



New Zealand
Planning Institute[®]
Te Kokiringa Taumata



Freshwater Quality Position Paper

July 2014



Purpose

This position paper has been prepared collaboratively by members of the New Zealand Planning Institute (NZPI). Its purpose is to provide a set of principles to guide responses on freshwater quality issues. The paper has not been prepared in response to a specific proposal, geographic area, or political decision, and does not advocate for specific planning tools or interventions.

It is intended that this position paper will be reviewed no later than 2019, or at an earlier time should circumstances require.



Background

Ki uta ki tai - from the mountains to the sea, freshwater and coastal water quality is connected. Clean water is integral to our economy, human health, ecosystem health, culture, and identity. Water resources are limited. As land development and urban expansion has progressively increased, localised impacts on the natural water quality in our rivers, lakes, streams, aquifers and inshore coastal waters become more prominent. The maintenance and enhancement of freshwater quality is seen as a major issue for New Zealanders, not only for sources of drinking water, but also for its recreational attributes and other values.

Water degradation also places our unique aquatic ecosystems and species at risk. Poor water quality can limit our ability to use water bodies for public drinking water supply and recreation. Contaminated water can constrain the economic opportunities that access to clean water provides including primary industries (farming, horticulture and forestry) and tourism. There is also a deeper potential for loss of our natural heritage and identity, of particular concern to Maori, whose culture and traditions are intimately interlinked with water bodies.

Because a significant amount of land development has already occurred in New Zealand, pristine water quality everywhere is an unrealistic goal. Nor is there generally a 'quick fix' for water quality problems especially where these have multiple causes, affect large sections of freshwater catchments, where long lag times occur, or involve significant capital investment to resolve.

Some of the problems have taken decades to create, from both natural processes and human intervention, and will take decades to fix. NZPI recognises that ultimately appropriate management of all land use, both urban and rural, is critical to achieving water quality outcomes.

These water quality management issues are not new. Regional councils have the main statutory responsibility for water quality and allocation, with district plans the tool to control and maintain land uses that impact on water quality. However, parts of the current freshwater management regime have been found wanting by the Land and Water Forum in its recent broad-ranging review. Drawing on the three reports from the Forum, the Government is in the process of instituting a suite of legislative and other freshwater management system reforms. This began with the notification of the National Policy Statement for Freshwater Management (NPSFM) in 2008, and its final release in 2011. Those reforms are outlined in the March 2013 Ministry for the Environment publication Freshwater reform 2013 and beyond¹, followed by proposed changes to the NPSFM in November 2013, and include a number of challenges for planners involved in freshwater quality management.

¹ Ministry for the Environment. 2013. Freshwater reform 2013 and beyond. <http://www.mfe.govt.nz/publications/water/freshwater-reform-2013/freshwater-reform-2013.pdf>



Key issues

1. Water Quality issues arising from water use and land use

Poor water quality in New Zealand can adversely affect our drinking water supplies, the safe recreational use of our rivers, lakes and streams, and our aquatic wildlife and their habitats. In 2012 the Ministry for the Environment graded 21% of monitored freshwater recreational beaches 'very poor', and 24% as 'poor'². While in July 2013 key findings³ were that river conditions appeared to stable or improving, nitrate concentrations caused mainly by ammonia in animal urine, are increasing in about a quarter of the sites monitored. Furthermore, in 2007 the OECD found that over 15% of our supplied drinking water has high bacteria levels that do not meet national drinking water guidelines, surface waters regularly exceed national water quality guidelines in lowland areas, and damage to aquatic ecosystems is widespread.

Freshwater quality continues to decline most rapidly where urban and intensive land use and pastoral farming occur, due to diffuse/non-point sources of pollution including sedimentation, animal effluent, and fertiliser runoff, which can result in fresh and coastal water pollution. The degradation of water quality also diminishes the ecological condition of water bodies.

Water abstraction does, however, provide for significant economic growth through activities such as

agriculture and industry. Water abstraction can affect downstream water quality as well as the natural character, functioning, and morphology of a river. This is primarily through the reduction in in-stream water volume, alteration of hydrology and/or waste assimilation capacity. This diminished dilution can result in increased microbial contamination of recreational and aquaculture waters from diffuse/non-point contaminant sources.

Stormwater run-off from urbanised areas, road corridors, treated wastewater and other contaminated land can significantly impact on water quality, including water from consented discharges.

Degradation of our freshwater systems may also affect the water quality and biological conditions of coastal ecosystems, undermining a fundamental principle of ki uta ki tai.

2. Water management

Gaining broad acceptance for water quality objectives to reduce water pollution and improve water quality in specific catchments are major challenges. Implementing goals in a timely and cost-effective (affordable) manner, particularly in catchments undergoing rapid development is another major challenge. The Resource Management Act 1991 (RMA) has been effective at addressing point source pollution but not diffuse/non-point source pollution.

² Recreational water quality in New Zealand, Ministry for the Environment, 2012. <http://www.mfe.govt.nz/environmental-reporting/fresh-water/suitability-for-swimming-indicator/recreational-water-quality-update-oct-2012.html>

³ River condition indicator summary and key findings, July 2013. Ministry for the Environment. <http://www.mfe.govt.nz/environmental-reporting/fresh-water/river-condition-indicator/summary-key-findings.html>



The key management issues are:

- Achieving long-term commitment to water quality objectives from the politicians, stakeholders and community.
- Improving land use practices to minimise diffuse/non-point source pollution.
- Striking an acceptable balance between land use intensification and environmental protection through collaborative processes, recognising that the RMA is our only legislative mandate for water allocation.
- Agreement on nationally and locally acceptable bottom line limits for freshwater quality.
- Recognising that planning processes involve considerable time, effort, and foregone income on the part of volunteers involved.
- The effective recognition and incorporation of iwi rights and co-management agreements which form part of the Treaty of Waitangi, into freshwater management processes and outcomes.
- The interactions between water management and flood management, keeping waterway channels clear of weed species and roading material, and allowing for natural flushing flows.
- Consideration of links between water quantity and quality, particularly agricultural intensification and freshwater quality, and in the context of climate change.
- Understanding, monitoring, and managing emerging pollutants (e.g. hormones, pharmaceuticals, or viruses).

- Degraded freshwater quality from many decades' historic activities, therefore lags and time is required for improvements.
- Urban runoff and urban stream/coastal water quality from activities such as greenfield development and its associated infrastructure.

3.Challenges with implementing freshwater quality objectives in a timely and cost-effective manner

- Much investment in land use intensification and change may need to respond to community expectations for improved freshwater quality. There are issues of understanding and accounting for the value in economic and in environmental terms of adjustments to management regimes for water and land where diffuse contamination is to be better controlled. Maintaining the health of water bodies raises issues of scientific uncertainty and complexity and translating needs into appropriate limits.
- There is limited knowledge of the hydraulic interconnectivity of groundwater and surface water systems. This is regarding when, where, and in what concentrations leaching nutrients and pathogens emerge from land use into surface and groundwater systems from various types of land use activities.
- The time lag associated with the remediation of non-point source pollution due to the delays in transmission between groundwater and surface water systems. This difficulty is further compounded by the cumulative effects of other pollution sources and sinks, and variations in river flows and groundwater recharge.



- The complexity of groundwater-surface water interconnectivity makes it difficult and time-consuming to identify land parcels where non-point sources of pollution originate and quantify their contribution.
- There is some tension between allowing polluters more time to build capacity to remediate pollution, providing incentives for them to do so, and enforcement.
- There are issues concerning how monitoring and compliance of freshwater quality limits may be done; whether this should be the regional council, the water supply authority, the industrial and production sectors, or a combination of these and perhaps other stakeholders.

4. Limitations of our current knowledge

Managing complex interactions between land use and water quality requires increased technical and socio-economic information (e.g. on community values, economic factors, human health, ecosystem health, culture, and identity) which may not always be readily available or obtainable. Increasingly sophisticated policy instruments for managing water pollution will need to be designed and tested.

NZPI's role in water quality management

As the organisation that empowers planners and promotes planning excellence throughout New Zealand, NZPI is committed to ensuring forward thinking planning responses. NZPI members are employed in a wide range of sectors including central and local government, energy and infrastructure institutions, and consultancies. NZPI members are involved at every step of planning processes in New Zealand, including undertaking resource studies, providing advice in the preparation of plans for the future, the implementation of plans, and managing community consultation before statutory plans under the RMA and other legislation are adopted. This includes collaboration with many other professions, organisations and groups in the preparation and administration of water planning now and for the future.

On behalf of New Zealand's professional planners, NZPI advocates for best practice planning methods for water quality management. With their comprehensive understanding of New Zealand's unique biophysical and social character, professional planners are well placed to address the broad range of water quality issues. NZPI stresses the importance of using research, and both quantitative and qualitative evidence when making critical planning decisions. As the water reforms are rolled out, it will be critical that NZPI is closely involved on behalf of the planning profession and draws on its members' collective experience to help ensure that any legislative amendments and other changes align with, and do not undermine, high quality planning practice.

NZPI Position and Principles

NZPI recognises that industry can provide for significant economic growth through land use activities such as agriculture, tourism recreation, hydro-electricity generation, and horticulture. However, freshwater allocation, land use, water use, and rural and urban discharges can also adversely affect water quality. A balance is therefore needed that addresses environmental, economic, cultural, and social values.

It is important to manage land use and development activities that affect water quality so that economic opportunities can be pursued, while also ensuring that activities are managed to meet agreed water quality outcomes.

NZPI advocates for the use of appropriate tools, and a comprehensive community based approach to managing freshwater quality underpinned by the following planning principles:

INTEGRATION

1. Manage freshwater quality in an integrated way that considers the interaction between land use, development, water flows and allocation, groundwater, surface water, sediment and estuarine and coastal environment. This includes addressing cumulative effects.
2. Integrate land use and discharge management proposals at regional and city/district council levels to ensure that water quality outcomes may be most effectively achieved with the most appropriate methods, providing some certainty regarding agreed methods and outcomes.
3. Identify linkages between water quantity and water quality at the catchment scale.
4. Establish the cause and effect of water quality changes, which may differ in different catchments.

AGREED UNDERSTANDING

5. Integrated planning processes focus on getting the community and interested and affected parties to agree on an understanding of the uses, values and issues for water resource management.

The agreed understanding will include the practicality, workability and affordability of both regulatory and non-regulatory water quality management options underpinned by robust science.

GOVERNANCE AT APPROPRIATE LEVELS

6. National standards, policy statements, or guidance are appropriate to ensure consistency on some matters, and to ensure matters of national importance are appropriately addressed.
7. Local and regional matters are more appropriately managed within a local context where a unique approach may be appropriate.

SETTING WATER QUALITY OBJECTIVES

8. Identify the economic, social, cultural, and environmental dimensions of well-being, as well as impacts of land use intensification and their respective costs and benefits with respect to freshwater quality. This can assist in resolving or identifying political problems with a future planning regime, recognising that assessing impacts of freshwater management is iterative.
9. Actively recognise, consider and demonstrate iwi/hapu values, rights, and interests in freshwater management, including kaitiakitanga and the protection of the mauri of water.
10. Set values, objectives, and limits for water quality that should, as a minimum, safeguard the life-supporting capacity and ecosystem health of water bodies and human health.

FRESHWATER QUALITY MANAGEMENT OPTIONS AND PLANNING FRAMEWORK

11. Focus on the causes of freshwater quality issues and the effectiveness of potential regulatory and non-regulatory actions when determining management options.
12. Set appropriate freshwater quality discharge conditions and catchment-based discharge limits and compliance timeframes.

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