



Australian Government
Department of Agriculture,
Fisheries and Forestry



Weeds of National Significance

Sagittaria



National best practice management manual for
sagittaria (*Sagittaria platyphylla*)



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2023

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We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment, and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

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Additional information sources

Three sagittaria best practice management workshops were held at Deniliquin, Griffith and Tatura in May 2018. Attended by approximately 40 people across 15 organisations, the workshops gathered a range of information on sagittaria and associated knowledge gaps, which has been drawn on to produce this manual.

The authors would like to acknowledge the role of the publication *Developing best practice management strategies for sagittaria in Australia. Phase 1: Current management practices – May 2018*. This was a seminal reference to build upon for this publication and was funded by Murray Local Land Services. A list of workshop attendees can also be found in this publication:

Clements, D., Dugdale, T. M., Kwong, R.M. 2018. Developing best practice management strategies for sagittaria in Australia. Phase 1: Current management practices – May 2018. Agriculture Victoria Research (Agriculture Victoria, Department of Economic Development, Jobs, Transport and Resources) Technical report for Murray Local Land Services. February 2018.

Foreword

Sagittaria is a significant threat to waterways and irrigation systems in Australia. The weed has been present in Australia since the late 1950s, having been introduced as an ornamental pond plant. Since its introduction to Australia, sagittaria has infested hundreds of hectares of waterways and irrigation channels and is continuing to spread into areas where it was previously unknown. It has been recorded in every state and territory in Australia except Tasmania.

As an aquatic weed, sagittaria presents challenges to management that are not present in terrestrial weed management. Access to waterways and challenging management situations represent some of these difficulties.

This publication brings together the expertise of the authors and the most up-to-date information on best practice management options and contains detailed information about the plant itself. It has been reviewed by technical experts within Australia.

This manual will provide an important reference and should be recommended to all weed professionals and waterway managers whose waterways are affected by sagittaria or at risk of invasion.

I would like to thank those responsible for its production.

Charles Mifsud

State Priority Weeds Coordinator

Aquatic weeds, New South Wales Department of Primary Industries

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Using this manual

Who should use this manual?

This manual has been written to guide anyone with an interest in managing sagittaria in Australia, including land and waterbody managers, community groups, contractors and government agencies. The manual's content is intended to help people make decisions about sagittaria management by providing a guide based on current knowledge and understanding of best practice.

Where does the information come from?

The information used in this manual has been obtained from a range of sources, including publications (scientific and grey literature), government websites and communications with experts who have direct experience managing sagittaria. A particularly important source was a recent literature review and industry survey developed to determine the effectiveness of current sagittaria management practices in Australia.

This survey consisted of 23 questions on current and past control methods and how these are utilised in a range of situations (i.e., irrigation channels, drains, rivers and creeks, natural wetlands and billabongs, and urban / constructed wetlands). The survey was distributed to approximately 45 organisations across Australia, with 13 responding from New South Wales, Queensland, South Australia and Victoria. Survey results were summarised and presented to industry workshops for discussion and agreement, before being collated into a report (Clements et al., 2018).

An important finding of the industry survey was that there are several key knowledge gaps identified as limiting our ability to effectively manage sagittaria. Most of these gaps align with, and build on, the research objectives described in the national strategic plan for sagittaria (Australian Weeds Committee, 2012).

How to use this manual

This manual is intended to help people implement best practice management of sagittaria using relevant and current knowledge about the weed. It provides this information in five chapters covering the biology and ecology of sagittaria, planning a management program, control methods for sagittaria, case studies of sagittaria management from around Australia and further information.

The information provided in this manual should be tailored to local environmental conditions and management situations.

Summary of the five chapters

1. Understanding sagittaria

- Identification
- Where it grows
- Life cycle
- Impacts



2. Planning a control program

- Identifying management objectives
- Developing a management plan
- Monitoring and surveillance
- Planning considerations



3. Control methods

- Choosing a control method
- Using herbicides
- Physical control
- Biological control
- Knowledge gaps



4. Case studies

- What are other land managers doing?
- Overcoming challenges
- Practical tips and learnings



5. Further information

- Legal obligations to control sagittaria
- Weed control contacts
- Where to go for more information
- References

Using this manual

Abbreviations

| | |
|----------------|--|
| ACT | Australian Capital Territory |
| ALA | Atlas of Living Australia |
| AgVic | Agriculture Victoria |
| APVMA | Australian Pesticides and Veterinary Medicines Authority |
| FNQ | Far North Queensland |
| GMW | Goulburn Murray Water |
| GPS | global positioning system |
| MI | Murrumbidgee Irrigation |
| NCCMA | North Central Catchment Management Authority |
| NRM | Natural Resources Management |
| NSW | New South Wales |
| NSW DPI | NSW Department of Primary Industries |
| NT | Northern Territory |
| PPE | personal protective equipment |
| Qld | Queensland |
| SA | South Australia |
| SEQ | South East Queensland |
| Tas | Tasmania |
| Vic | Victoria |
| WA | Western Australia |
| WoNS | Weed of National Significance |
| YACTAC | Yanco Creek and Tributaries Advisory Council |

See also References (Chapter 5) for other abbreviations not listed below.

Photo credits

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