



Australian Government
Land & Water Australia

‘Defeating the Weed Menace’ National Weeds R&D Program 2006-2009

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27 July 2009



knowledge for managing Australian landscapes



National Context

- Farmers spend \$1.6 billion on weeds (2006-07)
 - More than pests and land & soil problems combined!
 - \$982 million on herbicide (ABS NRM Survey)
- Impacts on environment uncostered but large
- Weeds CRC & Defeating the Weed Menace program now finished
- Australian Weeds Research Centre (\$15m over next 3-4 years, managed by DAFF)



DWM R&D Objectives

Generate new knowledge to:

1. Reduce the rate of emergence of new weed problems
2. Reduce the impact of existing weed problems
3. Support national frameworks and build capacity for sustainable weed management



DWM R&D program

- 27 projects across several themes
- \$5.4m + 4.3m cash & in-kind
- Managed by Land & Water Australia on behalf of DAFF & DEWHA



Theme 1: Reducing rate of emergence of new weed problems

- Assessing pathway risk – national survey, grazing management, climate change
- Impacts of land use change – nutrients, coastal ecosystems, peri-urban
- ‘Best practice’ early detection, survey and eradication – environmental flows, Murray River
- Developing efficient surveying and eradication for emergent weeds – peri-urban, on-property, robotic surveillance



Theme 2: Reducing impact of existing weed problems

- Identifying biocontrol agents for priority weeds
- Developing new, integrated weed management strategies incorporating landscape scale ecological processes



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Developing new biocontrol agents

- Alligator weed
- Boneseed rust
- Cape broom psyllid
- Noogoora burr rust
- Parkinsonia fingerprinting
- Salvinia weevil in temperate areas
- Scotch broom mite



New integrated weed management strategies

- A new model for environmental weed management in fragmented landscapes
- Relationships between disturbance & invasion in riparian & floodplain areas
- Optimising management of core mesquite infestations across northern Australia



Theme 3: Supporting national frameworks & capacity for sustainable weed management

- Quantifying weed impacts on sustainability & environment – benefits & costs of control
 - Buffel grass, Para & Gamba grasses, Hymenachne – TBL assessments
 - *Pinus radiata* ‘wildlings’ in bushland
 - Managing WoNS in natural ecosystems



Represented at this Conference

- Miles et al. - Managing Hymenachne
- Sukkarieh et al. - Detection using robotic aerial systems
- Schooler et al. - Subtropical aquatic weeds

And at Thursday's DWM R&D forum:

- Friedel et al. - Understanding buffel grass
- Setterfield et al. - Tall invasive savannah grasses & fire
- van Klinken et al. - Optimising core mesquite infestations
- Schooler et al. - peri-urban development & aquatic weeds

- Miles et al. - Commercial species that become weeds



Translating knowledge into practice

From individual projects:

- Research papers
- Conference presentations
- Practitioner workshops & seminars
- Management guides & field notes
- Magazine & journal articles



Cross-project knowledge products (1)

Issues / Discussion papers:

- Emerging technologies in weed monitoring, identification & management
- ‘Conflict of Interest’ plant species
- Managing landscapes, not weeds
- Understanding biocontrol agent development & prioritising investment
- End-user needs of a national weeds information system



Cross-project knowledge products (2)

- ‘Thinking Bush: Thinking Weeds’ magazine
- Weeds R&D folder (available at desk)
- Workshops & conferences – e.g. Thursday 30 July 2009

Visit: www.lwa.gov.au/weeds



Research priorities for managing weeds in a changing world

- Protecting values and assets not weeds per se
- Climate change implications for weed invasion
- Weeds and biodiversity loss
- Changing land use patterns & weediness
- Integrated management, landscape scale (incl biocontrol)
- New technologies in detection & management
- Targeting biocontrol research – links to Weed Risk Assessment process
- Understanding the ‘people’ issues: social, economic & institutional influences in weed management



Challenges

- Determining national priority areas for R&D
- Timeframe for R&D
- Complex field, many players - differing needs
- Approval processes
 - Setting strategic priorities
- Researchers and Knowledge & Adoption
 - Plan for adoption of knowledge! Resource it!
- Governance and administrative infrastructure



Thanks to:

- Program Manager Jim Donaldson,
Program Officer Teresa Oppy &
Knowledge Officer Nolani McColl & their
predecessors
- Science Adviser Bruce Auld
- Principal investigators & research teams
- DAFF for funding of this and other
forums