

# Lincoln University

*Te Whare Wānaka o Aoraki*

CHRISTCHURCH • NEW ZEALAND

## Perceptions of freshwater and its management in New Zealand: 2000-2010

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# Outline

- The survey and freshwater – methods
- Key ongoing trends from 10 years of perceptions of freshwater monitoring: state, management and pressures
- Most important values of fresh water
- Desired futures for fresh waters
- Support for different management approaches
- Support for paying for commercial use of freshwater
- Key findings and implications

**(Acknowledgement – we thank MfE for ongoing funding of this survey work)**

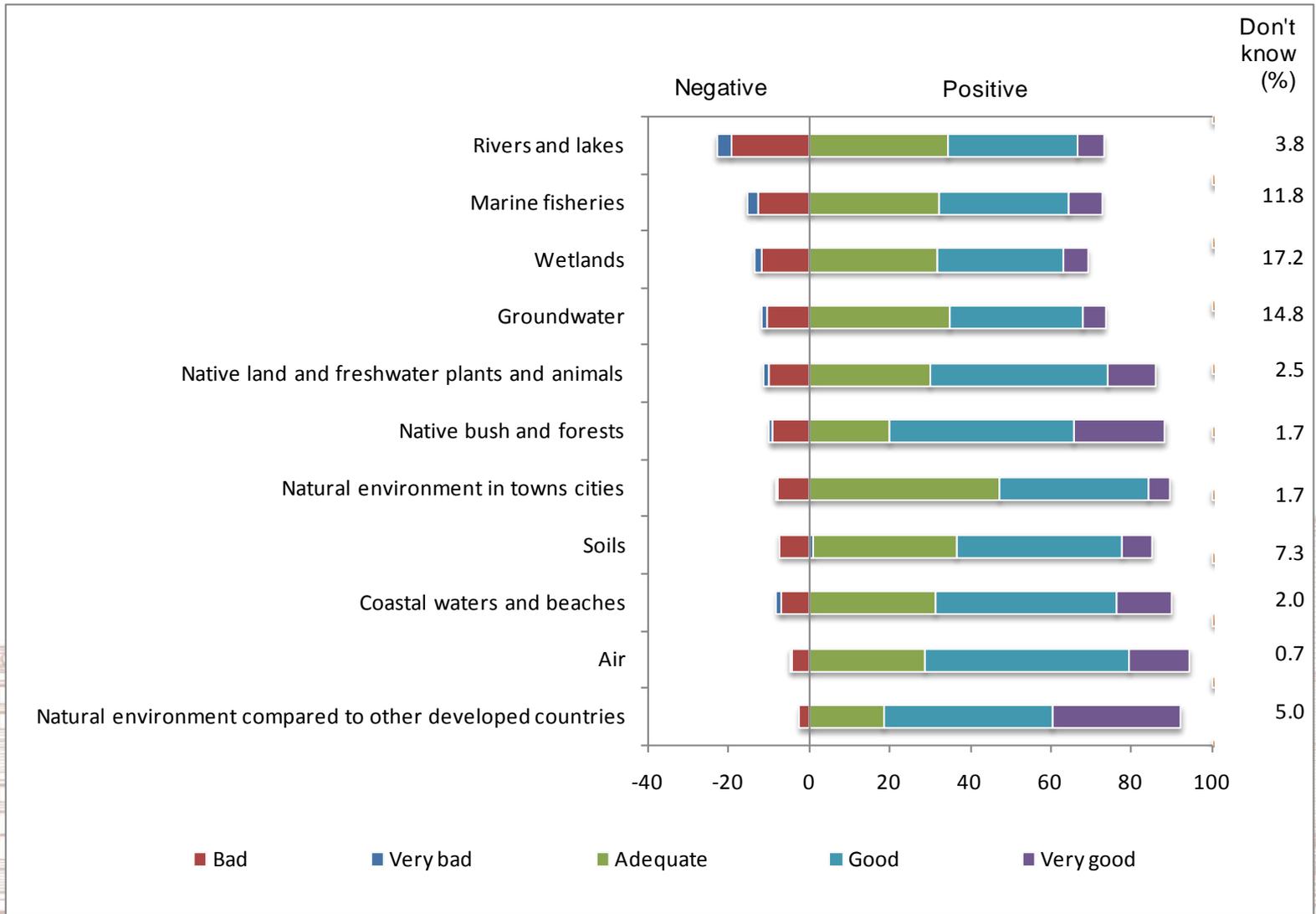
# Survey methods

- Assesses people's perceptions of the state of the NZ environment – 11 natural resources, e.g., air, fisheries
- Built around the Pressure-State-Response (OECD) model
- Postal questionnaire and, in 2010 an e-survey
- 2,000 people aged 18 and over randomly selected from electoral roll; additional 500 in 2010 for regional boosters
- Demographic variables include: age, gender, region, ethnicity, education, and employment sector
- Data analysed descriptively and, where applicable, the 2010 survey responses compared with 2008, 2006, 2004, 2002, 2000
- ≥35% effective response rates in all surveys
- Each survey has a case study – in 2010 fresh water focusing on futures, priorities, policies, management instruments.

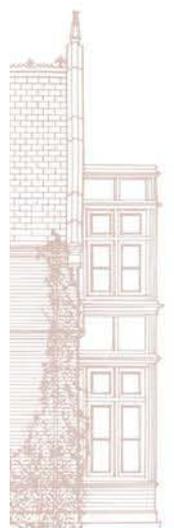
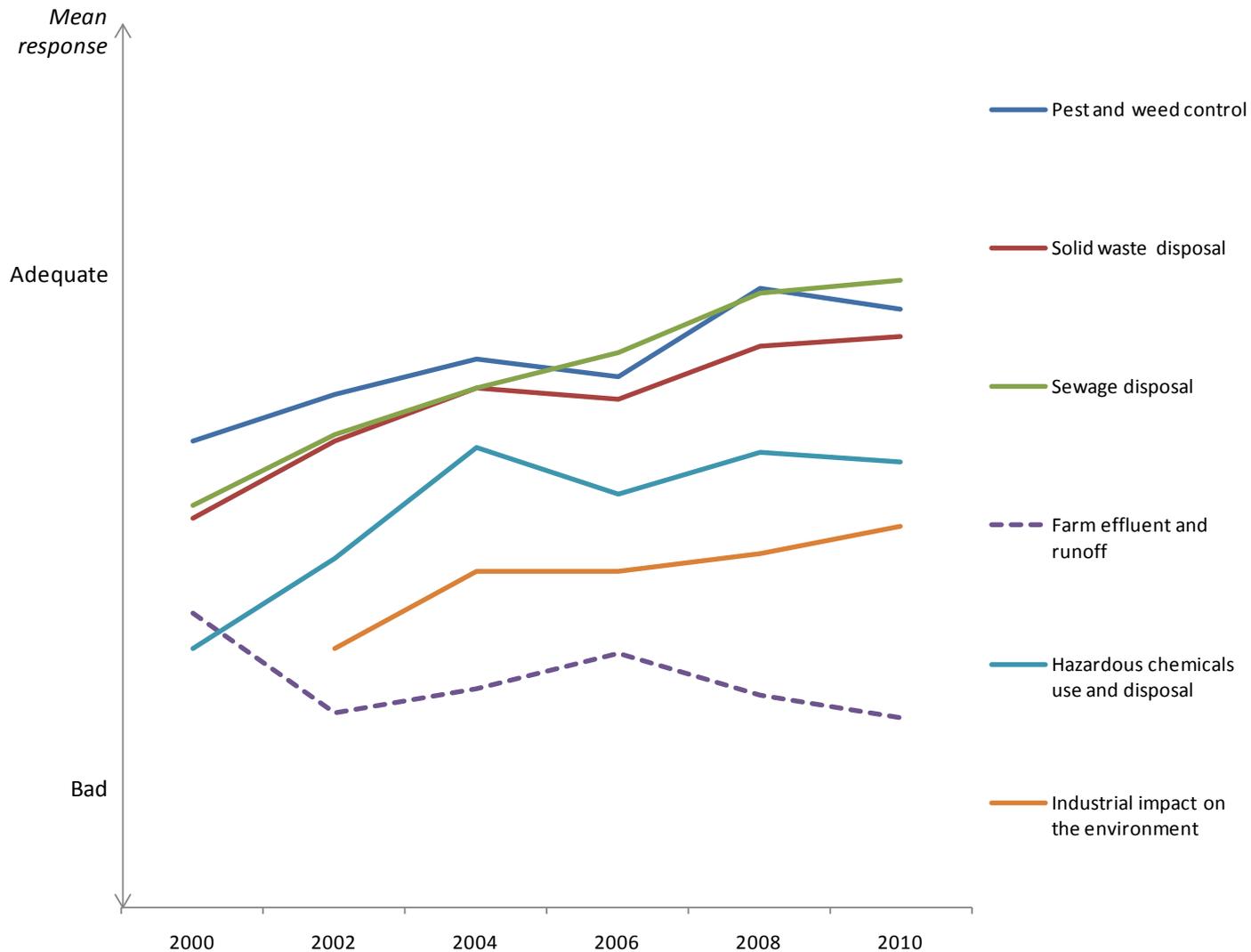
# Some ongoing trends from 10 years of perceptions of fresh water monitoring

- NZers rate state of rivers, lakes and groundwater highly, but still lowest of all the resources monitored. Consistent with comparative international rankings (e.g., Emerson et al. 2010);
- Higher level of concern, even negativity, about the state of local lowland streams. This concern is matched by a range of biophysical science reports (e.g., Scarsbrook, 2006);
- Particular concern about management of farm effluent and runoff, and ongoing significant increase in concern about farming being a major cause of damage to fresh water ...

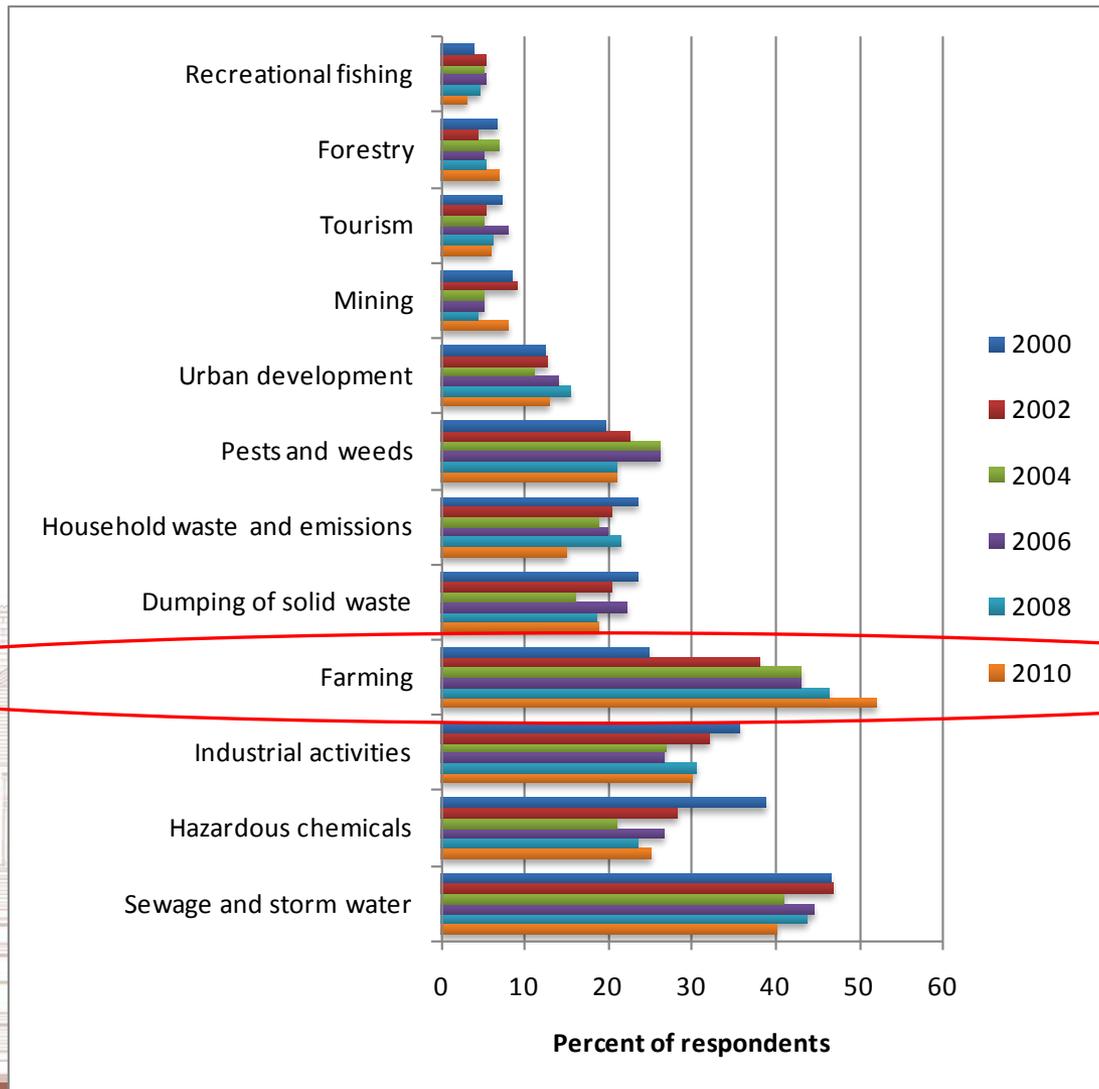
# Perceived state of freshwater: 2010



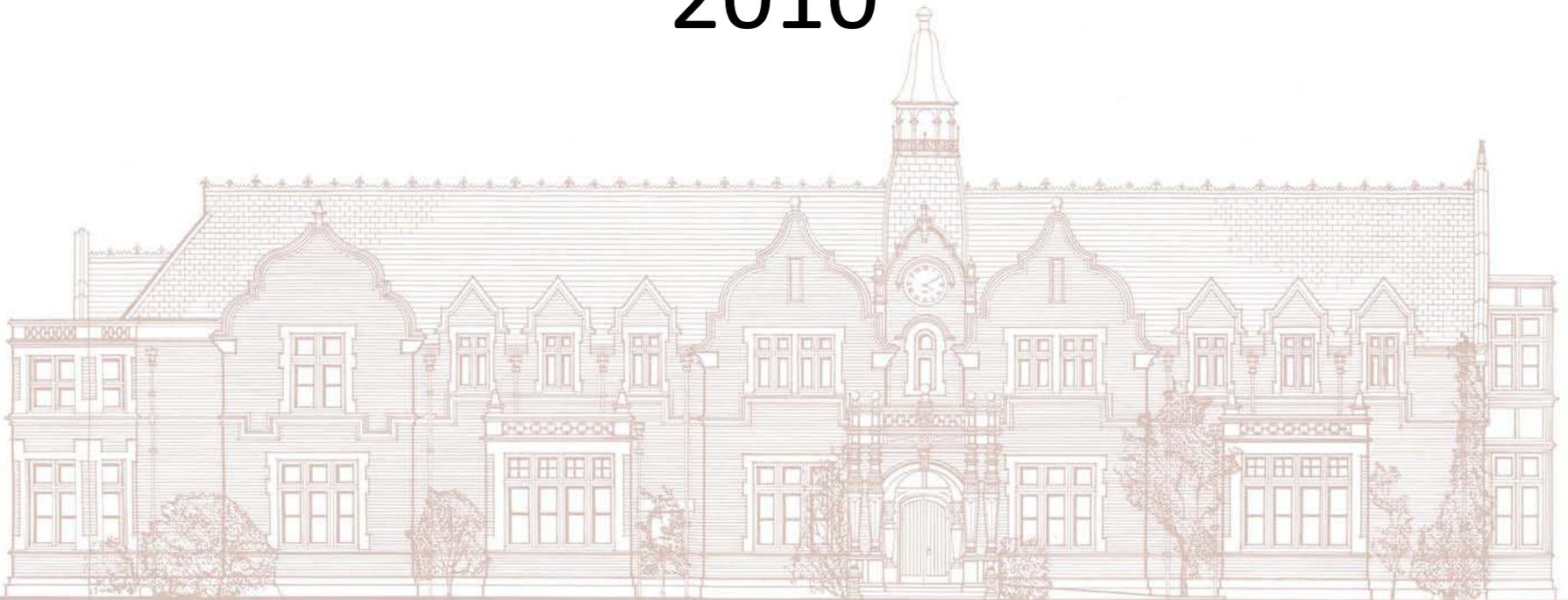
# Quality of management activities: 2000-2010



# Perceived main causes of damage to fresh waters. Categories less than 5% are omitted



# Values and futures for freshwater - 2010



# Most important values of fresh water in NZ

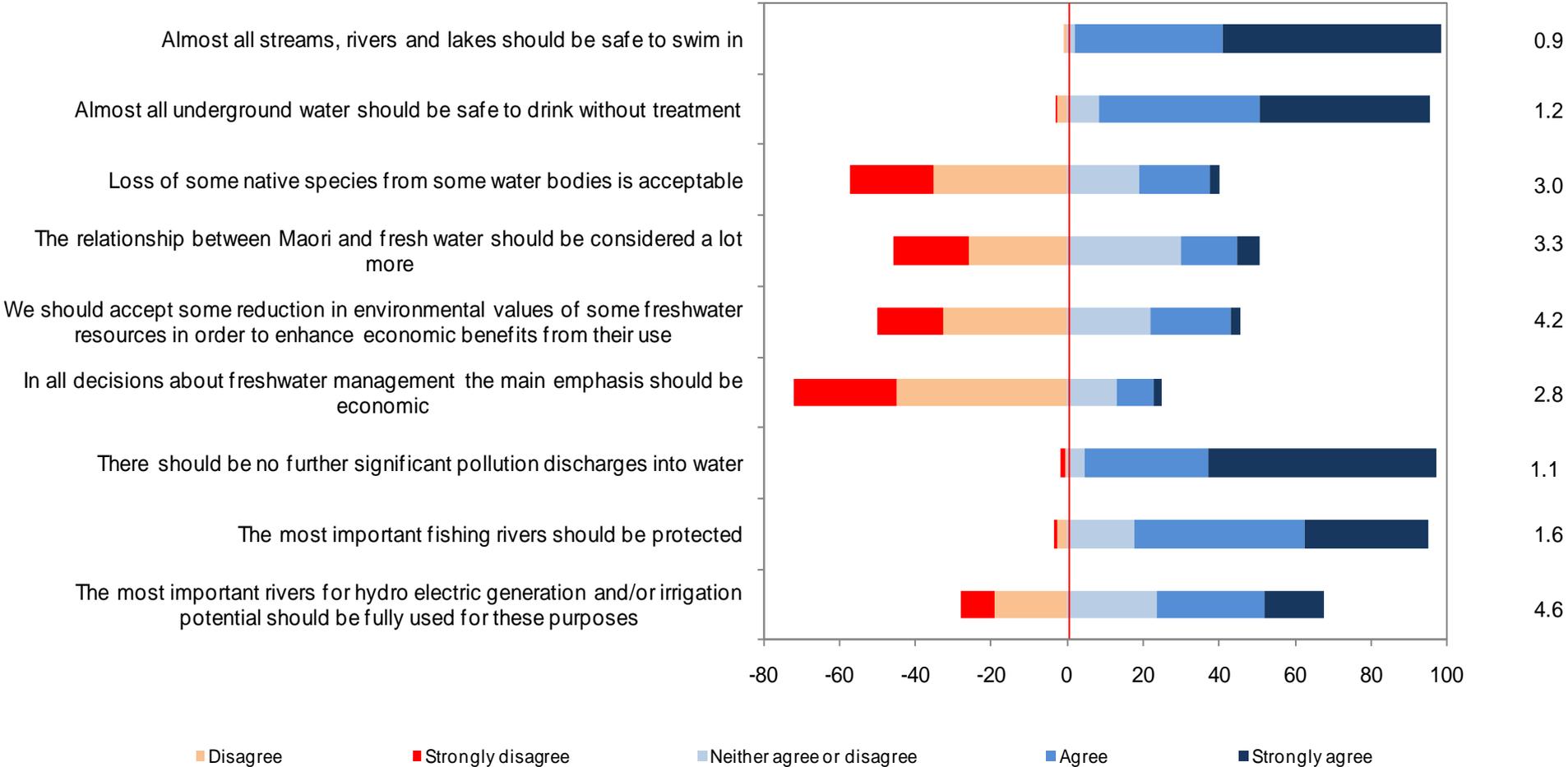
	Rivers and Streams:	Lakes:	Aquifers/ underground water:
Nature (e.g., native bird and fish habitat)	4.27	4.26	3.49
Scenic/visual (e.g., beauty)	3.87	3.94	NA
Community household and other use (e.g., garden irrigation or drinking water)	3.84	3.57	3.76
Recreation (e.g., fishing, boating, swimming)	3.62	3.67	NA
Commercial use (e.g., farm irrigation, hydro power)	3.39	3.27	3.30
Customary Maori (e.g., role as kaitiaki)	2.55	2.54	2.45

Likert scale: 'Totally irrelevant – not a consideration' (=1) to 'Critical – the most important thing to consider' (= 5)

# Desired futures for fresh waters

Don't know (%)

Negative Positive



# Support for different management approaches

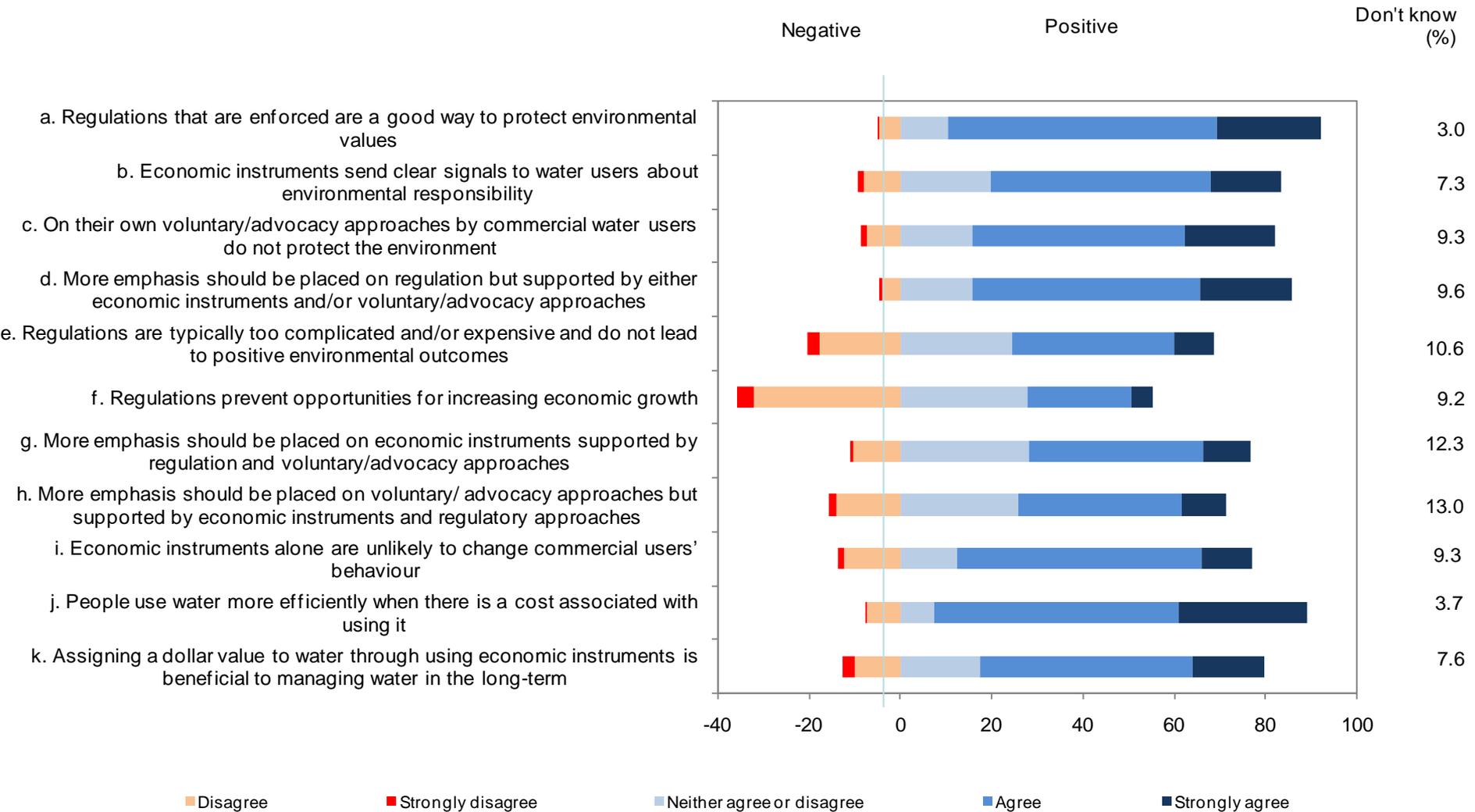
We assessed support for different combinations of three approaches for managing fresh water, namely:

- Regulations, Rules and Standards, e.g., for providing enough water for fish and birds to live, protection of drinking water.
- Economic instruments which could include: tradeable water use permits, or pollution fees, or subsidies for reducing pollution.
- Voluntary and/or advocacy approaches which could involve: groups of water users taking responsibility for actions such as voluntary reductions in water use in times of low flow, or sharing available water between commercial and recreation users in such times.

# Comparative evaluation of effectiveness (Likert scores: 5= very ineffective to 1= very effective) of 3 different approaches to managing fresh water

	Effectiveness in achieving environmental protection	Effectiveness in achieving economic growth	Effectiveness in achieving benefits to society
All three approaches combined	1.86	2.02	1.92
A combination of Regulations and Economic instruments	2.21	2.42	2.33
A combination of Regulations and Voluntary action & advocacy	2.33	2.52	2.38
A combination of Economic instruments and Voluntary action & advocacy	2.45	2.57	2.48
Regulations alone	2.34	2.76	2.57
Economic instruments alone	2.66	2.82	2.76
Voluntary action & advocacy alone	3.06	3.23	3.00

# Respondents' agreement or disagreement to 11 statements regarding management approaches and their likely outcomes.



# Key findings

1. Perceived state of NZ freshwater is good – a view supported by science; lowland streams not so good; farming increasingly seen as a major cause of damage; management improving but issues around farm runoff.
2. NZers want largely non-polluted fresh waters, fit for swimming and with abundant aquatic life. Most important rivers should be protected and they do not want to trade off environmental protection for economic growth.
3. Respondents consider voluntary freshwater management approaches to be least effective and policy combinations that include regulation and market based measures to be the most effective.
4. Respondents support commercial user pays regimes:
  - limited analysis against some key demographics shows no significant difference between farmers and other occupational classes.
  - they all want commercial water use to be monitored, administrative costs charged to commercial users, and in addition they all strongly support commercial users being charged for the water they use.

# Policy implications

- Government has a mandate to demonstrate strong leadership with regard to fresh water and its management
- Such leadership should provide policy initiatives that would help drive efficiency and innovation in water use, and which also would help internalise the environmental externalities associated with current water use patterns.
- Imposing both a user pays regime to recover the administrative costs, and a fee for the commercial use of water would have strong and broad levels of community agreement, but with very significant pockets of opposition.
- Both initiatives would also drive other improvements and would likely help New Zealand achieve the long term goals that survey respondents clearly want for NZ's fresh water.

# At the end of the day we do have a choice:



And for the Mokihiui, where I have my whitebait stand, I know which I want now and for future generations!