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**'Defeating the Weed Menace' R&D:
2006-2009**

New info. for reducing badly behaving plants
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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 uncoded but large
- Total national costs at least \$4.2 billion p.a.
- Weeds CRC & Defeating the Weed Menace program now finished
- Australian Weeds Research Centre (\$15m over next 3-4 years, managed by DAFF)




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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




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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




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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




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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

- Morin et al. – Natural ecosystems & WoNS removal
- Sindel - Pathways & detection of weeds on farms
- Herpich – *Pinus radiata* in bushland
- Sukkarieh et al. - Detection using robotic aerial systems

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 & USB memory stick
- Both available at trade stall
- Workshops & conferences – national series

Visit: www.lwa.gov.au/weeds

Research priorities for managing weeds in a changing world

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

Research priorities for managing weeds in a changing world

Seeking your input
– please call at Trade stall & complete a short survey

Challenges

- Determining national priority areas for R&D
- Timeframe & continuity 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

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