A decade of perceptions of the New Zealand environment: A focus on water and its management

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Research aims, framework and methods

**Aims:**
- Monitor NZers’ perceptions of resource and environmental issues – something increasingly common in other countries;
- Contribute to improved state of environment reporting – matching perceptions to science can identify gaps/issues;
- Inform policy development – understanding perceptions can help with policy initiatives.

**Framework:**
- PSR model used by OECD and in MfE environmental reporting programme

**Methods:**
- Postal Questionnaire, biennially since 2000
- Random sample of 2000 from Electoral Roll
- Maintained a c.40-47% effective response rate
11 natural resources

• Natural environment in towns and cities;
• Air;
• Native land and freshwater plants and animals;
• Native bush and forests;
• Soils;
• Coastal waters and beaches;
• Marine fisheries;
• Rivers and lakes;
• Groundwater;
• Wetlands; and
• Natural environment compared to other developed countries.
Focused topics

2000 natural hazards and preparedness
2002 coastal management, marine recreational fishing
2004 freshwater management, recreational fishing
2006 land transport and their externalities
2008 conservation, recreation, freshwater
2010 climate & tourism, freshwater.
Pressures: Most important environmental issue, NZ and world

- **Agriculture**
- **Urban sprawl/development**
- **Sustainable management of resources**
- **Global warming/climate change/ozone layer**
- **Air pollution/air quality**
- **Disposal of refuse/waste**
- **Pollution (unspecified)**
- **Water (unspecified)**
- **Water use**
- **Water pollution**
- **Other**

Percent of respondents

- **World**
- **New Zealand**
Causes of damage to freshwater

- Household waste and emissions
- Industrial activities
- Tourism
- Sewage and storm water
- Mining
- Urban development
- Forestry
- Farming
- Pests and weeds
- Hazardous chemicals
- Dumping of solid waste

Percent of respondents

- 2000
- 2002
- 2004
- 2006
- 2008
- 2010
Causes of damage to freshwater, by ethnic group

- Urban development
- Household waste and emissions
- Pests and weeds
- Dumping of solid waste
- Industrial activities
- Farming
- Sewage and storm water
- Hazardous chemicals

Percent of respondents

- Maori
- NZ European
- Other
State of the NZ environment

Percentage of respondents

- 40 - 20 0 20 40 60 80 100

Negative  Positive  Don't know

%  

Rivers and lakes  5  
Marine fisheries  13  
Wetlands  15  
Groundwater  13  
Natural environment in towns and cities  2  
Soils  8  
Native land and freshwater plants and animals  4  
Coastal waters and beaches  3  
Air  1  
Native bush and forests  3  
NZ natural environment compared to other developed countries  5  

Very bad  Adequate  Bad  Good  Very good
‘Small lowland streams in my region have high water quality’
Response – management of the environment

A range of questions probe this issue.

One standout result
Response: ‘Small lowland streams in my region are well managed’
Response. ‘Small lowland streams in my region are well managed’ 2004

<table>
<thead>
<tr>
<th>Percent of respondents</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sample</td>
<td></td>
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<tr>
<td>Resource based</td>
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<tr>
<td>Other</td>
<td></td>
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<tr>
<td>Non angler</td>
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<tr>
<td>Angler</td>
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</tbody>
</table>

Don't know %
- Total sample: 32%
- Resource based: 17%
- Other: 34%
- Non angler: 41%
- Angler: 19%
Rating water management agencies, 2010

Average Likert ratings
1 = extremely poor,  5 = extremely good

Fish and Game NZ          3.5
Dept Conservation          3.4
Ministry of Health         3.3
MfE                         3.1
Regional Councils          3.1
District/City Councils     3.1

None are highly rated
Willingness to pay $20 per year in additional rates for 10 years to pay for lowland stream enhancement work. 2004
Pressure, State, Response - summary

• The overall state of the New Zealand environment is perceived as very good, although freshwater, rates the lowest. At local level there is considerable concern about lowland streams.

• The key pressures on these resources are human-induced.

• Farming is increasingly blamed for damaging freshwater.

• Freshwater related issues are the single biggest environmental concern for New Zealanders.
Pressure, State, Response – Freshwater summary

- Big demographic differences. Those employed in resource based industries are much more positive about the state of specific water resources than are others – anglers, a very large user group, are more pessimistic.
- Management by a range of organisations of water management activities is not ranked highly, and of lowland streams is considered inadequate.
- People are willing to pay for on-the-ground actions to improve lowland streams.
What do people want? Rivers and streams

Mean Likert scores (1 lowest, 5 highest) ordered:

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
<th>Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature</td>
<td>4.3</td>
<td>Highest</td>
</tr>
<tr>
<td>Scenic/visual</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Community, household &amp; other uses</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>Recreation</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>Commercial use</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Customary Maori</td>
<td>2.6</td>
<td>Lowest</td>
</tr>
</tbody>
</table>
What do people want? Freshwater

Loss of some native species from some water bodies is acceptable
In all decisions about freshwater management the main emphasis should be economic
The most important fishing rivers should be protected
The most important rivers for hydro electric generation and/or irrigation potential should be fully used for these purposes

Agree
Neither
Disagree
Don't know
Views on various aspects of freshwater use and management. 2010

- Business use should be metered: 60% Strongly agree, 40% Agree
- Businesses should pay administrative costs: 50% Strongly agree, 30% Agree
- Businesses should pay additional charges above administrative costs: 40% Strongly agree, 20% Agree
- Business users should have more say in management: 30% Strongly agree, 20% Agree
- Environmental and recreational groups should have more say in management: 20% Strongly agree, 10% Agree
Effectiveness of approaches to management of freshwater – regulation alone: 2010

Achieving environmental benefits to society

- Extremely effective
- Somewhat effective
- Adequate
- Somewhat ineffective
- Very ineffective
Effectiveness of approaches to management of freshwater – economic instruments alone: 2010

- Achieving environmental protection
- Achieving economic growth
- Achieving benefits to society

% response

- Extremely effective
- Somewhat effective
- Adequate
- Somewhat ineffective
- Very ineffective
- Don't know
Effectiveness of various approaches to management of freshwater: 2010

Enforcing regulations protects environmental values.
Economic instruments send clear signals about responsibilities.
Voluntary/advocacy approaches alone do not protect the environment.
Regulations prevent economic growth.
Economic instruments alone are unlikely to change commercial users' behaviour.
People are more efficient when there is cost associated with water use.
Assigning a dollar value is beneficial to long term water management.
Effectiveness of various approaches to management of freshwater: 2010

Most people believe enforced regulation will protect the environment;

While economic instruments send clear signals about environmental responsibility, they are unlikely by themselves to change commercial use behaviour;

Reliance on voluntary and related mechanisms will not protect the environment;

Price and related economic signals can improve water use efficiency and improve prospects for management in the longer term.
Our research shows

• People are worried about freshwater, its management and pollution; and

• People ‘don’t want’ development to wreck fresh water environments they recreate in, they value the ecology and nature of these resources highly;

• Farming is increasingly understood to cause damage to the environment – it should not be permitted to do this;

• A range of tools, including sending clear economic signals, are supported by a majority of respondents;
We conclude...

Given that individual and government priorities place a high emphasis on the environment (and individuals are WTP for improvements and/or mitigation), rural land use intensification that impacts fresh water needs to meet sustainability requirements, and not as a retrospective (partial) fix.

Government leadership is needed to address rural water management issues. New policies, tools and more resources are needed to tackle them.