



Principles to Underpin Freshwater Decision-Making

Oshadhi Samarasinghe,¹ Suzie Greenhalgh,¹ Mary-Anne Baker,² Nick Zaman,³ Tim Sharp,⁴ Justine Young,⁵ Andrew Parrish,⁶ Barry Gilliland,⁷ Jim Sinner⁸ and Andrew Fenemor¹

KEY RECOMMENDATIONS

Many regional council decisions on the management of their freshwater resources are not clear-cut; rather they come in many shades of grey. In these situations, guiding principles can assist council staff and councillors through the myriad of decisions required to establish new or alter existing freshwater management regimes.

Eight key principles can be used to guide the resource management decisions made by councils, where decisions should be transparent, integrated, consistent, relevant, practical, adaptive, efficient, and equitable. While they don't tell you what the 'right' answer is, the principles do provide a structure to support councils make more robust and defensible decisions. Both the principle and how the principle is applied are important aspects for using principles to guide decisions.

Under the New Zealand Resource Management Act (RMA 1991) regional councils in New Zealand are responsible for the integrated management of the natural and physical resources of their particular region. Management of the quantity and quality of freshwater is among these responsibilities, with decisions relating to many aspects of management including restricting activities that affect freshwater quality and quantity. As freshwater is an important natural resource with a wide range of uses, people have attached varied values to freshwater resources that relate to economic, social, cultural and environmental well-being and these values can often be at odds with each other. As deteriorating water quality and increasing demand for water have become pressing issues in most regions, regional councils face challenges in managing the quality and quantity of freshwater resources while at the same time providing for uses and values that are important to different stakeholders.

WHY THE GUIDING PRINCIPLES SUPPORT BETTER DECISION MAKING

Decisions regarding freshwater management are rarely black or white. Rather they come in many shades of grey. It is within these grey areas, in situations that warrant flexibility and discretion and where outcomes are not clear-cut, that guiding principles will improve the credibility and consistency of decisions, and will reassure those impacted by decisions.

Decision-making principles can be used to guide regional council staff in plan-change processes and resource consent planning such as those for freshwater. They can guide council staff on a range of decisions, from deciding what set of data to use as evidence and who should be consulted on a particular issue through to deciding which values and uses to prioritise and which policy option to choose.

The use of principles is important for consistent decision-making. Where decision-making processes are consistent, council staff are able to revisit earlier decisions and be assured there is sufficient background and structure to those earlier decisions to enable a council to arrive at the same or similar decision point. It also becomes possible for regional councils to understand each other's decision-making processes.

DECISION-MAKING PRINCIPLES FOR FRESHWATER MANAGEMENT

In Table 1 below we outline 8 guiding principles to assist regional council staff and councillors through the myriad of decisions required to establish new or alter existing freshwater management regimes.

These principles resemble many commonly used principles but have been developed and interpreted explicitly for regional council decision making in a freshwater management context. Table 1 describes each principle and outlines how each principle should be applied.

Table 1. Key principles for use in freshwater decision-making

Principle	Description
<p>Transparent</p>	<p><i>Document and disclose the processes followed, values considered and data/information/criteria/methods used in making a decision, including pertinent information gaps, risks, consequences (of action as well as in-action) and uncertainties.</i></p> <p>Decisions often affect multiple stakeholders with potentially differing values and perceptions. Clearly articulating whose values are being considered and how these values and perceptions are treated within a decision-making process, what and how information is used to identify the extent of impacts and the criteria used to make a decision will provide stakeholders with a greater understanding of how the final decisions or options to be considered were derived.</p>
<p>Integrated</p>	<p><i>Ensure all pertinent values and all resource issues from all affected stakeholders in relation to the interconnections of the resources being managed (e.g. surface water/groundwater, land/water and water quality/quantity) and who manages them are recognised and considered within an integrated assessment process.</i></p> <p>Decisions that are made without considering the full range of economic, social, cultural, and environmental impacts may have unintended consequences. Considering the full range of impacts will improve the robustness and acceptability of decisions. Similarly, assessing existing resource use alongside a proposed use is essential for managing cumulative effects. Decisions should consider how to integrate management across different departments within the same council and between different government jurisdictions (national, regional and local).</p>
<p>Consistent</p>	<p><i>Treat all values, processes, and data requirements, and collect and analyse all information, in a similar fashion with a similar level of rigour.</i></p> <p>Each person has innate biases that will inadvertently affect a decision. While this is natural, efforts should be made to collect, analyse, and evaluate all information and options in a similar manner, including using the same criteria and assumptions. This applies not only to decisions within a given decision-making process but also between different decision-making processes to allow a useful justification and comparison of decisions across temporal and spatial scales, and issues.</p>
<p>Relevant</p>	<p><i>Ensure the information assessed and options considered fully account for the contextual situation (including stakeholder values, risks, and scale), the pertinent legislative frameworks (local, regional, and national), the scientific knowledge relating to that environment, and the inter-connectedness between resources being managed.</i></p> <p>Any information used and options developed should fit their intended use and meet the expectations or requirements of all stakeholders. While there are aspects of information or options that can be generalised across issues and spatial and temporal scales, there are aspects that need to reflect the specific circumstances of the resource issue under debate.</p> <p>Decisions should be founded on appropriate science-based evidence about the environmental and socio-economic system the proposal may change. Decisions are also subject to the rule of law, and should particularly take into account impacts on local and community values, and levels of risk associated with the proposal.</p>
<p>Practical (achievable)</p>	<p><i>Ensure options and conditions being considered are measurable (able to be monitored and evaluated), can be put into operation, are enforceable (if regulatory), and can achieve the desired outcome.</i></p> <p>To prevent the misinterpretation of the intended purpose of an outcome, options should avoid ambiguity by clearly stating the outcome(s) sought and the processes established to achieve them. Those processes need to be carefully designed to ensure there are few barriers to implementation. Further to this, any impacts need to be measurable to enable stakeholders to track progress towards achieving the outcome and to adapt their actions if progress is not sufficient. Enforcement, if needed, depends on clarity of responsibility and the ability to monitor the actions of those responsible.</p>

Principle	Description
Adaptive	<p><i>Consider options and conditions that have sufficient flexibility to enable them to be responsive to new information or circumstances that arise.</i></p> <p>Rarely do we design an option or make a decision whose outcome is certain —whether it is environmental, economic or social responses. Flexibility means an option can be modified as new information becomes available (such as new interactions between resources; ecological thresholds are refined or crossed), or if unexpected implementation barriers or unintended consequences arise, thus improving the outcomes. However, there will always be trade-offs between this flexibility and the desire for greater certainty.</p>
Efficient	<p><i>Use options that promote innovation and reduce the transaction costs of achieving the desired outcome.</i></p> <p>Where existing policy results in a range of resource uses that do not produce the best outcomes for a community then new decisions could enable changes in resource use that improve these outcomes. When faced with constraints, innovative solutions are often discovered that improve the rate at which we can achieve the desired outcome. This increases the stakeholder acceptance of and participation in an option. Similarly, options with lower stakeholder and agency transaction costs (e.g. administrative requirements, skills/capacity to fulfil the requirements and financial burden) are likely to be more acceptable.</p>
Equitable	<p><i>Ensure options minimize the negative impacts on well-being of all stakeholders.</i></p> <p>Ideally, options should aim to improve the well-being of some without reducing the well-being of others. While this is a great aspiration, it is rarely practical. Most options are developed in response to a resource issue or development that may disadvantage someone, and therefore solutions could restrict the activities of some portion of society thereby decreasing their well-being. For practical purposes, all negative impacts should be minimised to the extent practicable or should reduce the well-being of all affected stakeholders as equitably as possible.</p>

EXAMPLE OF APPLYING THE PRINCIPLES

The principles can be applied to all stages of a council decision-making process – from identifying an issue to monitoring and evaluating the policies adopted to address the issue – though not all principles will be relevant for all stages.

Here, we briefly demonstrate how the principles could be applied to the scoping stage of a hypothetical regional water allocation issue and initial stakeholder engagement process. When scoping the problem, the principles relating to transparency, integration, consistency, and relevance are the

most appropriate. How these can be applied to the scoping of the problem and initial stakeholder engagement is outlined below in Table 2.

There is likely to be iteration between the problem scoping and the initial engagement process as the scope of the problem gets further clarified through the initial engagement with stakeholders. Before any stakeholder engagement the council staff will need to frame the issue(s), including estimating the size of the problem, likely timeframe required to address the problem, the key issues, potential risks & possible outcomes, and who are the affected stakeholders.



Photo credits: Suzie Greenhalgh



Table 2. Applying the principles to the scoping stage of a hypothetical regional water allocation issue and initial stakeholder engagement process

Principle	Applied to scoping the problem	Applied to initial stakeholder engagement
Transparent	<p>Record and communicate to stakeholders:</p> <ul style="list-style-type: none"> the problem and key issues involved (including potential size of the problems) identified interconnections between resources and how the research/investigations have or will be conducted <p>Make readily available and accessible to stakeholders all relevant material, research, and meeting minutes related to the scoping exercise.</p>	<p>Record and communicate to stakeholders:</p> <ul style="list-style-type: none"> the stakeholders or stakeholder representatives who attended meetings or were contacted in other ways timeframe for decisions to be made and/or actions implemented questions asked and relevant information discussed with the stakeholders values identified and discussed – and which stakeholders identified which values objectives and policies discussed in relation to the water allocation issue
Integrated	<p>Ensure:</p> <ul style="list-style-type: none"> initial scoping identified possible resource interactions and begins to investigate the relationships between these resources the impact of the problem is considered from an environmental, social, cultural, and economic perspective and accounts for the array of stakeholder values 	<p>Ensure:</p> <ul style="list-style-type: none"> all affected stakeholders or stakeholder representatives are approached during the initial stakeholder engagement process with stakeholders, that the important values that are affected by water allocation have been identified and recorded all important information regarding the issue is discussed during the initial stakeholder engagement process and further information requirements start to be clarified the policy objectives are understood and, where possible, agreed by the affected stakeholders in the initial stakeholder engagement process
Consistent	<p>Begin to identify all stakeholder values that are affected by the resource management problem or could be affected by the actions undertaken to address the problem.</p> <p>Ensure any analysis to clarify the scale of the problem or interactions between resources is undertaken, where possible, with a similar level of rigour.</p>	<p>Ensure:</p> <ul style="list-style-type: none"> stakeholders are asked the same questions and given the same information during the stakeholder engagement process and questions from different stakeholders are treated and responded to in a similar fashion the information regarding water allocation and values identified by the affected stakeholders are given similar weight during the process
Relevant	<p>Ensure:</p> <ul style="list-style-type: none"> the problem context is clearly understood and information being provided fits that context (or can be related to that context) stakeholder values, concerns and needs are mirrored in the information and analysis provided and to be acquired all legislative requirements relating to the problem are considered 	<p>Ensure:</p> <ul style="list-style-type: none"> the stakeholders or stakeholder representatives participating in the initial engagement process are stakeholders who are actually affected by water allocation information and questions discussed during the initial stakeholder engagement process are the most pertinent for the water allocation issue (this will require good meeting facilitation) the process being proposed and outcomes sought reflect the issue and stakeholder concerns

TRANSLATING THE PRINCIPLES FOR DIFFERENT CONTEXTS

Principles are often applied to different contexts where the same principle can be interpreted and applied differently depending on the context. This is important to note, as a principle developed for one context may not be appropriate or useful in a different context.

Table 3 outlines how the description and application of the

transparency principle may change depending on its context. This demonstrates the value of developing and using principles that reflect the context in which they are to be used – in this case the decisions by councils during a planning process or consent decisions.

Table 3. Description of various contexts and interpretations of a transparency principle

Transparent Principle	Description	Context
Transparency	Document and disclose the processes followed, values considered, and data/information/criteria used in making a decision, including pertinent information gaps, risks, consequences (of action as well as in-action) and uncertainties.	Regional Council freshwater decision making (described in this document)
Transparency	Information flows freely and steps taken in policy development is visible to all ensuring ethics and equity.	Freshwater governance (Fenemor et al. 2011)
Transparent	The material used in consultation processes should clearly state the issue, the decision being considered, the stage it is at, and the role of the local authority. Information about decisions, in general, readily available to the public.	Local authority decision making and consultation (Local Government Act 2002)
Transparency	Addressing all relevant issues in a factual and coherent manner, based on a clear audit trail, disclosing any relevant assumptions and making appropriate references to the accounting and calculation methodologies and data sources used.	Corporate accounting and reporting (WRI 2004)
Transparent & Accountable	The process and its ground rules are clear and public, and there is an effective mechanism for monitoring progress and sharing information so that steps taken in policy development are visible to all. The roles and responsibilities of both institutions and stakeholders are clear. Participants network with and are answerable to those they represent, and the process upholds all existing statutes and regulations.	Collaboration in freshwater management (Land and Water Forum 2012)
Transparency	The company provides timely disclosure of information about its products, services, and activities, permitting stakeholders to make informed decisions.	Corporate sustainability (Epstein 2008)
Transparency	Built on the free flow of information: processes, institutions, and information are directly accessible to those concerned with them, and enough information is provided to understand and monitor them.	Good Governance principles (UNDP 1997)

CONCLUSIONS

Principles can guide council staff and councillors in the everyday decisions they make regarding freshwater management. They provide a level of assurance that all information, persons, values, etc., have been considered and that the process of making a decision has been fully documented. The use of principles will be

particularly useful where decisions are not black or white or the trade-offs being made are not right or wrong. While they do not resolve the decision-making dilemma of ‘what is the right answer’, principles provide a structure to support council staff and councillors make more robust and defensible decisions and better ensure there are ‘no surprises’.

REFERENCES AND FURTHER RESOURCES

- Principles for Collaboration in Freshwater Management in Second Report of the Land and Water Forum: Setting Limits for Water Quality and Quantity, and Freshwater Policy- and Plan-Making through Collaboration. Land and Water Forum, 2012
- Good Governance Principles in Good governance – and sustainable human development, United Nations Development Programme (UNDP), 1997
- Principles of Good Water Governance in Improving Water Governance in New Zealand stakeholder views of catchment management processes and plans. Fenemor A, Neilan D, Allen W, Russell S. Policy Quarterly 7 (4), 2011
- Principles for a local authority to consider when engaging in decision making, consultation processes and governance in Local Government Act, 2002
- The GHG protocol for Project Accounting: World Resource Institute, 2005
- A Corporate Accounting and Reporting Standard – revised edition: World Resource institute, 2004
- Nine Principles of Sustainability in Making Sustainability Work – Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts. Epstein M, 2008
- Testing the Water: Report on the Sustainable Water Programme of Action Written Submissions. Ministry for the Environment, 2005

ACKNOWLEDGEMENTS

We would like to acknowledge the Ministry for Business, Innovation and Employment for funding to support the Values, Monitoring and Outcomes Programme. This funding enabled us to establish a Regional Council Forum to discuss the development of these principles.

CONTACTS

Suzie Greenhalgh

Landcare Research, Private Bag 92170, Auckland 1142
greenhalghs@landcareresearch.co.nz

Oshadhi Samarasinghe

Landcare Research, Private Bag 92170, Auckland 1142
samarasingheo@landcareresearch.co.nz

- ¹ Landcare Research NZ
- ² Tasman District Council
- ³ Bay of Plenty Regional Council
- ⁴ Hawke's Bay Regional Council
- ⁵ Waikato Regional Council
- ⁶ Environment Canterbury
- ⁷ Horizons Regional Council
- ⁸ Cawthron Institute

