceae	*	Somewhat Invasive	Moderate	31.2	High	CA, POS, PG		
Juncus acutus subsp. acutus	Spiny Rush	Juncacaea	*	Highly Invasive	Rapid	13.1	Medium	BSW		
Lactuca saligna	Willow-leaf Lettuce	Asteraceae	*	Moderately Invasive	Rapid	12.3	Medium	CA, POS, PG		
Lavandula stoechas subsp. stoechas	Topped Lavender	Lamiaceae	*	Highly Invasive	Slow	31.2	High	PG		~
Leersia oryzoides	Rice Cut Grass	Poaceae	*	Highly Invasive	Slow	31.1	High	CA		
Lemna minor	European Duckweed	Araceae	*	Highly Invasive	Rapid	13.2	Moderately High	BSW, NE		
Leontodon rhagadioloides	Hawkbit	Asteraceae	*	Moderately Invasive	Rapid	22.2	High	CA, POS, PG		
Lepidium africanum	Common Pepper-cress	Brassicaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA		
Lepidium divaricatum	Pepper-cress	Brassicaceae	*	Moderately Invasive	Rapid	22.2	High	CA		
Lepidium didymum	Lesser Swine-cress	Brassicaceae	*	Moderately Invasive	Rapid	22.2	High	CA		
Lepidium draba	Hoary Cress	Brassicaceae	*	Currently non- invasive		0	Low	CA		~
Ligustrum lucidum	Large-leaf Privet	Oleaceae	*	Highly Invasive	Rapid	33.2	Very High	POS		
Ligustrum ovalifolium	Hedge Privet	Oleaceae	*	Somewhat Invasive	Rapid	31.2	High	POS		
Ligustrum vulgare	European Privet	Oleaceae	*	Highly Invasive	Rapid	33.2	Very High	POS		
Linaria pelisseriana	Pelisser's Toad-flax	Plantaginaceae	*	Somewhat Invasive	Rapid	11.2	Medium	CA		

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Lolium perenne	Perennial Rye-grass	Poaceae	*	Moderately Invasive	Moderate	12.2	Medium	CA		
Lolium rigidum	Wimmera Rye-grass	Poaceae	*	Moderately Invasive	Rapid	12.3	Medium	CA		
Lonicera japonica	Japanese Honeysuckle	Caprifoliaceae	*	Highly Invasive	Rapid	33.3	Very High	CA, BSW		
Lotus angustissimus	Slender Bird's-foot Trefoil	Fabaceae	*	Somewhat Invasive	Moderate	21.2	Moderately High	CA, POS		
Lotus corniculatus	Bird's-foot Trefoil	Fabaceae	*	Moderately Invasive	Moderate	22.2	High	CA, POS		
Lotus suaveolens	Hairy Bird's-foot Trefoil	Fabaceae	*	Moderately Invasive	Moderate	22.2	High	CA, POS		
Lycium ferocissimum	African Box-thorn	Solanaceae	*	Highly Invasive	Rapid	23.3	High	CA, BSW	>	~
Lysimachia arvensis	Pimpernel	Primulaceae	*	Highly Invasive	Rapid	23.3	High	CA, POS		
Malus pumila	Apple	Rosaceae	*	Somewhat Invasive	Slow	11.1	Medium	POS		
Malva nicaeensis	Mallow of Nice	Malvaceae	*	Moderately Invasive	Moderate	22.2	High	POS, PG		
Malva parviflora	Small-flower Mallow	Malvaceae	*	Moderately Invasive	Moderate	22.2	High	POS, PG		
Malva sylvestris	Tall Mallow	Malvaceae	*	Somewhat Invasive	Slow	11.2	Medium	POS, PG		
Marrubium vulgare	Horehound	Lamiaceae	*	Highly Invasive	Rapid	23.3	High	CA, BSW		~
Mauranthemum paludosum	Baby Marguerite	Asteraceae	*	Somewhat Invasive	Moderate	31.2	High	POS, PG		
Medicago arabica	Spotted Medic	Fabaceae	*	Moderately Invasive	Rapid	22.2	High	POS, PG		
Medicago lupulina	Black Medic	Fabaceae	*	Highly Invasive	Moderate	22.2	High	POS, PG		
Medicago minima	Little Medic	Fabaceae	*	Highly Invasive	Rapid	13.3	Moderately High	POS. PG		
Medicago polymorpha	Burr Medic	Fabaceae	*	Highly Invasive	Rapid	13.3	Moderately High	POS, PG		
Melilotus indicus	Sweet Melilot	Fabaceae	*	Moderately Invasive	Moderate	22.2	High	CA, BSW		
Mentha x piperita var. citrata	Eau De Cologne Mint	Lamiaceae	*	Somewhat Invasive	Slow	11.1	Medium	BSW		
Mesembryanthemum aitonis	Angled Ice-plant	Aizoaceae	*	Highly Invasive	Moderate	32.2	Very High	BSW		
Mesembryanthemum crystallinum	Common Ice-plant	Aizoaceae	*	Highly Invasive	Moderate	32.3	Very High	BSW		
Modiola caroliniana	Red-flower Mallow	Malvaceae	*	Somewhat Invasive	Rapid	11.2	Medium	POS		

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Moenchia erecta	Erect Chickweed	Carophyllaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA		
Moraea flaccida	One-leaf Cape-tulip	Iridaceae	*	Highly Invasive	Moderate	22.2	High	CA, PG		~
Muscari armeniacum	Grape Hyacinth	Asparagaceae	*	Somewhat Invasive	Slow	11.1	Medium	POS, PG		
Myosotis arvensis	Common Forget-me-not	Boraginaceae	*	Somewhat Invasive	Moderate	11.1	Medium	PG		
Myosotis discolor	Yellow-and-blue Forget-me- not	Boraginaceae	*	Moderately Invasive	Rapid	22.2	High	PG		
Myosotis laxa subsp. caespitosa	Water Forget-me-not	Boraginaceae	*	Moderately Invasive	Moderate	22.1	Moderately High	BSW, PG		
Myosotis sylvatica	Wood Forget-me-not	Boraginaceae	*	Highly Invasive	Rapid	33.2	Very High	PG		
Myriophyllum aquaticum	Parrot's Feather	Haloragaceae	*	Highly Invasive	Moderate	32.2	Very High	NE		
Narcissus tazetta subsp. aureus	Tazetta	Amaryllidaceae	*	Somewhat Invasive	Slow	11.2	Medium	POS, PG		
Nassella charruana	Lobed Needle-grass	Poaceae	*	Highly Invasive	Rapid	33.2	Very High	CA, POS		
Nassella hyalina	Cane Needle-grass	Poaceae	*	Highly Invasive	Rapid	33.2	Very High	CA, POS, NE		
Nassella leucotricha	Texas Needle-grass	Poaceae	*	Highly Invasive	Rapid	33.2	Very High	CA, POS, NE		
Nassella neesiana	Chilean Needle-grass	Poaceae	*	Highly Invasive	Rapid	33.3	Very High	CA, POS	~	~
Nassella tenuissima	Mexican Feather-grass	Poaceae	*	Highly Invasive	Rapid	33.2	Very High	CA, POS, NE		~
Nassella trichotoma	Serrated Tussock	Poaceae	*	Highly Invasive	Rapid	33.2	Very High	CA, POS, NE	~	~
Nasturtium officinale	Watercress	Brassicaceae	*	Moderately Invasive	Moderate	22.1	Moderately High	BSW		
Nicotiana glauca	Tree Tobacco	Solanaceae	*	Highly Invasive	Moderate	12.2	Medium	POS		
Nymphaea x marliacea	Waterlily	Nymphaeaceae	*	Somewhat Invasive	Slow	31.1	High	BSW		
Oenothera stricta subsp. stricta	Common Evening Primrose	Onagraceae	*	Moderately Invasive	Moderate	12.1	Medium	CA, POS, PG		
Olea europaea	Olive	Oleaceae	*	Highly Invasive	Rapid	33.3	Very High	CA, POS		
Opuntia aurantiaca	Tiger Pear	Cactaceae	*	Highly Invasive	Slow	31.2	High	CA	~	~
Opuntia elata	Red-flower Prickly-pear	Cactaceae	*	Moderately Invasive	Slow	31.3	High	CA	>	~
Opuntia robusta	Wheel Cactus	Cactaceae	*	Highly Invasive	Slow	31.2	High	CA	~	~
Oxalis articulata	Sourgrass	Oxalidaceae	*	Moderately Invasive	Slow	21.2	Moderately High	CA, POS, PG		

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Oxalis brasiliensis	Brazilian Wood-sorrel	Oxalidaceae	*	Moderately Invasive	Slow	11.2	Medium	CA, POS, PG		
Oxalis incarnata	Pale Wood-sorrel	Oxalidaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, POS, PG		
Oxalis latifolia	Fish-tail Wood-sorrel	Oxalidaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA, POS, PG		
Oxalis pes-caprae	Soursob	Oxalidaceae	*	Highly Invasive	Slow	31.3	Very High	CA, POS, PG		~
Oxalis purpurea	Large-flower Wood-sorrel	Oxalidaceae	*	Moderately Invasive	Slow	31.2	High	CA, POS, PG		
Panicium gilvum	Sweet Panic	Poaceae	*	Somewhat Invasive	Moderate	11.1	Medium	CA		
Papaver dubium	Long-headed Poppy	Papaveracea	*	Somewhat Invasive	Moderate	11.2	Medium	PG		
Parapholis strigosa	Slender Barb-grass	Poaceae	*	Highly Invasive	Rapid	33.3	Very High	CA		
Parasenianthes lophantha	Cape Wattle	Fabaceae	*	Moderately Invasive	Moderate	22.2	High	CA, POS		
Parietaria judaica	Wall Pellitory	Urticaceae	*	Somewhat Invasive	Moderate	11.1	Medium	POS, BSW		
Paronychia brasiliana	Whitlow Wort	Carophyllaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA, POS, BSW		
Paspalum dilatatum	Paspalum	Poaceae	*	Moderately Invasive	Rapid	12.2	Medium	CA, POS		
Paspalum distichum	Water Couch	Poaceae	*	Highly Invasive	Moderate	32.1	Very High	BSW		
Paspalum urvillei	Vasey Grass	Poaceae	*	Moderately Invasive	Moderate	21.1	Moderately High	CA		
Passiflora tarminiana	Banana Passionfruit	Passifloraceae	*	Highly Invasive	Moderate	32.2	Very High	POS		
Persicaria maculosa	Redshank	Polygonaceae	*	Moderately Invasive	Rapid	22.2	High	BSW		
Petrorhagia dubia	Velvety Pink	Caryophyllaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA		
Petrorhagia nanteuilii	Childling Pink	Caryophyllaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA		
Phalaris aquatica	Toowoomba Canary-grass	Poaceae	*	Highly Invasive	Rapid	23.2	High	CA, POS		
Phalaris arundinacea var. arundinacea	Reed Canary-grass	Poaceae	*	Highly Invasive	Moderate	32.3	Very High	CA, POS		
Phalaris arundinacea var. picta	Ribbon Grass	Poaceae	*	Highly Invasive	Moderate	32.3	Very High	CA, POS		
Phalaris paradoxa	Paradoxical Canary-grass	Poaceae	*	Highly Invasive	Rapid	23.1	High	CA, POS		
Phleum pratense	Timothy Grass	Poaceae	*	Somewhat Invasive	Moderate	21.1	Moderately High	CA, POS		

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Phytolacca octandra	Red-ink Weed	Phytolaccaceae	*	Moderately Invasive	Rapid	22.3	High	BSW		
Pinus contorta	Lodgepole Pine	Pinaceae	*	Moderately Invasive	Moderate	32.1	Very High	POS		
Pinus radiata	Radiata Pine	Pinaceae	*	Highly Invasive	Moderate	32.3	High	POS		
Piptatherum miliaceum	Rice Millet	Poaceae	*	Highly Invasive	Moderate	32.1	Very High	POS		
Pittosporum undulatum	Sweet Pittosporum	Pittosporaceae	*	Highly Invasive	Rapid	33.2	Very High	CA, BSW		
Plantago coronopus	Buck's-horn Plantain	Plantaginaceae	*	Moderately Invasive	Moderate	22.2	High	CA, POS, BSW		
Plantago debilis	Shade Plantain	Plantaginaceae	*	Moderately Invasive	Moderate	22.1	Moderately High	CA, POS, BSW		
Plantago lanceolata	Ribwort	Plantaginaceae	*	Moderately Invasive	Rapid	12.3	Medium	CA, POS, BSW		
Plantago major	Greater Plantain	Plantaginaceae	*	Moderately Invasive	Moderate	12.1	Medium	CA, POS, BSW		
Plantago varia	Variable Plantain	Plantaginaceae	*	Moderately Invasive	Rapid	12.3	Medium	CA, POS, BSW		
Poa annua	Annual Meadow-grass	Poaceae	*	Moderately Invasive	Rapid	12.2	Medium	CA, POS		
Poa bulbosa	Bulbous Meadow-grass	Poaceae	*	Highly Invasive	Rapid	23.2	High	CA, POS		
Poa infirma	Early Meadow-grass	Poaceae	*	Moderately Invasive	Rapid	22.2	High	CA, POS		
Poa pratensis	Kentucky Blue-grass	Poaceae	*	Somewhat Invasive	Rapid	21.1	Moderately High	CA, POS		
Polycarpon tetraphyllum	Four-leaved Allseed	Caryophyllaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, PG		
Polygala myrtifolia	Myrtle-leaf Milkwort	Polygonaceae	*	Highly Invasive	Moderate	32.2	Very High	POS		
Polygonum aviculare	Wireweed	Polygonaceae	*	Moderately Invasive	Rapid	22.2	High	CA, POS		
Polypogon monspeliensis	Annual Beard-grass	Poaceae	*	Highly Invasive	Rapid	23.3	High	CA		
Populus alba	White Poplar	Salicaceae	*	Highly Invasive	Slow	11.1	Medium	POS		
Populus nigra 'Italica'	Lombardy Poplar	Salicaceae	*	Highly Invasive	Slow	31.1	High	POS		
Populus X canescens	Grey Poplar	Salicaceae	*	Somewhat Invasive	Slow	31.1	High	POS		
Prunella vulgaris	Self-heal	Lamiaceae	*	Somewhat Invasive	Slow	11.1	Medium	POS, PG		
Prunus cerasifera	Cherry Plum	Rosaceae	*	Highly Invasive	Rapid	23.3	High	POS		

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Prunus spinosa	Blackthorn	Rosaceae	*	Highly Invasive	Rapid	23.2	High	POS, BSW		
Pteris multifida	Spider Brake	Pteridaceae	*	Moderately Invasive	Rapid	12.1	Medium	PG		
Pyracantha crenulata	Nepal Firethorn	Rosaceae	*	Moderately Invasive	Rapid	22.2	High	POS, BSW		
Ranunculus muricatus	Sharp Buttercup	Ranunculaceae	*	Highly Invasive	Rapid	13.2	Moderately High	BSW		
Ranunculus parviflorus	Small-flower Buttercup	Ranunculaceae	*	Moderately Invasive	Rapid	12.1	Moderately High	BSW		
Ranunculus repens	Creeping Buttercup	Ranunculaceae	*	Highly Invasive	Rapid	33.2	Very High	BSW		
Ranunculus sceleratus	Celery Buttercup	Ranunculaceae	*	Somewhat Invasive	Rapid	11.1	Medium	BSW		
Raphanus raphanistrum	Wild Radish	Brassicaceae	*	Somewhat Invasive	Moderate	21.1	Moderately High	CA, BSW		
Rapistrum rugosum	Giant Mustard	Brassicaceae	*	Somewhat Invasive	Moderate	21.1	Moderately High	CA, BSW		
Rhamnus alaternus	Italian Buckthorn	Rhmanaceae	*	Highly Invasive	Rapid	33.1	Very High	BSW		
Ricinus communis	Castor Oil Plant	Euphorbiaceae	*	Somewhat Invasive	Slow	21.1	Moderately High	POS, BSW		
Robinia pseudoacacia	Locust Tree	Fabaceae	*	Highly Invasive	Slow	31.1	High	CA		
Romulea rosea var. australis	Onion Grass	Iridaceae	*	Moderately Invasive	Moderate	12.3	Medium	CA, POS, PG		
Romulea rosea var. reflexa	Large-flower Onion-grass	Iridaceae	*	Moderately Invasive	Moderate	22.2	High	CA, POS, PG		
Rorippa palustris	Marsh Yellow-cress	Brassicaceae	*	Highly Invasive	Rapid	23.1	High	CA		
Rosa canina	Dog Rose	Rosaceae	*	Moderately Invasive	Moderate	32.2	Very High	CA, PG		
Rosa rubiginosa	Sweet Briar	Rosaceae	*	Moderately Invasive	Rapid	22.2	High	CA, BSW		~
Rubus anglocandicans	Common Blackberry	Rosaceae	*	Highly Invasive	Rapid	23.3	High	CA, POS, PG, BSW	~	~
Rubus fruticosus spp. agg.	Blackberry	Rosaceae	*	Highly Invasive	Rapid	33.3	Very High	CA, POS, PG, BSW	>	~
Rubus laciniatus	Cut-leaf Bramble	Rosaceae	*	Highly Invasive	Rapid	23.3	High	CA, POS, PG, BSW	~	~
Rubus ulmifolius var ulimifolius	Elm-leaf Blackberry	Rosaceae	*	Highly Invasive	Rapid	23.3	High	CA, POS, PG, BSW	>	~

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Rumex conglomeratus	Clustered Dock	Polygonaceae	*	Highly Invasive	Rapid	23.1	High	CA, BSW		
Rumex crispus	Curled Dock	Polygonaceae	*	Highly Invasive	Rapid	23.2	High	CA, BSW		
Rumex pulcher subsp. Pulcher	Fiddle Dock	Polygonaceae	*	Highly Invasive	Moderate	22.1	Moderately High	CA, CSW		
Salix x sepulcralis nothovar. sepulcralis	Weeping Willow	Salicaceae	*	Highly Invasive	Moderate	32.1	High	BSW	~	~
Salix alba var. alba	White Willow	Salicaceae	*	Somewhat Invasive	Rapid	31.1	High	BSW	>	~
Salix babylonica	Weeping Willow	Salicaceae	*	Highly Invasive	Moderate	32.1	Very High	BSW		
Salix cinerea	Grey Sallow	Salicaceae	*	Highly Invasive	Moderate	33.2	Very High	CA, BSW, NE	~	~
Salpichroa origanifolia	Lily-of-the-Valley	Solanaceae	*	Somewhat Invasive	Moderate	21.1	Moderately High	CA, NE		~
Salvia verbenanca var. verbenaca	Wild Sage	Lamiaceae	*	Moderately Invasive	Rapid	12.2	Medium	CA, PG		
Sambucus nigra	Common Elder	Caprifoliaceae	*	Moderately Invasive	Rapid	22.1	Moderately High	POS		
Scabiosa atropurpurea	Pincushion	Dispsaceae	*	Somewhat Invasive	Rapid	21.2	Moderately High	PG		
Scolymus hispanicus	Golden Thistle	Asteraceae	*	Somewhat Invasive	Rapid	21.2	Moderately High	CA, PG		~
Sedum praealtum subsp. praealtum	Shrubby Stonecrop	Crassulaceae	*	Somewhat Invasive	Slow	21.1	Moderately High	CA, POS		
Senecio angulatus	Climbing Groundsel	Asteraceae	*	Highly Invasive	Moderate	32.2	Very High	CA		
Senecio vulgaris	Common Groundsel	Asteraceae	*	Somewhat Invasive	Rapid	11.2	Medium	CA		
Senna multiglandulosa	Downy Senna	Fabaceae	*	Moderately Invasive	Slow	31.1	High	POS		
Setaria parviflora	Slender Pigeon Grass	Poaceae	*	Moderately Invasive	Moderate	22.3	High	CA		
Setaria viridis	Green Pigeon-grass	Poaceae	*	Somewhat Invasive	Moderate	21.1	Moderately High	CA		
Setaria verticillata	Rough Pigeon-grass	Poaceae	*	Somewhat Invasive	Moderate	21.1	Moderately High	CA		
Sherardia arvensis	Field Madder	Rubiaceae	*	Highly Invasive	Rapid	23.2	High	CA		
Silene gallica var.gallica	French Catchfly	Caryophyllaceae	*	Highly Invasive	Rapid	23.2	High	PG		
Silene gallica var. quinquevulnera	Spotted Catchfly	Caryophyllaceae	*	Moderately Invasive	Rapid	12.3	Medium	PG		

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Silene vulgaris	Bladder Campion	Caryophyllaceae	*	Somewhat Invasive	Moderate	11.2	Medium	PG		
Silybum marianum	Variegated Thistle	Asteraceae	*	Moderately Invasive	Rapid	12.1	Medium	CA, POS, PG		
Sisymbrium officinale	Hedge Mustard	Brassicaceae	*	Moderately Invasive	Rapid	22.2	High	CA		
Sisymbrium orientale	Indian Hedge-mustard	Brassicaceae	*	Highly Invasive	Rapid	23.2	High	CA, BSW		
Sisyrinchium iridifolium	Blue Pigroot	Iridaceae	*	Moderately Invasive	Moderate	12.2	Medium	CA, NE		
Solanum chenopodioides	Whitetip Nightshade	Solanaceae	*	Highly Invasive	Rapid	23.2	High	CA, BSW		
Solanum linnaeanum	Apple of Soddom	Solanaceae	*	Highly Invasive	Rapid	23.2	High	POS		~
Solanum mauritianum	Tabacco-bush	Solanaceae	*	Somewhat Invasive	Rapid	21.1	Moderately High	POS		
Solanum nigrum	Black Nightshade	Solanaceae	*	Moderately Invasive	Rapid	12.3	Medium	CA, BSW		
Solanum pseudocapsicum	Madiera Winter-cherry	Solanaceae	*	Moderately Invasive	Rapid	22.2	High	CA, BSW		
Solanum triflorum	Cut-leaf Nightshade	Solanaceae	*	Moderately Invasive	Rapid	22.2	High	CA, BSW		
Solidago canadensis	Canadian Golden-rod	Asteraceae	*	Moderately Invasive	Slow	31.2	High	BSW		
Solidago chilensis	Brazilian Arnica	Asteraceae	*	Moderately Invasive	Slow	31.2	High	BSW		
Soliva sessilis	Bindyi	Asteraceae	*	Somewhat Invasive	Rapid	11.1	Medium	CA, POS		
Sonchus asper subsp. asper	Rough Sow-thistle	Asteraceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA, POS		
Sonchus oleraceus	Sow Thistle	Asteraceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Sparaxis bulbifera	Harlequin Flower	Iridaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, POS, PG		
Spergula arvensis	Corn Spurrey	Caryophyllaceae	*	Moderately Invasive	Rapid	12.2	Medium	CA		
Spergularia rubra s.s.	Red Sand-spurrey	Caryophyllaceae	*	Somewhat Invasive	Rapid	11.1	Medium	CA		
Sporobolus africanus	Rat-tail Grass	Poaceae	*	Highly Invasive	Rapid	23.2	High	CA		
Stellaria media	Chickweed	Caryophyllaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS, PG		
Stellaria pallida	Lesser Chickweed	Caryophyllaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS, PG		

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Stenotaphrum secundatum	Buffalo Grass	Poaceae	*	Highly Invasive	Slow	31.2	High	CA		
Symphyotrichum subulatum	Aster-weed	Asteraceae	*	Highly Invasive	Rapid	13.2	Moderately High	BSW		
Taraxacum bracteatum	Garden Dandelion	Asteraceae	*	Somewhat Invasive	Rapid	21.2	Moderately High	CA, POS		
Taraxacum gracilens	Dandelion	Asteraceae	*	Somewhat Invasive	Rapid	31.2	Moderately High	POS		
Tradescantia fluminensis	Wandering Tradescantia	Commelinaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, BSW, PG		
Tragopogon porrifolius	Salsify	Asteraceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA, POS, PG		
Tribolium obliterum	Desmazeria	Poaceae	*	Moderately Invasive	Moderate	22.1	Moderately High	CA		
Trifolium angustifolium	Narrow-leaf Clover	Fabaceae	*	Moderately Invasive	Moderate	12.2	Medium	CA, POS		
Trifolium arvense var. arvense	Hare's-foot Clover	Fabaceae	*	Highly Invasive	Moderate	12.2	Medium	CA, POS		
Trifolium campestre	Hop Clover	Fabaceae	*	Moderately Invasive	Moderate	12.2	Medium	CA, POS		
Trifolium cernuum	Drooping-flower Clover	Fabaceae	*	Moderately Invasive	Rapid	22.3	High	CA, POS		
Trifolium dubium	Suckling Clover	Fabaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA, POS		
Trifolium fragiferum var. fragiferum	Strawberry Clover	Fabaceae	*	Moderately Invasive	Slow	21.1	Moderately High	CA, POS		
Trifolium glomeratum	Cluster Clover	Fabaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Trifolium repens	White Clover	Fabaceae	*	Highly Invasive	Rapid	23.2	High	CA, POS		
Trifolium resupinatum var. majus	Shaftal Clover	Fabaceae	*	Somewhat Invasive	Moderate	11.2	Medium	CA, POS		
Trifolium striatum	Knotted Clover	Fabaceae	*	Highly Invasive	Rapid	23.2	High	CA, POS		
Trifolium subterraneum	Subterranean Clover	Fabaceae	*	Highly Invasive	Rapid	23.2	High	CA, POS		
Tritonia gladiolaris	Lined Tritonia	Iridaceae	*	Moderately Invasive	Slow	11.2	Medium	CA, NE		
Tropaeolum majus	Nasturtium	Tropaeolaceae	*	Somewhat Invasive	Slow	21.1	Moderately High	CA, PG		
Typha latifolia	Lesser Reed-mace	Typhaceae	*	Highly Invasive	Rapid	33.2	Very High	BSW		
Ulex europaeus	Gorse	Fabaceae	*	Highly Invasive	Moderate	22.2	High	CA, BSW	~	~

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Urtica dioica	Giant Nettle	Urticaceae	*	Highly Invasive	Moderate	12.1	Medium	CA, BSW		
Urtica urens	Small Nettle	Urticaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, BSW		
Verbascum blattaria	Moth Mullein	Scorphulariaceae	*	Somewhat Invasive	Moderate	11.1	Medium	CA, BSW		
Verbascum virgatum	Twiggy Mullein	Scorphulariaceae	*	Moderately Invasive	Moderate	12.3	Medium	BSW		
Verbena bonariensis	Purple-top Verbena	Verbenaceae	*	Moderately Invasive	Moderate	22.3	High	CA, POS, PG		
Veronica anagallis-aquatica	Blue Water-speedwell	Plantaginaceae	*	Moderately Invasive	Moderate	11.1	Medium	CA, POS, PG		
Veronica arvensis	Wall Speedwell	Plantaginaceae	*	Highly Invasive	Rapid	13.2	Moderately High	CA, POS, PG		
Veronica hederifolia	Ivy-leaf Speedwell	Plantaginaceae	*	Somewhat Invasive	Moderate	11.1	Medium	CA, POS, PG		
Veronica persica	Creeping Speedwell	Plantaginaceae	*	Moderately Invasive	Rapid	12.2	Medium	CA, POS, PG		
Viburnum tinus	Laurestinus	Caprifoliaceae	*	Somewhat Invasive	Slow	11.1	Medium	CA, POS, PG		
Vicia hirsuta	Tiny Vetch	Fabaceae	*	Moderately Invasive	Moderate	22.2	High	CA, POS, PG		
Vicia sativa subsp. nigra	Narrow-leaf Vetch	Fabaceae	*	Moderately Invasive	Moderate	12.3	Medium	CA, POS		
Vicia sativa subsp. sativa	Common Vetch	Fabaceae	*	Moderately Invasive	Moderate	12.3	Medium	CA, POS		
Vicia tetrasperma	Slender Vetch	Fabaceae	*	Moderately Invasive	Moderate	22.2	High	CA, POS		
Vinca major	Blue Periwinkle	Apocynaceae	*	Highly Invasive	Slow	31.2	High	CA, POS		
Vinca minor	Lesser Periwinkle	Apocynaceae	*	Somewhat Invasive	Slow	11.1	Medium	CA, POS		
Viola arvensis	Field Pansy	Violaceae	*	Highly Invasive	Moderate	22.1	Moderately High	CA, POS, PG		
Viola arvensis	Field Pansy	Violaceae	*	Highly Invasive	Moderate	22.1	Moderately High	CA, POS, PG		
Viola odorata	Common Violet	Violaceae	*	Moderately Invasive	Moderate	32.1	Very High	CA, POS, PG		
Vulpia bromoides	Squirrel-tail Fescue	Poaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Vulpia muralis	Wall Fescue	Poaceae	*	Highly Invasive	Rapid	23.3	High	CA, POS		

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Vulpia myuros f. megalura	Fox-tail Fescue	Poaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Vulpia myuros f. myuros	Rat's-tail Fescue	Poaceae	*	Highly Invasive	Rapid	13.3	Moderately High	CA, POS		
Watsonia meriana var. bulbillifera	Bulbil Watsonia	Iridaceae	*	Highly Invasive	Moderate	32.2	Very High	CA, NE		~
Xanthium spinosum	Bathurst Burr	Asteraceae	*	Moderately Invasive	Rapid	12.3	Medium	CA		~
Yucca gloriosa	Palm Lily	Asparagaceae	*	Somewhat Invasive	Moderate	32.1	Very High	BSW		
Zantedeschia aethiopica	White Arum-lily	Araceae	*	Highly Invasive	Moderate	32.1	Very High	BSW		