

"from ridge tops to the sea"

Integrated Catchment Management

INTEGRATED CATCHMENT MANAGEMENT:

Connecting Research and Practice



Landcare Research
Manaaki Whenua



CAWTHRON

TDC **Tasman**
District Council

Common Ground Ltd

Tiakina te Taiao Ltd

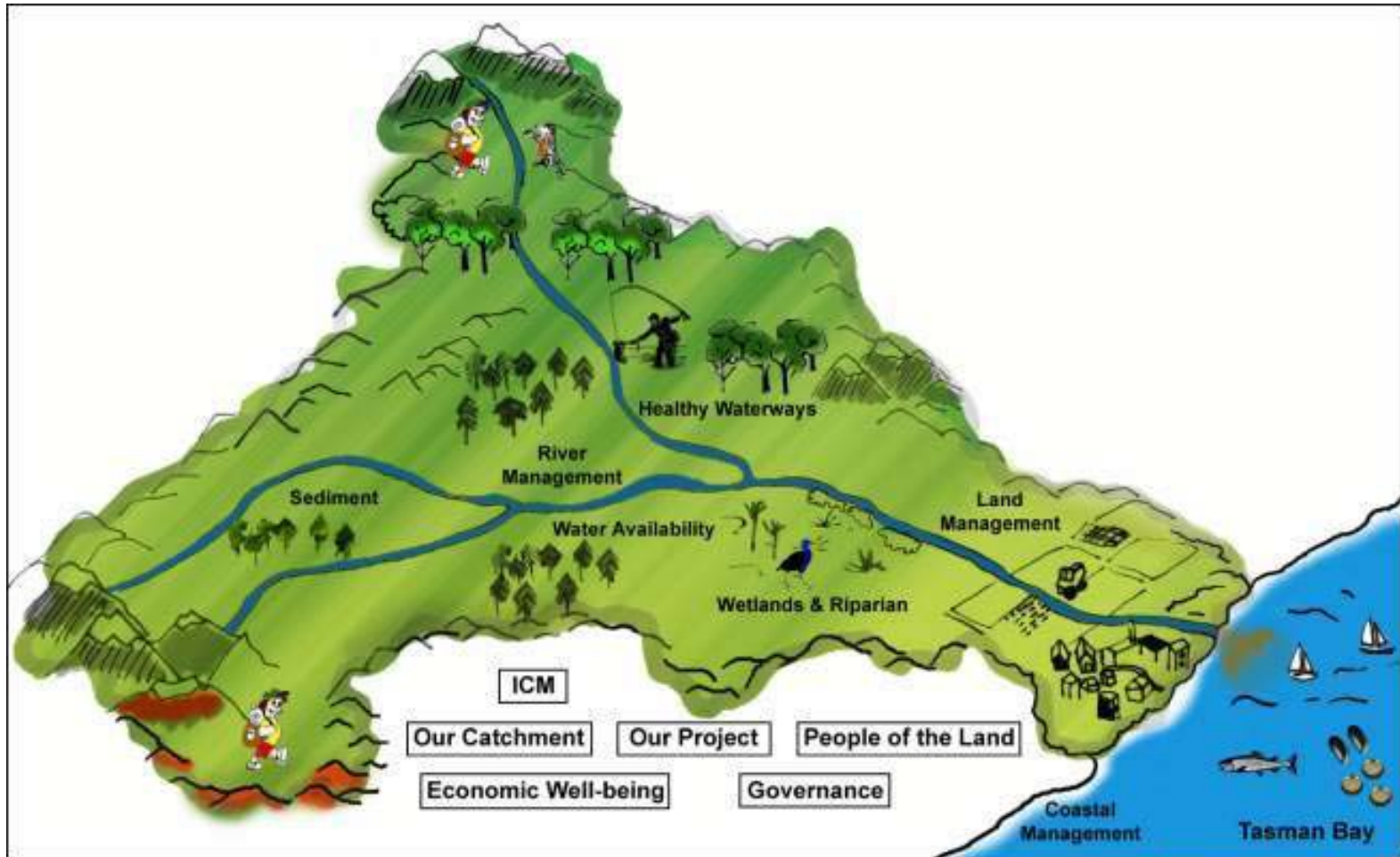
Pansophy Ltd



SCION
Next generation biomaterials



Motueka catchment



Conceptual Models for ICM

Integrated

...together

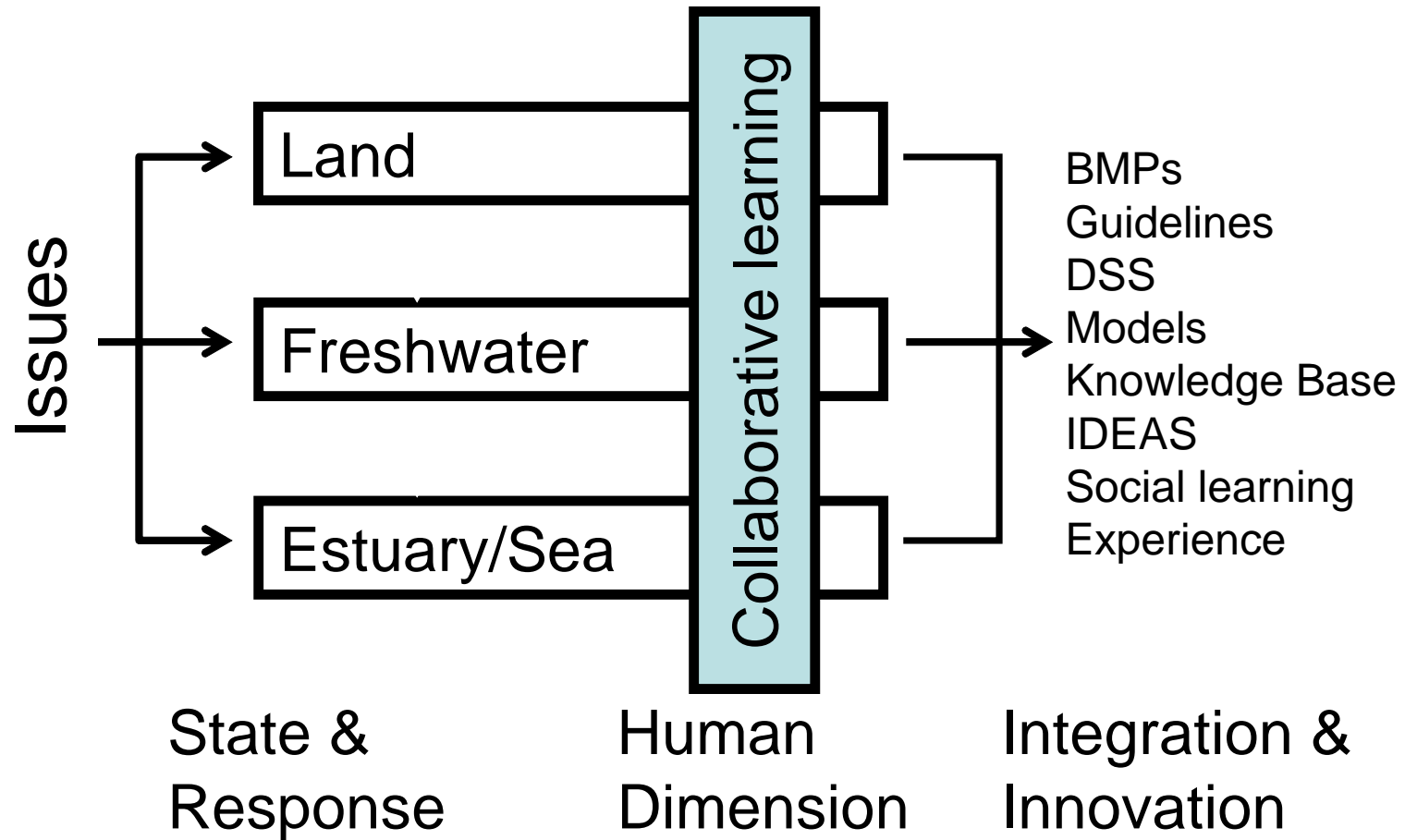
Catchment

...scale

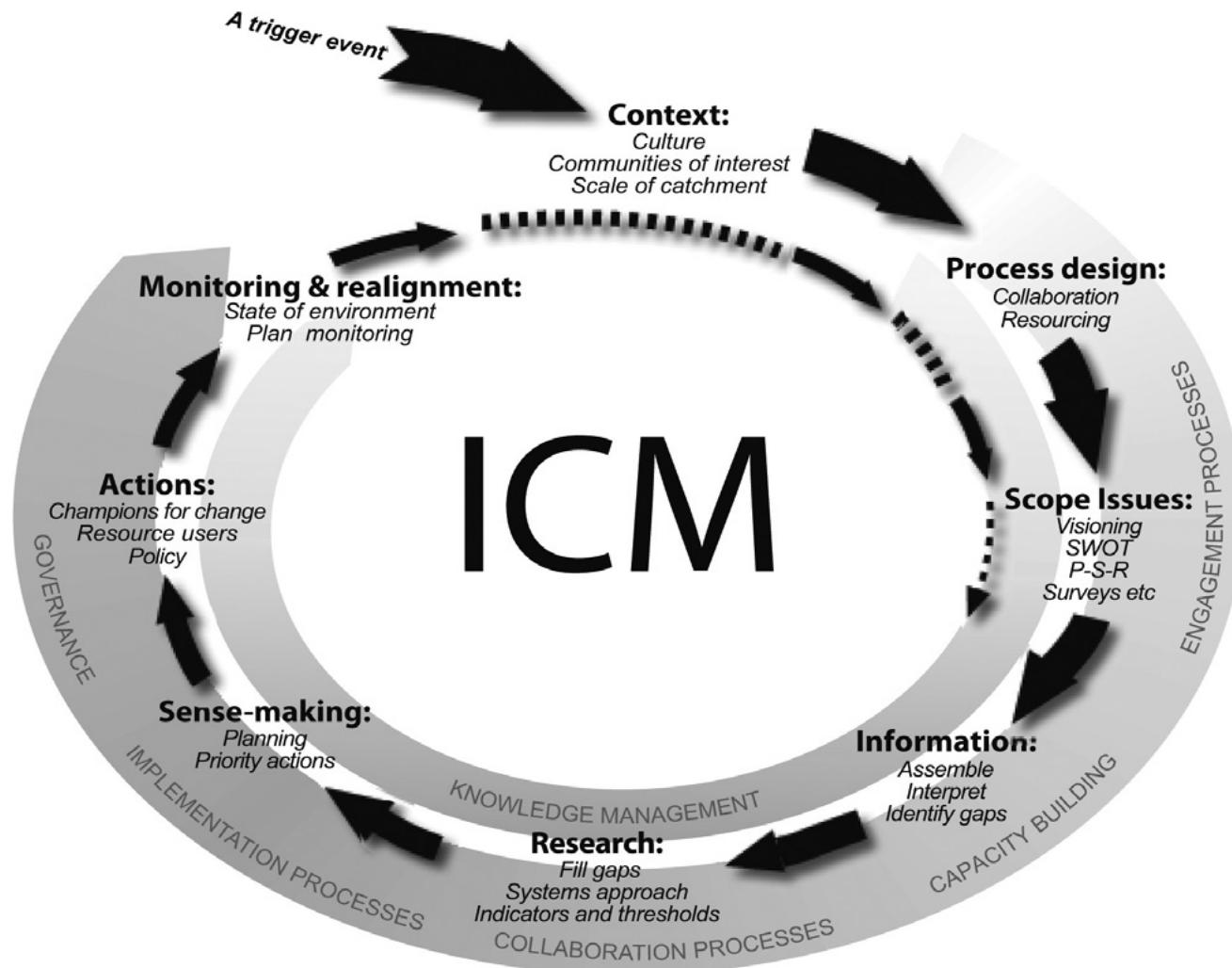
Management

...action

ICM connects **land, water, coast** **and people**



ICM is a process driven by issues



2 pillars for ICM

1. Biophysical knowledge

→ Ecosystem Resilience

TECHNICAL

2. Social process

→ Community Resilience

PEOPLE



Motueka Stakeholder Survey: 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***
4. ***River Gravel* Supply and Extraction Effects**
5. **Environmental Effects of Increased *Water* Takes**

Top 10 Issues ctd

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*

‘5 Big Picture’ ICM Issues

1. Managing Land Uses in harmony with Freshwater
2. Water Allocation & Governance
3. Catchment –Coastal Interactions
4. Integrative Modelling to Manage Cumulative Effects
5. Build human capital, Facilitate community action





Insights on Integration

- Land + Water → Water Demand & Water Quality
- Single issue policy sometimes has unexpected side effects
- Impacts accumulate 'downstream'
- Catchments ideal for managing flows of water, sediment, nutrients, contaminants
- ICM = a collaborative process, not an outcome
- Environmental stewardship = Kaitiakitanga
- Integrated policy balances environmental, economic, social & cultural effects (4 wellbeings)
- ICM = being aware of The Big Picture

Managing land uses in harmony with freshwater

- Vegetation cover affects catchment water yield
- Sediment flows from ridgetops to the bay
- Monitoring river gravel availability for extraction
- Farm & forestry impacts on water quality
- How changing river flows affect fish



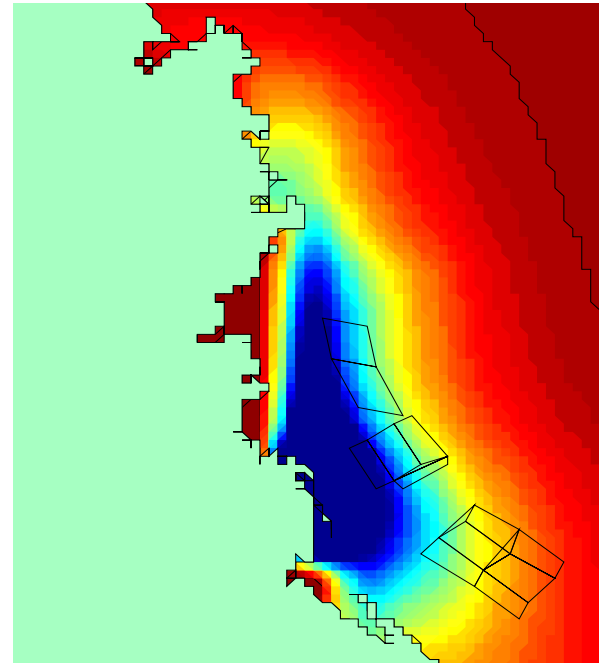
Water Allocation & Governance

- River-aquifer modelling
- Policy tools for water allocation
- Water use economics on the Waimea Plains



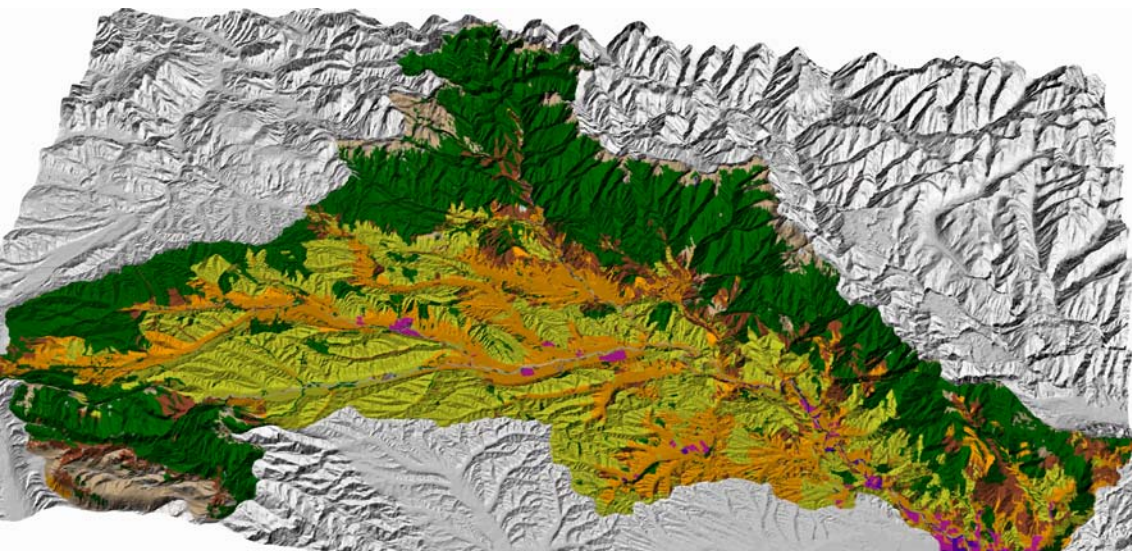
Catchment-Coastal Interactions

- Catchments extend offshore!
- Modelling shellfish productivity from river flow and climate data
- Real-time river plume monitoring for shellfish production



Integrative Modelling for ICM

- Motueka ICM website: 'everything you wanted to know'
icm.landcareresearch.co.nz
- Motueka Toolbook CD
- Envisioning catchment sustainability using an Influence Matrix
- Modelling catchment futures using IDEAS



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for the *Motueka River*
"ridge tops to the sea"

Home Page

HOME ABOUT WHAT'S NEW WHAT'S ON SEARCH CONTACT US PROJECT STAFFROOM

This web site is about the ICM Motueka Programme. Its purpose is to provide information resources relevant to project participants and to the stakeholders of the Motueka River catchment. The site is a collaborative venture between a number of organisations. Please read about our site.

The Motueka River catchment is a Global [HELP](#) Catchment.

Our Site
General information about the site, the ICM Motueka project, and its purpose - includes site map.

Our Catchment
Overview of the Motueka River catchment - includes virtual field trips.

Our Science
Outlines the research being conducted in the catchment.

Science Quick Links ▾

Site kindly hosted by Landcare Research



 10/12/02 Recent conference abstracts added

 10/12/02 HELP conference in Kalmar Sweden 2002

06/11/02 2002-03 overview & progress

Hot Topics
Current events and notable happenings from the Programme Leader.

Project Staff Room
(Available only for programme participants).

Library of Resources
Includes reports, fact sheets, images, maps, and other resources.

Library Quick Links ▾

To receive email notice of events and research findings please join our ICM Motueka [discussion group](#)

Building Human Capital, Facilitating Community Action

- ICM research Annual Meetings at TDC
- Community Reference Group meets at TDC
- Iwi environmental GIS and cultural health monitoring of rivers
- *Travelling River* engaging people and science
- *Watershed Talk* – processes for cultivating community action



Watershed talk



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ICM Success =

Collaborative learning
+
Biophysical understanding
+
integration

