



Know-how for Horticulture™

**Nursery and garden
industry weeds
scoping study**

Peter Martin
CRC for Australian Weed
Management

Project Number: NY02019

NY02019

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Horticulture Australia

NURSERY GARDEN INDUSTRY SCOPING STUDY

A study that outlines the various weed groups in Australia,
their roles and the linkages between them.

Report submitted

to

Horticulture Australia

for

Project NY02019

(December, 2003)

by

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for the

Cooperative Research Centre

for

Australian Weed Management

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The purpose of this report is to gain an understanding of various Australian environmental and noxious/proclaimed weed groups, linkages and activities and direction for appropriate investment and /or involvement by Horticulture Australia and or the Nursery and Garden Industry Australia.

Funding and collaboration is acknowledged from Horticulture Australia and the Cooperative Research Centre for Australian Weed Management.

December, 2003.

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SUMMARY

This study was commissioned by Horticulture Australia and the Nursery and Garden Industry, Australia (NGIA) and conducted in 2003. It scopes the roles, activities and linkages between the various environmental and noxious weed groups and agencies in Australia, and was carried out at both a National and State/Territory level.

To determine the main issues confronting weed groups, a national survey was conducted which explored the weeds that groups were dealing with, education and training needs, funding history and requirements, current activities, information sources and group networks. The target groups included Landcare, Bushcare, Rivercare, Coastcare, Friends of Parks, Greening Australia, Conservation Volunteers, government agencies and other organisations.

Invasiveness of weeds was found to be the main weed issue facing groups. Groups reported a need for education in management and control. In the main, funding levels were relatively low. Respondents showed a high reliance on information from their own knowledge, government officers, fact sheets, books, Landcare groups, research organisations and field days. The main networks were found to be government officers, Landcare, Bushcare, community environmental groups, councils and soil and water boards. On the basis of the survey and further discussions with key individuals in these networks, Chapter 11 set out some recommendations for appropriate investment by the Nursery IAC and Horticulture Australia.

The general discussion in Chapter 12 outlines the current policy framework for this report. It reports on some key discussions that presented a perspective from the Nursery and Garden Industry, and industry views on the issues of garden escapes, weed risk assessment and education. Chapter 12 concludes by suggesting that there are good commercial and public good reasons for the industry to work better with other groups engaged in weed science and policy making.

ACKNOWLEDGEMENTS

This study/report was made possible by the generous support of Horticulture Australia and provision of resources and facilities of the Cooperative Research Centre for Australian Weed Management.

I express my sincere thanks to the project leader Mr Peter Martin, Community Empowerment Program Leader, CRC for Australian Weed Management. I acknowledge his guidance in my research, critical discussions, continuing interest and encouragement throughout the course of the study. Thanks also to my colleagues at the CRC for Australian Weed Management, Jan Fair, Noel Richards, Rick Roush, Sue Peters, Chris Preston, Tim Schultz, Kelly Scott, Robin Taylor and Sally Vidler for their kind support and assistance.

My appreciation to Technical and Further Education South Australia particularly Mr Trevor Nottle, Educational Manager at the Torrens Valley TAFE Centre for Horticulture, Urrbrae for support and understanding with the dual roles associated with the project.

I thank Ann for her understanding in the weeks of time lost whilst writing and my daughter Caren for assistance with Filemaker Pro, survey processing and general support.

My appreciation to Elizabeth (Libby) Abraham, Project Manager Horticulture Australia, for support and understanding, particularly through the writing phase.

I am grateful to those who contributed their time and expertise namely John Thorp, John Thorp Australia, Belinda Thorpe, Regional Wildlife Programs Wildlife Australia, Robert Moore, Assistant Director Regional Wildlife Programs, Environment Australia, Kate Blood, Project Leader, Victorian Department of Primary Industries, John Louis Sagliocco, Quarantine Manager Keith Turnbull Research Institute, Michael Michelmore, Regional Weed Control Coordinator, NSW Agriculture, Richard Carter, Program Leader (Weeds) NSW Agriculture, Michael Moerkerk, Victorian Institute of Dryland Agriculture, Horsham, Kate McArthur, Victorian Department of Primary Industries, Megan McCarthy, Victorian Department of Primary Industries, David Cooke, South Australian Animal and Plant Control Commission, John Virtue, South Australian Animal and Plant Control Commission, Ian Turnbull, Bellingen Shire Council NSW, Sandy Lloyd, Western Australian Department of Agriculture, Rod Randall, Western Australian Department of Agriculture, Geoffrey Fuller, Nursery and Gardens Industry of South Australia, Edda Keskula, South Australian Nursery and Garden Industry Industry Development Officer. Paul Rawlings, South Australian Centre for Horticulture, Urrbrae, Dominic Cavallaro,

Virginia Horticulture Centre South Australia, Lional Wood, Department of Agriculture, Fisheries and Forestry Australia, Canberra, Barry Philp, Primary Industry and Resources South Australia, Michael Crisp Ausrtalian National University, Canberra, Marcus Blacklow University of Western Australia

Finally I am grateful to those who may have been inadvertently omitted who gave of their time and information.

This work is dedicated to the memory of Kath Laurie who had just started this weed scoping project but sadly passed away in December 2002. Having known Kath I feel honoured to have taken over this her original project.

Robin St. John-Sweeting.

M.App.Sc., (Adelaide). Grad.Dip.Ag., R.D.A. (Roseworthy). M.A.I.A.S. C.P.Ag.

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CHAPTER I

GENERAL INTRODUCTION

1.1 BACKGROUND

As outlined by Horticulture Australia *et.al.* (2002) the nursery industry is represented by all states and territories, with the greatest volume of production and retail sales concentrated in the eastern states, and in areas of encroaching urbanisation. Recent figures indicate that the Australian nursery industry has in excess of 10,000 businesses, predominately involving three or less full time staff. The industry has a wide member base covering the entire market chain from input suppliers to retailers and all products associated with commercial and private gardening.

There is much activity being undertaken by various groups at a state/territory and national level. The Nursery Industry Advisory Committee (NIAC) has been approached to invest in this area, but were unsure of the scope of activities currently being undertaken. Subsequently, the NIAC decided to undertake this project to provide a snapshot of associated environmental and noxious weeds groups, their roles, activities, along with linkages between them and recommendations for any appropriate investment(s).

1.2 PROJECT DESCRIPTION

This project was initiated by Horticulture Australia and the Nursery and Garden Industry, Australia (NGIA). It scopes the roles, current and future activities, linkages between and achievements of the various environmental and noxious weeds groups and agencies. This has been done at both a national and state/territory basis.

The key objective of the project was to understand what the scope of activity is being undertaken in the area of environmental and noxious weeds, identifiable gaps and role(s) for NGIA and/or Horticulture Australia to take in this area.

The key outcomes of the work are:

- An understanding of various Australian environmental and noxious/proclaimed weeds groups, linkages and activities; and
- Direction on appropriate investment and /or involvement by Horticulture Australia and or NGIA

1.3 TERMS OF REFERENCE

1. The scope of the study involves all associated environmental and noxious weeds groups, both government and private at national and state/territory levels;
2. The scope of the project includes all forms of associated activities. For example, public and industry education programs, weed management programs, research programs and so on;
3. The project will cover activities of associated groups between the years of January 2000 and the present day;
4. The project will provide a snapshot of current group roles, activities and linkages between the groups; and
5. The project will provide recommendations for any appropriate investment(s) by the Nursery IAC and Horticulture Australia.

1.4 METHODS

For this study Australian weed groups were subdivided into National groups (Chapter 2) and eight State and Territory groups (Chapters 3 to 10). Web searches clarified group organisation and activities and personal visits, and/or telephone and email contact were pursued.

The Weeds CRC has already developed approaches to 'map' the main networks operating in weed policy, management and control at different scales around Australia and to gain some understanding of their priorities and how they seek and receive information. The communication strategy being pursued by the Weeds CRC includes this as a key activity.

CHAPTER 2

THE SCOPE OF NATIONAL WEED GROUPS

2.1 INTRODUCTION

Groups active in weed management in Australia fall into four main categories. In the area of (1) public administration, weed policy is set and funded at national, state and local government levels. Policy in turn is influenced by (2) weed research carried out mostly by state government agencies and universities. Weed control programs are closely aligned with (3) community group action, without which much on-ground work would not be possible. Finally, there are some excellent examples of environmental weed management within the (4) nursery and garden industry.

2.1.1 AUSTRALIAN WEEDS COMMITTEE

Central to Australia's weed stakeholder linkages is the Australian Weeds Committee (AWC), which supervises the Commonwealth Government's National Weeds Strategy.

The vision of the AWC is to reduce the detrimental impact of weeds on the economic, environmental, social and cultural sustainability of Australia's productive capacity and natural ecosystems. Its purpose is to provide an inter-governmental mechanism for identification and resolution of weed issues at a national level for Australia. The AWC ensures an integrated approach to all aspects of weed management by providing national policy and planning solutions to weed issues. It plans, coordinates and monitors the continued implementation of the National Weed Strategy and provides policy and planning advice to the Natural Resource Management Standing Committee (NRMSC) and Primary Industries Standing Committee (PISC) on recognised national weed issues.

Other roles and activities include identifying emerging weed problems and facilitating a consistent national approach to weed management. It also manages a communications strategy for increasing the profile of weeds throughout the community, government and key stakeholders.

Contact information:

| | |
|---|--|
| John Thorp National Weeds Facilitator John Thorp Australia 16 Flowers Court LAUNCESTON TAS 7250 | Ph: (03) 6344 9657 Fax: (03) 6343 1877 Email: awc@jta.com.au www.weeds.org.au |
|---|--|

2.1.2 AUSTRALIAN ASSOCIATION OF BUSH REGENERATORS

The Australian Association of Bush Regenerators was established in 1986 out of concern for continuing survival and integrity of bushland and its dependent fauna.

It fosters and encourages sound ecological practices of bushland management by qualified and skilled people. Groups are involved in the propagation of native plants, bush regeneration and vegetation management involving practical weed control. Most groups are located in NSW and WA.

Contact information:

| | |
|---|--|
| National Office Total Environment Centre Level 2 362 Kent St Sydney 2000 | Mobile: 0407 002 921 Email: aabr@zip.com.au www.zipworld.com.au/~aabr/ |
|---|--|

2.1.3 AUSTRALIAN QUARANTINE INSPECTION SERVICE

The Australian Quarantine Inspection Service (AQIS) is administered by the Department of Agriculture, Fisheries and Forestry (DAFF). The majority of serious weeds in Australia have been introduced from overseas and in some cases, the introductions have been made to develop a new crop or garden plant.

AQIS role is to keep Australia free from the introduction of pests and diseases that will negatively affect human health, agriculture and the natural environment. AQIS has 11 regional offices plus five nodes for the Northern Australia Quarantine Strategy (NAQS).

Contact information:

| | |
|---|---|
| Australian Quarantine and Inspection Service (AQIS) GPO Box 858 CANBERRA ACT 2601 | Ph: (02) 6272 4143 Fax: (02) 6239 7351 Email: horticulture@aqis.gov.au www.aqis.gov.au |
|---|---|

2.1.4 AUSTRALIAN COOPERATIVE RESEARCH CENTRES (CRC's)

The CRC program was launched in May 1990 and is administered by the Federal Government's Department of Education, Science and Training. The Australian Government CRC's generate innovative ideas and research, accelerate commercial application of ideas and retain locally developed skills.

Of the 71 CRC's current at the end of 2003 there are several for which weeds are relevant, including the Tropical Savannas Management CRC, Cotton CRC, Plant-based Management of Dryland Salinity and the Tropical Rainforest Ecology and Management. The Weeds CRC represents the principal weed research network in Australia (see below).

Contact information:

| | |
|--|--|
| Cooperative Research Centres Program Sciences Program Branch Department of Education, Science and Training Level 4, 16 Mort Street GPO Box 9880 CANBERRA CITY ACT 2601 | Ph: (02) 6240 5011 Fax: (02) 6240 9096 Email: crc.program@dest.gov.au www.crc.gov.au |
|--|--|

2.1.5 COUNCIL OF AUSTRALIAN WEED SCIENCE SOCIETIES (CAWSS)

The Council of Australian Weed Science Societies is an independent body that can express a national view on all issues relating to weeds and their management. The council is composed of delegates from State Societies that have weeds as their major focus (see contact details for each society under their respective states). CAWSS is an Associate Member of the International Weed Science Society and is affiliated with the European Weed Research Society and the Asian-Pacific Weed Science Society.

The council promotes weeds, and the people involved in their management and science, through education, awards, travel grants and publications. It develops policy and sponsors workshops and conferences particularly the biennial Australian Weeds Conference. It also supports the Australian journal Plant Protection Quarterly and other publications.

Contact information:

| | |
|--|---|
| Mr Rex Stanton Secretary Council of Australian Weed Science Societies Farrer Centre Charles Sturt University Locked Bag 588 WAGGA WAGGA NSW 2678 | Ph: (02) 6933 4037 Fax: (02) 6933 2924 Email: rstanton@csu.edu.au http://home.vicnet.net.au/~weedss/ |
|--|---|

2.1.6 CRC FOR AUSTRALIAN WEED MANAGEMENT

The Cooperative Research Centre for Australian Weed Management is located at the Waite Institute in South Australia. The centre is an unincorporated collaborative venture between The University of Adelaide, NSW Agriculture, C.S.I.R.O. (Division of Entomology, Plant Industry & Sustainable Ecosystems), Queensland Department of Natural Resources and Mines, the Grains Research and Development Corporation, the Department of Agriculture Western Australia and the Victorian Department of Primary Industries. The management structure of the centre consists of the Governing Board and Management Committee.

The Weeds CRC's mission is to enhance the sustainability of farming systems and the conservation status of natural ecosystems across Australia through world-class collaborative research that targets generic control problems using integrated weed management. The centres activities are contained within program areas:

- Weed incursion and risk management
- Sustainable cropping systems
- Landscape management
- Education
- Community empowerment

Contact information:

| | |
|--|--|
| Dr Rachel McFadyen CEO CRC for Australian Weed Management Waite Road, Urrbrae PMB 1, Waite Campus GLEN OSMOND SA 5064 | Ph: (08) 8303 6590 Fax: (08) 8303 7311 Email: sally.vidler@adelaide.edu.au www.weeds.crc.org.au |
|--|--|

2.1.7 DEPARTMENT OF AGRICULTURE, FISHERIES AND FORESTRY (DAFF)

DAFF is involved in various aspects of weeds in natural resource management, rural policy and innovation, industry development, marketing, product integrity, quarantine, economic and scientific advice. It is responsible for biosecurity in Australia and protects consumers, animal and plant health through departments such as AQIS, Biosecurity Australia and the Office of the Chief Plant Protection Officer.

Plant Biosecurity is one of three operating groups within Biosecurity Australia. Plant Biosecurity is responsible for utilising scientific and technical information to undertake

quarantine risk analyses of plants and plant products proposed for importation into Australia and subsequently makes recommendations on risk mitigation conditions.

The Office of the Chief Plant Protection Officer deals with response to new weed incursions and associated national policy.

DAFF jointly administers the Natural Heritage Trust fund with Department of the Environment and Heritage.

Contact information:

| | |
|--|---|
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| Brian Stynes General Manager Plant Biosecurity Biosecurity Australia PO Box 858 Canberra ACT 2601 | Ph: (02) 6272 5094 Fax: (02) 6272 3307 Email: plantbiosecurity@daff.gov.au www.daff.gov.au |

2.1.8 DEPARTMENT OF THE ENVIRONMENT AND HERITAGE

DEH monitors trends in condition of the environment and funds land, water and coastal management initiatives. A significant Act for weed management on a national scale is the *Environment Protection and Biodiversity Conservation Act 1999* (<http://www.deh.gov.au/epbc/index.html>) which is administered by this department.

Within DEH, weeds are primarily managed through the Natural Heritage Trust, which is jointly administered with DAFF.

Contact information:

| | |
|--|--------------------------------------|
| Department of the Environment and Heritage | Ph: (02) 6274 1111 www.deh.gov.au |
|--|--------------------------------------|

2.1.9 NATURAL HERITAGE TRUST

The Natural Heritage Trust was set up in 1997 to help restore and conserve Australia's environment and natural resources. Under the first phase of the Natural Heritage Trust set up in 1997, funding was made available for Landcare, Bushcare, Rivercare and Coastcare activities as outlined in Figure 1. Phase 2 of the Natural Heritage Trust commenced in 2003. Overall funding of \$2.7 billion is allocated via a regional structure, featuring more than 60 Natural Resource Management Regional Coordinators.

The structure of NHT is currently undergoing extensive change with the transition from the first phase (NHT1) to the second phase (NHT2). Figure 1 presents the infrastructure from 2003 which is continuing under the broad headings of the four national 'Care' programs. These programs will continue to set detailed policy for resource condition outcomes, with the following broad aims:

- biodiversity conservation
- sustainable use of natural resources
- community capacity building and institutional change.

However, during 2003 there has been a fundamental shift of resources and decision making to the NHT regions. Paralleling the regional investment model developed for the national Action Plan for Salinity and Water Quality, the NHT regions are each required to develop a local strategy, backed up by a detailed investment plan. The intention is that funding will be shared equally between State and federal authorities.

The regions will generally follow the boundaries of existing State-based areas set up for natural resources management, and each will have a Regional Coordinator.

In addition the structure includes a group of four Facilitators for each State and Territory, one for each of the four 'Care' programs. The current arrangement is set out in the table over the page.

Weed management is better and more openly incorporated into normal resource management in the new NHT than it was in NHT1. The Weeds CRC is aware of some

regional plans in which weed management has been dealt with very well, although the importance of weeds as an issue will vary across the regions.

NHT has defined ten areas of activity for investment. Although weeds are only mentioned in item 4, along with aquatic pests and feral animals, it is clear that weed control is actually highly relevant to all ten. These include topics such as biodiversity protection, effectively managing reserves, and the provision of basic skills in natural resources management.

Australian Government Natural Resource Management Facilitators

| STATE | BUSHCARE | LANDCARE | COASTCARE | RIVERCARE |
|--------------|-------------------------------------|----------------------------------|------------------------------------|----------------------------------|
| WA | Neil Riches 0438 207 078 | recruitment in progress | Martin Heller 0411 128 546 | Clare Taylor 0438 218 162 |
| SA | Ben Hyde (08) 8303 8670 | Simon Goodhand (08) 8303 8671 | Pia Richter (08) 8303 8672 | Paul Francis (08) 8303 8673 |
| TAS | Ruth Temple-Smith (03) 6233 3151 | Lee Drummond (03) 6233 3151 | Nicole Middleton 0439 404 994 | Imogen Birley (03) 6233 3401 |
| ACT | Peter Hazell 0438 099 548 | Peter Hazell 0438 099 548 | n/a | Michael Schultz 0438 093 798 |
| NT | Recruitment in progress | Recruitment in progress | Carolynne Yates (08) 8999 4507 | Samantha Fox 0438 091 963 |
| VIC | Recruitment in progress | Geoff McFarlane 0438 208 067 | Michelle Lauder 0438 089 231 | Vera Lubczenko 0438 096 091 |
| NSW | Claire Carlton (02) 9296 1662 | n/a NSW Govt position | Melissa Bradbury (02) 9296 1663 | n/a NSW Govt position |
| QLD | Annie Keys (07) 3214 2650 | Claire Heath (07) 3214 2641 | Tania Ashworth (07) 3214 2363 | Kristin Kenyon (07) 3214 2369 |

The main implication for the nursery and garden industry of these new developments are:

Many new weed control activities will be proposed and funded through the new NHT regional structure. The Regional Coordinator will be a key contact person for anyone in the industry wishing to explore weed issues in a particular region. The appointment of Coordinators is still underway, and detailed up-to-date lists should be available in 2004.

If the industry is interested in supporting a range of local level community-based weed initiatives, linking with the smaller Envirofund scheme may be the most effective. In this case the industry could become a local partner in a project seeking Envirofund support.

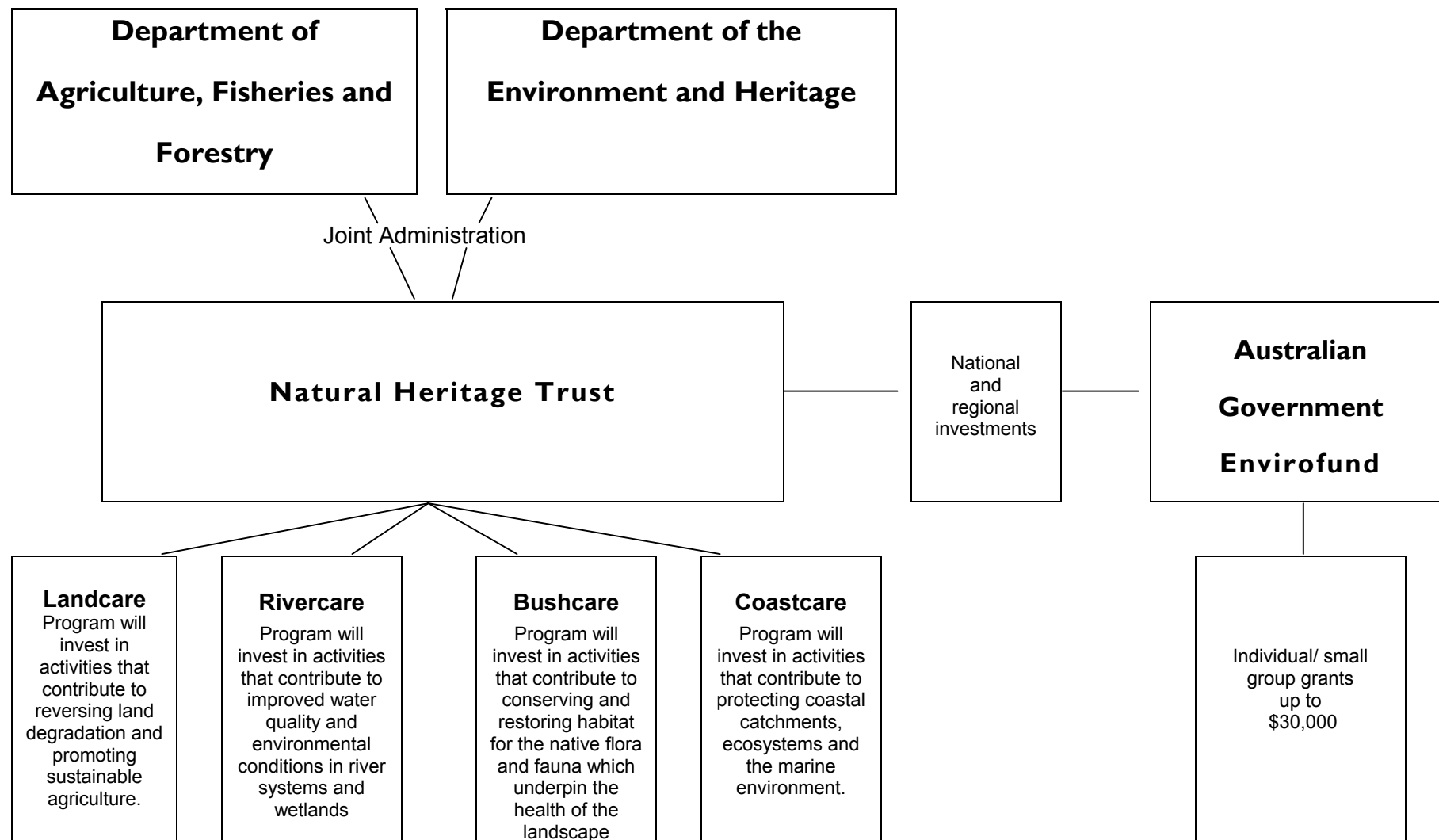
Details of this scheme are available at www.deh.gov.au/biodiversity/invasive/weeds

To explore policy-related issues, such as a possible role for the industry in NHT, then discussions should be held with NHT management in DEH, Canberra. A key contact at present is Kate Gowland, Australian Govt Regional NRM Team (02-6272 4977).

Contact information:

| | |
|--|--|
| Kate Gowland | Ph: 02-6272 4977 |
| Australian Govt Regional NRM Team | Ph: NHT 1800 065 823 |
| Department of the Environment and Heritage | Ph: Envirofund 1800 303 863 |
| GPO Box 787 | www.nht.gov.au |
| Canberra ACT 2601 | |

Figure 1. General linkages in the organisation of the Natural Heritage Trust in 2003.



This structure has been the case up until late 2003 when plans were developed to route funds through the newly established NHT regions. In many cases the new mechanisms are not yet fully functional.

Landcare:

The national goal of Landcare is to reverse land degradation and promote sustainable Agriculture. Landcare Australia has identified a list of priorities and national outcomes for the new phase of NHT2. It builds partnerships between communities, businesses and governments to care for the Australian environment. Twenty-eight Landcare regions exist across Australia.

Landcare is an autonomous community movement enhancing the long-term productivity of natural resources in Australia. There are now more than 4000 Landcare groups across Australia. Approximately one third of Australia's farmers are members of a Landcare group.

The collective aim of Landcare activities is to sustainably manage their environment and natural resources. Landcare groups are involved in weed and vegetation management, biodiversity, soil and water issues.

Bushcare:

Bushcare has a national goal of conserving and restoring the habitat for Australia's unique native flora and fauna that underpin the health of our landscapes. It is the national vegetative initiative and aims to increase the quality and extent of native vegetation and so improve the management of biodiversity and landscape. Bushcare is the name of the trust Program that focuses more strongly upon the vegetation and biodiversity components.

This scheme provides financial assistance to land managers to fence and conserve remnant vegetation, and supports rangeland managers to ensure sustainable use of vegetation, particularly through the management of total grazing pressure, control of feral plants and animals and water point distribution.

Rivercare:

Rivercare is working towards sustainable management, rehabilitation and conservation of rivers outside the Murray Darling Basin.

Rivercare groups work through water catchment boards to coordinate water use efficiency programs, innovative water allocation systems, flow regimes and riparian management guidelines. National Rivercare projects focus on activities that maintain or improve water quality, manage erosion and contribute to healthy streams and ecosystems.

Coastcare:

Coastcare is a national environmental program that provides opportunities for the community, indigenous groups, the business sector and governments to become actively

involved in the protection and management of Australia's coastal and marine environments.

Activities include collecting seed, planting trees; identifying sea grasses, controlling erosion and building fences as well as dune revegetation, beach access and boardwalk construction, weed control, reef and marine species monitoring, coastal habitat protection and community education.

2.1.10 ENVIROFUND

Envirofund provides grants of up to \$30 000 to community groups for environmental works, including weed control on public land, but only where there is a high biodiversity conservation benefit and where it is clearly the most cost-effective way of achieving that benefit. They will also consider weed control activities that are a limited but integral part of projects that address broader natural resource management issues. The Australian Government Envirofund is the local action component of the Commonwealth Governments \$2.7 billion Natural Heritage Trust.

Contact information:

| | |
|--|---|
| Australian Government Envirofund Natural Heritage Trust GPO Box 787 CANBERRA ACT 2601 | <i>Envirofund round 2003-2004</i> Ph: 1800 065 823 Email: ciu@deh.gov.au . <i>General Envirofund enquiries</i> Ph:1800 303 863 Email: envirofund@ffa.gov.au . www.nht.gov.au/envirofund |
|--|---|

2.1.11 INDIGENOUS LAND CORPORATION

The Indigenous Land Corporation (ILC) is an independent Commonwealth statutory authority which was established in 1995. The ILC receives its funding from the Aboriginal and Torres Strait Islander Land Fund. The ILC's Head Office is based in Adelaide, with divisional offices located in Brisbane, Adelaide and Perth.

The ILC's two main functions are to assist Indigenous peoples in Australia to acquire land and to manage Indigenous-held land in a sustainable way to provide cultural, social, economic or environmental benefits for themselves and for future generations. This includes the management of invasive species on these lands.

Contact information:

| | |
|---|--|
| ILC Head Office Level 8 & 9 44 Waymouth Street, | Ph: 1800 818 490 Ph (08) 8216 4100 Email: ilcinfo@ilc.gov.au |
|---|--|

| | |
|------------------|--|
| Adelaide SA 5000 | www.ilc.gov.au |
|------------------|--|

2.1.12 WORLD WIDE FUND FOR NATURE (WWF)

WWF's aim is to conserve a comprehensive representation of the world's habitats. In Australia WWF has published a range of position statements (including one in 2003 on invasive species), environmental report cards and fact sheets. Their role is to work with communities, government, individuals and businesses throughout Australia and neighbouring regions to preserve species, spaces and resources.

Contact information:

| | |
|---|---|
| Andreas Glanznig Head Office - Sydney PO Box 528 SYDNEY NSW 2001 | Ph: (02) 9281 5515 Toll free: 1800 032 551 Fax: (02) 9281 1060 Email: enquiries@wwf.org.au www.wwf.org.au |
|---|---|

2.1.13 VOCATIONAL EDUCATION AND TRAINING: CONSERVATION AND LAND

MANAGEMENT TRAINING PACKAGE

Weed management competencies now exist within the Conservation and Land Management training package (CLM). All registered training organisations can deliver accredited courses for weed management under this package.

Contact information:

| | |
|---|--|
| Australian National Training Authority ANTA (Brisbane Office) GPO Box 3120 Brisbane QLD 4000 | Ph: (07) 3246 2300 Fax: (07) 3246 2490 www.anta.gov.au |
| The National Training Information Service (NTIS) | A full list of training providers for the CLM package can be found at: www.ntis.gov.au/~ntis/ |

2.1.14 MURRAY DARLING BASIN COMMISSION

The Commission is the executive arm of the Murray-Darling Basin Ministerial Council and is responsible for managing the River Murray and the Menindee Lakes system of the lower Darling River. It advises the Ministerial Council on matters related to the use of the water, land and other environmental resources of the Murray-Darling Basin. The Commission is an autonomous organisation equally responsible to the governments represented on the Ministerial Council as well as to the Council itself.

As weeds affect water quality, biodiversity and the recreational use of waterways, their management is of concern to Commission.

Contact details:

| | |
|--|--|
| MDBC GPO Box 409 Canberra ACT 2601 | Ph: (02) 6279 0100 Fax: (02) 6248 8053 email: info@mdbc.gov.au www.mdbc.gov.au |
|--|--|

2.1.15 NURSERY AND GARDEN INDUSTRY AUSTRALIA

The Nursery and Garden Industry Australia (NGIA) is the peak industry body for the Australian nursery and garden industry. There are affiliated Associations in each state and Territory and affiliated special interest groups representing the major sectors of the industry. The industry is currently estimated to be worth around \$956 million at farm gate (plants only) and around \$4.5 billion at retail (all of gardening). There remain some 8,000 businesses involved along the value chain, about 3,500 of which are growers. The Nursery Trade Register 2003/2004 outlines detail of the Australian Nursery Industry (www.ngia.com.au, 2003).

In the main NGIA raises community perception of the value of gardening, raises the level of skill and professionalism of industry members and ensures the industry responds to community environmental concerns. It is also involved in the Flora for Fauna program, aimed at promoting Australian native species to create habitat gardens.

There is a National Office and each state has an Executive Officer, Industry Development Officer and a Garden Centre Development Officer. The Industry is made up of both production nurseries garden centres and allied traders. Weed related nursery papers from include “Discovering alternatives to garden escapes”, “Invasive plants not wanted in public or private gardens”, “Preventing the introduction of potential weeds as ornamental plants”.

Contact information:

| | |
|---|---|
| Richard deVos CEO Nursery and Garden Industry Australian National Office Suite 402/ 16-18 Cambridge Street Epping NSW 2121 | Ph: (02) 9876 5200 Fax: (02) 9876 6360 www.ngia.com.au |
|---|---|

| | |
|---|---|
| Flora for Fauna Tracy Crawford | Email: tracy.crawford@ngia.com.au |
| Richard Stephens Industry Development Manager National Training Manager | Ph: (02) 9876 5200 Fax: (02) 9876 6360 Email: richard.stephens.ngia.com.au To be appointed |

2.1.16 HORTICULTURE AUSTRALIA

Horticulture Australia is now a merged group between the Australian Horticultural Corporation and the Horticultural Research and Development Corporation. The merger is a major development in the reform of Australian Horticultural organisational infrastructure. Its aim is to create a company that has closer links to industry, can offer business solutions and public benefit. The board is focusing on building liaisons with industry representatives and gaining insight into issues and expectations.

Horticulture Australia is involved in research and development, retail services, innovative support and the provision of industry information.

Contact information:

| | |
|--|---|
| Elizabeth (Libby) Abraham Project Manager Level 1, 50 Carrington Street Sydney NSW 2000 | Ph: (02) 8295 2300 Mobile:0418 287 974 Fax:(02) 8295 2399 Email:libby.abraham@horticulture.com.au www.horticulture.com.au |
|--|---|

2.1.17 PRIVATE, INDEPENDENT BUSINESSES IN THE BUSHLAND RESTORATION

INDUSTRY

In each state and territory across Australia there are many private companies, large and small, involved in the restoration of natural areas, on private and public lands. These companies often carry out weed removal and control work, produce weed management plans and weed information for landholders and agencies. It is beyond the scope of this project to track down and list all of these individual companies, but important to remember that this industry has a key and expanding national role.

2.1.18 GREENING AUSTRALIA

Greening Australia works in partnership with landholders, the community, government and business to tackle environmental degradation in a practical and scientific way. Greening Australia has a network of 300 staff in 80 locations across the country and tackles critical

issues such as salinity, declining water quality, soil degradation, climate change and biodiversity loss.

Contact information:

| | |
|---|--|
| Carl Binning CEO Greening Australia PO Box 74 Yarralumla ACT 2600 | Ph: (02) 6281 8585 Fax: (02) 6281 8590 Email: general@greeningaustralia.org.au www.greeningaustralia.org.au |
|---|--|

2.1.19 CONSERVATION VOLUNTEERS AUSTRALIA

Conservation Volunteers Australia (CVA) has over 20 offices and calls itself Australia's largest practical conservation organisation. It has offices in every capital city and many regional centres across Australia.

Conservation Volunteers Australia involves the community in conservation projects in urban, regional and remote Australia ranging from tree planting; seed collection; endangered species protection; weed control; flora and fauna surveys; walking trail construction; fencing and environmental monitoring. CVA has a volunteer recruitment strategy that includes international travel agents, schools, youth and environmental networks and volunteer centres.

Contact information:

| | |
|--|---|
| Conservation Volunteers Australia National Office BOX 423 BALLARAT VIC 3353 | Ph: (03) 5333 1483 Fax: (03) 5333 2166 FREECALL 1800 032 501 Email: info@conservationvolunteers.com.au www.conservationvolunteers.com.au |
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CHAPTER 3

SOUTH AUSTRALIA

3.1 STATE GOVERNMENT AGENCIES

3.1.1 State weed authority:

The state weed authority in South Australia is the "Animal and Plant Control Commission". It relates to *the Animal and Plant Control (Agricultural Protection and Other Purposes) Act 1986*. The commission consists of seven people, two are public servants and five are private landowners, with at least four of the private landowners being primary producers. In regional areas, the Act is administered by local government through a number of Animal and Plant Control Boards. The Animal and Plant Control Commission will cease in early 2004 when it is envisaged that the State will be divided into eight Integrated Natural Resource Management Regions, each of which will have an interest in weed management.

The Animal and Plant Control Commission in South Australia has a mission to enable and promote a culture which, through local control boards, effectively involves the community in preventing and controlling pest plants and animals in South Australia. The commission provides detailed information to statutory authorities and boards and technical and legislative support as required.

Contact information:

| | |
|--|--|
| Mark Ramsey Executive Officer Animal and Plant Control Commission GPO Box 2834 URRBRAE SA 5001 | Ph: (08) 8303 9500 Fax: (08) 8303 9555 Email: ramsey.mark@saugov.sa.gov.au www.pir.sa.gov.au |
| INRM Secretariat Hayden Hanna (General Manager) Department of Water, Land and Biodiversity Conservation Hannaford Building Entry 3, Waite Road Urrbrae SA 5064 | Ph 8303 9675 www.dwlbc.sa.gov.au/nrm_reform/index.html |

3.1.2 Agriculture/Horticulture:

The South Australian Agriculture and Horticulture sections are part of Primary Industries and Resources South Australia (PIRSA) and South Australian Research and Development Institute (SARDI).

PIRSA, the key agency for economic development, is focused on delivering services that increase the prosperity of South Australians.

SARDI directs funds and undertakes public sector research and development in Primary Industries in South Australia.

Contact information:

| | |
|---|---|
| PIRSA 101 Grenfell St GPO Box 1671 ADELAIDE SA 5001 | Ph: 1300 364 322 Fax: (08) 8463 3336 www.pir.sa.gov.au |
| SARDI Waite Research Precinct Hartley Grove URRBRAE SA 5064 | Ph: (08) 8303 9400 www.sardi.sa.gov.au |
| Horticulture Waite Research Precinct Entrance 2b Hartley Grove URRBRAE SA 5064 | Ph: (08) 8303 9419 |

3.1.3 Department for Environment and Heritage

The South Australian Department for Environment and Heritage (DEH) encompasses the Botanic Gardens, Coasts and Marine and Parks and Wildlife among others. DEH is responsible for the management of government resources in the interest of sustainable development for the benefit of the community. Roles include vegetation management and invasive plant control in National Parks and in coast and marine areas and plant research and identification at the Botanic Gardens.

Contact information:

| | |
|---|---|
| Department for Environment and Heritage Chesser House 91-97 Grenfell St GPO Box 1047 ADELAIDE SA 5001 | Ph: (08) 8204 9000 Fax: (08) 8204 9334 www.environment.sa.gov.au |
|---|---|

3.1.4 Catchment Water Management Boards

Catchment Water Management Boards (CWMB) were established so people who live and work in the local area could make decisions about water resources. There are eight Boards in South Australia, operating under the *Water Resources Act 1997*. Boards operate in collaboration with other agencies, councils and the community, as catchment water management requires the involvement and cooperation of the whole community. CWMBs will be merged into the Integrated Natural Resource Management regional groups in early 2004.

As part of their role to improve the biodiversity and health of rivers, Catchment Boards are involved in weed management and control activities and initiatives.

Contact information:

| | |
|---|---|
| South Australian Catchment Management Boards | A link to all eight catchment boards can be reached from: www.catchments.net |
| The River Murray CWMB PO Box 1374 BERRI SA 5343 | Ph: (08) 8582 4477 Fax: (08) 8582 4488 E-mail: enquiries@rivermurray.sa.gov.au www.rivermurray.sa.gov.au |
| Patawalonga CWMB 5 Greenhill Road Wayville SA 5034 | Ph: (08) 8271 9190 Fax: (08) 8271 9585 Email: torpat@cwmb.sa.gov.au www.cwmb.sa.gov.au |
| South East CWMB PO Box 30 Mount Gambier SA 5290 | Ph: (08) 8724 6000 Fax: (08) 8723 2965 E-mail: kheaver@secwmb.org.au www.secatchment.com.au |
| Onkaparinga CWMB The Salvation Army Complex, The Hub Aberfoyle Park SA 5159 | Ph: (08) 8374 6000 Fax: (08) 8270 6274 E-mail: onkaparinga@onk.cwmb.sa.gov.au www.onkaparinga.net |
| Eyre Peninsula CWMB Jobomi House, 50 Liverpool Street Port Lincoln SA 5606 | Ph:(08) 8682 5655 Fax: (08) 8682 5644 Email Geoff.Rayson@epcatchment.com.au www.epcatchment.com.au |
| Torrens CWMB 5 Greenhill Road Wayville SA 5034 | Ph: (08) 8271 9190 Fax: (08) 8271 9585 Email: torpat@cwmb.sa.gov.au |

| | |
|---|--|
| | www.cwmb.sa.gov.au/torrens |
| Arid Areas CWMB Level 6, 101 Grenfell Street GPO Box 1671 ADELAIDE SA 5001 | Ph: (08) 8204 9131 Fax: (08) 8226 0490 Email: Leek.David@saugov.sa.gov.au www.aridareaswater.com.au |
| Northern Adelaide and Barossa CWMB First Floor 59 Commercial Road SALISBURY SA 5108 | Ph: (08) 8285 2033 Fax: (08) 8285 2133 Email: nab.office@cwmb.sa.gov.au www.nabcatchment.net |

3.1.5 Herbarium/Botanic Gardens:

Administered by the Department for Environment and Heritage, the Botanic gardens occupy 16 hectares at North Terrace, Adelaide. The herbarium (Plant Diversity Centre) is located within the gardens.

A plant identification service (including the identification of weeds) is offered by the herbarium to government agencies and the general public.

Contact information:

| | |
|---|---|
| Stephen Forbes Director North Terrace Adelaide SA 5000 | Ph: (08) 8222 9311 Fax: (08) 8222 9399 www.lga.sa.gov.au www.sacentral.sa.gov.au |
|---|---|

3.2. LOCAL GOVERNMENT

3.2.1 Local Government Association

A Local Government Association exists in South Australia and is administered by Councils, District Councils, or City Councils.

Councils have an integral part to play in weed control tasks as they administer numerous community-based on-ground activities. Weed activities include control measures under State Acts, information provision to the public and council staff, and the management of parks and wetlands.

Contact information:

| | |
|---|--|
| Local Government Association First Floor 16 Hutt St ADELAIDE SA 5000 | Ph: (08) 8224 2000 Fax: (08) 8232 6336 Email: lgasa@lga.sa.gov.au www.lga.sa.gov.au |
|---|--|

3.3 UTILITIES

State utilities include water, electricity, rail and road. In relation to weeds these groups have involvement in weed control as part of their jurisdiction. One of the most important utilities doing work with weeds in SA is Transport SA. Transport SA is responsible for the maintenance and management of vegetation along State Government owned transport corridors. To avoid the spread of weeds and disease when undertaking works, Transport SA has developed weed identification guides and management plans for each region to assist staff in weed management.

Contact information:

| | |
|--|--|
| Transport SA Simon Fensom Supervising Technical Officer PO Box 1 Walkerville SA 5081 | Ph: 1300 360 067 Ph: Switch (08) 8343 2222 Ph: (08) 8343 2043 simon.fensom@transport.sa.gov.au www.transport.sa.gov.au |
|--|--|

3.4 COMMUNITY GROUPS

3.4.1 Natural Resource Management Facilitators (Landcare, Bushcare, Coastcare, Rivercare)

For more information refer to Chapter 2 (2.1.9 Natural Heritage Trust).

Contact information:

| STATE | BUSHCARE | LANDCARE | COASTCARE | RIVERCARE |
|-------|----------------------------|----------------------------------|-------------------------------|--------------------------------|
| SA | Ben Hyde (08) 8303 8670 | Simon Goodhand (08) 8303 8671 | Pia Richter (08) 8303 8672 | Paul Francis (08) 8303 8673 |

3.4.2 Friends of Parks and others:

In South Australia there are 117 groups with over 6,000 people participating in a voluntary capacity. Friends of Park groups are involved in maintaining heritage sites, erecting structures in parks, maintaining biodiversity and weed control and management.

Contact information:

| | |
|---|---|
| Dene Cordes Public Officer Friends of Parks (DEH) Ground floor 1 Richmond Rd KESWICK SA 5035 | Ph: (08) 8124 4784 Fax: (08) 8124 4719 www.environment.sa.gov.au/parks/friends.html |
|---|---|

| | |
|--|--|
| Pam Smith Secretary Friends of Parks (DEH) Ground floor 1 Richmond Rd KESWICK SA 5035 | Ph: (08) 8124 4784 Fax: (08) 8124 4719 smith.pamela@saugov.sa.gov.au www.environment.sa.gov.au/parks/friends.html |
|--|--|

3.4.3 Greening Australia:

Greening Australia works in partnership with landowners, the community, government and business to tackle environmental degradation. Activities include seed collection, propagation of local native vegetation and revegetation. Revegetation and restoration projects involving GA involve weed control and the training of community group members in weed identification skills.

Contact information:

| | |
|---|---|
| Mark Anderson Chief Executive Officer 5 Fitzgerald Rd PASADENA SA 5042 | Ph: (08) 8372 0120 Fax: (08) 8372 0122 Email: general@greeningsa.org.au www.greeningaustralia.org.au |
|---|---|

3.4.4 The Urban Forest One Million Trees Program

Urban Forest aims to redress the loss of biodiversity in metropolitan Adelaide. Their goal is to involve all levels of government and the community in cooperating for biodiversity conservation, and to incorporate these considerations into planning and land management in the metropolitan area.

The first priority for the program is to protect what remains of the native flora and fauna of Adelaide. This may involve weed removal, fencing, changes in management practices, buffering, linking, or revegetating using local native species.

Contact information:

| | |
|---|---|
| Ross Oke Executive Officer Natural Resource Centre 5 Fitzgerald Road Pasadena SA 5042 | Ph: (08) 8372 0186 Fax: (08) 8372 0199 email: info@urbanforest.on.net www.urbanforest.on.net |
|---|---|

3.4.5 Trees for life

Trees for life (TFL), is the world's largest volunteer tree-planting organisation with a membership of about 10 000 individuals and families.

The main activities are the Tree Scheme, Direct Seeding and Bush For Life. The former two activities involve mainly growing and planting local native trees. The latter, Bush For Life, mobilizes and equips volunteers to restore and protect bushland. Volunteers concentrate on the management of remnant vegetation, which are under threat from rabbits, weeds and human activities such as road widening and rubbish dumping.

Contact information:

| | |
|---|---|
| David Mitchell (President) Trees For Life 5 Fitzgerald Street Pasadena South Australia 5042 | Ph: (08) 83720150 Fax: (08) 83720199 Email: treesforlife www.treesforlife.org.au |
|---|---|

3.4.6 National Trust

The National Trust is the largest community heritage organisation in South Australia.

It has active programs in three areas:

- Managing heritage buildings and nature reserves including over sixty museums and folk history collections.
- Devising and disseminating policies on a range of heritage issues and lobbying for improved protection of our heritage.
- Providing awareness raising programs in the broader community on cultural and natural heritage matters.

The National Trust has 28 nature reserves under its management.

Contact information:

| | |
|--|--|
| P.O. Box 8147 Station Arcade Adelaide, SA 5000 | Ph: (08) 8212 1133 Fax: (08) 8212 1141 Email: admin@nationaltrustsa.org.au www.nationaltrustsa.org.au |
|--|--|

3.4.7 Nature Conservation Society of South Australia

The NCSSA is a major environmental group devoting its energies to ensuring the survival of South Australia's biodiversity. The NCSSA runs a variety of activities for members, provides advice to government and the community on nature conservation issues, conducts regular biological surveys, produces a regular newsletter 'Xanthopus', manages projects promoting conservation and involves the public in conservation efforts.

Contact information:

| | |
|---|--|
| Matt Turner Scientific Project Officer 1st Floor, 120 Wakefield St Adelaide South Australia 5000 | Ph: (08) 8223 6301 Fax: (08) 8232 4290 Email: ncssa@ncssa.asn.au www.ncssa.asn.au |
|---|--|

3.4.8 Conservation Volunteers Australia

Contact information:

| | |
|---|--|
| Conservation Volunteers Australia GPO Box 2875 Adelaide SA 5001 | Ph: (08) 8212 0777 Fax: (08) 8212 1066 Email: adelaide@conservationvolunteers.com.au www.conservationvolunteers.com.au |
|---|--|

3.4.9 The Weed Management Society of South Australia

Contact information:

| | |
|--|--|
| Neville Crossman President Weed Management Society of SA School of Geography, Population and Environmental Management Flinders University GPO Box 2100 Adelaide SA 5001 | Ph: (08) 8201 2287 neville.crossman@flinders.edu.au |
|--|--|

3.5 RESEARCH GROUPS

South Australian State-based groups involved in weed management research include Flinders Universities, Adelaide University, SA Research and Development institute (SARDI) Animal And Plant Control Commission (APCC), Primary Industries and Resources South Australia (PIRSA).

These research groups are involved in weed biology, biological control, ecology management and weed control and management.

Contact information for all these groups can be found in the State section of this chapter.

3.6 EDUCATION

The main institutions teaching weed management in SA include Adelaide University, Flinders University and TAFE.

Contact information:

| | |
|--|--|
| TAFE South Australia GPO Box 819 Adelaide SA 5001 | Ph: 1800 882 661 Email: tafeinfo@saugov.sa.gov.au www.tafe.sa.gov.au |
| Dr David Bass Director of Environmental Studies School of Geography, Population and Environmental Management Flinders University GPO Box 2100 Adelaide, South Australia 5001 | Ph: (08) 8201 2107 Fax: (08) 8201 3521 Email: geography@flinders.edu.au www.ssn.flinders.edu.au/geog |
| Dr Chris Preston Senior Lecturer Adelaide University PMB 1, Waite Campus Glen Osmond SA 5064 | Ph (08) 8303 7237 Fax: (08) 8303 7311 Email: christopher.preston@adelaide.edu.au www.adelaide.edu.au |

CHAPTER 4

WESTERN AUSTRALIA

4.1 STATE GOVERNMENT AGENCIES

4.1.1 State weed authority

The main state weed authority in Western Australia is the Agriculture Protection Board, a statutory authority which serves as the industry partnership group for the Agriculture Protection Program (APP) of Agriculture Western Australia. The Board is supported by industry and community consultation processes through a state-wide network of 20 Zone Control Authorities (ZCAs).

The relevant legislation is the *Agriculture and Related Resources Protection Act 1976* as amended. The ZCAs develop policies and plans to ensure the control of declared plants. Western Australia published a State Weed Plan in 2001.

Contact information:

| | |
|---|--|
| APB Executive Director Agriculture Western Australia Head Office Baron-Hay Crt South Perth WA 6151 | Ph: (08) 9368 3942 Fax: (08) 9474 5974 Email: mwoods@agric.wa.gov.au |
|---|--|

4.1.2 WA Department of Agriculture

The WA Department for Agriculture is responsible for the environment, livestock, field crops and pastures, horticulture, diseases pests and weeds, quarantine, agribusiness, markets and trade, research education and extension. An important weed policy position in WA is its 'Permitted Species' approach, by which only those species assessed as not posing a weed risk to Western Australia are admitted.

Contact information:

| | |
|---|--|
| Agriculture Western Australia Head Office Baron-Hay Crt South Perth WA 6151 | Ph: (08) 9368 3333 Fax: (08) 9368 1205 Email: enquiries@agric.wa.gov.au www.agric.wa.gov.au |
|---|--|

Key weed contacts in the WA Dept of Agriculture, Perth

Ms Sandy Lloyd and Rod Randall are well known experts in environmental weeds in WA, with extensive knowledge of community and agency networks in that state. Both are members of the Weeds CRC. Rod Randall has an international reputation as the author of the new publication 'A Global Compendium of Weeds'. Both are frequent contributors to two important international email lists on environmental weeds, (1) Aliens, and (2) Enviroweeds.

Contact information:

| | |
|---|--|
| Ms Sandy Lloyd Research Officer Declared Plants Executive Officer, State Weed Plan, (also WA Coordinator for Weedbusters Week, and Task Leader in the Weeds CRC) 3 Baron-Hay Court SOUTH PERTH WA 6151 | Ph: (08) 9368 3760 Fax: (08) 9474 3814 Email: slloyd@agric.wa.gov.au www.agric.wa.gov.au |
| Rod Randall Plant Profiler 3 Baron-Hay Court SOUTH PERTH, WA 6151 | Ph: (08) 9368 3443 Fax: (08) 9474 3814 Email: rprandall@agric.wa.gov.au www.agric.wa.gov.au |

4.1.3 Department of Conservation and Land Management (CALM)

The Department of Conservation and Land Management is responsible for conserving biodiversity throughout the State. The Department's main roles are nature conservation, park and visitor services and sustainable forest management. Of particular relevance to weeds is its role in managing conservation reserves vested in the Conservation Commission of Western Australia, the Marine Parks and Reserve Authority, and the WA Herbarium.

Contact information:

| | |
|---|---|
| Dept. of Conservation and Land Management. Executive Office Hackett Drive Crawley WA 6009 | Ph: (08) 9442 0300 Fax: (08) 9386 1578 information@calm.wa.gov.au www.calm.wa.gov.au |
| Herbarium WA George St Kensington WA 6151 | nevillem@calm.wa.gov.au Ph: (08) 9334 0500 www.bgpa.wa.gov.au |

4.1.4 Department of Environment, Water and Catchment Protection

The Department of Environment, Water and Catchment Protection will be formed by the pending amalgamation of the Department of Environmental Protection with the Water and Rivers Commission and Swan River Trust. The new agency's key roles in resource assessment and allocation, coupled with strong environmental protection powers, is designed to ensure sustainable use of resources for responsible development.

Current contact information (pre-amalgation):

| | |
|--|---|
| Department of Environmental Protection 141 St Georges Terrace PERTH WA 6000 | Ph: (08) 9222 7000 Fax: (08) 9322 1598 www.environ.wa.gov.au |
| Water and Rivers Commission Level2, 3 Plain Street, EAST PERTH WA 6004 | Ph: (08) 9278 0300 Fax: (08) 9278 0301 www.wrc.wa.gov.au |

4.1.5 Herbarium/Botanic Gardens:

Contact information:

| | |
|---|--|
| WA Herbarium George St Kensington WA 6151 West Perth WA 6005 | www.bgpa.wa.gov.au |
|---|--|

4.2 LOCAL GOVERNMENT

4.2.1 State Local Government structure

Western Australia has 143 local governments. Many of these employ environmental officers whose duties include the provision of advice on environmental weeds. Links between local government and other organisations concerned with weeds can be complex, as the Perth Biodiversity Project (PBP) shows. This is a partnership project between 29 Metropolitan Local Governments, WALGA, NHT and the Department of Planning and Infrastructure (DPI) aimed at increasing Local Government actions and capacity to conserve Perth's biodiversity. Close relations also exist with the Agriculture Protection Board in matters of weed management.

For more details about local government in WA, see the WA Local Government Directory at www.walga.asn.au/publications/LGDir.htm.

4.3 COMMUNITY GROUPS

4.3.1 Natural Resource Management Facilitators (Landcare, Bushcare, Coastcare, Rivercare)

There are 36 Land Conservation District Committees in the Avon River Basin. Twenty seven Landcare coordinators provide support to these groups through farm and catchment planning, field days and regular meetings. As in other states, Landcare groups are involved in weed and vegetation management, biodiversity, soil and water issues. Activities include community involvement in sustainable management of the environment and natural resources. For more information refer to Chapter 2 (2.1.9 Natural Heritage Trust).

Contact information:

| | | | | |
|-----------|-----------------------------|----------------------------|-------------------------------|------------------------------|
| WA | Neil Riches 0438 207 078 | recruitment in progress | Martin Heller 0411 128 546 | Clare Taylor 0438 218 162 |
|-----------|-----------------------------|----------------------------|-------------------------------|------------------------------|

4.3.2 Urban Bushland Council

The Urban Bushland Council WA Inc is the peak community organisation for the recognition and protection of urban bushland in Western Australia. It comprises more than 60 community conservation groups concerned with urban bushland. The Urban Bushland Council is involved in local action and networking, policy development, lobbying and raising public awareness.

Contact information:

| | |
|------------------------------------|--|
| Renata Zelinova Project Officer | Ph: (08) 9420 7207 ubc@iinet.net.au |
|------------------------------------|--|

4.3.3 Greening Australia

Greening Australia tackles environmental issues such as salinity, declining water quality, soil degradation, climate change and biodiversity loss. Greening Australia WA has 25 staff at seven locations across the southwestern half of the state.

Contact information:

| | |
|--|--|
| Greening Australia 10-12 The Terrace FREMANTLE WA 6160 | Ph: (08) 9335 8933 Fax: (08) 9335 9203 Email: general@gawa.org.au www.greeningaustralia.org.au |
|--|--|

4.3.4 Weeds Society of WA

This is an important umbrella group for people and groups in WA concerned with weeds.

Contact information:

| | |
|---|--|
| Weeds Society of WA PO Box 190 Victoria Park WA | Ph: (08) 9368 3760 Fax: (08) 9474 3814 Email: slloyd@agric.wa.gov.au |
|---|--|

4.3.5 Weeds or Wildflowers Environmental Weeds Action Network (Inc)

The Environmental Weeds Action Network (EWAN) is a community initiative to tackle the problem of environmental weeds in bushland and waterways. It brings together community members in both urban and rural areas, bush regenerators, local government, weed scientists and ecologists to save indigenous flora from the threat of weeds. EWAN was formed at a public meeting in February 1996 between community groups and government agencies.

Contact information:

| | |
|------------------------------------|--------------------|
| Name Hazel Dempster Chairperson | Ph: (08) 9405 3266 |
|------------------------------------|--------------------|

4.3.6 Other community groups

Numerous other groups are active in environmental weeds across north-west WA, such as SEEKS (Save Endangered East Kimberley Species, seeks@westnet.com.au), Environs Kimberley (envrkimb@broome.wt.com.au), and the Kununurra Weed Action Group. Land for Wildlife is another key group active in the south-west (contact Penny Hussey on 08-9334 0530). There are also other groups focused on specific weeds, such as a feral tea tree group at Bremer. Most key contacts listed above are able to point to further groups at regional and local level, depending on the focus and purpose of the connection sought.

4.4 RESEARCH GROUPS

One of the main research groups currently active in weeds in WA is the WA Herbicide Resistance Initiative (WAHRI). Established in 1997, WAHRI is a strategic initiative by the Grains Research & Development Corporation (GRDC). CSIRO has also been an important research player, as well as the WA Department of Agriculture.

Contact information:

| | |
|--|--|
| WA Herbicide Resistance Initiative (WAHRI) Faculty of Natural and Agricultural Sciences University of Western Australia 35 Stirling Highway Crawley WA 6009 | Ph: (08) 9380 7870 Email: wahri@agric.uwa.edu.au http://wahri.agric.uwa.edu.au/ |
|--|--|

CHAPTER 5

NORTHERN TERRITORY

5.1 GOVERNMENT AGENCIES

5.1.1 Territory weed authority:

The relevant legislation is the *Weeds Management Act 2001* (WMA), which commenced on the 1st July 2001, replacing the *Noxious Weeds Act 1962*. The Act is administered by the Department of Infrastructure, Planning and Environment.

Contact information:

| | |
|--|---|
| Brent Williams Director, Fire and Weeds Department of Infrastructure, Planning and Environment PO Box 30 Palmerston NT 0831 | Ph: (08) 8999 2020 Email: brent.williams@nt.gov.au www.ipe.nt.gov.au/divisions/weeds |
|--|---|

5.1.2 Parks and Wildlife Commission

Contact information:

| | |
|---|---|
| Parks and Wildlife Commission PO Box 496 Palmerston NT 0831 | Ph: (08) 8999 5511 Fax: (08) 8932 3849 www.nt.gov.au/ipe/pwcnt |
|---|---|

5.1.3 Herbarium/Botanic Gardens

Contact information:

| | |
|---|---|
| Darwin Botanic Gardens Parks and Wildlife Commission of NT PO Box 496 Palmerston NT 0831 | Ph: (08) 8981 1958 Fax: (08) 8981 1647 www.nt.gov.au/paw |
|---|---|

5.1.4 Land Councils

There are four “Land Councils” in the Northern Territory established to represent traditional Aboriginal landowners and Aboriginal people in the Northern Territory; Northern Land Council; Central Land Council; and two smaller island councils – the Tiwi Land Council and Anindilyakawa Land Council.

The most important responsibilities of the Land Councils' are to consult with traditional landowners and other Aborigines with an interest in the land, including its management in regards to invasive plants.

Contact information:

| | |
|--|--|
| Northern Land Council PO Box 42921 Casuarina NT 0810 | Phone: (08) 8920 5100 Fax: (08) 8945 2633 www.nlc.org.au |
| Central Land Council 31-33 Stuart Hwy PO Box 3321 Alice Springs NT 0870 | Ph: (08) 8951 6211 Fax: (08) 8953 4343 www.clc.org.au |

5.2 LOCAL GOVERNMENT

5.2.1 Local Government Structure:

In the Northern Territory the local government system is administered by Councils and Community Organisations. Councils administer numerous community based activities. Weed activities include control measures under state Acts, information provision, weed issues with parks and wetlands.

Contact information:

| | |
|---|---|
| Local Government Association of the Northern Territory GPO Box 4502 Darwin NT 0801 | Ph: (08) 8936 2888 Fax: (08) 8941 2665 Email: info@lgant.nt.gov.au www.lgant.nt.gov.au |
|---|---|

5.3 UTILITIES

State utilities include water, electricity, rail and road. Major works are undertaken by the Territory's Department of Infrastructure, Planning and Environment.

Contact information:

| | |
|---|---|
| Head Office for Transport and Infrastructure GPO Box 2520 Darwin NT 0801 | Ph: (08) 8999 5511 Fax: (08) 8924 7200 Email: internetfeedback.ipe@nt.gov.au www.nt.gov.au/ipe/dtw |
|---|---|

5.4 EDUCATION AND TRAINING PROVIDERS

The Charles Darwin University in Darwin and the Batchelor Institute of Indigenous Education in Batchelor are the main centres for education and training in weed

management in the Northern Territory. Training Aboriginal Rangers to manage weeds on indigenous lands is an increasingly important aspect of the NT's weed control strategy.

5.5 COMMUNITY GROUPS

5.5.1 Natural Resource Management Facilitators (Landcare, Bushcare, Coastcare, Rivercare)

For more information refer to Chapter 2 (2.1.9 Natural Heritage Trust).

Contact information:

| STATE | BUSHCARE | LANDCARE | COASTCARE | RIVERCARE |
|-------|-------------------------|-------------------------|-----------------------------------|------------------------------|
| NT | Recruitment in progress | Recruitment in progress | Carolynne Yates (08) 8999 4507 | Samantha Fox 0438 091 963 |

5.5.2 Greening Australia

Contact information:

| | |
|--|--|
| Greening Australia GPO Box 1604 Darwin NT 0801 | Ph: (08) 8981 1344 Fax: (08) 8981 1182 Email: info@nt.greeningaustralia.org.au www.greeningaustralia.org.au |
| Greening Australia PO Box 1544 Katherine NT 0851 | Ph: (08) 8972 2349 Fax: (08) 8972 2350 Email: katherine@nt.greeningaustralia.org.au |
| Greening Australia PO Box 9081 Alice Springs NT 0871 | Ph: (08) 8953 2882 Fax: (08) 8952 7434 Email: alice.springs@nt.greeningaustralia.org.au |

5.6 RESEARCH GROUPS

The Weeds Branch within the NT's Department of Infrastructure, Planning and Environment (see above), Charles Darwin University and CSIRO are the main centres of weed research in the NT.

CHAPTER 6

QUEENSLAND

6.1 STATE GOVERNMENT AGENCIES

6.1.1 State weed authority

Noxious plants are dealt with under three separate Acts in Queensland, the most significant of which is the *Rural Lands Protection Act 1985*. This legislation allows the Director-General of the Department of Primary Industries (or nominee) to coordinate the control of declared plants on all Crown lands, stock routes, stock reserves, railways, roads, forests and national parks.

The *Queensland Weeds Strategy 2002-2006* is the primary policy document at State Government level (<http://www.nrm.qld.gov.au/pests/strategies/pdfs/weedstrategy.pdf>) setting out the roles of the main stakeholders in State and local government, in industry and the community.

Queensland Department of Primary Industries is responsible for agricultural and horticultural matters, and supports a range of activity and staff on weed-related work.

Contact information:

| | |
|---|--|
| Department of Primary Industries GPO Box 46 Brisbane QLD 4001 | Ph: 13 25 23 Ph: (07) 3404 6999 www.dpi.qld.gov.au |
|---|--|

6.1.2 Department of Natural Resources and Mines

The Department of Natural Resources and Mines is responsible for forests, Crown and leasehold land, water and mines. In particular it hosts a strong weed science group at the Alan Fletcher Research Station in Brisbane, as well as affiliated staff at other locations in Queensland.

Contact information

| | |
|---|--|
| Department of Natural Resources and Mines GPO Box 2454 Brisbane QLD 4001 | www.nrm.qld.gov.au |
|---|--|

6.1.3 Herbarium/Botanic Gardens

Brisbane Botanic Gardens – Mt Coot-tha and the Queensland Herbarium, part of the Environmental Protection Agency, are the centre for information and research on

Queensland plants and plant communities. The Herbarium is responsible for discovering, describing, monitoring, modelling, surveying, naming and classifying Queensland's plant and ecosystem diversity.

Contact information:

| | |
|---|--|
| Brisbane Botanic Gardens Mt. Coot-tha Road Toowong QUEENSLAND 4066 | Ph: (07) 3403 2535 Fax: (07) 3403 2552 |
| Queensland Herbarium Environmental Protection Agency c/- Brisbane Botanic Gardens Mt Coot-tha Road TOOWONG Qld 4066 | Ph: (07) 3896 9326 Fax: (07) 3896 9624 Email: Queensland.Herbarium@env.qld.gov.au www.epa.qld.gov.au/nature_conservation/plants/queensland_herbarium/ |

6.2 UTILITIES

The largest utilities in Queensland with major potential impact on weed dispersal through their activities or infrastructure are Ergon Energy (electricity), Telstra, and Origin Energy (gas). The construction and maintenance of their cross-country corridors, and the movement of equipment along them, requires substantial effort to keep machinery free of weed seed. As in other State utilities, best management practice in weed seed hygiene tends to be via a voluntary code established by the agency.

6.3 LOCAL GOVERNMENT

The 125 local governments in Queensland set their weed policy on a local level through the 'Local Government Area Pest Management Planning' process. This includes a public consultation component, which offers community groups an official opportunity to become involved and provide comment on local weed problems and measures. Most local governments employ staff on pest and weed management, and training courses are now available for their professional development.

A special feature of local government in Queensland is the existence of several very large local governments, especially in areas of high population density such as Brisbane and the Gold Coast, both of which have a single local government authority. These bodies dedicate substantial resources to weed awareness and control strategies.

For more detail on local government in Queensland see:

| | |
|--|---|
| Local Government Association of Queensland | Ph: (07) 3000 2222 Fax: (07) 3252 4473 |
|--|---|

| | |
|---|-----------------|
| Local Government House PO Box 2230 Fortitude Valley BC Qld 4006 | www.lgaq.asn.au |
|---|-----------------|

6.4 EDUCATION AND TRAINING PROVIDERS

Although aspects of weed science is taught at several tertiary institutions in Queensland, new courses on practical weed management competencies are being delivered through the agricultural colleges.

6.5 COMMUNITY GROUPS

6.5.1 Natural Resource Management Facilitators (Landcare, Bushcare, Coastcare, Rivercare)

For more information refer to Chapter 2 (2.1.9 Natural Heritage Trust).

Contact information:

| | | | | |
|------------|------------------------------|--------------------------------|----------------------------------|----------------------------------|
| QLD | Annie Keys (07) 3214 2650 | Claire Heath (07) 3214 2641 | Tania Ashworth (07) 3214 2363 | Kristin Kenyon (07) 3214 2369 |
|------------|------------------------------|--------------------------------|----------------------------------|----------------------------------|

6.5.2 Weed Science Society

At this stage the Weed Society of Queensland (Inc) is the main State-level group, although it is not an 'association' of weed groups as such.

Contact information:

| | |
|---|--|
| Weed Society of Queensland GPO Box 1607 Brisbane QLD 4001 | |
|---|--|

6.5.3 South-east Queensland Environmental Weeds Management Group

This groups meets regularly to swap information and improve the management of weeds on a regional scale. Participants include local councils, state government agencies and local landholders in the area involved in weed management.

| | |
|--|--|
| Rachel McFadyen Chairperson SE Qld Environmental Weed Management Group Block B, 80 Meiers Road Indooroopilly Qld 4068 | Tel: 07 3362 9388 Fax: 07 3896 9623 Mobile: 0409 263 817 |
|--|--|

6.5.4 Other groups

There are many small, unaffiliated groups active in weed control in Queensland both within and outside the 'Care' networks outlined below, and it would take a detailed survey beyond the scope of this study to identify and 'map' them all. There is intense community and research activity in the densely populated SE region, and a number of active groups concerned with rainforest protection further north. Further west the focus tends to shift somewhat to agricultural and rangeland weeds and their implications for primary production.

6.5.5 Greening Australia

Greening Australia has 11 offices in Queensland apart from its head office in Brisbane at 333 Bennetts Road, Norman Park Qld 4170 (contact details below). As in other States, GA is often able to bridge the gap between community groups and State and local government agencies. Greening Australia's interest in weed control is matched by its other activities in salinity, declining water quality, soil degradation, climate change and biodiversity loss.

Contact information:

| | |
|--|---|
| Greening Australia PO Box 9868 Brisbane Qld 4001 | Ph: 07 3902 4444 Fax: 07 3902 4422 general@qld.greeningaustralia.org.au |
|--|---|

6.6 RESEARCH GROUPS

Weed research groups in Queensland are based in a number of universities, CSIRO and State Government agencies, in particular the University of Queensland, CSIRO Sustainable Ecosystems and CSIRO Entomology, and the Qld Department of Natural Resources and Mines. Many of the key weed researchers are also part of the CRC for Australian Weed Management, the CEO of which (Dr Rachel McFadyen) is based at Indooroopilly in Brisbane. Research groups are involved in weed risk assessment, weed biology, weed ecology management and weed control. Particular research strengths are in tropical weed ecology (both rainforest and rangelands), bird-dispersed weeds and biocontrol of invasive plants.

Contact information:

| | |
|---|--|
| Dr Rachel McFadyen CEO, Weeds CRC Block B, 80 Meiers Road Indooroopilly Qld 4068 | Tel: 07 3362 9388 Fax: 07 3896 9623 Mobile: 0409 263 817 www.weeds.crc.org.au |
|---|--|

CHAPTER 7

NEW SOUTH WALES

7.1 STATE GOVERNMENT AGENCIES

7.1.1 State weed authority:

The NSW Noxious Weed Act is administered by NSW Agriculture in conjunction with Local Government. A number of noxious Plant Advisory Officers exist throughout the state. The principal legislation Part XXII of the *Local Government Act 1919* (No 41) as amended. The Act provides for the establishment of a Noxious Plants Advisory Committee. Most enquiries on noxious weeds can be addressed by the local council weeds officer.

Contact information:

| | |
|---|--|
| New South Wales Agriculture Noxious Weeds Advisory Committee Head Office 161 Kite St ORANGE NSW 2800 | Ph: (02) 6391 3100 Fax: (02) 6391 3336 Email: eriena.swain@agric.nsw.gov.au www.agric.nsw.gov.au |
| Mr Richard Carter Program Leader Weeds Division of Plant Industries 161 Kite St Locked Bag 21 ORANGE NSW 2800 | Ph: (02) 6391 3172 Mobile: 0412 820 361 Fax: (02) 6391 3206 Email: richard.carter@agric.nsw.gov.au www.agric.nsw.gov.au |
| Mr Phil Blackmore Noxious Plants Advisory Officer New South Wales Agriculture PO Box 991 ARMIDALE NSW 2350 | Ph: (02) 6776 5008 Fax: (02) 6772 8664 Email: philip.blackmore@agric.nsw.gov.au www.agric.nsw.gov.au |
| Mr Rod Ensbey Regional Weed Control Coordinator Agricultural Research Advisory Station PMB GRAFTON NSW 2460 | Ph: (02) 6640 1648 Fax: (02) 6644 7251 Email: rod.ensbey@agric.nsw.gov.au www.agric.nsw.gov.au |
| Report Notifiable Noxious Weeds Weed Hotline New South Wales Agriculture | Ph: 1800 680 244 Email: weeds@agric.nsw.gov.au |

7.1.2 Natural Resources and Environment

The Department of Sustainable Natural Resources is responsible for areas including, catchments, coasts, soils and vegetation.

Contact information:

| | |
|--|---|
| Natural Resource Management NSW Report Notifiable Noxious Weeds Weed Hotline | Ph: 1800 680 244 Email: weeds@agric.nsw.gov.au www.dlwc.nsw.gov.au |
|--|---|

7.1.3 Herbarium/Botanic Gardens

The Royal Botanic Gardens Sydney consists of three botanic gardens. The Royal Botanic Gardens and Domain Trust is responsible for the Royal Botanical Gardens Sydney, the Domain, Mount Tomah Botanic Garden and Mount Annan Botanic Gardens as well as the National Herbarium of NSW.

The Botanic Gardens are involved in community education, science and research, Friends of the Garden. The Herbarium provides plant identification services and records plant specimens for future identification and mapping for all plant species, including invasive plants.

Contact information:

| | |
|---|--|
| Royal Botanic Gardens Sydney Mrs Macquaries Road Sydney NSW 2000 | Ph: (02) 9231 8111 Fax: (02) 9251 4403 Email: inquiries@rbgsyd.nsw.gov.au www.rbgsyd.nsw.gov.au |
| Dr Tim Entwistle Director, Plant Science Royal Botanic Gardens Sydney NSW 2000 | Ph: (02) 9231 8113 Fax: (02) 9251 4403 Email: tim.entwistle@rbgsyd.nsw.gov.au www.rbgsyd.nsw.gov.au |

7.1.4 NSW National Parks and Wildlife Service

The aims of the service are the conservation of nature including animals, plants and places of natural and scientific beauty; to provide the community with the opportunity to engage in recreational experiences in an out door environment; and the preservation of historic sites and the areas of significance to Aboriginal culture

NPWS manages all reserves areas which involves significant control and management of invasive plants, as these are present in almost all natural reserves.

Contact information:

| | |
|---|---|
| Pest Management Coordination Unit Department of Environment and Conservation NSW National Parks and Wildlife Service PO Box 1907 HURSTVILLE NSW 1481 | Ph: (02) 9585 6444 Fax: (02) 9585 6555 www.npws.nsw.gov.au |
|---|---|

7.1.5 Department of Infrastructure, Planning and Natural Resources (DIPNR)

The existing departments of Land and Water Conservation (DLWC) Planning NSW are now being integrated into the Department of Infrastructure, Planning and Natural Resources (DIPNR). The objective of the department is to drive, coordinate and streamline land-use planning and natural resource management in New South Wales creating a statewide 'one-stop-shop'. This is a recent restructure which has affected many divisions and left some roles, such as the State Landcare Facilitator in a state of flux.

DIPNR is to work closely with other NSW Government departments and agencies, including Agriculture, the Environmental Protection Agency, State Forests, Heritage, Lands and the National Parks and Wildlife Service, all of which deal with invasive plant management.

Contact information:

| | |
|--|---|
| Natural Resource Management Division 23-33 Bridge St GPO Box 39 Sydney NSW 2001 | Ph: (02) 9228 6111 - switch Fax: (02) 9228 6455 Email: information@planning.nsw.gov.au www.dipnr.nsw.gov.au |
| Natural Resource Management Division 10 Valentine Ave PO Box 3720 Parramatta NSW 2124 | Ph: (02) 9895 6211 - switch Fax: (02) 9895 7281 www.dipnr.nsw.gov.au |
| Hunter Catchment Management Trust Private Bag 2010 PATERSON NSW 2421 | Ph: (02) 4930 1030 Fax: (02) 4930 1013 Email: hunter.trust@hcmt.org.au www.hcmt.org.au |

7.2 LOCAL GOVERNMENT

7.2.1 State Local Government Structure

There are some 103 Shires, Councils or authorities in NSW. In 2002/2003 they will share in \$3,992,873 in weed control grants funded from NSW Agriculture. A further \$2,097,143 is allocated to high priority weed control.

Contact information:

| | |
|--|--|
| Mr Peter Scott Chief Weeds Officer Central Northern County Council PO Box 155, QUIRINDI NSW 2343 | Ph: (02) 6746 1755 Mobile: 0428 961 982 Fax: (02) 6746 3255 Email: cncc@quirindisc.nsw.gov.au |
|--|--|

7.3 UTILITIES

State utilities include water, electricity, rail and road. Below are some of the most important utilities in regards to weed management.

7.3.1 The Sydney Catchment Authority

(SCA) is a NSW Government authority. Its task is to manage and protect Sydney's catchments and supply bulk water to its customers, which include Sydney Water and a number of local councils.

The SCA has many projects and activities underway to ensure the catchments are better protected including the control of pests and weeds.

Contact information:

| | |
|--|--|
| Sydney Catchment Authority: Level 2, 311 High Street, Penrith NSW 2750 PO Box 323 Penrith NSW 2751 | Ph: 1300 722 468 Fax: (02) 4732 3666 Email: info@sca.nsw.gov.au www.sca.nsw.gov.au |
|--|--|

7.3.2 Roads and Traffic Authority

The RTA is responsible for the management (including weed management) of all RTA owned roads and nature strips in NSW. RTA owned roads make up about 10% of the roadways in NSW and are identified in green on the NSW UBD.

RTA Maintenance is divided into 4 regions.

Contact information:

| | |
|---|--|
| <i>North:</i> Robert Smith <i>West:</i> Tom Vasilerski <i>South:</i> Braig Murray <i>East:</i> Peter Andrews Contact all c/o RTA Blacktown PO Box 588 Blacktown NSW 2148 | Ph: 13 17 00 www.rta.nsw.gov.au |
|---|--|

7.3.3 State Rail Authority

“Greenline” undertakes the management and maintenance of rail infrastructure and corridors in NSW. This includes dealing with complaints about weeds along roadsides and on rail land. Greenline is not responsible for weed control on land owned by the State Rail Authority (other than the corridors areas), but will pass on enquires and complaints.

Contact information:

| | |
|---|---|
| Greenline Safety and Systems Metropolitan Division Rail Infrastructure Corporation Locked Bag 25 Haymarket NSW 1238 | Ph 1300 656 999 www.staterail.nsw.gov.au |
|---|---|

7.4 COMMUNITY GROUPS**7.4.1 Natural Resource Management Facilitators (Landcare, Bushcare, Coastcare, Rivercare)**

For more information refer to Chapter 2 (2.1.9 Natural Heritage Trust).

Contact information:

| STATE | BUSHCARE | LANDCARE | COASTCARE | RIVERCARE |
|-------|----------------------------------|--------------------------|------------------------------------|--------------------------|
| NSW | Claire Carlton (02) 9296 1662 | n/a NSW Govt position | Melissa Bradbury (02) 9296 1663 | n/a NSW Govt position |

7.4.2 Greening Australia

Greening Australia tackles critical issues such as salinity, declining water quality, soil degradation, climate change and biodiversity loss.

Contact information:

| | |
|--------------------|--------------------|
| Greening Australia | Ph: (02) 9560 9144 |
|--------------------|--------------------|

| | |
|---|--|
| 142 Addison Road MARRICKVILLE NSW 2204 | Fax: (02) 9550 0576 Email: info@ga.org.au www.greeningaustralia.org.au |
|---|--|

7.4.3 Australian Association of Bush Regenerators:

The Australian Association of Bush Regenerators is an Australian-wide advocacy, education and professional body. There are state bodies in NSW and WA and a number of regional committees. The AABR encourages sound ecological practices in bushland management by qualified and skilled people and promotes the study and practice of bush regeneration.

Contact information:

| | |
|--|---|
| Total Environment Centre Level 2 362 Kent St SYDNEY NSW 2000 | Mobile: 0407 002 921 Fax: (02) 9897 0440 Email: aabr@zip.com.au |
|--|---|

7.4.4 The Weed Society of New South Wales (Inc)

The Weed Society of New South Wales was formed in 1966, the first weed society in Australia. It is affiliated with similar societies in Queensland, Victoria, South Australia, Tasmania, Northern Territory and Western Australia under the umbrella organisation The Council of Australian Weed Science Societies (CAWSS).

The Society holds or sponsors frequent workshops, seminars and field days on aspects of weed biology, ecology and control as well as environmental issues.

Contact information:

| | |
|--|--|
| The Secretary The Weed Society of New South Wales PO Box 438 WAHROONGA NSW 2076 | Email: jimswain@zipworld.com.au http://nb.au.com/nswweedsoc/ |
|--|--|

7.5 RESEARCH GROUPS

Most weed research in NSW is conducted by the NSW Department of Agriculture, although this research is mainly focused on weeds of production systems, rather than environmental weeds. For contact details see the State Government Agencies section in this chapter.

7.6 EDUCATION

There are over 30 institutions in NSW that teach weed management or identification courses including Macquarie University, agricultural colleges and TAFEs.

Contact information:

| | |
|--|--|
| Alexander Agricultural College Tocal Tocal Road PATERSON NSW 2421 | Ph: (02) 49 398888 Fax: (02) 49 385549 |
| Murrumbidgee College of Agriculture Private Mail Bag Narrandera Road YANCO NSW 2703 | Ph: (02) 6951 2700 Fax: (02) 6951 2600 |
| TAFE NSW Information Centre 47 York Street Sydney NSW 2000 | Ph: 131 601 (in NSW) Ph: (02) 8234 2777 (from interstate) www.tafensw.edu.au |

CHAPTER 8

AUSTRALIAN CAPITAL TERRITORY

8.1 GOVERNMENT AGENCIES

8.1.1 Territory weed authority:

The *Noxious Weeds Act 1921* (with amendments to 1990) provides for the declaration and control of areas in the Australian Capital Territory. This legislation is administered by the ACT Parks and Conservation Service. The ACT has a Weeds Strategy which is a 10 year strategy for implementing a co-ordinated program for controlling weeds in the ACT. A copy of the strategy can be found at:

www.environment.act.gov.au/bushparksandreserves/weedsstrategy.html

Contact information:

| | |
|--|---|
| Environment ACT Information Centre PO Box 144 Lyneham ACT 2602 | Ph: (02) 62079777 Fax: (02) 62072335 Email: environmentACT@act.gov.au www.environment.act.gov.au/ bushparksandreserves/weedsstrategy.html |
| Canberra Connect Department of Urban Services GPO Box 158 Canberra ACT 2601 | Ph: 13 22 81 Ph :(02) 6207 0494 www.canberraconnect.act.gov.au |

8.1.2 Herbarium/Botanic Gardens:

Contact information:

| | |
|--|--|
| Australian National Botanic Gardens GPO Box 1600 Canberra ACT 2601 | Ph: (02) 6250 9540 Fax: (02) 6250 9599 Email: plants@anbg.gov.au www.anbg.gov.au/anbg |
| Australian National Herbarium GPO Box 1600 Canberra ACT 2601 | Ph: (02) 6246 5108 Fax: (02) 6246 5249 Email: cpbr.director@pi.csiro.au www.anbg.gov.au/cpbr |

8.2 UTILITIES

The largest utilities in the ACT with major potential impact on weed dispersal through their activities or infrastructure are ActewAGL (electricity and gas) Roads ACT. The construction and maintenance of their cross-country corridors, and the movement of equipment along them, requires substantial effort to keep machinery free of weed seed. For more information see www.canberraconnect.act.gov.au/cityservices/cityservices.html.

8.3 EDUCATION AND TRAINING PROVIDERS

Weed related topics are taught at the Australian National University (ANU) through their Resource & Environmental Management Degree and at the Canberra Institute of Technology, which has Natural Resource Management training.

8.4 COMMUNITY GROUPS

8.4.1 Natural Resource Management Facilitators (Landcare, Bushcare, Coastcare, Rivercare)

For more information refer to Chapter 2 (2.1.9 Natural Heritage Trust).

Contact information:

| STATE | BUSHCARE | LANDCARE | COASTCARE | RIVERCARE |
|-------|------------------------------|------------------------------|-----------|---------------------------------|
| ACT | Peter Hazell 0438 099 548 | Peter Hazell 0438 099 548 | n/a | Michael Schultz 0438 093 798 |

8.4.2 Friends of Parks and others: Parkcare

Park Care is an ACT program where people from the community form groups of volunteers and work with Rangers to care for local nature reserves and Namadgi National Park. There are 15 Park Care groups across Canberra which undertake a variety of activities including weed removal.

Contact information:

| | |
|---|--|
| Steve Welch Parks and Conservation Service PO Box 1065 TUGGERANONG ACT 2901 | Ph: (02) 6207 2193 Fax: (02) 6207 2197 Email: steve.welch@act.gov.au www.canberraconnect.act.gov.au/ environandheritage/parksreservesandforests/parkcare.ht ml |
|---|--|

8.4.3 Greening Australia:

Contact information:

| | |
|------------|--------------------|
| Toby Jones | Ph: (02) 6253 3035 |
|------------|--------------------|

| | |
|---|--|
| Greening Australia PO Box 538 Jamison Centre ACT 2614 | Fax: (02) 6253 3145 Email: tjones@act.greening www.greeningaustralia.org.au |
|---|--|

8.5 RESEARCH GROUPS

Much of the weed related research to take place in Canberra would be in the area of biological control at CSIRO Entomology's Black Mountain Quarantine Facility.

CHAPTER 9

VICTORIA

9.1 STATE GOVERNMENT AGENCIES

9.1.1 Department of Primary Industries (Research and Development Division) and the Department of Sustainability and Environment.

The Victorian Government estimates that weeds cause an estimated \$360 million worth of damage to agriculture and the environment in Victoria each year (DSE website).

In a recent reorganisation the Department of Natural Resources and Environment has been split into two new departments, namely the Department of Primary Industries (DPI) and the Department of Sustainability and Environment (DSE). At this stage there is weed activity in both departments, although agricultural weeds have a higher profile in DPI than environmental weeds do in DSE. While weed policy continues to be made in DSE, all 'weed officers' will be based in DPI. See below in the sections 'agriculture' and 'natural resources' for further details.

The principle weed Acts in Victoria are the *Plant Health and Plant Products Act 1995* and the *Catchment and Land Protection Act 1994*. Weeds in Victoria can be either 'State prohibited' or 'regionally prohibited'.

Extension and enforcement is within DPI's CAS (Catchment and Agricultural Services, Director Ron Harris). Weed extension is mostly handled in the Pest Plants and Animals section.

A notable education initiative is the Weed Warriors Program based at PIRVIC Frankston (previously the Keith Turnbull Research Institute), which is working with primary schools to educate students about weeds. It also involves the breeding and release of biocontrol agents. The Weeds CRC is supporting the national extension of this program which is generating widespread interest from schools in all States.

Contact information:

| | |
|----------------------------------|--|
| Kate Blood | Ph: (03) 5349 2833 |
| Project Leader | Fax: (03) 5349 2687 |
| Weed Alert Rapid Response | Mobile: 0417 135 356 |
| Department of Primary Industries | www.nre.vic.gov.au |

| | |
|--|---|
| PO Box 7 BEAUFORT VIC 3373 | www.dpi.vic.gov.au www.dse.vic.gov.au |
| Weed Warriors Program Kate McArthur DPI Frankston PO Box 48 FRANKSTON VIC 3199 | Ph: (03) 9785 0136 Email: kate.mcarthur@dpi.vic.gov.au |
| Michael Moerkerk Weeds Agronomist DPI Horsham (VIDA) Natimuk Road HORSHAM VIC 3400 | Ph: (03) 5362 2111 Fax: (03) 5362 2187 www.dpi.vic.gov.au |

9.1.2 Natural Resources/Environment

The new Department of Sustainability and Environment (formally part of the Department of Natural Resources and Environment) at this stage is more involved in weed policy than extension activities.

Amendments to the Victorian *Catchment and Land Protection Act 1994* are currently planned which will help to stem the spread of noxious weeds and pest animals across the State through tighter processes and enforcement. These new amendments come into force on 5 January 2004.

Contact information:

| | |
|--|--|
| Dept. of Sustainability and Environment 8 Nicholson St East Melbourne Vic 3002 | Ph: (03) 9637 8000 www.dse.vic.gov.au |
|--|--|

9.1.3 Victorian Catchment Management Council

Victoria has 10 catchment management authorities (CMAs) represented by the Council. This system decides which plants are declared weeds, and whether they are regionally controlled or regionally prohibited, on a CMA area basis. Further changes are being examined.

Contact information:

| | |
|--|--|
| Victorian Catchment Management Council 3/250 Victoria Parade East Melbourne Vic 3002 | Ph: (03) 9412 5045 Fax: (03) 9412 5048 www.vcmc.vic.gov.au |
|--|--|

9.1.4 National Herbarium of Victoria, Royal Botanic Gardens, Melbourne.

The National Herbarium of Victoria is the principal authority in weed identification in Victoria. It maintains a census of vascular plants including weeds, and stores weed specimens and field records. It is a vital link in the information chain for the Weed Alert Rapid Response Program that seeks to identify new weeds entering Victoria.

Contact information:

| | |
|--|---|
| Royal Botanic Gardens Melbourne Birdwood Avenue SOUTH YARRA VIC 3141 | Ph: (03) 9252 2300 Fax: (03) 9252 2442 www.rbq.vic.gov.au |
|--|---|

9.1.5 Parks Victoria

Parks Victoria manages Victoria's State, regional and metropolitan parks, conservation reserves, significant cultural assets and Melbourne's bays and major waterways. These cover 16% of the State's total area.

Contact information:

| | |
|--|--|
| Parks Victoria Level 10/535 Bourke Street Melbourne Victoria 3000 378 Cotham Road KEW VIC 3101 | Ph: 131 963 Ph: (03) 8627 4699 Fax: (03) 9629 5563 www.parkweb.vic.gov.au |
| Friends Network Liaison Officer | (03) 9523 5559 |

Of the many 'friends of parks' groups in Victoria, many of whom are very active in weed control, over 250 are affiliated into the 'Victorian Friends Network'. This is run by the Friends Network Committee, with support from the Victorian National Parks Association. Note that the Friends groups do not include Landcare groups.

Contact information:

| | |
|---|--------------------|
| Friends Network Liaison Officer (Geoff Durham in 2003) c/- VNPA 60 Leicester St Carlton, Vic 3053 | Ph: (03) 9523 5559 |
|---|--------------------|

9.2 LOCAL GOVERNMENT

9.2.1 Local Government Structure

The Municipal Association of Victoria (MAV) is the peak representative and lobby body for Victoria of 78 councils. Under the *Local Government Act*, Victorian shires and councils have the ability to introduce and enforce weed regulations, although this action tends to be more commonly in relation to amenity and health rather than the environment. As landholders they are subject to the same State laws and regulations on weed matters as other owners.

The MAV provides Victorian councils with policy advice and support in relation to weed management, as well as advocating on the sector's behalf. The MAV has organised forums to bring all relevant stakeholders together to discuss weed related issues and has undertaken research into the role that local government plays in weed management.

Contact information:

| | |
|---|--|
| Municipal Association of Victoria GPO Box 4326PP MELBOURNE VIC 3001 | Ph: (03) 9667 5555 Fax: (03) 9667 5550 Email: inquiries@mav.asn.au www.mav.asn.au |
|---|--|

9.3 UTILITIES

State utilities with an influence on weed spread and control along extensive networks of cross-country corridors include those concerned with water, electricity, rail and roads. Companies such as Origin and VicRoads would be major players in Victoria.

9.4 EDUCATION AND TRAINING PROVIDERS

Universities and Training Providers have an interest in research and teaching weed science. Eg research activity in Melbourne University, LaTrobe, RMIT, Victorian University of Technology

9.5 COMMUNITY GROUPS

9.5.1 Natural Resource Management Facilitators (Landcare, Bushcare, Coastcare, Rivercare)

For more information refer to Chapter 2 (2.1.9 Natural Heritage Trust).

Contact information:

| STATE | BUSHCARE | LANDCARE | COASTCARE | RIVERCARE |
|-------|-------------------------|---------------------------------|---------------------------------|--------------------------------|
| VIC | Recruitment in progress | Geoff McFarlane 0438 208 067 | Michelle Lauder 0438 089 231 | Vera Lubczenko 0438 096 091 |

9.5.2 Greening Australia

Contact information:

| | |
|--|--|
| Graham Hunter CEO - Greening Australia PO Box 525 Heidelberg VIC 3084 | Ph: (03) 9457 3024 Fax: (03) 9457 3687 Email: general@gavic.org.au Web site: www.gavic.org.au |
|--|--|

9.6 RESEARCH GROUPS

Weed research is now under DPI's Division of Primary Industries Research, Vic (PIRVIC). Within the department's new 'platform' structure, the Plant Health Platform includes the Weeds Sub-platform, headed by El Bruzzese (PIRVIC Frankston). For contact details see the State Government Agency section in this chapter.

CHAPTER 10

TASMANIA

10.1 STATE

10.1.1 State weed authority

Department of Primary Industries, Water and Environment is responsible for Quarantine, Pests and Diseases, Aquaculture, Agriculture, Parks and Wildlife, Water, Environment, Land and Cultural Heritage in Tasmania. The *Weed Management Act 1999* is the central legislation covering weed control and eradication in Tasmania. In addition, Tasmania has a comprehensive response and weed management strategy plan.

Contact information:

| | |
|---|--|
| Christian Goninon Dept of Primary Industries Water and Environment GPO Box 44A HOBART TAS 7001 | Ph: (03) 6233 3654 Direct Ph: (03) 6233 6833 Fax: (03) 6228 5123 christian.goninon@dpiwe.tas.gov.au www.dpiwe.tas.gov.au |
|---|--|

10.1.2 River and Water Supply Commission

The River and Water Supply Commission is a government business enterprise responsible for the commercial operation of the Tasmanian Government Water Scheme.

Contact information:

| | |
|---|---|
| Rivers and Water Supply Commission 134 Macquarie Street HOBART TAS 7000 | Ph: (03) 6233 4960 Fax: (03) 6233 3622 Email: Adrian.paine@dpiwe.tas.gov.au |
|---|---|

10.1.3 Herbarium/Botanic Gardens:

The Gardens undertakes extensive work with native plant conservation throughout Tasmania. Weed specimens can be identified through the herbarium.

Contact information:

| | |
|---|---|
| Royal Tasmanian Botanic Gardens Queens Domain Hobart TAS 7000 | Ph: (03) 6234 6299 Fax: (03) 6234 7719 Email: rtbg@rtbg.tas.gov.au www.rtbg.tas.gov.au |
| Tasmanian Herbarium University of Tasmania GPO Box 252c | Ph: (03) 6226 2635 Fax: (03) 6226 7865 Email: gkantvilas@tmag.tas.gov.au |

| | |
|-----------------|---------------------|
| HOBART Tas 7001 | www.tmag.tas.gov.au |
|-----------------|---------------------|

10.2 LOCAL GOVERNMENT

10.2.1 State Local Government Structure

The Local Government Association of Tasmania is the peak body representing local government - or councils - in Tasmania. Councils administer numerous community based activities. Weed activities include control measures under state Acts, information provision, weed issues with parks and wetlands.

Contact information:

| | |
|--|---|
| Local Government Association of Tasmania GPO Box 1521 Hobart Tas 7001 | Ph: (03) 6233 5966 Fax: (03) 6233 5986 Email: admin@lgat.tas.gov.au |
| Local Government Association NRM Facilitator Timothy Phillips | Ph: (03) 6233 5962 Email: timothy.phillips@lgat.tas.gov.au |

10.3 UTILITIES

One of the largest utilities in Tasmania with major potential impact on weed dispersal through their activities or infrastructure is the Department of Infrastructure, Energy and Resources, which oversees the development and management of Tasmania's road system. The construction and maintenance of their cross-country corridors, and the movement of equipment along them, requires substantial effort to keep machinery free of weed seed. For more information see www.transport.tas.gov.au/environment/envIRON.html

10.4 EDUCATION AND TRAINING PROVIDERS

The University of Tasmania and the Tasmanian TAFE system both provide avenues for weed related study.

Contact information:

| | |
|--|--|
| TAFE Tasmania GPO Box 2015 Hobart Tas 7001 | Ph: 1300 655 307 Fax: (03) 6233 7830 Email: www@tafe.tas.edu.au www.tafe.tas.edu.au |
|--|--|

10.5 COMMUNITY GROUPS

10.5.1 Natural Resource Management Facilitators (Landcare, Bushcare, Coastcare, Rivercare)

For more information refer to Chapter 2 (2.1.9 Natural Heritage Trust).

Contact information:

| STATE | BUSHCARE | LANDCARE | COASTCARE | RIVERCARE |
|-------|-------------------------------------|--------------------------------|----------------------------------|---------------------------------|
| TAS | Ruth Temple-Smith (03) 6233 3151 | Lee Drummond (03) 6233 3151 | Nicole Middleton 0439 404 994 | Imogen Birley (03) 6233 3401 |

10.5.2 Greening Australia:

Contact information:

| | |
|---|--|
| Greening Australia TAS Fran Healy - CEO GPO Box 9868 Hobart TAS 7001 | Ph: (03) 6223 6377 Fax: (03) 6223 6392 Email: greening@tas.greeningaustralia.org.au www.greeningaustralia.org.au |
|---|--|

10.6 RESEARCH GROUPS

In Tasmania research is undertaken at the University of Tasmania, much of it through the Tasmanian Institute of Agricultural Research.

Contact information:

| | |
|--|--|
| Dr John Ireson Principal Entomologist Tasmanian Institute of Agricultural Research University of Tasmania New Town Research Laboratories New Town Tas 7008 | Ph: (03) 6233 6821 Fax: (03) 6278 2716 Email: john.ireson@dpiwe.tas.gov.au |
|--|--|

CHAPTER II

SURVEY OF GROUPS CONCERNED WITH NOXIOUS AND ENVIRONMENTAL WEEDS

11.1 SUMMARY

In an attempt to gain insight into the structures, links and weed concerns of community and agency groups concerned with weed management in Australia, a survey was conducted of 500 groups across all States. The questionnaire included the group's details, the main weeds of concern and the main weed issues, education and training, funding, activities, information sources and group networks.

From the mail-out of 500 surveys, 136 responses were received. Invasiveness of weeds was found to be the main issue. Groups also relayed a need for education in management and control. The survey revealed a lack of understanding of the need for revegetation. In the main, funding levels were relatively low. Respondents showed a high reliance on their own knowledge, government officers, fact sheets, books, Landcare groups, research organisations and field days. Main network links were found to be government officers, Landcare, Bushcare, other community environmental groups, Councils, and official boards dealing with natural resources management.

11.2 METHOD

This survey was conducted using a stratified sampling technique. The questionnaire included sections covering the groups' details, the main weeds that group were dealing with, other weed issues, education and training needs, funding, activities, information sources and group networks. The draft questionnaire was subjected to a detailed review by researchers, and was further modified after consultation with a community Landcare group. Five hundred major study questionnaires were sent out with a covering letter (Appendix 1) and a stamped return envelope to community groups and government organisations throughout Australia. The target groups included Landcare, Bushcare, Rivercare, Coastcare, Friends of Parks, Greening Australia, Conservation Volunteers and government agencies. Responses to the survey were recorded on Excel spreadsheets and sorted prior to analysis. Except for the list of worst weeds, all other data is presented on a national basis.

11.3 RESULTS AND DISCUSSION

11.3.1 Main weeds

Table 1 shows the worst weeds in priority order rated by respondents from each State. (Fifteen worst weeds were unable to be listed for the Australian Capital Territory or Tasmania due to the low number of respondents from those States.)

The response gives a snapshot view of the worst weeds in Australia from the perspective of a good sample of community groups. Because the survey was sent to groups with a greater interest in environmental weeds than agricultural weeds, significant agricultural weeds such as wild oats, annual ryegrass, soursob, long fruited wild turnip, short fruited wild turnip, onion weed, horehound and numerous others did not rate as highly.

In an interesting link with the nursery trade, it was noted that of the weeds reported in the survey the following are also recorded in a label catalogue (2002) for potted plants; bridal creeper (*Asparagus asparagoides*), privet (*Ligustrum ovalifolium*), white arum lily (*Zantedaschia aethiopica*), hawthorn (*Crataegus spp.*) and willow (*Salix babylonica*).

TABLE: 1. Fifteen worst weeds in priority order rated by respondents from each state.
Less than fifteen listed where states survey return was low.

| | South Australia | Western Australia | Northern Territory | Queensland | New South Wales | Australian Capital Territory | Victoria | Tasmania |
|----|-----------------|-------------------|---------------------|---------------------|---------------------|------------------------------|------------------|------------|
| 1 | broom | bridal creeper | gamba grass | <i>Lantana spp.</i> | <i>Lantana spp.</i> | serrated tussock | blackberry | gorse |
| 2 | gorse | arum lily | mission grass | mother of millions | privet | willows | gorse | willow |
| 3 | bridal creeper | caltrop | <i>Lantana spp.</i> | cats claw | blackberry | blackberry | Paterson's curse | blackberry |
| 4 | blackberry | bitou bush | mimosa | camphor laurel | St. John's wort | St. John's wort | bridal creeper | boneseed |
| 5 | olive | parkinsonia | buffel grass | Madeira vine | bitou bush | African love grass | bluebell creeper | broom |
| 6 | pine | blackberry | coffee bush | parthenium | camphor laurel | briars | serrated tussock | |
| 7 | salvation Jane | mesquite | calapo | hymenachne | asparagus fern | hawthorns | St. John's wort | |
| 8 | boxthorn | gorse | hypto | cabomba | Paterson's curse | | broom | |
| 9 | caltrop | Guildford grass | <i>Sida spp.</i> | mesquite | serrated tussock | | boneseed | |
| 10 | boneseed | khaki weed | marsh grass | mimosa | Bathurst burr | | boxthorn | |
| 11 | cape tulip | love grass | athel pine | parkinsonia | love grass | | mirror bush | |
| 12 | innocent weed | mimosa | mesquite | pond apple | bridal creeper | | tea tree | |
| 13 | capeweed | noogoora burr | parkinsonia | prickly acacia | cabomba | | caprosma | |
| 14 | marshmallow | paddy melon | parthenium | rubber vine | gorse | | quaking grass | |
| 15 | willows | wild radish | salvinia | salvinia | parthenium | | milkwort | |

Note: Common names used as supplied by most respondents

11.3.2 Main weed issues:

Respondents were asked to prioritise the main weed issues they faced, including funding and education. The following results were obtained.

TABLE: 2. Respondents' main weed issues as a percentage of total responses from all Australian weed groups.

| Weed issue | % of total responses |
|-----------------|----------------------|
| Invasiveness | 72% |
| Education | 10% |
| Funding | 12% |
| Economic Impact | 6% |

The y were then asked a subset question specifically on education and training:

TABLE: 3. Respondents' priority selections for weed education of total responses from all Australian weed groups.

| Education Topic | % of total responses |
|-----------------|----------------------|
| Control | 54% |
| Identification | 34% |
| Mapping | 10% |
| Monitoring | 1% |
| Revegetation | 1% |

Table 2. shows that invasiveness of weeds was the main weed issue facing groups. For groups to combat highly invasive weeds they need knowledge on management and control which is shown in their priority selections (Table 3). That is, training on how to identify, map, control and monitor weed populations. The respondents' low demand for education in revegetation is notable. It may mean a need for education exists as revegetation with a wanted plant species is essential for the maintenance of a stable system.

11.3.3 Weed related activities:

Groups were asked about the weed activities they had planned for the next three years:

TABLE: 4. Respondents planned weed activities for the next three years of total responses as a percentage of all Australian weed groups.

| Groups planned activities | % of total responses |
|---------------------------|----------------------|
| Weed Control | 39% |
| Field days | 24% |
| Workshop | 19% |
| Training | 18% |

Table 4 shows weed control as a priority area for future weed group activity. This adds to the need for education in weed control before future control activities are undertaken.

11.3.4 Past funding levels for weed related activities:

Groups were asked about the funding they had received in the last three years:

TABLE: 5. Respondents group funding for the past three years as a percentage of total responses from all Australian weed groups.

| Groups Past 3 yrs funding | % of total responses |
|---------------------------|----------------------|
| \$0 | 19% |
| \$0 to \$10,000 | 16% |
| \$10,000 to \$100,000 | 32% |
| > \$100,000 | 33% |

Table 5. shows that approximately 1/3 of groups are poorly funded, 1/3 medium funded and 1/3 have high levels of funding. The survey did not explore how funding was spent, although there was some indication that funding was mainly spent on labour. Further discussion follows Table 6. which relates to future funding needs.

11.3.5 Projects that would be undertaken with adequate funding:

Groups were asked what projects they would undertake if their group had adequate funding. An estimate of the cost of that work was also obtained.

TABLE: 6. Respondents cost estimates to fund projects as a percentage of total responses from all Australian weed groups.

| Project | % of |
|---------|------|
|---------|------|

| costs | total responses |
|--------------------------|-----------------|
| \$0 to \$10,000 | 24% |
| \$10,000 to \$100,000 | 29% |
| \$100,000 to \$1,000,000 | 39% |
| > \$1,000,000 | 8% |

TABLE: 7 Areas seen as high priority for funding as a percentage of total responses from all Australian weed groups.

| Funding | \$0 | \$10,000 | \$100,000 | |
|--------------|-------------|--------------|----------------|--------------|
| Requested | to \$10,000 | to \$100,000 | to \$1,000,000 | >\$1,000,000 |
| Weed Control | 15% | 18% | 27% | 5% |
| Staff | 1% | 9% | 9% | 2% |
| Revegetation | 3% | 2% | 2% | 1% |
| Research | | | 1% | |
| Other | 5% | | | |

Table 5 shows that 35% of groups are funded at less than \$10,000. Table 6 shows 76% of respondents require funds in excess of \$10,000. Table 7 shows their reason for wanting the funds is overwhelmingly for weed control, followed by staffing needs and finally revegetation. Since most of the groups surveyed had mainly volunteer labour, money spent on control levers excellent value in labour.

11.3.6 Sources of weed information:

In an attempt to map the main channels of communication operating for these groups, and thus suggest which might be most useful for the future delivery of information, a question was asked about the main sources of weed information.

TABLE: 8. Respondents' main sources of weed information as a percentage of total responses from all Australian weed groups.

| Weed information | % of |
|-----------------------|-----------------|
| source | total responses |
| Own knowledge | 94% |
| Government officer | 87% |
| Fact sheet | 61% |
| Books | 57% |
| Landcare group | 51% |
| Research organisation | 44% |

| | |
|---------------------------|-----|
| Field day | 34% |
| Professional associations | 33% |
| Web site | 28% |
| Other property owner | 24% |
| Private consultants | 20% |
| Conferences | 18% |
| Chemical retailers | 11% |
| Newspapers, TV, radio | 6% |

Table 8 shows 2/3 of respondents had a high reliance on information they had developed themselves, government officers, fact sheets, books, Landcare groups, Research organisations and field days. On the other hand, 1/3 of respondents had a low reliance on information from professional associations, web sites, other property owners, private consultants, conferences, chemical retailers and the media. The low ranking of retailers as a source of information is an interesting contrast to the situation in the agricultural sector.

Related group networks

Respondents were asked to indicate the key networks and linkages that were important to the operation of their group. This was an open question, and pick lists were not provided. Responses therefore reflect an extra degree of thought, which means that the notable consensus that emerged is likely to be quite robust.

TABLE: 9. Respondents' related group networks as a percentage of total responses from all Australian weed groups.

| Related network | % of total responses |
|--------------------------------------|----------------------|
| Government officers | 30% |
| Land/ Bush/ River/ Coast care groups | 30% |
| Councils, soil and water boards | 19% |
| Other community environmental groups | 17% |
| Private groups | 4% |

Table 9 shows that the most important network links are with (a) Government officers, although that was equalled by the array of community-based groups represented by (b) Land/ Bush/ River/ Coast care groups. Councils, and soil and water boards came second at 19%, at a similar level of importance as other community groups.

11.4 REFERENCES

De Vaus, D. A., (1991) Surveys in Social Research. 3rd ed Department of Sociology, Latrobe University Melbourne.

Martin, P. (2003). Personal communication CRC Australian Weed Management. South Australia.

Moser, C. A. and Kalton, G., (1975) Survey Methods in Social Investigation. Heinemann Educational Books Ltd. London.

Richards, N. W . (2002). Community Education for Weed Management: A case study of the Purple Peril, Woody Weed Management Program, Honours Thesis, Flinders University of South Australia. Adelaide.

Schultz, T. (2003). Personal communication. Australian CRC for Australian Weed Management

CHAPTER 12

RECOMMENDATIONS FOR INVESTMENT

INTRODUCTION

Recommendations made are based on personal communications with experts on a face-to-face basis, from telephone conversations and email. Other ideas were developed from the survey results, and from a review of the literature as found in the general discussion.

RECOMMENDATION 1

The development of an Enviro-Friendly Plant Label

In addition to the Flora for Fauna program it is recommended that an Enviro-Friendly Plant Label be developed. This label is envisaged as having an ISO licence number and registered by Standards Australia. In particular it would be useful for a database to be developed of genus and species of plants currently sold by the Nursery Garden Industry (plus additions), and a rating given to each plant for invasiveness and noxious characteristics. Plants meeting criteria limits would be granted Enviro-Friendly Plant Status.

A excellent precedent exists for this in the Bushland Friendly Nursery Scheme of New South Wales (Turnbull, 2003) and the weed risk assessment scheme which places plants into one of three categories of serious weed, minor weed or non weed (Pheloung, 2003). The label would need to have a national classification for different regions (Richards 2003). Randall (2003) suggested that labels need to differentiate between exotic and native species and state the possibility of the plant becoming a weed.

It is suggested that a nursery's commitment to an Enviro-Friendly label scheme could be assessed as part of the criteria for determination of AGCAS (Australian Garden Centre Accreditation and NIASA (Nursery Industry Accredited Scheme).

RECOMMENDATION 2

That the Enviro-Friendly Plant scheme be a component of the National Nursery Garden Industry conference in Autumn 2004.

It is recommended that within the normal conference for Autumn 2004, a component be prepared relating to Enviro-Friendly Plant Labels.

RECOMMENDATION 3

Education of gardeners and others

That funds be set aside for production of educational fact sheets and other means of making information widely available.

RECOMMENDATION 4

Industry staff scholarships

That scholarships in the realm of \$500 to \$1000 be set aside for staff of garden centres or garden sections within larger stores with specific emphasis on weed related competencies. These scholarships would relieve the cost of further education towards a qualification in horticulture making the pursuit more attractive for staff.

RECOMMENDATION 5

Funding workshops

Greater awareness of weed issues by industry staff would substantially assist their understanding of the views and concerns of community groups dedicated to weed control. All young staff joining the industry should learn a set of basic facts about weeds and their impact on Australia and elsewhere, including for example, that 65% of the nation's serious environmental weed species have come directly from the ornamental trade.

Discussions suggested that funds set aside in the vicinity of \$1600 per day could fund short courses for horticulture and nursery industry staff on a range of weed issues. These courses could be one or two day courses in specific topic areas, and might be limited to 5 to 15 registrants for best results.

RECOMMENDATION 6

Funding a National Program Coordinator for the Bushland Friendly Nursery Scheme

That funds be set aside to employ a coordinator for the Bushland Friendly Nursery Scheme.

GENERAL DISCUSSION

Introduction

The National Weeds Strategy, published in 1997, followed a series of other highly significant policy documents reviewing different aspects of natural resources management (NRM) in the 1990s. These included the Decade of Landcare Plan (1991), the National Strategy for Ecologically Sustainable Development (1992), the Draft National Strategy for the Conservation of Australia's Biological Diversity (1993), and the Vertebrate Pest Strategy (1993). Another major NRM strategy since then has been the National Action Plan for Salinity and Water Quality (2000).

It is well accepted in many government and research organisations that weeds fits well in this framework of concern. Indeed, discussions with various individuals for this project often led to the observation that at a cost of \$4 billion per year to agriculture, weeds outstrip salinity as a national economic problem. Indeed, estimates are that weeds cost the nation 2-10 times as much as salinity, and that is without attempting to place a value on their environmental impact. It is widely acknowledged amongst informed scientific people and public decision makers that the time is long overdue for weeds to receive the attention they deserve, and be substantially raised up the national agenda for action.

Increasing effort is being made by research and other organisations to raise public awareness about the extent and seriousness of the national weed situation in the face of persistent urban ignorance and low political priority. This situation appears to offer NGIA, HA and the industry in general an opportunity to engage constructively with these organisations, to share their concerns and to influence their policies and activities. The alternative of waiting until the industry is fairly or unfairly depicted as less than aware, or not always cooperative in attempts to protect the environment, would not seem to be desirable or productive in the long term.

As a point of clarification the following definitions are included. Native plants are defined as indigenous, and not introduced by humans (at least, usually, not in recorded history). Exotic plants are defined as alien, having come from another region. Naturalised is defined as an exotic plant that has become adapted to its new environment and can grow (or reproduce) successfully in a new location without human intervention.

What is a weed?

There are numerous definitions for a 'weed' – a 'plant out of place' is a common one. Swane (2003) refers to a plant growing where it is not wanted. Ainsworth (2003)

comments that the horticultural industry finds it difficult that there does not appear to be any precise agreement on what makes a plant a weed. The view of the research community, however, is that the existing broad consensus about a weed being a plant 'growing where it is not wanted' is an adequate definition for all intents and purposes.

A nursery and garden industry perspective

Ainsworth (2003) states that the Nursery Garden Industry NSW and ACT (NGINA), the peak body of the Nursery and Garden Industry in New South Wales and the Australian Capital Territory, and related bodies in other States, actively encourage members to cease producing plants where there is indisputable evidence of widespread invasion. NGINA recognises the role it has to play in educating not only plant producers and garden centre operators but the public as well. Ainsworth poses the question as to how one tries to keep up with the volume of information that is available. How much of this information is relevant? More importantly though how much of it is accurate?

Ainsworth further refers to Senator Bartlett's *Environment Protection and Biodiversity Conservation Amendment Invasive Species Bill 2002* where an invasive species is defined as (a) 'a non indigenous species and has been, or maybe, introduced into Australia and either directly or indirectly, threatens, will threaten, or is likely to threaten, the survival, abundance, or evolutionary development of a native species, ecological community, ecosystem or agricultural commodity', or (b) 'it is a genetically modified species'. He states that one could determine from this definition that all imported plants are virtually labelled weeds, and that there is no mention of native species that have gone feral.

Ainsworth comments that the Nursery and Garden Industry's position in regard to the Democrat's Bill is that it fully supports the rigorous 'weed risk assessments process' that is currently in place and legally enforceable by Biosecurity Australia in conjunction with the Australian Quarantine Inspection Service. Much time and effort has already been dedicated to this process. He adds that to reduce the threat of importing invasive species, the industry believes more attention and resources should be put into the current weeds and assessment process and improved interception, including by mail of illegal and undeclared imports.

Garden escapes

In his report to the Nursery and Garden Industry Australia, Dignam (2001) found that 16% of gardeners surveyed were conscious of the fact that plants on their properties may become environmental weeds. It follows that the other 84% were not aware. He also

concluded that there is limited understanding of invasive weeds by gardeners and that point of sale advice and fact sheets are likely to be helpful.

Ainsworth notes that during 2002 the NSW Nursery Industry Services Committee was established in accordance with legislation. That Committee recommended that all production nurseries with a turnover in excess of \$50,000 have a levy of \$200 per annum placed upon them to fund research and development. However, following two polls the proposal was defeated.

Ainsworth also expressed the view that 'the weed control movement gets funding in excess of \$150 million per annum', and that the nursery and garden industry 'should be able to access some of this money to ensure the arguments are balanced and the right weeds targeted'. The details of this claim were not recorded, but it contrasts markedly with the view of the Weeds CRC that major inroads into the national weed problem could be made through a strategic investment in research and extension of \$27 million per year ('Killing us Softly – Australia's Green Stalkers', Weeds CRC, 2003.)

Weed risk assessment and education

Weed risk assessment (WRA) systems have been developed and are continuing to evolve (Pheloung, Randall, Lloyd, Blood, Virtue and Cooke, 2003). There is also a need for formal training programs and more technical material.

Some education material already exists on the NGIA web site such as "Preventing the introduction of potential weeds as ornamental plants" by Craig Walton (1998).

Stephens (2000) edited a nursery paper entitled "Invasive plants not wanted in public or private gardens identified". The paper points out that with increasing awareness of the sources and costs of weeds in Australia, industries and organisations are coming under increasing scrutiny for their roles in the dispersal of weeds. The focus of the paper is to ensure that invasive plants are not used in either public or private gardens. In addition the paper lists 52 environmental weeds in designated States.

Stephens (2001) also edited a nursery paper entitled "Discovering alternatives to garden escapes". This paper is available on the NGIA web page and focuses on examples such as privet (*Ligustrum spp.*), lantana (*Lantana camara*), broom (*Cytisus scoparius*) and the grass swamp foxtail (*Pennisetum alopecuroides*). The paper contains a table which outlines invasive garden plants and alternatives. Warner (2003) compiled a paper suggesting alternative garden plants in the Adelaide region.

Education is being achieved through a number of fora including displays at garden shows, and the industry-sponsored Discovering Alternatives to Garden Escapes (DAGE) project (Swane) 2003. The industry's best management practice guidelines, originally published in 1997, has sold over 3,400 copies. It has recently been up-dated and is soon to be re-published. Blood (2001) compiled information concerning improving the Nursery Industry awareness about "garden escapes" as environmental weeds.

Luxton (2003) refers to the Bushland Friendly Nursery Scheme (BNFS) as a way to reduce the impact of weeds on native ecosystems through raising awareness of risk. In the scheme, participating nurseries are invited to voluntarily agree not to sell any plants from the list of species identified as having the greatest potential for causing environmental damage. The nurseries may then promote themselves as 'Bushland Friendly'. The web address for the Bushland Friendly Nursery Scheme is www.northcoastweeds.org.au.

Conclusion

The research for this project, the survey of community groups involved in noxious weed control, and the discussions held with leading researchers and policy makers in Australian weed management have led to a consistent set of conclusions. Reflected to a large extent in the recommendations presented, they can be summarised as follows.

Firstly there is a large and rapidly growing public concern about environmental weeds, with many thousands of volunteers dedicating free labour every week across the nation. At the same time, focus group research (Weeds CRC, 2003) shows that levels of awareness about weeds remains low in the major cities. However, the response of the urban public to basic information about the extent of the national weed problem is very clear – strong and immediate action is required. The science community and other agencies will continue to use the media and other means to educate the public about weeds, and we can expect their understanding and awareness to grow. This represents an excellent opportunity for the nursery and garden industry to make a major contribution to public education and problem solving in the arena of natural resources management, and be seen as green and progressive. From a commercial point of view it may also offer a new niche market made up of a growing number of environmentally aware gardeners seeking novel horticultural solutions.

Secondly the review provides details of the complex and constantly changing networks of people and organisations around Australia with an interest in weed management. These diverse networks represent an impressive array of public commitment to excellence in environmental stewardship, and will wield increasing influence if weeds as a national

issue follows salinity up the national policy agenda. This is starting to appear a likely scenario in the years immediately ahead. Strategies that explore these networks and use them to distribute accurate and useful information and resources will be well received by these groups, as well as assisting the industry build relations and new markets.

Thirdly, the survey indicated some of the main movements and the links between them, and some of the many ways they may be reached. Further details about these communication channels are readily obtainable. The survey also revealed the weeds of main concern in different areas, and generally indicated the resource, information and training needs of the groups attempting their control. Innovative measures by the industry to address some of these concerns could be strategically positioned to generate maximum good will and excellent publicity.

Finally, better alliances with generators of technical and scientific information should be considered by the industry. Their national perspective and political reach is likely to play an increasingly important role in the evolution of public attitude to weeds and what actions should be taken, and future government policy could indeed impinge upon the industry. In particular the small 'weed science' community in Australia sees itself primarily as a purveyor of facts and information, as indeed do most scientific groups. Unless clearly proven wrong by better information or analysis, this community will continue to have an influence on public policy.

At the same time, these bodies often lack the links into the nursery and garden industry that they need to deliver new information and have policy options widely discussed. It may thus be in the interest of the industry to seek more professional partnerships and alliances with them, in order to convey industry views more effectively as well as gain greater insight into what weed science is saying. Australia does have an excellent global reputation in the science of invasive species management, and its scientists are normally very willing engage in discussions and debate with important stakeholders.

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APPENDICIES

Appendix I.

1. Survey letter of introduction and explanation.
2. Survey form.

SURVEY OF GROUPS CONCERNED WITH NOXIOUS AND ENVIRONMENTAL WEEDS

A survey for the Nursery Garden Industry

by
the Cooperative Research Centre
for
Australian Weed Management
2003

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ABOUT YOURSELF AND YOUR GROUP

Please fill in or circle the following information:

Please circle: Mr Ms Mrs Miss Dr Prof Other ()

First Name.....Surname.....

Position.....
 Organisation..... Years operating.....
 Address.....
 City/Town..... State..... Post Code.....

Please indicate the main focus of your group (You may tick more than one box.)

Private Land

Public Land

Broadacre cropping.....
 Conservation native vegetation...
 Horticulture.....
 Urban and near urban.....
 Other.....

National parks
 Public waterways & riverbanks...
 Coastal lands and dunes.....
 Other.....

Organisation details: Which headings best describe your group?

(Circle one in row A and one in row B.)

A. Federal Government State Government Local Government Private business

B. Training provider Landowner/Manager Community Research Service Other

Home Phone:.....

Work Phone:.....

Mobile:.....

Fax:.....

Email:.....

www:.....

WEED GROUP SURVEY

| | |
|---------------------------|----------------------------------|
| | <u>Response/comments:</u> |
| Name of group: | |
| Number of members: | |

| | |
|--|---|
| | |
| Nearest town/city and location of your groups activities. | |
| What are the main weeds your group deals with? List the top three. | 1 2 3 Other |
| Your group's main weed issues? Number boxes in priority order Environmental weed invasion..... <input type="checkbox"/> Need for education and training..... <input type="checkbox"/> Funding..... <input type="checkbox"/> Economic impact..... <input type="checkbox"/> Other..... | Education and training areas: Weed identification..... <input type="checkbox"/> Weed control..... <input type="checkbox"/> Weed mapping..... <input type="checkbox"/> Weed monitoring..... <input type="checkbox"/> Other..... |
| With which issues has your group been involved in the past 3 years? Training..... <input type="checkbox"/> Weed control..... <input type="checkbox"/> Education..... <input type="checkbox"/> Research..... <input type="checkbox"/> Other..... | |
| | Response/comments: |

| | |
|---|--|
| <p>Main funding received in the last 3 years for weed related work.</p> <p>\$0..... <input type="checkbox"/></p> <p>\$0 to \$10,000..... <input type="checkbox"/></p> <p>\$10,000 to \$100,000..... <input type="checkbox"/></p> <p>>\$100,000 <input type="checkbox"/></p> | |
| <p>Does your group have major activities planned for next 3 years? You may use the space at right to elaborate.</p> <p>Field days..... <input type="checkbox"/></p> <p>Weed control..... <input type="checkbox"/></p> <p>Workshops..... <input type="checkbox"/></p> <p>Training courses..... <input type="checkbox"/></p> <p>Other.....</p> | |
| <p>What projects would you undertake if you had adequate funding?</p> <p>Can you estimate the cost of the work?</p> | |
| <p>What are the <u>main</u> sources of weed information for your group? Write 1, 2 or 3 where:</p> | |

| | |
|--|--------------------------|
| 1 = Important source 2 = Source of secondary importance 3 = Source of minor importance Blank = of no importance | |
| Government officers..... | <input type="checkbox"/> |
| Private consultants..... | <input type="checkbox"/> |
| Web sites /CD | <input type="checkbox"/> |
| Fact sheets/Technical notes | <input type="checkbox"/> |
| Books..... | <input type="checkbox"/> |
| Newspaper/magazine/TV/Radio..... | <input type="checkbox"/> |
| Landcare | |
| groups..... | <input type="checkbox"/> |
| Chemical merchandise retailers..... | <input type="checkbox"/> |
| Other property owners..... | <input type="checkbox"/> |
| Own knowledge or experience..... | <input type="checkbox"/> |
| Field days..... | <input type="checkbox"/> |
| Conferences..... | <input type="checkbox"/> |
| Professional associations..... | <input type="checkbox"/> |
| Research organisations..... | <input type="checkbox"/> |

Key networks and links that relate to your group.

Many community and professional groups concerned with weeds have links or belong to networks which they find very useful. Does this apply to your group? If so, please indicate those links and networks which your group finds most valuable. (eg. Landcare, Bushcare, regional or local environment organisations, local and State government officers).