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## 'Defeating the Weed Menace' National Weeds R&D Program 2006-2009

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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
- 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

- Louise Morin – removing weeds / restoring WoNS in native systems
- Rieks vanKlinken – managing core mesquite infestations
- Louise Morin – biological control of Noogoora burr
- John Scott – climate change impacts on 'sleepers' & 'environmental alert' weeds
- Margaret Friedel/Rieks vanKlinken et al. – understanding perceptions of buffel

### 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. 23-24 Sept 2009 participation

Visit: [www.lwa.gov.au/weeds](http://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' session issues: social, economic & institutional influences in weed management

Your input: final workshop session at 3.30pm

### 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

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