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INTEGRATED CATCHMENT MANAGEMENT
for the Motueka River

What is Integrated Catchment Management (ICM)?

Andrew Fenemor
Landcare Research, Nelson

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CAWTHRON

TDC Tasman District Council

NIWA Taihoro Nukurangi

NZ Landcare Trust

Common Ground Associates Ltd

Motueka Iwi Resource Management Komiti (MIRMAK)

Fish & Game NEW ZEALAND

forest research creative wood-based solutions

Institute of Geological & Nuclear Sciences Limited

SCIENCE MAKING A DIFFERENCE FOR A TRULY CLEAN, GREEN SUSTAINABLE NEW ZEALAND

Outline

- **ICM – a Practice and a Process**
- **ICM for the Motueka River**
- **Getting the Integration**
- **Links to Management**
- **A Vision for ICM across NZ**

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Defining
Integrated Catchment Management

Integrated Catchment Management is a process

that recognises the catchment as the appropriate organising unit for understanding and managing ecosystem processes

in a context that includes social, economic and political considerations, and

guides communities towards an agreed vision of sustainable natural resource management in their catchment

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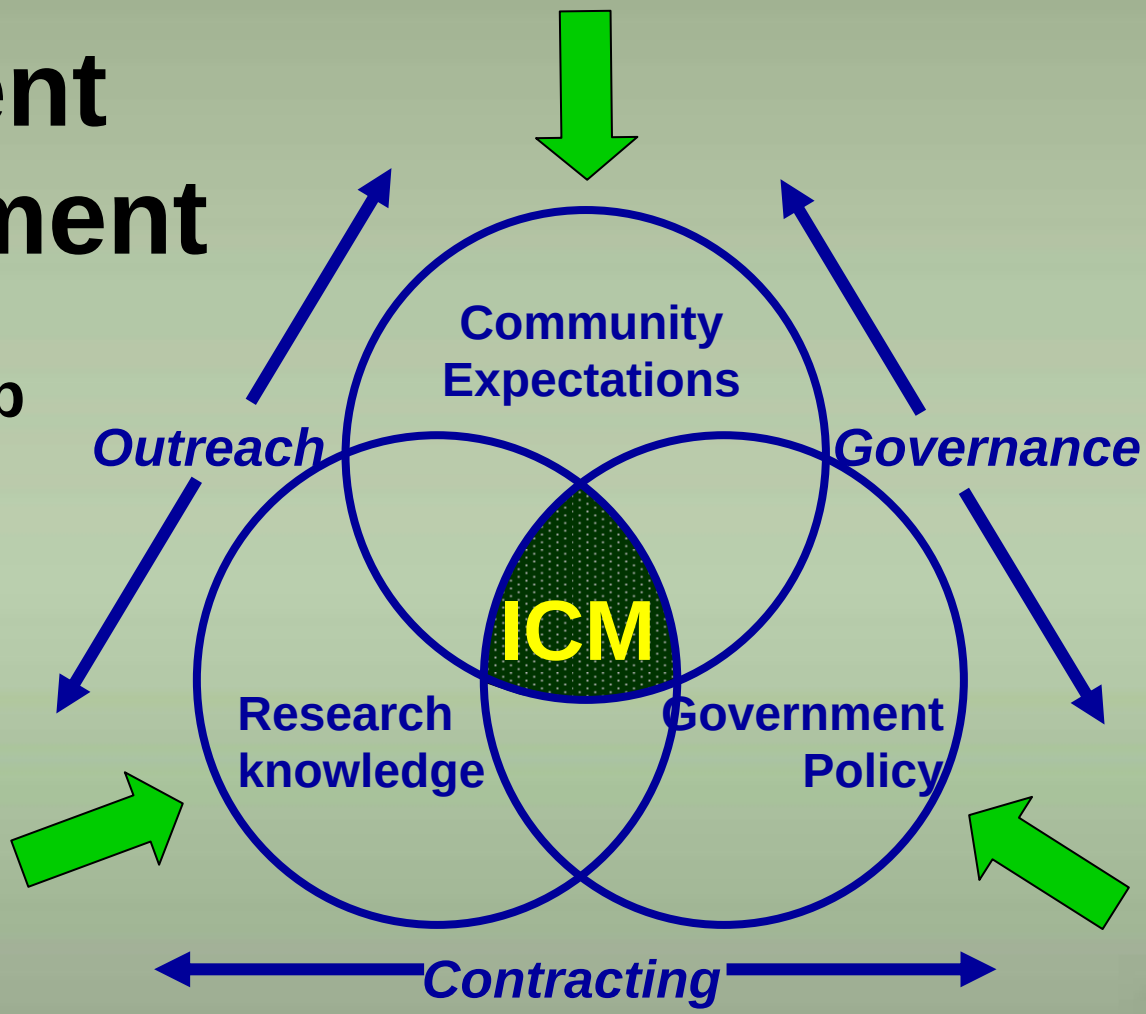
Integrated Catchment Management

…a partnership approach



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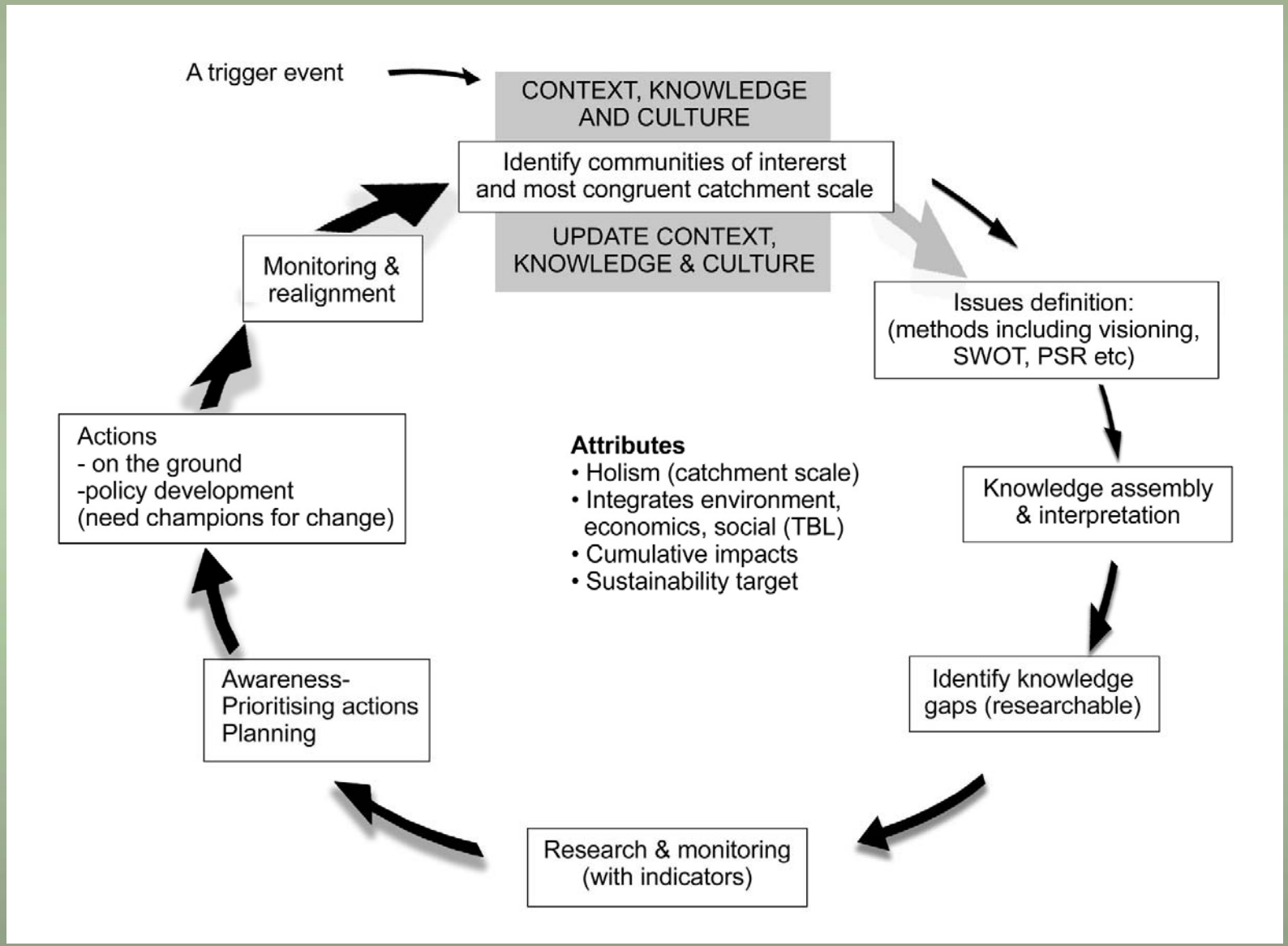
ICM as a process



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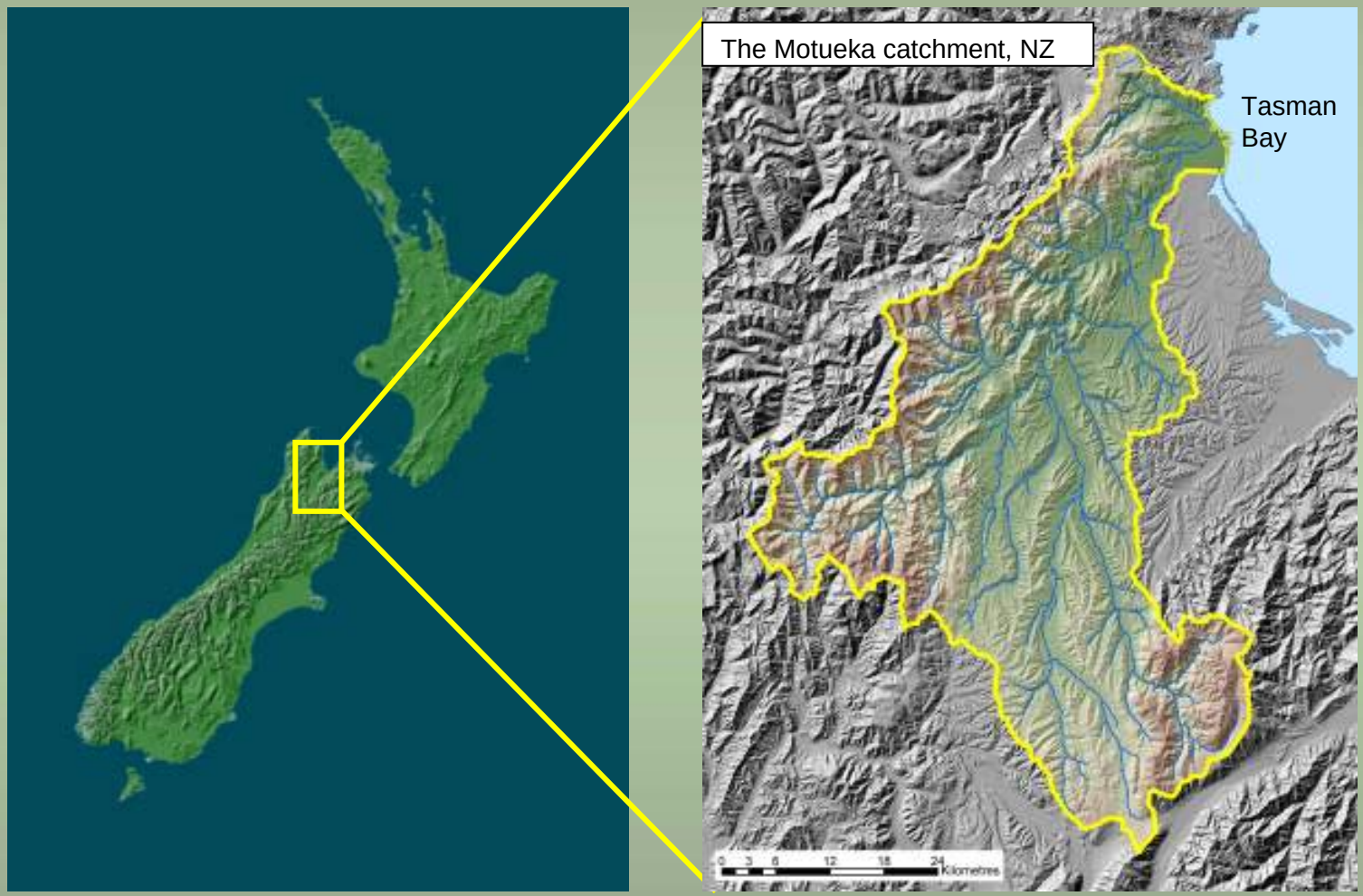
ICM for the Motueka



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Hydrology for the Environment, Life and Policy

http://www.unesco.org/water/ihp/help

To deliver social, economic and environmental benefit to stakeholders through sustainable and appropriate use of water by directing hydrological science towards improved integrated catchment management

‘Big Picture’ Issues for Motueka ICM Research

- Water allocation (incl. in and out-of-stream uses)
- Sedimentation risks (incl. river gravel)
- Aquaculture space allocation (incl. river impacts)
- Growth pressures (what’s sustainable?)

Detailed research issues and questions

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Motueka Stakeholder Questionnaire: Their Top 10 Issues

1. River Water and Groundwater Availability
2. Groundwater Pumping Effects on Stream and River Flows
3. Methods to Resolve Competing Demands on Resources, e.g. Water, Coastal Space
4. River Gravel Supply and Extraction Effects
5. Environmental Effects of Increased Water Takes

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Top 10 Issues from Questionnaires

6. Economic Impact on Irrigators of Water Restrictions
7. Environmental Impacts of Changes in Land Use
8. Off-Site Environmental Impacts of Major Catchment Land Uses
9. Best Methods to Improve Understanding and Acceptance of Research Results and Resource Management Plans
10. Protection and Management of Riparian Vegetation

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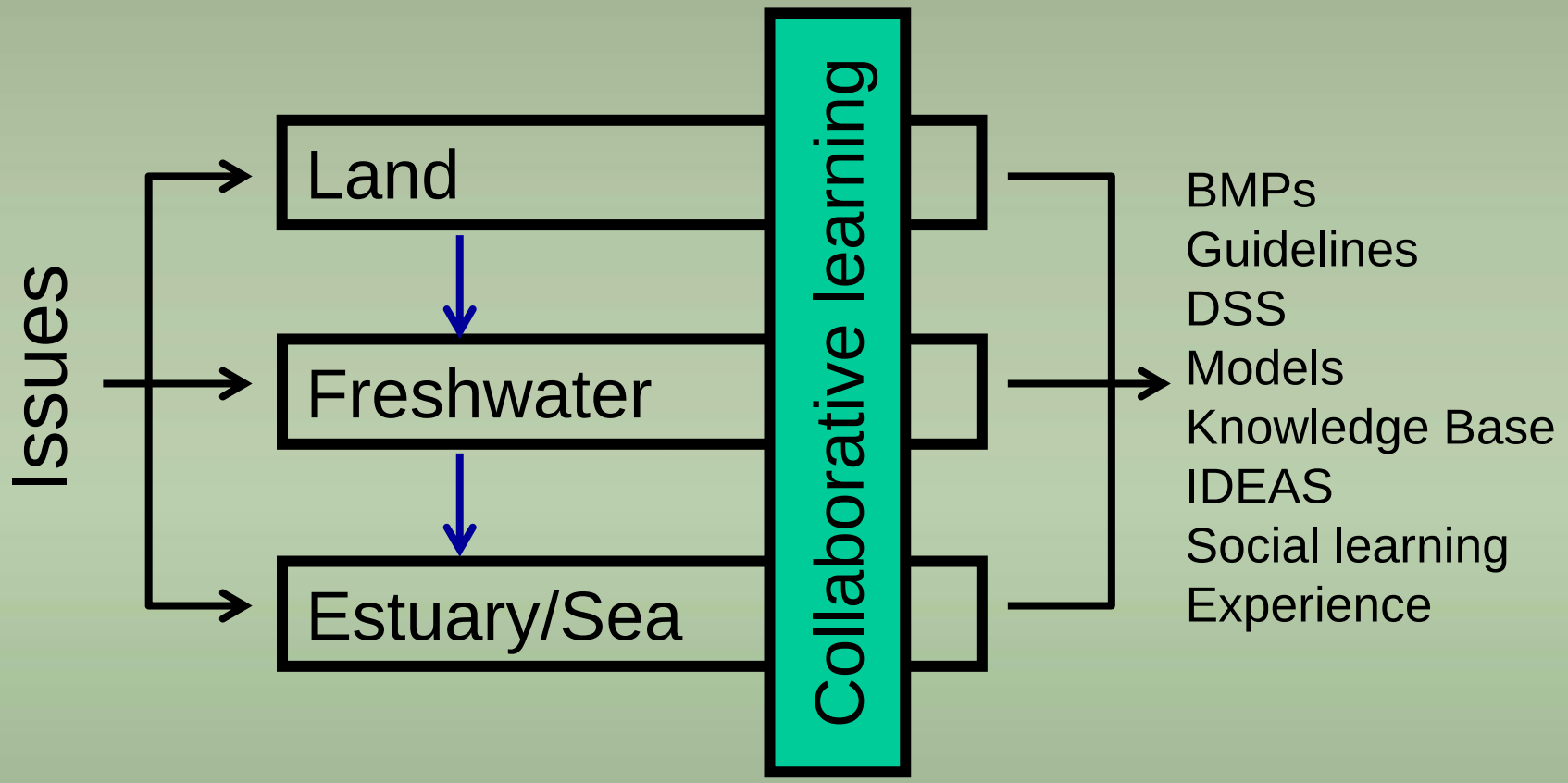
ICM Themes and Outputs



State & Response

Human Dimension

Integration & Innovation

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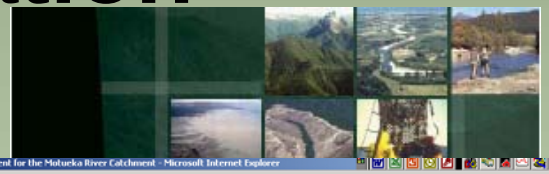
Getting the Integration



- What do we know?
  - Technical Report
  - Motueka ICM website

farm bridge last week.

The official ribbon-cutting ceremony for Frank and Lisa White's $50,000 stock bridge over the Sherry River saw about 40 people, including farmers, Fish and Game and Tasman District Council representatives, gather on the banks to celebrate.

Council policy planner Martin Workman said stock bridges were good for the dairy industry, the environment and the public.

"Our goal is to have the river clean enough to swim in."

The river was the focus of the first national investigation into the effects of stock regularly crossing waterways.

Stock access to waterways is seen as a major source of water pollution in New Zealand.

A study on the effect of the Whites' 246-cow herd crossing the river to and from the milking shed by the council, the Cawthron Institute and Landcare Research found there

MAIL PHOTO / HELEN MURDOCH 27290

RIVER BRIDGED: With help from Tasman District councillor Tim King, right, Mrs Thelma White opens her son and daughter-in-law's new Sherry River stock bridge.

Nelson Landcare Research coordinator Barbara Stuart congratulated Sherry River farmers for their courage in dealing with the issue.

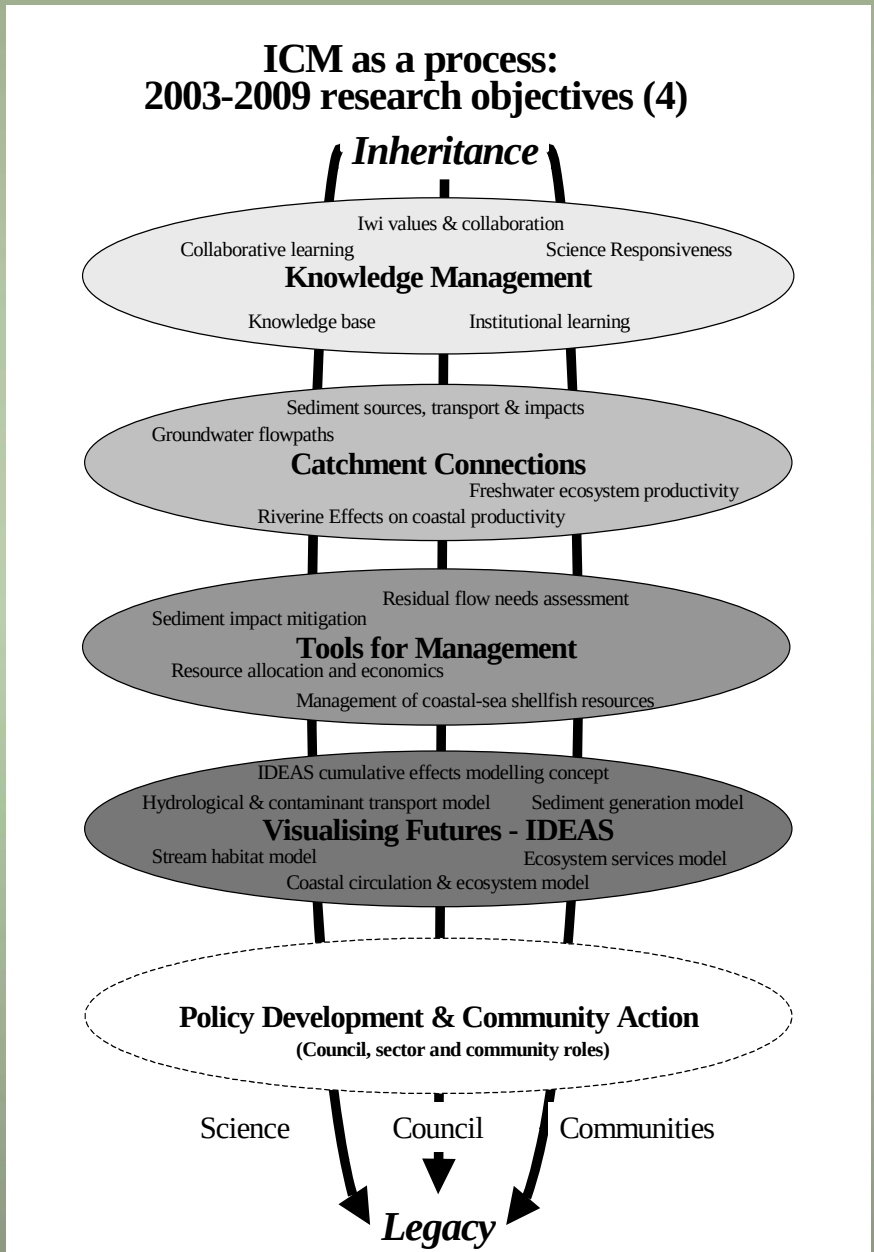
"The clean, green return to farmers export-

- Multi-agency research, e.g.
  - LCR/TDC/IGNS groundwater dynar
  - LCR/NIWA/Cawthron/TDC/farmers crossing research
  - LCR/iwi/TDC project on iwi GIS
  - LCR/Cawthron links for IDEAS
  - On-line collaboration: *Integrum*

Getting the Integration (2)

- Linking with catchment players
  - Community Reference Group
  - Collaborative Learning Group on fine sediment issues
  - Annual Meetings in the catchment
- Interdisciplinary research, e.g.
  - Sediment generation and coastal impacts
  - Economics of water augmentation and instream values
  - *Travelling River* art-science collaboration
- Multi-scale research, e.g.
  - Sherry River riparian vs whole catchment mapping
  - Whole catchment sustainability assessment using an Influence Matrix
  - Coastal delta habitats vs Tasman Bay ecosystem

Linking ICM to Management



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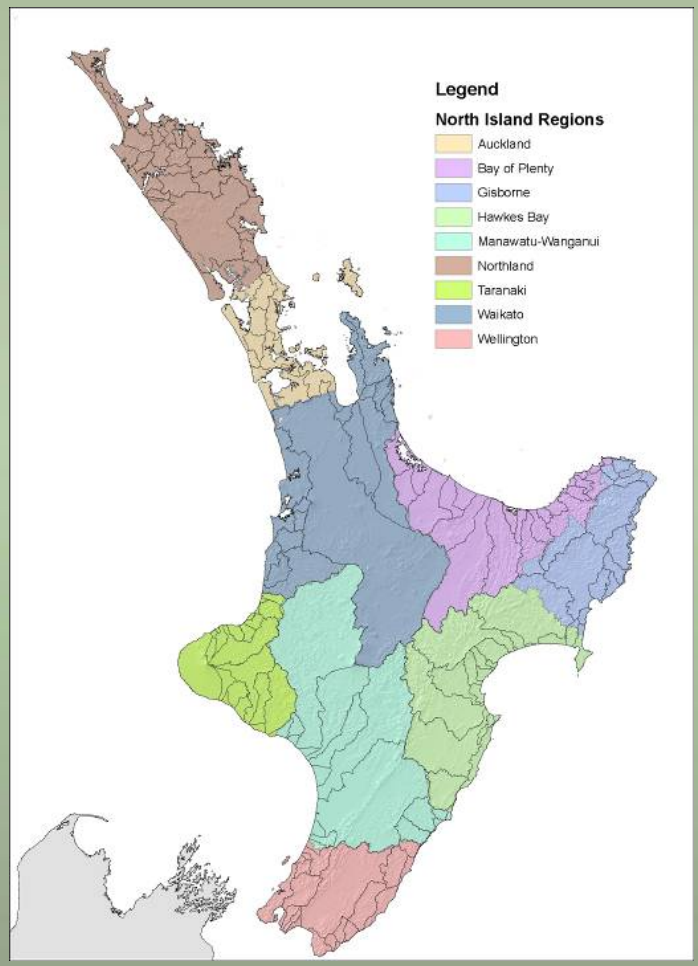
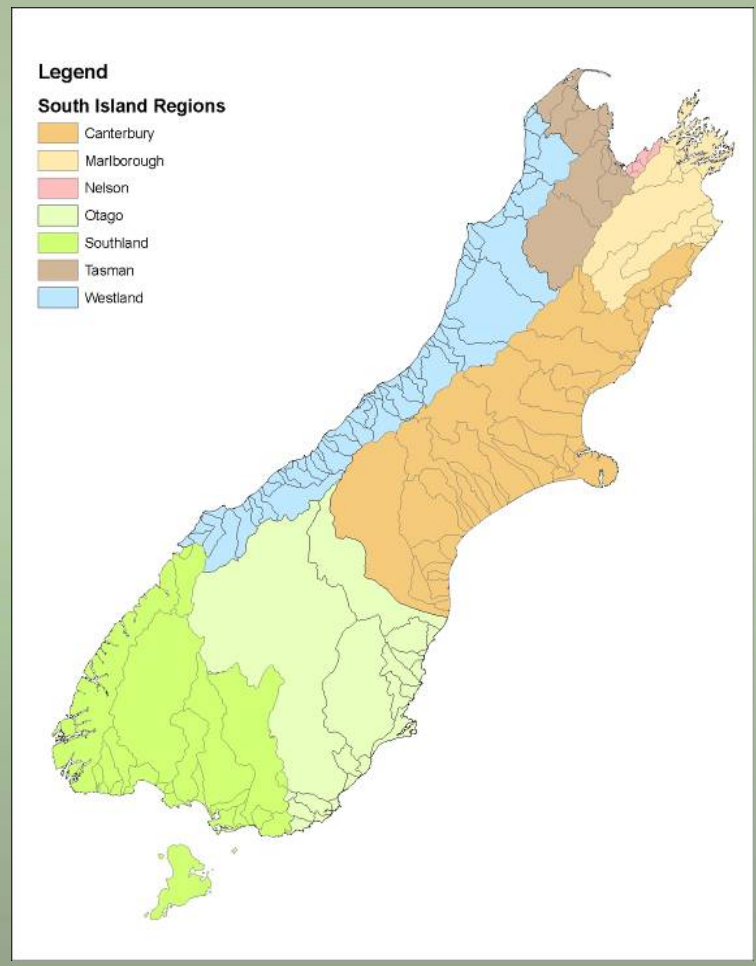
A Vision for ICM across NZ





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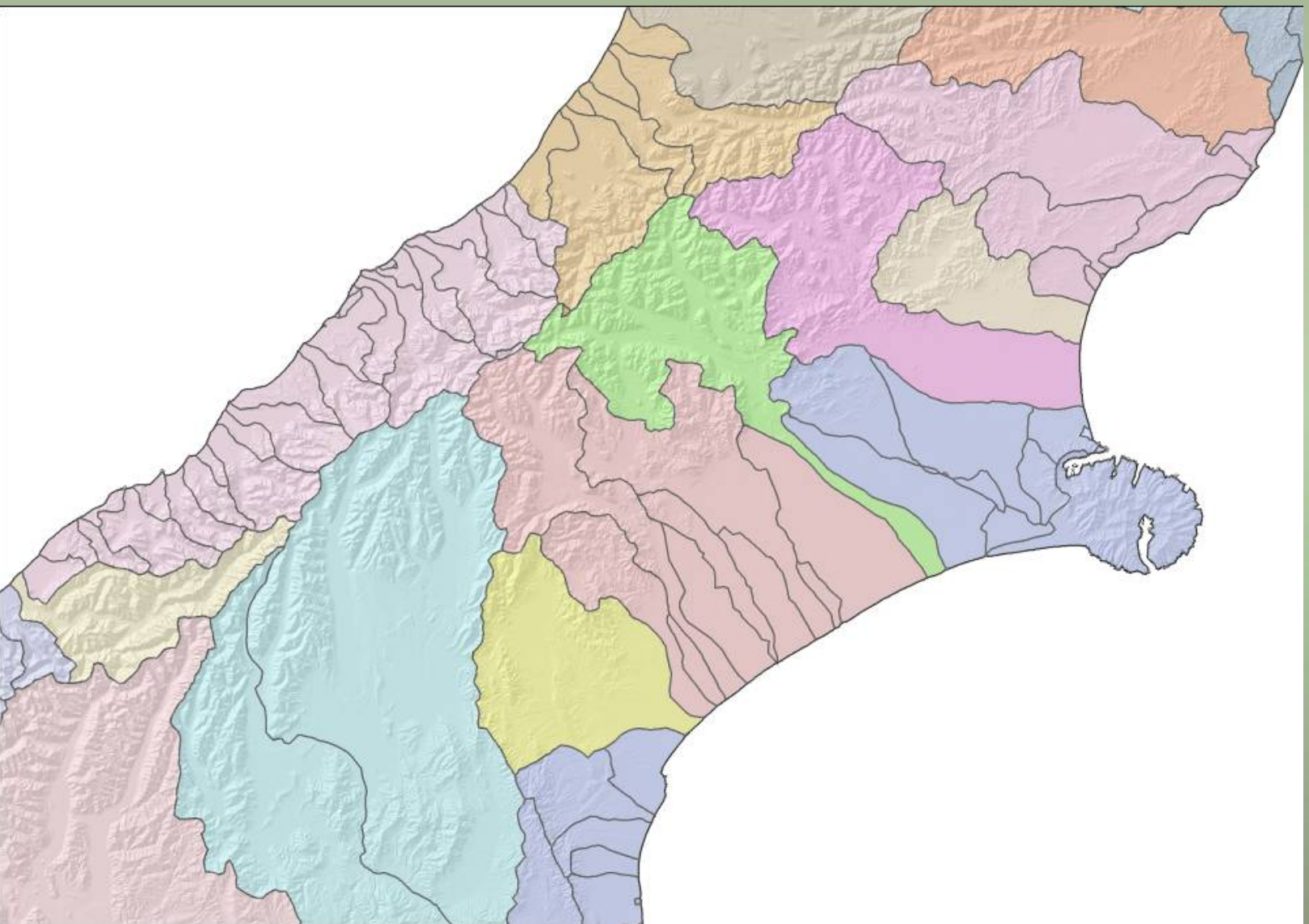
Major catchments for ICM



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Attributes of ICM

- Catchments congruent with communities
- Fitting into an RMA context
- Ways of addressing the issues:
  - Community champions
  - Pressure-State-Response
  - Managing human vs natural impacts (risk)
  - Scale consistent with issue
- Monitoring: Indicators and thresholds
- Always keeping the big picture in mind: *ridgetops to the sea*.

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