Managing freshwater resources:

Insights from New Zealand's changing management regimes for the nation's freshwater resources

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GRA: October 2017

Landcare Research
Manaaki Whenua

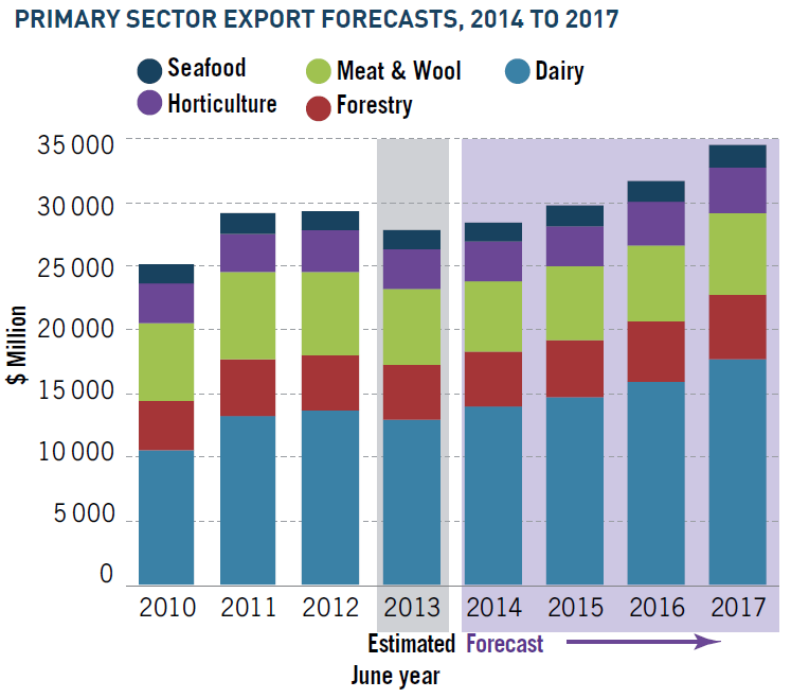
Source: Peter Scott (AboveHawkesbay.co.nz 2013)

Agriculture in New Zealand

- Agriculture important sector of NZ's economy
  - 15% of GDP including downstream processing
  - Large proportion of export value
  - Government goal is to double value of primary industry exports by 2025

➡ Intensification of pastoral farming

- ~ 5 million dairy cows
- Seeking new access to irrigation



Agriculture in New Zealand

- Contrast to US
  - No agricultural subsidies (abandoned in 1984)
  - Dominance of pastoral agriculture
  - Willingness to regulate agriculture
- Key source of environmental impacts
  - GHG emissions & carbon sequestration
  - Nutrient discharge, sedimentation & E.coli
  - Water use
- Devolved resource management decisions to the regions

NZ's Policy Context

NATIONAL POLICY STATEMENT
for Freshwater Management 2014

Objectives: Water Quality

To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of fresh water, in **sustainably managing the use and development of land, and of discharges of contaminants.**

The overall quality of fresh water within a region is maintained or improved while:
a) protecting the quality of outstanding freshwater bodies
b) protecting the significant values of wetlands and
c) **improving the quality of fresh water in water bodies that have been degraded by human activities to the point of being over-allocated.**

NZ's Policy Context

NATIONAL POLICY STATEMENT
for Freshwater Management 2014

Policies: Water Quality

By…regional council…to ensure plans"

a) **establish freshwater objectives and set freshwater limits** for all bodies….having regard to…..
    i) ….impacts of climate change
    ii) the connection between water bodies

b) Establish methods (including rules) to avoid over-allocation

Where water bodies do not meet freshwater objectives….Policy A1…council is to **specify targets and implementation methods (either or both regulatory and non-regulatory)** … to assist the improvement of water quality in the water bodies, to meet those targets, and within a defined timeframe

NZ's Policy Context

NATIONAL POLICY STATEMENT
for Freshwater Management 2014

Objectives: Water Quantity

To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of fresh water, in **sustainably managing the taking, using, damming, or diverting of fresh water.**

To **avoid any further over-allocation of fresh water** and phase out existing over-allocation

To **improve and maximise the efficient allocation and efficient use of water**.

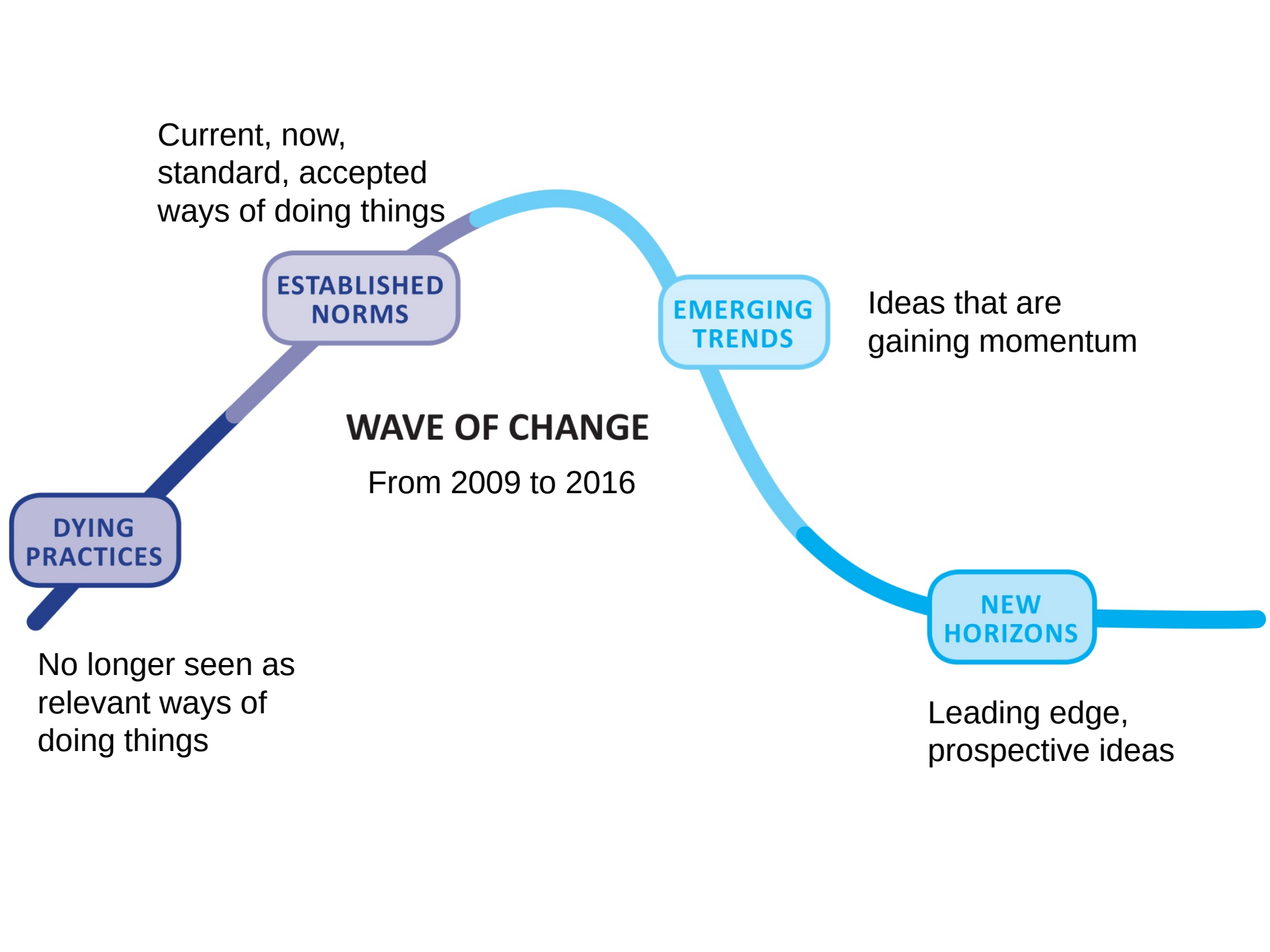
NZ's Policy Context

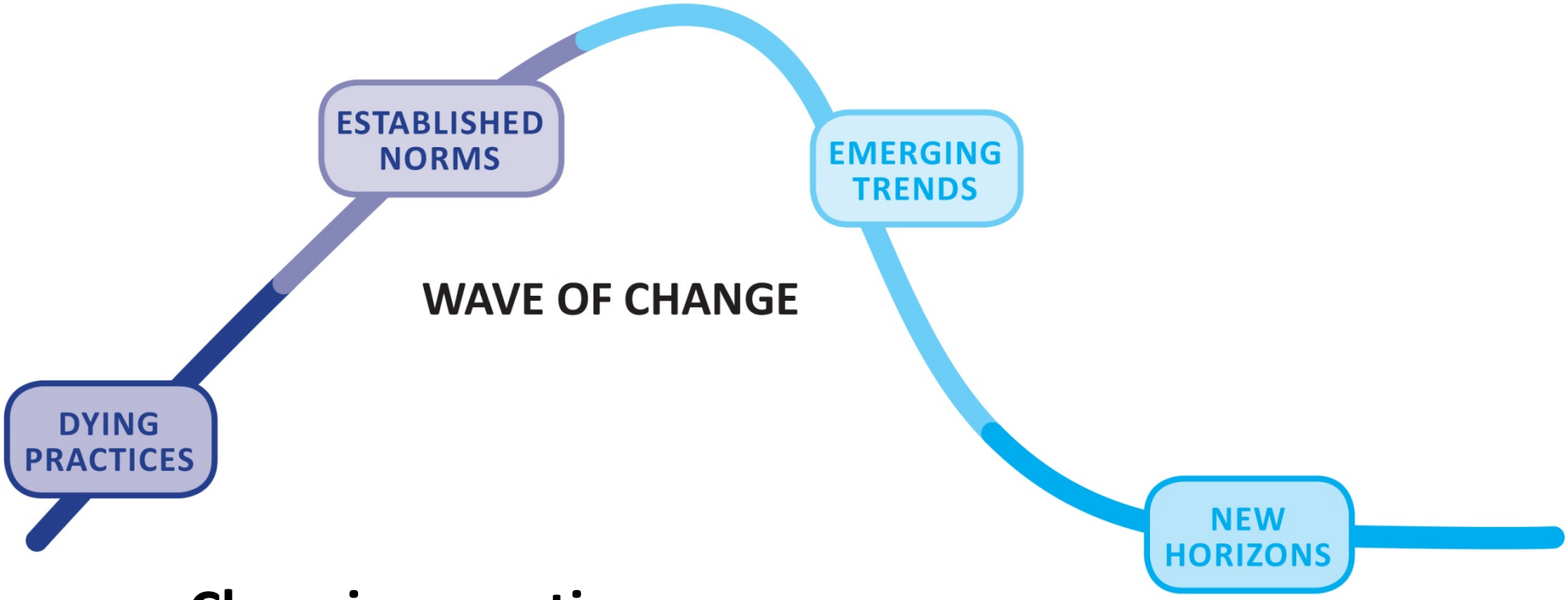
NATIONAL POLICY STATEMENT
for Freshwater Management 2014

Policies: Water Quantity

By every regional council making or changing regional plans to the extent needed to **ensure the plans establish freshwater objectives… and set environmental flows and/or levels for all freshwater management units in its region** (except ponds and naturally ephemeral water bodies) to give effect to the objectives in this national policy statement, having regard to at least the following:

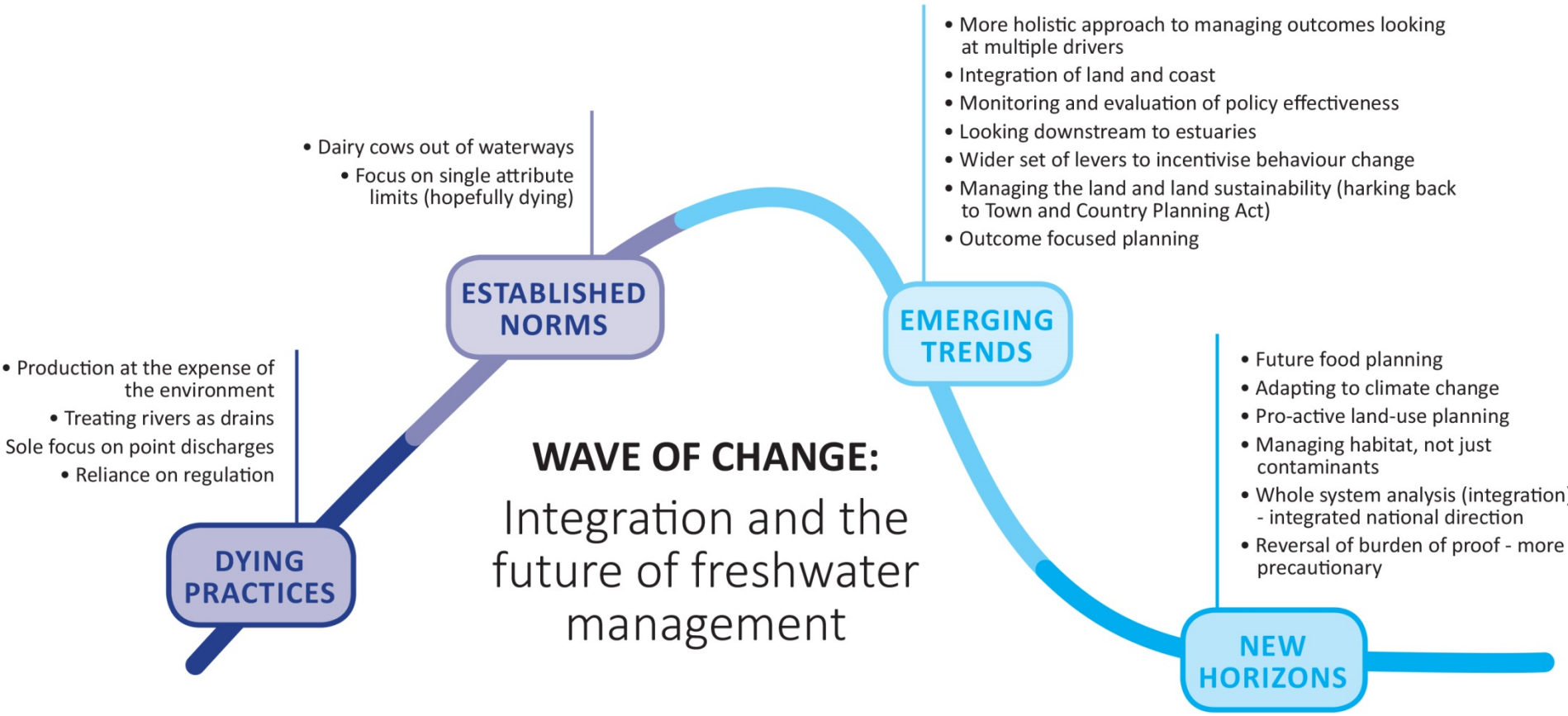
a) the reasonably foreseeable impacts of climate change;
b) the connection between water bodies; and
c) the connections between freshwater bodies and coastal water


Current, now, standard, accepted ways of doing things
ESTABLISHED NORMS
EMERGING TRENDS
Ideas that are gaining momentum
WAVE OF CHANGE
From 2009 to 2016
DYING PRACTICES
NEW HORIZONS
No longer seen as relevant ways of doing things
Leading edge, prospective ideas



Changing practices

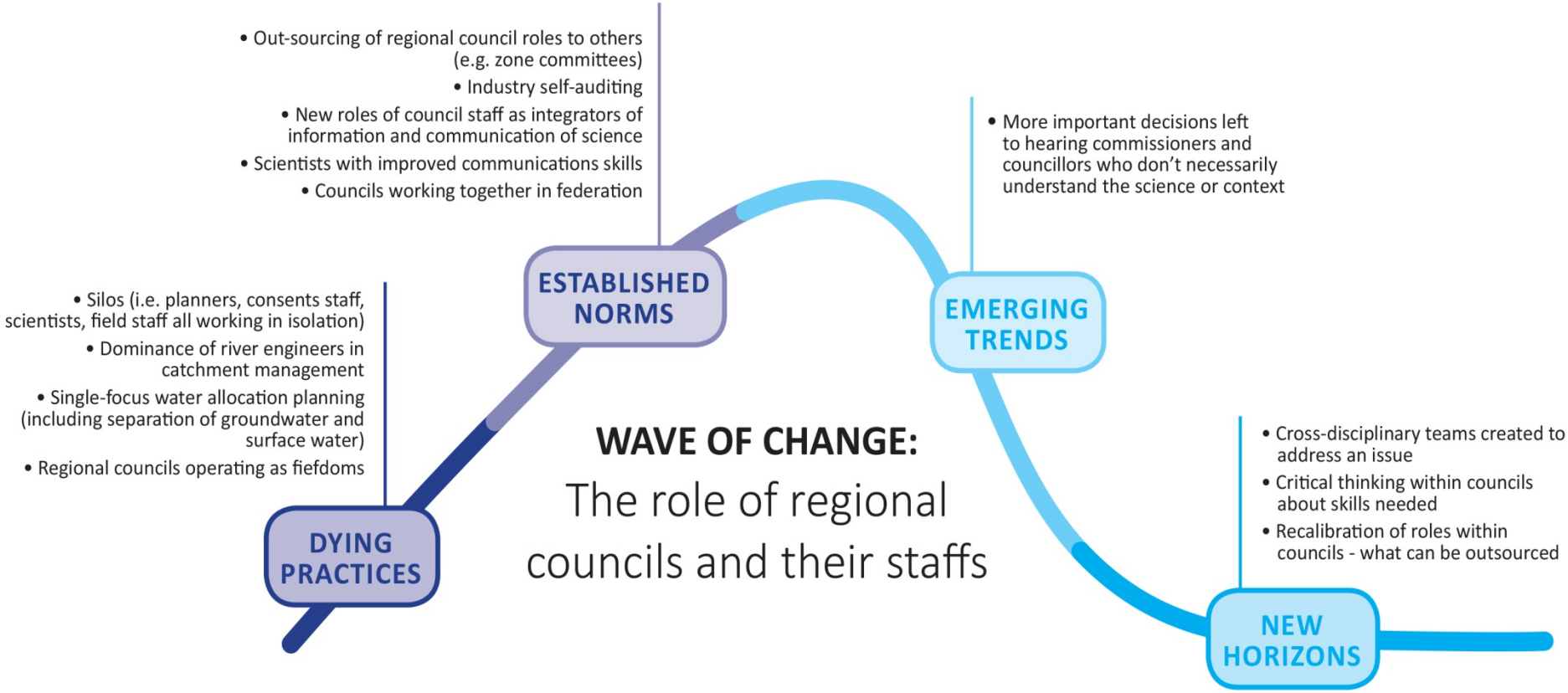
- Integration & the future of freshwater management
- Role of Regional Council & their staff
- Engagement with civil society
- The nature of science & information



Only point sources
Reliance on regs

More holistic approaches

- Integrate land & coast
- Outcome focus
- Whole system analysis



Institutional silos

Single focus planning

Outsourcing decisions (e.g. collaborative decision-making)

Cross-disciplinary teams

Legal & Governance Change

Then


Draft plan notified


Submission & Regional Council Plan hearings


Negotiation of outstanding appeals

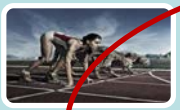
Environment Court (merit appeals)

Draft Court decision

Final Court decision


Appeals to High Court (points of law only)

Now


Initiate collaborative process


Collaborative policy development


Translate policy into plans


Submission & hearings process

Draft decision

Final decision


Appeals to Environment Court (points of law only)

Practice Change

Collaborative Decision-making Processes

38%
Of all regions

Canterbury

Northland

Hawkes Bay

Greater Wellington

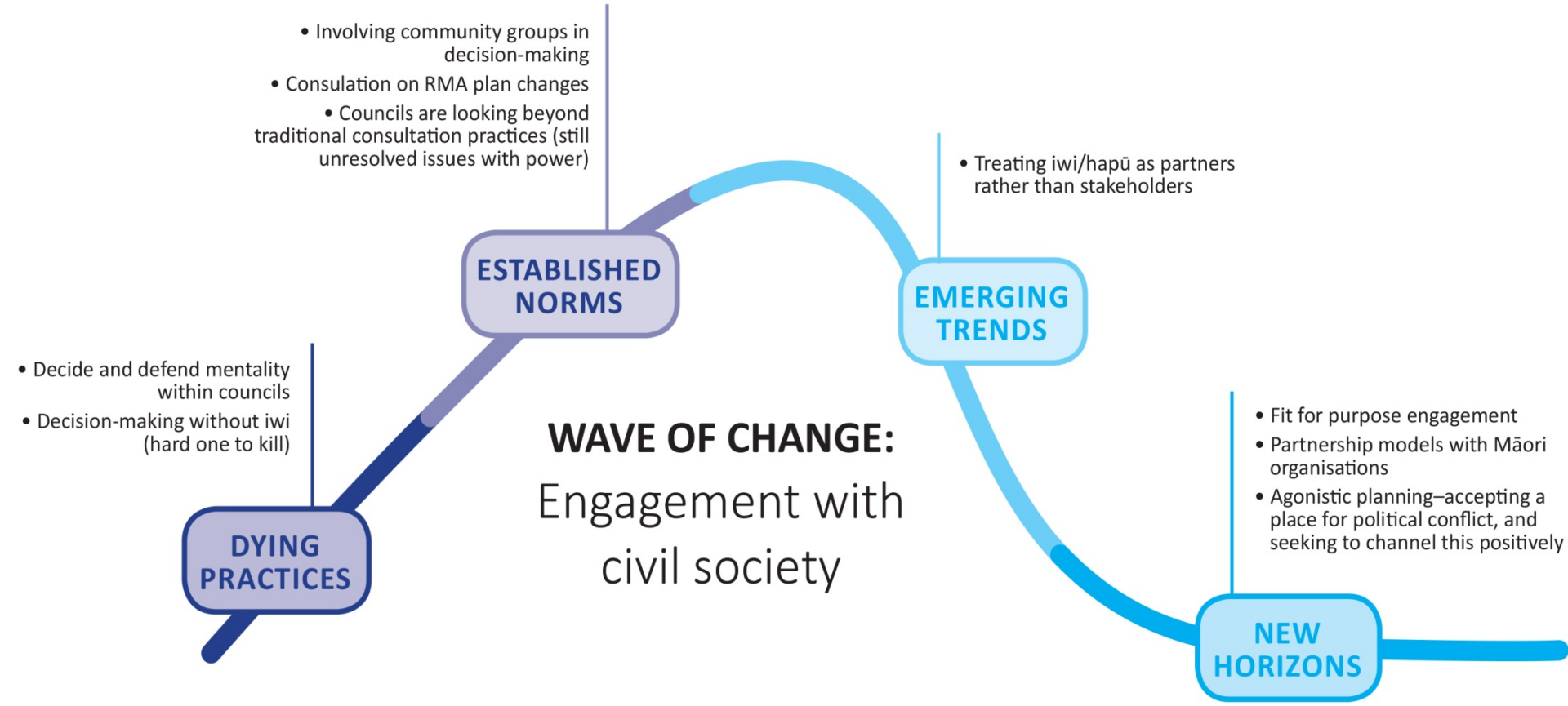
Waikato

Gisborne

More Involved Decision-making Processes

- Bay of Plenty
- Southland
- Tasman
- Nelson
- Marlborough

31%
Of all regions



Decide & defend

Maori excluded from decision making

→

Partnership with Maori

Involvement of communities in decisions

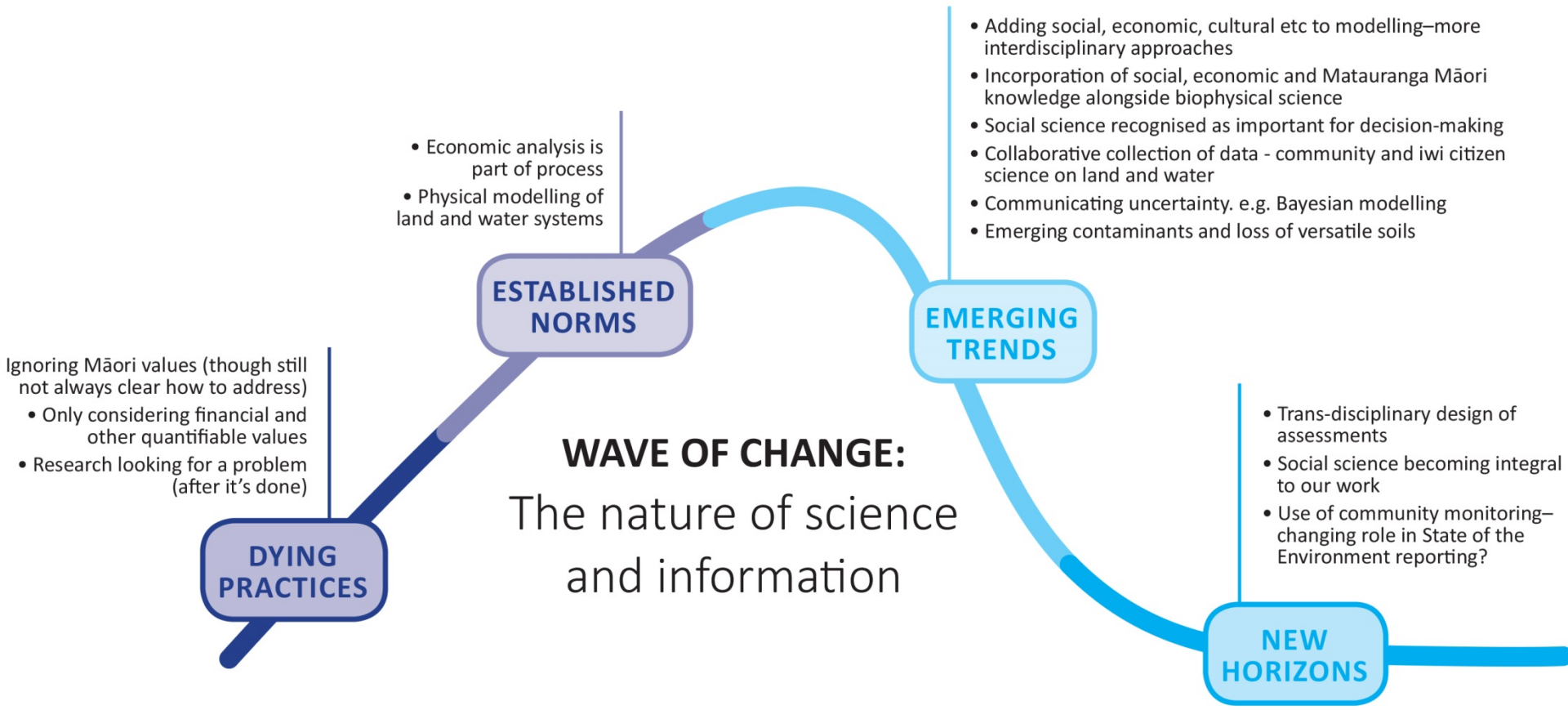
Co-governance & Partnership

Waikato-Tainui Taupatu Claims (Waikato River) Settlement Act 2010

Single co-governance entity responsible for the Waikato River.

Te Awa Tupua (Whanganui River Claims Settlement) Act 2017

Provides the Whanganui River with legal status equal to that of a person



Ignoring some values

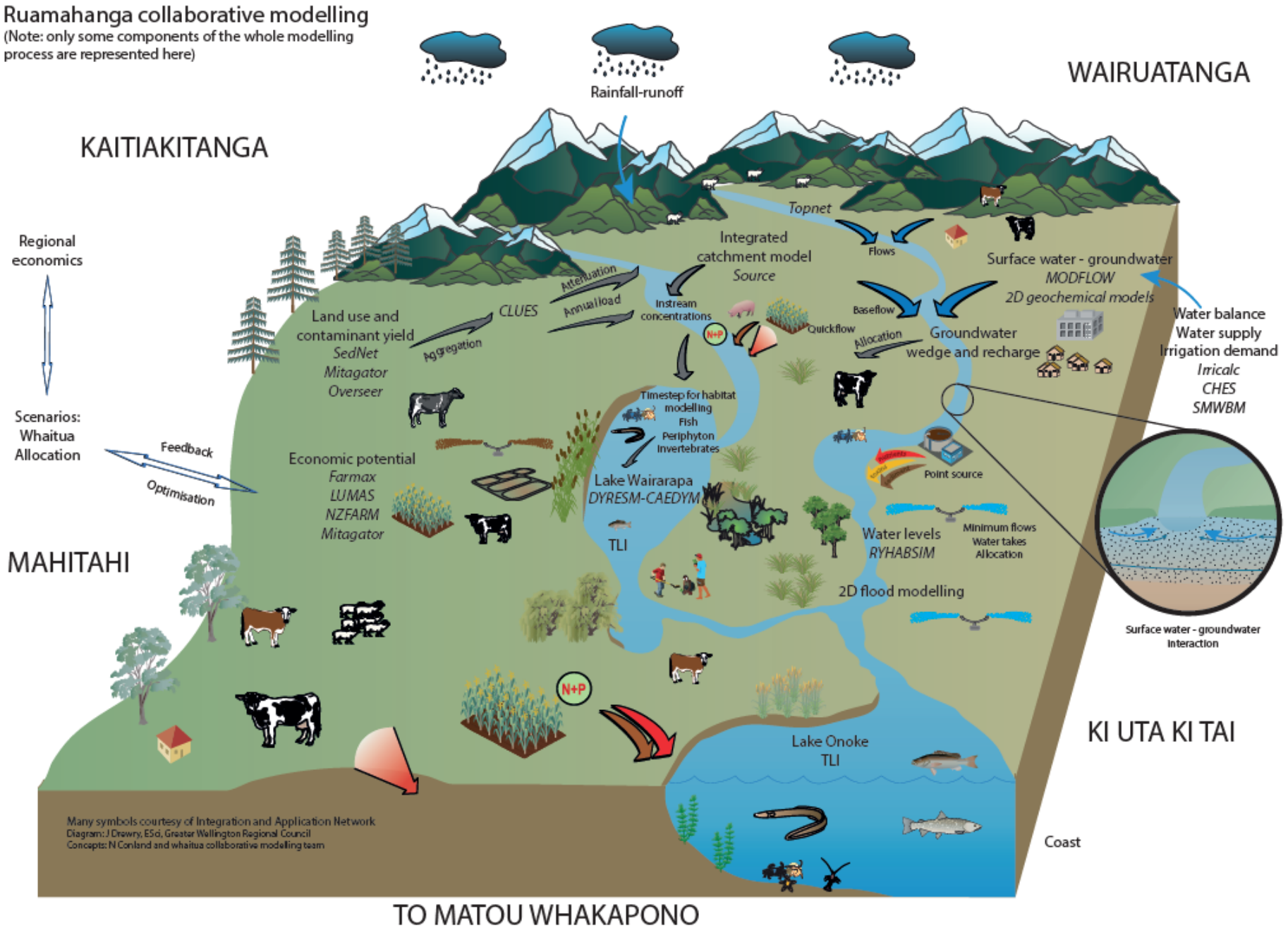
Only consider financial & quantifiable values

→

Incorporating social, economic & Maori knowledge with biophysical science

Transdisciplinary assessments

Interdisciplinary & collaborative science



Groundwater Challenges within the Wave of Change

- Integration & the future of freshwater management
  - Outcome focused planning
    - What/where are surface & groundwater connections
- Role of Regional Council & their staff`
  - Single focus water allocation planning
    - Separation of surface- & ground- water
- The nature of science & information
  - Poor groundwater knowledge → hard for integration
  - Communicating uncertainty

→ All have implications for engaging with civil society

Key take homes

- Collaboration takes time
  - Far longer than you expect
  - Not a panacea
  - Benefits are likely not really felt until the second time round
- Takes massive capacity building
  - Greater interrogation of science
  - New skills in science translation
  - Challenges around multiple values
  - Smarter appeals

Collaborators

Jim Sinner (Cawthron)

Margaret Kilvington (ISREF)

Don Vattala (Environment Canterbury)

Tom Bowen (Horizons Regional Council)

Abby Matthews (Horizons Regional Council)

Jo Watts (Bay of Plenty Regional Council)

Gavin Ide (Hawke's Bay Regional Council)

Graham Sevicke-Jones (Environment Southland)

Anita Dawe (Environment Southland)

Ben Tait (Northland Regional Council)

Roger Bannister (MFE)

Mary-Anne Baker (Hawkes Bay Regional Council)

Dave Allen (Auckland Council)

Ruth Lourey (Waikato Regional Council)

Garth Harmsworth (Landcare Research)

Andrew Fenemor (Landcare Research)

Shaun Awatere (Landcare Research)

Rob Davies-Colley (NIWA)

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Thank you

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