

New Incursion Plan - Fireweed. 2013-2018



National fireweed strategic plan (draft). Goal 1: New fireweed infestations are prevented from establishing	
1.1 Invasion vectors, sources and pathways are identified and managed to prevent or reduce spread	1.1.1 Review, update and prioritise pathways of spread for fireweed.

NSW Invasive Species Plan Goal 1: Exclude	
Prevent the establishment of new invasive species	1.2 Early detection capabilities are developed and implemented.

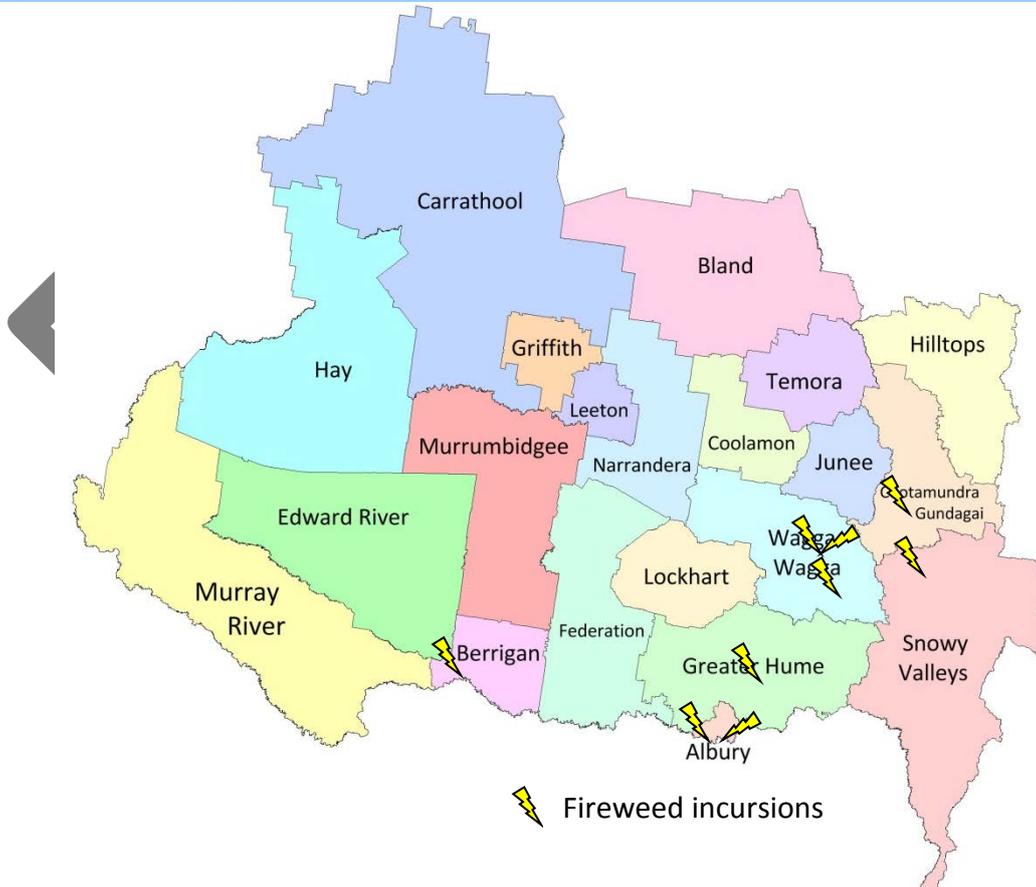
Regional Weed Strategy. Aim: Preventative Weed Management	
No new weeds naturalised over the life of the RWS	2.1.2 Develop and implement plans for priority weeds in consultation with stakeholders.

Aim: To protect primary production, the environment and land managers from the negative impact of fireweed by preventing its establishment within the Murray & Riverina.

Objectives:

1. Prevent the establishment of fireweed in the Murray & Riverina.
2. Eradicate fireweed incursions.

Area of operation: Murray & Riverina LCAs.





Key Stakeholders:

The following Local Control Authority (LCA) and Livestock Health & Pest Authority (LHPA) members of the Eastern Riverina Noxious Weeds Advisory Group and Western Riverina Noxious Weeds Advisory Group (**ERNWAG & WRNWAG**): Albury City, Balranald Shire, Bland Shire, Carrathool Shire, Central Murray County, Coolamon Shire, Cootamundra Shire, Corowa Shire, Griffith City, Greater Hume Shire, Gundagai Shire, Hay Shire, Jerilderie Shire, Junee Shire, Leeton Shire, Lockhart Shire, Murrumbidgee Shire, Narrandera Shire, Riverina Eastern Noxious Weeds Authority (RENA), Temora Shire, Tumbarumba Shire, Tumut Shire, Urana Shire, Wagga Wagga City, Wakool Shire, Wentworth Shire, Hume LHPA, Riverina LHPA and Western LHPA. NSW Department of Primary Industries (**NSW DPI**), Lachlan, Murray and Murrumbidgee Catchment Management Authorities (**CMAs**), Roads and Maritime Services (**RMS**), NSW Farmers and neighbouring landholders.

Background: (source: Primefact 126)

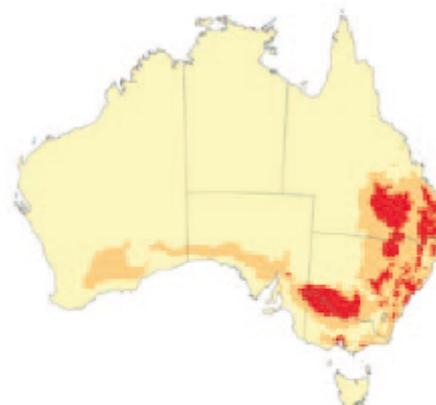
Fireweed (*Senecio madagascariensis*) is a highly invasive and opportunistic weed native to south eastern Africa. It quickly colonises overgrazed pastures and disturbed areas. Fireweed is a serious pasture weed of coastal NSW that has been detected at 4 separate locations along one of the Riverina's high risk pathways (Hume Freeway). It is able to grow on most soil types and in all aspects. It forms a persistent seed bank if not controlled before it flowers and can rapidly take over heavily grazed and neglected pastures, competing strongly with existing pasture plants. It seeds prolifically and grows to maturity quickly.

Fireweed contains pyrrolizidine alkaloids that are toxic to livestock and cause liver damage. Young or hungry stock or new stock, not previously exposed to fireweed, are the most at risk of poisoning. All parts of the plant at all stages of growth are toxic. Hay, silage or grain that is contaminated with fireweed plants or their seeds can also be toxic. Pyrrolizidine alkaloids cause liver damage and this can result in a variety of clinical syndromes in livestock. The liver damage caused by fireweed is irreversible and there is no antidote for toxic pyrrolizidine alkaloids.

Sheep and goats are more inclined to eat fireweed than cattle and are up to 20 times more tolerant of pyrrolizidine alkaloids. Horses are more susceptible to fireweed poisoning than cattle or sheep.

The "Do Nothing" Option (potential distribution map right):

If control activities are not undertaken, fireweed has the potential to significantly expand its range. The potential distribution of fireweed (as published in *Weed Management Guide – Fireweed WoNS*) is the majority of Riverina.



Distribution of Riverina Infestations (see map on page 1):

Albury City – Two isolated plants were found on the centre median strip of the Hume Freeway 1 km north of the Thurgoona Drive off ramp by a passing motorist in August 2009. The plants were removed immediately and their

Low climate match
 Moderate climate match
 High climate match



identification was confirmed by the botanical gardens. (498,347.78; 6,011,542.01)

Greater Hume Shire – Two isolated plants were found on the Hume Hwy near the Wangoola motocross track in November 1996.

Gundagai Shire – plants were found in the garden at Hungry Jacks off the Hume Hwy in September 2010. Identification was confirmed with a neighbouring LCA Weeds Inspector.

Tumut Shire – an infestation on private property was confirmed by an agronomist as fireweed. All plants were pulled and burnt prior to the weed officer being informed in September 2011.

Wagga Wagga City – an isolated fireweed plant was found on the old Narrandera rd, 150 m west of the Pine Gully rd intersection in June 2011. The plant was flowering and removed immediately. A second isolated fireweed plant was found on the Hume Highway at Keajura in May 2012 (in between the Sturt loop and the Ladysmith rd on the southern side of the Highway). Only 1 plant was found in full flower with one floret about to disperse. Approximately 50 plants were detected at a newish park/playground in Mima St, Glenfield Park in June 2012. It is likely to have come in the turf.

Wodonga (Victoria) – A single fireweed plant was found in a median strip on Victoria Cross Parade, in a recently landscaped section across from the White Box Rise development in June 2012. Although not declared, DPI Victoria has recorded the site of infestation and will continue to monitor it.

Old herbarium records – indicate there are two more potential sites in the Riverina along the Murray River (NSW/VIC border). Central Murray County Council inspected one of the records in Finley but couldn't find any evidence of the listed infestation. It may be a case of mistaken identity.

Method and Rate of Spread: (source: Primefact 126)

The light fluffy seeds of fireweed are easily spread by wind. This is the main method of local spread. Most seed will fall within 5 m of the parent plant but some seed can be spread to greater distances in updrafts and whirlwinds. However, the fluffy pappus is easily detached from the seed and what may appear to be fireweed seed blowing long distances on the wind may in many cases be only the detached pappus. Dispersal beyond 1 km is more likely to be caused by unintentional spread by human activity. A component of this plan is to distribute identification and awareness material so people "Don't bring fireweed home"!

Other significant means of spread may include:

- livestock;
- clothing, vehicles and machinery;
- contaminated hay, silage, soil, landscaping and grain products;
- as well as spread by wild and feral animals.

Species Management:

Early detection is vital to prevent fireweed from establishing. Once detected, it is important to act immediately to prevent the problem from becoming worse. Fireweed can be effectively controlled



through pasture improvement/reduced stocking rates, selective herbicide or grazing with sheep and goats. Hand weeding is effective and commonly used for small outbreaks, or on small farms. Whatever the situation, once established, fireweed is extremely difficult to eradicate. Therefore follow-up treatment is essential for control to be successful.

The following documents contain a range of best practice management advice and can be downloaded freely:

- primefact <http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/profiles/fireweed>
- WoNS weed management guide <http://www.weeds.org.au/WoNS/fireweed/>
- best practice management <http://www.ruralfutures.une.edu.au/fireweed/publications.htm>

Declaration Status:

Fireweed is currently not declared anywhere in the Riverina. A major goal of this plan is to support Eastern Riverina's region-wide Class 3 declaration. Class 3, Regionally Controlled Weeds, must be fully and continuously suppressed and destroyed.

Weed Biology: (source: Primefact 126) Photos: Harry Rose, Brian Sindel & Michael Coleman

Fireweed	A daisy-like plant that typically grows to 50 cm high. It has a variable growth habit and leaf structure, but the most common form of fireweed is a low, heavily branched, annual or short-lived perennial plant.	
Leaves	Generally bright green in colour, fleshy and narrow, are 2–7 cm long, alternately arranged on the stem, and have serrated, entire or lobed margins. Broader leaves usually clasp around the stem.	
Flowers	Small, yellow and daisy-like, are 1–2 cm in diameter and arranged in clusters at the end of each branch. They can number from 0 to 200 per plant, and each flower will commonly have 13 petals. Flowers all year round but mainly in spring.	
Seeds	Small (1–3 mm long), light and slender. They are cylindrical in shape and have a downy surface. They are attached to a pappus, consisting of fine, silky, white feathery hairs that aid in dispersal by wind. Most seeds germinate in autumn.	
Roots	Fireweed has a shallow, branched taproot with numerous fibrous roots growing from 10 to 20 cm deep	



Regional Action Plan:

OBJECTIVES	WoNS	ACTIONS	PERFORMANCE INDICATORS	WHO'S RESPONSIBLE
1. Prevent the establishment of fireweed in the Riverina	1.2.2 & 1.1.3	1. Distribute identification and awareness material where early detection is needed and cover good hygiene practices for weed management	Id and awareness material disseminated to key areas	LCAs, RWCC
		2. Timely reminder to weed officers when fireweed is flowering so they can be looking for new infestations during routine field work	Reminder circulated annually to all weed officers when fireweed is in flower	LCAs, RWCC
		3. Timely dissemination of information to the general public when fireweed is in flower (spring)	Media release, Chinwag article at onset of flowering	LCAs, RWCC
	1.3.1	4. Inspect high risk sites & pathways (Hume Freeway)	High risk sites etc inspected as per HR pathways & sites management plan	All LCAs
	1.3.2	5. New incursions managed according to best practice	All new infestations are managed	All land managers
	3.1.1	6. Map all new infestations. Provide details to RNWPO for regional distribution	Updated map available upon request	LCAs, RWCC
		7. Submit regional application for CC3 declaration to DPI	Application collated & submitted	LCAs, RWCC
		8. Inform the community of fireweed's declaration status once gazetted CC3	Media release distributed	LCAs, RWCC
2. Eradicate fireweed incursions.	3.1.1	1. All known sites searched for plants (missed the previous year or newly germinated). Remove all plants. Update maps where needed	All found plants removed from known sites prior to seeding. Regional map updated as needed	LCAs, other land managers
		2. Support & submit funding applications to relevant bodies to optimise opportunity for new resources where needed	Letters of support. Funding applications	RWCC, RWCs, LCAs
		3. Coordinate, monitor and review implementation of this Plan; report to stakeholders	Effectiveness & relevance of the plan reported to stakeholders	RWCC, LCAs, other stakeholders

Desired outcome:

The Riverina's primary production and land managers are protected from the negative impacts of fireweed.



Linkages and resources:

- Australian Weeds Committee (2012) Weeds of National Significance Fireweed (*Senecio madagascariensis*) Draft Strategic Plan. Australian Weeds Committee, Canberra.
- Bronwen Wicks, NSW DPI *Weed Management Guide – Fireweed* WoNS.
- Bega Valley Fireweed Association www.fireweed.org.au
- Primefact 126 – Fireweed (2009) NSW Department of Industry and Investment.
- B. Sindel and M. Coleman (2012) *Fireweed – A Best Practice Management Guide for Australian Landholders*.
- B.A. Auld and R.W. Medd (1997) *Weeds, An Illustrated botanical guide to the weeds of Australia*, Inkata Press.
- F.J. Richardson, R.G. Richardson and R.C.H Shephard (2006) *Weeds of the south-east – An identification guide for Australia*, R.G. & F.J. Richardson.
- W.T. Parsons and E.G. Cuthbertson (2001) *Noxious Weeds of Australia* 2nd Edition, CSIRO Publishing.
- Ash, P & Verbeek, B (2007) *Regional Weed Strategy Murrumbidgee Catchment*.
- Bosse, P & Verbeek, B (2008) *Regional Weed Strategy Murray Catchment*.
- High Risk Pathways and Sites WAP 1.1.1
- HR Pathways Management Plan WAP 1.1.2
- Riverina High Risk Species WAP 1.2.1
- NIP – High Risk Species WAP 1.2.2
- Riverina Inspection Policy WAP 1.2.3
- Rapid Response Plan WAP 2.2.1
- New incursions to the Riverina database and list
- NSW Invasive Species Plan 2008-2015
- Notifiable weed reporting form – available from NSW DPI extranet
<http://extranet.dpi.nsw.gov.au/weeds/permit-report/report/notifiable-reports>

Review:

This plan sits under the Riverina WAP (3.2.2.14) and is to be reviewed after 5 years.

Contacts:

Regional Coordination

Regional Weed Coordinator

Local Coordination / Management

Your local council Weeds Officer

Endorsed by:

ERNWAG
On
13th June 2013

WRNWAG
On
4th June 2013