TOOLS FOR IMPLEMENTING THE FRESHWATER REFORMS

Second National Symposium

5th September 2016

Royal Society, Wellington

Landcare Research Manaaki Whenua | Lincoln University | Cawthron | Geoff Kaine Research | NIWA | Margaret Kilvington Independent Social Research, Evaluation & Facilitation

What to Expect from the Day

Chance to LEARN

Learn more about collaborative processes & science to underpin them

Learn more about our research

Chance to ENGAGE

Talk to others already on this journey

Ask questions

Engage with others around this topic

Freshwater Values, Monitoring & Outcomes

Values, Monitoring & Outcomes

Fresh Water:

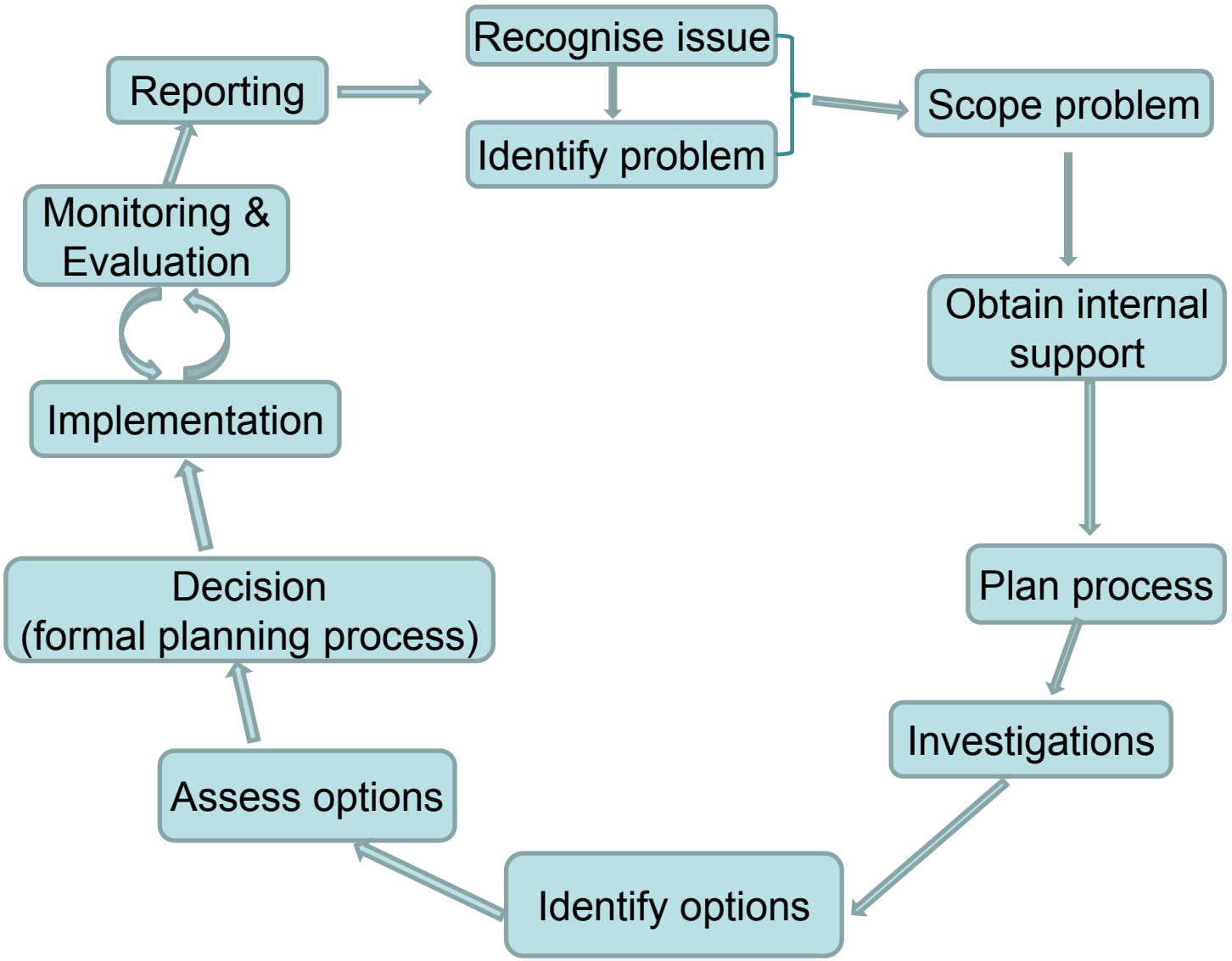
Many stakeholders, divergent views & competition for use

→ conflicted decision making

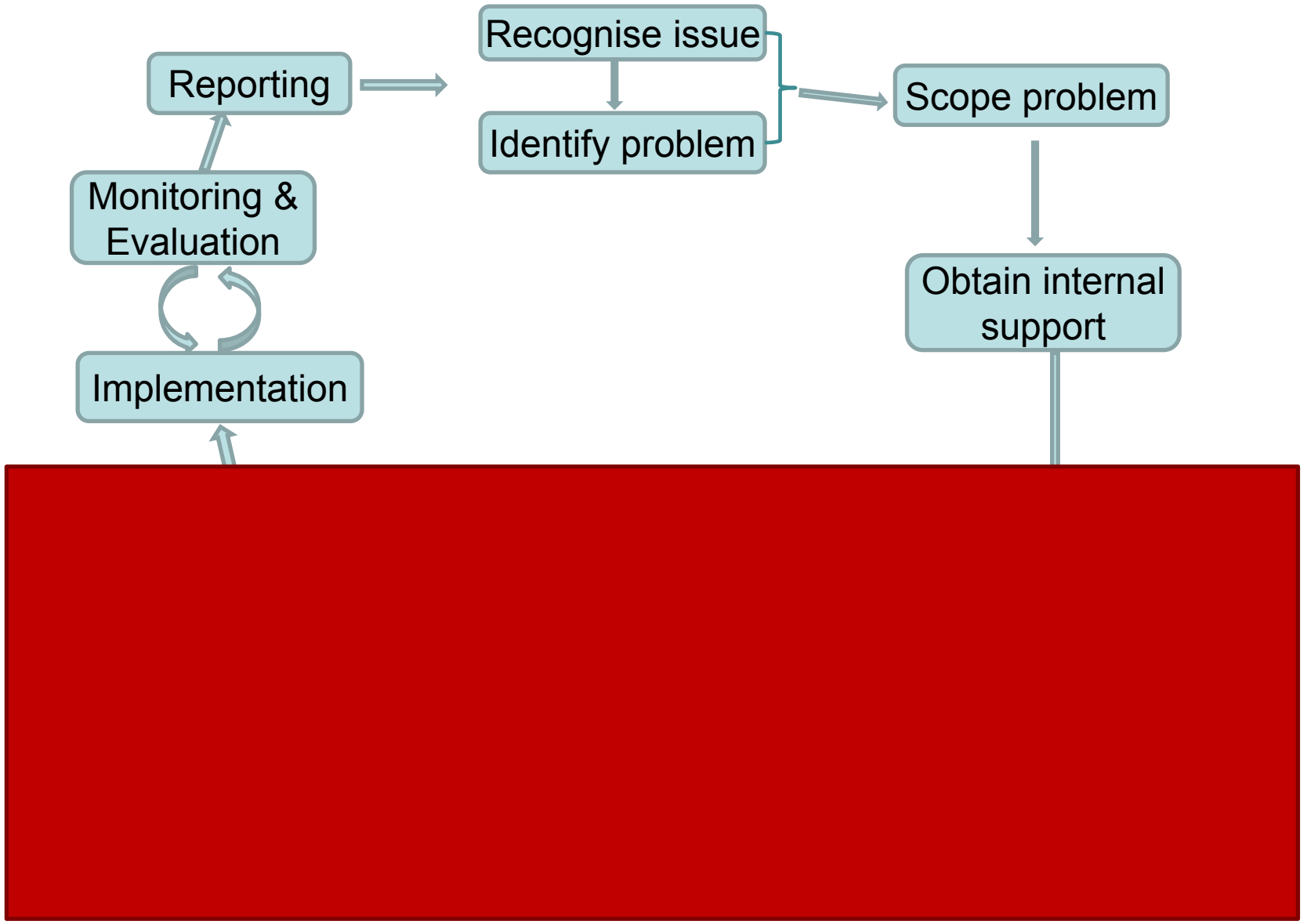
Three barriers

- Inconsistent methods to understand & balance competing resource demands (“values”)
- Gaps between monitoring & our ability to report progress against agreed outcomes
- Lack of tools to design effective policies, evaluate & communicate their effectiveness to adaptively manage

Decision-making cycle



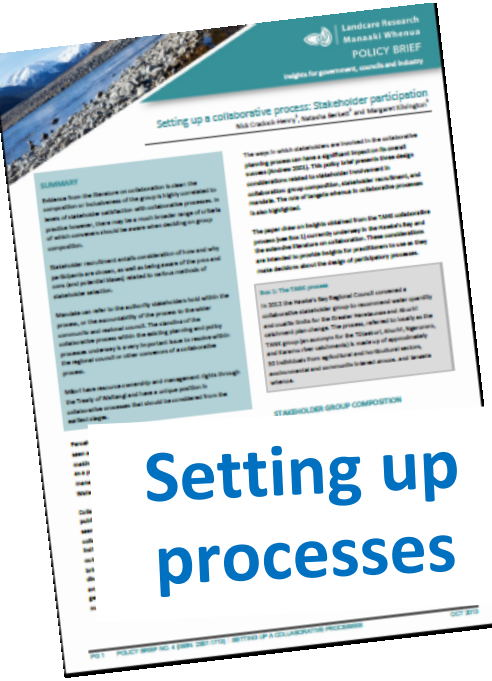
Decision-making cycle



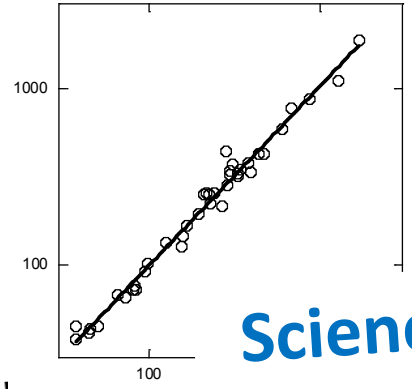
Role of Councils in Collaborative Processes

Evaluating processes

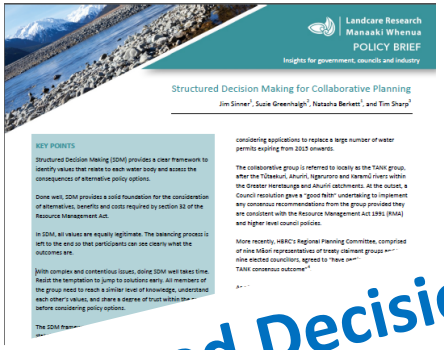
Māori & Collaborative Planning



Setting up processes

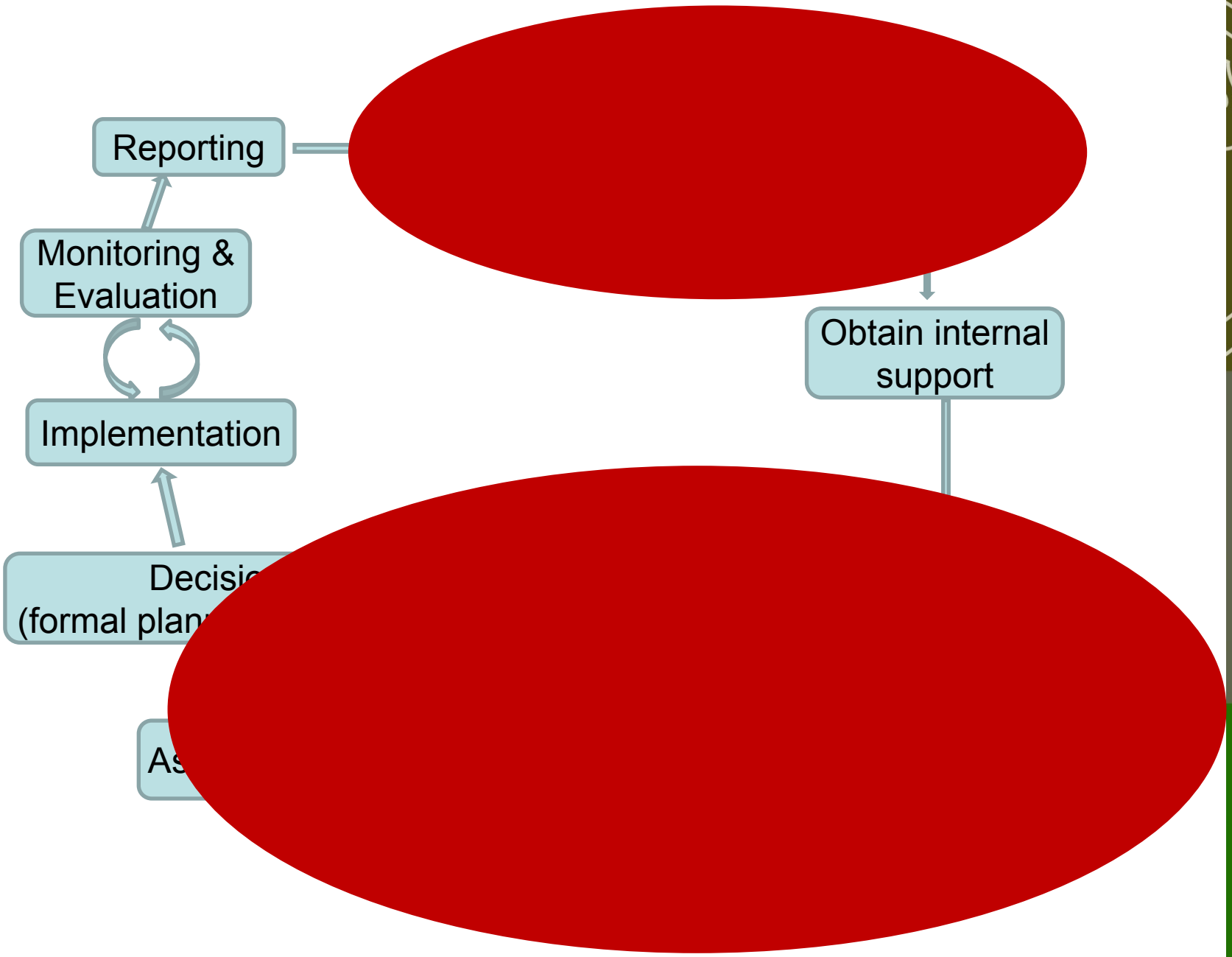


Science & processes



Structured Decision Making for Collaborative Planning

Decision-making cycle



Tools for Working with Values

CAWTHRON INSTITUTE

REPORT NO. 2569

TOOLS FOR WORKING WITH FRESHWATER VALUES

Table 1. Suitability of methods for identifying (ID), understanding (U), assessing (A) and balancing (B) freshwater values.

Method	ID	U	A	B	Notes
Participatory values mapping	√	•	•		Enables wide input, representative sample difficult. Interest groups may try to influence results.
Watershed Talk	√	√	•		Tool for small groups to build understanding of alternative views. Costly to use for wider public.
The Natural Step's ABCD method		√		•	Used to develop vision and action plan. Works best when participants have shared goals.
Foresight engine		√		•	Values are implicit. Largely untested as a tool for balancing values or achieving consensus.
100% Pure Conjecture		√		•	Values are implicit. Largely untested as a tool for balancing values or achieving consensus.
Conservation modelling: Zonation	•	•	√		Developed for aquatic biodiversity only.
Bayesian networks	•	√		•	Can be simple or complicated; work can be done as part of scientific investigations for plan change.
Decision support system: UPSW		√		√	Designed for urban setting. Would need resources to adapt for other areas.
Decision support system: WISE		√		•	Would need resources to adapt for other areas. Can be part of science for plan change.
Mediated modelling	•	√		•	Needs resources, most can be done as part of scientific investigations for plan change.
River Values Assessment System (RiVAS)	√	•	√		Use to assess rivers for specific values. Quick and inexpensive. Categories involve simplification.
Total economic value	•		•		Framework with categories of values for assessment using specific valuation methods.
Ecosystem services	•		•		Framework with categories of values for assessment using specific valuation methods.
Cost benefit analysis (CBA)				√	For a limited number of policy alternatives, where most values can be estimated in financial terms.
Market valuation			√		For market goods and services, e.g. as a component of CBA.
Revealed preference			√		For sites with features that influence financial decisions, e.g. as a component of CBA.
Stated preference	•	•	√		Can be used with CBA for non-market goods and services where values are pre-formed and stable.
Benefit transfer, e.g. InVEST			√		When estimates of local values are not available and resources for original study not available.
Hui	•	√	√	√	Consult tangata whenua regarding local protocols (see Glossary for definition of Māori terms).
Structured decision making	•	√	√	√	Comprehensive, complemented by other methods when dealing with complex systems.
WaterWheel	√	•	√	•	Complements other methods, e.g. expert modelling and structured decision making.
Deliberative multi-criteria evaluation	•	√	√	√	Comprehensive, can work with other methods. Uses scoring to resolve values differences.

* Method designed or suitable for the ... has some aspects that can assist with this task.

RiVAS

Native birdlife in Gisborne District:
Application of the river values assessment system (RiVAS and RiVAS+)

'Water used for domestic purposes' in Gisborne district:
Application of the river values assessment system (RiVAS and RiVAS+)

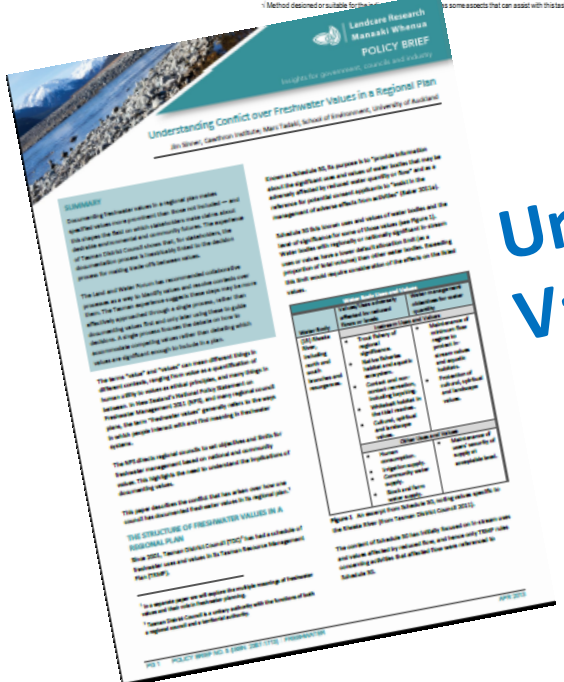
Sandy Bull
Andy Bassett
Ken F.D. Hughey

esearch Paper No. 5
March/2012

Peter Higgs
Marcus Koll
Dennis Crone
Judith Robertson
Keriana Wilcox-Taylor
Bruce Duncan
Ken F.D. Hughey

LEaP Research Paper No. 11
May 2012

Understanding Values



Landcare Research
Manaaki Whenua
POLICY BRIEF

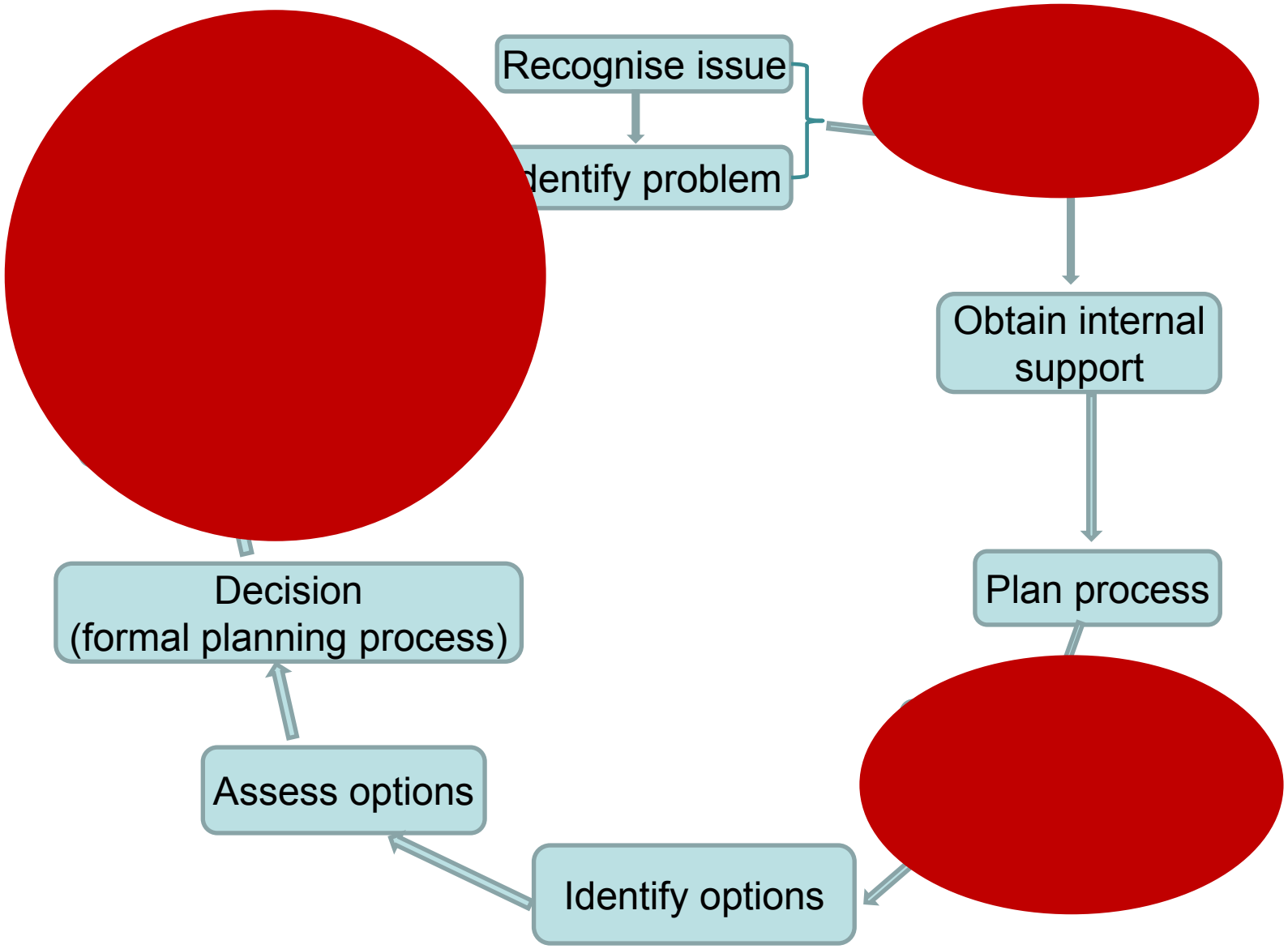
Understanding Conflict over Freshwater Values in a Regional Plan

Landcare Research
Manaaki Whenua
POLICY BRIEF

Māori Values and Perspectives to Inform Collaborative Processes and Planning for Freshwater Management

Maori values & perceptions

Decision-making cycle



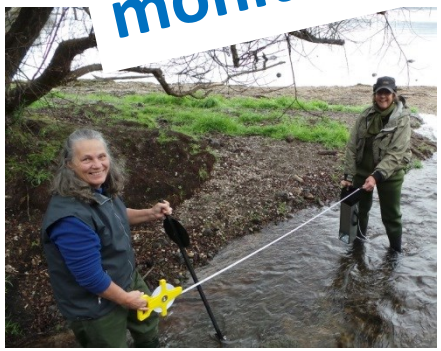
Environ Monit Assess
DOI 10.1007/s10661-013-3508-5

Water quality trends in New Zealand rivers: 1989–2009

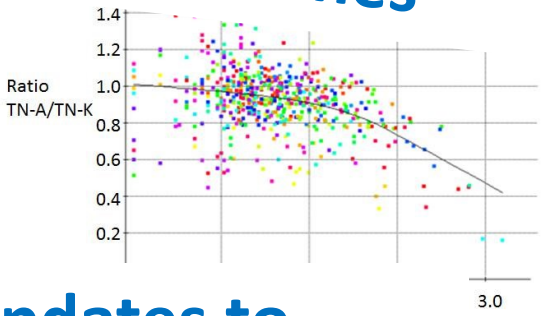
Deborah J. Ballantine · Robert J. Davies-Colley

Rural Decision Makers SURVEY2015

Community monitoring



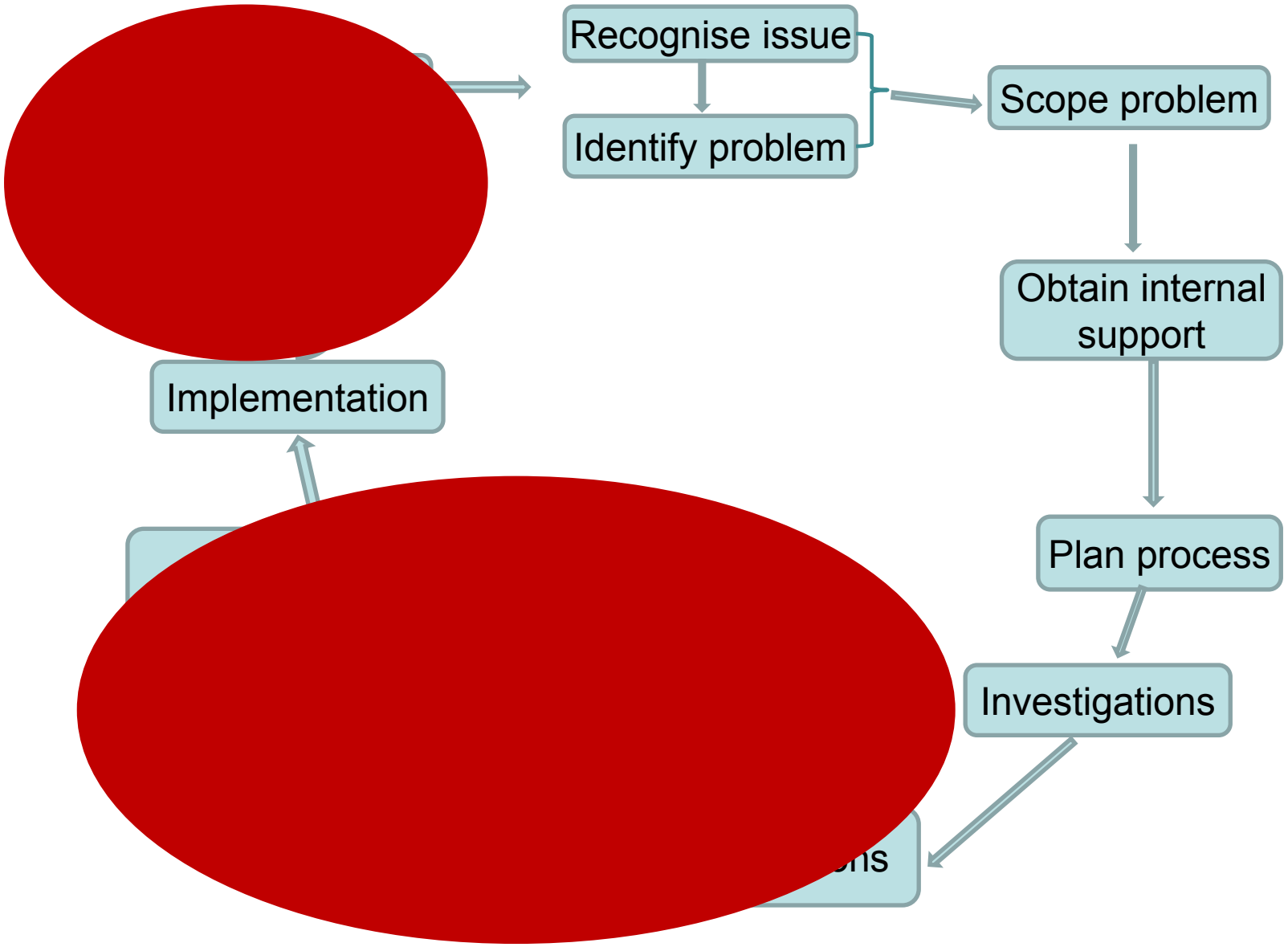
New statistical approaches



Updates to Time Trend tool

National Environmental Monitoring and Reporting

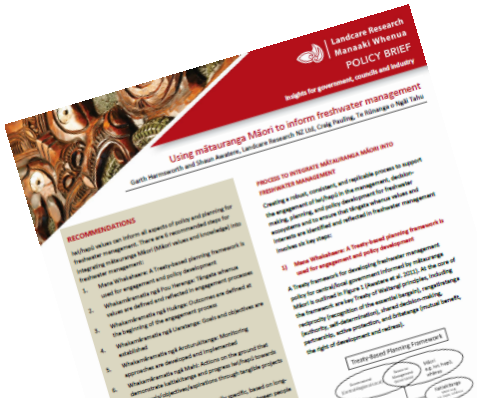
Decision-making cycle



Allocation

Designing policy

Performance Reporting Framework



Mātauranga Māori for FW mgt

A PRIMER ON THE POLICY CHOICE FRAMEWORK

Version 8.2

Policy Choice Framework

Steps to developing & monitoring the performance framework

- **STEP 1.** Set the terms of reference & team
- **STEP 2.** Define and describe the policies/programmes under evaluation
- **STEP 3.** Verify the intervention logic of the policies/programmes
- **STEP 4.** Populate the Order of Outcomes Framework
- **STEP 5.** Undertake the baseline
- **STEP 6.** Undertake the policy performance evaluation
- **STEP 7.** Tell the performance story

KEY CONTACTS

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www.landcareresearch.co.nz/science/portfolios/enhancing-policy-effectiveness/vmo

AQUALINC

The “Wheel of Water”

A collaborative approach to Freshwater Management

GROUNDWATER | IRRIGATION | RESOURCE CONSENTS | LAND USE IMPACTS | WASTE TREATMENT | WATER MANAGEMENT

Sep 5th, 2016

Presenter / **John Bright**

WoW Research Programme

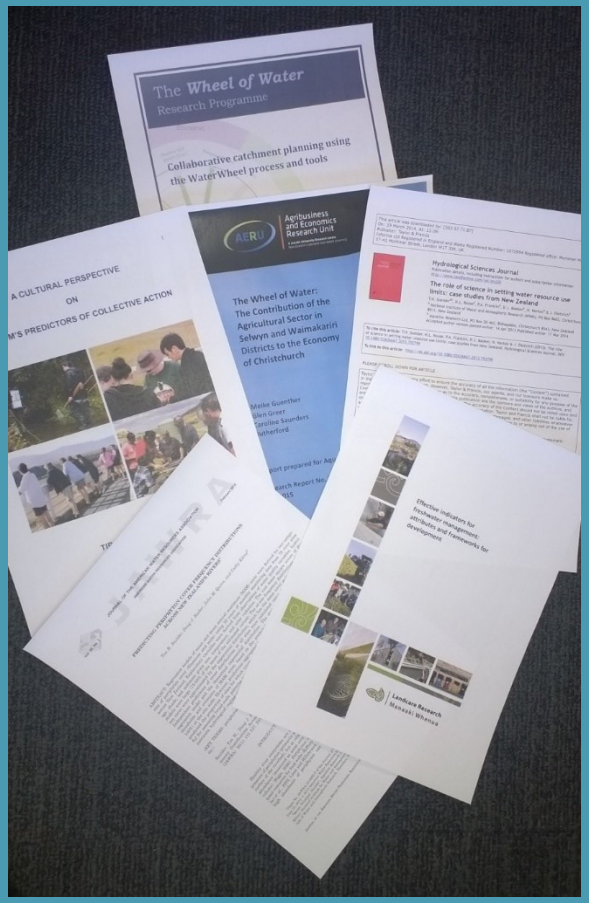
- Aims to improve decision making processes that set standards and limits for water flows and water quality.

- Processes and tools that help stakeholders to:
  - Work with whole system
  - Better visualise the System
  - Visualise interactions between values
  - Be adaptive (plan, act, reflect, re-plan)

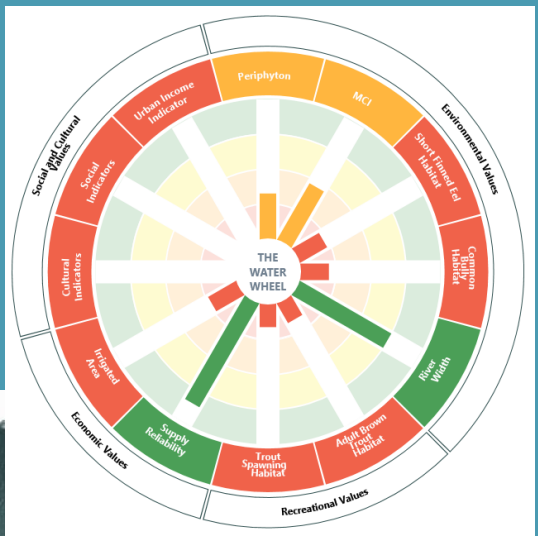
Scope of WoW programme

- Economics
- Iwi
- Modelling

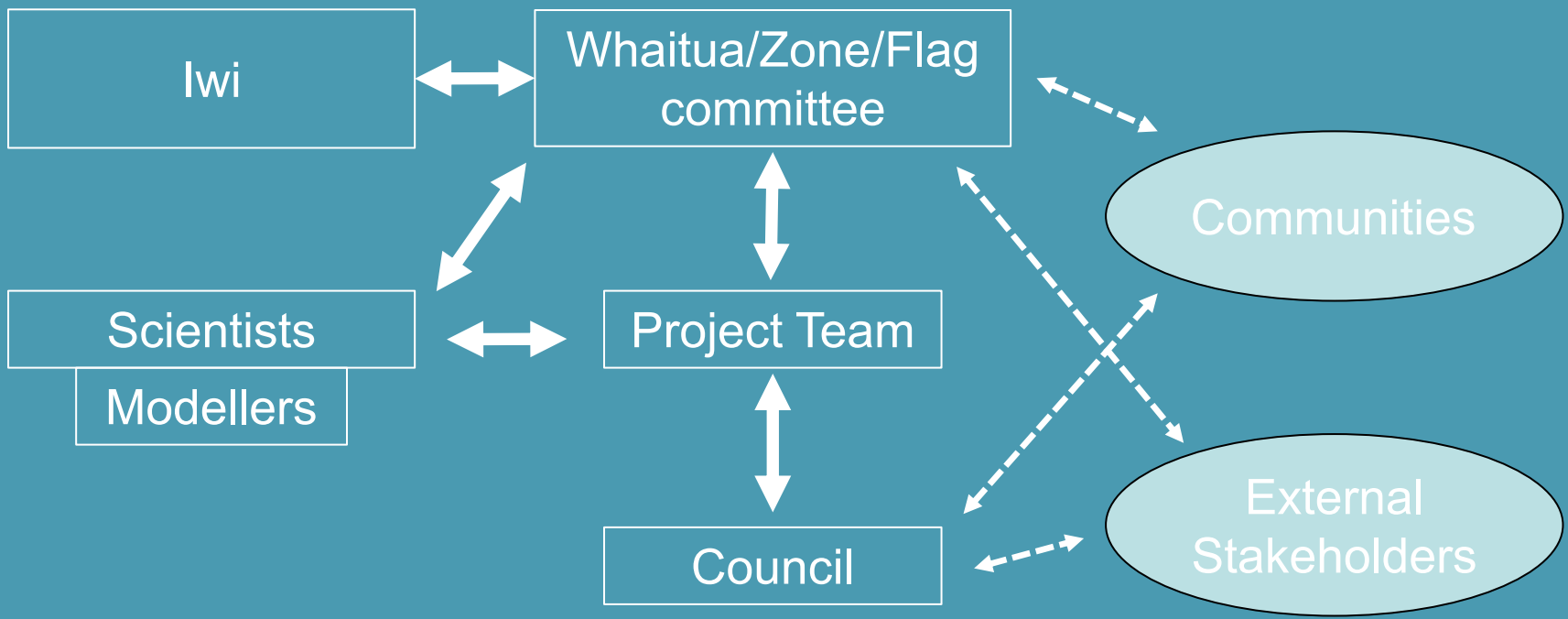
- Collaborative processes



Wheel of Water Framework



Collaboration as multiple Negotiations



Intentional Design

- Lots of work done on collaborative processes, guidelines etc.
- Despite this, which process to use for a FW management is an unresolved question… as Councils move to a more inclusive planning process.
- Neither feasible nor desirable to generate “rules” or a step-by-step template for ‘doing collaboration’

- Implementing effective collaborative process requires iterative design, tailored to the situation as it evolves.

Design elements

Design elements that are our ‘work on’:

- Systems thinking – understanding the big picture
- Scenario design – a lot more than modelling….
- Moving the parties from output thinking (eg WIP) to outcomes and the capacity to achieve them.
- Process reflection and re-design
- Adaptive management
- Visualising interactions between Values/Attributes

Further Information….

https://wheelofwater.wordpress.com/design/documents/