

Plan Framework Implementation Methods Waimea FLAG

20th April 2015

The Planning Toolbox

- **Environmental management**
 - Context
 - Plan Framework
- **The range of approaches**
- **It's not just about the Council**

Environmental Management

- **The legislative context**
 - **Resource Management Act**
 - National Policy Statement; Freshwater Management
 - Conservation Orders
 - Tasman Resource Management Plan

The Tasman Resource Management Plan

- Purpose of the Plan

- To assist the Council to carry out its functions in order to achieve the purpose of the RMAct.
 - The purpose of the Act is to promote the sustainable management of natural and physical resources
 - The Plan describes the objectives, policies and methods of implementation to achieve sustainable and integrated management of various natural and physical resources in Tasman District.

National Policy Statement; Freshwater Management NPSFM

- **The Plan gives effect to the NPSFM**
 - The NPS provides a water management framework:
 - Identify the values and uses that water must be managed to provide for
 - Describe the extent to which the range of values are to be provided for
 - Adopt measures to ensure management objectives are met

Meeting the Objectives - Plan Methods

- **Investigations and Monitoring**
 - These methods generate information about resource uses and their environmental effects:
 - Information to enable better decisions
 - Ensures understanding about connections and effects of activities
- **Council's role to collect and share information and apply what is learnt;**
 - Website – data, information
 - Field support
 - Advice
 - Resources

Buller River at Murchison Campgro Swimming Water Quality

This site was monitored as part of an investigation sampling round water quality results can be viewed below:

- Water quality sampling results for 2012/2013 season
- Site Information
- Map of Site
- Disclaimer

E.Coli Results for the 2012/2013 Season

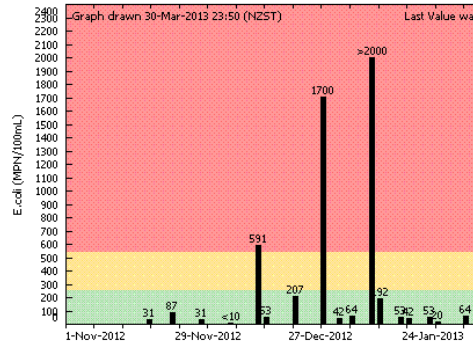


Table of flow readings for past 7 days

Date	Flow [Water Level] [m3/sec]
12/04/2015 11:00:00 a.m.	11.15
12/04/2015 10:55:00 a.m.	11.15
12/04/2015 10:50:00 a.m.	11.19
12/04/2015 10:45:00 a.m.	11.19
12/04/2015 10:40:00 a.m.	11.19
12/04/2015 10:35:00 a.m.	11.19
12/04/2015 10:30:00 a.m.	11.23



River Flow History

Catchment size: 713 km2

Period of analysis: 08 October 1970 to 30 April 2014

Comment: Early record is reliable for flood flows only so drought analysis starts

Return Period	Flood Flows	Drought Flow	
	(m3/s)	1 day average	7 day average
Annual	1080.3	3.078	3.310
5 Year	1315.2	2.423	2.580
10 Year	1506.2	2.200	2.331
20 Year	1689.5	2.036	2.148
50 Year	1926.7	1.870	1.963
100 Year			
Extreme Recorded	2076.4 10/07/1983	1.687 26/03/2001	1.774 23/03/2001

Buller at Longford – River Flow

This page contains the following information:

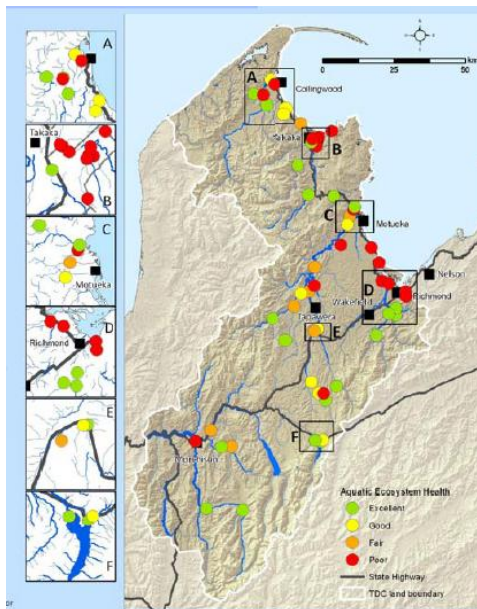
- Graph of Flow for last 7 days at Buller at Longford
- Graph of Flow for last 30 days at Buller at Longford
- Site information and historical flow statistics
- Table of flow readings for past 7 days
- Disclaimer

Data from Buller at Longford is normally updated every 60 minutes.

Flow for last 7 days at Buller at Longford



About Buller River at Murchison Campgro

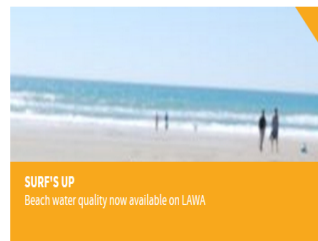


EXPLORE DATA

LAWA connects you with New Zealand's environment through sharing data

Search for a site nearby

Or explore topics



Advocacy and Education

- These methods involve provision of information and promotion of preferred practices for resource management.
 - Resources – website, brochures, advice
 - Includes advocacy through awards and recognition of particular practices (Green Ribbon Award)
 - Support of community groups, local initiatives
 - Information about wetland values and functions



GOOD PRACTICE GUIDE TO WETLANDS

Tasman Resource Management Plan Guide No.2

Wairere Wetland, Motueka

Good Practice Guide to Managing Wetlands in Tasman District



The Sherry River

- A Success Story

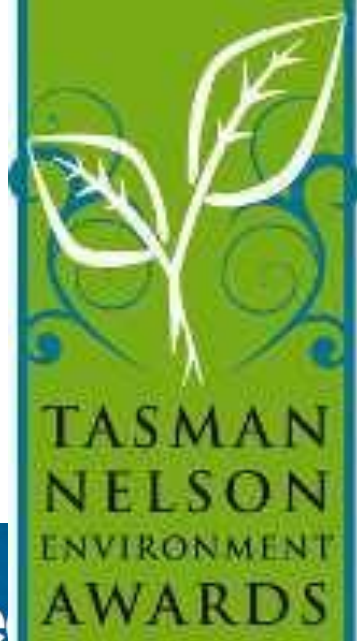
John Wright 1996, 9th Dec 1996, 10/10/96, 10/10/96, 10/10/96
Steve Jones 1996, 9th Dec 1996, 10/10/96, 10/10/96, 10/10/96
Bob MacLennan 1996, 9th Dec 1996, 10/10/96, 10/10/96, 10/10/96
Rob MacLennan 1996, 9th Dec 1996, 10/10/96, 10/10/96, 10/10/96
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Aim
 • improve water quality so that the Sherry River meets recreational use guidelines by farm BMPs

Methods
 • as part of the Motueka ICM program a water quality monitoring study in the Sherry River catchment was started in 2001 continuing to present day
 • a study on cow herds crossing the river was undertaken in 2001
 • in 2007-08, TDC and the Sherry Catchment Group undertook sampling of swan of the

Controlling Aquatic and Wetland Invaders



Clean Streets



• A Guide to Managing Waterways on Tasman - Marlborough Farms

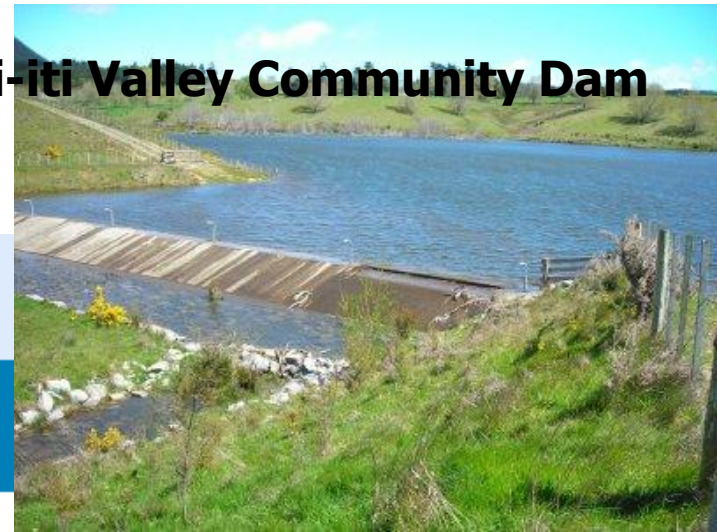




- **Works and Services**

- The provision or requirement for works and services can be used to enhance the development of communities or to avoid, remedy or mitigate adverse effects.
 - Rubbish collection
 - Infrastructure including water supply and waste water
 - Water augmentation

Wai-iti Valley Community Dam



Financial Measures

- **Can work as incentives and disincentives**
 - Financial measures or charges or other compensatory contributions are a method to encourage or discourage certain resource use practices
 - Subsidies – riparian fencing funds.
 - *(Also acknowledges public benefits of works on private land)*
 - Fines – non-compliance with rules
 - Financial contributions – paying towards infrastructure or service
 - Rebates – QEII covenants

Regulation

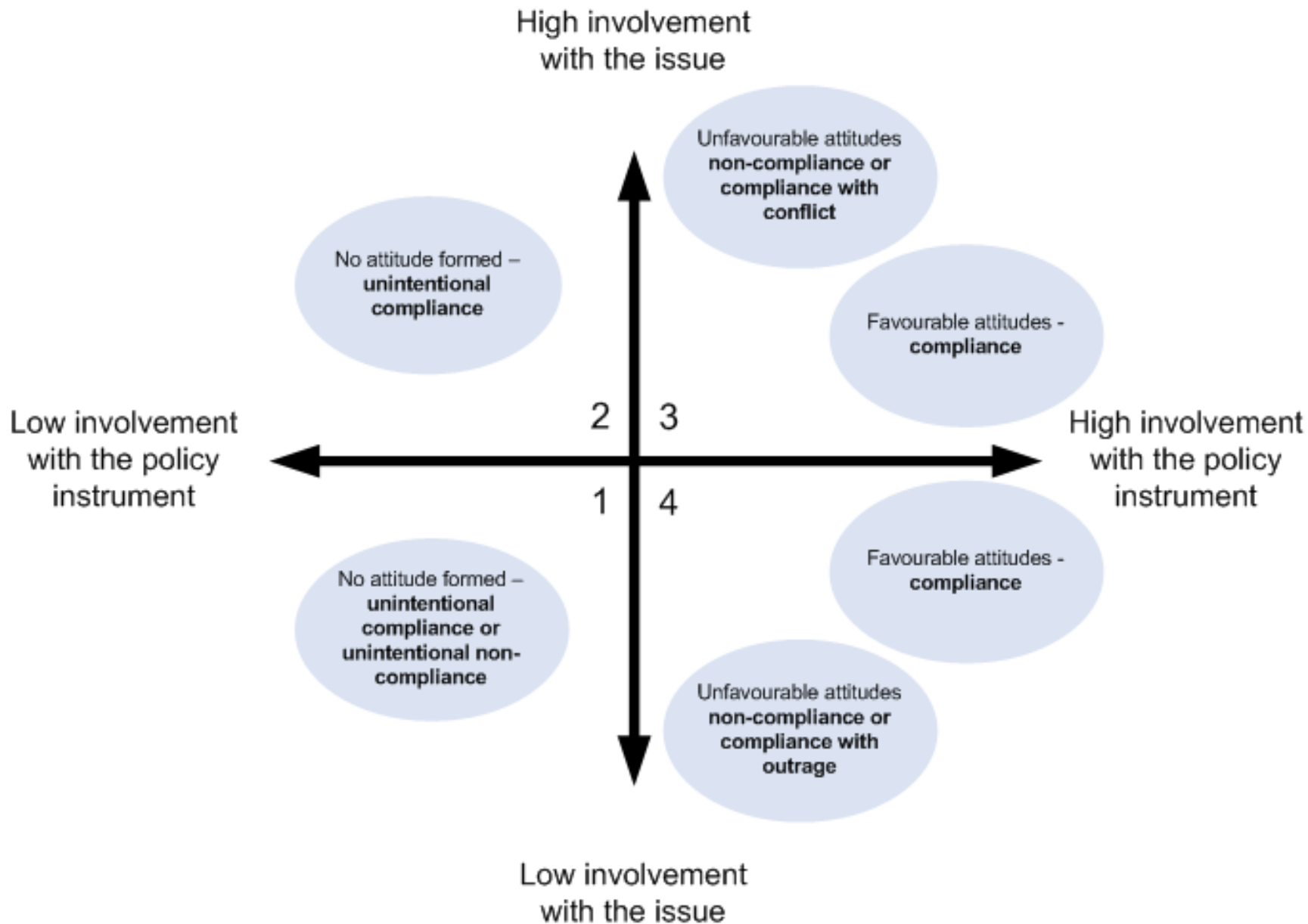
- Regulating resource use activities for their adverse effects through the use of:
 - **Rules**, including limits and consent requirements, performance standards
 - *provide certainty for investment and the community*
 - *may reduce consent application costs*
 - **enforcement action** if non-compliant
- Self-regulatory actions by resource users themselves
 - *Less compliance cost as reward for good self-regulation*

• Taking No Action

- This method may be used where results may be achieved without Council intervention

The Question;

- Are there methods to which people respond better than regulation and punishment?



I₃ Response Framework (adapted from Kaine et al 2010)

The right mixture

- **Rewards – temporary effect but do little in the way of changing people’s attitudes**
- **Motivation is much less about external prodding or stimulation, and much more about what’s inside of you and inside of your work.**
- **In other words, the most motivated people are those who feel a connection with their work or the outcomes being sought**

Understanding What Action is Required

- Objectives based on values:
 - Allocation – Water quantity
 - *minimum flows, quantity limits*
 - Allocation – Water quality
 - *quality limits – water quality state*
 - » Catchment loads,
 - » property scale management

Pathways, Cause and Effect

- ***The pathways by which pollutants reach surface, groundwater and marine waters are often complex and not fully understood.***
 - *Connections between water bodies in complex geology*
 - *Lag effects*
- ***The impacts of diffuse source pollution depend on***
 - *the quantities of pollutants released;*
 - *how easily the pollutants are transported into water systems; and*
 - *how sensitive the water environment is to pollution*

Water Quality Mitigation Methods

- **Mostly based on natural processes to remove targeted contaminants**
 - (i) land-based management or treatment of contaminants at source,
 - (ii) interception of contaminants along hydrological pathways, and
 - (iii) bottom-of-catchment methods that treat contaminants within receiving waters

Selling the idea

- A desire for an alternative outcome than the status quo would provide
- Today's norms – judged by the future
 - Stewardship is about the future as much as it is about the present

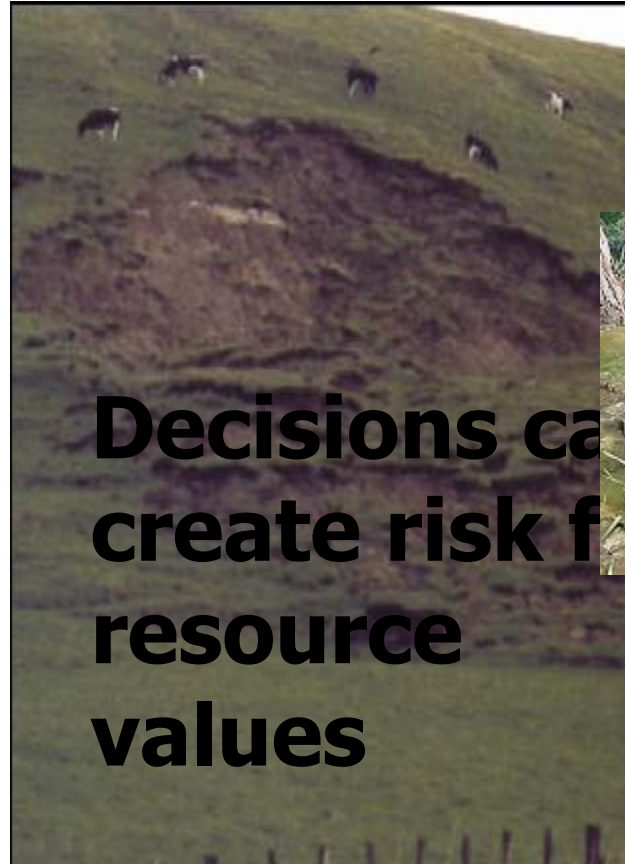


Choices for Resource Use and Management

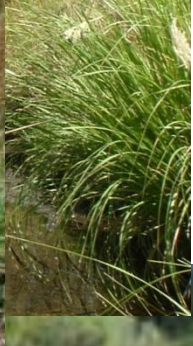
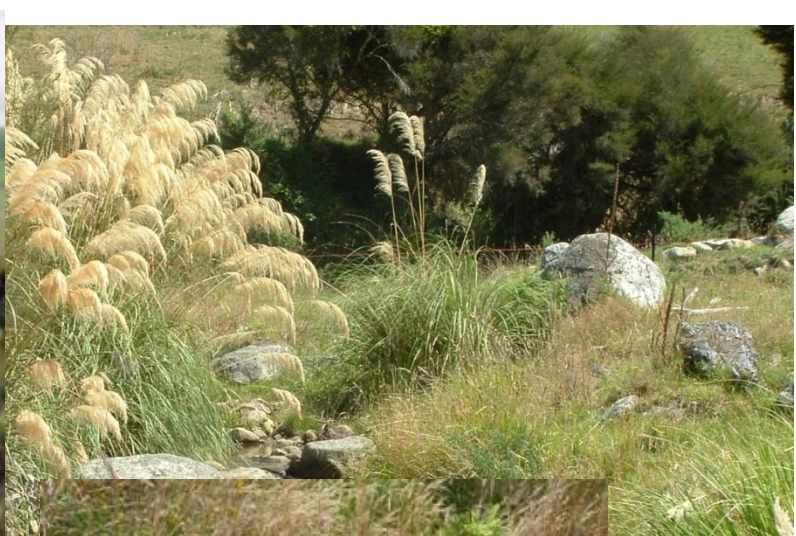


Fertiliser runoff and leaching may lead to increased algal growth and reduced water quality





**Decisions can
create risk for
resource
values**





- **Best Practice**

- Do we know what it is?
- How do you know when you get there?
- Canterbury MGM project
- Mitigation assessment

Table 5: Information applicable to the application of lake-scale technologies (strategies) to mitigate the effects of water quality contaminants to lakes.

Target	Strategy	Description of function	Lead research agency	Effectiveness	Relative cost	Reasons for variability	Factors limiting uptake	Co-benefits	References
Multiple	Inflow diversion	Diverts nutrient-rich lake inflows downstream.	University of Waikato; NIWA	Obau-C diverte in-Lake (2003- Sandy- catchm (Hawke eviden Consid Stream c.-\$12)	agresearch NIWA THE UNIVERSITY OF WAIKATO	very expensive and tract from landscape.			Scholes and McIntosh (2010); Jacoby et al. (1999); Robertson et al. (2000).
Multiple	Hypolimnetic siphoning	Removes poor quality (e.g. anoxic) water at the bottom of stratified lakes.		Not used 50-lake where low-co		June 2013	le for deep, seasonally kes where there is not downstream water.		McIntosh (2004); Nürnberg (2007).
Multiple	Dredgings	Removes nutrients and sediments from a lake bed.	University of Waikato	Has no but rec Lake, U			spoil, disturbance of na (invertebrates), lease of contaminants.	In some cases spoil may be useful as a soil conditioner.	Klapper (2003); Faithfull et al. (2006); Miller (2006).

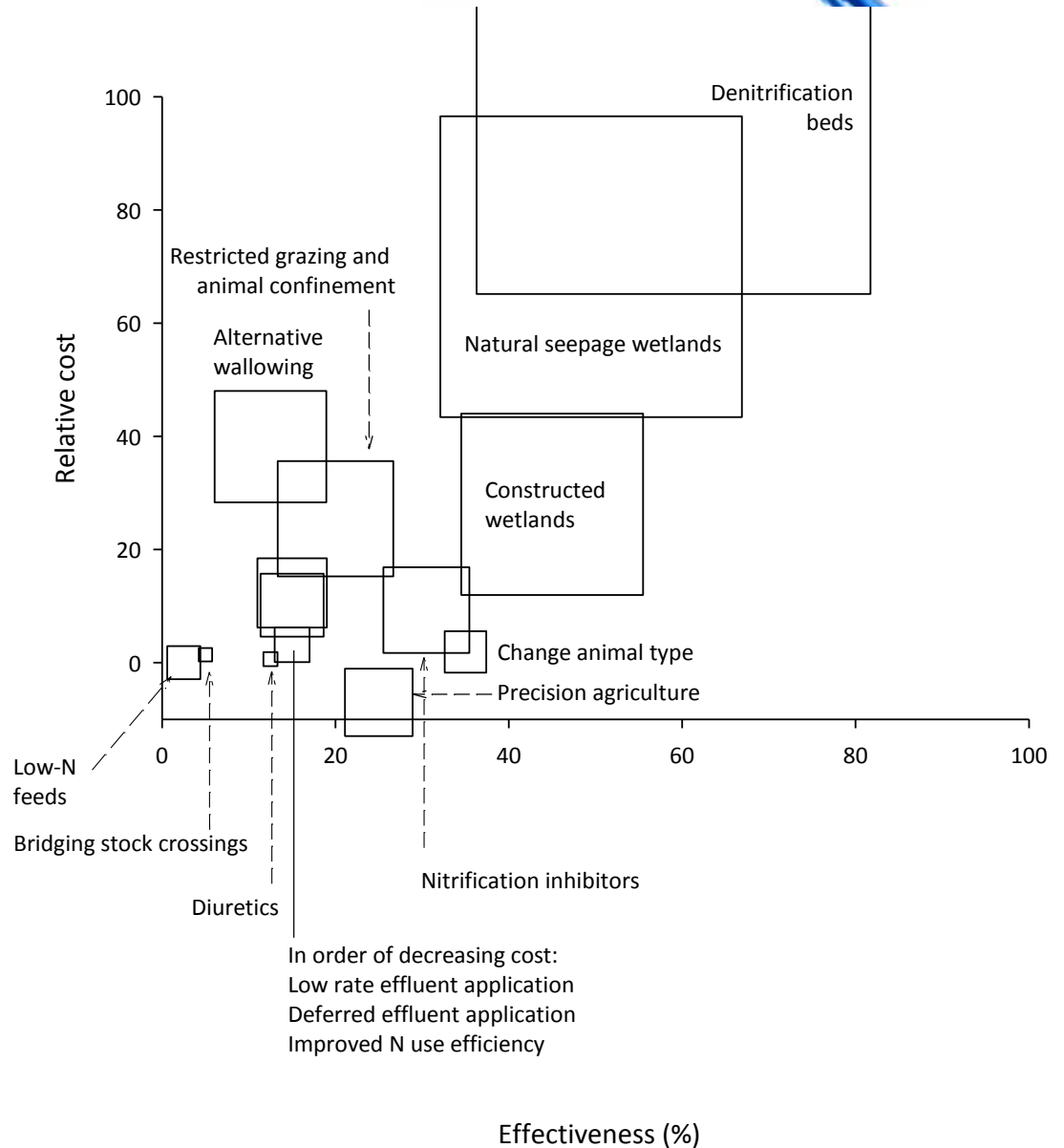

Assessment of Strategies to Mitigate the Impact or Loss of Contaminants from Agricultural Land to Fresh Waters
 RE500/2013/066

New Zealand's science. New Zealand's future.



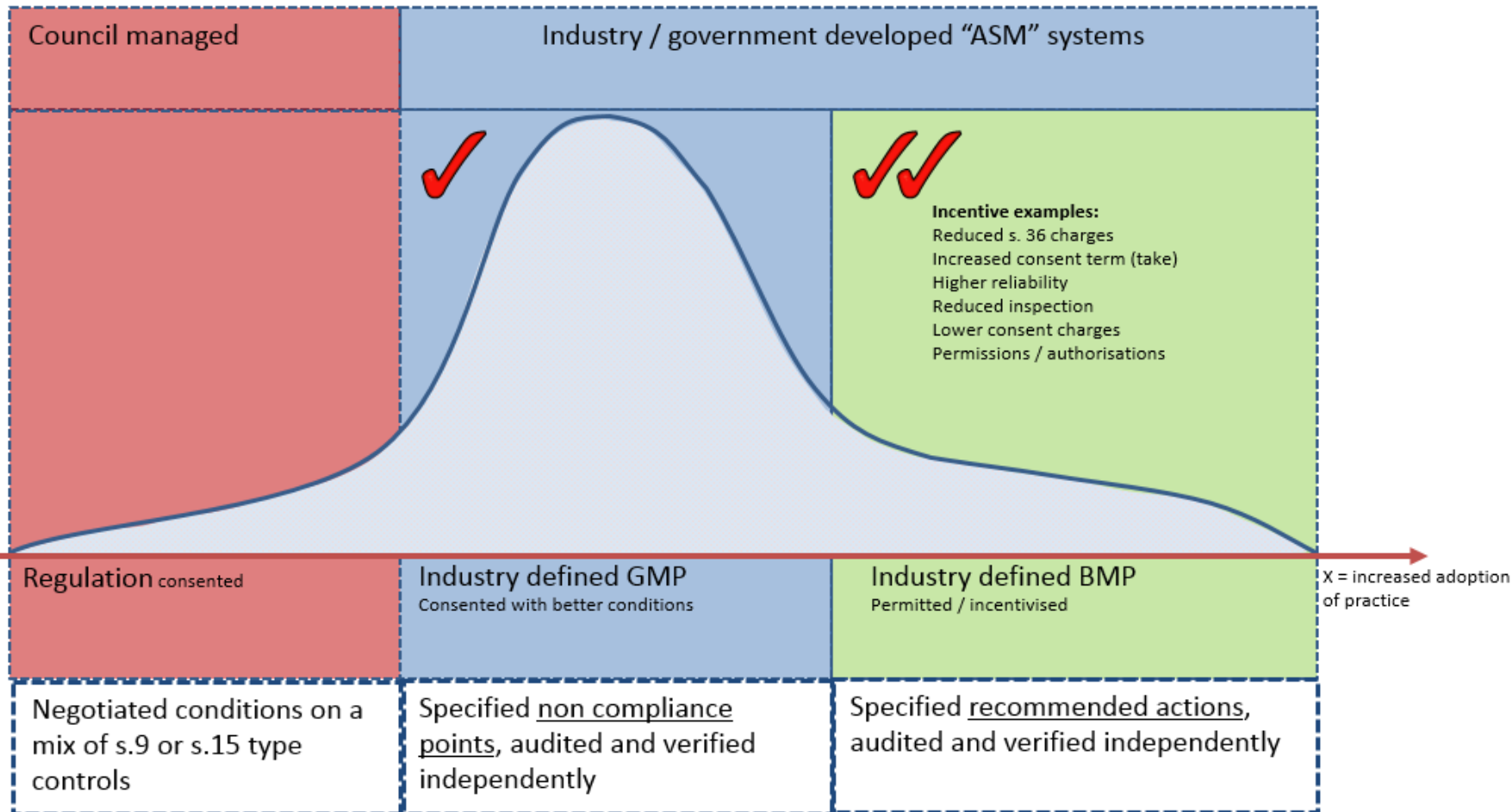
and \$1-million for Lake Okaro (30-ha). Recent application to Lake Oranga (0.69-removal across lake; extent of disturbance and resuspension as well as disruption of benthic biota.)

Figure 3.
 Diagram of the relative cost and effectiveness of strategies to mitigate **nitrogen** losses to water at the farm-scale



Y = number of farmers/growers

Audited Self Management (ASM) relies on regulation




Regulatory Approaches

- **Catchment Load**
 - Lake Taupo – Nitrogen trading within overall limit
- **Catchment loads to Property limits - Overseer**
 - LUC based – Nitrate leaching rate for each LUC class
 - Leaching rates by land use type
- **Modelled and managed at property scale**
 - Performance standards for activities
 - *Stock access, setback distances,*
 - Water quality at property boundary specified
 - Overseer as tool
 - Requirements for “intensive” land use – records etc
 - “Best Practice” – MGM, Farm environment plans

Not just about the Council....

- **Industry initiatives – understanding best practice**
 - **Clean Streams** – dairy industry and councils
 - *Industry supply agreements*
 - *Specific performance required*
 - *Industry monitoring*
 - » Movement towards council auditing role?
 - **Irrigation NZ**
 - Efficient application and management of irrigation systems
 - Good design and management practice understood and specified
 - Complexity in decision making
 - *Legacy issues, other considerations*

- 
- **Iwi, landowner and community projects**
 - Aorere, Sherry catchment projects
 - Enviroschools
 - Cobb Power Ltd Mitigation Fund

A good programme...

- A good programme has to be based on the values of the community, because that's what drives the behaviours of the people within it.
- The purpose of any management programme is to drive the right behaviour.