

# FIREWEED (*Senecio madagascariensis*) MANAGEMENT PLAN

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## INTRODUCTION

Fireweed or *Senecio madagascariensis* is an introduced weed of both arable country and rangelands. It can dominate pastures and is toxic to livestock particularly cattle and horses.



Fireweed is a Class 2 pest under the *Land Protection (Pest and Stock Route Management) Act 2002* and is was first detection in Far North Queensland in 2008 at two sites at Millaa Millaa and Wondecla and since its detection has been under an intensive management program. Recent survey and education events have led to the detection of more Fireweed sites in the Wongabel area which has prompted the requirement for a new management plan.

## AIM

The purpose of the plan is to confirm distribution and conduct an intensive management program with the intention of eradication of Fireweed from the Tablelands Regional Council area.

## OBJECTIVES

- Thoroughly survey and map the distribution of Fireweed in TRC.
- Conduct an intensive public education and awareness program.
- Promote landholder best practice in the treatment and ongoing management of Fireweed and assist in the enhancement of community awareness in relation to declared pests.
- Conduct a regular and ongoing control program.
- Ensure ongoing monitoring to prevent re-infestation of infected sites.
- Conduct compliance inspections.

## SCOPE

Two (2) infestations of Fireweed have been known to exist at Millaa Millaa and Wondecla (refer attachments 1 & 2). The infestations are small with less than 200 plants in total being removed from the 2 sites on a regular basis. The management of these sites must be maintained.



A recent education event has led to the detection of a new site at Wongabel. The Fireweed at this site appeared to have been present for quite a while which has raised serious concerns about how far the weed has spread in the area which is the initial focus for this program.

## TECHNICAL INFORMATION

<b>Scientific Name</b>	<i>Senecio madagascariensis</i>
<b>Other names</b>	Fireweed
<b>Similar species</b>	Native Senecio spp
<b>Description</b>	<ul style="list-style-type: none"> <li>• Annual or short-lived perennial herb.</li> <li>• Plant varies greatly in size and shape depending on conditions.</li> <li>• In dry harsh conditions, may be less than 20cm tall with narrow leaves, no branching and few flowers.</li> <li>• In ideal conditions, grows up to 50cm tall with multiple branches, long, wide leaves (6cm x 2cm) and about 100 flowers.</li> <li>• Leaves are generally 2-6cm long, alternate, dark green, with serrated margins.</li> <li>• Flowers are bright yellow, daisy-like, with diameter of about 2cm, producing up to 100 seeds each.</li> <li>• Each seed is 2-3mm long and cylindrical in shape, with rows of very fine short hairs and silky pappus (parachute).</li> <li>• Taproot is shallow-branched with many fibrous roots</li> </ul>
<b>Habitat</b>	<ul style="list-style-type: none"> <li>• Seeds germinate in mild, warm conditions with light and moisture.</li> <li>• Light infestations can produce 1 million seeds per hectare.</li> </ul>
<b>Distribution</b>	<ul style="list-style-type: none"> <li>• Occurs in beef and dairy pasture east of Great Dividing Range.</li> <li>• Isolated infestations found near Brisbane, Caboolture, Cooroy, Belli Park, Maleny, Yandina, Pelican Waters and as far north as Gympie.</li> <li>• Could potentially infest extensive areas of valuable pasture north of Brisbane to Rockhampton.</li> <li>• Isolated Far North Queensland infestations on the Atherton Tablelands.</li> </ul>
<b>Life cycle</b>	<ul style="list-style-type: none"> <li>• Seedlings appear March-June, growing quickly to produce first flowers in 6-10 weeks.</li> <li>• Begins to dieback in spring.</li> <li>• Dry summer followed by autumn or winter rains leads to heavy infestations.</li> </ul>
<b>Spread</b>	Seeds spread by wind, stock, in pasture seed, hay, turf, mulch and with stock transport.
<b>Impacts</b>	<p><b>Economic</b></p> <ul style="list-style-type: none"> <li>• Competes with pasture species.</li> <li>• Toxic to livestock, particularly cattle and horses, causing illness, slow growth and poor conditioning, which can result in death.</li> <li>• May taint meat and milk.</li> </ul>
<b>Prevention</b>	<p>To protect our economy, environment and quality of life, follow the guidelines below:</p> <ul style="list-style-type: none"> <li>• Don't pick flowers or plants that you can't identify - they may be weeds.</li> <li>• Ask for a Weed Hygiene Declaration ( <a href="https://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/weeds/preventing-weed-spread/legal-requirements/weed-hygiene-declaration">https://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/weeds/preventing-weed-spread/legal-requirements/weed-hygiene-declaration</a> ) before buying anything that may be contaminated with weed seed. Weeds can be transported as contaminants in soil, grain, hay, and mulch, and by livestock.</li> <li>• Stick to designated roads and tracks and avoid weed-infested areas.</li> <li>• Clean your equipment, boots, vehicles and machinery when leaving known weed-infested areas.</li> <li>• Clean-down (<a href="https://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/weeds/preventing-weed-spread/cleandown">https://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/weeds/preventing-weed-spread/cleandown</a>) off-road vehicles by blowing, vacuuming or washing dirt and seeds.</li> <li>• Check boats, propellers and trailers before entering or leaving waterways and remove any plant material.</li> <li>• Contact landowners before entering their properties and check what their requirements are for preventing the spread of weeds.</li> <li>• Don't dump weeds and garden waste in bush or parkland. Dispose of waste appropriately by</li> </ul>

	<p>transporting it safely to a waste disposal facility or burn it, bury it or add it to onsite mulching.</p> <ul style="list-style-type: none"> <li>• Never buy waterweeds or keep them in your ponds and aquariums.</li> <li>• Never dump aquarium plants, water or contents down drains or into waterways.</li> <li>• Check the Australian Quarantine and Inspection Service website before ordering plant material from overseas, including bulbs and seeds purchased over the internet or by mail order.</li> <li>• Wash your car on the lawn to prevent detergent entering waterways via stormwater drains, as nutrient-enriched water and soil promote weed growth.</li> <li>• Review suggested weed control measures (<a href="https://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/weeds/control-methods">https://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/weeds/control-methods</a>) to manage and limit infestations before they spread and become a major problem.</li> </ul>
<b>Control</b>	<p><b>Physical control</b></p> <ul style="list-style-type: none"> <li>• Prevent establishment by ensuring dense cover of pasture in autumn and winter.</li> <li>• Remove small infestations immediately.</li> </ul> <p><b>Mechanical control</b></p> <ul style="list-style-type: none"> <li>• Chip out, bag and burn isolated plants. Wear gloves when handling fireweed plants.</li> <li>• Slashing is usually not effective, as it increases poisoning risk to stock and only delays flowering and seeding.</li> <li>• Cultivation is not recommended.</li> <li>• Fireweed remains toxic after being cut and becomes more attractive to stock.</li> </ul> <p><b>Herbicide control</b></p> <ol style="list-style-type: none"> <li>1. Herbicides are most effective if sprayed before plants reach maturity. However, application during flowering will be effective if higher recommended rates of herbicide are applied.</li> <li>2. Research is ongoing for herbicide controls, including residual control methods. Trials have shown herbicide application in the autumn period during April provides good control. Before undertaking such programs, landholders are advised to determine infestation levels.</li> <li>3. Effective application method in an open pasture situation is a boom spray. Follow this up by spot spraying, or pulling and bagging any regrowth or missed plants.</li> <li>4. Boom spraying is also suitable for follow-up treatments, as it allows destruction of immature plants, which may otherwise grow to re-seed the area before they can be noticed.</li> <li>5. Bromoxynil (trade names Bromicide 200, Brominil 200 and Bucril 200) is suitable for use in pastures containing clovers, medics and lucerne, and will not affect grass.</li> <li>6. Bromoxynil is effective if used on seedlings, which usually appear in autumn and early winter but may appear later following rain. Twice as much bromoxynil is needed if it is applied to plants that are just beginning to flower. Bromoxynil is less effective on mature plants, as it is a contact herbicide only. Mature plants will only be killed off where the bromoxynil comes into contact with the plant, allowing recovery of the plant from lower, untouched portions.</li> <li>7. Conduct follow-up inspections every 4 months after initial treatment. Re-treat as required.</li> <li>8. Unfortunately, fireweed control is often not considered until the highly visible flowers appear and it is too late for effective control with herbicide</li> </ol>
<b>Declaration details</b>	<ul style="list-style-type: none"> <li>• Fireweed is a declared Class 2 species under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i>.</li> <li>• Introduction, feeding, keeping, releasing or supplying is prohibited without a permit issued by Biosecurity Queensland.</li> <li>• Landholders are required to control declared pests on their properties.</li> </ul>

Department of Agriculture Fisheries & Forestry.

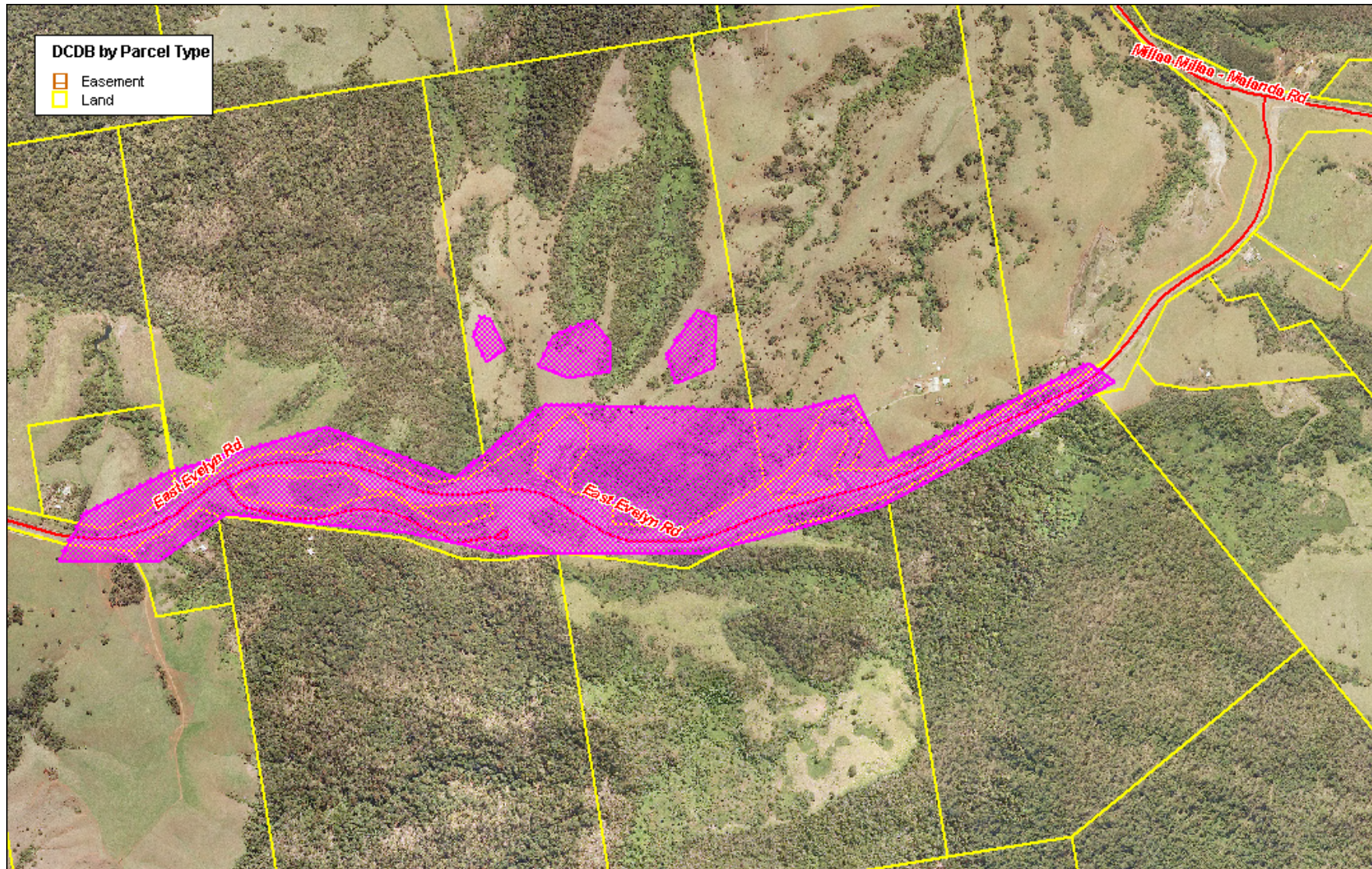
### Fireweed Management Action Plan

Aim	Action Details	Responsible Agency	Timeframe
Pest survey program	<ol style="list-style-type: none"> <li>1. Conduct a pest survey program of the new infestation at Wongabel in an area radiating 5km from the infestation site (refer attachment 3).</li> <li>2. Prioritise areas for control and identify seed sources, seed and plant dispersal routes and areas prone to weed invasion.</li> <li>3. Focus initial efforts on small, isolated infestations.</li> </ol>	TRC	<p>4 February 2016 Council approval to conduct a pest survey program.</p> <p>9 February 2016 Publish the program in the Tablelander</p> <p>Send landholders within the survey area as per the attached map, written advice of the program.</p> <p>Have the program available for inspection on the TRC website and Council's Mabel Street office.</p> <p>29 February 2016 Commence the Fireweed pest survey program.</p> <p>30 May 2016 Complete the survey program and collate and report on findings.</p>
Distribution mapping	<ul style="list-style-type: none"> <li>• Collate all distribution mapping data.</li> <li>• Provide hard copies to relevant staff.</li> <li>• Share data with relevant agencies including FNQROC and Biosecurity.</li> </ul>	TRC	May/June 2016

Management program preparation	<ul style="list-style-type: none"> <li>• Determine the most appropriate control methods for each site considering chemical, mechanical and land management practices.</li> <li>• Identify management regime identifying core site, outliers, priority treatment spots.</li> <li>• Determine treatment follow up timeframes.</li> <li>• Prepare annual control management schedule.</li> </ul>	TRC	May 2016
Landholder consultation	<ul style="list-style-type: none"> <li>• Educate the landholder on best practice weed management on their property.</li> <li>• Collaborate with the landholder to prepare a property management plan for the treatment of Fireweed incorporating combined treatment regimes.</li> <li>• Provide ongoing support to landholders in the form of advice and education.</li> </ul>	TRC and Landholders	May/June 2016
Education	<ul style="list-style-type: none"> <li>• Conduct a bulk mail out of educational material to all property owners within a 5km radius of the new Wongabel infestation.</li> <li>• Prepare media articles.</li> <li>• Door to door visits in priority areas.</li> <li>• Access relevant beef groups, landcare, NRM groups.</li> <li>• Website and social media articles.</li> <li>• Workshops with Council outdoor staff.</li> </ul>	TRC	Commencing January 2016
Update Management Plan	<ul style="list-style-type: none"> <li>• Outline management program.</li> <li>• Attach complete distribution mapping data.</li> <li>• Collate landholder property management plans.</li> <li>• Provide further general updates.</li> </ul>		June 2016

A management plan should be structured yet flexible enough to allow for uncontrollable external influences such as drought or floods. The best approach is usually to combine different control options. Whatever methods are used, always follow-up and monitor progress.

Attachment 1 – Fireweed distribution at Millaa Millaa



Attachment 2 – Fireweed distribution at Wondecla






Wondecla Fire Weed Infestation

Digital data supplied by Queensland Department of Agriculture and Fisheries (DAF) Projection and datum: Geographics, GDA94. Map produced by Biosecurity Queensland, DAR, 21st September, 2015.  
 The date/time information plotted on this map is extracted from the OCSG.  
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 © The State of Queensland, Department of Agriculture and Fisheries 2012.



Legend

-  Fireweed\_Bushnell Road\_Wondecla\_100914
-  Fireweed\_Bushnell\_Road\_Wondecla\_Historical\_Distribution
-  Corp.SPATIAL.QLD\_DCDB\_North\_Poly



Attachment 3 – Wongabel Pest Survey Area

