



# DRAFT REGIONAL POLICY STATEMENT

May 2016

## Chapter 11

### Freshwater

*Wai*

## **I.11 Significant Resource Management Issues: Freshwater**

*Toitu te marae a Tane, Toitu te marae a tangaroa, na pai rawa te ora.*

*If the realms of Tane and Tangaroa are sustained, then so too will life.*

Water is a valuable resource holding value for social, cultural, economic and environmental reasons. Whakatū Nelson has a vision for freshwater where all surface and groundwater is healthy; rivers and their margins are scenic and attractive; aquatic habitats sustain in-stream native fauna; rivers are accessible for swimming, fishing, and playing in; and waterbodies are sustainably managed to be available for use by future generations.

The strategic outcome sought for freshwater is for clean and accessible water through managing activities that may impact on both water quantity and quality.

The vision is aspirational and acknowledges that it may take more than the planning life of the Nelson Plan and perhaps in some cases, more than our lifetime to achieve.

### **Issue 11.1 Surface water quality in the lower reaches of many rivers and streams in Nelson has declined to a point where in-stream ecological values are compromised and contact recreation such as swimming is considered unsafe.**

Water quality and ecosystem health are generally good in the upper reaches of most river catchments in Nelson and in areas with little resource pressure like Northern Nelson. The effects of urban, pastoral, and production land uses are apparent with degraded surface water quality in the lower part of some catchments particularly:

- Groom Creek at the Maitai confluence (Dissolved Inorganic Nitrogen)
- Sharland Creek at the Maitai confluence (Dissolved Inorganic Nitrogen)
- Brook Stream at Manuka Street (Dissolved Inorganic Nitrogen).
- Hillwood Stream at the Glen (E. Coli)
- York Stream at Waimea (E. Coli)
- Saxton Creek at the Main Road (E. Coli)
- The Maitai River below the dam (Dissolved Oxygen)

- Maitai at Collingwood Street bridge (suitability for recreation grading).
- Paremata flats reserve (suitability for recreation grading).

The principal causes of this degradation are:

- High turbidity and sediment loads caused by land erosion, river channel erosion, productive activities including forestry and discharges of stormwater
- Direct discharges to water from productive and industrial activities.
- Loss of riparian vegetation and lack of stream shading
- Modification and realignment of river channels including piping of surface water bodies
- Nutrient enrichment caused by run-off and leaching from production land, stock access to water, discharges of treated wastewater, leaks from infrastructure and septic tanks

**Issue 11.2 A lack of detailed information on Nelson’s groundwater resource, including the risk of saltwater intrusion and capacity.**

There is a lack of information about the Deep Moutere Aquifer, which is partly located in the Nelson region, and other groundwater resources. A better understanding of Nelson’s groundwater and how to actively manage this resource is required. Groundwater quality is generally acceptable although the largely coastal aquifers are at risk of saline intrusion. Little is currently known about groundwater capacity.

**Issue 11.3 The use of surface water and groundwater has increased and in some cases to a point where water is fully allocated.**

Demand for surface water exceeds supply in the Maitai, Roding, Saxton and Poorman Valley waterbodies. Increased water demand has the potential to adversely affect both in-stream and groundwater values and the natural character of rivers and wetlands if not managed well. Groundwater across the region is for the most part hydrologically linked to surface water which means a groundwater take will deplete flows in the river. There is a need to understand this groundwater resource and actively manage effects between bores at a local level, the effects of groundwater takes on surface water, and to be aware about the risk of saltwater intrusion. In addition, the effects from climate change have the potential to impact on the amount of water that is available.\

#### **Issue 11.4 Recognition and acknowledgement of Te Mana o te Wai is needed.**

For wai to have mana, people have to recognise and value it. The eight Iwi of Te Tau Ihu have Statutory Acknowledgement over rivers (awa) and their tributaries, which includes recognising their historical links with the rivers and acknowledging associated resources and sites of significance and value to them. The wai is a taonga of past, present and future generations and has a common whakapapa with us all. We are made of wai and wai unites all living things.

The Whakatū tangata whenua Iwi value rivers (awa) for:

- Mauri and associated wairuatanga and karakia values, taonga and tohu species
- Wairua
- Kaitiakitanga
- Mana and associated manākitanga (aroha and hospitality)
- Whakapapa (including ki uta ki tai and rangatiratanga principles)

Tika, pono, aroha, kaitiakitanga, rangatiratanga (governance), utu (reciprocity), kotahitanga (unity of purpose) and ki uta ki tai (mountains to the sea) are principles should apply across the management of water.

#### **Issue 11.5 The natural character, physical characteristics and ecology of rivers, wetlands and their margins have been and continue to be modified.**

Flood protection measures across Whakatū Nelson have in some cases significantly altered natural waterbodies, for example the Brook Stream. Structures located within the beds of rivers including bridges, culverts, water intake structures, and discharge pipes also affect the natural character of rivers and their margins. These types of uses and developments in conjunction with removal of riparian vegetation and gravel extraction have modified and continue to modify the physical characteristics and ecology of many of the region's waterbodies. Fish passage is problematic in some waterbodies e.g. the Maitai, Brook and York. Stoke waterways have significant modification to their natural character and yet have high ecological significance and potential.

## **R.11 Resource Management Responses: Freshwater**

### **Objectives**

**Objective 11.1** Surface waterbodies and their beds (including wetlands) are managed in a manner which safeguards their life supporting capacity and recognises and provides for the Values listed in Schedule **XX**.

**Objective 11.2 a)** Surface water quality is managed to ensure water quality is: maintained where it is at a level sufficient to support the Values in Schedule **XX**; and enhanced where the water quality is not at a level sufficient to support the Values in Schedule **XX**.

**b)** Groundwater quality is enhanced where it is degraded and otherwise maintained.

**Objective 11.3** Water quantity is managed to enable people, industry and productive activities to take and use water to meet their reasonable needs while ensuring that:

**a)** For surface water:

**i)** Minimum flows and allocation regimes are set for the purpose of maintaining or enhancing (where degraded) the existing life supporting capacity and providing for the Values in Schedule **XX**

**ii)** In times of water shortage, takes are restricted to those that are essential to the health or safety of people and communities, or for drinking water for animals and all other takes are ceased

**iii)** The in-stream geomorphological components of natural character are provided for

**b)** For groundwater:

**i)** Takes do not cause significant adverse effects on the long term groundwater yield

**ii)** Groundwater takes that are hydrologically connected to rivers are managed within the minimum flow and allocation regimes established for rivers

**iii)** Groundwater takes that are hydrologically connected to wetlands are managed to protect the values and life supporting capacity of the wetland

- iv) **The significant adverse effects of a groundwater take on other groundwater and surface water takes are avoided**
  - v) **Saltwater intrusion into coastal aquifers, induced by groundwater takes, is avoided**
- c) **In all cases water is used efficiently**

**Objective 11.4 Recognise and provide for Te Mana o te Wai in accordance with tikanga Māori principles including Ki uta ki tai: mountains to the sea, tika, pono, aroha, rangatiratanga, kotahitanga, kaitiakitanga and utu.**

**Objective 11.5 The beds of rivers, lakes and wetlands are managed in a manner which:**

- a) **Safeguards their life supporting capacity**
- b) **Provides for the in-stream morphological components of natural character**
- c) **Recognises and provides for the Schedule XX Values**
- d) **Provides for infrastructure and flood mitigation purposes**

## **Policies**

**Policy 11.1 Water quality and quantity for surface water and activities in the beds of rivers, lakes and wetlands shall be managed to provide for the following Values:**

<b>Value group</b>	<b>Individual values</b>	<b>Outcome</b>
<b>Ecosystem Health</b>	Life supporting capacity	The freshwater management unit supports a healthy ecosystem where ecological processes are maintained, there is a range and diversity of indigenous flora and fauna and there is resilience to change.
	Native fish spawning	To be completed.
	Birds/Manu	To be completed.
	Natural form and character	Visual and physical characteristics that are valued by the community including, flow, colour, clarity, morphology or location.
	Riparian habitat	To be completed.
	Estuarine/Coastal environment	To be completed.

Value group	Individual values	Outcome
<b>Cultural values</b>	Mahinga kai	Kai is safe to harvest and eat and available for customary use.
	Kaitiakitanga	To be completed.
	Mauri, Wairua and Wai Tapu	Ritual and ceremonies include tohi (baptism), karakia (prayer), waerea (protective incantation), whakatapu (placing of raahui), whatnoa (removal of raahui), tuku iho (gifting of knowledge and resources for future generations).
	Whakapapa	Connectivity of water systems - Ki uta ki tai (including not adversely affecting coastal ecosystem health) and aquatic life and connection to the spiritual realm and people.
	Navigation (traditional and cultural)	Transport and tauranga waka refer to places to launch and land waka. Allow for connection for traditional trails and rites of passage.
<b>Recreation Values</b>	Fishing	Numbers of fish sufficient for human consumption. Attributes will be specific to fish species e.g. eels, lamprey and whitebait.
	Human health for recreation	The risk of infection to humans would be no greater than would exist there under natural conditions. Further discussion required on achievability of this regarding swimming vs boating.
	Public access	To be completed.
<b>Water use</b>	Productive uses	To be completed.
	Stock water	To be completed.
	Potable water supply	To be completed.
<b>Infrastructure</b>	Infrastructure and flood mitigation	To be completed.

### Explanation

Land and water are inextricably linked and ki uta ki tai adopts a whole of catchment approach to managing freshwater and land use to manage water from the mountains to the sea. The Values build upon those compulsory values in the National Policy Statement for Freshwater Management and reflect the Nelson's community desire to achieve an overall improvement in water quality whilst recognising that where water quality is already good it should be maintained.

The Values are specific and refined for each of the Freshwater Management Units (FMU) - Roding, Stoke, Maitai/Mahitahi, Wakapuaka and Whangamoā as contained in Schedule XX.

A range of activities including infrastructure placement, discharges (point and non-point source), gravel extraction, water takes, and sediment run-off (natural and induced) all have the potential to impact on the range of values. The Values will inform the need for and extent of regulatory and non-regulatory methods.

People's appreciation of waterbodies can be enhanced through the ability to access water spaces and in relation to the use of water for cultural, social and economic reasons. There is the potential for conflict between competing uses and the Values aim to identify what water is valued for. Climate change has the potential to impact on Values and water quantity.

The need for retaining natural form and character aims to improve ecological systems to provide for fish and aquatic life. Riparian management, including through planting, is important for maintaining and enhancing the ecological systems of waterbodies as well as for wider biodiversity benefits.

**Policy 11.2 Surface water quality targets shall be met in the following way:**

- a) **Where existing water quality (parts of, or in its entirety) meets the relevant Schedule XX targets they must continue to be met**
- b) **Where existing water quality does not meet the relevant Schedule XX targets (parts of or in entirety) then the activity must be managed in a way which enhances water quality**
- c) **Where there is insufficient data to know what the existing water quality is then water quality must be maintained or enhanced and have regard to the Values in Schedule XX**

**Explanation**

The targets for surface water quality aim to achieve the maintenance or enhancement of water quality over time based on the state of existing water quality. The targets provide benchmarks against which activities requiring consent will be assessed. These targets give effect to the requirements of the National Policy Statement for Freshwater Management.



**Policy 11.3**      **Groundwater quality shall be maintained, or where ground water is degraded it must be enhanced.**

**Explanation**

Groundwater quality is generally acceptable and as a result existing quality levels must, as a minimum, be maintained.

**Policy 11.4**      **Land use activities affecting groundwater and surface water quality shall be managed in the following way:**

- a) Identifying and managing in the Plan land use activities that make a significant contribution to elevated contaminant levels within Freshwater Management Units through good management practices**
- b) Ensuring point source discharges to water follow for good management practice and consider best practicable option and the use of financial contributions for off-sets**
- c) Will not result in pathogens or other toxic substances accumulating in the soil or pasture to levels that would render the soil unsafe for agricultural, domestic or recreational use or impact on freshwater values, objectives and limits**
- d) Maximising re-use of water and nutrients**
- e) Ensuring adverse effects on biodiversity are avoided, remedied or mitigated**
- f) Ensuring discharges of liquid to land do not exceed the available water storage capacity of the soil (deferred irrigation)**

**Explanation**

The policy identifies the management tools and techniques that need to be considered and addressed where land use activities have the potential to affect water quality.

**Policy 11.5**      **Before entering a water body or coastal environment all discharges of treated human sewage must:**

- a) Be applied onto or into land; or**
- b) Flow overland; or**
- c) Pass through an alternative system that mitigates the adverse effects on the mauri of the receiving water body.**

### **Explanation**

Human sewage has the potential to affect the mauri of the receiving water and so alternative methods of disposal need to have been considered and addressed.

**Policy 11.6 The amount of water taken by resource users must be reasonable and justifiable for the intended use. The following matters will be considered in defining reasonable and justifiable use:**

- a) **For irrigation there must be a reasonable use test based on maximum daily rate of abstraction, the irrigation return period, the seasonal or annual volume and the take must demonstrate efficiency**
- b) **For domestic use, animal drinking water and dairy shed wash down, needs must be calculated as:**
  - i) **Domestic water supply should be from a reticulated system and where no other option is available it will be up to XX litres per person per day**
  - ii) **Up to XX litres per animal per day for drinking water**
  - iii) **Up to XX litres per animal per day for dairy shed wash down water**
- c) **Industrial use should be from a reticulated system and where no other option is available then good management practice must apply**
- d) **For public water supplies good management practice based on industry standards must be applied**

### **Explanation**

Generally water supply must be through the reticulated system to maximise water efficiency and to ensure over allocation does not occur. In situations where water cannot be sourced from a reticulated supply then reasonable and justifiable use will need to be demonstrated whilst achieving the Values in Schedule XX.

**Policy 11.7 Minimum flows and core allocations will be set where there is good hydrological information, or must generally be a minimum flow equal to the estimated or calculated one day mean annual low flow.**

**Supplementary allocations (outside of the core allocation) will be considered where:**

- a) **There is not an increase in the frequency or duration of low flows**

- b) It will not lead to a significant departure from the natural flow regime including the magnitude of the median flow and the frequency of flushing flows**

**Explanation**

Water allocation limits are set to manage the Values within each Freshwater Management Unit.

**Policy 11.8 When a river is at or below its minimum flow, takes must be managed to achieve:**

- a) Permitted takes or water for firefighting purposes can continue regardless of flow**
- b) Essential takes must be managed in accordance with the conditions of consent**
- c) Non-essential takes must cease when the river is at or below its minimum flow**

**Explanation**

When water use needs to be restricted to maintain a minimum flow for the life supporting capacity of the waterbody, life sustaining and essential water takes have first priority.

**Policy 11.9 Groundwater takes will be managed to:**

- a) Avoid saltwater intrusion near the coast.**
- b) Minimise the measured or modelled effects on other groundwater uses and surface water.**
- c) Bore construction meets industry good management practice standards.**

**Explanation**

Careful consideration needs to be given to groundwater takes where there is the potential for saltwater intrusion, where there is impact on other existing takes and on surface water bodies. Bore construction needs to be to a standard to ensure the bore's integrity is maintained.

**Policy 11.10 The management of the beds of rivers must:**

- a) Recognise and provide for the Values as contained in Schedule **XX****
- b) Avoid any significant reduction in the ability of the waterbody to convey flood flows**

- c) **Avoid, remedy or mitigate any significant adverse effects on flood control structures or monitoring sites**
- d) **Avoid, remedy or mitigate any significant reduction in habitat diversity including morphological diversity**
- e) **Manage effects on natural character which includes the natural style and dynamic processes of the river, width and the quality and quantity of the habitat of the bed**
- f) **Provide for safe fish passage**
- g) **Ensure the existing nature and extent of navigation is not obstructed**
- h) **Ensure that access for the maintenance and operation of existing infrastructure is not impeded**
- i) **Provide for continued public access**
- j) **Recognise the role gravel extraction has in flood protection whilst ensuring river Values are provided for**

### **Explanation**

There are certain activities that need to occur in the beds of rivers. However, management of these activities is important to maintain the Values for the waterbodies.

## **Methods**

<b>Regulatory methods</b>	<b>Who</b>	<b>Policy link</b>
<b>Nelson Plan</b>		
Include controls to maintain or enhance freshwater quality by identifying values, including cultural values, and limits.	Council	Policy 11.1 Policy 11.2 0 Policy 11.9
Include controls to manage the abstraction of surface water and groundwater by identifying minimum flows and water allocation limits whilst providing for section 14(3) of the Act regarding water takes.	Council	Policy 11.1 Policy 11.6 Policy 11.7 Policy 11.8 Policy 11.9
Include controls (e.g. consent requirements and assessment criteria) for discharges to freshwater to manage their adverse effects, recognising that protecting the mauri of the water may require some discharges to be prohibited.	Council	Policy 11.1 Policy 11.4 Policy 11.5
Include provisions relating to the creation of esplanade reserves and strips for the purpose of protecting and enhancing water quality.	Council	Policy 11.1 Policy 11.4
Include controls for the management of the beds of rivers.	Council	Policy 11.1 Policy 11.10

Non-regulatory methods	Who	Policy link
<b>Monitoring and Information</b>		
Review groundwater monitoring programmes for both water quantity and quality.	Council, Consent holders	Policy 11.2 0 Policy 11.9
Review telemetry flow monitoring sites to align stream flows, minimum flow rates and water quality and to develop an integrated research, monitoring and reporting programme.	Council	Policy 11.7
Target permitted activity monitoring of water takes, particularly for groundwater, and check whether consents are required.	Council	Policy 11.6 Policy 11.9
Require telemetry units on water takes over 5 l/sec. Council will consider funding of the telemetry units.	Council users	Water Policy 11.7
Target programmed replacement of infrastructure to prevent further leaks particularly where infrastructure crosses waterbodies.	Council	Policy 11.1
<b>Advocacy and Education</b>		
Update the trade waste bylaw and educate and promote the instalment of latest technology for sediment/silt and heavy metal trap technology for urban and industrial stormwater.	Council Community	Policy 11.1
Provide education focusing on water, conservation of water, the threats to water and what can be done to protect/restore it. Enviro schools and wai maori programmes will be used for youth education.	Council Community Schools	Policy 11.1
Efficiency of use programmes including industrial users and urban water restrictions.	Council Community	Policy 11.6
<b>Funding and Assistance</b>		
Target Nelson Nature funding to improve in-stream biodiversity with priority aimed at improving areas adjacent to popular swimming sites, aquatic sites of significance, fish spawning sites and degraded waters.	Council	Policy 11.1
Target Project Maitai funding to improve water quality within the Maitai Freshwater Management Unit particularly around popular swimming holes and improve degraded streams such as the York Stream.	Council	Policy 11.1
<b>Non-Statutory Plans and Strategies</b>		
Develop gravel management strategies for all major streams.	Council	Policy 11.1 Policy 11.10
Provide farm plans which set out good management practice for larger farming activities in Nelson.	Council Rural landowners	Policy 11.1 Policy 11.4 Policy 11.6
Develop good management practice guidelines in collaboration with industry, other relevant organisations and stakeholders to support the implementation of policies which rely on good management practice to achieve desired environmental outcomes e.g. the farming, forestry sector and Council infrastructure.	Council Industry Federated Farmers Community	Policy 11.1

Non-regulatory methods	Who	Policy link
Develop and implement restoration management plans with interested landowners who have outstanding wetlands and significant wetlands on their property.	Council Landowners	Policy 11.4
<b>Partnerships and agreements</b>		
Work with Iwi to assist communities in understanding and providing for mana whenua values and, in particular, their relationships with land and water within Te Tau Ihu.	Iwi Council	Objective 11.4

## Anticipated environmental results

Anticipated Environmental Result	Link to policy	Indicator	Data Source
Takes and discharges will be managed to enable Nelson Plan Values to be maintained or enhanced.		<p>Measured water quality compared to water quality targets.</p> <p>Measured flows compared to the minimum flow regime in the Plan.</p> <p>No loss of existing fish habitat.</p> <p>Macro invertebrate diversity in rivers is maintained.</p> <p>The mauri, wairua and tapu of waterbodies is sustained.</p> <p>Municipal water supply is protected so that public health is safeguarded.</p> <p>There is no decline in the condition and extent of wetlands.</p> <p>There is an increase in water harvesting and water storage.</p> <p>Access to waterbodies is maintained or enhanced.</p> <p>Riparian planting is enhanced.</p> <p>There are no direct human sewage discharges to water by <b>XX</b>.</p>	<p>State of the Environment monitoring</p> <p>Monitoring and reporting for the National Policy Statement for Freshwater Management</p> <p>Ministry of Health water monitoring</p> <p>Reporting as part of Nelson Nature and Project Maitai</p> <p>Resource consents database.</p> <p>Compliance monitoring programme</p> <p>Iwi monitoring</p>
The natural, physical and cultural qualities of the beds of rivers meet the Values set in Schedule <b>XX</b>		<p>No new barriers to fish passage and existing impediments are reduced.</p> <p>Gravel extraction is managed sustainably.</p> <p>Flood management techniques ensure there is a healthy functioning ecosystem.</p>	<p>State of the Environment monitoring</p> <p>Reporting as part of Nelson Nature and Project Maitai</p> <p>Resource consents database</p> <p>Compliance monitoring programme</p>

Anticipated Environmental Result	Link to policy	Indicator	Data Source
The amount of groundwater used does not exceed replenishment rates, and groundwater quality is maintained or enhanced.		There is an increase in water harvesting and water storage. Groundwater takes do not impact on surface waterbody flows.	State of the Environment monitoring Resource consents database Compliance monitoring programme

## Principal reasons

The issues, objectives and policies promote the sustainable management of water (both surface and ground water and in relation to quality and quantity) in Whakatū Nelson and meet the requirements of the National Policy Statement for Freshwater Management.

There is a need to safeguard not only life-supporting capacity but ecosystem processes and indigenous species. Habitat and connections between water bodies are important aspects of the ecosystem health value. Fish passage and connectivity of habitats is also a critical aspect of ecosystem health. Environmental systems and resources are interconnected, complex and require management in order to achieve ki utu ki tai (mountains to the sea connection).

In some parts of the region, waterbodies are fully allocated and in some catchments are currently over allocated. Efficiency in allocation and use of water means that those resources under pressure will be better able to provide for the future needs of the community, while also maintaining intrinsic values which are important to Nelson.

There is a need for activities in the beds of rivers and lakes but they need to be managed in a way that achieves the Freshwater Values.

While the regional policy statement is a tool being used by Council to manage freshwater quality and quantity, the objectives will not be achieved without all stakeholders in water taking action to maintain or, where needed, improve the state of our waterbodies. Ongoing research, monitoring, advice, information, education and incentives are also proposed as non-regulatory methods. Work Council is undertaking in the non-regulatory area, e.g. Nelson Nature, has the ability to influence water quality outcomes in a collaborative manner with all parties.