

***Are boundary organisations inherently vulnerable? Lessons from the life and death of Land & Water Australia***

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# Outline

- **Context:**  
the need for ‘joined up’ science and policy
- **The role of bridging or boundary organisations**
- **The evolution of Land & Water Australia (LWA)**
- **Lessons from the demise of LWA**

Our local context...





# CONTEXT

## profound technical challenges

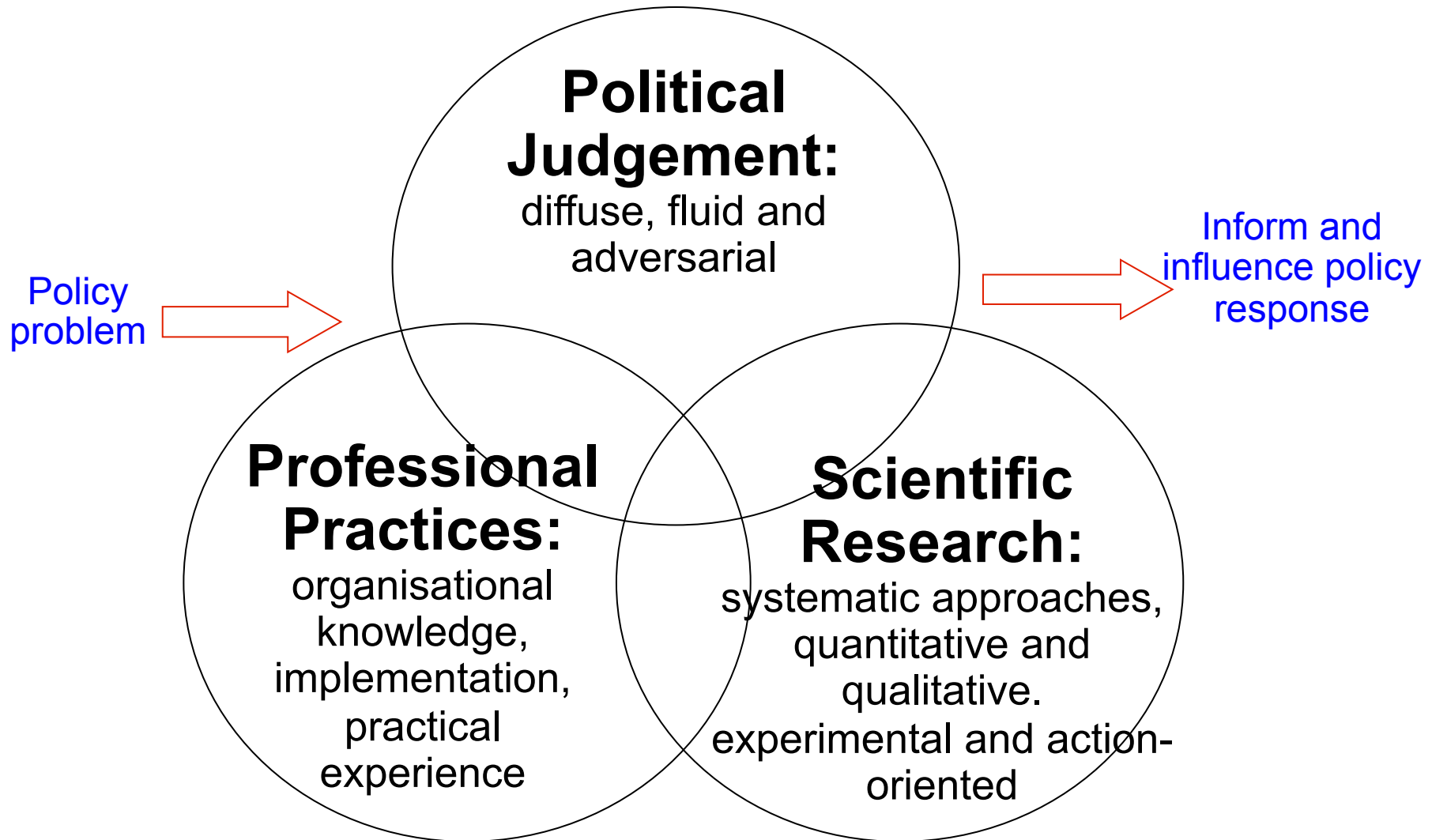
- To decouple economic growth from carbon emissions
- To adapt to an increasingly difficult climate
- To increase water productivity
- To increase energy productivity
  - while shifting from fossil fuels to renewable energy
- To develop more sustainable food systems
  - while conserving biodiversity and human livelihoods
  - improving landscape amenity, soil health, animal welfare & human health
- **TO DO ALL OF THIS SIMULTANEOUSLY!**
  - improving sustainability and resilience



# The Science-Policy Interface

- Contested, crowded, contextual
- Stakes high, decisions urgent, facts uncertain or disputed
- Science thrives on a contest of ideas
  - This can be problematic in public debate (e.g. climate change)
- Public officials just one of many sources of advice
- Ministers/governments prefer wins, credit, initiatives
  - over problems, conflict, confusion
- **Durable relationships are critical**
  - **based on mutual respect and trust**

# Three lenses of knowledge & evidence





# The nature of policy questions

- Policy issues tend to be in the applied research domain
- Key questions revolve around  
“What should we do?”
  - What policy settings or interventions will have what impact?
  - Who will be affected? How? How much? When? and Where?

# Scientists entering policy debates are often ill-equipped

*“When scientists do enter the political arena, they must understand they are playing to different rules from those used in science and need to learn the rules of politics and the media. Unless they understand the rules and tactics of policy debate it is like them walking on to a tennis court equipped only with golf sticks.”*

Peter Cullen





# The knowledge-seeking behaviour of policy makers (after Cullen et al 2000)

- Senior policy makers are time-poor, information-overloaded people, most of whom don't read much unless they have to;
- Only know what they need to know when they need to know it
- Have a very short-term, reactive perspective
- Rarely stay long in the same job — deep content knowledge is rare
- Want to summarise info in less than 1 page for Minister/top brass
- Averse to anything too complicated
- Default to trusted sources, often in-house, even when they suspect those sources may be out of date or incomplete
- May have a jaundiced opinion of science, believing it is:
  - too slow and too expensive
  - answering questions that no-one has asked, always after more \$\$

# Knowledge fit for purpose

- Understand the knowledge need, in the application context
  - What type of info is needed, by whom, **when** and in what form?
  - Do you need to put a dollar figure on everything to make a better decision?
- How good does the information have to be?

## ANSWER: **GOOD ENOUGH!**

- This includes the process used to generate the numbers
  - expert/stakeholder interaction etc
- Having the science won't necessarily win the argument
  - Understand the politics and the economics
  - Publishing in a refereed journal can help, and can often be negotiated up-front



# Perspectives from the top (I)

Terry Moran, Institute of Public Administration, 15 July 2009:

Reflecting on the challenges of public sector reform:

*“ By and large, I believe the public service gives good advice on incremental policy improvement. Where we fall down is in long-term, transformational thinking; the big picture stuff. We are still more reactive than proactive; more inward than outward looking. We are allergic to risk, sometimes infected by a culture of timidity....*

*The APS still generates too much policy within single departments and agencies to address challenges that span a range of departments and agencies... We are not good at recruiting creative thinkers. ”*

**Clearly, we need boundary organisations!**



# Boundary organisations

- **Clarify the nature of the ‘boundary’**
  - between science and policy?
  - between research and its mobilisation?
  - across disciplines, industries, issues or jurisdictions?
- Boundaries rarely clearcut, often blurry, fluid, porous, dynamic
- **THESIS:** Effective boundary organisations need to be multilingual, multicultural, nimble, alert, far-sighted (back and forward), with clarity of purpose and strategy
- **QUESTION:** Must boundary organisations be seen as ‘honest brokers’ in order to be effective?
  - there is no such thing as neutral, value-free facilitation



# Land & Water Australia [2005]

- ◆ One of 14 Rural R&D Corporations and related companies - an Australian Government Authority
- ◆ we buy, broker and manage research, we don't do it
- ◆ managed corporately, independent Board
- ◆ host agency National Land & Water Audit
- ◆ ~\$12m appropriation; ~\$30m spend
- ◆ >30 co-investing partners at program level



# Land & Water

A U S T R A L I A

research • development • innovation

## Mission [2000]

To provide national leadership  
in generating knowledge,  
informing debate,  
and inspiring innovation and action  
for sustainable natural resource  
management.

research • development • innovation







# Land & Water

A U S T R A L I A

research • development • innovation

## Dimensions of 21<sup>st</sup>C NRM issues

- ◆ highly variable spatial and temporal scales
- ◆ the possibility of absolute ecological limits
- ◆ irreversible impacts and related policy urgency
- ◆ complexity, connectivity, uncertainty & ambiguity
- ◆ cumulative rather than discrete impacts
- ◆ value-laden issues & new moral dimensions
- ◆ systemic problem causes
- ◆ contested methods and instruments
- ◆ ill-defined property rights and responsibilities
- ◆ expectation of community participation

research • development • innovation







# Land & Water

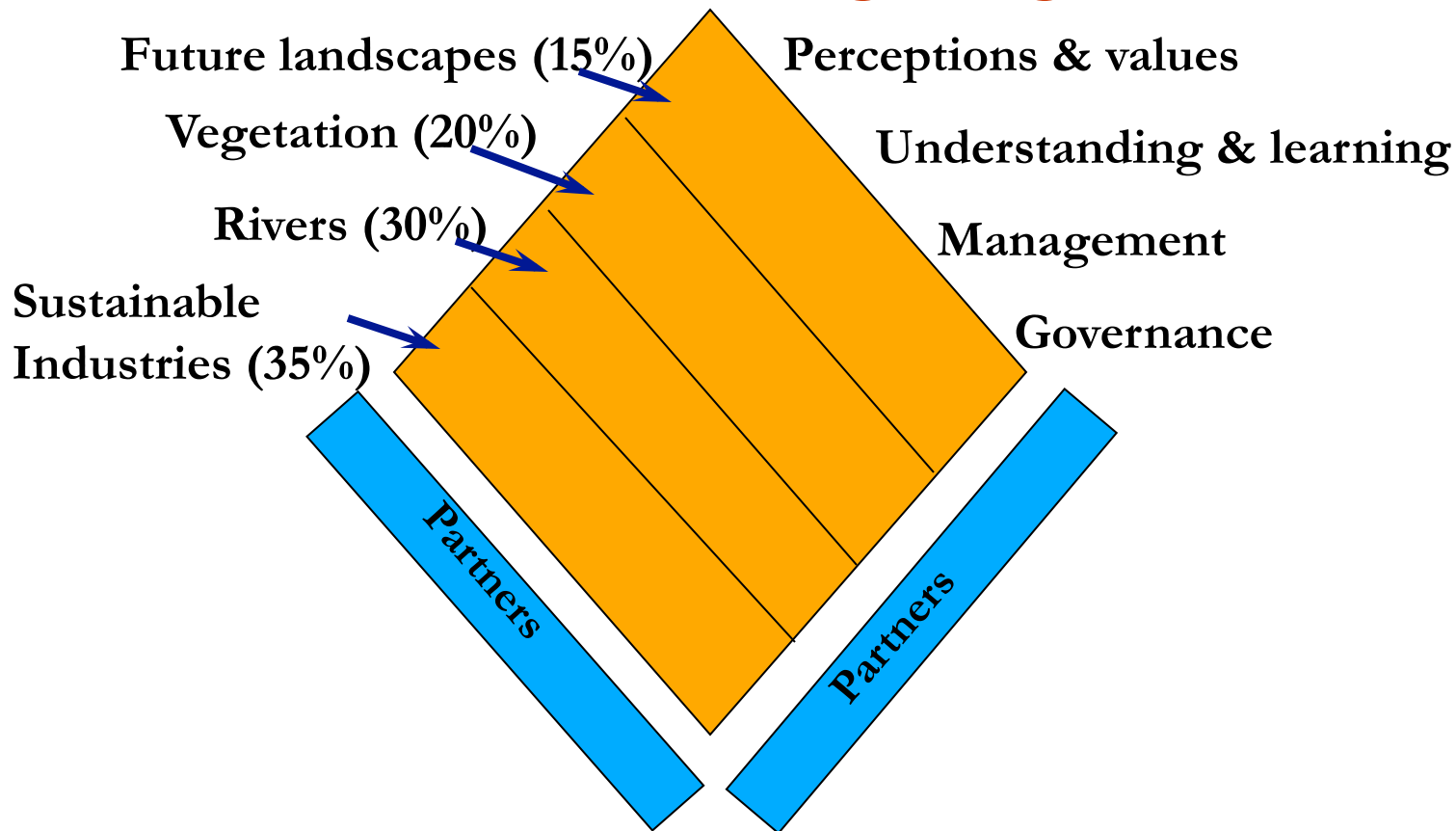
A U S T R A L I A

research • development • innovation

## R&D Matrix [2000]

### R&D Arenas

### Integrating Themes



research • development • innovation





**Land & Water**

A U S T R A L I A

research • development • innovation

# The republican economy in 2020

- ◆ GDP growth redundant as a PI for government
- ◆ more ecosystem services valued
- ◆ tax systems tend to penalise resource depletion & degradation, & reward investment in natural capital
- ◆ prices paid by consumers and received by producers better reflect environmental costs and benefits
- ◆ more Australian rural exports (by value) derived from native plants, animals & landscapes; value-added

research • development • innovation



# [2002] We need farming and land use systems that are...

- ◆ anticipatory, flexible, responsive, opportunistic
- ◆ diverse, resilient, well-buffered
- ◆ fine-tuned to climate, markets, consumers
- ◆ much more productive & profitable at a landscape scale (much more intensive in spots, much less intensive elsewhere)
- ◆ less colonial in structure
- ◆ more uniquely Australian
- ◆ sensitive to their regional & social context



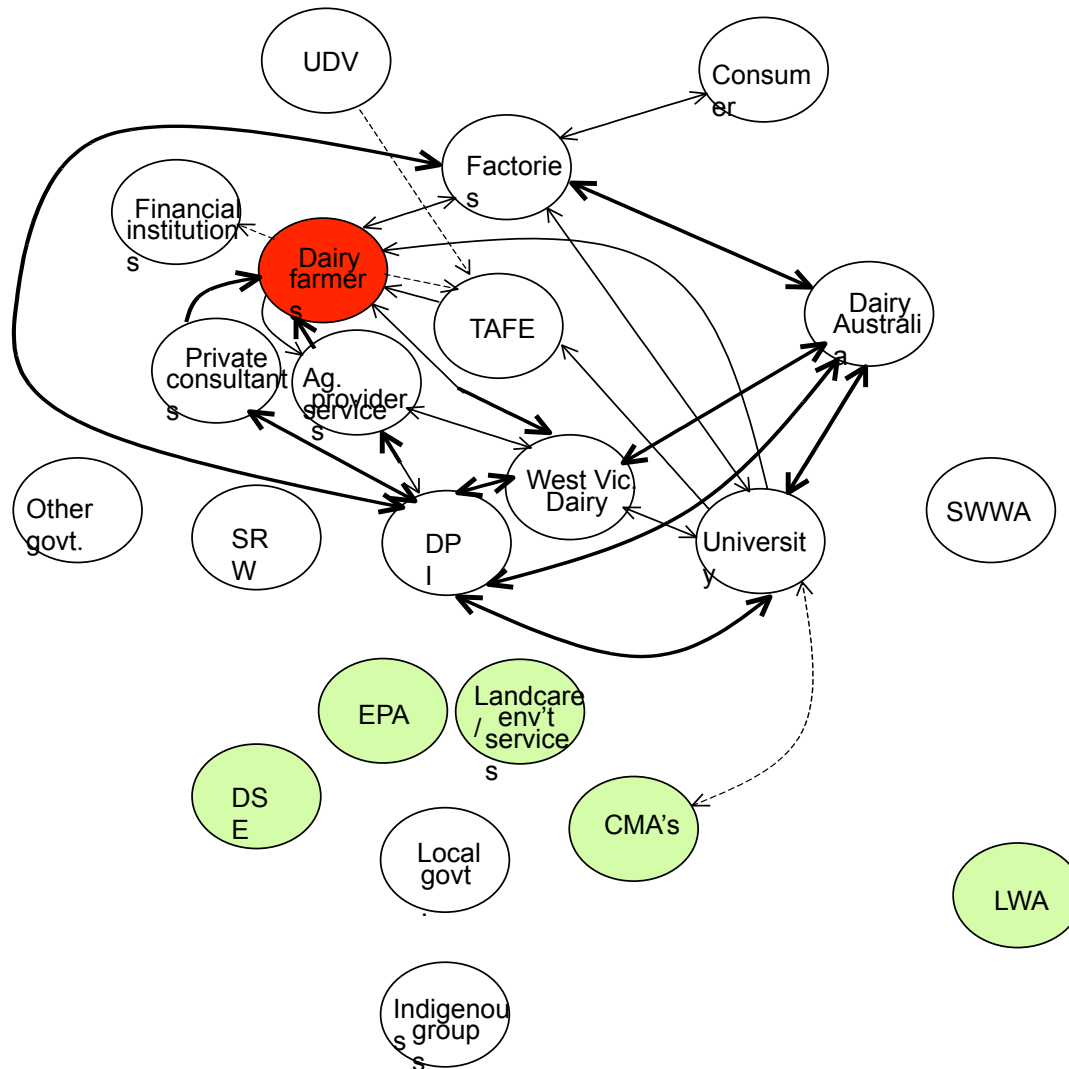


# Policies for managing Australian landscapes [2003]

- getting signals right, and cost-sharing
- juicier carrots and smarter sticks
- clarifying property rights & responsibilities
- sorting out water allocation & land clearing
- C21 legislation - ecologically literate
- vertical integration of governments
- new institutions at catchment/regional scale
- informing and regulating markets
- managing knowledge

# Information & Knowledge Flows [2004]

## South-West Victorian dairy farmers



- Note no direct connect between CMA and dairy farmers
- Nor from DSE or EPA to dairy farmers
- Distance from dairy farmers to LWA is even greater
- Dairy Australia connect is stronger
- Milk factory, DPI and consultant connect is strongest
- CCMA needs to work more through Milk factory, DPI and ag service providers to get to dairy farmers



# Applied R&D [2006]

- ABS categorises research into four types:  
pure basic; strategic basic; applied;  
and developmental
- **We focus on the last three, especially applied**
- Applied research “*seeks to acquire new knowledge with a specific application in view*”
- We know the application context
- We know the intended end-users & beneficiaries
- We can tease out the nature of the knowledge need
- We can identify prospective adoption pathways





[http://  
products.lwa.gov.  
au/products/  
pk071243](http://products.lwa.gov.au/products/pk071243)



- **Funds collaboration and linkages – the arrows, not just the boxes**
- Understands who is doing what and has a good understanding of national capacity
- Centre of the nervous system and has the best overview
- Looks for and brokers links across boundaries
- Builds and nurtures relationships and develops networks



- **Recognises & fosters creativity, develops ideas**
- Spontaneous rather than directed
- Treats each innovation as a separate entity
- Flexible financing model – able to move and commit funds quickly
- Opportunistic and entrepreneurial
- Not rigid about process





- **Works very hard to understand client needs, culture and values**
- Works within clients' operating systems to meet their needs
  - understands their systems and leverage points
- Action learning and participative processes
  - involves clients in designing R&D
- Shares knowledge and develops priorities jointly
- Uses and builds on existing delivery pathways for adoption
- Respects and incorporates non-scientific knowledge



- Clear destination and purpose
- Strong real-time intelligence gathering, constant external scanning
- Accepts that there are many alternative futures
- Highly responsive to new opportunities
- **Continually refines course**
  - **as opposed to rigid five year plans**
- Focus on monitoring and evaluation in an adaptive sense, rather than after the fact



- **Knowledge is the base capital**
  - drives economic growth, jobs and behaviour
- Explicit about epistemologies
  - how we know what we know
- Pays attention to knowledge assets
  - even 'old' projects & programs
- **Recognises all forms of knowledge and respects different knowledge domains**
- Articulates links between data, information and knowledge
- Recognises complexity and uncertainty
- Analyses knowledge systems and applies knowledge management concepts & tools

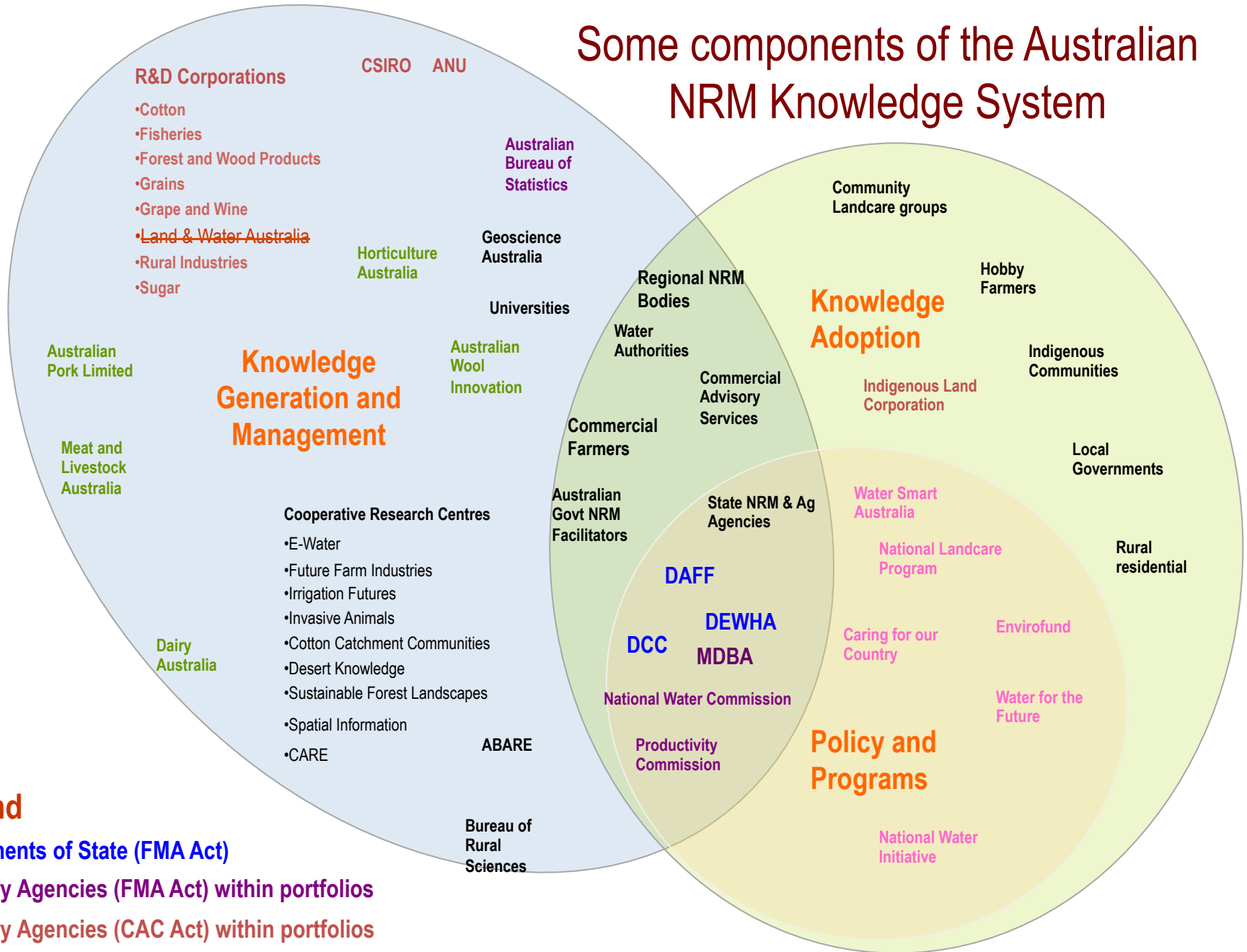




- **Negotiates research focus between researchers and end-users – translates knowledge needs into researchable questions**
- Synthesises research outputs across projects & programs to meet defined end-user needs
- Able to understand and be understood by both scientists and end users
- Combines technical literacy and know-how with client empathy and credibility
- Analyses and understands delivery pathways and how to plug into them
- Analyses knowledge gaps and needs, stays in close touch with end-users



# Some components of the Australian NRM Knowledge System



## Legend

Departments of State (FMA Act)

Statutory Agencies (FMA Act) within portfolios

Statutory Agencies (CAC Act) within portfolios

Corporatised R&D Corporations (Statutory Funding Agreement)

Funding Programs



# Communication (knowledge & adoption)

- **Make it real**
- **Resource it**
- **Instil it in the culture of the organisation**
- **Plan K&A from the start. It will:**
  - influence the research methodology
  - encourage involvement of stakeholders in design and management of the research
  - target research questions to user needs
  - assist implementation, and
  - improve the adoptability of research results

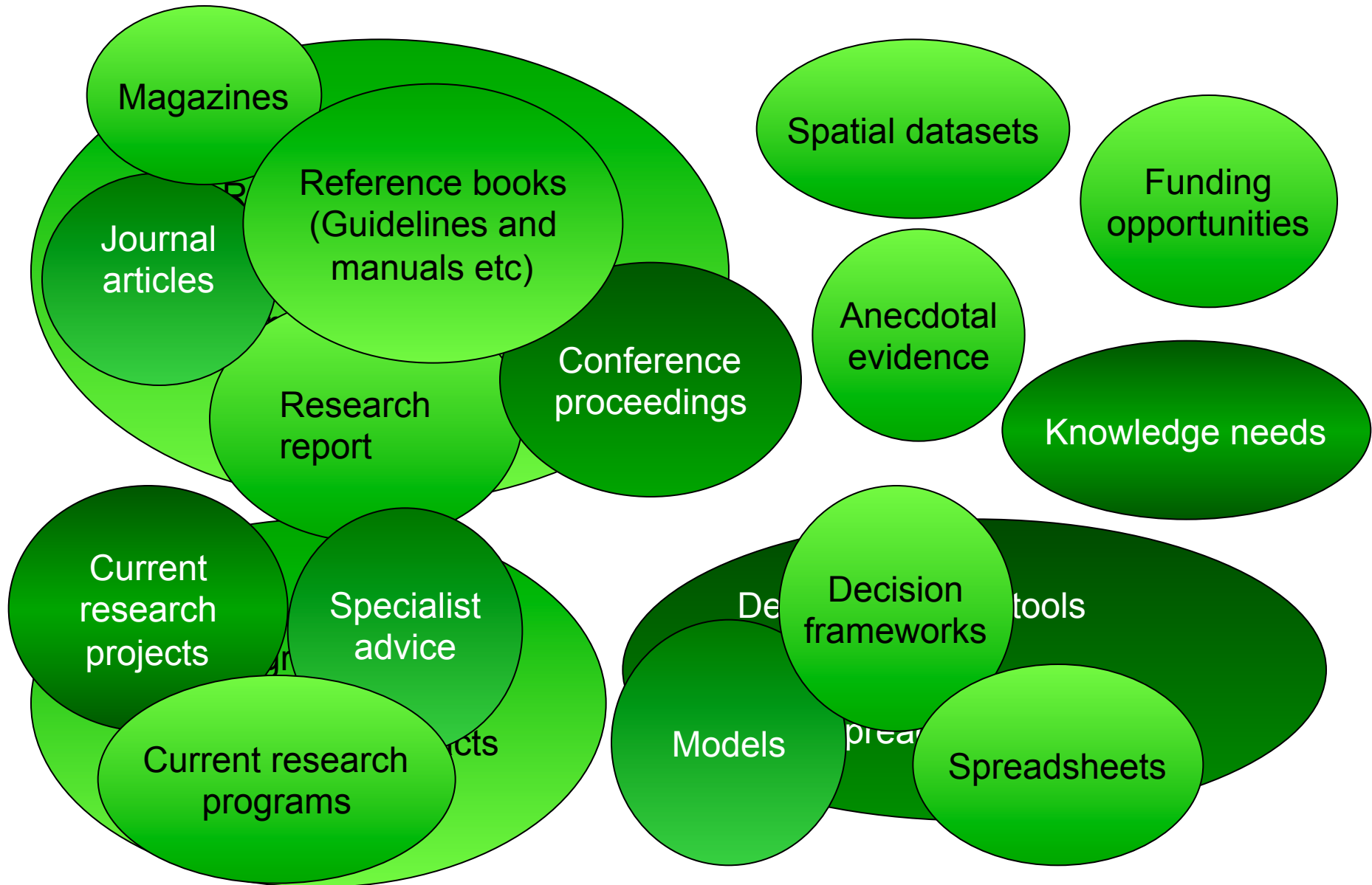




# Managing the knowledge legacy

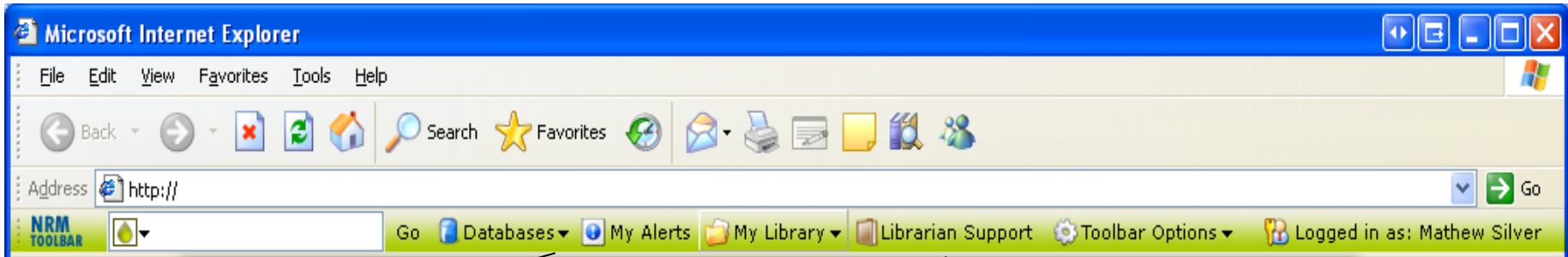
- **The legacy must be planned and budgeted for**
  - How will research results be managed over the adoption timeframe?
  - How will people access info after the program has finished?
  - Project level results may be less useful than synthesis products or activities across projects or even across programs - targeted at user needs, in their context at the appropriate scale
  - Consider a harvest year
  - Engaging with intended users or stakeholders, even just market testing products, can help ensure that outcomes are used and embedded

# Knowledge assets of interest





# NRM Toolbar interface



**NRM search**  
**Google Australia**  
**Organisation assets**  
**Advanced**

[\[Searches on selection\]](#)



*Square icon indicates which search engine is selected*

**R&D Directory**  
**This Worked Here!**  
**Knowledge needs**  
**Events and funding**  
**Decision tools**  
**Knowledge market report**  
**Add/Delete databases**

[\[Click name to open My library\]](#)

Click dropdown to view list of folders (Playlists) that stays open to allow drag and drop from search results

[\[Click to see current alerts plus access alert settings\]](#)

[\[Click name to see librarian services\]](#)

Includes form for requesting information from the librarian

**My profile**  
**Customise my toolbar**  
**Update toolbar**  
**Uninstall toolbar**  
**Help**  
**Contact us**

[\[Click to logout or login as someone else\]](#)



# Infiltrating Power with Science

## Tips, Tools & Tricks [2007]

- **100 Key Influencers** list, constantly updated
  - including rising stars and Minister's 'kitchen cabinet'
- Employ knowledge brokers, manage relationships actively
- Respect the 'no surprises' rule always
- Synthesis products - distilled, digestible information targeted to end-user needs
- Timing is everything, and face to face is best
  - Breakfasts, face to face briefings (facilitated one to one), field days
- Develop & apply adoptability filters
- **Fund the arrows, not just the boxes**





**LWA**  
**synthesis**  
**product**  
**~2005**

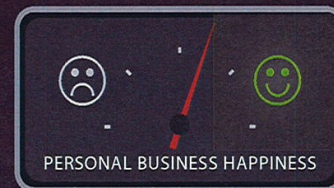
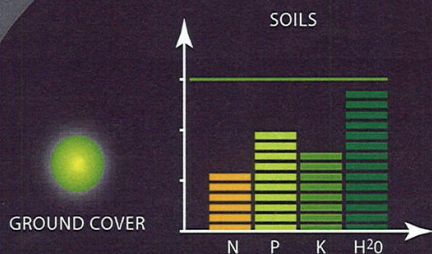
# Sustainability Dashboard Concept

Environment

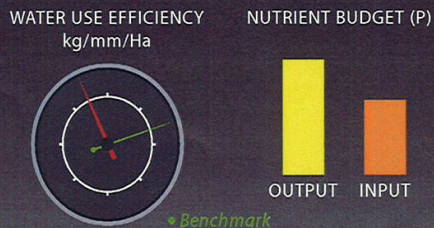
Financial

Social

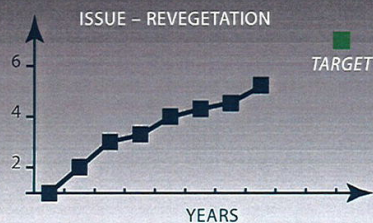
Resource  
 Stocks  
 (Condition)



Efficiency



Management  
 Practices





## 4. Design principles for intelligent research investment [2009]

- Long institutional memory and outlook
- Mandate and Governance
- Capabilities in people, systems and processes
- Explicit investment in strategic, formative evaluation
- Stakeholder/end user engagement  
— without capture
- A collaborative, partnership-oriented institutional culture



# Why use dedicated CAC Act agencies?

Policy agencies/branches/sections under the FMA Act struggle to be intelligent purchasers of R&D because:

- they perform a wide range of roles other than research management;
- the FMA Act makes multi-year \$ and commercial partnerships more difficult;
- staff turnover undermines continuity, cohesion, credibility and corporate memory;
- they find it difficult to train and retain sufficient staff in R&D or KM roles;
- they lack specialised R&D project and contract management systems;
- they lack dedicated outreach systems to extend research outputs (especially if results contradict the policies of the government of the day);
- they find it difficult to manage knowledge legacy issues;
- evaluation processes oriented to accountability within particular programs, rather than adaptive learning across a whole portfolio through time.



# The demise of LWA

- Still hurts
- Abolished in the May 2009 budget as a 'savings measure'
- In the 2007-8 year, government appropriation of \$13m was matched by \$24m in cash from 64 co-investing partners
- Return on investment (based on BCAs of 25% of the total portfolio back to 1990 using conservative assumptions) rose from a BCR of around 4:1 over the first decade to around 6:1 after 19 years
- In 2008-9, more than 30,000 people received info directly from LWA and 17,000 farmers participated in field days, workshops and training
- An independent international review in 2005-6 described the corporation as 'an exemplary high-performing public sector agency with world-leading research planning and evaluation systems'
- 2011 Productivity Commission [Inquiry into Rural RDCs](#) recommended LWA be reinvented with a broader mandate & budget of \$50m/year

- **Why was LWA assassinated?**
  - Poor governance & decision-making at Ministerial, Departmental, Chair, Board and CEO levels
  - The intense haste, pressures and paranoia of budget week
  - Lack of 'die in a ditch' political support by key stakeholders
    - ACF and NFF (statutory representative organisations)
    - Researchers
    - Professional bodies
    - Other RDCs
- LWA was liked by most, adored by few and owned by one (DAFF)
- No levy payers (other than Australian taxpayers) meant it was not protected by the matching funding provisions of the PIERD Act 1989

## Are Boundary Organisations inherently vulnerable?

- managing relationships across the boundary is crucial
  - demonstrating the value proposition is essential
  - a durable funding base is highly desirable
- 
- In my view, it is more difficult to be an effective synthesiser, integrator, broker or boundary spanner than it is to be a brilliant specialist.
  - Measuring the value added by often subtle processes is difficult.
  - Hence the answer to the question above is probably **yes**.

**BUT, given the context, I think we need effective boundary organisations more than ever!**



A photograph of a pond with several large, green lily pads floating on the water. A single, pink lotus flower bud is in the center, emerging from the water. The water is a deep blue color. The text is overlaid on the lower half of the image.

**<http://riel.cdu.edu.au>**

*see “The Getting of Knowledge: a guide to funding  
and managing applied R&D”  
and “The Australian NRM Knowledge System”*