

# Relationships in Applied Research – sustaining the zing

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# Outline

- **Introduction**
- **Applied research**
- **Relationships**
- **Managing relationships**
- **Managing knowledge for adoption**
- **The many hats  
of a research manager**

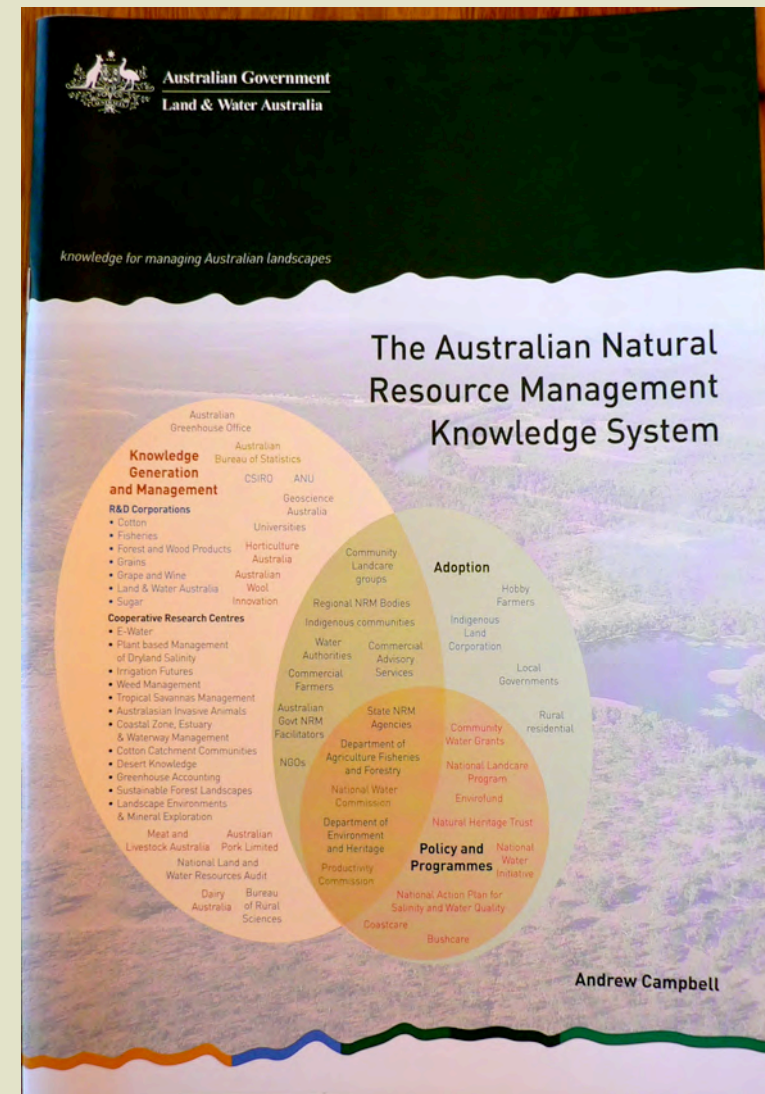
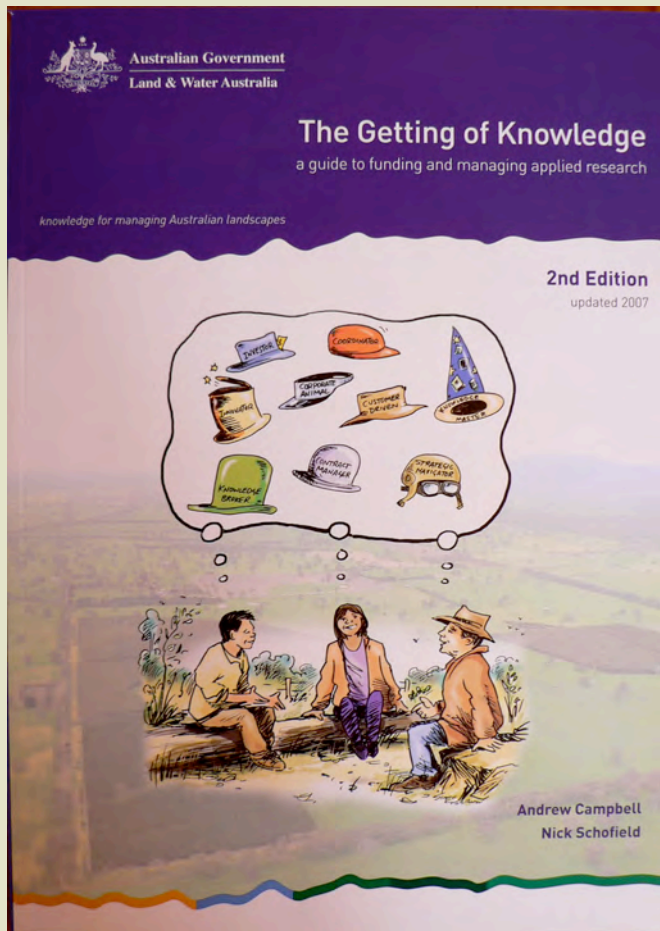


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**This presentation owes a great deal to many insights, tips and advice offered sagely, cheerfully and sometimes provocatively over many years by Peter Cullen — a champion in maximising the influence of research and telling truth to power.**



For more info  
[www.triplehelix.com.au](http://www.triplehelix.com.au)



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# My perspectives

- Farming background south-eastern Australia
- Forestry & rural sociology training
- Extension officer, Victoria
- National Landcare Facilitator
- Post-grad studies, Holland & France
- Senior Executive, Australian Government
- 7 years as CEO of Land & Water Australia
- Triple Helix Consulting
  - landscapes, lifestyles & livelihoods
- Director, CRC Future Farm Industries

# Applied R&D

## four types of research (ABS):

pure basic; strategic basic; applied; and developmental

## This talk focuses 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



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# Relationships in applied R&D

- CRCs are research funders, brokers, managers and doers
- CRCs are collaborative, catalytic, capacity builders
- In general, the discretionary cash component is a small slice of the total CRC effort, and the total CRC effort is small in comparison to total investment in the relevant sector
  - Ditto with human resources: CRC staff vs CRC in-kind vs total sector
- Return on investment (ROI) in the CRC is measured ultimately by impact - how did the CRC make a difference?
- To maximise impact and hence ROI, CRCs need to influence others



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# So CRCs are in the relationships business

- Relationships with end-users (and intermediaries) are critical for adoption of R&D (and hence impact and ROI)
- But relationships are not just about adoption:
  - They are crucial in building critical mass and research capacity
  - They are fundamental if CRCs are to achieve their potential for leadership or even just ‘small c’ coordination within their sector
  - They are very important in securing and retaining resources (funding, staff and in-kind contributions)
  - and they are critical for managing risk, especially when things go awry



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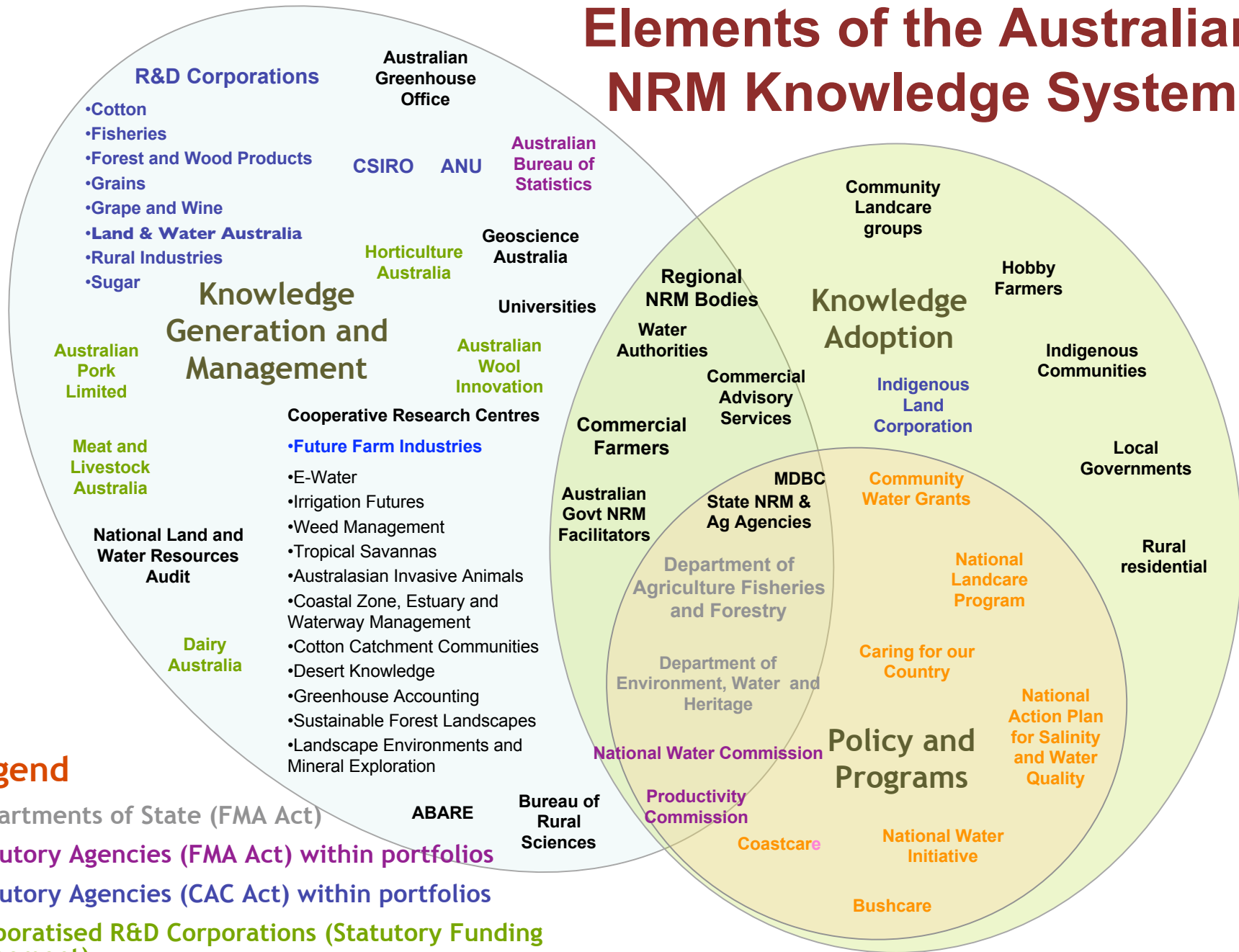
# Map key relationships

- Try to get a handle on those relationships that are most important for the CRC
- Analyse them systematically, e.g.
  - Key funders, stakeholders, participants, partners
  - Key research providers and science leaders within the sector
  - Key players & next users on commercialisation/adoption pathways
  - Potential blockers, critics and/or competitors
  - Opinion shapers within the wider sector
    - E.g. media, NGOs, backbenchers
  - The general public
- Check the pulse regularly!



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# Elements 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

# Differentiate relationships

- Against the key types of players, map out what sort of relationship you would want to have
  - e.g. informing vs conversing vs involving vs partnering
- Look at it from their perspective - what's in it for them?
- Think about the best ways to achieve mutual benefit, and to maintain or build it over time
- Identify relationships that are on the critical path for the CRC to deliver its business plan and achieve its goals
- Develop a plan for each of these, allocate resources and accountability



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# Tips & Tools

- **100 Key Influencers** list, constantly updated
  - including rising stars, industry leaders and Minister's 'kitchen cabinet'
- Respect the 'no surprises' rule, especially with funders
- Timing is everything, and face to face is best
  - Breakfasts, face to face briefings (facilitated one to one), event invites
- Good relationships need work - on-going
  - Fund the arrows, not just the boxes
  - Value continuity (staff turnover affects both ends)
  - Try to share credit, celebrate wins together, keep invites flowing
- Develop adoptability filters
  - Tailored to end user needs (involve them in design)



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# Relationships in context

- Good relationships are no substitute for good research
- Building and maintaining good relationships is difficult if research outputs are not relevant, adoptable, easily accessible, useful and well-packaged — **and vice versa!**
- To identify the most important relationships to manage, and to improve research outputs and delivery, it is critical to understand knowledge needs and adoption pathways
- **Example:** a CRC working on a sustainability issue, with target audiences in on-ground management, public policy and industry policy



A satellite view of Earth showing the continents of North and South America, with the Atlantic Ocean in between. The text is overlaid on the image.

# Sustainability issues are typically characterised by (after Dovers):

- 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 stakeholder/citizen participation

# The role of knowledge

- Knowledge (along with commitment and capacity) is one of three essential conditions for the development of more sustainable systems of resource use and management
- We need better knowledge for three reasons:
  - To help make **better decisions**
  - To underpin the **innovation** process
  - To **learn** as we go along  
(so that, as Peter Cullen said,  
at least we make new mistakes)



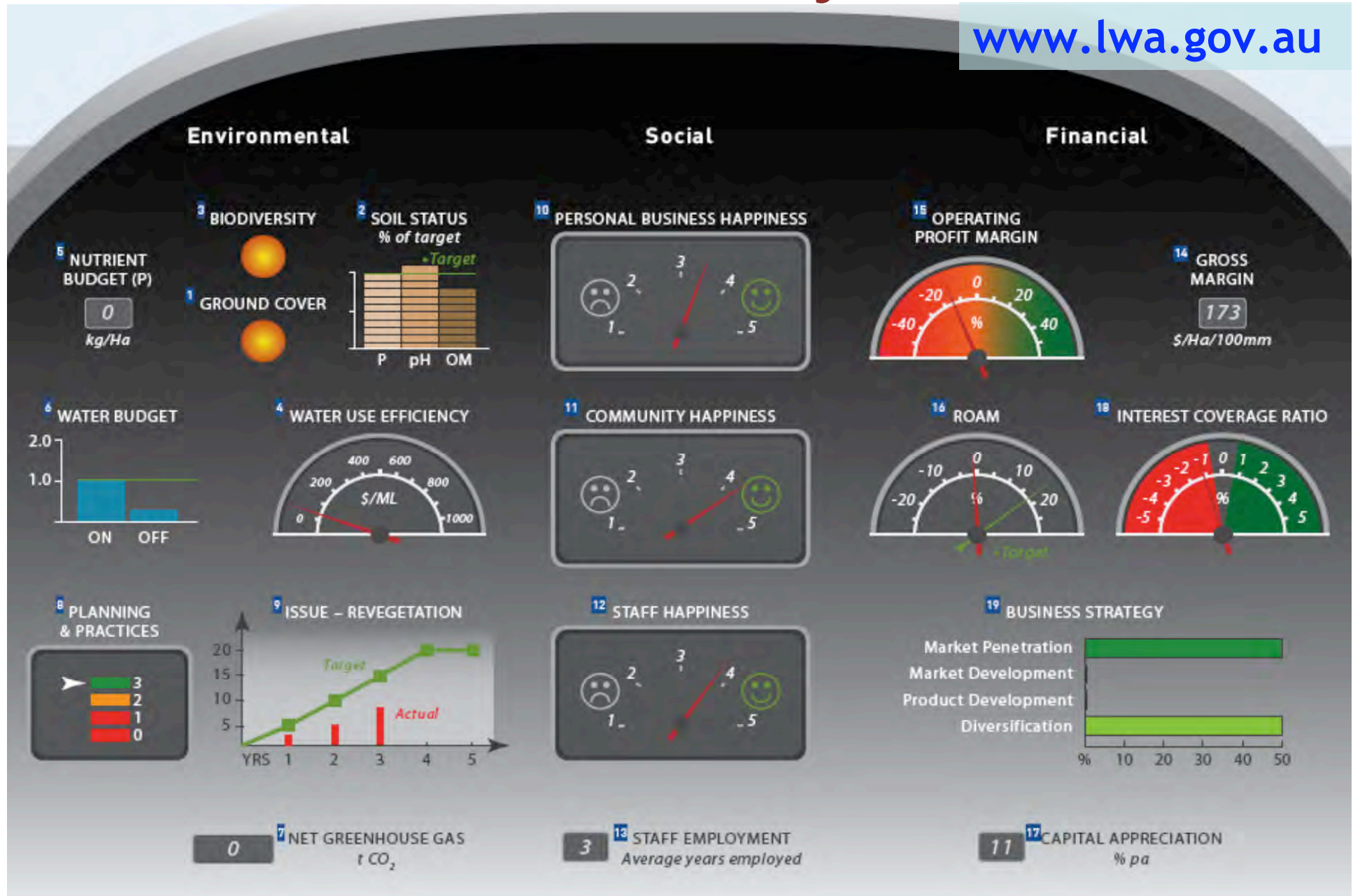
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# Adoption reality check

- Old adoptability rules still apply (Pannell et al 2006)
- Economic & regulatory signals remain weak
- On-farm change is more likely where innovations:
  - Offer relative advantage over existing systems/approaches
  - Are not too complex
  - Can be trialled, tested and evaluated (preferably on a modest scale)
  - “Fit” with the farmer’s outlook, capacity and farming system
  - Offer good returns within a reasonable timeframe

# SAGE Sustainability dashboard

[www.lwa.gov.au](http://www.lwa.gov.au)



# 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
- 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**



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# Policy makers

- Are time-poor, information-overloaded people who don't read anything 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/SES
- 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, accompanied by requests for more funding



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# Synthesis products & adoption pathways

- Distilled, digestible information & learning targeted to (well-researched) end-user needs
- Packaged around end-user needs & learning styles
  - Aggregating projects or even programs
  - Embedded in end-users core business & operating context
- Taking many forms, e.g.
  - publications, media, films, websites, e-newsletters, listservers
  - commercial spin-offs
  - courses, curricula materials, training modules
  - events
  - capacity building



# Synthesis products & adoption pathways — diverse examples

- **CRC FFI's EverTrain** (ag advisers & leading farmers)
- Mike Young's "Droplets" (senior policy makers)
- LWA's NRM toolbar (catchment & NRM bodies, NRM agency staff, NRM researchers & extension staff)

***"Systems make things possible,  
people make them happen"***



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# EverTrain (for Ag advisers & leading farmers)

## - CRC Future Farm Industries

**A key delivery vehicle for CRC FFI. Two streams:**

- 1. Accredited training** under Australian Qualification Framework (AQF)
  - 185 AWB Landmark agronomists & other field staff to Certificate III & IV
  - all FFI CRC post-grads, providing 'industry ready' graduates
  - Potentially CMA, state agency and agribusiness staff, & top farmers
- 2. Non-accredited training** directly relevant to FFI CRC technologies
  - **Delivered in multiple formats** through:
    - local workshops
    - an online Content Management System (CMS) with a regional focus that tracks student interaction



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# Overall EverTrain™ Concept

## Technologies (examples)

- 13 Headline Technologies from CRC Salinity
- EverDrop
- INFFER
- EverGraze - the next phase
- Salinity Knowledge Exchange Saltcap / SaltDecide
- Enrich - Phase 2

Non Accredited Training  
Field Days, Seminars etc.  
for 'next users'  
including extension agronomists  
in public and private sector

Details of events,  
participants and content  
captured and recorded  
(reporting purposes, follow  
up events etc.)

OPTIONAL PATHWAY -  
Development of formal  
accredited training  
package

EverTrain  
On-line  
(Content Management System)  
evertrain.edu.au

## Business Plan (Concepts)

Management Packages for Outcomes 1.2, 1.3, 1.4, 1.5 (June 2011)

Business Plan Outputs P1

Evergraze

- practical 500 farm
- Package 3000 end users
- Workshop for producer groups

Business Plan Outputs P2

- Management 2.2, 2.3, 2.4
- Evercrop for agronomists

Business Plan Outputs P4

- National Saltland Service Centre
- SaltCap saltland
- SALTDec target management

Business Plan Outputs P5

- Stakeholder engagement
- CRC salinity
- CATF

Business Plan Outputs P6

- Simulation Catchment

Business Plan Output 7.2

System of accredited training functioning effectively (June 2012) (EverTrain)

75% participants in NTP accredited to minimum Cert III (June 2014)

De catchment

## Accreditation Participants

Confirmed Participants  
Landmark Agronomists

Potential Participants  
Staff from:  
CMAs - NSW & Vic  
Catchment Boards - SA  
Agribusiness Firms - Elders, CRT etc

Within FFI CRC  
PhD Students  
Post Doc Staff  
Research Staff

Accredited Training under the Australian Qualification Framework  
Certificate III & IV in Rural Production  
Certificate III & IV in Conservation & Land Management

# “Droplets” (for senior policy makers)

[www.myoung.net.au](http://www.myoung.net.au)

- science for water policy - funded by LWA and CSIRO
- developed by Prof Mike Young, Adelaide University
  - modelled on Dave Pannell’s “Pannell Discussions”  
<http://cyllene.uwa.edu.au/~dpannell/pd>
- designed to get science into difficult policy issues quickly
- Timing critical
  - Emails to CEOs Sunday evening, 8 days warning of content
  - Feedback taken on board, but no guarantees
- 1-2 page distilled messages, No Surprises
- Influential already, even when unpopular



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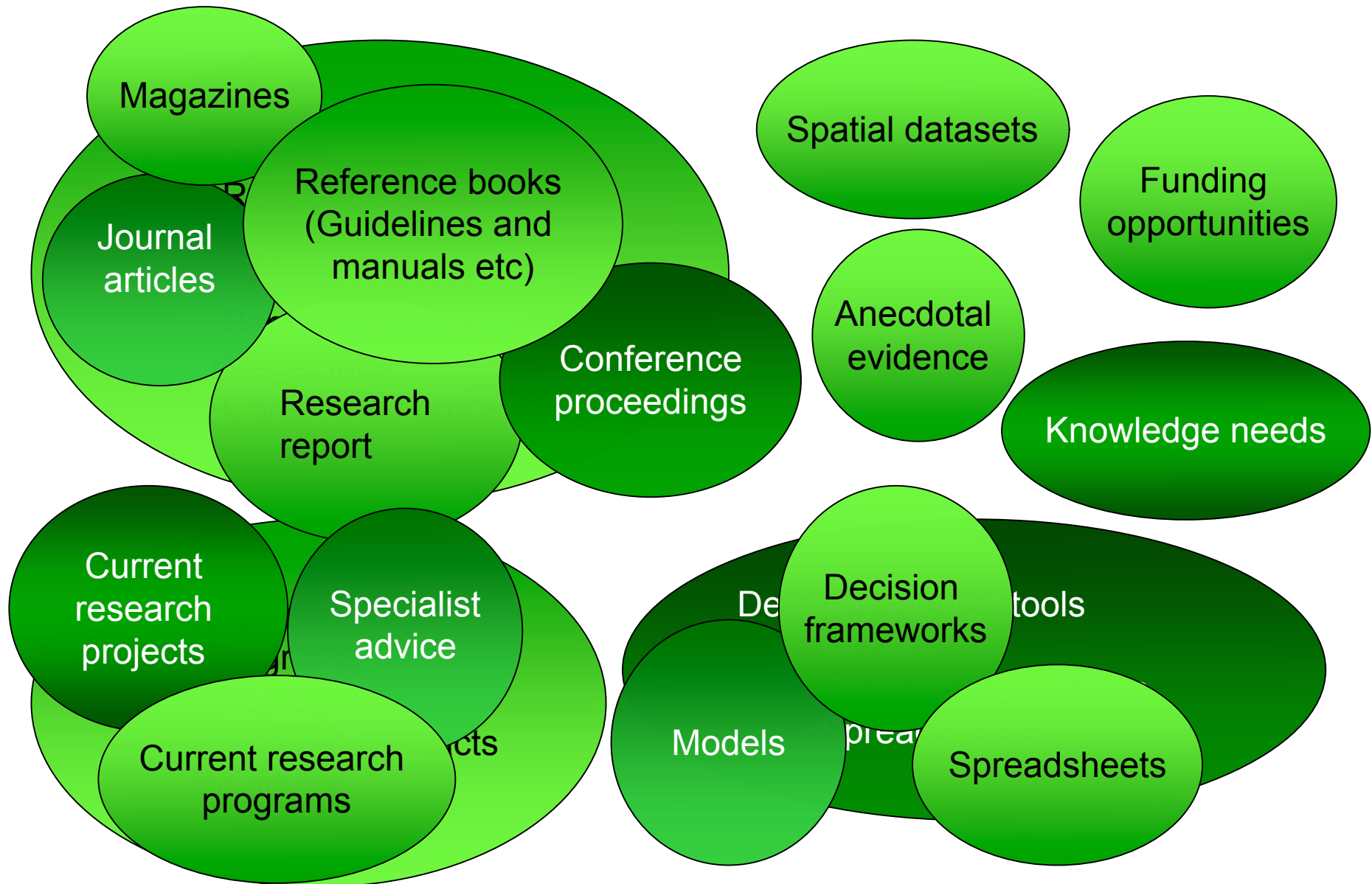
# Managing the knowledge legacy

- For many sustainability innovations, the shape of the adoption curve means that the majority of benefits accrue well beyond the 7 year life of a CRC
- The knowledge legacy is therefore critical in determining the long-term Return On Investment (ROI) for the CRC
- Legacy issues should be planned and budgeted for
  - How will research results be managed over the adoption timeframe?
  - How will people access info after the program/CRC has finished?
  - Project level results may be less useful than synthesis products or activities across projects, programs or portfolios - targeted at user needs, in their context
  - End-user engagement in R&D helps to ensure that findings are embedded in their core business



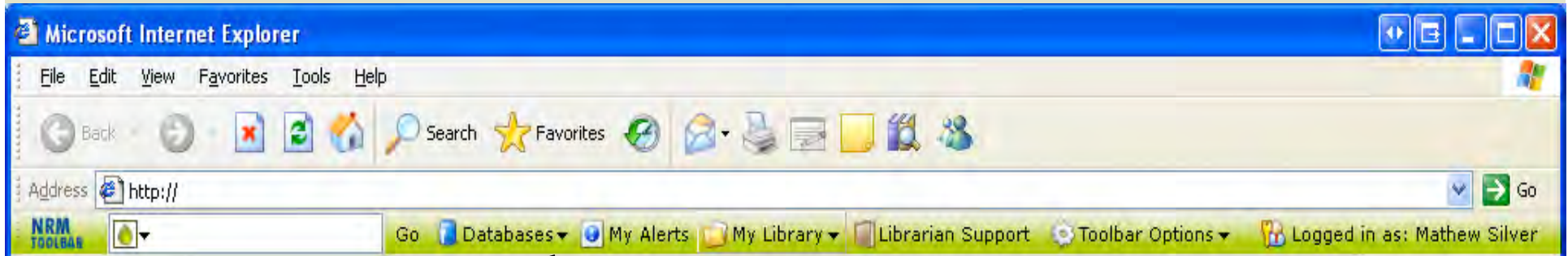
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# Knowledge assets of interest



# NRM Toolbar (for catchment bodies)

[www.nrmtoolbar.net.au/](http://www.nrmtoolbar.net.au/)



**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 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 see current alerts plus access alert settings]*

*[Click to logout or login as someone else]*

# The many hats of a research manager

- The focus here is not on how to do R&D, but on how to invest in and manage applied R&D
- This draws mainly on LWA experience over 17 years across a wide range of R&D programs
  - learning from failures as much as successes
- A significant emphasis on collaboration
- There is a rich menu of possible approaches to the business of organising collaborative R&D



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## The hats of a research manager (2)

- **These hats are not mutually exclusive**
- **The trick is to work out which mode(s) to adopt for a given context**
- **This requires good analytical tools**
- **And sufficient flexibility and capability to switch hats when appropriate**



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- **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/timeframes
- Action learning and participative processes
  - involves clients in designing R&D, especially deliverables
- Shares knowledge and develops priorities jointly
- Uses and builds on existing adoption paths
- Respects and incorporates non-scientific knowledge



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- **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



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- **Independent, skills-based Board, with strong corporate governance & accountability**
- Leadership and influence, top-down agenda setting
- Strategic alliances and partnerships
- Commercial focus
- Efficiency and performance orientation
- Hierarchical, rationalist, managerial in structure and process



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- **Negotiates research focus between researchers and end-users** – translates knowledge gaps 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



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



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- 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 5 or 7 year plans
- Focus on monitoring and evaluation in an adaptive sense, rather than after the fact



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- **Recognises & fosters creativity, develops ideas**
- Backs the jockey, c.f. prescriptive contracts
- Spontaneous rather than directed
- Treats each innovation as a separate entity
- Flexible financing model – able to move and commit funds quickly
- Opportunistic and entrepreneurial
- Works fluently across disciplines
- Not rigid about process



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- **Efficient, accredited systems, and professional contract staff**
- Strong service capability (legal, financial, IP, business, commercialisation, communication)
- Process accountability (governance, procurement, risk management, reporting, audit)
- Emphasises capability as an investment vehicle for other investors



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- **Focus on Return on Investment (ROI)**
- Balanced portfolio across asset classes
- Balanced portfolio risk
- Posits and targets where future returns may be generated – long term perspective
- Regularly reviews and adjusts portfolio



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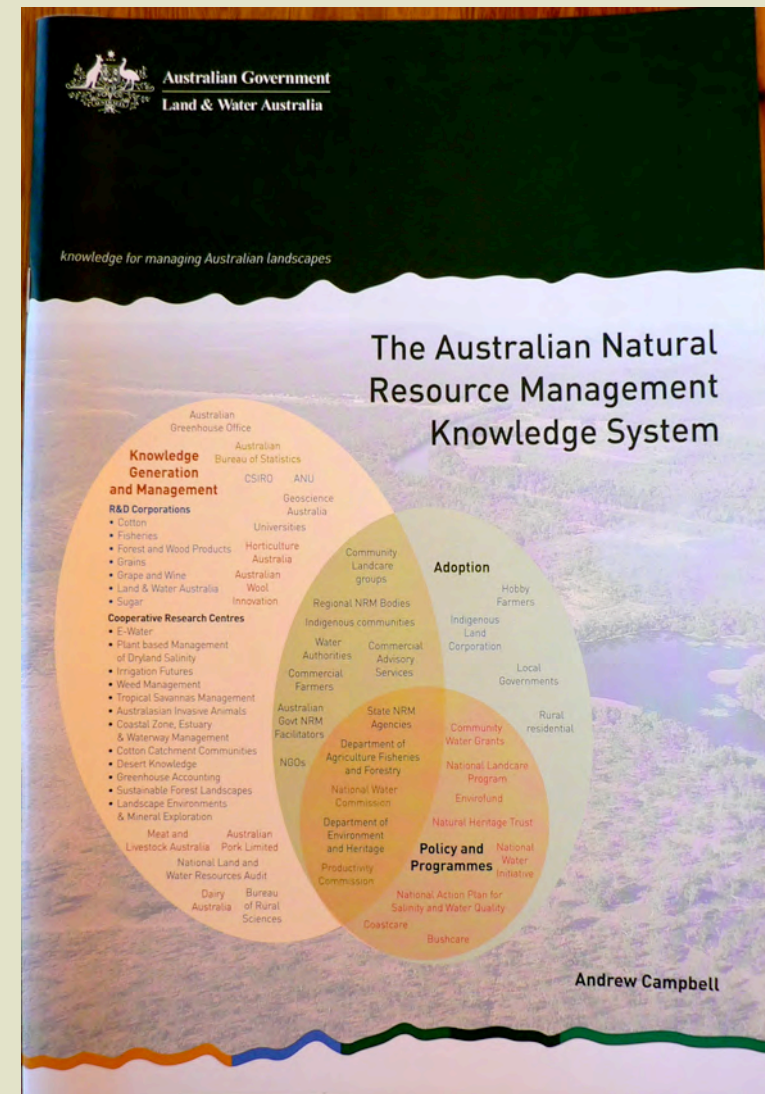
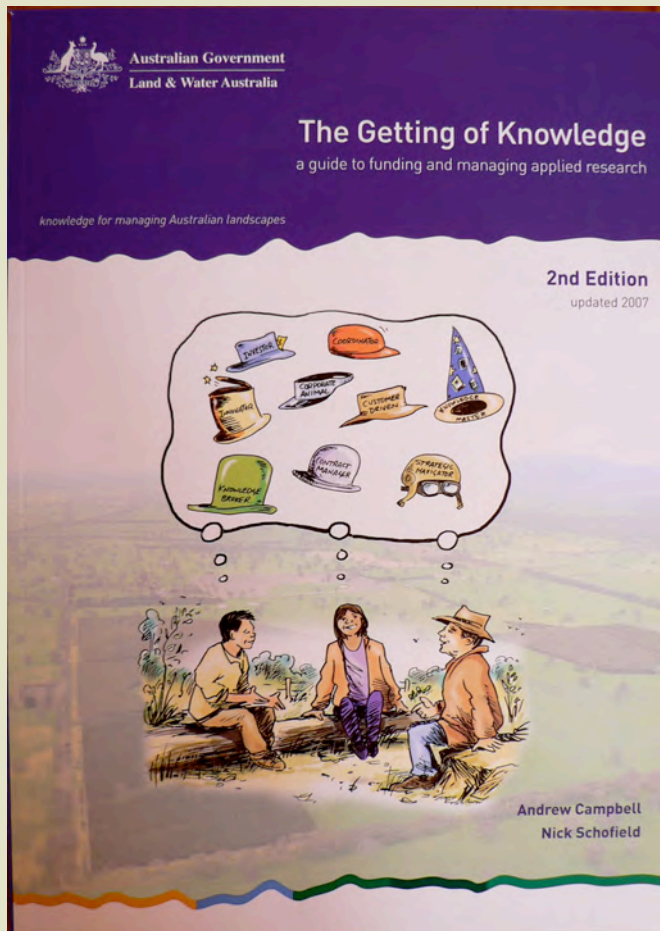
# Take home messages

- CRCs are in the business of applied R&D
- The ultimate return on our investment will be measured by our influence on the know-how, decisions and actions of others
- We need to analyse carefully who those 'others' are, and the kind of relationship needed with them
- And we need to act strategically to foster, nourish and sustain those relationships through time
  - Which is of course easier if research outputs are great & accessible!
- Done well, investing in relationships adds value to research quality, it does not undermine or displace it



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