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Community values for guiding water policy in the Wellington region

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COMMUNITY VALUES FOR GUIDING WATER POLICY IN THE WELLINGTON REGION

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SUMMARY

Wellington Regional Council has identified community values and objectives to guide fresh and coastal water policy development. In over twenty workshops people identified *commercial use values* for the consumption of water to obtain a financial return. They had *direct use values* for activities that required contact or consumption of water without expecting a financial return. They had *intrinsic values* associated with the existence of waterway form and function unrelated to any expected practical or material benefit for humans. People also expressed *indirect use values* related to the contribution of water and waterways towards social and cultural well-being.

Key words: commercial use, direct use, intrinsic, indirect use

BACKGROUND TO VALUES

Values are a concept that spans several disciplines from philosophy to economics and social psychology. In philosophy value concepts are ethical and based on peoples' sense of personal identity. Their values are understood to reflect concepts of relative goodness when people have preferences that are in conflict. In economic disciplines, values can be used to make decisions based on selecting the choice with the greatest aggregated personal wellbeing or social benefit (Allan et al 2013). In social psychology, values frame peoples' beliefs and attitudes about the desirable consequences of their behaviour. Values are used in social psychology to focus on ideals whereas attitudes apply to more concrete objects or behaviours (Hitlin and Piliavin 2004).

Behaviours are activities, actions or sets of actions that can be observed (Aijzen 1988, p95; Parminter 2008, p10). Values are more abstract than behaviours or attitudes but are sometimes related to general groups of behaviours such as "environmentalism behaviours".

Some examples of relationships between behaviour, attitudes and values may clarify this distinction further.

- "Walking" is a behaviour – it is an action that can be observed and it is not a value.
- "I like walking" expresses an attitude – it a positive feeling towards the behaviour of walking, but it is still not a value.
- "Active recreation is beneficial for people like me" is describing a value – it may be linked to behaviours (such as walking), it could be a motivation to behave in a certain way, but mainly it describes something that makes my reference group distinct from other people.

INTRODUCTION TO THE USE OF VALUES IN NEW ZEALAND ENVIRONMENTAL POLICY

For many sociologists, values have been difficult to study and so they have often been ignored (Hitlin and Piliavin 2004). Recent studies in New Zealand examining waterway values have also highlighted that as well as a lack of information about community values there has not been much study into how they can best be used by councils in decision making (Hughey 2009).

Since the Resource Management Act (RMA; New Zealand Government 1991) was introduced councils have been directed to learn about their communities' values in order to evaluate the effectiveness of their local policies and provisions (Wilson 2012). For councils to assess their effectiveness it has been common for them to use cost benefit analyses that reflect peoples' perceptions, preferences and values (ibid). However some economists have been concerned that cost benefit techniques have definitions of benefits too narrow to account for non-monetised measures of value (Allan et al 2013).

In further developments, a number of councils have worked with Lincoln University to develop the River Values Assessment System (RiVAS) as a systematic way of evaluating river values. The list of values being considered included: activities such as white water kayaking, ecological state for instance for trout, cultural activities and economic uses such as irrigation (Hughey 2012). The list assesses human activities and social and ecological states as if they were all comparable values, although such a mix actually does not fit the definition of values described earlier. The researchers needed to dig a bit deeper if they wished to find the values behind the identified activities.

The National Policy Statement for Freshwater Management (NPSFM) describes how regional councils can "manage water in an integrated and sustainable way, while providing for economic growth within set water quantity and quality limits" (New Zealand Government 2014, p3). To implement the NPSFM each new regional plan is required to include objectives that realise national and local values for all freshwater management units (New Zealand Government 2014, p14). So values are now the main drivers of plan objectives and of this paper. Two compulsory national values are to be included: *ecosystem health* and *human health for recreation*. Other possible national values to be considered include: *natural form and character*, *mahinga kai*, *fishing*, *irrigation and food production*, *animal drinking water*, *wai tapu*, *water supply*, *commercial and industrial use*, *hydro-electric power generation*, and *transport and tauranga waka*.

A paper prepared for Waikato Regional Council describes how the complexity of these value concepts and the difficulties of interpreting them has been a limiting factor for councils implementing the NPSFM (Barns et al 2013, p2).

In this paper the authors describe how they took a participatory approach to identifying and describing community values, beginning in 2010 with the ideas provided by community groups and then reviewing these with stakeholder agencies. In the discussion section the authors examine the implications of the results for implementation of the NPSFM.

METHODS

The NPSFM expects regional councils to work with their communities and identify their values. Councils need to find a balance between competing values and then set objectives for them. In this paper a participatory approach to these tasks involved working with the Wellington general public and with regional stakeholders. Values are unobservable and their links to the expression of environmental behaviours have been tenuous. That makes observing, measuring and managing values quite difficult (Hitlin and Piliavin 2004). Methods for eliciting values require that people are cognisant of their own values, are able to express them in a common form and that their values are stable over time. This is assisted by previous experiences of self-reflection and communication about their values (Allan et al 2013). To discuss their values people usually assume a particular role for themselves. For instance they may discuss their values from the point of view of their role as farmer, or their role as parent or their role as kayaker. Each of the different roles may emphasise different values though their application (eg to a river) remains the same.

In this project an ethnographic approach was taken to provide the context, links and insights about values as well as to identify the values themselves. Despite the obvious richness in the information that could be gathered in an ethnographic methodology, having trained observers undertake such a process could potentially take a long time, even possibly years. For the work of GWRC a guided workshop process was used to provide participants with opportunities for self-reflection, deliberation and self-disclosure. The intention was to speed the process up without compromising the quality of the results (Isaacs 2013). At the workshops ethnographic meaning was developed through sharing stories in the small groups, critiquing and challenging each other's contributions, and relating the descriptions of values to other parts of the workshop about resource state and relationships.

The first workshops were held with the general public in 2010 to consider regional natural resource management (Appendix A). Over 500 people took part in the workshops that year and the results were analysed using NVivo © software and a Grounded Theory process (Galser and Strauss 1967; Denzin 2009). That analysis grouped the material under 102 headings related to the natural resources of air, soils, waterways, coastal-marine areas, landscapes and biodiversity; as well as the quality of relationships with the Regional Council and its staff (Greater Wellington 2011). These headings were subsequently examined to identify possible values for waterways using content analysis to select the most salient values (Krippendorff 1989). A process of laddering and pyramiding was used to link attitudes and activities with their associated values (Fransella et al 2003).

In August 2013 a working document for discussion on the regional plan was made available to stakeholder organisations in the Wellington region. There were about 20 organisations affected by or likely to influence the implementation of fresh water policies in the Wellington Region. As a result of feedback from a number of these groups two stakeholder workshops were carried out in Porirua and Carterton in November 2013. At the workshops participants worked in small groups of 4-8 people to score different value statements developed from the local values obtained in 2010 and the values in the proposed NPSFM. Stakeholders were also presented with resource management scenarios and asked to identify the values applicable to those situations (Appendix A).

RESULTS

Public Workshops

From the public workshop results eighteen different values were identified for policies to manage waterways. These in turn were grouped into four types of values corresponding to the different contributions that the underlying values might make towards resource allocation decisions. These four types of values were: commercial use, direct use, intrinsic and indirect use.

- **Commercial use values:** values for those activities that consume water to obtain a financial return.
 - Livestock sustenance, health and welfare (keeping domestic animals alive and healthy)
 - Food and fibre production (the breeding, growing and harvesting of food and fibre, including forestry)
 - Industrial processing (manufacturing including the processing of food and fibre beyond the “farm gate”)
 - Commercial enterprise (commercial activities requiring the use of water or waterways)
- **Direct use values:** values for those activities which require contact or consumption of water without obtaining a financial return.
 - Human sustenance, health and welfare (keeping humans alive and healthy)
 - Infrastructure functional integrity (maintaining the social services that depend upon the availability of water)
 - Waste removal (how a waterway treats, dilutes and disperses waste products and contaminants)
 - Active recreation (recreation that is situated in or on water)
 - Passive recreation (recreation that involves water in waterways and takes place alongside waterways)
- **Intrinsic values:** values associated with the existence of waterway form and function unrelated to any expected practical or material benefit for humans.
 - Ecosystem functionality: freshwater, marine, sand dunes (habitat and interactions between ecosystem elements)
 - Biodiversity (diversity of species present)
 - Waterway form and functionality (the shape of waterways and associated hydrology)
 - Ecosystem protection (control of weeds and pest species)

- **Indirect use values:** values relating to the contribution of water and waterways towards social and cultural well-being.
 - Amenity appearance (benefits from the appearance of waterways)
 - Amenity attributes (the way in which waterways contribute towards people's outdoor experiences)
 - Mana of tangata whenua groups (how waterway attributes relate to the mana of the Māori groups that are kaitiaki for an area)
 - Community identity (how a waterway contributes to the sense of identity for communities-of-place)

In Table 1, the various activities linked to peoples' values during the consultation events are listed in the right-hand column. This list uses respondents' own words. Similar but different words relating to the same concepts have been included under this heading but when the same words have been used for the same concepts, they have not been added in again. Cells containing a range of concepts within the table reflect the richness of people's expression of particular values and may also relate to the importance of that value to the participants.

The central column has the values for guiding policy and that are associated with the list of activities alongside. Where possible, the label used for each value uses respondents' own words, but some concepts have been enlarged to fully differentiate between them where that difference seemed to be important to the participants. For example *amenity attributes* was used to differentiate one set of amenity concepts from another labelled *amenity appearance*.

The left-hand column describes the types of values using terms commonly found in the literature on the application of values in decision-making (Bateman et al 2003).

The values identified by public participants in Table 1 were provided with expressions of how they wished their values to influence policy choices in natural resource planning. For example people wanted to **increase** *food production and harvesting* and they wanted to have **more** *passive recreation* and **greater** *mana of tangata whenua groups*. However, they did not want to maximise all the identified values. Some values people wanted to improve, but within a constraint. For example they wanted **sufficient** *commercial enterprises*, **protected** *biodiversity*, and **adequate** *infrastructure*. Other values appeared to be necessary but with limited expression. Examples of these were: **minimised** *waste removal*, **some** *ecosystem protection* and **adequate** *amenity appearance*.

The participants had been asked to think about a waterway that they were familiar with when responding to the workshop questions in the Appendix. Some of the values were specifically related to particular waterways. These included: Kopuaranga, Ruamāhanga, Whareama, Waiwhetu, Kenepuru, Waikanae and Otaki Rivers, and Lake Wairarapa.

Table 1. The values identified and their associated activities

Value Types	Values	Activities Associated with Values
Commercial Use Values	Livestock sustenance, health and welfare	Good condition livestock, healthy livestock
	Food and fibre production	Food, agricultural production, organic production, food gathering, clean irrigation water
	Industrial processing	Clean water sources
	Commercial enterprise	Commercial fisheries, eel fishing, commercial recreation (eg rafting), gravel extraction, eco-tourism, electricity generation, tourism
Direct Use Values	Human sustenance, health and welfare	Healthy food, clean water, well-being and health
	Infrastructure functional integrity	Reliable water supplies, clean tasting drinking water, low-cost water supplies, seasonal water harvesting and storage, urban services, coastal navigation, decreased flood risk, potable potential of rainwater realised, human potable water, recycling and reusing water
	Waste removal	Filter runoff, mitigate leaching
	Active recreation	Diverse recreational opportunities, recreational variety, water for gardening, coastal fishing, beach swimming, boating, water sports, paragliding, surfing, canoeing, rafting
	Passive recreation	Waterfront recreation, coastal recreation, picnicking, walking, tramping, camping, bird watching, trekking, biking, exploring, climbing, watching rock pools, wading, observing, playing, horse riding, community care-group activities, people healthy physically

Intrinsic Values	Ecosystem functionality: freshwater, marine, sand dunes	Freshwater ecosystem function, bird food, marine life, dune ecosystem function, protecting the welfare of tuna/eels, places for fish to survive and repopulate
	Biodiversity	Protecting the intrinsic value of biodiversity, healthy freshwater biodiversity, no more extinctions, fish, invertebrates, whitebait, grey mullet, frogs, lizards, algae, variety of creatures, diversity of native birds
	Waterway form	For future generations, protecting the river form: mix of riffles, rapids and pools, flowing water, free flowing
	Ecosystem protection	Pest free areas, control of pests in waterways (e.g. didymo, rudd), control of pests around waterways (e.g. ducks), reduced pest plants (e.g. willows, blackberry, old man's beard), Genetic Engineering (GE) free zones
Indirect Use Values	Amenity appearance	Intrinsic beauty, clean beaches, river form, observing nature, experiencing diverse species, having wild spaces, appreciating nature, display of the seasons, great views, sound of water, peace and tranquillity, breathing fresh air, better human health, people healthy mentally
	Amenity attributes	Resource for learning, access to beaches, access to freshwater bodies, access to forests, safe outdoor spaces, contaminant free waterways, sewage out of waterways, dog faeces out of waterways, farm dumps out of waterways, free from smells, trees to walk under, shady areas, tasty water, cool water for drinking
	Mana of tangata whenua groups ¹	Mahinga kai
	Community identity	Shared public spaces, community identity, human pride, opportunities for communities to work together, publically owned water

¹ “tangata whenua” is used according to its use in the RMA. For further discussion, see “The use of tangata whenua and mana whenua in New Zealand legislation: attempts at cultural recognition”, by Catherine Magallanes, 2011.

Stakeholder Workshops

In their workshops stakeholders were given a list of values constructed by combining the list generated at the public workshops with the list included in the proposed NPSFM. The stakeholders scored these values on a scale from 0 to 10. The scale is a ratio scale meaning the scores exist relative to the scoring of the other values. The average results from all the workshop participants are summarised on the chart in Figure 1. The values on the right of the chart are the values given the highest relative score. These included *aquatic ecosystem health and mahinga kai*, *health needs of people* and *food production and harvesting*.

Each value was given a range of scores by the stakeholder participants. The range of scores is represented by their standard deviations. The values with the greatest standard deviations were *historic heritage*, *firefighting* and *shellfish gathering*. There is a trend (although not statistically significant) for the highest scoring values to also have the least variation in their scores suggesting that they may have widespread support for their inclusion in a regional plan. In contrast the value of *transport and access* had a low score as well as a low deviation suggesting that there was not much support for including it in a regional plan.

Scoring by the stakeholders generally supported at a regional level the values selected in the proposed NPSFM to be compulsory values. However the scores for *public health*, *livestock drinking water* and *contact recreation and tangata whenua use* were all very similar to each other.

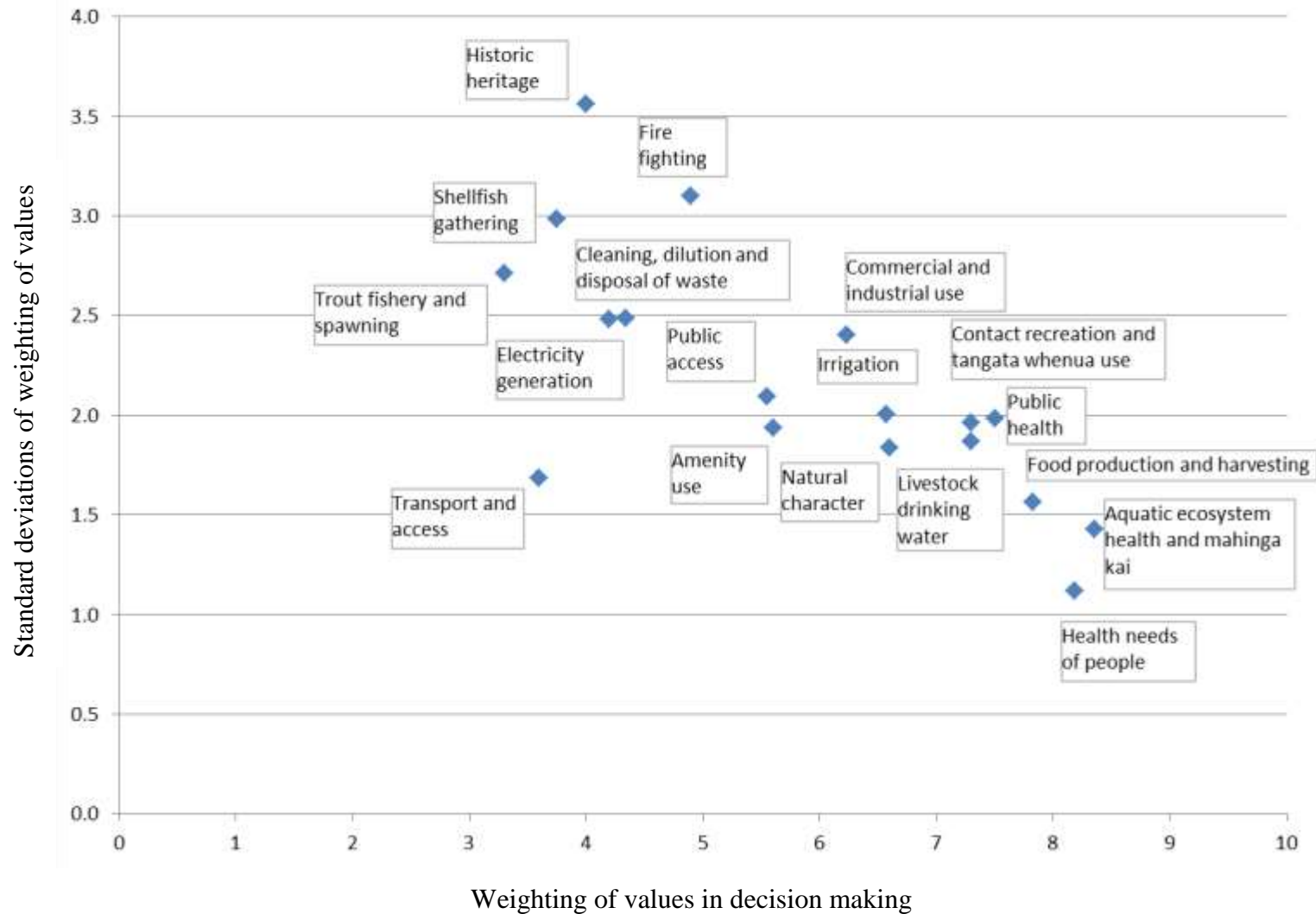
There were a number of reasons given about why some values had a high degree of variation on their scoring. These included items that some people considered important and scored them as such, even though many other people thought that they were not a value at all and so gave them a zero score. Prioritising water for *firefighting* was an example of this. Other values were contentious and the variation in scoring was reflective of this, for instance having *trout fisheries and spawning habitat*. Some values such as *contact recreation*, *tangata whenua use*, *food production* and *cleaning and dilution* presented conceptual challenges for the participants and so created inconsistent interpretations about their significance.

The stakeholders gave the NPSFM priority values high scores and widely applied them in the scenarios. However, some of the stakeholders considered that the Māori and non-Māori values were too different to be combined in the way they had been for the workshops (Table 2).

Table 2. Table on stakeholder feedback about priority values

Values	Stakeholder feedback
Aquatic ecosystem health and mahinga kai	This is too general; it needs to be specific to natural or native ecosystems. The two concepts should be separated.
Contact recreation and tangata whenua use	This combines two different concepts they need to be kept separate
Health needs of people	Needs to include water supply networks The value is too general and overlaps with other values

Figure 1. Weightings of values for policy decision making (n=32)



Stakeholders were given the opportunity to add additional values – these are shown in the final row of Table 3. The list of additional values includes some that could be considered part of the previous list that the participants had already scored. Maybe the participants wanted to ensure that their particular aspect of a generic value was going to receive decision making weighting and so they identified it separately. For example the suggested additional value *ecosystem resilience* could be considered as subsumed within *aquatic ecosystem health*.

The stakeholders generally did not support having activities as values. This particularly applied to *firefighting* and *irrigation* (see Table 3). Other values needed greater clarification, particularly to differentiate between similar values such as *public access* and *amenity value*.

Table 3. Table on stakeholder feedback about other values

Values	Stakeholder feedback
Amenity	Needs to be more specific
Fire fighting	This is not a value and it is already provided for
Public access	Could be a subset of an amenity value
Public health	
Natural character	Is this about restoring natural areas?
Food production and harvesting	Is this about in-water food production and harvesting such as fishing and rice farming? This value may be better described as “food security”
Cleaning, dilution and disposal of waste	Depends upon the type of waste involved. Should have a separate value for point source and non-point sources
Commercial and industrial use	
Livestock drinking water	
Irrigation	Not a value
Transport and access	Clarify whether this is about recreation or commercial activities
Electricity generation	
Trout fishery and spawning	
<i>Other values to be considered</i>	Biodiversity, flood protection, economic benefit, secondary contact recreation, economic return, stormwater management, ecosystem resilience, threatened species protection, protection of infra-structure Need to account for human safety, eg from flooding

The stakeholders did not support the inclusion in the regional plan of too many values other than the priority values (Table 4). Adding a lot more values was considered to complicate finding the balance between competing sets of values in policy development. However if additional values had to be added to the plan, then a process of doing so through community consultation was supported. Some stakeholders identified a need for a value-driven policy decision making process, and not just using values to guide the selection of plan objectives.

Table 4. Table on stakeholder feedback about application of values

Item	Feedback
1	Aquatic ecosystem health and mahinga kai as well as contact recreation and tangata whenua apply in all scenarios
2	Natural character is needed but needs to be clearer
3	The only values needed are the priority values, all the rest follow
4	Cleaning, dilution and disposal of waste needs to be related to town sewerage, town stormwater, road stormwater, septic tanks and non-point sources
5	Policies need to be guided by values associated with community consultation
6	The natural character value should be given more weight
7	Economic return should be a value, but not a priority value
8	Efficiency of water use should drive water allocation – perhaps using economic return
9	More ability is required for trading and transferring water
10	In allocating water “values” are not important
11	Some values only apply to specific reaches/management units; they need to be marked on maps
12	More weighting for economic values
13	The priority values should reflect the four well beings of: economic, environmental, social and cultural
14	Priority values should include food production
15	Contact recreation values should only apply to recognised swimming areas
16	Need “process” values as well
17	Have policies that manage cumulative effects upon values
18	Recognise community values for non-regulatory policy mechanisms
19	Need to monitor value satisfaction as part of council delivery on objectives
20	The order in which the values are listed in a plan implies their order of significance in balancing decisions

DISCUSSION AND CONCLUSIONS

Earlier in this paper we established that discussions about values were made easier when the participants involved had had previous opportunities to reflect on their own and other values. The stakeholder workshops were designed with this in mind but it was still uncertain how much experience the stakeholders had in articulating and discussing their values and how much this may have affected their ability to ‘score’ or otherwise balance the values that they were presented with.

The assessments of values at the public workshops were heavily influenced by the evaluative contexts of the participants. The values identified and the weightings given were specific to waterways and their implied condition. When considering natural values participants showed a tendency to link them with the head waters of forest parks in the region. When they were considering use-values these tended to be associated with more modified waterways in intensive agricultural and urbanised areas. The importance of context suggests that local communities need to stay involved in assigning values and weightings to the region’s waterways throughout a regional scale policy formulating process.

However, even if stakeholders’ understanding of *aquatic ecosystem health* and *contact recreation* were inconsistent with each other, they were still able to achieve a high degree of consistency in how important these values were to fresh water planning. This reinforces the importance for planning direction to be provided for ‘regional’ values at the regional scale.

The Wellington Regional Council’s review of the first generation of regional plans has been led by Te Upoko Taiao, the Council’s Natural Resource Management Committee. The committee has been formed equally of elected councillors and appointed iwi specialists in natural resource management and it has taken a partnership approach to planning. Some objectives in the regional plan will be joint objectives for example for *aquatic ecosystem health and mahinga kai*, and *contact recreation and tangata whenua use*. The joint objectives are intended to be an expression of partnership, recognising the overlap between the underlying values while still allowing for their differences.

However, the joint values framework presented challenges for many stakeholders at their workshops. A value such as *aquatic system health* was considered to be an intrinsic type of value. The *mahinga kai* value in contrast was a form of use value. Combining two different types of values created some confusion for the stakeholders. Underlying this may be difficulties due to western approaches to resource management although it may suit a Māori world view. Contrasts like this in the world views of participants could affect the way that value discussions are had in other regional community settings.

Values were discussed as individual expressions of worth. However, the stakeholder workshops required the participants to represent their organisational backgrounds. The alignment (or lack of it) between their personal and organisational values was not discussed formally at the workshops. Generally the participants at the workshops considered and discussed values by associating them with particular activities (Table 1). That association was encouraged to be made explicit during workshop discussions, in order that the socially accepted meaning of the values could be constructed and negotiated.

Some values the participants wanted to have maximised, some they wanted sufficient of and some they only wanted to have limited expression. Balancing between the values and making any necessary trade-offs was not undertaken in the workshops. This remains a task for the next stage of policy making. However, this paper highlights the difficulty of establishing a regional balance between values that can be universally acceptable to all the regional communities. Striking a balance requires that policy makers take account of the condition of each catchment and whether the values being contrasted are expected to be maximised, or provided at sufficient or minimal levels.

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APPENDIX A. WORKSHOP AGENDA

Public Workshops

In 2010 the workshops considered the management of at least six natural resources including any that participants wished to add. The six identified resources were: Soils, Waterways and lakes, Coastal and marine areas, Air, Landscape form, Biological diversity – plants, birds, lizards, fish, insects, etc.

Working in small groups of 8-10 people the participants at the workshops were directed (but were not restricted) to focus upon the following questions:

1. What is the state of the best (most well looked after) natural resource in your area?
2. What is the state of the worst (most poorly looked after) natural resource in your area?
3. How is the relationship between you and the Regional Council on natural resource management?
4. What are all the benefits (and gain in values) that you expect to experience from local natural resources when they are in a very good state?
5. What are all the problems (and loss in values) that you expect to experience from local natural resources when they are in a very poor state?
6. What can you and your community do to improve the state of natural resources in your area?
7. What can the Regional Council do or be to reinforce your community's efforts for improving the state of natural resources in your area?

Stakeholder Workshops

Task 1. Scoring values: Score these values on a scale of 0 to 10 where zero represents no weighting should be given to this value and ten represents all weighting should be given to the exclusion of any other value

0-----10

For scenarios A, B, C:

Question 1. What values should be taken into account in the regional plan to guide the policies and rules addressing this situation?

Question 2. What changes should be made to the policies and rules to better reflect the values in Q1?