

## Research to adoption – Addressing the challenges

Natural resource management involves large spatial scales, long time lags and complex interactions between a wide range of natural resources. Whilst these present major challenges to developing useful knowledge, there are additional challenges to turning knowledge into change on the ground.

Landscape Logic set out to establish links between management actions and natural resource condition, and in doing so improve the way scientific information is used to aid decision-making. To ensure effective adoption and implementation of the research findings by natural resource managers, policy-makers and decision-makers, Landscape Logic has adopted approaches to manage these RD&E challenges.

Some of the challenges facing the adoption of environmental information include:

### *Biophysical*

- long time lags between intervention and response
- large spatial scales
- multiple and varied drivers
- high levels of uncertainty.

### *Institutional*

- multiple ownership of natural resources (private and public)
- jurisdictional boundaries (Australian, state and local government, regional bodies)
- changing State and Federal government priorities and programs
- different planning, budgeting and reporting cycles
- varied organisational cultures and disciplinary language

### *Social*

- wide range of audiences (land owners and managers, catchment managers,
- turnover of personnel within partner institutions and target audiences.

The approaches and tools being used to address these challenges include

1. Participatory RD&E to ensure end-user ownership of the research.  
This involved scoping research topics and issues in partnership with natural resource managers, policy-makers and decision-makers and holding regular end-user communication activities such as project reviews, workshops and briefings.
2. Retrospective research that draws on archived data such as water quality and flow data and historical aerial photography. While historical data is often patchy, it is one of the few ways to overcome the long time lags involved in ecological processes.
3. Knowledge integration. This involves a range of different modeling approaches operating at different scales from state to region to catchment and sub-catchment including the use of Bayesian Decision Networks as the integrative tool to bring together model outputs and expert opinion.

Some of these approaches address more than one challenge. Some work better than others. The lessons learnt from Landscape Logic will hopefully be of benefit to other integrated natural resource management RD&E.



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**Day 2, 2.35pm**

**Area of work:** Knowledge broking

**Specialty:** Ensuring the outputs of Landscape Logic meet the needs of, and are adopted by, natural resource managers, policy-makers and decision-makers in Tasmania.

### **Take-home messages:**

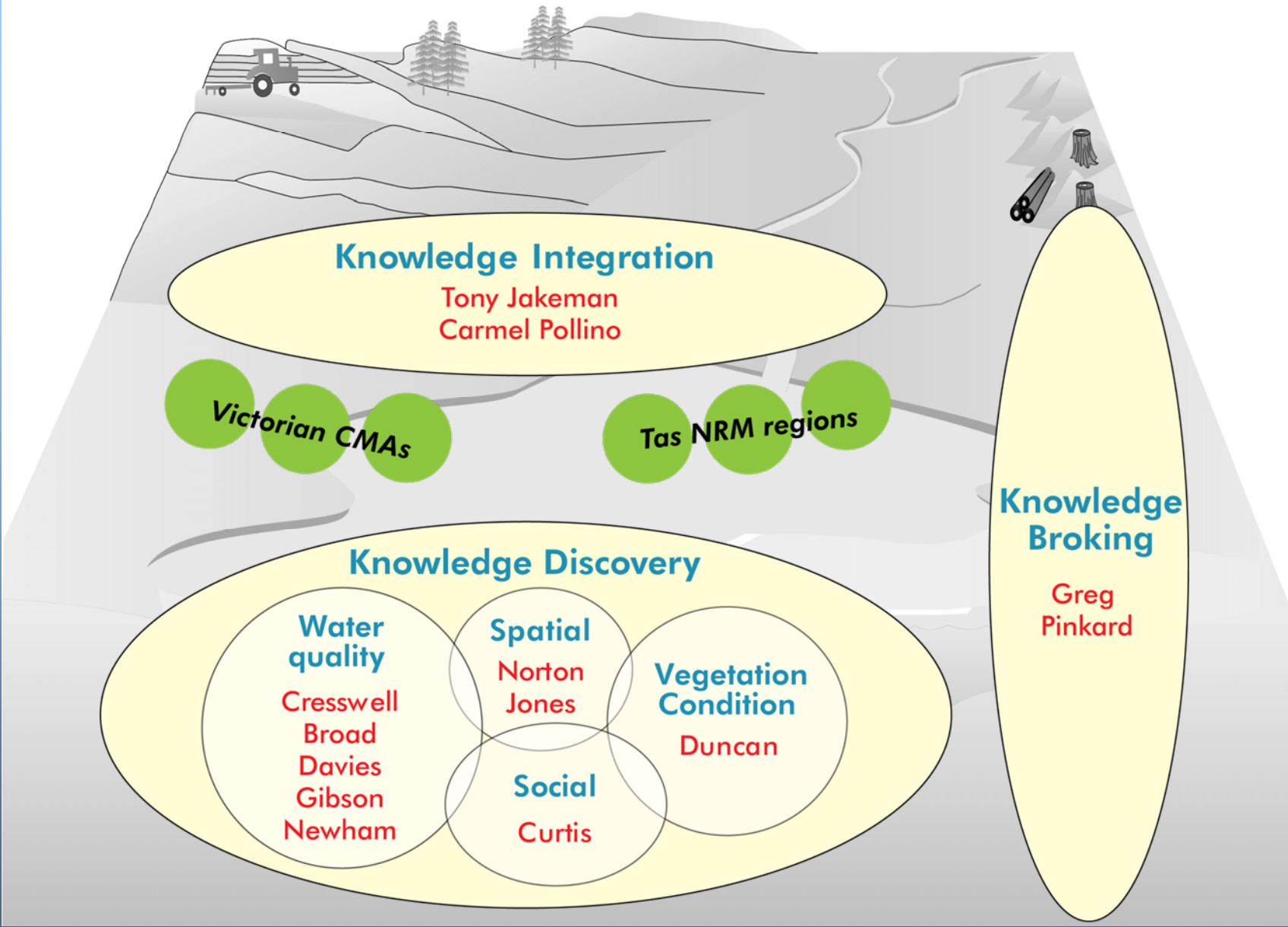
1. NRM managers and other end-users of environmental research should not be regarded as passive recipients of knowledge. Their insights and experience can be valuable in the design, implementation and delivery of research programs.
2. Participatory RD&E approaches can help to overcome the problems of limited relevance and low levels of adoption of NRM research outputs
3. The changing emphasis of State and Federal government programs and the differing planning, budgeting and reporting cycles remain significant challenges to participatory RD&E.

# RESEARCH TO ADOPTION

## ADDRESSING THE CHALLENGES



Greg Pinkard  
Tasmanian Knowledge Broker



# THE CHALLENGES

## BIOPHYSICAL

- Long time lags between intervention and response
- Large and varied spatial scales
- Multiple and diverse drivers
- Data availability and quality



# THE CHALLENGES

## INSTITUTIONAL

- Multiple ownership and management of natural resources
- Jurisdictional boundaries
- Changing government priorities and programs
- Range of planning, budgeting and reporting cycles
- Varied organisational cultures and language

# THE CHALLENGES

A group of approximately 15 people are gathered in a grassy field, possibly for a meeting or training session. They are dressed in casual to business-casual attire, including shirts, blouses, and trousers. Some are wearing hats. The background shows a vast, open landscape with rolling hills and a clear sky. The overall scene suggests an outdoor setting for a professional or educational gathering.

## **SOCIAL**

- Diverse range of audiences
- High turn-over of personnel within target audiences
- Research relevance

# THE STRATEGIES

## **P**ARTICIPATION

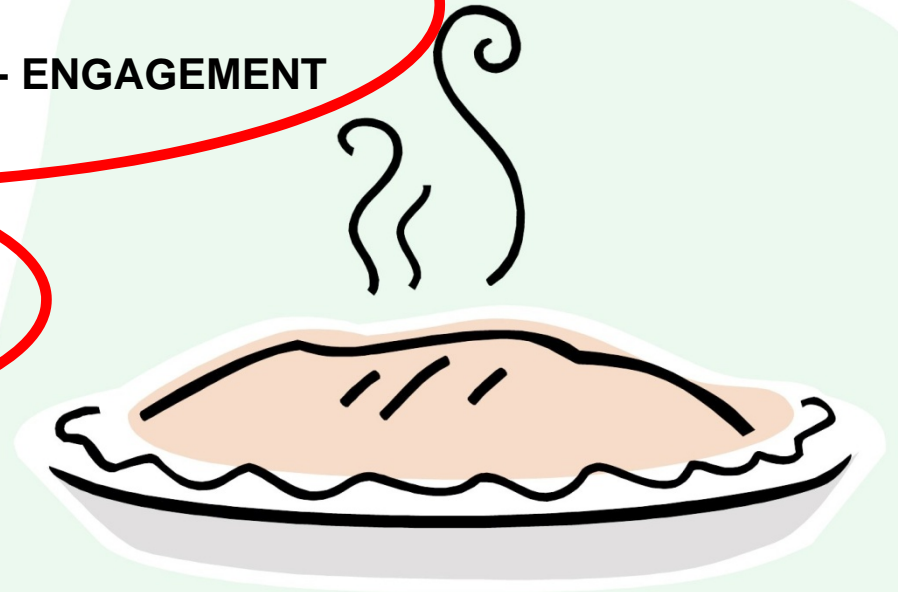
INVOLVEMENT- CONSULTATION - ENGAGEMENT

## **I**NTEGRATION

LINKING THE COMPONENTS

## **E**VIDENCE

MULTIPLE LINES



# THE STRATEGIES

## PARTICIPATION - WHY

- Development and ownership of focus questions of real interest to end-users
- Location of research sites (quality science and relevance to real-life situations)
- Recognition of local knowledge & previous work
- Design of deliverables (outputs and products)



# THE STRATEGIES

## PARTICIPATION - WHO

### END-USERS

- NR Managers (NRM Regions/CMAs, Landowners, Government), NGOs
- NR Decision Makers (Government, NRM Regions/CMAs)
- NR Policy Makers (Government)
- Researchers

# THE STRATEGIES

## PARTICIPATION - HOW

### INVOLVEMENT- CONSULTATION - ENGAGEMENT

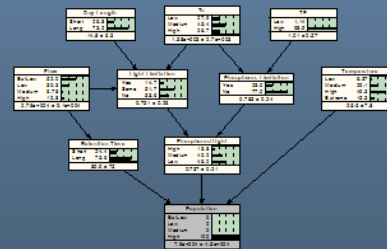
- Ongoing involvement in research planning and delivery
- Evidence collection (biophysical and social)
- Consultation on products
- Active knowledge transfer
- Skill enhancement



# THE STRATEGIES

## PARTICIPATION - OUTCOME

- Relevance of research
- Understanding
- Ownership
- Consistency with priorities
- Tailored products that will be and can be used



# THE STRATEGIES

- Still a “work in progress”
- Not all strategies are working perfectly
- Persistent challenges
  - Language
  - Values vs science
  - Timeframes
  - Turnover
  - Reward structures

# LESSONS LEARNT

- Participation essential from the beginning, but has implications
- Iterative approach to development of useable deliverables essential
- Changes in staff (internal and external) will occur and does have an impact
- Quality data seta (incl. spatial data) critical
- Coordination and communication team important
- Legacy from project crucial but a challenge

# TAKE-HOME MESSAGES

- End-users of environmental research should not be regarded as passive recipients of knowledge.
- Format of research outputs and products needs to be developed in consultation with end-users.
- Changing government programs and the differing planning, budgeting and reporting cycles remain significant challenges.
- Participatory RD&E approaches can help with relevance and adoption of NRM research outputs.