



Australian Government
Department of Agriculture,
Fisheries and Forestry



Weeds of National Significance

Fireweed



National best practice management manual for
fireweed (*Senecio madagascariensis*)



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Weeds of National Significance
2023

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Acknowledgements

Principal authors and compilers

John Virtue, JG Virtue Biosecurity Services Pty. Ltd.

Matt Sheehan, Wild Matters Pty. Ltd.

Case study contributors

Rowley Beckett, Dorrigo, New South Wales (NSW)

Paul Carter, Broughton Village, NSW

Colin Cork and Pam Cork, Dorrigo, NSW

Tehiva Hands, Scott Morrison and Tudor Tanase, Tablelands Regional Council, Queensland (Qld)

Peter Muirhead, Quaama, NSW

Mark Stubbings, Mystery Bay, NSW

Travis Sydes, Far North Queensland Regional Organisation of Councils, Qld

Noel Watson, Bega, NSW

Other contributors

Ben Gooden and Alexander Schmidt-Lebuhn, CSIRO

Sonia Graham, University of Wollongong, NSW

Shauna Potter, Wild Matters Pty. Ltd.

Farzin Shabani, Macquarie University, NSW

Andrew Storrie, AGRONOMO, Western Australia

Valuable support, comments, information and/or review provided by

Fireweed Technical Advisory Group:

Ali Bajwa, Graham Charles and Charlie Mifsud, Department of Primary Industries (DPI), NSW

Michael Coleman and Brian Sindel, University of New England, NSW

Ben Gooden, CSIRO

Iain Jamieson, City of Gold Coast, Qld

Brendan O'Brien, North Coast Local Land Services (LLS), NSW

Kelly Pardew, Agriculture Victoria, Victoria

Steve Taylor, ACT Government, Australian Capital Territory

Bronwen Wicks, Creative Offshoots, NSW

Joe Vitelli, Biosecurity Queensland, Qld

Attendees at the community fireweed forum 24 May 2022, convened by Tilba Environment Landcarers and Bega Valley Fireweed Association

Others:

Annemarie Ashton-Wyatt, Wedgetail Rise Alpacas, NSW

Rory Birt, Ray White Rural Dorrigo, NSW

Paul Creenaune, Dorrigo, NSW

Jamie Dixon-Keay, Bega Valley Shire Council, NSW

Ashley Donges, Bellingen Shire Council, NSW

Mark Doyle and Hayden Kingston, South Coast LLS

Dani Egli, University of KwaZulu-Natal, South Africa

Paula Fitzgerald, Australian Fodder Industry Association

Scott Galbraith, Shoalhaven City Council, NSW

Ruth Holmes and Rod Holmes, Dorrigo, NSW

Brett Jones, Snowy Monaro Regional Council, NSW

Matt Kennedy, Hunter LLS, NSW

Paul Martin, Eurobodalla Shire Council, NSW

Trent McIntyre, New England Weeds Authority, NSW

John Monaghan, Marshdale, NSW

David Pomery, Illawarra District Weeds Authority, NSW

Geoff Pryor, Tilba Environment Landcarers, NSW

Michelle Rafter, CSIRO

Helen Schaefer and Pete Turner, DPI, NSW

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Paul Walker, Buckajo, NSW

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Foreword

In Australia, few weeds have gained greater notoriety than fireweed. This weed has also been a passion of mine since I first commenced PhD research on it over 30 years ago, but fireweed continues to be a 'burning issue' for many landholders today. Although present here from the early 1900s, fireweed was confused with similar looking native species until the 1980s when research confirmed its true identity as an introduced species from southern Africa – *Senecio madagascariensis*. Since then we have learned much about its ecology and management.

In this professionally presented publication, the authors draw on years of personal experience and expertise with weeds, as well as that of numerous scientists, advisers and land managers, to distil a wealth of information on fireweed into a comprehensive, understandable and practical guide for those contending with this invasive species.

A key part of this manual is the case studies of Australian farmers who, in a range of situations, have been attempting to control fireweed using a variety of techniques over many years. We will do well to learn from their experience, as good practice often precedes good science. Moreover, Australians are not alone in these challenges. Farmers and researchers in several countries around the world are now working to find better solutions to this problematic plant.

While it is unlikely, due to its capabilities for persistence and spread, that fireweed will be able to be eradicated from land once it becomes well established, be assured that it can be kept in check. As surveys of farmers have informed us, the elements for success will include having a plan, using a diversity of approaches and sticking at it! If utilised well, this manual will serve to help improve that level of success.

Brian Sindel, Professor of Weed Science, University of New England, Armidale, New South Wales

My first recollection of fireweed takes me back to when I was five years-old living outside Durban in South Africa, when my mother lost her horse to fireweed poisoning. It was not until some 47 years later that I again encountered this weed when we acquired a 240 acre property at Dorrigo in northern NSW. That was in 2001 and soon after, living up to its name, fireweed spread like fire across the Dorrigo Plateau.

As a noxious weed in NSW, it was incumbent upon property owners to work to control it... and work we did! In 2007 we formed Dorrigo Community Weed Action, with a special emphasis on fireweed. At the southern end of the state another group of farmers, led by Noel Watson, formed the Bega Valley Fireweed Association. Both groups worked on getting better land holder cooperation and government support for controlling the weed, including more research.

Fireweed is no longer declared in eastern NSW – the state government decided fireweed had

become a reality we simply had to live with! Today our methodology to inhibit fireweed focuses on pasture improvement, mulching and zero tolerance. Whilst we're still somewhat at the mercy of the odd recalcitrant plant emerging through the pasture, they are relatively easy to pull by hand.

This updated fireweed management manual is a seriously worthwhile initiative which affords property owners the opportunity to weigh-up current, alternative strategies to deal with the weed. It is also an invaluable tool to owners who are relatively new to the land. Those of us that recognise the scourge that fireweed represents will appreciate the benefit of ensuring our neighbours have a copy of the manual. Neighbourhood relations are one of the biggest casualties of fireweed. If we can all pull together and take ownership of this weed our communities will be in a much happier place.

Rowley Beckett, land holder, 'eManzini', Dorrigo, New South Wales

Read more of Rowley and Clare's story on page 88.

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Using this manual

Who should use this manual?

This manual has been written to assist anyone with an interest in managing fireweed, *Senecio madagascariensis*, a Weed of National Significance.

The manual is focused primarily at the property scale, but the information is also relevant for a district scale fireweed control program. Reasons for managing fireweed include protecting livestock from poisoning, avoiding contamination of hay, turf or landscaping materials, and preventing seed spread between properties and along transport corridors.

The manual has drawn from both scientific studies and practical field experience to compile current knowledge on best practice management for fireweed. It will help in planning effective prevention and control measures. The manual provides source material for developing future extension materials, such as factsheets, newsletter articles and website information.

Where does the information come from?

The information in this manual has been sourced from published material, existing research, reviews by technical experts and experiences of property managers in learning to successfully suppress fireweed. Field visits in various parts of coastal New South Wales (NSW) and south-east Queensland, enabled many informative conversations. A community forum was also held at Tilba, NSW.

Whilst this manual aims to provide a synthesis of the most current information on best practice management of fireweed, it is acknowledged that this will continue to evolve. Further information will come from future research, continued development

of weed control tools, and ongoing land manager observations on managing fireweed throughout its range in eastern Australia. Hopefully, biological control agents will be also become available in the future.

How to use this manual

This manual has been designed to allow easy access to all available information on managing fireweed. Arranged in five stand-alone yet complementary chapters, the manual presents a guide to the biology and impacts of fireweed (Chapter 1), how it can be prevented and controlled (Chapter 2), how to develop a property weed management plan (Chapter 3), and case study examples of how fireweed is being managed at property and regional levels (Chapter 4). Chapter 5 provides more specifics and sources of further information.

The manual has a substantial focus on preventing fireweed through establishing and maintaining dense pastures – best practice weed control is not just how to kill a weed, but also how to limit its establishment in the first place.

It is important that the information provided in this manual is adapted by individuals according to their own environmental, financial and social circumstances. Always seek local advice in planning weed control on your property.

Summary of the five chapters

1. Understanding fireweed and its impacts

- Identification
- Life cycle
- Where it grows
- Impacts



2. Preventing and controlling fireweed

- Integrated weed management (IWM)
- Preventing weed entry and spread
- Outcompeting fireweed
- Using herbicides
- Other control measures



3. Developing a weed management plan

- Property weed management planning
- Local and regional control programs



4. Case studies on fireweed management

- Examples of farm and small acreage IWM
- A regional control program



5. Further information

- Legal obligations to control
- Additional pastures information
- Herbicides table
- State/territory contacts
- Property planning online resources

Acronyms

See also References (Section 5.7) for other acronyms not listed below.

ACT	Australian Capital Territory
AHA	Animal Health Australia
ALA	Atlas of Living Australia
APVMA	Australian Pesticides and Veterinary Medicines Authority
CSIRO	Commonwealth Scientific and Industrial Research Organisation
FNQ	Far North Queensland
GPS	global positioning system
IWM	integrated weed management
LLS	Local Land Services (NSW)
MLA	Meat and Livestock Australia
NRM	Natural Resources Management
NSW	New South Wales
NSW DPI	NSW Department of Primary Industries
NT	Northern Territory
NZ	New Zealand
PAs	pyrrolizidine alkaloids
PHA	Plant Health Australia
PPE	personal protective equipment
QDAF	Qld Department of Agriculture and Fisheries
Qld	Queensland
SA	South Australia
SEQ	South East Queensland
Tas	Tasmania
TRC	Tablelands Regional Council (FNQ)
Vic	Victoria
WA	Western Australia
WoNS	Weed of National Significance