Hawke's Bay Regional Water Symposium 2010
Event Report

December 2010
SD 10-09
HBRC Plan No. 4245

REGIONAL WATER SYMPOSIUM 2010

HAWKE'S BAY
REGIONAL COUNCIL

"Kaitiaki is to take care of the taonga and pass it on to our grandchildren in a better state"

Prof Roger Maaka

"The easy water is gone"

Hon David Carter

"The Hawke's Bay turns water into wine"

Dr Morgan Williams

"For the first time in Hawke's Bay we have reached water allocation limits"

Darryl Lew, Group Manager Resource Management, HBRC

fluent environmental
fresh thinking for integrated solutions

Report on Hawke's Bay Regional Water Symposium prepared by Fluent Environmental 2010.

Council thanks

On behalf of the region we would like to thank all the participants for committing two days of their busy lives to attend and contribute to the very important discussions about water management and the future of Hawke's Bay.

As a council we recognise that water is of the utmost importance to the region's well-being and as individual councillors we are also committing the time to ensuring that we understand all the issues from the stakeholder's perspective and to work collaboratively towards collectively-owned solutions to water management.

We found it hugely useful to sit around the table with you over the two days of the symposium and to have the conversations over the morning, lunch and afternoon breaks.

We look forward to the development of the regional water strategy and the next symposium on water quality and land use.

Fenton Wilson
Chairman
Hawke's Bay Regional Council

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1. Report summary for busy people

This report captures and summarises the conversations that occurred at the two-day Hawke's Bay Regional Water Symposium held in Napier on November 30 and December 1 2010. The symposium was held because the Hawke's Bay Regional Council (HBRC) is developing a new regional strategy to respond to current and emerging water issues. Over the two days, over 100 participants representing 42 organisations and a broad range of interests and perspectives contributed to ensure the symposium was a successful event. The speakers included two Government ministers, three council staff and four guest speakers.

Darryl Lew, Group Manager, Resource Management at HBRC provided information to help participants understand the issues and drivers facing water in the Hawke's Bay including the latest scientific findings. **Andrew Newman**, Chief Executive at HBRC talked about the activities the council was undertaking to respond to the issues and to be proactive in the future.

Ministers Hon David Carter and Hon Nick Smith talked about the importance of water for the primary sector (agriculture, horticulture, viticulture and forestry) and the importance of the primary sector to the New Zealand economy. Participants learned about the National-led Government's goal of economic growth and the agenda for better water management and reliable irrigation. Both ministers underscored the importance of finding a collaborative way forward in a time where water management is becoming more complex and allocation more contentious.

The "Water and wellbeing" session got people thinking about the cultural, social, environmental and economic perspectives of successful water management. **Professor Roger Maaka**, started the talks by discussing cultural values for water and how that they are inseparable from economic, social and environmental values. **Professor Basil Sharp** spoke about the economic dimension of water management. He underlined the dependence of our economy on the primary sector and therefore on good water management. Finally, **Dr Morgan Williams** provoked our thinking on the social and environmental dimensions of water management. Dr Williams provided some sobering reminders about global water challenges influencing global politics and water/ food security. Dr Williams argued that secure management of our waters (as a commons) and ecosystems demands superb, collective leadership.

Participants discussed key values for each of the seven catchment zones in the Hawke's Bay. While there were diverse perspectives on values for each catchment zone, with grouping, it's easy to see how different catchments provide different values and should be managed to protect these values in future.

Sam Robinson (the day two speaker) explained his vision for Hawke's Bay for 2050: "A great place to (work and) live with the whanau". Mr Robinson acknowledged that achieving this vision would need to take account of social, cultural, environmental and economic factors.

When considering what a bleak and a rosy future could look like in terms of water management, participants showed clear understanding that getting water and environmental management right was critical to avoid undesirable impacts on the economy, and social and cultural wellbeing. When participants were asked how to promote a rosy future, many of the solutions related to getting water governance right, with a strategic plan, a consistent yet flexible allocation system and widespread participation. Participants also considered investments are needed in storage, infrastructure and the right tools, science and information.

Participants were asked to create an agreed vision statement which was difficult due to having different interests and perspectives at tables. Seventeen vision statements are included in the full report.

Participants interviewed each other to find out the actions and roles needed to achieve sustainable water management in the Hawke's Bay. After the interviews, participants shared their findings in four large groups to discuss the common points raised. Following that, participants had an opportunity to vote on the best or most important actions to undertake.

Actions that received the most votes (more than 10) were:

	Action	Votes
1.	More education / discussion / symposiums	19
2.	Recognising value of water	18
3.	Continual stakeholder relationships programme of dialogue (ownership/stewardship)	18
4.	Self management/resolution by user/community groups then refer to higher authority	18
5.	Match land use to soil type/climate	17
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10.	Education/understanding on water values	13
11.	Community understanding of why water resources are important; how they are affected; and ways to manage	13
12.	Science: good/ understandable to inform allocation	12
13.	Revisit/redefine allocation limits	11

Participants also provided their thoughts on defining and measuring success, compliance and progress towards a sustainable water vision. Participants also acknowledged that there are barriers to successful water management which ranged from lack of incentives for individual actions to no national water strategy or vision.

Nominations were sought for an external reference group that would continue to work with council on the policy and directions in a regional water strategy. A public announcement will be made once the reference group has been appointed.

2. Purpose of this report

This report captures and summarises the conversations that occurred at the two-day Hawke's Bay Regional Water Symposium held in Napier on November 30 and December 1 2010. The event was hosted by the Hawke's Bay Regional Council. While some grouping of common points and summarisation has occurred, this report only captures what was said at the meeting. It doesn't attempt to analyse the information or pre-empt what a regional water strategy might address.

The purpose of this report is to:

- Report back to the participants of the symposium what was said and heard;
- Inform interested parties about the event's outcomes;
- Add to the transparency of council in their reporting to iwi, stakeholders and interested people, and;
- Document input gathered to inform the draft regional water strategy.

3. Why was the symposium held?

The Hawke's Bay Regional Council (HBRC) is developing a new strategy for managing water in the region to respond to current and emerging water issues. The symposium was the kick off engagement event that attracted a wide range of interested people. The purpose of the meeting was to:

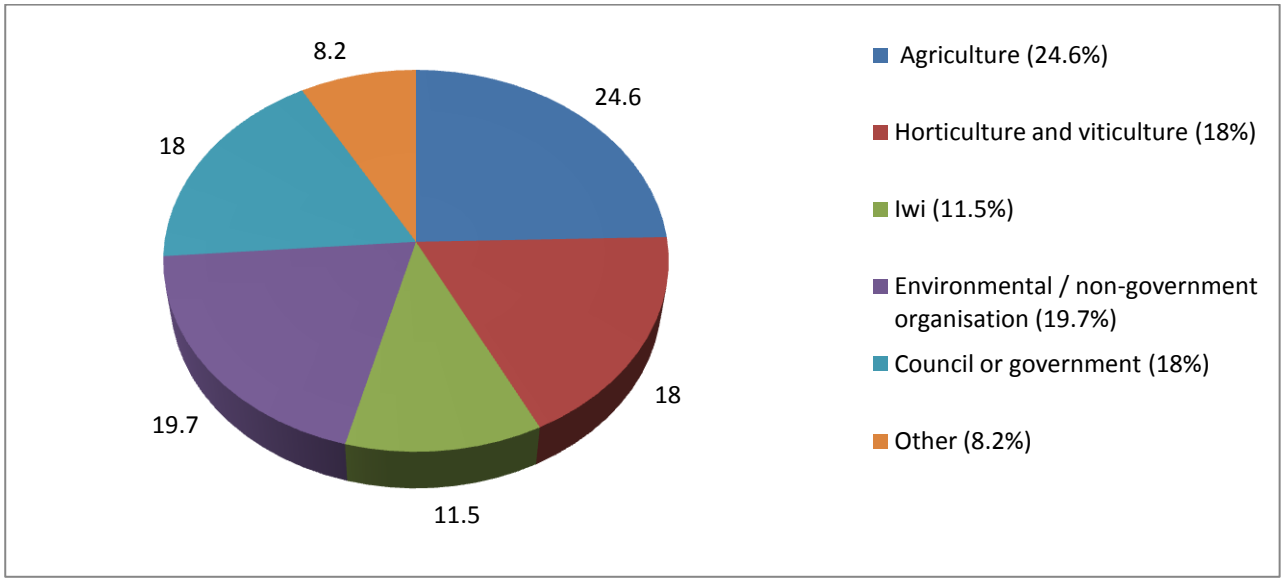
- Develop a shared understanding and appreciation of the values, emerging and future issues and opportunities for the region's water resources now and into the future
- Inform the development of a draft water strategy, direction and action plan to address issues and maximise opportunities for sustainable water management in the region
- Improve trust and relationships with and among iwi, government agencies and stakeholders in the region
- Nominate representatives for an external reference group to continue to collaborate with the Council and others on the development and implementation of the strategy

4. Who participated in the symposium?

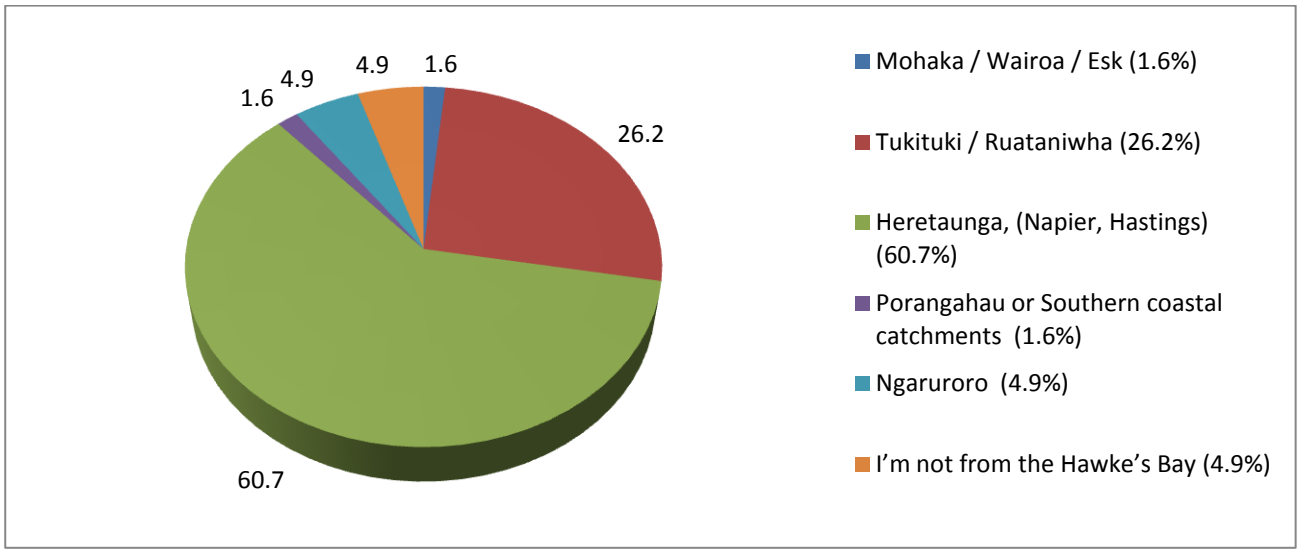
A wide range of people and perspectives helped make the symposium a successful event. Over the two days, 114 participants, including HBRC staff, came to the event representing 42 different organisations. A full list of participants is included in Appendix Two. From information collected at the event, the participants identified their sectors and interests as shown in the pie charts below.

Further questions were asked of the audience using a 'clicker' polling technology. These questions and answers show the convergence and diversity of thought and opinions attending the symposium. The questions and results are included in Appendix 3.

Q1. Which interest do you relate to most?



Q2. Which area are you from, or most familiar with?



5. What information was presented?

The speakers at the event included two Government ministers, three council staff and four guest speakers. The presentations covered a range of subjects including:

- the national context for water policy and irrigation,
- the cultural, economic, social and environmental considerations of water management
- the state of the Hawke's Bay water resources and science investigations
- the current work programme of the council that is addressing water issues
- Visions and scenarios for the future

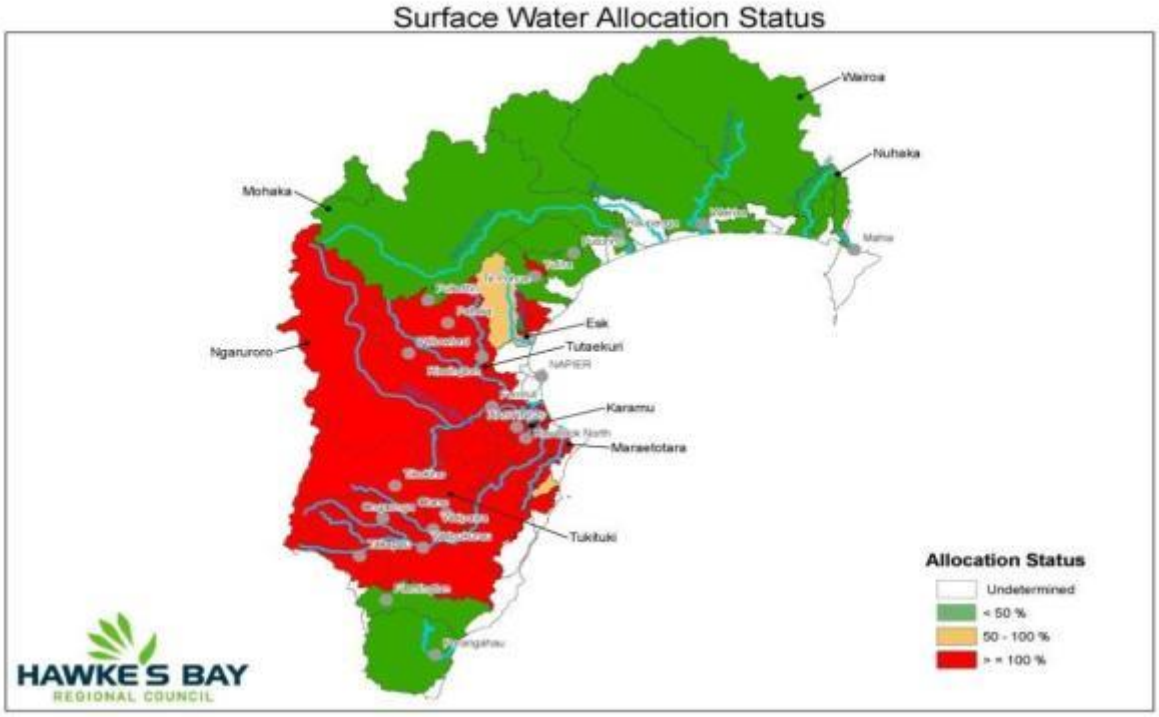
This section provides some highlights of the presentations; the full presentations can be viewed on the HBRC website. Due to airport closures the presentations were given in a different order than the agenda outlined, however all topics were covered.

6. Water in the Hawke's Bay

The HBRC started the presentations in the morning and provided information to help participants understand the issues and drivers facing water in the Hawke's Bay. **Darryl Lew**, Group Manager of Resource Management at the Council provided the latest scientific information gathered.

Key points included:

- The Hawke's Bay and NZ economy and lifestyle are water dependent and we must protect our image and reputation (clean and green 100% pure) to reach and maintain international markets
- 78% of water allocated is for irrigation
- All major surface water catchments are fully or over allocated but people are not using their full allocation
- Security of supply for existing users would be reduced if all consented water is used
- Minimum flow requirements for brown trout have increased
- Reasonably high flow thresholds are required for water harvesting
- GW and SW highly connected in the Ruataniwha and Heretaunga basins
- Ruataniwha groundwater abstraction depleting surface water by 600 L/s
- The regional plan does not contain allocation limits for groundwater although controls are in place in groundwater short zones



Next **Andrew Newman**, Chief Executive at the Council, talked about the kinds of activities the council was undertaking to both respond to the issues and also to be proactive in the future. He noted that many of the investigations and projects are occurring at the same time and the Council has focused on catchments with issues rather than a region-wide approach. He urged the participants to think about how we can sort out these issues collectively. In response to questions, Andrew explained that future water management in the Bay would not be about regulation only and there was a need for a multi-dimensional approach. With respect to storage Andrew thought it was too early to understand what the people of the Hawke's Bay think, but there was a lot of understanding in the primary sector that water storage could really benefit them as well as the environment. Trading and transfers was also raised during questions resulting in the Ruataniwha water user group stating they were opposed to trading and HBRC stating that transfers are allowed under the RMA but the council would not get involved in the commercial transactions side of any transfer.

> *"Let's sort out our water management issues collectively"*
>
> *Andrew Newman*
> *HBRC CE*

Key points included:

- The HBRC's response to the region's water allocation issues is to develop a regional water strategy; increase science funding; undertake RMA plan reviews / plan changes (to the Regional Resource Management Plan & Regional Policy Statement; and undertake water storage investigations in the Tukituki & Ngaruroro catchments
- The HBRC approach has a wide scope and includes investigations, influencing activities, instruction (such as through plans and rules) and investment to achieve integrated outcomes

- Irrigation efficiency is a key work area and must occur in future
- Water quality is not the focus of the symposium or strategy but would be considered next year
- A need for alignment with central government agencies such as the Ministry of Agriculture and Forestry, the Ministry for the Environment and the Office of Treaty Settlements
- HBRC would like to see statutory effect given to water management strategies; changes to the RMA processes to speed up plan changes and development processes; and national direction provided on how to address allocation issues, including changes to the first-come first-served allocation approach

7. The National context for water

Hon David Carter, Minister of Agriculture and Forestry and Minister for Biosecurity, talked about the importance of water for the primary sector (agriculture, horticulture, viticulture and forestry) and the importance of the primary sector to the New Zealand economy. He noted the National-led Government's clear goal of economic growth and a real need for better water management and reliable.

Hon David Carter congratulated the Council on holding the symposium and on its leadership and vision in matters pertaining to water. He thought the symposium was an excellent starting point to refine the region's water management strategy and ensure a prosperous and sustainable future. Both he and Hon Nick Smith underscored the importance of finding a collaborative way forward in a time where water management is becoming more complex and allocation more contentious. Minister Carter warned us: "all the easy water is gone" and noted that where over allocation has been identified there needs to be a way to enhance water use. Minister Carter urged the participants to "talk to each other, not past each other" and not to enter a battle between environmentalists and irrigators.

Minister Carter argued that better water management would result in economic prosperity and stronger rural communities in New Zealand. Minister Carter outlined the commitment of the government to the Hawke's Bay region with respect to investing in irrigation and storage infrastructure. In response to questions on the value of water storage to the HB economy (rather than more roads), the Minister talked positively about a partnership approach to funding and investing in large water storage and irrigation projects. He committed the government to getting involved, although he said the government would not fully subsidise projects like those in the 1930's.

Hon Nick Smith, Minister for the Environment, released a new national report on water allocation at the symposium. He noted that only 3% of NZ's total annual renewable water supply is allocated, but at certain times and in certain places the allocation is greater than the supply and this needs to be addressed. He said the government did see storage as part of the answer and in future public-private partnerships could be entered into with farmers so that storage project can be adequately studied and funded.

In addition, the Minister explained the Government's water management agenda and updated the symposium on the Land and Water Forum's process and the outcomes of the recent report. He noted the comprehensive nature of the report and also the constructive and collaborative process undertaken. He considered it would be a long term process to get water management right in NZ and, while RMA reform may well be required, it is not being considered at this stage. However, the National Policy Statement on freshwater may provide national direction and controls. The Minister declared he was open-minded on the idea of a water commission and was looking forward to the Land and Water Forum's report in March, 2011.

8. Water and wellbeing - cultural, economic, social, and environmental

"Water and wellbeing" was a session with three speakers that aimed to help people to think about the cultural, social, environmental and economic values of water and four dimensions of water management.

Professor Roger Maaka, Director of Te Manga Māori at EIT, started the talks by discussing cultural values for water and how that they are inseparable from economic, social and environmental values. He introduced the term 'cultural prism' as the interconnectedness of water means the values can't be taken away from one another; they are overlapping and interwoven. In addition, this meant water needed to be taken care of using a 'source to sea' approach. Water is considered part of Māori identity: it is a taonga (treasure) they must look after as kaitiaki (guardians); and it provides spiritual and physical sustenance.

Professor Maaka questioned why Māori were required to validate who they are as well as their customs and actions. He outlined contemporary concerns including the health of our waterways, protection of our waahi tipuna (mahinga kai, waahi tapu etc), future usages and exclusion from decision making. He argued that unless these issues are addressed, Māori and non Māori would "knock heads on the future protection of waterways". When responding to a question on the Waikato River Co-management agreement, the Professor noted that there is no proof of success yet but so far it seemed like a good and positive process. However, only if it is successful should it be tried in the Hawke's Bay.

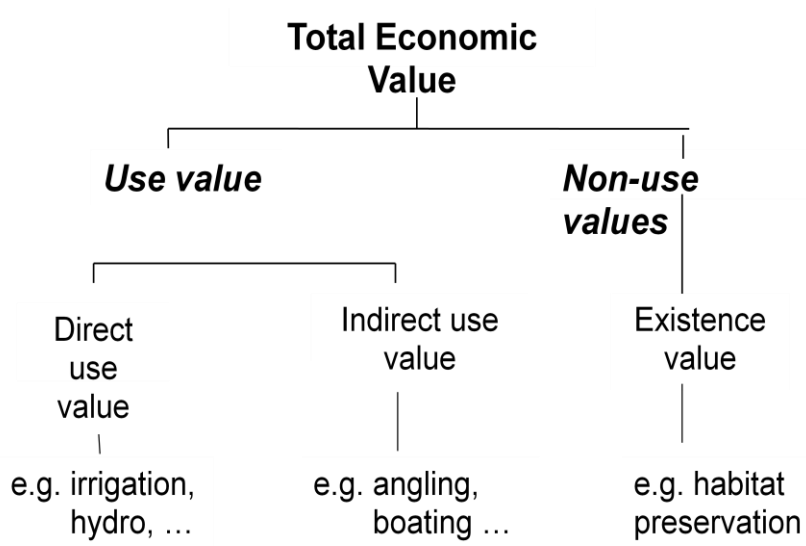
> *Ko au te awa,*
> *ko te awa ko au.*
> *I am the river,*
> *the river is me.*
>
> *Māori proverb*

Professor Maaka explained the concept of kaitiaki is to take care of the taonga and pass it on to our grandchildren in a better state. Water and water bodies are taonga and the health of them can be measured by considering the mauri (health of the spirit and life force of the water). Māori terms for different classes of water, often used to classify the quality of water, or the state of the water's Mauri, were also explained.

- Waiora (purest form)
- WaiMāori (normal state)
- Waikino (debased or spoilt)
- Waimate (dead, polluted)
- Waitai (sea, surf, tidal)

(Patrick, 1987 *'Māori values, soils & water'*)

Professor Basil Sharp, Professor of Energy and Resource Economics at University of Auckland, spoke about the economic dimension of water management. Like other speakers he underlined the dependence of our economy on the primary sector and therefore dependence on good water management. He talked about competition over scarce water resources from both a competing values and a competing uses perspective. Professor Sharp provided some water economics thinking about the total economic value of water (see diagram following).



This diagram shows how water can be valued from a non-use or a use perspective, rather than just thinking about the used portion of water as the key economic value. Non-use values such as habitat or soils preservation can contribute to biodiversity, landscape, recreation and tourism related economic opportunities. Using economic efficiency methods, non-use and use values would be balanced.

Professor Sharp argued that pricing water services is a key principle in sustainable development (OECD). However, in NZ, under the RMA, we have a first-come-first-served approach that creates a "race to pump house" meaning demand is greater than supply and the value of the consent is capitalised into the land value. To improve this, we need to employ incentives, innovation & technology and be wary of substituting natural capital for manufactured capital. He argued that because water consents are not typically transferred then high valued production is shut out.

Professor Sharp urged the participants and council to allow for market instruments in future policy, and discussed pricing, exclusivity and transferable rights and highest and best use policies for allocation. He said that because we don't know how much people who use water are willing to pay, an instrument that reveals the value of water is needed.

> *"When you've got scarcity you have to make hard decisions because competition is high"*
> *Professor Basil Sharp*

Finally, **Dr Morgan Williams,** Principal of Future Steps and former Parliamentary Commissioner for the Environment, provoked thought on the social and environmental dimensions of water management.

He started with the reminder that our bodies are made up of at least 60% water and the health of our water is therefore core to our well-being. He considered that water stewardship was a moral matter. Dr Williams provided some sobering reminders about global water challenges which will influence global politics and water/ food security including:

- Of the world's population 20% have no access to safe drinking water and 50% have no adequate water sanitation
- 40% of the world's fresh water is allocated for human use; this will rise to 80% by 2025. Also by 2025 66% of the world's population will be facing water shortages and or water pollution

- Our planet is in a period of massive reshaping, we are changing our climate and it will define our future! More extreme events will be part of the 'turbulence' – too much water and too little, too hot and too cold.

Dr Williams argued that secure management of our waters (as a commons), and ecosystems, of which they are an integral part, demands superb collective leadership. Worldwide, there are major efforts to design better allocation, valuation and pricing mechanisms as the recognition of the services ecosystem provides grows and water demands increase exponentially. He argued that pricing and valuing water and water efficiency (more production with less water) is a key change concept

Dr Williams also touched on issues such as bottled water, pricing and metering, and virtual water (water that is embedded in the growing, processing and transportation of food and products). He outlined what he considered the defining issues for water management:

- Whose water?
- How much, where and when?
- How to allocate, for how long, and to whom?
- How to value and price and thus transfer.
- How to manage variability; storage etc.
- How to fund and own infrastructure
- What new institutional models are needed?
- AND are we designing for a future unknown to humanity or the known past?

Successfully dealing with the complexity of water issues, Dr Williams considered, would require consensus on many dimensions of our water's future. He wondered if our Parliament and our politicians were enabled by us (the voters) to address long term water governance needs. He suggested that communities working together could provide much of the moral leadership needed in the years ahead.

9. Valuing our catchments

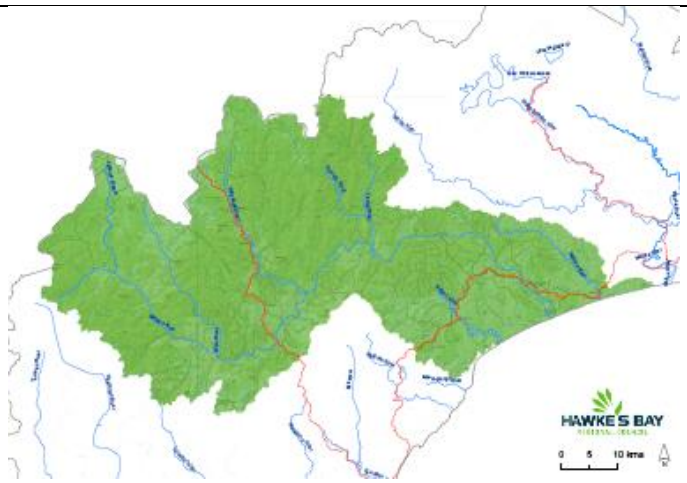
After hearing about the different values for water and learning about the state of different watersheds in the region, participants discussed their key values for each of the seven catchment zones in the Hawke's Bay and recorded these values on catchments maps. As expected, participants had diverse perspectives on values for each catchment zone, but with some grouping, it was easy to see how different catchments provide different values to the people of the Hawke's Bay.

This exercise will help the Council understand how to prioritise and strengthen policy options and management decisions for the different zones. Below are the results of this exercise. Please note some values have been grouped and if mentioned more than once, this is noted by the number in brackets.

Mohaka

The Mohaka catchment zone topped all seven zones for natural, wilderness values including values dependant on high water quality. People see value in protecting this catchment for primarily environmental and cultural values, including recreation, fishing and tourism. Some future economic benefits of protecting this catchment were also identified including a future water resource, hydro potential, gravel and climate change offsets.

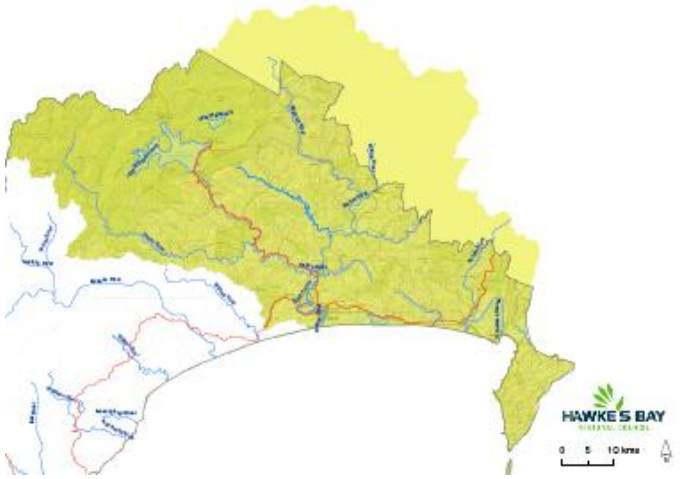
Natural character flagship /Scenic values,
Wilderness (x4) Natural character (x2)
Cultural values (x2), Hangi stones, Kaimoana
Recreation (x9), Tourism (x2)
Environmental - Climate change offset, Soil conservation, Water quality
Fishery, Biodiversity
Indigenous and plantation forestry
Gravel extraction
Untapped water resource
Hydro (x2)



Wairoa

The Wairoa catchment zone was also considered highly for natural, wilderness values as well as important fishery and food values. People see value in protecting this catchment for conservation, recreation and tourism as well as cultural values, such as protecting traditional settlements and food sources. Economic values identified included hydro, forestry, and sheep and beef farming.

Conservation, Natural parks, Unspoilt ecosystems (x3) DoC estate, Lake Waikaremoana & Lake Whakaki (x2)
Recreation (x6), Tourism
Cultural (x4) Traditional Māori settlements
Land cover, Hill country soil conservation (x3)
Food source, Whitebait / fishery, Mahia kaimoana,
Environmental, Habitat values for indigenous fish & trout
Hydro (x6)
Forestry
Sheep & Beef farming



Tukituki

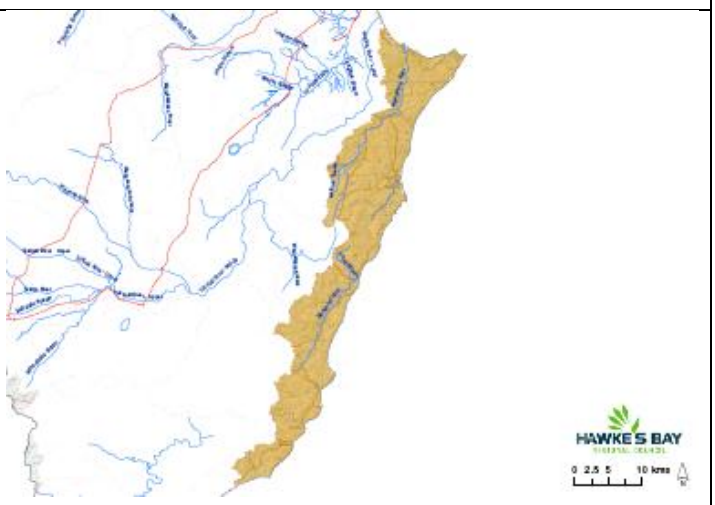
The Tukituki catchment zone was rated highly for its natural characteristics such as landscape and instream values which allow important fishery, recreation and tourism values. However, with the presence of townships and diverse stakeholders, came cultural and lifestyle values to be protected as well as important drinking water supplies. The future economic potential of the zone was noted with regard to possible irrigation, farming and urban development.

Recreation (x8), Tourism Natural environmental characteristics (x2), Landscape (x2), Te Mata Peak, Biodiversity, In-stream values Angling/Fishing (x4), Whitebaiting- kokopu, tuna (eels) Economic (x3), Development potential, Satellite industrial uses (i.e. meatworks) Farming potential, cropping & dairying, agriculture (x4) Lifestyle, Cultural, Historic heritage, Waipukurau & Waipawa townships Community use, Urban drinking water Diversity of rural & urban stakeholders Irrigation / irrigation potential through storage, Driving efficiency of resource	

Southern Coast

The Southern Coast catchment zone scored the best for recreation and tourism values. People noted the importance of marine reserves in conserving the zone for fish and other ecological and economic values. Aside from drinking water supplies, it was considered the extraction of water in this catchment would reduce the protection of the predominant values of this zone. Consensus was that beaches and coastal habitats should be protected for both environmental and coastal living opportunities.

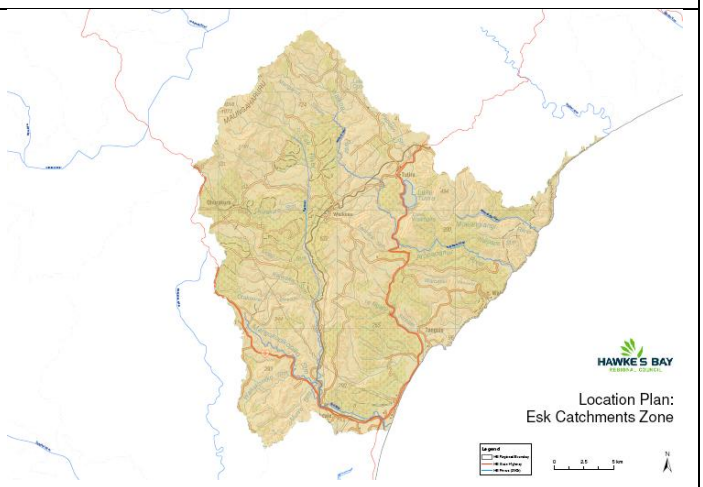
Recreation & Tourism (x10)
Beaches & Coast (x3) Coastal habitat (x2)
Coastal lifestyle (x2)
Conservation & Landscape (x2) Te Angiangi marine reserve (x2) Kaimoana (x2)
Revitalization (kai rest)
Ecology (x2)
Urban potential / demand
Domestic water supply
Cultural



Esk

The Esk catchment zone saw two distinct value sets recognised. First, this zone was noted for providing significant recreational values, an educational resource and contained appealing lifestyle development opportunities. However the economic values of the area were also the subject of discussion, particularly with regards to forestry and milling activities and the clear importance of the primary production sector in the lower catchment areas.

Recreation (x9)
Economic (x4), industry (x4)
Agriculture / Primary production (x5), Horticultural, especially lower Esk
Forestry, Panpac (regional significance)
Environmental, Bush, Rongoa (medicinal) resources, Lake Tutira (x3)
Education (Lake Opouahi, Boundary Stream)
Lifestyle & lifestyle development



Porangahau

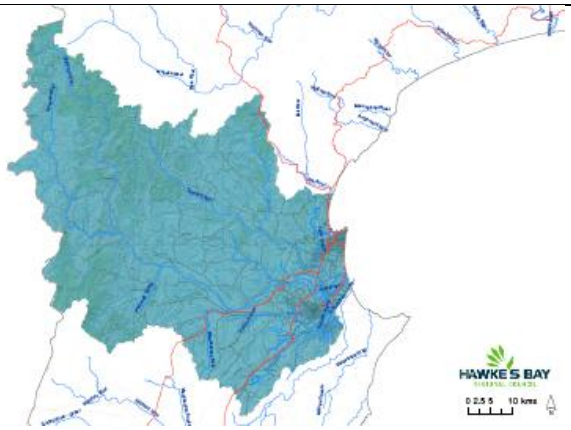
The Porangahau catchment zone had less values accorded to it, possibly reflecting a lack of people who live in or know this catchment well. The zone has many natural values which were considered beneficial to recreational and tourism activities, with the potential for growth creation.

Recreational (x5), Tourism
Estuary & Ecological values / Biodiversity (x2)
Self-containment
Diverse land forms that help to sustain the economy of the area
Cultural (x2)
Potential (for growth) (x2)
Water quality
Rural hospitality (kai)

Heretaunga

The Heretaunga catchment zone was well represented at the symposium and had the most economic values accorded to it. Clearly recognizing the economic importance of the zone, participants valued the importance of agriculture, irrigation, industry and food production. Drinking water was an important value, as was managing the zone for its urban centres and social values. Environmental values were not as strong as in other zones and resulted in lower tourism and recreation values were recorded, although regionally significant wetlands and the braided nature of some of the rivers received special mention.

Economic (x6)
Agriculture (x4), Fertile plains / soils (x4), Irrigation (x2)
Industrial (x2), Food production (x3)
Urban / social, Domestic water quality / urban supply (x8) Urban, primary service centre that needs economic values of land based industries maintained (x2)
Modified ecological values, Biodiversity (x2) Habitat – regionally significant wetlands, Braided rivers
Cultural (x3), Large number of marae communities
Flood control (x3)
Recreational / Tourism
Other: Dew(s), Complexity, Wiser use of water in all 3 forms – supply, stormwater & wastewater



10. Visualising our future – is it bleak or rosy?

The Hawke's Bay scenario project was introduced by Helen Codlin and scenario team members **Alastair Bramley, Hugh Ritchie** and **Murray Douglas** who talked about the process and the stories. While just three stories were produced, an infinite number of scenarios are foreseeable. The scenarios are a tool to help people to think about how different life could be in the future (2050). Information on key demographic trends; the likelihood of climate change impacts; and potential changes to the Hawke's Bay's economy are documented through the scenario development process available online here.

Participants were asked to consider what a bleak and a rosy future could look like in terms of water management in the Hawke's Bay. Throughout the discussion there was understanding about the importance of getting water and environmental management right, otherwise there would be undesirable impacts on the economy and social and cultural wellbeing. Interestingly, many of the solutions discussed related to getting water governance right, with a strategic plan and widespread participation. In addition participants considered that investments are needed in storage, infrastructure and the right tools, science and information.

This discussion has been summarised into five key themes (Environment, Economy, Culture, Society, and Governance) presented below.

Environment

A bleak future environment could be characterised by:

- Polluted water bodies (waimate) that fail to support biodiversity, loss of kaimoana and fish deaths
- Dramatic over abstraction of water, resulting in conflicts, poor access, and dry river beds every summer and water demand being higher than supply
- Aquifer failure (saltwater intrusion, contaminant spills) resulting in loss of potable water to our main towns and cities
- Inappropriate land use, resulting in erosion and sediment, loss of vegetation and fertile land

In contrast, a rosy future environment would be characterised by:

- Complete, healthy and resilient ecosystems with clean water, good riparian management, restored native vegetation and biodiversity, healthy fisheries and kaimoana
- Good land management and build up of soils to reduce water demands
- Sufficient water of adequate quantity and quality to enable a strong and sustainable economy, protection of adequate flows to all rivers and where demand matches supply
- Land-based sewerage systems or onsite treatment of waste waters
- Fertile land with crop cycles well managed; appropriate land uses for the soils and climate

Economy

A bleak future economy could be characterised by:

- Not enough water of a high enough quality resulting in crop failure and extended water take bans which would be fatal to businesses.
- A poorly performing primary sector with low productivity (desert like?); subsistence farming; and low confidence and profitability of the biological economy
- Diminished tourism and reduced profitability in tourism
- Uncertainty for economy, failing investments and a lack of future investment opportunities

In contrast, a rosy future economy could be characterised by:

- Recognition of Hawke's Bay's contribution to the national economy, a regional brand that adds value, promotes growth and investment in the region and can support regional infrastructure such as appropriate storage
- Provincial growth and prosperity with highest value crops grown and processed in the Hawke's Bay with improved value-added industries based on primary production
- Resilience in farming including profitable farmers, evolved farming systems, increasing productivity and growth, exchange of best practices and availability of good quality produce
- Community buy in and investment in the science and information base as well as infrastructure needed to reduce impact of economy on environment
- An economy that is not dependant on successful water management and has no water concerns
- Enhanced tourism opportunities, recreation industries and increasing social wellbeing

Culture

A bleak cultural future could be characterised by:

- Lack of respect for Māori heritage(such as wahi tapu (sacred sites)) and kaitiakitanga
- No swimming in the rivers or sea, no recreation due to unsafe water, including no ability to fish or obtain kaimoana

In contrast, a rosy cultural future could be characterised by:

- Treaty of Waitangi claims are settled
- Māori kaitiaki (custodianship) recognised and utilised
- Waterways are healthy, suitable for recreation and fishable.

Society

A bleak social future could be characterised by:

- Social problems such as high unemployment, poorer health and rising health care costs and population decline
- Conflicts and adversarial processes, social disruption, anger and possible water wars
- Ignorance regarding water conservation and inefficient technology used
- Privatisation of drinking water supplies resulting in paying for drinking water and increasing polarisation
- Reduced investment in community infrastructure, infrastructure issues, inadequate solutions for dealing with management issues

In contrast, a rosy society in future would be characterised by:

- Happy communities in the Hawke's Bay, full of people that want to live here and invest here
- Participatory, collaborative approaches achieving consensus on the direction and a common focus and consultation processes that include youth and Māori
- Clean, free and plentiful domestic and drinking water
- Educated communities with awareness of water quality and quantity issues and collective effort
- Highly efficient use of water so it is utilised to its full potential and droughts can be dealt with

Water Governance

Water governance refers to the systems and processes by which water is managed, it includes the laws, plans, processes of participation and decision making, and the science and information used to make management decisions and plan for the future.

Bleak water governance could be characterised by:

- Long running arguments and endless litigation resulting in high costs and adversarial conflicts
- Polarisation and division in the community and between stakeholder groups; non inclusive and non-participatory governance framework
- An ad hoc and reactive management framework with no strategic direction or clear targets
- Lack of cultural learning and understanding of landscape, history and traditional water management systems
- Inequitable and inconsistent decision making, institutional rigidities and inflexible plans
- Blunt legislation imposed by central government, local decisions decided in Wellington
- Duplication of roles and ambiguities in responsibilities

In contrast rosy water governance would be characterised by:

- Shared understanding of water and water management roles among stakeholders, much less litigation and conflict
- An holistic environmental view and integrated water management
- Consensus regarding the direction and collaborative approaches worked out that involves collective effort and a common and agreed focus
- An equitable, consistent and efficient management framework with low administrative costs
- Lessons learned and adapted to sustain ourselves today and tomorrow
- A balanced, certain review system that features audited self management and flexible approaches
- Local decisions for local issues; stakeholders set standards and limits rather than regulators

11. How to avoid a bleak future and promote a rosy future?

After painting a picture about what a bleak and rosy future would look like, participants thought about what needed to be done to avoid the bleak future and promote the rosy future. Many ideas and discussions focussed on governance changes to promote a rosy future and positively influence all the themes described earlier. In particular, participants wanted to see an integrated and collaborative water management framework and communities who were educated and aware of the need to protect water supplies and quality for future generations.

Specific suggestions included:

- A clear and robust regulatory framework that underpins and enables collective action and individual responsibility. The framework would feature increased flexibility in rules, regulations and statutes as well as strong monitoring and adaptive management such as better ability for council to review consents and plans
- A well developed and resourced water strategy based on evidence and community values. The strategy would have full community support and participation and a collaborative approach to establishing incentives would be utilised
- A better defined resolution framework (facilitated and mediated by HBRC) with fact based conversations to minimise litigation. Formally established pre-hearing processes to enable direct contact between parties and early issues resolution
- Detailed allocations that provide clear signals around demand, supply, scarcity and costs yet is flexible enough to enable transfers and maximise water values (Murray Darling methodology a suggested path)
- Reconciliation of Treaty grievances, utilisation of kaitiaki and mauri of water bodies protected
- Education to achieve greater community understanding of the importance of water issues and the value of water, resulting in shared responsibility, empowerment, investment and action towards a sustainable water future. Suggested actions included: highly efficient use of water, riparian planting, water use for instream purposes, mainstream the protection of ecology, kiwi pride in healthy water, smart use of inputs, carbon and water footprinting, value added economic activities (e.g. food and timber processing)
- Good science and information around water issues (including social and cultural drivers) and evidence based conversation and practice

- Investment in research and development, water science, measurement and feedback systems, water storage, water efficient technology and community infrastructure
- Maintain and enhance transparency in decision making processes, find good people for leadership and management roles and develop competent governance processes

12. Sam Robinson's vision for Hawke's Bay 2050

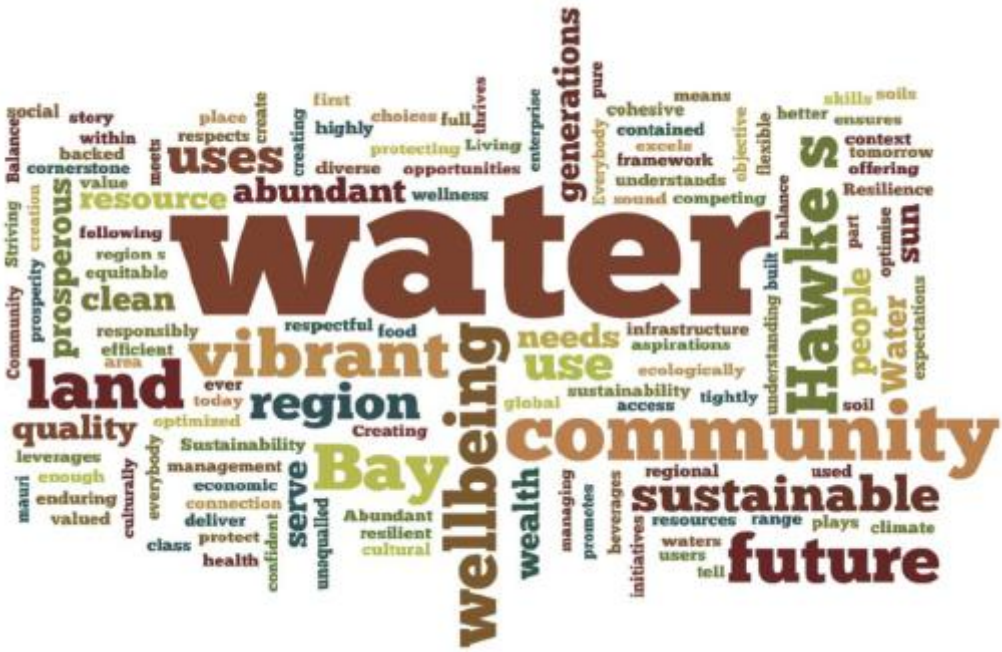
Sam Robinson was the only speaker in day two and he explained his vision for Hawke's Bay for 2050. Taking an economic angle he explained:

- New Zealand's falling GDP (gross domestic product) ranking in the OECD
- The importance of the food and beverage industry to NZ's economy and the need to add value through increased processing
- NZ's relative spend on research and development (about 1.2% of GDP compared with 2.5% in the US, Denmark and Singapore and 2% in Australia)

His vision was "A great place to (work and) live with the whanau". Mr Robinson acknowledged that achieving this vision would need to take account of social, cultural, environmental and economic factors. To get there, we needed to protect our 100% pure market brand with an unblemished food and beverage reputation. He argued for fewer companies producing food and beverages with larger production levels and share of the global market. From a social and cultural perspective he argued for better income levels and finding educational and economic opportunities for the "browner and older" Hawke's Bay population.

13. Creating a Hawke's Bay vision, and aspirations for water

Participants were asked to create their own vision for water, or an aspirational statement for water. During this activity, tables remarked at how difficult it was to come to an agreed statement because they all came from different interests and perspectives. After the activity was completed all the vision statements (17) were posted around the room and are numbered below. Below is a wordle image showing the words that were used in the vision statements. The larger the word, the more times it was used.



Vision Statements for Future Water Management (from tables)

1. Balance: wealth; wellness; sustainability
2. Sustainability. Resilience. Community.
3. A vibrant community built on first class soil, water, sun and enterprise, creating future opportunities for future generations.
4. A place full of choices for everybody in the region, today and tomorrow
5. The region's efficient and equitable water use and management promotes community wellbeing while protecting the mauri of our waters
6. We have the sun, land, water, infrastructure, people and skills, in a tightly contained area
7. A region where water is highly valued, responsibly used, abundant and clean
8. Abundant clean water for all
9. Living within the means of our water resource, following land uses that serve that objective; backed by a better understanding of these initiatives
10. Creating a vibrant and prosperous region through a cohesive and flexible framework that ensures our resources deliver enduring health, wellbeing and prosperity for our people.
11. Striving for a balance of wellbeing and wealth, from 'our' water for a sustainable future.
12. A community where the range of users are confident of access to water for their needs, and of a quality that meets their expectations, but are ever respectful of the aspirations of competing uses.
13. Water, the cornerstone of a vibrant community with an unequalled story to tell in the creation of quality food and beverages.
14. A prosperous and vibrant HB community that thrives in a global context offering a sustainable connection to land and water for future generations.
15. Water use that is ecologically and culturally sound to create a sustainable, optimized and diverse land use that leverages Hawke's Bay soils and climate.
16. Hawke's Bay excels in managing an abundant, pure and resilient water resource to optimise regional economic, social and cultural wellbeing.
17. Everybody who uses the water understands the value of it, respects that and plays their part to protect it. HB has enough water to serve all needs.

14. Actions and roles

A strategy can provide a vision and direction, and an action plan helps people understand what to do and how to prioritise actions as well as identify key responsibilities. Participants interviewed each other to find

out the actions and roles that are needed to deliver the vision of sustainable water management in the Hawke's Bay. After the interviews, participants shared their findings in four large groups to discuss the common points raised. Following that, participants had an opportunity to vote on the best or most important actions to undertake. Nine questions were asked in this activity and everyone had a chance to answer all questions as well as any additional points. The suggestions are listed according to the number of votes received.

1. In situations of full allocation or over allocation what should happen and by whom?

Action	Votes
• Holistic catchment management	16
• Water storage to offset inadequacies	15
• Determine actual use vs. allocated use	13
• Revisit/redefine allocation limits	11
• Best use of land for soil type	5
• Minimum flows enforced	2
• Identify most economic/beneficial use for water to prioritise re-allocation	2
• Realistic timeframes for interventions	1
• Trade/transfer to incentivise efficient use	0

2. How should conflicts between users be resolved in future and who should be involved?

Action	Votes
• Self management, resolution by user community groups then refer to higher authority	18
• HBRC facilitate Independent community decision-making group	3
• Independent ombudsmen or commissioner/authority	2
• Better defined resolution framework	1
• Rescind all allocations and start over	0

3. What water efficiency practices should be encouraged and how? Who is responsible?

What practices?	Who responsible?	Votes
Match land use to soil type, climate	Industry, Regional Council	17
Education: rural & urban	Industry, Water User Groups, Councils	10
Soil moisture probes	Industry, Regional Council, Water User Groups	8
Improving holding capacity of soil	Landowners, Industry, Landwise, Government	5
Water recycling, waste water recycling	Territorial Local Authorities (TLAs), Regional Council	4
Planting to keep water in the landscape	Landowners, community	4
Monitoring and measuring	Industry, User, Councils	3
Water storage	Community, Users	2
Efficient irrigators	Industry, User	1
Research and Development		1
Better understanding of crop requirements	Industry	1
Charging: universal catchment-based	Crown	0
Water budgeting software	Industry, Water User Groups Crown support	0

How?

Industry-led education and Incentives

4. What other behaviour changes are needed for sustainable water and who needs to change?

Behaviour changes	Votes
• Recognizing value of water	18
• Environmental cost accounting for water management	10
• Long-term thinking/planning for water	5
• Value water resource as part of the ecosystem	4
• Thinking of future generations	2
• Everyone own the problem	2
• Grey water as a resource	1
• Rainwater tanks allowed for in district plans	0
• Community understanding how much water they use	0
• Changing inconsistent policies: holistic view; catchment based	0

5. What actions should be taken now to promote social and cultural equity with respect to water?

Action	Votes
• Continual stakeholder relationships programme of dialogue (ownership, stewardship)	18
• Education and understanding on water values	13
• Early discussion on all perspectives	6
• Policy frameworks – water strategy	5
• Consistent national direction	3
• Empowerment and information to support. Might take longer but more effective	2
• Prioritization	1
• Wait for Crown for Treaty settlements	0
• Education on water resources	0

6. What actions need to be taken now for the benefit of future generations and who needs to take them?

Action	Votes
• Scientific and general understanding of environmental limits: water resources for the community	15
• Community understanding of: why water resources are important; how they are affected; and ways to manage	13
• Clear definition of objectives for each catchment	9
• Collective ownership	2
• Plan supported by key stakeholders	2
• Strong but flexible management plan	2
• National plan with vision statement	1
• Effects-based management	1
• Regional council to provide infrastructure	0
• Policy reflects science	0
• Land use suits land use capability	0

7. What actions should happen to encourage collaborative management of water?

Action	Votes
• More education/ discussion/ symposiums	19
• Look at catchment level	6
• Consistent national framework	5
• Good science and good monitoring	2
• Defined vision with buy-in	0
• Identified stakeholders	0

Who should lead?

- Region-wide: Hawke's Bay Regional Council
- Sub-catchments: Led by Hawke's Bay Regional Council, integrate stakeholders, working groups.

8. What actions will help to avoid expensive and contentious water consenting processes in future?

Action	Votes
• Science: good/ understandable to inform allocation	12
• Flexible planning and policy	7
• Clear consenting approach	2
• Improved stakeholder relationships	2

9. In your opinion rank the priority of water use (1 high, 10 low).

Thirty eight people provided their ideas on ranking the priority of water use with 1 being highest and 10 lowest. When averaged out the priorities were ranked in this order (highest to lowest).

- Town supplies and human domestic needs (1.2)
- Instream use for environmental needs (2.7)
- Stock and animal needs (2.9)
- Crop and pasture irrigation (with efficient practices)(3.6)
- Instream use for recreation and tourism (3.8)
- Industrial and commercial uses (4.3)
- Hydroelectric developments (5.5)
- Landscape irrigation (with efficient practices) (6.8)
- Irrigation (without efficient practices) (9.1)
- Other: (All ranked 1)
    - Healthy fishery
    - Ecosystem services
    - Mauri
    - Catchment protection
    - Ecosystem enhancement

15. Measuring success and progress

The final table discussion topic got participants thinking about measuring success, compliance and progress. Several questions were posed and the answers from all the tables are summarised below.

1a. How should progress towards our vision be defined?		1b. How should progress towards our vision be measured?
Social and Cultural	• Improved statistics • Vibrant region • Measure community perceptions • Best practice guidelines set	• Employment, health, education, population growth, visitor numbers. • Re-election of local politicians. • Confidence in Regional Govt data and allocation system. Plan effectiveness. • Realistic volume of water for needs • Stakeholder group reporting
Economic	• Water efficiency • Energy efficiency • Technology improvements	• Water ratios, e.g., water/GDP; production/water volume; biological output /water volume. • GDP. • Revisit infometrics (quantitative info) charts
Governance	• More consensus and acceptance • Fair and equitable allocation system • Catchment-wide approach	• Reduced need for Environment Court, fewer disputes. • Allocation to consider soil type; microclimate; crop type. • Measure number of transfers between users and ease of transfers
Environment	• Natural river flows • More water in constrained areas • Improving environmental baselines (quality and quantity) • Healthy rivers based on a collaborative values-assessment including cultural tools and scientific knowledge	• Improved flow regimes; monitoring flow rates. • Need more info re river flows and irrigation use. • Less low-flow events • Measure water quality: species diversity; safe access; can kids swim; health limits met; water-borne disease rates • Use Cultural Health Index (CHI) • Relationship between surface water and groundwater measured
General /Other	• Create a series of goals and assess on a multiple bottom-line accounting model	• Benchmark; targets based on information collected by Regional Council. • Environmental, economic, social measures should show • positive trends

2. Is success the same as compliance?

No was the unanimous answer. Further points included:

- Compliance is baseline, minimum standard; success above that, users voluntarily move ahead of compliance
- Success depends on how accurate and appropriate the rules and regulations are
- Need to measure compliance and need incentives to comply
- Success requires adaptive management; trust (self-management and auditing); taking responsibility

3. Are there barriers to being successful? What are they?

Participants acknowledged that there are barriers to successful water management which ranged from lack of incentives for individual actions to no national water strategy or vision. Input has been grouped below.

Social and Cultural

- Lack coordinated approach. Conflicting views between: community leaders; between councils and TAs; between interested parties
- Different worldviews: what are Māori aspirations?
- Lack of the right people and continuity in the planning process and in positions of power
- Lack of education, understanding, knowledge sharing (including cultural)
- Lack of ownership of the issues
- Attitudes, mindset
- Urban/ rural divide. Lack of understanding and tolerance in urban centres
- Illegal water use and discharge
- HB region too inward looking

Economic

- Lack of suitable infrastructure
- Lack of certainty for investment
- $$$$ / Recession
- Individuals are unable to benefit from improved practice, e.g. no reward for efficient use

Environment

- Climate change: extreme weather: adaptation too slow
- Imported diseases and pests, e.g. Didymo

Governance

- Short-term focus; failure to consider future
- Lack of direction; need clear regional and national policy.
- Failure to get strategies in place to achieve vision
- Disconnect between users and policy makers.
- Stakeholders putting their needs ahead of greater good
- Lack of consistency in consenting process
- RMA too restrictive
- Legislative and planning regime can result in polarised or extreme views, litigation
- Lack of innovation, science, models and robust data

4. How can we all help measure and ensure compliance?

Participants responded to this question with a comprehensive list of suggestions that are grouped and summarized into the themes below.

Collaborative management:

- Need to 'own' compliance: take ownership and responsibility for the resource
- Establish community collectives, water user groups, school groups, e.g. 'Adopt a waterway'
- Good communication between regional council and water users
- Katiakitanga
- Self-management and monitoring; only regulate where appropriate
- Highlight success – promote champions
- Current process doesn't encourage collaborative outcomes; encourages 'fight for what I can get' approach
- Community access to catchment level info
- Community leadership setting high standards

Technology:

- Increase technology uptake for monitoring, e.g. gauges on bridges over rivers
- Use meters and telemetry for compliance and report back
- Transparent measurement system which encourages compliance; real-time and online reporting

Education:

- Education for monitoring water quality
- Ensure funding is available
- Incentives, e.g. rain water tanks reduce rates
- Peer pressure; market pressure; name and shame
- Success is a decrease in non-compliance
- Market-led quality assurance systems
- State of the Environment reporting

Governance:

- Clearly defined and understandable rules; laws with clear rationale: "good laws don't get broken"
- Council compliance a core component of market compliance
- Transparency re projects; stakeholder involvement in process design
- Review clauses in longer term contracts, consents
- Prioritise projects in Long Term Council Community Plan (LTCCP)
- Accurate market signals; appropriate pricing of water (not same as ETS). Base cost should be driven off cost of understanding and managing catchment

5. What should occur if environment is getting worse?

- Claw back over-allocated resources; review allocations
- More power for enforcement in RMA and the Plan
- Punish: bans; fines; confiscation
- More flexible RMA with more input opportunities; consultation with stakeholders
- Tell media; tell regional council
- Clearly define reasons for deterioration; investigate cause; resolve; eliminate
- Rebalance activities, practices, review values
- Who/ how to target cumulative effects
- Need more adaptive system: e.g. robust but flexible review process; ability to react promptly; not restrained by legislation
- Contingency plans based on triggers, e.g. water storage
- Review best practices which haven't worked
- Audited self-management: if local issue deal locally; if larger will require higher level response
- Central govt support so problems not continually replicated
- Take account and invest in solutions, e.g. increase research and development and education
- Upskill irrigators/ irrigation efficiency/ soil probes / increase soil moisture capacity

16. External Reference Group

At the symposium, nominations were sought for an external reference group that would continue to work with council on the policy and directions in a regional water strategy. Participants were encouraged to talk between themselves about the nominees. 52 people put nominations in and 92 different people were nominated. Council is in the process of contacting individuals to gauge their interest in the strategy; to be part of a reference group; and their ability to fulfil the duties expected.

Once the reference group has been appointed all attendees to the symposium will be notified and more information will be posted on the HBRC website.

17. Where to from here?

The symposium provided an incredible amount of food for thought for both the participants and the Regional Council. Over the remainder of the summer the information will be analysed and grouped into policy themes.

With the reference group to provide advice, council will draft policies and a regional water strategy. In 2011, wider engagement will occur and another symposium-type event will be held to focus on water quality and ensure that policies and management is integrated. The diagram below explains the process for developing the strategy and the opportunities for wider input from the people of the Hawke's Bay. Once the strategy has been finalised, it is expected to go to Council for endorsement. Following that, implementation of the strategy will proceed.

18. Hawke's Bay Water Strategy Development Process

Appendix 1 - Regional Water Symposium Agenda

Meeting Purpose

- Develop a shared understanding and appreciation of the values, emerging and future issues and opportunities for the region's water resources now and into the future
- Inform the development a draft water strategy, direction and action plan to consider to address issues and maximise opportunities for sustainable water management in the region
- Nominate representatives for an external reference group (or other approach for continuous engagement) to continue to collaborate with the Council and others on the implementation of the strategy
- Improve trust and relationships with and among iwi, governments and stakeholders in the region

Agenda day one

8.30-9.00 Registration / Coffee

9.00-9.45 Welcome and introductions, meeting outline and objectives, survey part I

9.45-10.55 Understanding the issues and drivers facing water in the Hawke's Bay with an opportunity for discussion and questions. Speakers are:

- **Darryl Lew**, Group Manager Resource Management, HBRC
- **Andrew Newman**, Chief Executive, HBRC

10:55-11.15 **Morning Tea**

11:15 - 12:45 **Hon David Carter** Minister of Agriculture and Forestry provide the National Picture for water management and an opportunity for questions.

Water and wellbeing: the cultural, social, environmental and economic values of water management in New Zealand. Speakers are:

- **Professor Roger Maaka**, Director of Te Manga Māori at EIT
- **Professor Basil Sharp,** Professor of Energy and Resource Economics at University of Auckland

12:45 - 1:30 **Lunch**

1:30 -3:00 **Hon Nick Smith,** Minister for the Environment provides the national picture for water management and an opportunity for questions.

Dr Morgan Williams, Principal of Future Steps and former Parliamentary Commissioner for the Environment

3:00-3:30 **Afternoon tea**

3:30 – 3:45 Visualising our future. Introducing the Hawke's Bay scenario project. Talk show guests:

Alastair Bramley, Murray Douglas and **Hugh Ritchie**.

3:45 - 4:25 Discussion on avoiding the bleak and planning for a rosy water future.

4:30 Meeting close for day one

Agenda day two

8.30-9.00	Coffee and registration
9.00-9:15	Welcome, agenda outline and reflections of day one
9:15 – 9:40	**Sam Robinson's** vision for the Hawke's Bay 2050
9:40 – 10.20	Creating our vision for future water management
10:20 -10.40	**Morning Tea**
10:40 - 12:45	Interviews on actions, roles and priorities for future water management in the Hawke's Bay
12:45 - 1:30	**Lunch (reference group nominations)**
1:30 – 2:15	Measuring success and progress towards results
2:15 - 2:40	Survey part II. Have we changed our views?
2:40 - 3:00	**Afternoon tea**
3:00 – 3:15	**Morgan Williams** reflects on the symposium
3:15 – 4:00	Where to from here? **Helen Codlin** provides the next steps and wrap up
4:00	**Meeting close**

Appendix 2 - Participant List

Adye	Mike	HBRC Group Manager Asset Management & Biosecurity
Angland	Ivan	Heinz-Wattie Ltd
Apatu	Marei	HBRC Maori Committee
Apatu	Mark	Apatu Farms Limited
Baker	Jenny	Guardians of HB Fisheries
Barrett	Paul	HBRC Consents officer
Bass	Nikola	Ngati Kahungunu Iwi Incorporated
Beamish	Simon	Ngaruroro Water Group of Action
Beech	Lloyd	Individual
Belford	Tom	BayBuzz
Benson	Monique	HBRC Water Management Advisor
Bloomer	Dan	Center for Land and Water
Boag	Maxine	Napier City Council
Bramley	Alastair	ECOED
Broadley	Drew	HBRC Community Engagement & Communications Manager
Brownlie	Roger	Summerfruit NZ
Bull	Fran	Brownrigg Agriculture
Butcher	Mike	Pipfruit New Zealand Inc
Caddie	Donna	Consultant, Fluent Environmental
Carter	Hon David	(speaker)
Chapman	Brett	Hastings District Council
Chard	Campbell	Bel Group
Cheyne	John	HB Fish & Game
Christie	Rob	HBRC Team Leader & Principle Scientist, Hydrology
Clode	Gary	HBRC Manager Engineering
Codlin	Helen	HBRC Group Manager Strategic Development
Coleman	Stephanie	Student - Taradale High School
Collin	Ru	Horticulture NZ
Cooksley	Ian	DoC
Corbett	Bruce	HBRC Group Manager Water Initiatives
Curtis	Andrew	Irrigation New Zealand
Dakins	Richard	Ruataniwha Water Users Group
Dick	Alan	HBRC Councillor
Doig	Suzanne	Ministry for the Environment
Douglas	Murray	Hawke's Bay Chamber of Commerce
Elder	Andrew	Fruitfed Supplies Limited
Eriksen	John	Zespri
Ferguson	Kelvin	HBRC Manager Water Information Services
Foss	Craig	Member of Parliament
Franklin	Paul	Heinz-Wattie Ltd
Gerard	Sarah	Opus

Glazebrook	Mike	Te Tua and Washpool Stations
Gordon	Neill	Mail Newspapers
Grant	Neil	DoC
Greenberg	Emily	DoC
Hania	Jan	Department of Conservation
Harding	Xan	HB Winegrowers Association
Haslett	Tony	Fonterra Cooperative Group Ltd
Hewitt	Debbie	Ruataniwha Stakeholder Group
Hooper	Leeanne	HBRC Executive Assistant
Ide	Gavin	HBRC Team Leader Policy
Johnson	Kolt	HBRC Scientist, Hydrology
Keenan	Chris	Horticulture NZ
Laidlaw	Chris	(facilitator)
Lamason	Andrew	EAM
Lambert	Liz	HBRC Group Manager External Relations
Lawrence	Bryce	HBRC Manager Compliance & Pollution Response
Lawson	Scott	HB Vegetable Growers Assn
Lew	Darryl	HBRC Group Manager Resource Management
Maaka	Roger	(speaker)
Makay	Bruce	Heinz-Wattie Ltd
Mangin	Gillian	Ministry of Agriculture & Forestry
Mariller	Scott	Brownrigg Agriculture
Martin	Di	Twyford irrigator
Mauger	Jenny	HBRC Contractor
McGregor	Ewan	HBRC Councillor
McIntosh	Peter	HB Fish & Game
Mitchell	Kevin	Federated Farmers
Moffatt	Dale	Te Taiwhenua o Heretaunga
Mohi	Mike	HBRC Maori Committee
Newland	Sean	Fonterra Cooperative Group Ltd
Newman	Andrew	HBRC Chief Executive
Nijzink	Evert	HB Winegrowers Association
Nobes	Caitlin	HB Today
O'Neill	Emma	HBRC Senior Consents Officer
Paku	Peter	HBRC Maori Committee
Palmer	James	Ministry of Agriculture & Forestry
Palmer	John	HB Winegrowers Association
Pearce	Andy	Water management strategist
Pechey	Grant	HBRC Economic Analyst
Price	Gordon	Ruataniwha Water Users Group
Read	Phil	Readman Industries Ltd
Rebergen	Aalbert	Forest & Bird
Reed	Chris	HBRC Senior Planner

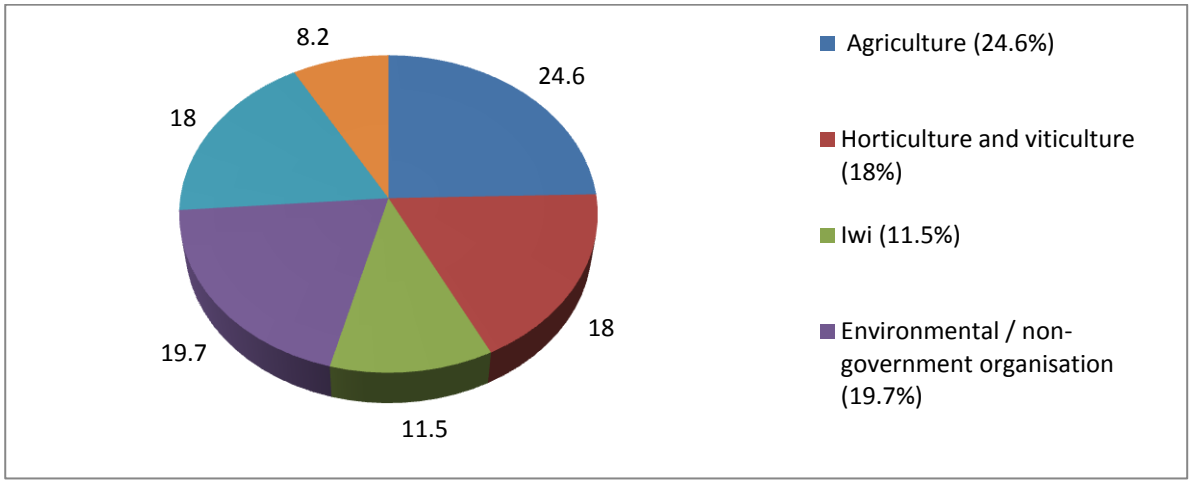
Remmerswaal	Liz	HBRC Councillor
Renouf	David	Hawke's Bay Environmental Water Group
Riki	Arapera	HBRC Maori Committee
Ritchie	Hugh	Drumpeel Land Company
Robinson	Sam	(speaker)
Rose	Kevin	HBRC Councillor
Scott	Christine	HBRC Councillor
Sevicke-Jones	Graham	HBRC Manager Environmental Science
Sharp	Tim	HBRC Strategic Policy Advisor
Sharp	Basil	(speaker)
Shuker	Richard	Fruitfed Supplies Ltd
Smith	Hon Nick	(speaker)
Sorensen	David	Reaman Industries
Stafford	Joseph	HBRC Strategic Policy Advisor
Stallard	Leon	Hawke's Bay Fruitgrowers
Stuijt	Dylan	Hastings District Council
Taylor	Marie	Countrywide Newspaper
Thew	Craig	Hastings District Council
Thomas	Rachel	HBRC Water Management Advisor
Tiuka	Ngaio	Ngati Kahungunu Iwi Incorporated
Tonks	Murray	Environmental Management Services
Tremain	Chris	Member of Parliament
Trerise	Kevin	Sustaining Hawke's Bay Trust
Vesty	Dianne	HB Fruitgrowers Assn
Volker	Peter	Consulting engineer
von Dadelszen	Eileen	HBRC Councillor
Watene	Alayna	Te Taiwhenua O Heretaunga
Whyte	Adele	Ngati Kahungunu Iwi Incorporated
Williams	Morgan	(speaker)
Wilson	Fenton	HBRC Chairman

Appendix 3 - "Clicker" Survey information from Water Symposium

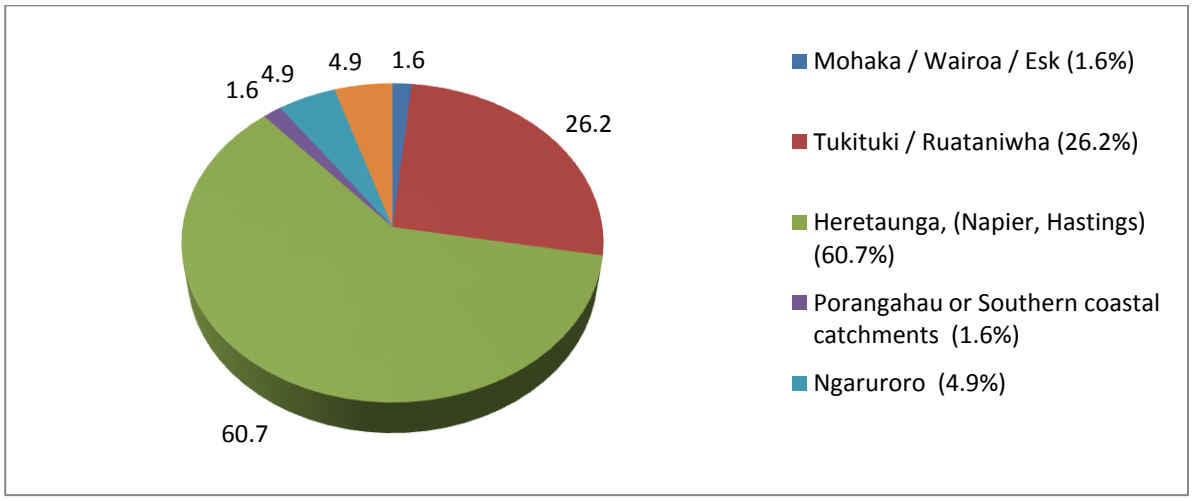
Using an innovative real-time polling technology, symposium participants were asked to participate in a survey. The first survey was conducted on day one before any information was presented or any table discussion had occurred. In contrast, the second day survey (with mostly the same questions) was asked at the end of the event. There were some differences in attendance and, as a voluntary activity, not all participants provided their views. Sixty five participants answered questions on day one and sixty four on day two. Some questions were not answered by all participants. The tables below show numbers of people unless labelled as percentages.

The results are confidential and any changes between day one and day two are percentage point changes, e.g., a 10% percentage point change is approximately equal to 6 people. These results are indicative and the analysis did not include any significance testing.

Question 1. Which interest do you relate to most?



Question 2. Which area are you from, or most familiar with?



These questions were only asked on day one so there is no comparison.

Question 3. In order to promote economic growth the most important asset that we need to focus on in Hawke's Bay is:

Response	Day 1	Day 2
Our people	21	28
Our water and environment	28	26
Our wine and fresh produce	1	0
Our great location and climate	4	3
Our infrastructure	2	2
Our agricultural and pastoral farming	1	2

Day 2 shows a small swing from Our water and environment (-6.5%) to Our people (+9.1%)

Question 4. Hawke's Bay has plenty of water but we need storage to access it when we need it.

Response	Day 1	Day 2
Strongly agree	24	20
Agree	11	23
Somewhat agree	19	8
Somewhat disagree	3	3
Disagree	1	3
Strongly disagree	2	3

Day 2 shows firming up of the Agree response (+20%) away from Strongly agree (-6.7%) and Somewhat agree (-18.4%)

Question 5. There are no barriers to achieving consensus on water management.

Response	Day 1	Day 2
Strongly agree	2	0
Agree	8	7
Somewhat agree	7	11
Somewhat disagree	15	13
Disagree	21	19
Strongly disagree	12	13

Day 2 shows no significant change and confirms day 1 answers.

Question 6. Water allocation and water quality issues are more significant in some areas than in others

Response	Day 1	Day 2
Strongly agree	25	33
Agree	26	22
Somewhat agree	7	3
Somewhat disagree	1	0
Disagree	4	0
Strongly disagree	1	2

Day 2 results show strengthening of agreement (96.6%). Strongly agree up 15.9%.

Question 7. The climate change impact that will affect me (my sector) most is:

Response	Day 1	Day 2
Rising petrol and energy prices	7	10
Changing rainfall patterns	13	16
More intense storms and rain events	10	14
Longer, drier and hotter summers	13	15
More frequent droughts	8	4
	1	0

Day 2 shows no significant change. Decrease in More frequent droughts response (-9%)

Question 8. A 'clean & green' 100% pure image is critical for future economic growth in Hawke's Bay

Response	Day 1	Day 2
Strongly agree	15	15
Agree	29	33
Somewhat agree	14	11
Somewhat disagree	1	1
Disagree	2	1
Strongly disagree	2	1

Day 2 results show no significant change (92% to 95% agreement).

Question 9. We will all be worse off in the long term unless we act differently, probably requiring tradeoffs and new business costs

Response	Day 1	Day 2
Strongly agree	14	20
Agree	22	21
Somewhat agree	13	15
Somewhat disagree	6	4
Disagree	3	1
Strongly disagree	1	0

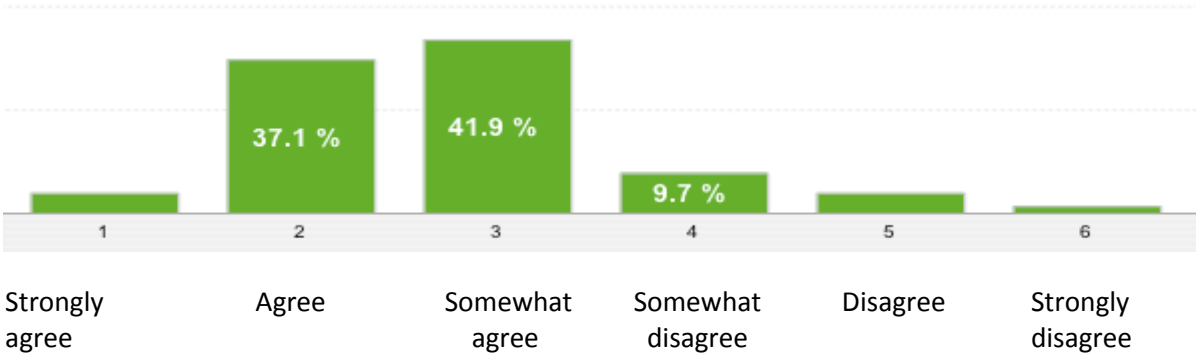
Day 2 shows a strengthening of agreement (from 83% to 91.8% agreement)

Question 10. Working together in collaborative ways (such as at this event) is the only way to move solutions forward.

Response	Day 1	Day 2
Strongly agree	14	25
Agree	25	24
Somewhat agree	18	6
Somewhat disagree	2	2
Disagree	2	1
Strongly disagree	1	0

Day 2 shows a strengthening of agreement (from 91.9% to 94.8% agreement).

Question 11. After this event, I am confident that the Hawke's Bay Region can sort its water issues out collectively.



This question was only asked on day two so there is no comparison.