hill young cooper

Improving the Management of Freshwater Resources:

Issues and Opportunities

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1 Introduction

1.1 Purpose of Report

Hill Young Cooper ("HYC") has been engaged by Ministry for the Environment ("MfE") to undertake a review of Regional Council and Unitary Authorities ("Councils") practices for the management of freshwater ("the project").

The project is a component of MfE's Sustainable Development Water Programme of Action, which was established in July 2003 as one of four priority work areas under the Sustainable Programme of Action. Following consultation with a range of stakeholders, six broad goals were confirmed for the project:

- Achieve greater strategic planning for water at national and regional levels;
- Provide clearer direction and guidance from central government;
- Ensure greater consistency in the way increasing demands on water resources are managed across the country;
- Develop a better framework for deciding between conflicting demands for water;
- Enable increased effectiveness of Maori participation in water management; and
- Provide for more effective management of the impacts of diffuse or unintended discharges on water quality.

The purpose of this project was to review and document Council practices for managing freshwater under the current regulatory framework (the Resource Management Act ("RMA")); confirm current and emerging freshwater management issues; and identify opportunities for improving freshwater management – in particular those where central government are best placed to develop tools or practices to assist regional freshwater management.

The project was divided into two phases:

1. A desktop review of Council freshwater plans; and
2. Meetings with all Councils to build on the plan review, identify current and emerging freshwater resource management issues and confirm opportunities for improvement.

This report provides a summary of the project, with an emphasis on the current and emerging issues identified through the plan review and council meetings and the opportunities for improved freshwater management. It is anticipated that a number of the issues and opportunities will be addressed through the implementation package for the Sustainable Water Programme of Action.

1.2 Structure of Report

Section 2 of the report summarises a range of the freshwater management issues and practices identified through the plan review and Council meetings.

Section 3 further develops the key issues and identifies possible opportunities for enhancing aspects of freshwater management. It should be noted that the report does not identify or recommend specific mechanisms that should be pursued. Rather it outlines a range of possible options, anticipating that these will be further refined and included with other initiatives prior to developing detailed work programmes and action plans.

For completeness, records from the meetings that have been held with all Councils are appended to this report. These provide an overview of the key resource management challenges facing each region/district, some of the practices that are in place to manage these challenges and potential emerging issues.

2 Freshwater Management Issues and Practices

2.1 Introduction

As indicated previously, all Regional Council and Unitary Authority freshwater plans were reviewed and meetings held with each Council during the course of this project. The objective of this process was to identify important (and common) freshwater management issues and areas for improvement rather than to assess the differences in practices across the Councils. A summary of the findings is provided below and the records from the Council meetings are appended to this report.

The summary is presented under the following headings:

i. Water Availability;

ii. Water Allocation;

iii. Water Quality Management;

iv. Monitoring and Management; and

v. Other Issues/Themes.

2.2 Water Availability/Establishment of Minumum Flows

2.2.1 Surface Water

Councils utilise a wide range of methods to identify the amount of water available for allocation under their freshwater plans, with what appears to be limited consistency from region to region. Many plans provide for a default assessment method, with a case-by-case assessment in areas with high demand. Others use a hierarchy of methods, which become more sophisticated and information intensive as demand increases.

The amount of water that is available for allocation is usually established as a proportion of average stream flows (eg monthly, annual, 1 in 5 year etc), the amount required to retain specified flow levels or available aquatic habitat or through a case by case assessment. Having estimated and allocated available water, Councils may also specify minimum instream flows and require users to reduce or cease takes as stream levels/flows decrease to these levels through Water Shortage Directions or other mechanisms.

In some instances, Councils only specify a minimum flow level and allocate water in "blocks" above this minimum flow to maximise water use. This is discussed further in section 2.3.1.

A number of Councils establish allocatable water volumes (linked to minimum flows) on the basis of "security of supply" – which is a measure of the percentage of time that users can expect their water take allocations to be available. For example, sufficient water may be available to users for four out of five years, with some restrictions being imposed in the remaining year to retain necessary minimum flows.

Methods of determining water availability/minimum flow levels include:

- Retention of 2/3 habitat at mean average low flow;
- 30 % of mean monthly flow;
- Up to 30 % of the 7 day, 1 in 5 year low flow;
- Retention of 50 % of mean monthly flow;
- 10 % of the 1 in 5 year low flow; and
- Use of tools such as Waiora and IFIM (Instream Flow Incremental Method) to determine water availability on a case by case basis.

A number of Councils identified the cost of obtaining detailed flow information as being a limiting factor to good surface water management. This is particularly the case for Councils with large areas and numerous small rivers that are coming under increasing abstractive pressure – in small streams, even minor permitted water takes may represent a significant proportion of the stream flow.

Catchment management/allocation plans are used by some Councils where more detailed resource assessment are required to meet resource challenges – particularly in response to intensification land use activities. Councils identified the intensive information that is required to develop detailed management plans and the resource requirements of implementing and monitoring these plans as a significant issue.

In respect of discharges to streams (both point and non-point source), some Councils specifically provide for contaminant assimilation requirements in establishing water availability. However, water quality requirements are generally not considered as a factor in determining water availability, with most Councils focussing on addressing the issue/source of discharges rather than retaining flows to assimilate discharges.

Most Councils reported significant changes in land and water use that affected water availability. The most common was the expansion and intensification of pastoral farming, and the resulting increased demand for water for large scale pasture irrigation. Only the Auckland region identified an overall reduction in demand due to the change in land use to lifestyle blocks.

A number of Councils identified crop frost protection as a major factor causing changes in patterns of water use. Significant volumes of water can be taken over short periods of time for this use and can result in stream flows being reduced leading into the summer period.

Freshwater plans generally encourage off-peak storage as a mechanism to augment water availability through the use of lower regulatory approaches such as permitted or controlled activities.

2.2.2 Groundwater

Most Councils manage groundwater aquifers, where present, on a sustainable yield/recharge basis – with the quantity of water generally allocated up to the estimated annual recharge volume. In some instances minimum water levels are also identified for some aquifers, typically those at risk of saltwater intrusion.

A key issue in a number of areas is the need to manage the interaction between unconfined aquifer systems and stream flows, as these unconfined systems can contribute significantly to stream base flows. A number of Councils specifically manage shallow groundwater systems as part of the surface water system to account for this interaction.

A number of Councils acknowledged a lack of information to accurately develop sustainable yield estimates. Some Councils highlighted the lack of emphasis placed on groundwater resources when compared to surface water systems; although it was acknowledged that this, in part, is driven by the generally lower pressure on groundwater resources. However, it is noted that in other areas (eg Canterbury) demand for groundwater is significant and this is reflected in more significant groundwater management programmes.

A common issue in respect of managing groundwater abstractions is the interference effects between groundwater bores in unconfined systems, and some Councils reported that interference effects were becoming more common.

In many areas, groundwater is becoming increasingly relied upon for public water supply, irrigation and stock water purposes. A number of Councils are directing users to groundwater resources, especially with the multiple pressures (eg cumulative takes, instream values, contaminant assimilation etc) placed on surface water resources. This highlights the need to improve the information required to effectively manage groundwater systems.

2.3 Water Allocation and Use

2.3.1 Water Allocation

All Councils reported that they implemented a first in, first served allocation regime.

A number of Councils have a tiered allocation system, with up to three layers of water takes – eg A, B, C. In such a system, the lowest tiers are only available at higher flows and are the first to be stopped as stream flows decrease below identified trigger levels. The highest allocation tier has the highest security of supply and is the last to be reduced during a water shortage. Councils considered this to be a way of allocating more water from a river, but it has the potential to "flat-line" stream hydrology unless instream

requirements are taken into account for all allocation tiers (sometimes called "flow sharing").

Some regions operate a voluntary rationing system during low flows, to reduce the need to impose water restrictions.

Most plans provide for water shortage directions to be implemented during severe drought events, and identify a priority order for use during such periods. As would be anticipated, drinking water and public health requirements are generally afforded the highest priority use, followed by stock requirements.

All plans permit quantities of water, both surface and groundwater, to be taken for minor uses – although as would be expected the volume allowable under "minor use" varies significantly from region to region depending on water availability and demand.

A number of Councils advised that the level of permitted takes and domestic and stock drinking water takes were not well understood and that while permitted activity takes may be inconsequential in large rivers, the cumulative effects of multiple permitted takes could have a significant impact on water levels and availability in smaller rivers/streams and aquifers. Some freshwater plans have established permitted activities that limit the amount of water able to be taken for domestic and stock drinking water, due to the sensitivity of the resource (both surface and groundwater) to cumulative takes.

Crop and/or soil water requirements are used by all Councils to assist in determining appropriate volumes and rates for water allocation. Some Councils indicated a gap in knowledge in this area for some crops and activities including pasture irrigation and for public water supply requirements.

2.3.2 Allocation Clawback

Some Councils have plan provisions in respect of reducing water allocations where water use exceeds water availability (clawback). Some Councils are actively reducing water allocations through consent reviews and mechanisms such as consent lapsing etc. However for the majority of Councils, clawback has generally entailed the reduction of historically high "paper" allocations to actual use or crop/soil water requirements.

Several Councils highlighted that resource availability assessments invariably change over time as more, or improved, information is collected – often resulting in reduced water availability estimates – and that this situation would only be exacerbated as demand increased. This necessitates more flexible management and enhanced processes to clawback water allocations to ensure resources are not adversely affected.

2.3.3 Transferable Water Permits

A number of freshwater plans provide for the transferring of water permits within the same catchment or resource, generally subject to obtaining a resource consent to do so (although this is permitted in some plans). However, Councils report that transferring of

water permits is not widespread (other than through the sale of a property with a water permit). Councils identified a number of reasons for this including lack of demand, lack of public understanding of the ability to transfer permits and users not wanting to risk relinquishing the value that a water take consent adds to the land value.

Councils also identified that the management of transfers could be significant, pointing to the fact that no two water takes result in exactly the same adverse effects due to different locations within a catchment – introducing an element of uncertainty into the transferability of water take consents. Where transfers do occur, it is most often in relation to irrigation schemes where volumes are transferred amongst users of the scheme.

No "trading markets" have been established by Councils to facilitate transfers, although a number of Councils thought that more transfers may occur in the future as demand grows and appropriate processes and markets are established.

2.3.4 Water Metering

The metering of water use is variable across regions/districts. Some Councils require meters on all consented water takes, some Councils require metering in specific catchments/aquifers or for large takes, while others do not require metering (particularly in areas of high water availability). Minor and permitted activity uses are generally not metered.

A number of Councils are moving toward telemetered water metering in some areas to assist with data management and compliance monitoring, and to provide a service to users in respect of real-time water use information.

A number of Councils expressed the desirability of implementing a standard for water metering, due to the variable results achieved through non-standard design and installation. Some Councils indicated a preference to have water metering mandatory by default, with identified circumstances where metering may not be required. This would assist in the more widespread adoption of water metering.

2.3.5 Water User Groups

Few Councils utilise water user groups to assist in managing freshwater resources. Those that encourage and facilitate water groups often have a number of groups and see them as an important component of the water management regime. Some Councils observed that groups tended to form where there were specific local issues and pressures, but that groups often disbanded after the issue had been addressed. Continuation of groups generally required local "drivers" or sustained effort on behalf of the Council to maintain interest.

Successful user groups were often associated with irrigation schemes, due to the related nature of the takes in such schemes, and these groups play a valuable role in assisting in managing the water allocation from these schemes.

2.4 Water Quality Management

2.4.1 Point Source Discharges

In general, Councils identified that the management of point source discharges of contaminants is largely under control. While historically significant adverse effects were associated with point source discharges, these have been managed over time through the resource consent process – significant contaminant discharges usually require resource consents. Some Councils indicated that while there were still specific issues to address, the tools were available for this to be achieved and it was simply a matter of time and process.

2.4.2 Water Body Classification/Objectives

About two thirds of the Councils have adopted water quality classifications, generally consistent with the Third Schedule to the RMA. While other Councils don't formally classify water bodies, most identify management objectives and water quality guidelines for watercourses.

Water body classifications and objectives are primarily used during the consent process in respect of point source discharges – but generally not in relation to non-point source discharges due to the inability to identify and manage specific sources.

Some Councils use landuse/water models (eg Waiora) to assist in setting minimum flows to meet identified objectives, taking into account land use and water quality effects, but this does not appear to be widespread.

A number of Councils indicated the desirability of having some form of guidance in defining the national values of specific water bodies, but most were cautious regarding how this might occur. It was generally indicated that "national values" should be determined using a cooperative approach with Councils, implemented at a local level in consultation with local communities.

Given the issues associated with nutrient discharges, a number of Councils indicated the desirability of having water quality standards for nutrients included in the Third Schedule of the RMA.

2.4.3 Non Point Source Discharges

The effect of non-point source discharges on surface water, and to a lesser extent groundwater resources, was identified by most Councils as the biggest freshwater management issue facing their region. Nutrients and to a lesser extent sediment and microbial contaminants were identified as the key issues. Intensification of land use and the conversion of significant areas of forestry to pastoral farming result in significantly greater nutrient use, waste effluent disposal and sediment discharge, which in turn is leading to decline in water quality. There are a range of water bodies where significant nutrient issues exist – indicating the scale and severity of the problems.

Where the decline in water quality is particularly severe (eg Lake Taupo, Rotorua Lakes) specific integrated catchment action plans or statutory plans are being implemented to reduce nutrient and contaminant loading rates. Discussions with the relevant Councils confirm the intensive management and significant level of resourcing that is required to manage these resources in such detail.

In some regions, the scale of change is so significant that it is becoming increasingly difficult to remedy or mitigate adverse effects through RMA processes – and the opportunity to avoid adverse effects has passed or is overruled by economic development drivers. Several regions indicated that a "whole of government" approach is required to enable the conflicting issues (at this scale) of economic development and natural resource management to be considered in a wider national context.

Although diffuse source discharges are attributed to the majority of poor water quality throughout much of the country, many activities that contribute to diffuse discharges are allowed as permitted activities due to their small scale on an individual basis. These are generally managed through non-regulatory methods such as education programmes, whole of farm nutrient planning assistance, guidelines, incentives, and community groups (eg Landcare). Often the permitted activities are subject to conditions, such as rates of nutrient/effluent application, although it appears that these conditions are seldom monitored, other than when significant problems arise.

One area of difference in approach across Councils is the management of dairy farm discharges. While most Councils encourage the land application of dairy shed effluent in preference to water discharges, some require controlled activity consents to be obtained while others permit the activity subject to conditions.

Some Councils are placing greater emphasis on integrated land use planning, particularly in relation to the management and protection of shallow groundwater aquifer systems from inappropriate land use activities. However, a number of Councils expressed concern regarding the integration of land use planning with Territorial Local Authorities ("TLAs").

An example of this is the cumulative effects of on-site effluent disposal systems, which are considered a significant issue in some areas, particularly where coastal subdivision is proceeding at a significant rate. Some Councils cited examples of numerous coastal subdivisions being granted by TLAs with no comprehensive wastewater reticulation and large scale use of permitted activity on-site disposal on marginal sites. In some instances, subdivisions were being granted at such a rate that there was little recognition of what had actually been granted, what was still in the process and the cumulative adverse effects of all of the developments. It is noted that this issue is not restricted to just coastal subdivision, some Councils indicated that there appears to be a general reluctance for TLAs to require reticulation of new rural/lifestyle subdivisions.

In these instances, Councils identified the need for better integration between landuse planning and discharge effects.

2.5 Iwi and Community Involvment in Freshwater Management

2.5.1 Iwi Involvement

The involvement of iwi in policy and plan development and resource management activities was variable across Councils. Some councils have specific iwi representation on Council and standing committees; some Councils have iwi representatives on all hearings committees; while others indicated that iwi involvement was less regular. Most Councils have procedures where iwi groups are advised of resource consent applications and able to indicate their interest in application.

Most Councils identified a lack of capacity, both in terms of availability and expertise, in iwi as the main impediment to good involvement – especially given the significant and multiple demands placed on iwi groups and local marae and runanga. Councils indicated that this lack of resourcing often resulted in fragmented input from iwi, placing them in a situation where they were responding to issues and activities rather than having proactive and constructive input. This was particularly an issue for resource consents where iwi may lodge pro-forma submissions and appeals to reserve their involvement for a later stage.

2.5.2 Community Involvement

Community involvement in freshwater management occurs over a wide range of fora, as would be anticipated. Most Councils reported significant involvement community based projects such as Landcare, Streamcare etc, with many Councils also offering financial assistance for targeted enhancement work.

Education was seen as an important aspect of engendering community involvement in freshwater management – both at a general level and also on a local level through the development of farm plans and catchment based initiatives. However, while most Councils indicated that there was some sharing of resource material, there was opportunity to improve this. A number of Councils suggested having nationally consistent education "themes" and resource material, which could then be picked up and implemented at the regional level, thus having a stronger national message and more efficient utilisation of resources.

2.6 Integration of Monitoring and Management

Most Councils undertake a wide range of monitoring activities to determine surface water and groundwater availability, stream health and other aspects of environmental quality, and have ongoing programmes to identify areas of natural and cultural significance. While some of this monitoring is associated with state of the environment reporting, much is also directly relevant to the management of freshwater resources. The classification of water bodies, with associated qualitative and quantitative standards, and the establishment of other objectives provide a direct link between monitoring and management objectives.

Councils are now starting to implement real time internet access to flow monitoring sites to assist users in managing water takes and some are trialling telemetered water meters to enable water use information to be automatically collected, stored in electronic form and made available to users to monitor their water use. However, as indicated previously, the monitoring (metering) of water takes is variable; although most Councils provide for metering of water takes where resources are under allocation pressure.

A number of Councils, particularly those with large rural areas and low population bases, indicated that limited resources precluded detailed hydrological information being collected on all streams and groundwater resources that have water takes. This has significant implications in the management of these resources and the robustness of assessments of water availability – although it is highlighted that Councils target monitoring resources to those rivers and streams under most pressure. However, a number of Councils indicated that they were often in a position of playing "catch-up"; that is, they were responding to increases in demand and potential over-allocation after the event, rather than being in a position of having sufficient monitoring information in advance to proactively manage demand and resource pressures.

In this regard, some Councils have initiated projects to look at long-term water requirements for their regions to enable them to take a strategic approach to water resource management.

2.7 Other Issues

2.7.1 Science and Research

Most Councils indicated the desirability of better directing freshwater management science and research to user needs. Councils considered that a large component of scientific research was commissioned by a few larger Councils or were driven by science providers rather than a wider range of end users, although it is acknowledged that some research must necessarily be specific to local needs and issues.

A common concern was that the work done by science providers often stopped short of the implementation phase, which reduced the applicability to most users.

Some Councils also identified areas of "competition" between some science providers (including multiple CRIs), particularly in the area of nutrient load models. This raised concerns regarding the potential duplication of research, the funding implications of this, and that challenges were being made to plan provisions on the basis of alternative models. Concern was also raised that less attention was given to the critical validation and verification steps of model development and use.

One Council raised the issue of intellectual property rights, indicating that the move to a more commercial research model has resulted in more difficult intellectual property arrangements that obstructed use of the product. Central government were seen as

having an important role in ensuring appropriate contracts were developed to enable the products of public funded research to be used as intended.

Most Councils advocated a more nationally co-ordinated approach to the identification of user needs for research on freshwater issues, despite previous efforts to achieve this.

2.7.2 RMA Charging Provisions

A number of Councils raised concerns regarding the charging provisions under the RMA. The two key issues raised relate to charging for permitted activity compliance monitoring and charging for Council initiated consent reviews.

It is common place for plans to provide for activities to be permitted subject to a range of conditions and compliance with the conditions is required to ensure that adverse effects are adequately avoided or mitigated. Councils accept that the compliance monitoring of these activities is generally a "cost of democracy" and should be funded accordingly to the extent that these activities are undertaken in compliance with the relevant conditions. However, where non-compliance occurs, the cost of dealing with the offending parties can be significant and Councils consider that this cost should be recovered from the offending party under s 36 of the RMA. While costs can be recovered through enforcement action, this in itself is a costly process and not necessarily appropriate in all instances.

In respect of charging for consent reviews, some Councils considered that the costs of undertaking Council-initiated reviews should lie with the consent holder and not the Council. Good water resource management required water availability assessments to be revised in accordance with improved information. This may result in reduced water availability (or increased minimum stream flows), and a more flexible approach to addressing subsequent over-allocations including cost recovery is required.

3 Key Issues and Opportunities

3.1 Introduction

A wide range of issues have been raised through the review of freshwater plans and during discussions with Councils on the key issues, both existing and future, faced by the Councils and the practices that are currently in place to manage these issues. Some of the issues raised were quite specific to the circumstances of particular regions, while others were common across regions.

The key issues raised through this process have been grouped as follows:

- The management of adverse land use effects on water quality;
- The management of increasing demand for freshwater;
- Mechanisms for cost recovery;
- The coordinated provision of science and research; and
- Capacity building.

These issues are discussed below, together with the identification of potential opportunities and options for providing tools and assistance to improve the management of freshwater.

3.2 The Management of Adverse Land Use Effects on Water Quality

3.2.1 Key Issues

The intensification of land use and in particular agricultural activities is placing significant pressure on freshwater resources in some areas to an extent that may be beyond the capability of the RMA to adequately manage.

Pressure on freshwater resources, both from the perspective of water demand and nutrient loads, has been identified in many regions as an issue of concern. In some areas this pressure is increasing to an extent and at a pace that may have a significant effect on waterways and is potentially beyond the ability of the RMA and Regional Plans to adequately manage.

For example, the growth of dairying in the Waikato is occurring at unprecedented rate – driven by demand for growth within the industry and the current rate of return being achieved. The drive for conversion of forestry to dairying, and the intensification of dairying within existing farms, is placing significant pressure on water resources for

pasture irrigation. In addition, waterways are subject to increased nutrient loads as a result of greater application of nutrients (fertiliser use and waste disposal) – despite the use of efficient land application systems.

While in theory the RMA and Freshwater Plans can provide for the management of both freshwater resources and nutrient loads, Councils are concerned that this unprecedented pressure for growth is placing unsustainable demands on natural resources in some localities. They are also concerned that there is a looming conflict between economic growth and development of the farming sector and the state of freshwater resources. While the RMA provides for effects to be avoided, remedied or mitigated, the practices and technologies required to remedy or mitigate effects do not appear to be available at the scale at which these effects are occurring.

If Councils seek to apply greater controls on landuse activities, economic growth may be severely constrained. Councils consider that the scale of this issue requires "whole of government" consideration to identify potential management options.

Resolving resource management conflicts in areas of significant competing resource use and values requires significant resources, which may be beyond the capacity of Regional Councils and landowners.

As a corollary to the first issue, most Councils confirmed the high level of detailed information and management that is required to effectively manage resources that are under significant pressure.

Where resource pressures are increasing, Councils are generally undertaking detailed resource assessments and a more active approach to managing water and nutrient use and other discharges. Second and third generation plans are becoming significantly more specific in problem catchments and a wider range of tools are being developed including:

- More sophisticated methods of determining water availability, especially considering other issues such as stream flow requirements which include assimilative capacity issues;
- More specific plan provisions including a higher level of controls and consent requirements;
- More detailed resource investigations and monitoring; and
- More intensive work with landowners.

While Regional Councils are taking on the challenges of managing these adverse effects, the scale of the challenge can be significant and the ability to effect change is likely to be directly related to the level of funding and resourcing available to both the Councils and landowners to implement desired solutions and effect positive change. This resourcing may be beyond that which the Councils and local communities are able to provide.

It was noted that central government involvement and resourcing has occurred in some instances, but there does not appear to be any criteria guiding how or when this involvement occurs. Also, there is a concern from a number of Councils that central government involvement and resource at this level occurs "after the fact" – that is, it occurs too late in the process when effects are apparent and management is in catch-up mode.

Councils advise that there are a number of significant resources that are under pressure where proactive central government resourcing and involvement may assist in averting significant adverse effects. It is noted that the concept of central government involvement does not mean a takeover of the process. All Councils that identified this issue indicated a preference for government involvement and assistance in a Council-driven local process, rather than the converse.

There is limited guidance in respect of expectations for water quality, particularly as a result of non-point source discharges.

Given the increasing demands on freshwater resources, including the intensification of surrounding land use, there are significant challenges in managing non-point source discharges and receiving environment water quality – particularly nutrients and to a lesser extent sediment and microbial contaminants. The issue of non-point source discharges was consistently raised by most Councils as the most significant issue in their regions.

Water classes, and associated water quality standards, are provided in Schedule 3 of the RMA. However, there are no standards pertaining to nutrients, microbial or sediment discharges with the exception of general requirements such as avoiding the presence of gross effects such as biological growths or rendering the water body unsuitable for its management purpose.

Accordingly, Councils indicated that guidance in the form of water quality standards or expectations for common non-point source contaminants would assist in managing this challenging issue.

There is an inconsistent approach to addressing common issues such as on-site wastewater disposal and dairy shed effluent system design.

Some Councils raised concerns that issues such as on-site wastewater disposal and dairy shed effluent systems were common across all regions, but were subject to different design standards. These Councils considered that there was benefit in establishing national "bottom-lines", through the use of tools such as National Environmental Standards, to ensure that a consistent minimum level of performance is achieved.

This would assist Councils in implementing a consistent level of basic performance and reduce debate and challenge at a local level regarding an issue common to all regions.

3.2.2 Opportunities and Options

The issue of land use effects on water quality is a major challenge facing Councils, and there are a range of opportunities to assist Councils in the management of this issue. These include:

i. *Develop a whole of government approach*

As indicated above, the scale of land-use change and development may result in adverse effects that are beyond the scope of the RMA to adequately manage. Accordingly a whole of government approach would assist in broadening the scope of the "tool box" to manage the potentially conflicting issues of growth and development and landuse effects on water quality. Potential tools could include:

- The development of best practice guidelines for nutrient management and other issues;
- Consideration of economic instruments to manage nutrient use and discharge.

ii. *Develop partnerships with key industries and stakeholders*

Industry, particularly the primary agriculture, horticulture and fertiliser industries, have a key role to play in the management of non-point source discharges – notably nutrient use and waste application. The development and implementation of industry initiatives such as the Dairying and Clean Stream Accord and fertiliser application and nutrient management tools are important in managing and minimising adverse effects of intensified land use activities. Key industry and stakeholders include:

- Agricultural and horticulture industries;
- Hydro-electricity sector;
- Iwi; and
- Local communities in identified priority areas.

iii. *Develop mechanisms to improve integrated land use planning and freshwater management*

Integrated land use planning is an important process for managing the adverse effects of land use intensification, particularly where the scale of cumulative effects from point and non-point source discharges is beyond the scope of what can effectively be managed through resource consents. While in principle there appear to be few regulatory barriers to implementing integrated land use and freshwater management, some Councils indicated that it was not occurring – suggesting that this may be due to competing organisational priorities and pressures on Councils.

There appears to be a significant opportunity to facilitate improved integrated land use and freshwater management through mechanisms such as:

- Building enhanced relationships with Territorial Authorities in key areas;
- Developing processes and tools to facilitate integrated management;
- The use of RPS reviews to address consultation and integration procedures; and
- Facilitating projects to "showcase" integrated management.

iv. Focus science research to meet key freshwater issues and end user needs;

A common issue raised through discussions with Councils is the apparent lack of co-ordinated user driven research and that the science that was done often stopped short of the implementation phase. Freshwater management would benefit from a more targeted and coordinated research programme, particularly in respect of the management of non-point source discharges.

Intellectual property issues were also raised in respect of the use of research outputs. Improved contract specification of intellectual property rights was seen as an important step in improving access and use of research outputs developed with public funding.

Initiatives could include:

- Greater central government leadership in establishing priorities for research including a cross-council forum for establishing freshwater management research needs and priorities building on existing fora such as SWIG, RMG etc;
- Improved central government contract specification of intellectual property rights for public funded research; and
- Clearer definition of research objectives and output specifications to ensure that user information and implementation requirements are met.

v. Identify "at risk" water bodies and review the mechanisms that are available to assist Council/landowner management

While non-point source discharge issues are common across New Zealand, there are clearly "hotspots" where specific waterbodies are at threat, particularly from nutrient and bacteriological contamination. Council experience demonstrates that where freshwater resources are under pressure, a significantly higher level of hands-on management (and hence resourcing) is required. Options to address this issue include:

- The establishment of a programme to identify "at risk" resources nationally;

- The development of mechanisms to assist Councils and landowners to manage these resources; and
- The development of criteria for central government involvement and resourcing in significant problem areas.

vi. Provide guidance for levels of key non-point source contaminants.

Currently, there is little guidance for water quality expectations for key non-point source contaminants including nutrients, sediment and microbial contaminants, other than gross effect indicators. Options for addressing this include:

- Revision of the water quality classification standards in Schedule 3 to the RMA to adopt relevant nutrient, sediment and microbial standards for the various water quality classes;
- Consideration of the use of tools such as National Policy Statements or National Environmental Standards to establish expectations for typical non-point source contaminants.

vii. Consider the use of National Environmental Standards to ensure minimum levels of performance for common discharge activities

Some Councils stated the desirability of developing of National Environmental Standards to provide a minimum level of performance for common discharge activities, although it was noted that there was little consensus amongst Councils regarding the use of national standards. However descriptive standards, set at a relatively "low level" to address common issues faced by Regional Councils, may be beneficial in achieving national consistency and improving process efficiencies. Potential activities for consideration (noting that some Councils have already adopted specific requirements in some areas) include:

- On-site wastewater disposal systems;
- Dairy shed effluent system design; and
- Water metering requirements (see below).

3.3 The Management of Increasing Demand for Freshwater

3.3.1 Key Issues

There are a range of freshwater resources that are over or at full allocation and demand for freshwater is continuing to increase in most regions.

While New Zealand is generally considered a water rich country, there are many areas where water demand exceeds water availability at times of peak requirement. Inevitably, water is in most demand in drier areas where it is generally less available. Continued intensification of land use; new technology which allows areas previously considered

unusable to be developed; and changing water use patterns (for example for frost protection) place increasing demand on water resources.

Increased pressure on water resources in turn places increased emphasis on the management of these resources – requiring better information and techniques to establish flow regimes and allocatable flows, understand water use and ensure that water is being efficiently used.

In addition, there is a need to consider options for catchments that are over-allocated, either due to historical over-allocations or due to revised water availability estimates – to ensure that sustainable freshwater management is occurring.

The RMA does not contain provisions relating to efficiency of use.

While Councils have the ability to control water use pursuant to RMA s 14, there are no provisions in the RMA related to ensuring efficiency of use. While most plans have adopted policies that require water use efficiency, and procedures such as allocating to crop water requirements are common, several Councils indicated that a clearer mandate for water efficiency would assist in elevating the importance of water as a scarce resource and the need to use it efficiently and effectively.

There is benefit in identifying the "national" values of water bodies

It is important to understand the values of waterbodies to establish appropriate management objectives and enable robust resource management decisions to be made. Clearly some water bodies have "national" values that reflect their significance, rarity or value for nationally important activities such as hydro-generation or tourism. While the national significance and values of some waterbodies may be considered obvious, this is not the case for others and there is no consistent manner in which national significance or outstanding values are identified or assessed.

Most Councils indicated support for the concept of a process to identify water bodies or values of national importance, although there were some differences in opinion as to how this would occur. Generally a process for identifying national values, implemented at a local level by the Council, was the preferred method to ensure that local values and uses were not overridden in the process.

There is a wide range of methods used to establish allocatable flows for streams and abstraction regimes for aquifers

The stocktake of regional plans and discussions with Councils confirmed that there is a wide range of methods used to establish minimum in-stream flow requirements and allocatable water allowances. While there is inevitably a requirement for different methods due to local climate or hydrological conditions, the range of methods currently utilised appears to be larger than necessary.

Similarly, there is limited consistency in respect of the process for identifying and implementing abstraction limits for groundwater aquifers – although, with some notable exceptions, it is recognised that on the whole groundwater resources appeared to be under less pressure than surface water resources.

There appears to be an opportunity to rationalise the methods used to establish in-stream flow requirements and sustainable groundwater management regimes. The benefits of rationalising methods include more consistency across councils, improved environmental outcomes, more targeted and efficient use of science and research and reduced legal challenges. However, it is recognised that a "one size fits all" approach is not possible due to the variability of climates and resources.

3.3.2 Opportunities and Options

While freshwater resource management has been in place for many years, there appears to be significant opportunities to enhance management practices to meet the challenges of increasing demand for freshwater. These include:

i. Develop mechanisms for reducing water takes in catchments that are over-allocated

Councils undertake water availability assessments to determine the amount of water that is available for allocation and use. In some instances these assessments may be historically high or may reduce over time as more information is received. Prolonged over-use may result in unacceptable impacts on freshwater resources. Potential options for addressing over-allocation include:

- The development of enhanced, nationally consistent mechanisms and processes to reduce or clawback water allocations over time where over-allocation occurs;
- The development of plan provisions and consent conditions to provide enhanced flexibility in the management of freshwater resources; and
- The development of mechanisms, including water markets, to enhance the transferring of water permits between users.

ii. Develop methods of improving water use efficiency

An issue identified by a number of Councils was the need to develop mechanisms to ensure effective and efficient water use. This includes matching requirements (eg crop/soil water and public water supply requirements) and methods to ensure that water is applied efficiently.

In addition, the monitoring of water use varies significantly from region to region and while to some extent this may be a function of water availability and demand, a more consistent approach to establishing baseline requirement for monitoring is desirable.

Opportunities for improving water efficiency and monitoring include:

- The development of consistent methodologies to establish crop/soil water use requirements and guidelines for public water supply needs;
- Consideration of methods to require improved efficiency of use including national policy statements or amendments to the RMA; and
- Consideration of mechanisms, such as national environmental standards, for the implementation of a minimum requirement for water metering.

iii. Develop mechanisms to assist in identifying nationally significant values

As indicated previously, there is no consistent method for identifying the nationally significant values of freshwater bodies to assist Councils in the management of these resources. Most Councils indicated the desirability of guidance on this issue, but emphasised the need to develop mechanisms that include local input to ensure that local values are not ignored. Options include:

- The development of criteria or approaches to identify nationally significant water bodies and associated values and features;
- The development of processes to ensure that local communities are involved in the identification of national values.

iv. Develop a range of tools to assist in the establishment of in-stream minimum flows and sustainable aquifer yields

A robust process for establishing sustainable in-stream flows or groundwater aquifer yields is fundamental to the management of freshwater resources. This includes both an understanding of mechanisms to set minimum flows and regimes to manage flow variability within streams. While most Councils indicate that they are satisfied with the robustness of the methods that they have adopted, a wide range of methods are currently used and there appears to be some opportunity to rationalise approaches to achieve greater national consistency of approach.

Options include:

- The rationalisation of tools and mechanisms used to establish water availability and minimum flow regimes for rivers to achieve a more consistent approach nationally;
- The rationalisation of tools and approaches to establish sustainable aquifer yields from groundwater systems; and
- The development of allocation regimes that better reflect natural flow variability and in-stream flow requirements.

3.4 Mechanisms for Cost Recovery

3.4.1 Key Issues

The RMA does not adequately provide cost recovery mechanisms for the compliance monitoring of permitted activities.

Councils provide for a range of activities to be permitted activities under both Regional and District Plans. Many of these activities are essentially "benign" and do not require conditions or compliance monitoring to ensure that adverse effects on the environment are no more than minor.

However, it is also common place for plans to provide for activities to be permitted subject to a range of conditions and compliance with the conditions is required to ensure that adverse effects are adequately avoided or mitigated. It is noted that Councils have often opted for this mechanism (in preference to controlled activity consents for example) to reduce regulatory requirements on a range of activities including industrial site discharges, dairy shed discharges to land and forestry activities.

Councils accept that the compliance monitoring of these activities is generally a "cost of democracy" and should be funded out of general Council funds – to the extent that these activities are undertaken in compliance with the relevant conditions. However, where non-compliance occurs, the cost of dealing with the offending parties can be significant and Councils consider that the ratepayer, or consent holders, should not have to carry the costs of undertaking this work. While it is recognised that enforcement provides mechanisms to address non-compliance, and in some instances recover costs associated with doing so, it is not always the most appropriate tool and full costs are often not recovered.

Despite an apparent focus on "user and polluter pays", the RMA does not provide for this principle in respect of permitted activity compliance. That is, Councils do not have the ability to recover costs associated with resolving permitted activity non-compliance issues, other than through enforcement processes.

Where Councils have established new flow regimes in Regional Plans, the cost of reviewing consents under RMA s 128 to bring them into line with new flow regimes or water quality standards is borne by the Council.

Consents to take water are granted at a point in time based on the information at that time. As further resource information becomes available, new flow regimes may be established in Plans and it may be desirable to review existing resource consents to bring them into line with the new regime. RMA s 128 provides for the circumstances in which such reviews can occur, but Councils are concerned that they bear the costs of any such review – which has the potential to discourage Councils from undertaking reviews and lead to less than optimal environmental outcomes.

It is arguable where the costs of such a review should lie. On the one hand the resource user is the one using (or possibly overusing) the resource and should be accountable for the costs associated with that use. Conversely, the user is acting within the constraints of a resource consent issued by the Council, and is not responsible for the revision in resource availability. It is outside of the scope of this review to determine the preferred course of action. However as an issue raised as an impediment to good freshwater management practice, it is appropriate to consider it further.

Significant resources are required to manage water resources that are under pressure.

Councils indicated that as water demand and other pressures on water resources increases more intensive resource management and monitoring is required. This results in increased pressure on Council funding and other programmes. Consideration should be given to methods of funding this increased management activity to provide increased resources for enhanced management.

3.4.2 Opportunities and Options

i. Undertake a review of the charging provisions of the RMA

Councils can recover costs for a number of freshwater management related activities under s 36 of the RMA, and financial contributions are provided for under s 108. However, some Councils question whether the current scope of charging provisions is sufficient to address key freshwater management issues. There also appear to be widely different practices amongst Councils for recovering a portion of the costs of resource monitoring and other management activities from resource consent holders. Options for review include:

- Review the ability to charge for compliance monitoring of permitted activities, especially where non-compliance occurs;
- Review s36 charges in relation to Council-initiated consent reviews under s128 of the RMA to reflect a user pays approach;
- Review current s36 practices and provisions for cost recovery associated with freshwater management functions and develop guidance material or enhanced provisions as appropriate; and
- Consider wider options to increase funding for freshwater management.

3.5 Coordinated Provision of Science and Research

3.5.1 Key Issues

Science and research into freshwater management could be better coordinated and targeted to key issues.

Most Councils identified a need to address the role of science in respect of freshwater management. A range of issues was raised as follows:

- Small Councils often had little or no budget for science and research to support their management of freshwater resources;
- Much of the investment in science was driven by three or four Councils and often may not have national applicability, although it is recognised that some research must focus on local requirements to be of benefit;
- Intellectual property issues complicate the use of public funded research; and
- Science needs are often specified by the science providers rather than users. As a result, the research often stopped short of the implementation and validation phase, and was therefore of little use to Councils without further work.

Some Councils also expressed concern that science providers, such as CRIs, are sometimes acting in competition in the market place. This is resulting in the development of competing products – such as those to assess nutrient loads – which is causing complications in the adoption of specific methodologies in plans.

One area of science identified by some Councils was the values of small and ephemeral streams, and the management requirements of these watercourses.

3.5.2 Opportunities and Options

i. Provide greater leadership and coordination in the development of science and research programmes targeted to freshwater management

Councils were clearly concerned at the lack of coordinated science and research that was being undertaken nationally, despite previous efforts to enable better coordination and end user specification. Improved science is an important component of enhanced freshwater management and it is essential that science and research in this area is coordinated and targeted at key issues. Opportunities and options for improvement include:

- Facilitating greater user specification of science and research needs through joint Council fora (including enhancing the functionality of those that already exist);
- Co-ordinating research funding on freshwater management to ensure it is directed to priority areas and limits competition between service providers;
- Ensuring user applicability through the development of best practice and user guides;
- Improving contract specifications to address intellectual property issues associated with public funded research; and
- Monitoring of results to ensure that resource management objectives have been met.

3.6 Capacity Building

3.6.1 Key Issues

Iwi groups often have limited capacity to be adequately involved in the resource management process.

All Councils have established processes to involve iwi in plan development and general resource management activities. However, many Councils indicated that a lack of expertise and capacity within iwi often compromised iwi's ability to be involved at an appropriate level at the right time. In some instances, it was suggested that this leads to a focus at the "wrong" end of the statutory process, with unnecessary conflict and frustration as a result.

While building capacity within iwi organisations is outside of the scope of the freshwater management programme, some opportunities and options were highlighted by Councils through the meeting programme and have been included for consideration.

Councils often have limited resources and capacity and as a result can lack expertise in key areas of freshwater management.

Consistent with the previous issue Councils, particularly smaller rural based Councils, indicated that they also often lacked the capacity to effectively manage freshwater due to limited resources and competing priorities – scientific input in particular was noted by some Councils as an area of deficiency. Some Councils raised concerns that this deficiency was industry wide and that they were unable to compete with the private sector for experienced scientific and technical staff.

Councils with limited resources indicated their reliance on MfE publications and information from other Councils. While this information sharing was considered positive, Councils expressed concern about adapting information to local circumstances and implementing it effectively.

The benefits of recognising and sharing technical and management expertise across Councils were also recognised – most Councils have their own "niche" areas of expertise as a result of their specific resources and issues. While some fora have been established across Councils to share information in particular areas, the costs and effort of establishing these often falls on just one Council while the benefits are more widespread. This often discourages councils from commencing such initiatives.

3.6.2 Opportunities and Options

i. Assist iwi in building increased expertise and capacity to be more involved in freshwater management.

It is Councils' experience that few iwi groups are resourced to a level that enables consistent and proactive involvement in resource management processes. As a

result, iwi involvement is often sporadic and focussed at the consent process, which can lead to frustration and delays. Improving Maori participation in resource management is not an easy or short term prospect. However, some short and longer term opportunities identified by Councils include:

- The retention of "expert" iwi panels to assist local organisations on an as required basis;
- Consideration of funding assistance to iwi;
- The development of incentives to encourage iwi into planning or resource management; and
- The development of placement schemes to encourage iwi into Councils or MfE to assist in developing expertise.

ii. The development of best practice guidelines

Most Councils appreciate and use the range of best practice guidelines prepared by MfE. This is particularly the case for smaller councils with limited technical resources. There is an opportunity to build on work undertaken around the country to extend the range of guidelines that currently exist to address common issues. One issue was consistently raised by Councils – where best practice guidelines are prepared, they should provide for a tiered approach or range of options in preference to a "one size fits all" approach. Councils can then choose the option that best suits their circumstances. Some priorities for best practice guidelines identified by Councils include:

- Crop/soil moisture water requirements for a range of crops and water uses;
- Revamp of tools to establish instream (and out of stream) values and set minimum flows; and
- Procedural guidelines for managing over-allocated water resources.

It is noted that all of these issues have been identified previously and may be more appropriately addressed by mechanisms other than best practice guidelines.

iii. Facilitate cross-Council expertise sharing

It is generally recognised that there is significant expertise within Councils in respect of the management of freshwater resources. Tapping into this resource, through the sharing of the expertise was seen as beneficial by a number of Councils. Councils identified that the limiting factor to establishing such fora were time and resources, and it was inappropriate for this to fall on one Council when the benefits are much wider.

Opportunities for improvement in this area include:

- The establishment and resourcing of Council "expert" panels on key freshwater resource management and implementation issues and the development of a mechanism for utilising this resource nationally;
- Greater MfE coordination and facilitation of cross council working groups on key freshwater management issues.

Appendix A – Council Meeting Records

Appendix A (1): Northland Regional Council

Attendees:	Bob Cathcart (Land Operations Manager), Susie Osbaldiston (Groundwater Management Officer), Vaughan Cooper (Resource Policy Team Leader), Sharif Zainal Aziz (Policy Analyst - Water and Soil), Treena Davidson (Water and Soil Planning Team Leader), Northland Regional Council; Carmel Rowlands, Libby Manley, MfE; Ian Mayhew, HYC for MfE.
Date:	9:00am Tuesday 14 March 2006
Venue:	Northland Regional Council

KEY WATER RESOURCE MANAGEMENT ISSUES

Northland has a large number of small streams over a large area.

Permitted activity water takes are a big issue in these small streams and there is not a good understanding of the cumulative takes/effects of takes. There is significant land use change going on, particularly subdivision, which is placing pressure on both water takes and quality of water through septic tank discharges.

Example of subdivision - 200 sections at Waipu – 2000sqm sections using septic tanks where a reticulated sewerage system is really required but is not affordable. NRC is generally in the position of responding to land use changes taking place that are allowed by the District Council rather than being involved at the outset during the land use planning phase where the decisions need to be made. The cumulative effects of land use change are considerable. Main area of change – subdivision intensification. All growth on outskirts of city (volcanic area) and coastal margins including areas over groundwater aquifers.

During the summer of 04/05 the issue of permitted users were highlighted due to dry periods and people taking water as a back up supply – increased people using water resources – this had a big influence on both consented users and minimum flows in rivers.

It is a challenge to determine minimum flows where you have minimal data – both in terms of permitted takes and instream flow information – difficult to get information in so many small streams.

Intensification of dairying is occurring in some areas – rather than conversion. Not sure whether the intensification is an issue at this stage.

Regulatory compliance has improved significantly in Northland

Horticultural conversion also putting pressure on water resources in some areas i.e. volcanic aquifers/spring fed streams.

Water quality in some dune lakes is deteriorating – landuse issues (nutrients), weed and introduced fish.

WATER ALLOCATION

Allocation

Allocation first in first served.

Surface Water - Three tiered system for allocation based on sensitivity of system – high value, flow sensitive and others. Allocation limits made on a case by case basis generally based on MALF and 1 in 5 flows. Limited understanding of flows in most catchments.

Groundwater – Tiered system also used – high demand, salt water intrusion risk and others. Groundwater availability assessed using recharge estimates/sustainable yield and may include modelling.

Allocation plans

Integrated catchment planning is provided for in the Regional Water and Soil Plan but hasn't worked in practice due to being too resource intensive and being too broad/global. Need to try again but with issue related focus.

Allocation guidelines – low flows/water levels etc

Water allocated (i.e. efficient allocation) based on crop/soil types including use of irrigation efficiency software

(SPASMO). Design minimum flows assessed as part of consent process (s.104) and in some sensitive aquifers groundwater level triggers for reducing takes have been imposed.

Overallocated resources – management/clawback

Clawback in heavily allocated surface water catchments. Last assessment was 6-7 years ago.

Clawback primarily a result of paper allocations being greater than actual use. Reactive drought management – water shortage directions etc.

Common expiry dates in majority of catchments to allow comprehensive reassessment of resources and consents.

Use of tradable permits – formal/informal

Not a lot of trading known of. Some big irrigators may do so informally and some irrigation schemes may provide opportunity to do so. A lot of room for it, particularly temporarily. Would help to put a value on water.

Plan provisions do exist to assist transfer - have to do an assessment under s127 of the RMA to assess effects on the new site – a formal transfer from site to site, not a particularly straight forward easy process.

Water efficiency measures

Water efficiency is looked at through consent process.

Crop/soil water requirements for irrigation (SPASMO).

Guidance on public reticulation efficiency would assist allocations in this area.

Monitoring of resource use

Metering in areas of high allocation – both surface and groundwater.

Water user groups

Not many community groups that work together to manage a resource – no active groups.

Some consents require water sharing – e.g. at times of drought – reactive approach.

Land Care groups – active.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and non-point source discharges

Diffuse source pollution is a significant problem. Lots of clay soils and sediment nutrient discharge an issue. Bacterial contamination also an issue in some areas.

Riparian planting won't solve the problem, paddock management is needed.

Meat and Wool NZ have decided to jointly promote an agreement similar to the Dairying and Clean Streams Accord with Fonterra.

Issue of enforcement in respect of septic tank system performance – often consent is obtained by developer and by the time the land owner takes control focus is lost.

Use of classifications/standards

Interim classifications on certain rivers – particularly high value. Water quality classifications are primarily applied through consents.

Could be heading towards greater use of classification. Tool as part of water management plan but approximately 27,000 separate tributary rivers in Northland region.

Link with allocation/stream flows

Consider issues of available dilution/assimilation in respect of meeting classifications.

Management of aquifer quality

Generally not a major issue, nitrates not going up in most areas. Where NRC monitors, there are only 2 areas with elevated nitrates. One is direct result of horticulture activities. Salt water intrusion is a bigger problem in shallow coastal aquifers which have high potable water use.

Integrated management – land use practices/riparian/flows etc

Managing diffuse sources is about land practice. $400 000 environment fund. Half is devoted to riparian management. Other half to wetland protections, pest control.

Requirement for catchment rehabilitation has been listed as a condition on consents (on a case by case basis dependant on potential effects).

The local polytechnic involved - with their nursery providing free plants for riparian planting. Improved integration management required.

RIVERS/STREAMS

Flooding

Subdivisions on flood plains. Difficult to determine when regional councils can get involved in assisting subdivisions. Need to have issues listed on the title.

NRC providing expertise on hazard management, trying to work closer with local Councils. Local councils are typically behind on infrastructure investment.

Erosion

One of the main direct sources of sediment. Has become a forgotten part of council functions. River work just not done to historic levels.

Currently preparing river management plans for major rivers and looking to fund river management through avenues such as gravel extraction.

URBAN ISSUES

Management of freshwater – issues/response

Mainly around new development. An uphill battle getting district councils to be firm about management of flood prone areas - easy to get a consultant to say it doesn't flood. District councils don't focus on bigger picture.

District councils will provide consent to developer for subdivision – there are approximately 60 to 70 subdivisions per month which the NRC comments or makes submission on. NRC has problems at other end dealing with water availability and discharge issues. NRC often asks for conditions to be put on the consent but they get lost in the process.

District Councils need a database of subdivisions that have been approved so far so they know what has already been granted to realize extent of development and land use change occurring.

Urban stormwater – District Councils making provisions for stormwater management plans but are still in the process. Councils allowing development, but not sure how to develop infrastructure without a plan to work to. District councils don't see total problem – high turnover. Councillors see economic growth and want to encourage that.

Stormwater discharge currently a permitted activity, but question whether it should be consented to give more control. May need to put more stringent requirements in RPS to manage this.

Subdivision – needs to be central government guidance and awareness of the issue. Not working in practice – scale of subdivision such that there is a direct influence on quality and quantity outside of what is manageable.

IWI INVOLVEMENT

Plan development/Resource management/Consultation

12 official iwi authorities at runanga level, several hundred at Marae level. Difficult to maintain relationships due to demands place on iwi and their capacity to respond

Sometimes little response from iwi - issues of payment for advice. Issue of mandate of who is to talk and where. Also, resource management issues low priority for iwi – i.e. health and housing up the top

Better consultation/iwi participation is likely to occur with greater understanding of the RMA processes. Don't go out to iwi groups as much anymore to give presentations on the plan/RMA processes, how to

prepare submissions due to resourcing.

NRC put out details to Maori on applications that they have indicated they are interested in (notified and non-notified consents). This provides for more focused response from iwi.

Resourcing issue for council for iwi liaison – only one iwi liaison person in council.

OTHER METHODS

Community participation

Approximately 50 Landcare groups with varying degrees of activity. Membership tends to be lifestyle block owners, not farmers. Some only get active when issue affects them directly.

Deal closely with key stakeholders such as the Federated Farmers.

Education

Plan is heavily focused on education rather than regulation but time and staffing required for education is restricted. Stronger focus on coastal issues due to community outcomes (LTCCP). Require greater emphasis on integrated management to protect the receiving environment, i.e. coast to development pressures.

Visiting farms and preparing nutrient management plans – effective but costly form of education. Significant resourcing required. Has had intensive focus on Lake Omapere.

Incentives

Environment Fund - $400k to environmental projects.

Enforcement

Permitted activities – enforced reactively through complaints – through to prosecution where necessary. Resourcing issue – careful not to have officers not just doing enforcement. Limited resources for monitoring of permitting activities.

No charging for monitoring of permitted activities – councillors wouldn't accept this. State of Environment monitoring is meant to be picking up cumulative effects of permitted activities – suggest that this is not the case.

Have reasonable level of consent compliance monitoring.

EMERGING ISSUES/PROBLEMS

Emerging issues

Subdivision explosion – at a scale that needs to have greater involvement of government – difficult to manage adverse effects on case-by-case basis.

Pine forest harvesting (250 000) hectares, on hold but will happen soon.

Need to design minimum flows and sustainable yields for priority resources – including PAs.

Tools/practices that would assist in management of freshwater

Raise awareness of the value of water. National issue but better recognition would make it easier to manage.

MfE guidelines are worthwhile. Sustainable yields and minimum flow techniques through to implementation would be useful – especially in areas that are data-poor/limited.

Research priorities need to be useful to end users. While some cooperation between councils occurs, could integrate better. SMF should make it a requirement of funding that end product is of use.

MfE needs to be careful about national environmental standards they are bringing out – too much diversity throughout NZ. Potential to lose sight of how it will affect individual regions – e.g. costs involved and ability to apply the NES.

Nationally important values – need to be careful as may lose regional values in process.

Integrated management of development needs some central government involvement and/or guidance. Wider issues need to be considered such as infrastructure including energy, schools, water etc. Bigger issue than just managing adverse environmental effects.

Appendix A (2): Auckland Regional Council

Attendees:	Carolyn Blackford (Policy And Planning), Glenys Kroon (Rural Wastes Officer), Eddie Grogan (Manager, Land and Water Quality), Jonathan Moores (Water Resources Officer), Greg Murphy (Water Resources Officer), Alastair Smaill (Water Resources Officer), Auckland Regional Council; Mercedes Lentz, MfE; Victoria McGregor, Ian Mayhew, HYC for MfE.
Date:	9:00 am to 11:00 am Friday 26 August 2005
Venue:	Auckland Regional Council

WATER ALLOCATION

Key Fresh Water Resource Pressures

Key focus is "people" – eg population growth in both urban and rural areas – putting more pressure on municipal water supply and sewage disposal.

Change in water demand type as rural subdivision takes over from agriculture/horticulture in some areas.

More intensive land uses occurring in parts of region – eg large glasshouse areas (> 10ha) putting pressure on streams through nutrient disposal as limited room for land disposal.

Allocation mechanisms/resolving conflict

Not major water demand/availability conflicts – only in few areas.

First in first served, but water use and resource availability monitored and reallocation where necessary.

Common consent expiry dates (including takes and discharges) in catchments to enable comprehensive reviews.

Stock and domestic demand for water high – eg Franklin area which is subject to significant growth of rural townships.

Looking ahead at issue of changing demand - demand forecast report recently completed for Northern area and currently being completed for southern part.

Conflicts resolved through one-on-one/user consultation. Most users reasonable about use of water.

Have instances where allocations have to be reduced over time to meet revised availability – work closely with users to achieve this.

Allocation plans

Don't prepare allocation plans any more – key plan is Regional ALW Plan.

Old plans used as a reference point.

Resource statements used – statements of resource availability/use etc which are used in consent process.

Currently in process of developing a "resource statement" for Waiheke Island.

Allocation guidelines – low flows/water levels etc

Small streams in Auckland region– case-by-case basis assessments more appropriate than single allocation criteria.

No minimum flows current in ALWP. MfE instream guidelines used – establish objectives, set flow requirements to meet objectives. Wairoa modelling tool used to identify effect of actions to meet objectives.

Objectives/flows include water quality/cultural objectives etc.

Allocation limits (daily/annual etc) on resource consents.

Groundwater: water availability set in plan for major aquifers.

Groundwater impact on surface water flows taken into account when setting aquifer availability.

Overallocated resources – management/clawback

Not identified as major issue.

Significant liaison with users to reduce takes where necessary.

General encouragement to use groundwater resources where possible.

Use of tradable permits – formal/informal

Few trades occurring in region.

Informal process, not generally facilitated by Council – trade can be resource consent or part of allocation for a year.

Noted that external perception that trading is not possible.

Formal trading market not seen as necessary for Auckland – demand not there.

Water efficiency measures

Two issues – those not using allocation and those not using allocation efficiently.

First point addressed by consents/clawback, reviews of use, allocation guidelines etc.

All takes require meters and use monitored.

Second point addressed by education, industry guidelines, audits etc.

Recent audits found generally high efficiency of use.

Education initiatives and industry guidelines.

Annual report prepared on resource use/levels/allocations where flows dropped below minimum flows etc (Quantity Statements).

Trial of telemetered water meter readings. Meter readings telemetered to ARC and onto internet where it can be accessed by the users to track usage.

Monitoring of resource use

Budgetary pressures require rationalization of monitoring network.

Annual report (as above) includes: groundwater - use vs allocation of aquifers, aquifer levels, surface water flows etc. Used by consent process when setting/reviewing allocations.

Water user groups

One main active user group.

Challenge of managing a lot of small users in future anticipated.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Key issue is TLA municipal sewage discharge into streams. Trying to encourage land disposal but conflicts in respect of use of land for agriculture.

Glasshouse discharges also key issue – large operations (>10 ha) with little land available for land application so discharges generally to water - largely unseen e.g. no colour, odour etc but high nutrients – located in Drury, north-western areas.

Industry Code of Practice being developed.

ALWP trying to deal with this pressure– requiring consented discharges, looking at land disposal alternatives where possible.

Fertiliser application controlled through plan – but largely relies on cost to operator as key regulator.

Sediment discharges from cultivated land (market gardens) important diffuse source pollutant – water availability implications, can infill dams etc.

Use of classifications/standards

No specific classifications, case-by-case assessments.

As above, mange surface water by setting objectives and then consents to meet objectives.

Standards may be applied to consents.

Management areas identified in ALWP – hierarchy of policies and rules associated with sensitive areas.

Link with allocation/stream flows

As above. Water quality issues part of process of establishing stream objectives and flows. Models use to predict required flows and results of actions.

Management of aquifer quality

Policies/rules for fertilizer application rules (guidelines) – as above assume efficient use of fertilizer due to cost.

Groundwater quality programme – 28 bores monitored, but quality not linked to quantity – aim to link this through in future.

Shallow water quality not generally monitored or addressed. Some shallow groundwater/spring water used for municipal supply, but diluted with deeper groundwater.

NZ Standard for bore drilling to prevent cross contamination.

Major contaminated industrial sites influence aquifer quality particularly in urban area – several major sites being studied – studies currently investigating this issue.

Integrated management – land use practices/riparian/flows etc

Mitigation measures often embedded in conditions on resource consents – eg requirement for riparian planting/fencing etc.

Community programmes (such as Trees for Survival), Landcare etc.

Integrated management plans prepared to address specific issues where significant problems exist – eg Mahurangi project in response to monitoring results. May include grants to private owners for fencing and planting etc to reduce sediment runoff.

Sediment control measures – integrated catchment programme.

Voluntary programmes e.g. Clean Stream Accord.

RIVERS/STREAMS

Flooding

TLA responsibility – generally managed through structure/district plans.

Key issue is building in floodplain – eg more houses rather than larger floodplains.

Some TLAs want to change flood standard to 1 in 50 yr from 1 in 100 yr.

Erosion

Cultivated land sedimentation of waterways an issue.

Stream erosion due to increased stormwater flows.

Stock access to waterways big issue – polarizes community. ARC signalled likely rules in Plan to address issue (eg fencing).

Structures

Barriers to fish passage seen as key issue – studies ongoing on preventing barriers and retrofitting/removing old ones. Often significant costs.

Dams identified as issue – changes in landuse can drive increased demand for ponds. Provision of rules to encourage/enabling off-stream ponds. Loss of small streams an issue.

Dam strategy being prepared and existing dams investigated – future management options, do they meet permitted activity standards?

Wetlands etc

Clean Streams Accord – specific targets for wetland fencing.

Identification of significant wetlands currently ongoing - challenge in integrating TA and Regional Council

information.

Landuse change often presents opportunity for wetland protection through consents.

Lakes

No many lakes in region, but most under stress (nutrients or introduced fish).

Catchment Management Plan/action plan approach considered like Mahurangi project for Lake Ototoa to arrest decline.

Specific/intensive action most effective management approach.

URBAN ISSUES

Management of freshwater – issues/response

Growth and urban stormwater key issues in urban area and challenge of meeting environmental expectations in highly urbanized areas.

Effect of urban stormwater of streams/groundwater issue.

IWI INVOLVEMENT

Plan development

Only 1 submission made by Iwi to Regional Plan and no appeals – difficult to determine effectiveness of consultation process.

Recognised that Iwi consultation at plan development process is critical – help to address issues up front and provide more certainty with regard to process – worked well for Dairy Plan – consultation undertaken by Council at Plan stage, rather than individual farmers at consent stage.

Resource management

Iwi consultation submissions on individual consents.

Initiatives trialled to facilitate iwi involvement – eg emailing of applications etc.

Internal iwi unit, provide guidance and input.

Catchment/aquifer approach can be challenging due to changes and limited Iwi resources – often difficult to get continuity despite efforts.

Consultation perceived to be "one-way traffic" – e.g. Council informing Iwi.

Stream objective setting recognises Iwi values e.g. when setting stream flows.

OTHER METHODS

Community participation

Range of industry groups.

Variety of community groups – Trees for Survival (50,000 trees planted in 2004), 90 WaiCare groups, 40 plus Landcare/beachcare groups but less than 10 highly active. Requires community driver.

Need to look at how community participates in LTCCP etc.

Education

Wide range of education initiatives – Big Clean Up major initiative.

Range of education resources/school programmes etc.

Incentives

Assistance fund available.

Awards programme.

Grants available in Mahurangi to address specific problem areas.

Enforcement

Relatively high level of enforcement – primarily in relation to pollution – approximately 300 incidents

considered each year.

Some enforcement of dairy discharges, runoff from cultivated land and water use.

However major enforcement industrial pollution and sediment runoff from earthworks sites.

Compliance checks on water use, discharges etc.

Increasing enforcement for permitted activities likely in future.

KEY RESOURCE MANAGEMENT ISSUES

Current issues

Population growth and rural development.

More intensive land uses in rural area give rise to waste discharge issues.

Often difficult to deal with development creep – eg incremental change (below thresholds) over time.

Need to integrate land use management with TAs although this is working well for water demand.

Emerging issues

Fencing of stock from waterways – polarizes communities.

Reverse sensitivity issues – urbanization of rural areas. However, also presents opportunities through changing values and consents etc.

Barriers/impediments to good management of resources

Reluctance by Regional Councils to manage landuse – misconception that RCs are not empowered to do so

Staff resourcing, technical skill shortages.

Lack of integration with catchment management.

Identification of gaps in information, Auckland region e.g. soil research.

Relationship with TAs e.g. processing landuse and regional consents for the same project – lack of integration.

Effective cost recovery mechanisms unclear - e.g. non-consent related work, education/advice on individual sites.

Tools/practices that would assist in management of freshwater

RMA generally provides the tools necessary to manage freshwater.

However, best practice guidelines – e.g. development of policy, tools for setting minimum flows, technical guidance. Good work being done around country – good to pull best practice together.

"Menu of options" preferred to "one-stop-shop" – eg provide a range of options so that best one can be selected depending on local needs.

Guidance from MfE on national issues.

Cost recovery a significant issue. Everyone supports concept of user/polluter pays but difficult to apply in practice to permitted activities. Cost recovery for non-compliance with PAs is difficult. Need to go to enforcement (eg EINs/enforcement orders). However, Councils should be able to recover costs and non-compliance goes past the cost of governance and community shouldn't be required to support polluters/non-compliance. LGA provides for some mechanisms, but not provided for in RMA.

Need to recover costs of compliance may result in Councils resorting for resource consents for minor activities. This is not good resource management.

Appendix A (3): Environment Waikato

Attendees:	Tony Petch (Group Manager, Resource Information), Robert Brodnax (Programme Manager, Waikato Regional Plan), David Speirs (Environmental Manager, River and Catchment Services), Viv Smith (Programme Manager, Water, Air and Waste), Rob Dragten (Programme Manager, Complaints and Enforcement, Resource Use Group), Reginald Proffit (Programme Manager, Tai-ranga-whenua – iwi liaison team), Alan Campbell (Programme Manager, Environmental Education), Urlwyn Trebelco – (Environmental Planner), Mark Brocklesby (Programme Manager Consents), Mark Davenport (Programme Manager – Agriculture), Environment Waikato; Carmel Rowlands, MfE; Ian Mayhew, HYC for MfE.
Date:	11:00 am Friday 16 September 2005
Venue:	Environment Waikato

KEY RESOURCE MANAGEMENT ISSUES

Waikato freshwater resources are under significant pressure. When the Waikato Plan was being prepared in 1996 water resources were reasonably plentiful but are now under pressure due to changes. The key driver is increasing areas and intensification of dairying – places pressure on water use (for large scale pasture irrigation), but also fertilizer use and waste disposal increase nutrient loads on waterways – fertilizer use in Waikato increased 20% in one year. The rate of change and pressure is hard to manage under RMA due to conflict between economic growth of primary industry and adverse effects which may ultimately lead to an inability to meet desired water quality standards in Waikato River.

Taupo nutrient levels already a significant issue, Waikato River nearing full allocation and close to nutrient limits - also need to balance storage issues for electricity generation. Significant areas of forestry being converted to dairy in Waikato River catchment (and other catchments) due to levels of return.

Parts of the lower Waikato River are at full allocation; some other rivers are nearing this.

EW has reviewed its water allocation chapter of the plan and is looking to notify a variation towards the end of next year.

There is a mismatch between water availability and use – 80% of availability is groundwater, 80% of use is surface water.

Also seeing significant growth in some urban areas.

WATER ALLOCATION

Allocation mechanisms

First in-first-served is the primary mechanism for allocating water. 80% of water taken from surface, 80% water available from groundwater.

Surface water allocation default is 10 % Q5, after which discretionary activity consents are required – eg can go above this level on case-by-case basis. 10 % Q5 generally conservative approach but can be high in some cases.

Groundwater allocated to defined maximum levels of availability.

Looking at controlling use of water to enable controls over nutrient use and budgeting.

Catchment/allocation plans for more detailed assessment of resources – prepared on a case-by-case basis when reach 70% allocated.

Common consent expiry dates in some areas to facilitate management.

Overallocated resources – management/clawback

Sinking lid (internal) policy in some areas – eg Pukekohe where currently overallocated. Match use to wateruse guidelines and encourage change to groundwater use where available.

Use of tradable permits – formal/informal

Permitted to transfer in plan – largely informal but indications are that it is reasonably common. Primarily between market gardeners depending on crops and water requirements.

Giving consideration to trading systems (including nutrient trading systems in Taupo Catchment) – not necessarily run by EW. Expect trading to occur in Waikato River soon due to pressure on resources.

Water efficiency measures

Guidelines in plan – use guidelines for establishing volumes. Consents provide for lapsing (to ensure use).

Also encouraging peak use vs scheduling/storing through consents.

Annual charges applied based on consented volume but not a driver of efficiency due to relatively low cost vs returns for the water.

Monitoring of resource use

Requirement for monitoring on long term (10+ years) and big consents. Moving to meters on all water takes - looking at telemetering systems to provide real time use (will assist with trading).

Ratings/remissions to incentivise compliance.

Enforcement not used commonly due to resources not being stressed – prosecution has been undertaken – Environmental Infringement Notices for minor issues.

Water users groups not common – generally happen in response to key issues.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

4,800 farms in Waikato. Area getting bigger each year – 20% increase over 10 years and continuing to expand. 36,000ha going from forestry to dairying.

Dairy shed discharges 79% to land, others to water (pond systems). Discharges to land generally permitted. Compliance difficult although innovative methods (eg helicopter surveying to identify direct runoff being initiated).

Land use - 68 % dairying 21% sheep and beef, 8% other. Sheep and beef also increasing nitrogen application.

Nitrogen application generally permitted – may have to impose rules in Waikato River to address issue of nutrient loads. Fonterra very active in trying to change nutrient /issue.

Some catchments pressured in respect of on-site domestic wastewater disposal – especially on Coromandel Peninsula.

Issue of discharge of reticulated wastewater to Waikato River – not major at moment.

Range of programmes to assist in nutrient management – education, regulation, incentives. Solid monitoring basis demonstrating SoE.

Nutrient Budgeting

Looking to establish nutrient budgeting in Taupo Catchment. Challenge – especially in developing initial allocations and how this may apply across the wider Waikato River catchment. Have to make it practical for farmers to encourage adoption and simplify compliance. Working through detail how enforcement/audit process would work for budgets.

Use of classifications/standards

Four classes of water bodies applied with associated standards from RMA. However, no nutrient standards – which are important given extent of issue in Waikato.

Discharges take into account assimilative capacity of rivers, taking into account water abstraction – 10% Q5 generally conservative. Are seeing some algal blooms in some Lakes (eg Karapiro).

Management of aquifer quality

Inherently tied to land use. Seems to be a lack of guidance nationally on how to manage aquifer quality yet the long term impacts of land use will be felt on these with far longer implications than surface water.

Groundwater keeps being relegated into the too hard basket. NZ is about 20 year behind many countries in setting up national management systems to address groundwater quality and exclude some land uses over recharge or abstraction areas of aquifers used for current or future drinking-water.

Integrated management – land use practices/riparian/flows etc

Range of programmes in place to assist in respect of land use practices, riparian planting etc. Eg Care Groups, targeted incentive programmes, Clean Stream Accord, close liaison with Fonterra etc However, these initiatives may not be progressing fast enough or sufficiently address contaminant issues to actually make a difference to water quality longer term.

RIVERS/STREAMS

Key issue fragmentation of streams through barriers to fish passage – eg hung culverts, dams etc. Result is loss of linkages amounting to significant areas. Could look at NES in relation to construction of culverts etc.

URBAN ISSUES

Management of freshwater – issues/response

Urban growth issue in many areas – especially on Coromandel Peninsula – issues with on-site wastewater discharges. EW keen to see progress on an NES for on-site wastewater systems. This is both a public health issue and an environmental one and creates problems between territorial authorities and regional councils all around the country. It is also a problem in protecting groundwater quality.

IWI INVOLVEMENT

Plan development

Iwi involved in developing plan – provided issues of significance and input into chapter. Dedicated iwi section provides linkage.

EW worked with iwi on their management plans and takes these into consideration though plan and consent process.

Taupo run as partnership between EW, iwi, Central Government ad other key stakeholders.

Resource management

Issues in areas where development occurs – puts significant pressure on iwi to be involved. Barriers put in place inadvertently – sheer numbers of consents, locations of hearings, time requirements combined with limited capacity of iwi. Generic responses due to time and resource pressures – lead to bigger issues.

Need to have decisions makers from iwi to assist in understanding cultural issues and providing wider context (eg value based decisions). Challenge is how to get iwi involved in decision making. Capacity building with iwi necessary (whole of government approach not just local) - resourcing and skill levels. Maybe pool of experts to assist local iwi, encouraging Maori into sciences, planning/policy. Needs to be integrated with other agencies and wider than local level – whole of government approach.

OTHER METHODS

Community participation

Plan preparation – good attendance by community in workshops, but limited in formal process. Voice of community gradually lost through process due to timeframes, cost and on-going involvement of big players in negotiation processes which results in loss of community.

Good process for Taupo Plan Variation – over 4 years.

Organisational structure changing to reflect changes in legislation – LGA and LTCCP. Linking LTTCP outcomes for nutrients in priority catchments with Plan outcomes.

Environmental perception surveys – rigorous process to obtain good/sound feedback from community.

EMERGING ISSUES/PROBLEMS

Current issues

(See beginning of notes).

Leading edge of agri-environment issues. Moving past environmental issues and moving to economic viability due to scale of activities and rate of change. RMA not best mechanisms to deal with the issue as effects may not be manageable without significantly constraining industry growth – need central government to take wider approach recognizing conflicts – integration of economics/environment/social consequence. Drivers are outside EW's control and effect cannot be managed easily. The significant level of conversions from forestry to pasture has significant implications – carbon credits/nutrients. Big picture issues need to be recognised addressed at Central Government on a whole of Government basis.

Science provider process needs to be considered further – 80% of research captured by 3 councils (EW, ARC, ECan). While EW works closely with science providers and funders – research tends to stop before the implementation phase. Need to ensure work is integrated with outcomes and not captured by private sector/productivity improvement. Can also have CRI competition for the same market – eg at least four nutrient budget models being developed by CRIs. Leads to confusion, pressure on Councils to adopt different models and waste of resources.

Groundwater is a continually neglected resource – left off water programme of action. Resources at risk of land use changes, over allocation etc.

Moving to specific plan provisions to manage significant issues – eg section of plans devoted to particular areas. Detailed information/monitoring and implementation measured required to achieve outcomes – significant costs involved.

Emerging issues

Local government involvement in Waitangi Tribunal claims are becoming more common – significant cost and other implications for councils. What does the application of the principles of the Treaty really mean – not really dealt with at the moment.

Implications of Maori ownership of water and management by EW – eg water column/river bed owned – how is this dealt with through RMA planning context where EW has the responsibility for managing resource? May also have different settlements and different ownership issues.

Support needed for a pool of iwi commissioners for hearings to get better involvement in decision making. Need central government to establish expectations to get better consistency across councils. No other party is required to be involved in RMA without the ability to obtain funding/resourcing – assistance with capacity building required.

Barriers/impediments to good management of resources

Information sharing across Councils is not as good as it could be. Works well where an organization has the time to facilitate process, but very time consuming to establish. Most Councils have specific areas of expertise that it would be good to tap into – maybe scope to facilitate expert groups to develop approaches to get more consistency across country. One example of good co-operation was an MfE-led working party of planners and technical experts who put together a model rule to control stock crossing. More of this should be done eg, getting groups of the best people together from around the country to develop modules of work then regionalize them afterwards rather than have all councils repeat the exercise.

As indicated previously, scale of land use change and resource pressures not able to be managed by RMA alone – conflict between economic growth drivers and environment.

Tools/practices that would assist in management of freshwater

Whole of government approach required to address significant development/environment conflict issue – large scale problem especially in relation to nutrients. Already a major issue in Taupo.

Create pools for expertise (made up of council experts) to assist across the country or working groups to

address specialist issues – facilitated and funded by MfE. Would assist in improving plans and practices across the board and utilize the significant expertise built up in Councils.

Also develop range of tiered guidelines/approaches etc that can be tailored to need – assist with resourcing and also provides consistency. These should include process implementation guidelines as often the information stops at the technical/science stage.

Environmental standards – some would be useful. Especially targeted at a low level to address common issues faced by all Regional Councils to get national consistency and reduce debates at individual plan level. Such issues could include on-site sewage, standard for dairy farm effluent system design, common permitted activity rules (eg culvert construction) etc – these would set the bottom lines.

Funding issues need to be addressed in relation to permitted activity compliance.

Need to give some consideration to nutrient standards in water classification.

Consideration of issue of application of Treaty of Waitangi issues to local government and role of councils in treaty claims. How does iwi ownership of water column interface with Council management of resource? Also need to consider methods to build capacity within iwi – pool of experts to assist local iwi, encouraging Maori into sciences/planning/policy, cadetships into local government etc – wider issue than just at local level.

Appendix A (4): Environment Bay of Plenty

Attendees:	John Whale (Manager Environmental Planning), Bruce Gardner (Manager Environmental Coordination), Ruth Feist (Senior Environmental Planner), Environment Bay of Plenty; Ian Mayhew, HYC for MfE.
Date:	9:30 am Friday 24 March 2006
Venue:	EBOP, Whakatane

KEY WATER RESOUCE MANAGEMENT ISSUES

Nine Regional Plans. Water and land management plans being combined into single Water and Land Plan.

Generally on top of point source discharges (dairy shed, sewage etc), non-point source discharges key issue across the region.

Nutrient levels in Rotorua Lakes particular focus, but scale of issue immense across region and big challenge to address. Tools are generally available, but require intensive management which is very resource hungry. Often a lack of association between cause and effect.

Sediment discharges an issue in some places, eg Tauranga Harbour. Ash soils easily moved once exposed by earthworks. Significant development occurring in region – including urban development and land re-contouring for horticulture. Question whether Tauranga Harbour can assimilate sediment.

Many small/short rivers with significant proportion at or near full allocation. Rangitaiki River above Matahina Dam fully allocated due to Aoraki decision.

Water use has changed with move to frost protection, and rivers are now often fully allocated throughout the year. Trend towards pasture irrigation and big water takes continuing to place pressure on resources.

Some pockets of growth placing pressure on water quality – septic tank issues. However, some areas being reticulated as a result of infilling, bacterial and nutrient issues. High level of performance required in lake areas. EBOP involved in trialling different systems to reduce nutrients.

Conversion of forestry to dairying happening – keeping an eye on the rate of conversion.

Working through programme to set minimum flows (methodology under appeal, hearing due September 2006). Aquifers are being mapped to assist in developing sustainable yields. Also looking at surface water/groundwater interaction.

WATER ALLOCATION

Allocation mechanisms

First in first served used for allocations. Water efficiency on basis of crop requirements.

Water harvesting encouraged. Rostering encouraged as flows approach minimums – non regulatory approach. Water shortage directions once flows reach minimum levels. Setting up MoU with District Councils to manage water shortages.

Allocation guidelines – low flows/water levels etc

Instream minimum flows will be set throughout the Region. Until then the default minimum level 90% of Q5 (five year 7 day average low flow) is set for allocation.

Link between allocation and classifications – Tawarewa River takes set to enable sufficient assimilation for industrial discharge consents.

Overallocated resources – management/clawback

Not a high level of clawback undertaken as instream minimum flows not yet set. Some enforcement undertaken to get users back to consented levels. Aoraki decision has changed view of allocation levels on rivers with hydroelectric generation schemes.

Use of tradable permits – formal/informal

Not aware of much trading happening at the moment. Trading may become more prevalent as pressure increases. Water harvesting will also increase.

Water efficiency measures

Water allocated to crop water requirements. Efficiency of use assessed at application stage.

Monitoring of resource use

Policy in plan requires metering as necessary and meters are being required through consent process.

Not a good understanding of domestic and stock drinking water use, but may be significant. Looking at surveys to identify these takes in pressure areas.

Water user groups

No groups active.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Point source discharges generally under control. Dairy discharges to land require controlled activity consents (discharges to water are discretionary).

Main effort focused in Rotorua Lakes. High level of management. High level of riparian planting in the lake catchments, attention is now turning to nutrient management. A nutrient benchmark is being prepared (based on 2001 to 2004 average) using NPLAS – issue with existing land use nutrient allowance. Equity needs to be defined by the community. Generally forested land is only suitable for forestry in lake catchments so nutrient allowances for these not an issue.

Each lake catchment may be managed differently to reduce nutrient use (i.e. may have nutrient trading in some catchments). Subdivision may achieve lower nutrient land uses etc.

Strong soil conservation focus. Farm plan process – working with farmers. Currently sediment focus with riparian planting/retiring land key management methods, but will be moving towards nutrient management as well. Sediment always big issue on volcanic soils.

Rotorua Lakes Lands Trust – local initiative, education etc.

Use of classifications/standards

Tarawera Plan (oxygen and colour) and Water and Land Plan apply classifications throughout the Region. General RMA classifications plus additional relevant narrative and numerical standards.

Link with allocation/stream flows

Assimilative capacity of river considered during consent process. Key determinant in Tarawera River allocations due to industrial discharge requirements for assimilation.

Management of aquifer quality

Less emphasis placed on groundwater management than on Lakes and Harbours. Water generally good although poor in some areas due to high iron levels. Major groundwater project over next few years.

RIVERS/STREAMS
Flooding Flood protection schemes run by EBOP. Flood management plans prepared and flood plan strategies being developed jointly by EBOP and District Councils. **Erosion** Stock access controlled in key watercourses/sensitive catchments but generally permitted subject to conditions. Use of prohibited and discretionary rules in sensitive waterbodies. Land erosion key focus due to soil types. **Structures** Small, unauthorised dams are an issue due to cumulative effects. Encouraging dams etc off main streams. **Wetlands etc** Wetlands are identified as an important issue in plan and wetland management is a focus of the Council's Environment Fund.
URBAN ISSUES
Management of freshwater – issues/response Urban stormwater identified as an important issue. Comprehensive stormwater consents required – priority driven over next five years. Mix of stormwater quality and quantity. Looking at transfer of powers to TAs associated with comprehensive consents. TAs manage industrial site discharges to their systems.
IWI INVOLVEMENT
More than 30 iwi in the region. Maori Regional Representation Committee (now the Iwi Committee) provides direct access to Council decision making. Draft plans sent to iwi, but low level of response. Iwi groups generally under-capacity and have other priorities. Level of activity depends on issues and area – particularly Tauranga. Kaitiakitanga chapter in the Water and Land plan encourages the development of iwi management plans. Iwi involved in Rotorua Lakes joint management committee.
OTHER METHODS
Community participation Strong emphasis of EBOP. Landcare/Stream care, environment enhancement fund etc. Landcare focused on soil conservation, riparian planting and native bush protection. Streamcare – water quality, erosion etc. Environment fund currently targeted at wetlands, waterway enhancement, and built/archaeological heritage. Active education programme supports initiatives. **Enforcement** Active compliance programme. Proactive monitoring and complaints response. Enforcement undertaken as necessary – EINs, prosecutions etc. Significant improvements have resulted from enforcement action.
OTHER PRACTICES
Working on a forestry accreditation system to assist in self registration for forestry. Greater range of activities allowed as PA where there is an accredited operator. Operators will be audited to retain accreditation.

Expected to be operative later this year.
EMERGING ISSUES/PROBLEMS
Emerging issues Water allocation will continue to be an issue. This is driven by pasture irrigation, demands for power generation etc. Non-point source discharges require a massive effort. Continued focus on the 12 Rotorua Lakes, 5 lake initially targeted and remainder will be addressed next. However, it is an issue across region. Estuary sedimentation will also continue to be a focus. Land development, stream bank erosion and land management practices are key areas for attention. **Tools/practices that would assist in management of freshwater** Identifying what is a reasonable level of use for domestic and stock drinking water requirements. Could consider widespread metering of permitted activities for stock water. Resourcing of icon/significant area management. Issue goes beyond local community, but community being required to fund it. Government funding should be considered – may require prioritizing issues of concern. Permitted activity monitoring – could use a registration process to better manage/regulate permitted activities, especially water use. Allocation mechanisms – consideration of alternatives to first in first served. Aoraki decision has raised questions about providing for power generation. MfE could assist facilitation of liaison between regional councils. Areas could include nutrient management and providing a focus group for soil and water managers. A whole of Government view would assist – currently get different messages from different departments – development vs RMA/conservation.

Appendix A (5): Gisborne District Council

Attendees:	Kerry Hudson (Senior Water Conservator), Trevor Freeman (District Conservator), Lisa Gooch (Team Leader Natural Resources), Mel, Kerianna Wilcox, Eykolina de Zwart, Gisborne District Council; Christina Robb, Libby Manley, MfE.
Date:	10am-12noon, Wednesday 12 April 2006
Venue:	Gisborne District Council

KEY WATER RESOUCE MANAGEMENT ISSUES

No research capability within the Council.

Most water takes confined to Poverty Bay flats.

Several discharge issues.

Both ground and surface water takes through transitional plan.

Lot of vineyards in the region but no irrigation takes for vineyards.

Vegetable crops – large volumes of water required at times, and not much at other times. Demand for water is significantly less than in 1990s.

Reasonable rainfall, clay, silty soils – good water holding capacity.

Dairying on decline only 3-4 dairy farms on flats, more horticulture (Fonterra don't operate in the Gisborne Region).

Potential for demand for water takes for K-line irrigation but this has not eventuated – only one or two consents issued for this use. But if this sort of irrigation gets underway, the impact could be significant on smaller streams not presently used for irrigation but important for stock water; it is surprising that it hasn't taken off.

WATER ALLOCATION

Allocation mechanisms/resolving conflict

Not an issue at the moment.

If people get the gist that a water source is running out then they get water from somewhere else.

Unsustainable land uses have now changed to more sustainable ones. Many crops don't require water – grapes or citrus.

Water takes are restricted to 5 years with common expiry dates – this system is self regulating. Always 5 years and always publicly notified. Generally understood that consents will be renewed.

Main Aquifer is recharging – increasing in terms of static levels.

No dairying that is irrigated – no need. Not a great deal of scope to irrigate in some areas – saline aquifer areas, no major water course. Also limited flat land areas. Rely on rainfall.

Small hydro activities – no impact – water is returned to river down stream – growing interest.

Allocation plans

Use transitional plan at present, reliant on s14 of RMA afterwards.

Non-statutory plan for the Te Arai.

Allocation guidelines – low flows/water levels etc

A range of cutoffs – newer consents get cut off first but haven't had to cut off this summer.

Newest consent holders are the first to get cut off regardless of term of consent.

Setting min flows based on min level at a river gauging site at the northern end of areas that are irrigated, when level drops monitoring kicks in.

1996 – Dry spell – but low water levels in Waipaoa River stabilized as aquifers recharged it through the gravels.

Low flows – sediment lows - project running through EnviroLink.

Triggers on large aquifers but haven't got near triggers in last few years.

Discrepancy between what people apply for and take – ability to check up on this – have metering on all takes.

Rostering at times – metering valuable as know exactly what people are taking.

Overallocated resources – management/clawback

Whakaahu Stream – limited resource at times.

Te Arai – restrictions at times.

Use of tradable permits – formal/informal

No demand for this, transfer as ownership changes.

Some takes transfer water to take from different places in the river – contract croppers have portable pump systems. Meter on pumping system.

Water efficiency measures

Metering.

Right irrigators for the region - all pumped and sprayed irrigation – portable guns, no centre pivots.

Short irrigation season.

Volume per hectare for crops is applied for on consents applications. Non-statutory requirement at the moment but standard thing that has been used for a long time. Doesn't take soil type into account but works most of the time. Looking to document and use as a strategy.

Council has policies that don't sit in plan used when granting consents. E.g. Consents to take by surface pumps can be superseded by consents to take by subsurface pumps (surface pumps – inefficient).

Access to advice e.g. Dan Bloomer – has carried out irrigation efficiency research in the Hawkes Bay region. GDC held a one-day workshop to disseminate this.

Monitoring of resource use

Water meters on all takes – at start of season consent holders fax in copy of what they are using – and must continue to do this every 2 weeks. Some flexibility in this.

There are some takes for frost protection – but most people are moving to storing water to use for this purpose

Phone line people can call to check flows on Waipaoa, Whakaahu and other.

Watch Waipaoa closely – if approaching cutoff GDC can call in all consents and cut them off. If looking like that will happen – GDC have a public meeting with users. People work in well together when resource is short. Very few restrictions in last few years so would be a shock when people have consent cut off.

Preference to irrigate from river rather than ground – warmer so it doesn't burn crops.

Water user groups

Rostering at times when necessary.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Sediment – main problem. Natural but accelerated – by bush and forest clearance, stock access. However, it is impractical to exclude stock from gullies. High cattle and sheep (beef cattle) numbers.

Point source discharges have been dealt with, diffuse not yet covered.

Riparian set back required in plan but nothing with regard to stock access.

Monitor a lot of water courses and ground water – know where problems are occurring. Monitor 16 sites but on reduced frequency. Huge variation depending on rainfall.

Not much nitrogen fertiliser going on to create problems.

Use of classifications/standards

Use ANZECC and look at sensitivity of receiving environment.

Integrated management – land use practices/riparian/flows etc

Waipaoa catchment - sustainable hill country project – aligned with MAF East Coast Forestry Project. Worst erosion.

Land owners more interested in how the water can make their property more profitable rather than the water course itself.

Lakes

A few small ones.

RIVERS/STREAMS

Wetlands etc

Have now been drained to use the land. Some people interested in restoration. But a lot are not. Rule under appeal (from both sides).

Modified wetlands (farm dams etc) excluded from rule (4.11 combined plan).

URBAN ISSUES

Drinking water – bush source, better since large industry left town (Watties, meat works). Towns – mainly tank water, some towns have bores.

Stormwater – fixed up problems with sewerage infiltration (combined overflow).

Some dodgy connections from properties causing problems.

Natural drainage pattern follows streams -multiple discharge points rather than well designed so all storm water goes to a central point.

Degraded surface water streams in urban areas.

Urban growth in recent years. No concerns about drinking water supply – adequate.

IWI INVOLVEMENT

Plan development

Combined plan and RPS – huge involvement.

Need for good consultation always forefront on the East Coast. In combined plan – issues raised about sediment but iwi didn't get involved – was opportunity for it though.

Tangata whenua attendee at each meeting.

Huge involvement in coastal plan – concerted effort.

Policies reflect iwi involvement.

Separate Hui for SWPoA consultation in 2005 – divisive approach.

Resource management

Consents – iwi notified.

OTHER METHODS

Community participation

Through consultation.

Education

Conservation Quarterly publication – includes water issues.

State of the Environment reporting – biennially – made available.

Enforcement

Don't do a lot of infringement notices but do when required.

Try to keep checks on consents.

Requirements for dischargers to supply records.

Have to keep following up to ensure compliance.

Permitted activities – hardest to monitor. Through complaints but at cost of council.

OTHER PRACTICES

Getting into biological stream health monitoring would be useful but no funding.

KEY RESOURCE MANAGEMENT ISSUES

Emerging issues

Budgets – limited and getting tighter.

People not interested in things like monitoring permitted activities, want footpaths and roads.

No funding for science.

EnviroLink – difficulties with administration, a lot of time involved in putting together projects – have to be managed by GDC and yet to see if it will provide what they want.

Fearful of extra resourcing burden imposed by central government.

NPS – must be able to reflect regional variations.

Guidelines must be realistic.

Within unitary authorities regional council functions compete with district council functions to get funding.

Tools/practices that would assist in management of freshwater

Capacity building of councils.

Appendix A (6): Taranaki Regional Council

Attendees:	Fred McLay (Director Resource Management), Gray Severinsen (Policy Manager), Taranaki Regional Council; Carmel Rowlands, Libby Manley, MfE; Ian Mayhew, HYC for MfE.
Date:	1:30 pm Wednesday 15 March 2006
Venue:	Taranaki Regional Council

KEY NOTES FOR WATER RESOURCE MANAGEMENT ISSUES

TRC commitment to Resource Management 'Cycle' (policy development – implementation through consents – compliance/SoE monitoring – enforcement – policy effectiveness review). Strong information base - need to have good data to underpin good policy and be prepared to back up with monitoring and enforcement.

Point source discharges generally dealt with in the 1980/90s. Consents required for all dairy effluent discharges. 60% to streams 40% to land. Positive outcome for 2018 farm dairy discharges.

Industrial discharges to surface and coastal water largely addressed through treatment and/or amalgamation and under control. Big reduction in number of coastal discharges and impact.

Key issue diffuse source discharges. Primarily managed through non-regulatory approach. Work with farmers to develop Land/Riparian Management Plan – fencing and planting – good coverage across region. State of Environment monitoring is showing good results, even though dairy cow numbers have doubled in last 20 years.

Some allocation issues arise in some areas but not a major issue. Pasture irrigation takes have increased over last 20 years, particularly in lower ring plain where rainfall low – biggest increase on water resource use.

Groundwater not widely used although shallow aquifers used in some areas. Mainly for domestic municipal supply.

Nothing wrong with the RMA seems to be issues over capacity to use successfully.

WATER ALLOCATION

Allocation mechanisms

Generally first in first served, subject to reviews etc through consents. However, in one catchment irrigation application was reduced where others in the catchment said they might be interested in consents to take water sometime in the future. Generally only stock/domestic and community use seen as a higher priority than other uses.

Rivers rise and fall quickly – difficult to rely on run of river at certain times of year. Promote storage, harvesting, conservation and efficient use. Conditions on consents to suspend takes at times of low flow.

Water shortage directions given at times of low flow with priority for municipal supply. However, infrequently used (once).

Stony River has WCO – limited takes and discharges.

Plan includes tiered approach - identifies streams with high natural values.

6 yearly reviews of consents possible.

Allocation guidelines – low flows/water levels etc

2/3 of habitat at MALF for environmental flow – different from other places. Guideline only – will go under

or over depending on values and community. Found to be most robust method for region and based on scientific and IFIM work. Flows tied back to a network of recorders/staff gauges. Series of alerts to reduce water use as flows reduce.

Groundwater allocated to sustainable yields, but not significant usage.

Overallocated resources – management/clawback

In cases of allocation before water plan was introduced - clawback occurs through consent process but not a big issue. Strong line taken with consent compliance.

Charging mechanism based around discharge and take – resource management levies (implemented in 90s). Immediate outcome – consent holders looked at how much discharged and abstracted – 25% reduction in consented takes. Charges not excessive but reaction was to cut back and an example of a financial instrument. Levies replaced with a strengthened monitoring programme framework.

Work with users to find pragmatic solutions. Things are actually happening – not just talking about it. Outcome focused and people respond to this. Eg Fonterra at Hawera, mitigation of effects of major take – water re-use and recycling, riparian planting.

Pasture irrigation consents have conditions requiring riparian planting – mitigation.

Prepared a guide to the Freshwater Plan that showed where water was available and where it was not.

Use of tradable permits – formal/informal

Little or no trading occurs.

Farmers realizing value of water and consents (important chattel) - riparian plans are seen as an asset.

Water efficiency measures

Lincoln Environmental advised regional council on guidelines to apply to irrigators – on efficient use. Application rates etc. Region broken down into irrigation zones, which is applied through consents.

Monitoring of resource use

Extensive compliance monitoring regime in place and "anonymous" members of public good at reporting environmental incidents. If necessary enforcement undertaken.

Consent conditions require meters. Many users have data loggers sending info to council.

Good info on permitted takes. 1980s ring plain survey – since updated in 1990s found it was still about right. Correlation between number of dairy cattle and water use.

Water user groups

Don't have many competing uses within a catchment – no driver for user groups but examples of existing and future water users in a catchment working together.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Farm dairy land surface water discharges of treated effluent – generally controlled activities Significant monitoring and some enforcement - 2,018 consents all inspected once a year ($90 + gst charge for inspection, re-inspections also charged for-$102+ gst). TRC make use of all enforcement tools and financial instruments. Infringement notices are a particularly useful tool and important if later prosecution occurs for similar incident.

High effort also put into non-regulatory land management/riparian plans. TRC facilitate plans through their land management team – prepare plans for farmers. About one million dollars a year of ratepayer funding go

into the land management work. All happening before the Accord came along. 50% of farms on the ring plain have plans, and have hill country land and conservation plans underway for some time. Recommendations in plans can include land management, type of land use, wetland management (schedules in regional plan of regionally significant wetlands).

Separate grant fund for environmental enhancement – commonly focuses on wetlands.

Voluntary riparian management programme involving free plan preparation and cheap plants (through bulk ordering) working very well. Will have biodiversity outcomes as well and plans developed with the farmer. TRC motto of "working with people- caring for our environment" in action through this programme.

Clean Streams Accord – Taranaki doing well, apart from nutrient management plans in place which is Fonterra responsibility. Still work to be done to improve.

Nutrient management next key issue – fertiliser, high stocking rate major issues. Doubling of agricultural intensity – water quality stabilizing or improving. Nutrient use – permitted activity subject to best practice, etc. Short streams, steep gradients of the regions waterways – makes the job easier.

Biological quality of streams – macro invertebrate index shows improvement over last 10 years. Scientifically defensible data available from SoE to show macro invertebrate and surface water quality trends. SoE data seen as fundamental for good policy development and review.

Shallow groundwater quality reasonably stable. Nitrates in shallow aquifers but only in a few hot spots.

Use of classifications/standards

Don't use formal classifications – but use water quality guidelines based on RMA Third Schedule. Can view classifications as a license to pollute to a certain level.

Link with allocation/stream flows

Water quality link to flows and allocation – although water availability primarily determined by habitat requirements.

Management of aquifer quality

Nitrate contamination an issue in some areas and need to focus on nutrient management as above.

RIVERS/STREAMS

Flooding

Not much of an issue on the ring plain. However, issues in hill country and TRC operate 3 flood control schemes. Sediment from eastern hill country streams an issue.

Erosion

Farm plans being developed for Hill Country farms – high level of uptake. Erosion control an important issue.

Wetlands

Protect regionally significant wetlands through Regional Freshwater Plan (RFWP). Environmental enhancement fund – significant component spent on wetlands.

URBAN ISSUES

Management

Stormwater quantity/quality not seen as a major issue. However, part of SoE programme includes stormwater drainage.

All big/medium industrial sites are consented and on a compliance monitoring programmes – inspections, samplings, reporting. Driven change in towns and industry.

Joint monitoring programmes for some catchments.

Contingency programmes – required as part of consent to have a contingency plan. Eg if spill – must have bund to contain a spill and notify major downstream water users.

Land use consent - s9 to control water quality. Considered but not a big enough issue for regional council based on SoE data.

IWI INVOLVEMENT

Plan development

8 iwi in the region, many hapu.

Catchment Water Management Plans – 1980s – started process of iwi involvement in resource management. Specific values recognized and provided for that have been incorporated into later planning documents. Declaration of understanding and a code of conduct to set out responsibilities in RPS. Debate still ongoing re: whether iwi resources and not for the council to manage – early 90s – have moved on from this. Have a standing committee to liaise with iwi – important role in developing RPS and plans. Set up to provide policy input into council plans. Broad policy level. Committee in abeyance.

Now dealing on one to one basis with all iwi, particularly those 4 that have settled with the crown – looking at MOUs and similar tools. Have a generally positive relationship.

Iwi involved in compliance monitoring of Fonterra plant discharge in Hawera and view all notified consents. In areas of statutory acknowledgement or waihi tapu sites (based on available database information) a greater level of involvement.

Treaty settlement process strengthening capacity and leadership aspects.

OTHER METHODS

Community participation

Mainly at farm level - riparian fencing/planting plans.

Community involvement through plans.

People often ring up – regional council keep them in the loop, let them know what you are doing.

Various communication tools employed e.g. Recount magazine.

Education

Schools – public information section. One ex-teacher who works with schools. Communications strategy to set direction for education.

GIS tools to help share information. Agreement with two district councils to combine all information in one place. Work closely with districts.

Produce publications – annual activity reports. High level of public accountability.

State of the Environment report every 5 years. Monitoring longer term trends.

Incentives

Good to celebrate success – need to do more of this.

Free riparian plan preparation and bulk buying of plants a significant contribution.

Environment Enhancement fund – significant component spent on wetlands, although range of work eligible for funding.

Enforcement

High level of compliance monitoring and enforcement where necessary using full range of tools in RMA.

Every consent monitored at least once a year, user pays regime in place. Good recording and reporting IT systems.

Monitoring

Significant monitoring undertaken. Underpins policy. Results reported - helps connect with community on what has been achieved and work still to occur.

EMERGING ISSUES/PROBLEMS

Emerging issues

Fonterra want compounding 3% growth a year – environment can only take so much. Farm plans part of the farmers licence to operate. Issue of economic growth vs management of diffuse source pollution.

Biosecurity issues. Carp in some streams, pest management strategies prepared every 5 years.

Tools/practices that would assist in management of freshwater

Role of MfE needs to be worked out. Need to work out issue first before working out if we need a tool to deal with it – eg NES, NPS etc. That is, look at what the problems are and where they are, rather than introducing broad tools. Nothing wrong with the RMA only practice and capacity issues. Work with councils not doing a good job – don't put everyone in the same 'boat'.

Celebrate success – identify where things are working well and show-case them – don't just focus on problems. Overseas environmental regimes are poor in comparison to RMA.

Central government – take a whole of government position – get a more balanced position instead of individual ones e.g. DOC who represent the instream conservation values but no consumptive use representatives apparent in Wellington. Need to be more strategic in its thinking and identify matters of national importance but leave process at regional level.

Research – better align CRIs with the needs of councils.

More information sharing than there used to be through SIGs but still an issue and central government departments don't connect. Need something more, maybe a leadership role for MfE.

Keep guidelines alive – don't let them disappear into the web. Connect pieces of work going on and make them more visible. More of a coordination role – at regional level.

Economic instruments and resource rentals should be considered – NZ doesn't value water and can be wasteful. Economic instruments could help.

Appendix A (7): Horizons Regional Council

Attendees:	Olivier Ausseil (Environmental Scientist), Jon Roygard (Environmental Scientist), Richard Munneke (Policy Manager), Horizons Regional Council; Carmel Rowlands, Libby Manley, MfE; Ian Mayhew, HYC for MfE.
Date:	8.30am Tuesday 21 March 2006
Venue:	Horizons (Manawatu-Wanganui) Regional Council

KEY WATER RESOUCE MANAGEMENT ISSUES

Currently developing the "One Plan" – amalgamation of regional plans. Changing the way they are doing things. Have discussed with TAs – what each party can do to help each other.

Most of work is aiming at One Plan.

Variety of issues/pressures across region.

Wanganui catchment

Area includes Wanganui catchment with the Tongariro Power Development (TDP) just been re-consented.

Ground water allocation main allocation issue. Little intensive land use so not major problems with water quality but significant problems with erosion and sediment.

Some septic tank/treatment issues in coastal areas.

Whangaehu catchment

Affected by crater lake – very acidic.

High quality rivers in Ruapehu district.

Market gardening and carrot washing operations – create water demand and discharge issues (sediment washed off carrots back into pristine river) – compliance sorted them out – turbidity sensors to prevent nocturnal discharges. Great improvement in operations – gone from straight discharge to 4 pond systems.

Waiouru town supply, army supply – heavily allocated.

Quality, particularly turbidity – due to cropping near river banks – sediment washed into rivers.

Rangitikei

National Water Conservation Order – allocation limits and minimum flows. Also local conservation notice

TPD takes water out of region.

Allocation in Rangitikei - large increase in use in lower part of the catchment, allocation up three times – pasture, beef production, dairy conversions.

High values in upper head waters (fisheries), demand in lower reaches.

Large number of groundwater takes in lower reaches. Quality – pristine to mid catchment, water quality of downstream is not pristine but not bad, overall pretty good for river this size, issues on some tributaries but not affecting main stem. Some town sewage issues.

Lots of historical sewerage systems, leakage - needs investment to clean up the point source problems. Declining rural towns don't have the rating base to upgrade. Question of priorities.

Threat to Rangitikei – growth of periphyton is currently limited by nitrates. More nitrate will result in more algae.

Manawatu catchment

Large area of dairying. Manawatu catchment water quality plan and water allocation plan. First allocation plan – first catchment specific plan.

Most heavily allocated catchment in the region – pasture irrigation 80%, 1 town supply, 2 abattoirs.

Turamea sub catchment – local conservation notice. Speculation for formal hydro generation. Low use river,

small irrigation takes.

Mangatainoka – local conservation notice – mostly for its brown trout fishery.

Pangaea – agriculture irrigation – groundwater issues in lower reaches – Environment Court decision regarding artesian flow.

Manawatu – high nutrient concentrations, turbidity, bacterial contamination. Number of significant discharges into the river and is tributaries. Principle aim of water quality plan was to deal with point source discharges, good progress now case of managing consents and enforcing compliance with consents.

Significant nutrient issues in Manawatu catchment. Diffuse source contamination rather than runoff. Not currently armed to tackle the issues.

General

Nutrient (non-point source), faecal contamination, turbidity – three biggest problems.

Issues with septic tanks and land treatment in coastal settlements. Intensifying without enough land to treat their wastewater. Move away from ground disposal to land based treatment for waste – try to encourage where the subdivisions are going in.

WATER ALLOCATION

Allocation mechanisms/resolving conflict

First in first served – priority uses during low flow, public and stock water supply are priorities.

Core allocation and minimum flow allocation.

During restrictions

Aim to get public supply to strict level of efficiency rather than shut it off. Generally work to in-stream requirements, but obvious requirement to keep town supply going for health reasons. Anything operating under low flow should have human or stock health benefits (not pasture irrigation).

Cut out irrigators and rivers can generally cope with smaller takes.

Common expiry dates – overhauling quality and quantity programmes – also common management zones for both.

Looking to provide a guidance note through plan to explain how any extra water is allocated.

Allocation plans

Allocation plans used as technical supporting documents. Sets flows that are then brought into regional plan via variation.

Catchment by catchment process.

Allocation guidelines – low flows/water levels etc

Extensive water allocation process done on a case by case basis.

Consider habitat requirements and chemical parameters – integrated approach. Use IFIM.

About 40 continuous flow monitors to assist with allocation. 10 new sites in last 5 years mostly around water allocation issues.

Set sustainable yields for aquifers – guidance in One Plan. Reviewing sustainable yields and considering integration with surface water.

Annual and daily limits on irrigation – big takes – telemetry sends data back each hour.

Overallocated resources – management/clawback

Haven't had to clawback although some consent lapsing has been enforced. Some District Council consents have allocations banked.

Use of tradable permits – formal/informal

Rural plan has a provision for trading but there hasn't been a big uptake.

Permitted subject to conditions. See it happening more in the future – provision in the One Plan.

Water efficiency measures

Permitted takes – can be significant in small streams but focus on priorities.

SPASMO model used to encourage efficiency – developed with HortResearch – helps determine annual requirements for groundwater takes. Working through industrial and municipal supply guidelines.

Monitoring of resource use

All takes required to have meters. Aim to have 80% of takes telemetered – "if you are not measuring you are not managing".

All discharges now required to be metered to know volumes.

Water user groups

Number of user groups. Ruahine River Care – 30 irrigators, involved in project – let Horizons install telemetry meters.

Easier to work with groups than individuals.

Also groups in Manawatu and Rangitikei catchments.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Biggest challenge to face. 90 % of nitrate load non-point source discharges.

National problem – need guidance, identify responsibilities.

Currently planning framework does allow much in the way of regulatory processes. Idea is to define a number of small priority catchments where we can work with farming community to improve the way things are done.

Clean Streams Accord is a good start – although only covers one industry. Market gardening and dry stock farming also create problems – need national initiatives.

Farming community is aware of the issues – know of tools eg Overseer etc. Nationally need some thought on how to get buy-in. Plan will signal the desire to have tools like Overseer used.

On farm scale - best management – idea of farm plans that have an environmental benefit – become like a Code of Practice. Fertiliser reps know the most about nutrient budgeting – potential for conflict between selling product and environmental sustainability.

Focus on hill country – highly erodible land.

Sustainable land management –February 2004 storms – lifted awareness of prevention rather than clean up after event.

Financial contributions e.g. where streams are retired – these have become more flexible in level of contributions (used to be 30%) and in what they can and can't do.

Huge requirement for coordination – VegFed trying hard with research, Fonterra etc. Need to pull this together and provide some guidance.

Use of classifications/standards

Classifications will be more widely used in One Plan. Look at 3rd schedule and other issues on a river by river basis and consult with stakeholders. Link with water management zone and define water quality standards for each zone. Different water quality standards for each zone, also related to flow.

Set targets for degraded zones.

Trying to break water quality down into manageable bits.

Management of aquifer quality

Focus on streams at moment. Do have some groundwater issues (shallow groundwater) Groundwater issues – Horowhenua, the problem there 30yrs ago and is not getting any worse.

Quantity is biggest issue for groundwater but effects on other users rather than shortage.

Integrated management – land use practices/riparian/flows etc Range of tools – financial assistance (fencing, water reticulation etc). Sustainable landuse initiative – hill country, farm scale management re farm plans – erodable land.
URBAN ISSUES
Sewage biggest issue.
IWI INVOLVEMENT
Plan development Big region, lots of hapu, difficult job to get good dialogue. Some don't want to talk at all. Focus on ideas of mauri, kaitiaki and taonga – translate into real things in plan. Lots of other demands on iwi – other priorities, have engaged, not fantastic but pleased with involvement in the One Plan. Positive about not having separate section in the plan for iwi as already provided for with the whole plan – move towards integrating iwi values/objectives into plan. **Resource management** Notify necessary consents to iwi. Iwi appointed as hearings commissioners for some hearings. Have iwi reps with technical understanding of the issues.
OTHER METHODS
Community participation Significant consultation with key stakeholders in Plan development. LTCCP and One Plan – merged a lot of issues to take to the public – could vote on issues priority with environmental credits. Water quality priority big issue and quantity number two. 4000 people voted. Landcare groups, other community initiatives. **Education** Mainly focused on schools. Contracted out and co-ordinated with Palmerston North city. Also education through land management officers, floods exhibition etc. **Enforcement** More emphasis on compliance monitoring – increasing level of activity. Surface allocation – automated compliance checking. Council becoming firmer. More infringement notices, prosecutions. One Plan – more permissive of things that don't matter and but enforcing things that do.
OTHER PRACTICES
Any other management practices Significant monitoring programme.
EMERGING ISSUES/PROBLEMS
Emerging issues Hill country intensification – increasing fertiliser use. Non-point source pollution, nutrient management – how do we deal with scale of it? – National guidance may help. Mix of regulatory and non-regulatory methods. Big issue and resourcing key issue. Need leadership from central government – roles, responsibilities for nutrient issues. Opportunities to coordinate efforts – eg VegFed, Fonterra etc – needs leadership to pull together.

Also, need to expand issue to consider dry stock farming/market gardening, not just dairying.

Guidance needed on development of farm plans. Could look at a "green tick" accreditation initiative at national level.

Access to science – expensive – can't afford it. Auckland, Waikato and Canterbury drive science – different issues to Horizons. Funding currently focused on research but need assistance to apply on the ground implementation. Doing rather than just studying and talking.

EnviroLink – very useful, although really only research at the moment. Need to take research through to implementation.

Funding needed in small communities to for sewage reticulation/disposal. Assist councils to improve operations.

Appendix A (8): Hawkes Bay Regional Council

Attendees:	Murray Buchanan (Group Manager Environmental Management), Colin McLellan (Team Leader Consents and Environmental Regulation), Geoff Wood (Environmental Scientist), Helen Codlin (Environmental Regulation Manager), Liz Lambert (Planning Manager), Hawkes Bay Regional Council; Carmel Rowlands, MfE; Ian Mayhew, HYC for MfE.
Date:	1:30 to 4:30 pm Friday 23 September 2005
Venue:	Hawkes Bay Regional Council

KEY RESOURCE MANAGEMENT ISSUES

Hawkes Bay generally a "dry" region – although this means that users are generally accepting of dry conditions etc.

Some resources fully allocated and demand significant, especially in relation to surface water, with not major issues of water quality – although some issues in isolated areas.

Demand still continuing to increase placing more pressure on resources. Frost protection an issue, which has implications for timing of resource use outside of summer.

Groundwater generally available (Heretaunga Plains and Ruataniwha aquifers) but need to manage for future uses.

Pasture irrigation and cropping generally main users of water, although low number of dairy farms.

WATER ALLOCATION

Allocation mechanisms

Allocation volumes and minimum flows established for surface water – generally accepted by community and aim for a security of supply – water available 95% of summer. Takes stop when identified flow rates/levels are reached.

First in first served allocation – with allocatable volumes and flow levels established in most areas. Not keen to look at best economic use and be asked to "pick winners". As indicated above, frost protection is becoming more of an issue.

Crop water requirements etc used to allocate volumes – identified need to improve as it generally over-allocates water to users – although this does provide some buffer.

Not same for groundwater – no levels/availability are established due to relatively lower demand – general policies used to manage saltwater intrusion/interference etc to protect submersible wells.

Water measuring devices are required where rivers have allocatable volumes identified, industrial, big demand etc. Renewal of consents is providing an opportunity to install more measuring devices. However, some issues with accuracy that need to be overcome – eg installation, readings etc. Looking at data loggers etc.

Self monitoring of use – some issues of accuracy of records.

Common expiry dates in catchments for allocations, but not integrated with contaminant discharges. Expecting some 300 consent renewals in 2008.

Allocation guidelines – low flows/water levels etc

Guidelines used but these tend to overestimate requirements as indicated above – most work been done on grapes, but wider guidelines needed for a range of crops.

Overallocated resources – management/clawback

Pro-rated reductions have been applied to some areas to address over-allocation. Common expiry dates assist in this.

Some areas implementing off-site storage for peak demand/low flows– but not generally widespread.

Use of tradable permits – formal/informal

Transfers provided for in the plan. Aware that permits traded occasionally – significant in some areas and mainly permanent rather than short term.

Water efficiency measures

Use of crop water requirements to match allocation to use. Landwise/field days to communicate messages re water use efficiency – largely educative.

As above, water measuring devices required for takes in rivers with allocatable volumes established, large takes and through consent renewals.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Water quality not really an issue so assimilation of discharges not a major issue. Preference is to deal with source. Point source discharges required to meet water quality objectives.

Diffuse sources apparent in some catchment.

Lakes generally healthy although some lakes flagged as unsuitable for contact recreation – lake monitoring strategy being prepared.

All dairy discharges controlled activities or discretionary over certain aquifers – few discharges to streams (1 dairy discharge to water/ditch).

Earthworks managed by TAs through subdivision controls and PA rule for vegetation removal/soil disturbance leading to controlled.

Land clearance occurring due to higher land prices and this may lead to regulation.

Use of classifications/standards

Formal classifications not established, but have set objectives for some watercourses. Guidelines used (not standards) for managing point discharges.

Discharges generally not an issue sufficient to cause water quality problems.

Management of aquifer quality

Some issues in specific areas, with two areas identified as sensitive to discharges – controls in place.

Integrated management – land use practices/riparian/flows etc

Soil loss an issue – erosion and wind blown and earthworks.

Land management primarily implemented through education and financial support – $675,000 given for fencing of waterways, riparian planting, pole planting etc. Wetland programmes – subsidies to farmers to protect wetlands.

Growing in farming and land clearance has resulted in Council controlling vegetation removal.

RIVERS/STREAMS

Flooding

Primarily a local council issue – advocacy with councils main approach to avoid building in flood plain.

Wetlands etc

Identified priority wetlands – developing management plans for each wetland. Not treated any differently to other wetlands – not really regulated through plan at this stage. Primarily incentives/education – grant schemes in place to provide longer term support – scheme for small on farm wetlands – provide incentive for wetland management.

URBAN ISSUES
Stormwater not really dealt with and identified as an area of future development. Residential discharges generally permitted, industrial controlled activity. Looking at rules based on receiving environment values to deal with it more comprehensively.
IWI INVOLVEMENT
Plan development Iwi contracted to work on Plan – consulted with iwi to update from RPS – series of hui. Input through that process. Significant input from some iwi, but not others. Mixed buy-in to plan. **Resource management** Maori Standing Committee. Two members on other committees including hearing committee – hear consents and plans. Elected within iwi – and responsible for reporting back to iwi. **Consultation** Have streamlined consultation by identifying those activities that do not need consultation – not many activities require consultation. Process works pretty well – more about education/explaining – provisions of information key.
OTHER METHODS
Community participation Council generally favours low level of regulation – so significant level of funding in community programmes (land management etc) – $1.1 m/year soil con, land management etc + $900k of staff time. Good interaction with other Councils – networks through contacts. Clean streams accord etc. **Education** Significant education component. Schools programme, field days, themes for messages etc. Engage nationally with other RCs. **Compliance/Enforcement** Where necessary – prosecutions, EINs used, abatement notices/enforcement orders etc. Prepared to back up consents etc. No programme for monitoring permitted activities – cost recovery an issue (as per ARC paper).
EMERGING ISSUES/PROBLEMS
Emerging issues More sophisticated resource management required where pressures are greater – eg allocation, use of telemetered water meters etc. More real time management required and greater resources. Information requirements dependent of pressures etc. – knowing where the transition occurs and greater level of management required is an issue. Greater requirement of compliance monitoring, both consents and PAs, as resources become under greater pressure. Resourcing an issue. **Tools/practices that would assist in management of freshwater** More guidance on National values – get some priorities to provide more guidance on nationally important issues – probably through provisions in the Act rather that NPS – be specific in the Act about how national interest is to be taken into account. Need to ensure that it is consistently implemented between regions.

Tools prepared by MfE useful. Further development of tools and involvement of wider issues, eg crop water irrigation requirements/allocation – could be developed nationally and should look at a wide range of crops etc. Revamp tools for setting minimum flows/instream flow guidelines. Groundwater may be an area of further development.

Utilise expertise within Councils to assist in development of tools – eg instream guidelines.

Appendix A (9): Greater Wellington Regional Council

Attendees:	John Sheriff (Manager Resource Investigations), Murray McLea (Resource Policy Manager), Ted Taylor (Section Leader Resource Investigations, Wairarapa), Geoff Skene (Manager Environmental Education), Wellington Regional Council; Libby Manley, MfE; Ian Mayhew HYC for MfE.
Date:	2:00 pm Thursday 16 March 2006
Venue:	Greater Wellington Regional Council

KEY WATER RESOURCE MANAGEMENT ISSUES

Several surface and ground water resources are fully allocated.

High level of use in Wairarapa.

14 rivers in the Greater Wellington region have comprehensive management regimes that allocate water and set minimum flows.

All aquifers in the region have allocation limits. Irrigation in the Wairarapa has doubled over the last 10 years. Three aquifers in the Wairarapa have declining yields and there is uncertainty about whether the estimated yields are sustainable. Work is underway on re-evaluating them.

Big pressure on water resources looking forward, quality okay at the moment, probably due to move to discharges to land.

GWRC has recognised that there is a need to promote efficiency of water use – particularly pasture and vineyards.

Changing land use is creating issues. Lots of subdivisions – septic tanks impact on groundwater quality. Increasing jurisdictional gaps – all environmental effects not taken into account by territorial authorities when granting land use consents. Issues partly due to development occurring in absence of infrastructure – particularly wastewater disposal and water supply.

At present the bulk water supply authority is looking to take more from Hutt River for municipal supply.

Hutt aquifer – almost fully allocated.

The number of point source discharges in the region is reducing (eg. dairy shed discharges from 64 to 3 over the last 10 years). Non-point discharges of nutrients and stormwater are the biggest issue. Disposal to water is a discretionary activity.

PA uses issue on some streams – quite generous which may impact small stream flows.

WATER ALLOCATION

Allocation mechanisms

Consents allocated on a first in first served basis.

Tiered approach – core allocation, supplementary allocations in times of high flow, staged reduction. As water level drops, restrictions are imposed.

Looking ahead to how water is allocated – lower value, lower level of assessment, higher value higher level of assessment.

Common expiry dates used in catchments.

Allocation guidelines – low flows/water levels etc

Case by case assessment of minimum flow requirements. Historical flows used for smaller rivers, IFIM in bigger rivers. Primarily habitat based (2/3 habitat protection). Need to integrate water quality classifications into process – flow not used to manage water quality (yet). Emphasis on rivers that have poor water quality

and target these for enhancement.

DoC challenging allocation process.

Groundwater availability driven by sustainable yield. Conceptual model of aquifers being developed to help refine availability assessment. Looking at relationship between ground and surface water in shallow systems.

Highest value use – naturally moves to highest value use.

Overallocated resources – management/clawback

Issue of actual use vs. paper use – consents cut back to actual use.

Having allocation limits for rivers is immensely valuable, best to have them in the plan even if they are not used.

Cumulative effect of smaller takes is an issue in smaller streams.

Now requiring meters on big water takes.

Permitted takes will be reviewed if large.

Use of tradable permits – formal/informal

Not aware of anything happening. Trading provided for in the plan as a discretionary activity.

Water efficiency measures

SPASMO model used and working with HortResearch – climate, soil, crop type.

Use of term efficiency needs to be clarified – does it relate to return received from water use?

Monitoring of resource use

Meters required by big users. No PA monitoring undertaken.

Water user groups

No. Consideration has been given to establishing groups, but often number of users in a catchment is small so the user group approach is not suited.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Significant move towards discharge of contaminants to land over the last decade and there are some examples where water quality has improved because of the removal of dairy shed discharges and treated sewage discharges.

The use of nitrogen based fertilizers has increased markedly over the past 12 years – there has been an increase of urea-based fertilizer in the region of roughly 900% between 1992 and 2004. Farmers starting to use nutrient budget models but not a requirement of the plan. Nutrient budgeting service is provided by fertiliser companies – potential for a conflict of interest as fertiliser companies want to sell their product.

Farmers trialling application of nitrogen fertilisers to hill country.

Groundwater quality is generally good but shows the effects of human activities at a few sites. No significant long term trends.

Use of classifications/standards

RMA classifications used. Generally ecological purposes. ANZECC guidelines used in consent process Nutrient standards difficult to use/apply due to diffuse sources.

Link with allocation/stream flows

Looking into relationship between surface water and groundwater. Also considering how to better integrate water quality requirements into allocation mechanisms.

Management of aquifer quality

No significant long term trends. Isolated hotspots of contamination but generally good.

Integrated management – land use practices/riparian/flows etc

Pilot areas – riparian planting with individual land owners – considered to be successful.

Individual land owners can get advice with planting, fencing etc. Can apply for grants/financial assistance.

Not really working with rural communities on integrated catchment management, although suite of community groups working on restoration projects across region.

RIVERS/STREAMS

Flooding

Flood management schemes – several in the Wairarapa.

TAs generally aware of flood hazard, GWRC always had a high level of involvement in district plans. Not many instances of problems.

Erosion

Issue in Wairarapa – significant focus on soil conservation in this area.

Wetlands etc

Provide advice and assistance and some funding.

URBAN ISSUES

Stormwater is a big issue and GWRC is looking at how to manage it better. Hard to address because the infrastructure is in place and many contaminants are difficult to treat. Discharge of stormwater is a permitted activity at moment. GWRC is currently working with Territorial Authorities to prepare a stormwater action plan.

Have a pollution control programme to monitor high risk sites.

A lot of interest from community groups in stormwater – mostly urban based. Annual budget has increased in last 5 years.

IWI INVOLVEMENT

Plan development/ Resource management/ Consultation

Seven iwi authorities in region. One representative body – Ara Tahi. Informal relationship but GWRC is moving to having chair of Ara Tahi as a member of their environment committee.

Iwi are involved through RMA processes. They act primarily as advocates – they know that councillors make decisions. Generally a positive relationship, though capacity is an issue.

Send iwi all consents apart from dairy discharge.

Iwi rep from Ara Tahi on hearing panels (not mandatory but occurs often).

OTHER METHODS

Community participation

35 community care groups in the greater Wellington region – mostly in towns and cities – urban focus. 80 % focused on streams and wetlands. Care Groups see issues holistically rather than looking at water quality, more looking at life supporting quality of water body.

Resource groups – up to $20k over five years.

Education

Big focus of GWRC. Key areas of education advice include:

- biodiversity
- wetlands
- industry
- schools
- national cleaner production programme.

Every function of regional council has an education aspect to it – strong focus on education at GWRC.

GWRC "Be the difference" social marketing campaign has 14,000 members signed up. Big issues – stormwater, waste, air quality.

Incentives

Several incentive programmes. Take Care funding, wetland enhancement etc.

Enforcement

GWRC has an active compliance monitoring programme – could be increased, problems picked up through complaints. Infringement notices not used widely.

PAs generally not monitored, problems picked up through complaints.

Monitoring

Stream monitoring – water quality focus. Flow sites on internet, water quality, MCI, intention to establish fish monitoring programmes.

EMERGING ISSUES/PROBLEMS

Emerging issues

Non-point source discharges looming issue. Tackling riparian planting, but may need to do more.

Urban stormwater becoming more of an issue. Looking at a risk based approach.

RMA – "no significant effect" concerned that this is a bit lenient. "No effect" – would be easier to enforce.

GWRC is now looking at how to better integrate land use planning. There is scope for improving land use controls and to improve the relationship and coordination between regional and territorial authorities.

Some city councils want GWRC to make decisions for land use, but GWRC want city councils to have a role. Need to improve relationship and coordination.

Integration between quality and quantity in respect of allocation and management of streams. Improve framework for establishing minimum flows and estimating groundwater yields. Also need to consider streamflow/groundwater interaction.

Looking at trading, transfer of permits/water efficiency/water requirements.

Tools/practices that would assist in management of freshwater

Coordinated approach to education – eg public on how to comply with the RMA – need public understanding of their responsibilities under the RMA.

National guidelines are really useful. Better than NES/NPS – reservations about process. Useful guidelines include flow setting and non-point source discharges, and programmes to educate people on guidelines.

Info sharing between councils – already groups that work but good idea to have central government coordination.

Development of agreements like the Dairying and Clean Streams Accord for other industry sectors – eg building, industry.

Need to focus on ecosystem approach to managing streams. More use of integrated catchment management – Ministry for the Environment could take a greater lead role in ICM.

Nationally important values – readiness within regional council to realise this – need to spell out what this is. Has to be tangible.

Appendix A (10): Marlborough District Council

Attendees:	Richard Keys (Manager Environmental Policy and Information), Val Wadsworth (Hydrologist), Mike Ede (Hydrologist), Glen Parker (Consents Planner), Marlborough District Council; Carmel Rowlands, MfE; Ian Mayhew, HYC for MfE.
Date:	2:00pm to 5:00 pm Tuesday 27 September 2005
Venue:	Marlborough District Council

KEY ISSUES

Range of issues – diverse region with very different environments. North wet, south very dry. Some rivers including small catchments in Sounds and major systems have reached full allocation in terms of takes for immediate use. Resource remains generally available for takes to storage at higher flows.

High level of demand for water – grapes in particular. But generally capacity to deal with the issues and augmentation or supply schemes get established to provide water.

Not much dairying in the area – other than in wetter or cooler areas not as suitable for grapes and trend is for farms to be converted to grape growing.

Currently reviewing water policy – equitable allocation, particularly reallocation, raises a big issue for the present allocation framework.

Hydro proposal on Wairau River.

Groundwater quality is generally very high. Some aquifers have localised water quality issues – elevated nutrients, presence of natural arsenic etc.

Majority of water use from aquifer systems.

WATER ALLOCATION

Allocation mechanisms/resolving conflict

Use SFRs – sustainable flow regimes – identified for catchments. Allocations currently lead the science – but are generally conservative and well accepted by users.

Takes allocated to A, B, C – first in first served. Based on flow levels, i.e. reliability of supply.

Main aquifers fully allocated in terms of paper allocations and the current plan – although actual takes less than allocation.

Meters standard practice now, but many areas not metered historically.

Currently looking at relationship between ground and surface water and takes near rivers – cumulative takes an issue of contention – needs to be addressed in plan.

Takes do not currently have common expiry dates.

Allocation guidelines – low flows/water levels etc

Set SFRs for rivers.

Allocate water based on crop water requirements – long irrigation season.

Voluntary annual rationing system (seasonal allocation) operated in one water user group in southern valleys.

Overallocated resources – management/clawback

Irrigation schemes built in some water short areas.

Challenge clawing back to reasonable use – who gets any water that becomes available – new users or those with lower class consent? (Equity issue referred to above).

Water allocations reasonably generous – provide some buffer. However, need to manage both take and use to match take with requirement.

Use of tradable permits – formal/informal
Transfers primarily occur through property sales – limited temporary transfer or transfer to another property due to value.
Water efficiency measures
Have reasonable use guidelines and programmes on water efficiency/use for grape industry – collaboration with HortResearch.
Benefits to optimizing water application to grapes – professional advice available.
Monitoring of resource use
New areas/takes metered, but not old takes. Being addressed through consent renewals.
Water user groups
Several groups, but only one really active. Encourage community to form groups but not major issues to drive need.
CONTAMINANT DISCHARGES (RURAL)
Management of point source and diffuse discharges
Dairying not a big issue. Limited direct discharges – predominantly land application – systems generally good.
Stream crossings an issue – encouraging bridging/culverting and generally good buy-in.
Water quality generally good – some stormwater issues.
Septic tanks an issue in some areas.
Use of classifications/standards
Water bodies classified, but classifications generally limited to consideration of point discharges.
Integrated management – land use practices/riparian/flows etc
Currently preparing riparian management strategy. Significant natural areas programme – terrestrial biodiversity/riparian areas/wetlands – identification of natural resources (PNA surveys) – feed into better riparian management.
RIVERS/STREAMS
Stream management pressures high – difficult to implement riparian planting – focus on drainage etc.
Gravel extraction – almost reached capacity, conflict with water availability.
URBAN ISSUES
Industrial area runoff – Council holds stormwater consents and up to them to manage inputs/outputs.
IWI INVOLVEMENT
8 key iwi – main contacts ensure good working relationship. However capacity problems within iwi
Council assisting with 3 Treaty Settlements – providing administration and support.
Majority of work at a practical level and have developed a protocol. List of consents sent to iwi – although iwi mainly concentrate on coastal fringe and submit on major consents.
OTHER METHODS
Community participation
Various Landcare groups etc, but not a major area of work and not well resourced.
Hold rural environment awards.
Landcare Trust looking at land sustainability issues – MDC assists with information and funding.
Education
Range of material for education purposes.

Monitoring information made available etc.

Web site etc – generally building community's understanding of the natural environment.

Enforcement

Not a major activity – limited enforcement of take undertaken – occasional abatement notice or EIN.

EMERGING ISSUES/PROBLEMS

Emerging issues

As for most places, more pressure being placed on resources, including new resources – small streams, ephemeral watercourses.

Strategic water study being considered to feed into RPS and Regional Plan.

Barriers/impediments to good management of resources

Challenge to draft good, enforceable resource consents for water allocation.

RMA generally ok – but continual changes make implementation a challenge – prescriptive changes start to constrain use of the Act – could do with some stability for a while.

Tools/practices that would assist in management of freshwater

MfE to facilitate capacity building and transfer of expertise/knowledge.

Could address range of "small" issues that cause local problem at a national level – eg design of culverts, requirements for domestic use, already have guidelines for septic tanks.

Waterbodies of national interest – should look at process/values not just identify waterbodies per se. Need to ensure that it is not a one way track – need to provide for local interests.

Tend to do or arrange own science – target to specific issues.

Appendix A (11): Nelson City Council

Attendees:	Debra Bradley (Senior Policy Planner), Martin Workman (Manager Environmental Policy), Dave Plant (Engineer – Water Supply), Nelson City Council; Libby Manley, MfE.
Date:	1.:30pm Wednesday 29 March 2006
Venue:	Nelson City Council, Nelson

KEY WATER RESOUCE MANAGEMENT ISSUES

Two main rivers – the Roding and the Maitai, used for Nelson City water supply. There is a dam on the Maitai to harvest winter rain – this provides 2/3 of needs and the rest comes from run-of-river.

Mainly urban streams, some highly modified e.g. the Brook.

No lakes, no aquifers.

Very few farms in the region, there is a lot more forestry. 95% of the population is urban.

A lot of subdivision is taking place creating sedimentation and increasing flood risk.

Drought conditions at times.

Increasing requirements for water quality under Ministry of Health which is increasing costs.

Nelson City Council charge all urban water supply users (including residential) a line charge and for water used on a volumetric basis. This has resulted in a 50% drop in residential garden watering usage.

WATER ALLOCATION

Allocation mechanisms/resolving conflict

Water levels in Maitai and Roding Rivers carefully monitored, and levels reviewed every summer. These rivers have been recognised as the only sources for Nelson.

Nelson City Council has resource consents until 2017 to take water from the Maitai and Roding Rivers for town supply. It will be 50 years until it will be necessary to investigate another public water source.

Given limited sources, there is sometimes a compromise between environmental and human needs. At times there is potential conflict between the roles of Nelson City Council as a unitary authority – responsibilities to deliver services (e.g. water) while protecting the environment. But these are resolved at management level.

Allocation plans

Flow regimes within the plan are used to assess resource consents

Allocation guidelines – low flows/water levels etc

Allocation limits set out in plan:

- For specified rivers

  10% of 1 in 5 year mean low flow for rivers with high ecological values

  33% of 1 in 5 year mean low flow for water bodies where water abstractions occur
- For unspecified rivers

  10% of 1 in 5 year mean low flow
- All water abstractions are required to cease where any trigger limits are reached, except for fire fighting purposes.

Overallocated resources – management/clawback

Maitai and Roding are fully allocated.

Provisions in plan to cancel an allocation or part of an allocation where there is surplus water, activity has changed or if flow records indicate this is reasonable – this provision will not be used until the freshwater plan

change is fully operative.

Use of tradable permits – formal/informal

Doesn't happen but is provided for in the plan as in the RMA.

Water efficiency measures

All urban water users are metered and charged on a volumetric basis.

Urban water use increases by about 50% in summer, mainly due to residential garden watering. Restrictions used as required.

Common expiry dates on consents to take water within specific catchments.

Not financially viable to collect rain water in urban areas but tanks are required for new residential buildings in rural areas.

Monitoring of resource use

Metering of all water permits.

Water user groups

Once the plan is fully operative, it is expected that water user groups will be formed in several catchments with low flows.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Absence of intense dairying/agricultural activity in the region means that Nelson City Council doesn't have big problems with rural diffuse discharges. Water quality problems are usually urban based and due to development and subsequent increases in stormwater runoff and loss of riparian margins.

A stormwater bylaw is being developed under the Local Government Act to control discharges to the stormwater system, with a particular focus on discharges from high use industrial sites.

Use of classifications/standards

A-E water quality classification used, developed by the Cawthron Institute.

Ongoing monitoring of water quality 4 times a year.

Management of aquifer quality

No significant aquifers in the region.

Integrated management – land use practices/riparian/flows etc

Rule in proposed plan which states that type 1 stock which have the most effect on waterways are to be excluded in 5 years. There is a $30 000 annual budget for 5 years to subsidise fencing of waterways but there has been low uptake of this funding.

RIVERS/STREAMS

Flooding/ Erosion/ Structures

Flooding is a significant issue in Nelson but there hasn't been a big flood for 5-6 years.

Nelson has a very narrow coastal plain and short steep valleys so practical solutions to flooding needed.

Hazards are well controlled through modification.

Move to more environmentally friendly solutions rather than hard engineering.

Increased sediment control through engineering standards.

Low impact stormwater management is an area for the Ministry for the Environment to provide leadership. Assistance to apply Nelson-specific standards would be useful.

Sediment control plans are now required for land disturbance activities (excluding farming and forestry).

Wetlands etc

Very few wetlands in the region, one of which (Wakapuaka) was fenced last year. Another is a constructed

wetland as part of a sewage treatment plant.
URBAN ISSUES
Management of freshwater – issues/response Almost all issues are urban. Stormwater – extensive modification. Urban water supply – restrictions imposed when trigger flows are reached.
IWI INVOLVEMENT
Plan development Iwi representative on the freshwater committee. An iwi environmental indicators project is currently being developed. **Resource management/ Consultation** Generally positive relationship. Challenge of having 6 iwi in the region and not many representatives, putting pressure on the few representatives. The Nelson Iwi Resource Management Advisory Committee meet once a month. Nelson City Council has a Memorandum of Understanding with iwi. Strategic Planner role includes liaison with iwi. Resource consent applicants will often consult with iwi prior to making an application.
OTHER METHODS
Community participation A stakeholders' working party has been involved in developing the plan. A Rural Liaison Adviser assists rural property owners with sustainable land and water management. **Education** Waimaori education project works with schools, but intention is to increase this to the wider community (a partnership with iwi, Department of Conservation and other local councils). **Enforcement** Nelson is small and urbanized so enforcement is not a big issue, though more enforcement is expected once the plan is fully operational. The consents for discharges to waterways are all for stormwater. Major industry near estuary: one of the Sealord factories discharges out to sea via pipeline, while the other Sealord factory and abattoir discharge to the council wastewater system – no issues here. Nelson is a small city and people know each other, this means that people are likely to comply.
EMERGING ISSUES/PROBLEMS
Emerging issues The Proposed National Drinking Water Standard – scares the council, might mean increased administrative costs. Nelson Urban Growth Strategy has identified new areas for residential development – both rural and urban. Need to provide for this development in a low impact way. Need to have technical expertise made available – Nelson is small so the expertise is not always available locally. Subdivision standards – need to be made more robust, developers don't want to do something that is just an option.

Conflicts associated with rural subdivision have occurred in areas where there is not enough water – this needs to be avoided through alternative provision of water.

Loss of local knowledge as people change jobs.

Tools/practices that would assist in management of freshwater

Help from Ministry for the Environment in preparing plans. It would be good to have an accessible person who is familiar with regional plans in New Zealand and is able to provide advice or just bounce ideas off. More in a mentor/troubleshooter type role.

Would be good to have a template or list of things that need to be included in a good water management plan.

Appendix A (12): Tasman District Council

Attendees:	Mary Anne Baker (Policy Planner), Rob Smith (Environmental Information Manager), Steve Markham (Manager, Policy), Neil Tyson (Water Planner), Dennis Bush-King (Environment and Planning Manager), Tasman District Council; Carmel Rowlands, MfE; Ian Mayhew, HYC for MfE.
Date:	9:00 am to 12:00 noon Tuesday 27 September 2005
Venue:	Tasman District Council

KEY ISSUES

Sustainability of water body values – and processes for allocating water while providing for range of values. At or close to allocation limits in some catchments. Seasonal demand is changing and extending into Autumn and Spring – primarily frost protection.

Complex groundwater system and surface water interaction.

Dairying main driver for water demand in some areas – horticulture the historical demand, and this sector still active and seeking greater security of supply.

Looking at augmentation to provide greater security of supply in some areas. Some areas overallocated both historically and recently as system understanding has improved through investigations and modelling.

State of resource knowledge uneven across catchments, but generally fit for purpose. Forward investigations programme to improve this knowledge.

WATER ALLOCATION

Allocation mechanisms/resolving conflict

Allocation framework provided in Plan across most major catchments and aquifers, including low flow (take reduction) regimes, allocation limits in conjunction with security of supply standard, take efficiency requirements, and provision for site to site transfers in special catchment situation where augmentation will remove historic over-allocation (Waiiti).

Plan specifies some reservation of water for certain uses – over Maori perpetual lease lands for irrigation, and in most water management zones for community water supply. Then allocation through PAs and consents – PA use built into water availability assessments although not a good understanding of domestic and stock use. Takes then reduced at low flows/droughts. An informal waiting list for water is maintained in areas with excess demand (for irrigation) over supply.

Water metering of all users in high demand areas.

Allocation plans

Tasman Resource Management Plan Part V Water provides the allocation management framework. Different management regimes in different catchments – particularly deals with the interconnection between ground and surface water and abstractive effects on water availability.

Allocation guidelines – low flows/water levels etc

River flows 10% of Q5 and security of supply (35% reduction in 10 yr drought) set allocation limits. Summer allocation limits set in Plan, but only 1 river has winter limits.

Groundwater availability determined by modelling in key aquifers.

Soil type drives rates of use or application for irrigation – moved from a standard 35 mm/week (except Waimea as overallocated).

Progressive rationing of water during drought – no preference given to particular uses although less stringent on community supply. Then move to S 329 order. Priority order of end-uses for ceasing takes under this rationing.

Overallocated resources – management/clawback

Common expiry dates for takes in catchment (generally 15 year term) to allow re-evaluation. Exercise of consent reviewed (use it or lose it).

Stream augmentation being considered in some areas.

Use of tradable permits – formal/informal

Have had situations of temporary transfer of water. Not seen major site to site transfers – general reluctance to trade due to value of water authorization in conjunction with land (eg land value increases with water take authorisation). Long history of tradable permits and provisions in plan – community generally not accepting as may lead to charges for water. Need to have a good 4 dimensional understanding of resource system performance – need to understand effects of moving takes around– really only applicable where allocation limits reached. Difficult to facilitate transfers where resources over-allocated.

Site to site transfer regime provided for in Wai-iti zone once stream augmentation programme starts and use it or lose it regime removed to enable this to happen.

Water efficiency measures

Standard allocation approach based on standard rate of use for irrigation now moving to allocation for rate of use based on soil requirements – soil maps in plan; but yet to implement in Waimea Plains as over-allocated.

Water efficiency measures used by larger irrigators (eg. soil moisture probes), but not smaller ones due to cost.

Range of educational material circulated every irrigation season.

Monitoring of resource use

Meters in all catchments moving towards high allocation.

Monitoring of ground and surface waters in key areas.

Water user groups

Key part of water management regime – with one group for each management area (water management zone). History of contact with the community and high level of trust developed. On-going resourcing of groups and liaison can be an issue.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

About 32 dairy discharges to pond systems and to water, rest permitted activities to discharge to land. Cost recovery an issue for PA compliance. Specific monitoring sites set up in partnership with Fonterra.

Domestic on-site wastewater an important issue in some areas due to significant areas of on-site systems. Higher standard systems required in some areas, but difficult to enforce on-going management – which is important to ensure system performance. May be benefit in more national consistency. Body corporates also an issue in terms of long term performance – no guarantee that they will be around in the future – contemplating bonding to address this. New stringent onsite management regime in place in Plan for rural coastal area draining into two estuaries.

No rules/limits in plan for fertilizer use.

Elevated nitrates in some groundwater resources.

Use of classifications/standards

Two catchments classified but more work required to identify specific water body values and objectives for quality. Issue in translating objectives into quantified ambient thresholds or discharge standards.

Will ultimately have management objectives for each significant water body.

Link with allocation/stream flows

Not well linked at this stage – need to link assimilative capacity with water availability. Dilution/instream objectives considered when processing resource consents for point source discharges

Issue regarding effect of forestry on flows. Applying land use controls to regulate forestry and associated hydrology changes – successfully tested in Environment Court. Applies to both groundwater and surface waters in susceptible areas.

Management of aquifer quality

Saltwater intrusion risk present. Is trigger for rationing of groundwater.

Also seeing bacteriological contamination from septic tanks in some systems – dispersed residential settlement placing pressure on some shallow groundwater resources which are vulnerable to contamination. Considering consent regime in areas of higher density.

RIVERS/STREAMS

Flooding

Gravel extraction an issue – bed levels and water tables linked. Bed degradation is historical trend. This also exposes flood control structures as well as water table. Extraction needs to be managed for both flood levels and water levels.

Structures

Some catchments have significant damming, but fish passage and linkages not necessarily an issue.

Some interest in hydro dams on some rivers, including some with high ecological values.

Wetlands

First order inventory prepared in 1999. Will be upgrading inventory (now under way May 2006) and will assess significance of wetland areas. Offer active management advice and assistance.

Policy and rule framework for naturally occurring wetlands – drainage and vegetation clearance – both consented activities.

Biodiversity fund to assist wetland protection/management – subsidy for riparian planting, fencing etc.

Some gravel extraction in berm areas encouraging wetland creation.

IWI INVOLVEMENT

Plan development

Maori values and issues recognised in the plan. Commitment to share information and management in some areas.

Provisions in plan for water to enable irrigation of Maori leasehold land.

Issue of integrating management actions of DoC (Reserves Act) and RMA tools for Te Waikoropupu in

Golden Bay.

Resource management

Three Maori Iwi committee structures (represent different areas) with staff liaison regularly on issues. No Maori representation in Council structures.

Access provided to consent database and regular meetings on consents – list of iwi provided to applicants as relevant.

Active iwi involvement in large consents and local iwi involvement in planning process encouraged at an early stage.

Involved in Waimea augmentation working party.

OTHER METHODS

Community participation

Strong relationship with other organizations eg. Nelson-Marlborough Fish & Game Council and DoC.

Water users committees, Landcare groups etc. Very active in range of issues.

Social and economic research done on Waimea augmentation.

Education

Provide advisory service – land management etc.

Provide scientific information – website/publications etc.

Sharing of information.

Incentives

Biodiversity funding.

Land management funding – riparian planting, catchment control planting etc.

Enforcement

Active monitoring and enforcement of water use – but cost of monitoring high and recovery below cost. EINs used as a tool to encourage compliance. Try to write measurable consent conditions and dedicated compliance team – especially water use.

Compliance system for meter returns – difficulties in getting users to provide returns but compliance generally ok.

EMERGING ISSUES/PROBLEMS

Emerging issues

The use of soil moisture requirements for allocation in preference to crop water requirements.

Increasing dairying and intensification – greater pressure on resources – fresh water and discharges.

Risk management issues associated with dams.

Clawback of overallocation of resources due to revision of availability.

Barriers/impediments to good management of resources

Cost recovery mechanisms. Council initiated reviews – can't recover costs, cost recovery for permitted activity monitoring an issue.

Difficult to require users to provide use information.

Lack of tools for assisting in procedurally allocating resources that are in high demand, where availability increases at one time (eg. through investigations or reviews of permits).

Tools/practices that would assist in management of freshwater

The development of procedural allocation tools to manage excess demand over supply – national guidance – best practice, not regulation. For example, security of supply vs retention of minimum flows – how can Council change regime?

Include provisions regarding water efficiency in the RMA – a key area of water use.

The development of soil moisture guidelines in preference to crop water requirements.

Improve the science funding system to make it more relevant to the Regional Councils.

MfE facilitation of special interest groups to facilitate sharing of information between Councils.

Water bodies of national importance – parameters/methodology required to give national significance across range of values (not just natural character) – although difficult to assess relativity of some values. Could consider criteria for national significance. NPS could provide process/methodology – consultative process. Similar need at regional level to help in prioritising management.

NES – need to be specific and prescriptive – eg no burning of tyres, methodology for assessing on-site wastewater etc.

Appendix A (13): West Coast Regional Council

Attendees:	Chris Ingle (Chief Executive), West Coast Regional Council; Carmel Rowlands, Libby Manley, MfE; Ian Mayhew, HYC for MfE.
Date:	9.30am Wednesday 22 March 2006
Venue:	West Coast Regional Council

KEY WATER RESOUCE MANAGEMENT ISSUES

Large area with small rating base. Strong presence of DoC.

Water generally in good supply and as a result, plan very enabling for water takes – large amounts can be taken without a resource consent. The new Water Plan requires small scale takes to advise Council when they take too much water. Groundwater takes becoming more prevalent due to accessibility. WCRC has made a policy decision to encourage groundwater takes in preference to surface water to minimise effects on surface water ecosystems.

Town supply – still lots of residents on roof water, very few on reticulated supply. Concerns re drinking water standard – prevents tankering in of water when tanks run out – needs to be dealt with urgently.

Septic tanks are a problem in some areas – run off to surface water, don't do much groundwater monitoring (latest SoE monitoring – only 7 bores were monitored) so some effects are probably not picked up. Anecdotal evidence suggests people channel waste from septic tanks that are not working directly into creeks and stormwater drains. District councils are gradually working on the main problem areas but funding is an issue for councils and progress is slow.

Intensification of dairying occurring and farms are merging, however water sampling shows that there is still high water quality in rivers. Stocking rates are generally quite low (2 cows per hectare) on the West Coast and in some priority catchments the stocking rates are actually declining slightly.

Some issues of town sewage disposals causing high bacteria loads – eg Buller River. Buller District Council are now well underway with their sewage upgrade for Westport and Reefton so we can expect to see marked improvements in water quality in the near future.

Making good progress with Westland Dairy and farmers – good compliance team. Regular meetings with Fish and Game – only 2 complaints through the summer season. Farmers are realising the value in compliance. Fonterra work on the Dairying and Clean Streams Accord has raised the bar – WCRC have just signed an agreement with Westland Milk Products (local Dairy Co.).

Most dairy discharges to streams through a 2 pond system. Dilution factor through high rainfall, and generally short catchments – keep impacts on ecosystems to a minimum.

High sediment load, except for spring fed streams.

Nutrient key issue in Lake Brunner catchment.

WATER ALLOCATION

Allocation mechanisms/resolving conflict

Used Otago's plan, but some policies probably never going to be needed.

Surface water – very permissive regime in the plan. No stream at allocation limits.

Allocation not an issue – doubt it ever will be. 2/3 of catchments in bush – short coastal plain. Upper catchments in bush – natural ecosystems under DoC management.

Groundwater – permissive, rule under appeal at the moment. No ecosystem effects. No bores going dry. Not the same problem as on the East Coast. More potential issues with effects on other users – rather than on surface water. Sea water intrusion considered in plan and possibility of need for metering (seldom used) due to minimal pressure on the resource.

Allocation guidelines – low flows/water levels etc

Provisions for annual yields in case required, but not needed at this stage. Allocation mechanism in plan, but not required – few consented takes.

Overallocated resources – management/clawback

Not an issue.

Use of tradable permits – formal/informal

Not an issue.

Water efficiency measures

Policies in the plan to ensure no more than required for intended use – generally self limiting due to cost.

Monitoring of resource use

Metering – policy provided in plan but under appeal. Metering not considered necessary.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Alluvial gold mining – flow problems – flow goes underground where riverbed hasn't been rebuilt carefully. Acid mine drainage is also a problem for some coal mining areas.

Point source – mine drainage not covered by resource consents – historic. Currently working with Landcare Research, Solid Energy and Coal Research Limited (using Envirolink funding) to deal with some problems with contaminated sites and acid mine drainage.

Dairy farms generally employ two pond system and discharge to surface water – discretionary activity. Some use the permitted rule for land discharge.

Levels of nitrates in Lake Brunner appear to be trending downwards after the farm plans project was initiated (2004), but phosphates remain elevated. 40% of monitoring budget spent in the Brunner Catchment. Separate chapter in plan. Two pronged programme – one side is compliance – looking at rules in plans (three plans – looking to combine) other is voluntary farm plans. Individual farm plans prepared for 79% of land holders (several farms wouldn't cooperate) – audit by Landcare Trust found that he majority of works identified in the farm plans had been completed and the farm plans were well received by the community.

Use of classifications/standards

Policy to manage to standards but not formally classified. Swimming areas identified and monitored – managed for contact recreation. All rivers managed for ecosystem purposes and identified rivers for contact recreation as well. Some trout habitat rivers also identified.

Integrated management – land use practices/riparian/flows etc

Some issues with GDC district plan. District councils also have occasional issues with regional council processes – joint management meetings tend to sort these issues out as they arise. Set up so subdivisions go through as controlled – but good relationship with planners there. Potential to get closed out of loop – not able to express concern until consent has been granted.

Individual farm plans project underway in Lake Brunner area, Orowaiti Lagoon (next to Westport) and this year the Harris Creek catchment (behind Hokitika).

RIVERS/STREAMS

Flooding

Floods – biggest issue.

Don't ever have enough money to manage flooding, work to build up flood banks on Grey River. Need to work on flood protection for Westport but funding constraints are preventing action to date.

Also now moving to sea protection works – priority due to eroding coastline. Rapahoe, Carters Beach, Granity all eroding and need urgent work. Envirolink grant has assisted in getting expert advice from NIWA on feasible options for these communities.

Wetlands

Variation out at moment on wetlands. High Court case pending. Problems with defining wetland – when is it land and when is it wetland? Seen by landowners as undeveloped land to drain and develop, but seen by some others as regenerating wetland. Some wetlands are just paddocks where reeds have re-grown due to wet conditions.

Have put out a variation identifying 22 significant wetlands (not including DoC land) to help provide clarity for staff and community as to what is land and can be developed and what is wetland and must be left alone. Worked with Ministry for the Environment to identify wetlands.

Problematic as so many wet areas on the West Coast – any paddock can revert to wetland. RMA protects wetlands – inhibits development – people don't want neighbours or don't want to see land developed so claim area is wetland.

URBAN ISSUES

Management of freshwater – issues/response

Urban stormwater – erosion and water quality. Septic tanks can be diverted into stormwater.

Not the same stormwater runoff issues as main urban centres – not same amount of roading and development. High water flows.

Tourism waste – big issue.

IWI INVOLVEMENT

Plan development

Ngai Tahu – two runanga. Representatives from both runanga appointed to the Resource Management Committee – voting rights for resource management decisions, etc. Only 6 other councillors so iwi reps make up ¼ of the committee.

Capacity issues within iwi but generally good consultation in respect of plans.

Resource management

Processes to notify consents – iwi get a schedule of consents on a weekly basis. Able to comment if they are an affected party (or complain if they are not!).

Sometimes conflict between iwi and private sector.

OTHER METHODS

Community participation

Lake Brunner – NZ Landcare Trust involved. District council also involved.

Plan processes don't attract a lot of attention eg pest management strategy recently – didn't get a lot of interest, people take attitude that council are there to do the job – kick them out in three years if not doing good job.

Generally a good relationship between district councils and regional council.

Enforcement

Compliance issues – complicated especially concerning mining – personalities can potentially make things difficult. Compliance policy generally to give people a chance to do the right thing rather than enforcement, particularly if the individual was not aware of the RMA requirements. However, recently more prepared to hand out abatement and infringement notices. If there is an adverse effects Council is conscious of need and costs to fix adverse effects, though often need to prioritise response to complaints according to level of effect or perceived effect on the environment.

EMERGING ISSUES/PROBLEMS

Emerging issues

Small rating base – affects priorities. Not monitoring as much as we could be so would be good to have

assistance for monitoring and science research. Capacity problems with science and interpreting it in local context.

Potential for power generation – an unknown at this stage.

Pressure – growth areas – tourism growing, dairying steady 7-8% growth and mining – new mining coming on stream. Mining lifted game in last 3-5 yrs, one staff almost fully funded by Solid Energy (compliance), generally have a good relationship with Solid Energy and other miners.

Coastal development – sea level rise risk. Difficult for Council to fund necessary research.

Dairying – reasonable handle on this – shifting to industry to help themselves.

Tourism – pressure on townships (the population of Franz Josef quadruples over summer). Who should pay for sewerage disposal and waste disposal? Regional Council helps district councils out with what is seen as regional issue. Not enough toilets and rubbish bins on roadside. Urgent issue.

Tools/practices that would assist in management of freshwater

Science and research, especially at local scale to enable resources to be better managed and effects better understood.

Always pressure on funding. Consents are 80% recoverable. Compliance working well. Could increase monitoring of the State of Environment – do as much as possible, good to have help from Ministry.

Funding sustainability an issue – contractor to animal health board (possum control – bovine TB) – if this disappears, could make things more difficult financially.

Expensive to defend decisions – some legal assistance to defend decisions would be helpful.

Best Practice – better driven from councils and resource users rather than from MfE /Science providers.

Standards have a place but unpopular if the make regional councils do more than required for region – need to allow regional circumstances to be taken into account. Possibly apply standards only to the regions that need them.

Help from Ministry for the Environment on wetlands has been great –also had help on waste and farm plans. Very useful. Waste minimisation staff member on one year contract. Practical assistance useful – eg Ministry for the Environment seconded Taranaki Regional Council employee to assist with preparing a regional waste strategy for the four councils.

Flooding and coastal inundation – big issue but limited resources to manage.

Appendix A (14): Environment Canterbury

Attendees:	Mike Freeman (Director Regulation), John Talbot (Director Policy and Planning), Ken Taylor (Acting Director Investigations and Monitoring), Ray Maw (Team Leader Environmental Flows), Richard Ball (Coastal, Biodiversity and Pests Policy Manager), Malcolm Miller (Natural Resource Planner), Leo Fietje (Principal Consents Investigating Officer), Kathleen Crisley (Water Portfolio Manager), Environment Canterbury; Mercedes Lentz, Carmel Rowlands, MfE; Ian Mayhew, HYC for MfE.
Date:	9:30 am to 12:30pm Wednesday 28 September 2005
Venue:	Environment Canterbury

KEY ISSUES

More than 70% of freshwater allocated in NZ allocated in Canterbury. Complex connections between surface and groundwater resources – flow/levels and quantity.

Demand not lessening – dairying, beef, cropping all developing "light" soils. Technology allowing expansion into areas previously unsuitable. Intensification.

Water quality – both groundwater and surface water.

Surface water – loss of riparian margins, clarity etc. Lowland streams under pressure including low flows.

Impacts on high value waterbodies for recreation values.

Groundwater – timescales of change present particular challenge. Modelling of groundwater used but complex and time consuming.

Strategic water study being undertaken to look at long term water storage requirements – moving into consultation.

WATER ALLOCATION

Allocation mechanisms/resolving conflict

Have A and B permits – first in first served until fully utilised.

Allocations based on security of supply – sufficient water 4 years out of 5, may have restrictions in other year – maintaining minimum flow requirements to protect downstream flows.

Reasonable use allocated based on crop water requirements, calculated rainfall etc.

Need to understand interaction between surface water and groundwater. Stream depletion approach used – part of groundwater assessed as surface water. Groundwater levels designed to maintain stream by spring flow.

Allocation guidelines – low flows/water levels etc

Flow and allocation regimes.

Groundwater primarily managed by volume.

Security of supply – different expectations in communities.

Overallocated resources – management/clawback

Clawback provided for in NRRP.

Reduce back to what is reasonable through consent review. However, not past this point. If resource still overallocated then security of supply decreased.

May require users to certify requirements, but assume allocation will ultimately be used.

Establishing new groundwater availability numbers. May introduce restrictions.

Use of tradable permits – formal/informal

Not a lot – no established market. Anecdotal evidence suggests transfers occur.

Site to site occurs and have seen some transfers from property to property.

Trading of shares in large schemes occurs – eg Opua Dam

Question of environmental effects when trading.

Water efficiency measures

Water use assumes 80% efficiency take/use.

Reasonable use etc.

Monitoring of resource use

All new consents require meters to defined accuracy and required to measure.

Concern regarding reliability of meters. Looking at telemetry.

Information important for seasonal volumes and water use requirements for certain crops.

Water user groups

Significant number in region – manage resources themselves and share water to help meet flow requirements in times of water shortages.

Big irrigation schemes managed.

Groups encouraged in plan, but ECan has minimal involvement in establishing groups although resource care group working with Ashburton water users and metering and telemetry trials led by compliance monitoring section are to provide blueprint for more water user groups.

Could facilitate more metering and better information through such groups.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Land use consents for activities above sensitive groundwater systems. Also looking at voluntary mechanisms. Mixture of response from TAs.

Also using landuse control where activities have effects on water resources – eg in recharge areas. Generally PAs but significant issue of compliance – cost of compliance monitoring PAs is an issue – need to look at RMA charging provisions. ECan charges for dairy shed compliance and uses LGA but provisions could be clearer and stronger.

Biosecurity model good – standard cost for first inspection, polluter pays full cost after that.

Activities on margins and beds of rivers – overlap with TAs – difficult to manage.

ECan sought to regulate stormwater network infrastructure – not supported by TAs at first, but becoming more amenable.

Diffuse source nutrient runoff going to be significant issue in some areas – eg MacKenzie Basin.

Use of classifications/standards

Classification with three classes primarily used.

Ecosystem approach – focus on habitat quality/condition rather than water quality. Manage sources of contamination rather than focus on dilution.

Standards/minimum flows for all water bodies ultimately under NRRP – a number of variations already identified.

Link with allocation/stream flows

Recognises that effects on water quality may drive minimum flows but difficult to do. Focus on aquatic ecology needs and build into minimum flow requirements.

Focus on resolving pollution issues.

Rules based around use of nutrient budgeting tools, so interested in standards of use of particular models/tools for managing runoff.

Integrated management – land use practices/riparian/flows etc

Resource Care Groups – targeting diffuse source discharges primarily through riparian and wetland management, some initial work on nutrients.

Riparian management and wetland management, planting fund, charitable trust.

Takes time for programmes to develop and they are reliant on people involved, plus effectiveness assessments will be needed shortly.

IWI INVOLVEMENT

Plan development

Iwi had significant input into RPS and NRRP.

Iwi liaison section to facilitate relationships with iwi and runanga.

Resource management

Process to provide consent applications to iwi and comments provided – results in a variety of actions depending on issues raised.

Reference given to iwi management plans where relevant.

Iwi involved in setting instream values.

Consultation

Stability/change and capacity issues in iwi that can hinder consultation. Iwi not well resourced at runanga level, although some resources provided by Ngai Tahu.

OTHER METHODS

Community participation

Important component of Council work. Care groups, living streams programme, community consultation for minimum environmental flows, etc.

Can provide tension in problem areas between community resolution and Council enforcement – often a fine line when Council should act.

Education

Significant education programme, very resource "hungry".

Incentives

Enhancement funds – wetlands, riparian planting, fencing etc.

Enforcement

Establishing set of processes and procedures for enforcement.

ECan generally apply a relatively high level of resources to this area – recognise importance of ensuring conditions relevant and compliance monitored.

EMERGING ISSUES/PROBLEMS

Issues

Large volumes of water allocated in Canterbury region.

Demand increasing – dairying, beef, cropping, technology assisting development of land that was previously "marginal", more intensive use of land.

Increase in water quality issues – nutrients, leaching into groundwater, and community awareness of stream and river quality.

Loss of riparian margins increasing sediment discharge and decreasing clarity etc.

Significant compliance issues, with resulting cost implications, as more pressure comes on resources as more detailed management is required to manage resources under pressure.

Time taken to get plans through the statutory process – very long compared to rate of change of land use and

other activities – difficult to keep plans current with the issues as a result.

Proliferation of models – nutrient models in particular. Lead to unnecessary debates over which to use etc – some rationalization would be helpful.

Water not just about use – more emphasis being places on landscape and character – flow requirements need to take into account issues wider than just water quantity and quality.

Tools/practices that would assist in management of freshwater

Making metering of water use mandatory at a national level, but identifying areas where not applicable. Need to develop standards of implementation etc.

Could be a stricter regime for charging for permitted activity and other compliance.

Use of technology to assist in data management to assist in managing compliance and other information.

Government assistance for solving major problems – eg land use changes over 10s or 100s of years. Taupo type involvement – cooperative, but led by Council – not Waitaki approach. Need to implement this before problems occur – not as response. May need to develop criteria for when this involvement occurs – could mean a range of tools including legislation, guidelines, funding etc.

Central government could work with Councils at a local level to identify water bodies of national importance – needs to be driven locally and include local communities. However, difficult to compare national importance across regions.

Improvements to Environment Court process should be considered. Council decisions come under intense scrutiny, but EC decisions are only appealed on point of law – not fact. Need to consider greater influence of technical commissioners or better education of EC on resource management issues etc.

Extent to which water take consents can be reviewed needs to be considered – consents should be brought into line with plan changes – certainty vs adaptive management. Currently, Councils required to pay for review if they initiate it – costs could be significant and arguable. Should this be a cost to Council?

Need to look at what can be achieved through NES – can they be used to reduce timeframes in some areas by specifying bottom lines? Bottom lines ok, but not how to get there – one size doesn't fit all.

Appendix A (15): Otago Regional Council

Attendees:	Robert Buxton (Manager Resource Planning), Selva Sevarajah (Director Resource Management), John Threfall (Director Science and Land Management), Chris Arbuckle (Manager Resource Science), Richard Pettinger (Resource Planner), Pascal Balley (Manager River and Drainage Investigations), Alison Lane (Manager Compliance), Otago Regional Council; Ian Mayhew, HYC for MfE.
Date:	9:00 am to 12:00pm Thursday 29 September 2005
Venue:	Otago Regional Council

KEY ISSUES

Mining privileges – how do you deal with 2021? It would not be such a major issue if ORC could get them moved to RMA consents in anticipation of expiry. Water Plan's outcomes would be achievable if it wasn't for the major problems they cause. Alternative arrangements are needed to bring everyone forward and move on from mining privileges.

Major catchments fully allocated – Kakanui, Shag, Taieri as are some alluvial aquifers.

Allocation of groundwater in aquifers where depletion effects exist.

WATER ALLOCATION

Allocation mechanisms/resolving conflict

Fully allocated catchments (on paper due to mining privileges). Makes management difficult due to lack of accurate information on water use.

Sinking lid policy applied in fully allocated catchments – consents may fall to a lower allocation status if replacement not applied for in time.

Encouraging off peak harvest for peak times.

Allocation guidelines – low flows/water levels etc

Combination of 50% MALF and security of supply.

Working towards further scheduled minimum flows in plan based on security of supply/aquatic habitat flow requirements.

Groundwater – plan has no restrictions on allocation only on taking. ORC set out to limit allocation based on percentage of estimated recharge, but moving away from this in recognition of surface water interaction with shallow aquifers, with many connected surface water bodies fully allocated. Groundwater allocation an important issue in areas where depletion is occurring.

Overallocated resources – management/clawback

Liaise with major farmers – efficiency measures etc.

Claw back of volumes/rate of take – using crop water requirements, those with less water were stuck with what they had.

Are currently looking at metering etc.

Compliance monitoring of groundwater users.

Use of tradable permits – formal/informal

Not much trading although some mining privileges have been traded – provides a claw back opportunity under plan but can't touch them without owner doing so voluntarily.

Water efficiency measures

Farmers making significant effort in water efficiency in some areas.

Monitoring of resource use

Water meters standard, telemetered in some catchments, data logged. Telemetry working well.

Water user groups

Committees in overallocated catchments to assist in management. Very active.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

Water quality generally good.

Diffuse source runoff major contributor, septic tanks – unknown issues, some point source discharges – industrial community sewage schemes.

Stock access controlled through regulation, but not easy to enforce comprehensively.

Groundwater issues in some areas – hotspots – nitrate, septic tanks (although densities are usually low).

Use of classifications/standards

Objectives for water bodies relate to scheduled values; maintenance or enhancement to primary contact standard is RPS objective expressed in the water plan, along with MCI score improvement.

Link with allocation/stream flows

Consider assimilative capacity, but cautious with this approach. Tend to focus more on land management to reduce inputs rather than assimilate them.

Management of aquifer quality

Looking at management of land uses to protect aquifers.

Integrated management – land use practices/riparian/flows etc

A number of initiatives including Downlands Scheme – working with farmers on sustainable practices, fencing etc. Proactive land management – leading NZ in fencing of streams. MoU re tile and mole drains.

RIVERS/STREAMS

Flooding

Development increasing in flood plains – not controlled in plan (except for defences against water), so working with local councils to get district plans to control building and deposition on flood plains – flood protocol project.

Very active rivers – difficult to manage due to changes. Also, significant gravel extraction – managing flooding, erosion. Have limited extraction but starting to look more at ecological effects.

URBAN ISSUES

Management of freshwater – issues/response

Flooding is a key stormwater issue.

Stormwater discharges permitted in plan – provisions need reviewing to ensure they are adequate to avoid receiving water contamination. Meanwhile need strict enforcement where stormwater is assessed as contaminated – it is not meeting the permitted activity.

Working with industry to improve practices.

IWI INVOLVEMENT

Plan development

Good relationship with iwi.

Iwi management plans used in resource consent process and given regard to in the plan.

Resource management

Capacity issues with iwi. Council has MoU with key iwi and provides funding to support involvement.

OTHER METHODS
Community participation Clean stream accord. Land management programme – facilitate development of farm plans. Catchment programmes – science and communication. **Education** Mainly advice, some proactive education programmes. **Incentives** Not a major component. Biodiversity project, facilitating consents for some activities that enhance environment. Big push to improve efficiency of existing infrastructure. **Enforcement** Significant data management. Primarily educative at first instance but will go to enforcement – discharges to water (dairy), land developers, stream diversions etc. Prosecutions taken for excess water takes.
EMERGING ISSUES/PROBLEMS
Mining privileges provide for significant takes, no minimum flow or ability to reduce/decline under RMA – cause pressure in some catchments due to large volumes. Transition to RMA may be a challenge – although gradually occurring in some areas. High use of stream flows. Some major catchments are fully allocated and sinking lid policy in place for water use – interaction with shallow alluvial aquifers an issue. Information accuracy is an issue in some catchments – allocation vs use. Difficult to manage resources. Water allocation needs for lifestyle block – eg subdivisions in Queenstown – how much water is required. Development in flood plains becoming an increasing issue. Tools/practices that would assist in management of freshwater. Information on crop water requirements variable – good in some areas, poor in others – eg requirement for lifestyle blocks. Septic tank/on-site wastewater disposal is an ongoing issue that could be addressed better nationally. Type and location, set back distances, floodplains etc. Amendments to s36 to allow cost recovery for permitted activities. The role of water conservation orders needs to be considered further – mainly consider flows, but other issues relevant – discharges, development etc. Need to be more pro-active in respect of management of iconic areas – not just reactive after the problems have surfaced (eg Taupo). There is a lack of leadership in water resource issues – lack of coordination and consistency across the country – eg science lead user needs rather than other way around, inconsistent approaches to setting minimum flow requirements. More leadership required. National guidance on flooding would be useful – management of flood plains, flood damage analysis etc. Onsite wastewater methods an issue – need to derive best practice standards/methodologies etc. Application and accuracy of water metering is an ongoing issue – need to have industry certification, standards of installation etc. The values of small streams and ephemeral watercourses are not well understood, further work useful.

Appendix A (16): Environment Southland

Attendees:	Ken Swinney (Manager, Policy and Planning), Chris Arbuckle (Manager, Environmental Information), Dr Jane Kitson (Scientist – Coastal/SOE), Karen Wilson (Groundwater Scientist), Rachael Millar (Senior Resource Planner), Environment Southland; Carmel Rowlands, Libby Manley, MfE; Ian Mayhew, HYC for MfE.
Date:	1:30 -3.30pm Thursday 9 March 2006
Venue:	Environment Southland (Southland Regional Council)

KEY WATER RESOUCE MANAGEMENT ISSUES

Generally there is a low level of surface water allocation; however there have been changes over last 5 years with an increase in irrigation takes – this is primarily driven by pasture irrigation. There was an update to the regional plan in 2004 in light of this increase.

The Waiau River is the main exception and is highly/fully allocated.

In terms of groundwater, one aquifer is close to being fully allocated but most not highly allocated.

Diffuse source water quality issues are of far more significance in the region due to more intensive pastoral land use. Environment Southland has identified the management of diffuse source runoff as the key goal over the next ten years.

WATER ALLOCATION

Allocation mechanisms/ Allocation guidelines – low flows/water levels etc

First in first served in respect of available water – except in times of drought where water takes for health and welfare take priority.

Surface water allocation moves through a tier of water availability methods (of increasing detail/precision) as demand on resource increases:

1. Default Minimum flow (total volume of water allocated less than 10% of mean annual low flow at downstream point in catchment and where a minimum flow is not already specified);
2. Minimum flow derived from Generalised Habitat Models (total volume of water allocated less than 30% of mean annual low flow at downstream point in catchment and where a minimum flow is not already specified);
3. Minimum flow derived from In-stream Habitat Analysis;

Supplementary flows for storage are provided for.

Water quality and quantity based on River Environment Classification (REC) – in terms of setting min flows, REC is primary method. Issues such as water quality, cultural values etc are taken into account in the REC system. The "iconic" value of water not specifically taken into account, but when developing specific conditions for Waiau River there was a strong feeling from community that the current situation was the absolute minimum.

Allocation plans

In terms of management plans, Environment Southland does not have "whole of catchment" plans but there is non-regulatory work going on that take a "whole of catchment" approach eg catchment based surveys, aquifer surveys etc.

Integrated catchment management approach has been considered through a variation to the plan to deal with the interaction between surface water and shallow groundwater.

Overallocated resources – management/clawback

Over-allocation has not occurred to any significant extent in Southland so clawback hasn't been necessary. Consents are granted on reasonable use requirements.

Use of tradable permits – formal/informal

Doesn't happen due to current availability of water. The only scenario is when people sell up and consent gets transferred with the land.

Water efficiency measures

As above, Environment Southland has policies around efficiency of use and allocates according to reasonable use.

Monitoring of resource use

Take consents are generally metered by Environment Southland, but requirements are generally related to average uses rather than daily totals.

Water user groups

There are no user groups as yet, although the plan has a policy in respect of user groups. It is envisaged that groups will be established in the future.

CONTAMINANT DISCHARGES (RURAL)

Management of point source and diffuse discharges

The Southland region has the highest uptake of nutrient budgeting in the country – probably due to intensive effort by field staff/fertilizer companies. Budgeting is voluntary (rather than required though policy) but encouraged.

Most lowland rivers have high nutrient loads – especially where cropping has converted to dairying. Bacteria loads can also be an issue in some streams.

From data bacteria/nutrient levels seemed to have remained stable, at very high levels over last 5 years – almost reaching a plateau (not spiralling). Likely further intensification of land use may further degrade surface water resources throughout the region.

In terms of management, the water quality variation sets objectives and policies.

Looking ahead, Environment Southland is looking to implement a Non-point Source Discharge Plan for 2008. Variation no 4 (water quality) sets goals for 2015 – 10% improvement in water quality. Stock access variation is in early stages – needed to be updated.

Faecal coliform standards often breached throughout the region. The farming community is very vocal in opposition to controlled stock access. There will be a council workshop to decide whether to proceed to variation soon.

Nutrient standards are based on ANZECC guidelines.

Permitted nutrient use isn't actively monitored but complaints are reported so the issue is managed this way due to level of resources. It comes down to the cost of compliance and the difficulty of measuring compliance. Environment Southland has looked into methods of cost recovery but feel there is no legislation to enable it. Not easy to deal with.

Dairy/effluent discharges are all to land. Every operation over 50 cows is consented as a controlled activity.

Use of classifications/standards

REC is used within the plan. Standards are generally based on ANZECC guidelines. No nutrient standards are used. Classifications are usually utilized when considering point source discharge resource consents rather than diffuse source runoff.

Link with allocation/stream flows

Through REC classification system – looks at a range of issues.

Management of aquifer quality

The region experiences some problems with aquifer contamination – primarily nitrate. Greater emphasis being placed on bore construction.

Integrated management – land use practices/riparian/flows etc

A range of measures, generally voluntary are undertaken including a land sustainability programme, riparian management and a regional action plan in respect of the Clean Stream Accord.

RIVERS/STREAMS

Flood management – Environment Southland are asked to provide recommendations on applications (building or land use consent) to develop within or near flood plains. All flood risk zones are mapped on district plans. Environment Southland representatives have been attending consent hearings advocating mitigation. They can recommend a certain floor height or not to build in the hazard zone there but in the end it is TAs that decide whether the person may develop in the hazard zone. There are questions surrounding who is liable – the City or the Regional Council? It is not specific in the legislation. TA may be liable but there is a chance some liability may rub off on Environment Southland. TA generally goes in favour of Environment Southland's advice.

Stop banks give false security. There is a misconception that if people build to recommended floor level they can stay there during flood – but they can't (there are other problems eg with flooded septage fields etc).

There are significant gravel extraction activities undertaken in the region but mostly out of bed extraction.

Significant river engineering works are underway and in the planning stages – eg Mararoa – a major project to clear the willows which were acting as a dam. 19km of waterways to be cleared of willows. The programme underway is looking to Landcare, DoC, Crown for funding. The river channel will need to be engineered to stabilize it following removal of willows.

Water works and services budget $3.6 Million – all going to Mararoa project.

URBAN ISSUES

Management of freshwater – issues/response

Stormwater runoff is becoming more of an issue. Stormwater discharges previously permitted, but now require resource consent. Waihopai– pilot catchment for stormwater projects. Looking at quality angle. Will be non-regulatory. City council reluctant to get involved in stormwater quality issues.

IWI INVOLVEMENT

Plan development

Iwi are involved through the submission process. In addition Iwi are on hearing panels by invitation- this works well. Environment Southland works with Iwi to break the paradigm of the Mana Whenua section of at the front of the plan – Iwi have same issues as the rest of the community – they are now at a point where they are comfortable not to have a Mana Whenua section as all parties involved have same issues. Iwi components threaded throughout the plan as a result of criticism of Iwi not being incorporated into whole plan – only token section at the front.

In terms of resourcing, panel members are paid as a councillor would and all costs covered. Environment Southland contributes to Te Runanga O Ngai Tahu (TRONT).

Resource management

In terms of the functional process, Iwi are notified as affected party if it is a notified consent (through Te Ao Marama - reps from local runanga).

OTHER METHODS

Community participation

In instances where groups within the community lack knowledge, Environment Southland has paid an expert to work alongside them. The example of river liaison groups was given – 5 were to have input to water plan – didn't have enough scientific knowledge so Environment Southland paid to have an expert to work beside them. Environment Southland has also looked at doing this for Iwi.

Fed farmers – vocal but have a good working relationship. Recent controversy with stock access can be

considered a blip. Federated Farmers members on the voluntary group for wetlands management. A Regional Action Plan (RAP) for the Dairying and Clean Streams Accord – an example of working together with industry. However, the RAP didn't get signed at end of day – went beyond what federated farmers were happy with.

River liaison groups – specific to main rivers. Look after budgets for operational side of river management – eg engineering works, stop banks. If close to river you will gain most from stop bank scheme so you pay more. Environment Southland administers river liaison groups.

Landcare Groups – there are 8 or 9 groups. A person is employed to coordinate their activities which show the importance of these groups and the work they do. Many of these groups have a water component.

Environment Southland was involved in the preparation of "Our Way" with the District Councils. This is a combined project to set a strategic direction for the region.

Originally there were 100 submitters on water plan but with the stock access variation there has been lots more interest as there is as increased awareness of the water plan in community.

Education

Environment Southland has an extensive education programme. Much of it is concerned with sustainable land management and a very active schools programme – a full time educational officer is dedicated to this. They also have a budget for advocacy type work across organisations.

The main messages are concerned with the four icons (air, water, land and coast).

Sustainable Land Management Team use education more than compliance.

Incentives

Previously there was an incentives policy in the plan but it has not been actioned and has been removed – not active in this area.

Enforcement

Environment Southland has a compliance division. Environment Southland takes a hard line with repeat offenders. For the first offence – education, repeat offenders get in more trouble. Dairying, especially effluent discharges, are the most common offences.

EMERGING ISSUES/PROBLEMS

Emerging issues

Diffuse run off is the major issue with the major goal of the Council to reduce nutrient runoff /improve water quality.

Control of land use over aquifers – there is reluctance by TLAs to undertake regional council functions. Environment Southland looking at issues of putting land use controls over aquifers in place to manage aquifer quality issues. TLAs are not prepared to get into land use control but don't want to let regional councils control it. Regional councils not allowed to take on new functions unless allowed by TAs – in Local Government Act.

Tools/practices that would assist in management of freshwater

Best practice guidelines useful, but concerned about making these compulsory as it is difficult to set up something from a national level – never going to suit all of NZ. Local problems need local solutions.

Advocating for national best standards, rather than national environmental standards – set at an achievable level and regional councils can build on that.

Science providers – not always driven by end user type needs. There could be a role for MfE to align science – regional councils need to drive science agencies towards their issues.

FoRST funding – projects often have goals looking 25 years out. But the desire for shorter term research means that long term research that was going to provide good info for councils have been bumped as funding has been undercut.

There is difficulty in translating scientific info, and it's costly to translate and get hold of in the first place.

Research is often carried out but not through to implementation. Need to follow through, long term. It could be MfE's role to pick up overall – carry things on. Close gap.

Inter-regional councils groups are set up to assist information sharing – but this relies on one person driving it. Potential role for MfE to facilitate.

Environmental education is generally under funded in many areas. More coordination nationally on education would be good to assist in delivering good outcomes and programmes.