greater WELLINGTON
REGIONAL COUNCIL

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Committee	Te Upoko Taiao – Natural Resource Plan Committee
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Freshwater quality management – a policy perspective around the control of agricultural land use and discharges

1. Purpose

To provide the Committee with background information on current policies and programmes used in the management of water quality of the Mangatarere Stream catchment, outline how other regional councils and industry are managing discharges and land use, and present some mechanisms for information as part of the regional plan review process.

2. Background information

By way of background, the following sections look at how discharges to land and water are currently controlled via our operative Regional Plans, and will be controlled via our Proposed Regional Policy Statement. The important distinction between control functions of regional councils and district councils over land use are also explained.

2.1 Discharges to land and water in the operative regional plans

The Regional Freshwater Plan 1999 identifies the Mangatarere Stream as one of 10 rivers in the region needing enhancement because it did not meet water quality guidelines for aquatic ecosystems. Eleven years after the Regional Freshwater Plan was made operative the *Mangatarere Stream Catchment Water Quality Investigation* tells us that, overall, water quality in the lower reaches of the Mangatarere has declined since 2003.

At the time the Regional Freshwater Plan was made operative Carterton's municipal wastewater discharged directly to the Mangatarere Stream. In 2002 Carterton's municipal wastewater discharge practices were altered to discharge to land during the summer months or periods of low soil moisture. At other times wastewater is discharged to an artificial wetland, which drains to the Mangatarere Stream. The municipal wastewater discharge remains the single

most significant point source discharge to the Mangatarere Stream and is the point source discharge with the single largest adverse effect.

There are, however, other point source discharges to surface water in the Mangatarere Stream catchment, all of which require resource consents. A number of these discharges are temporary and are considered to have a minimal adverse effect. Other influences on the Mangatarere Stream, such as stormwater (from Carterton), flood protection works and stock crossing streams, may also impact water quality at times. Stock access to streams is not controlled through the plan at the present time.

Reid's Piggery is the largest single source of animal effluent to land in the catchment. Monitoring indicates their discharges are having measurable effects on soil, groundwater and stream water quality. In particular, these discharges have resulted in elevated nitrogen concentrations in groundwater. The Regional Plan for Discharges to Land, made operative at the same time as the Regional Freshwater Plan, placed an emphasis on discharges being made directly to land rather than water.

The findings of the *Mangatarere Stream Catchment Water Quality Investigation* establish that implementation of the two regional plans which control discharges have not been fully effective in preventing the decline of water quality in the catchment, particularly as assessed against the guidelines for aquatic ecosystem health. Summaries of reports on the effectiveness of the Regional Freshwater Plan and the Regional Plan for Discharges to Land have been presented to the Committee earlier this year (Report 10.94, March 2010). These reports give a picture consistent with the recent investigation that more effective provisions for discharges are needed.

2.2 Discharges to land and water in the proposed Regional Policy Statement

All Regional Policy Statement policies referred to can be found in **Attachment 1.** Policy 11 directs the regional plan to include provisions requiring water quality and aquatic habitat in the Mangatarere Stream and its tributaries to be managed for aquatic ecosystem health. It also directs the regional plan to manage water quality and aquatic habitat in water bodies for other identified purposes. Examples of other purposes that could be identified for management of the Mangatarere Stream are cultural, trout fishery or irrigation.

Policy 15 of the proposed Regional Policy Statement promotes the discharge of human and/or animal waste to land rather than water. There are now 30 consented dairy shed effluent discharges to land in the Mangatarere catchment. The Carterton landfill also discharges leachate to land, which makes it way to the groundwater. Although the landfill closed in 2004 leachate discharge continues under an existing consent. Other discharges to land that occur in the catchment, such as on-site sewage disposal and the application of fertiliser are permitted activities.

Policies 16 and 17 of the proposed Regional Policy Statement identify specific elements of aquatic ecological function in the Mangatarere Stream that are to

be protected in the regional plan. Policy 17 directs the regional plan to protect significant indigenous ecosystems and habitats with significant indigenous values. Appendix 1 of the proposed Regional Policy Statement identifies that the Mangatarere Stream has threatened indigenous native fish species and a high diversity (that is having more than six species) of migratory native fish species, which also make it regionally significant.

2.3 Regional and district councils, water quality and land use control functions

District councils are the primary agency under the RMA for controlling land use via rules and policies in their District Plans. District Plans control issues such as zoning, rural subdivision and noise.

The ability of regional councils to control land use is limited to:

- Soil conservation
- Water quality, quantity and aquatic ecosystems
- Natural hazards
- Hazardous substances

The way land use is controlled under the Resource Management Act differs from the way discharges are controlled. Land uses require a resource consent only if a rule is included in a regional plan. This means that if an activity is not the subject of a particular rule in a regional plan, the activity can be carried out without resource consent. For discharges, the opposite is true. All discharges of contaminants to water, or to land that are likely to enter water, require resource consent unless they are expressly permitted in a regional plan. This means that if a discharge is not the subject of a permitted activity rule in a regional plan, the discharge requires resource consent.

In the context of achieving better water quality outcomes it is important to understand that at present there are no land use controls in the regional plans for achieving either water quality or aquatic ecosystem health. The plan effectiveness reports (Report 10.94, March 2010) suggest that run-off from rural land (non-point source discharges), including stock access to streams, are a significant cause of pollution in water bodies across the region. The findings of the *Mangatarere Stream Catchment Water Quality Investigation* reinforce this finding for the Mangatarere Stream catchment. In the Mangatarere Catchment and other catchments around the region the link between land use practices and water quality is generally well accepted, as is the value of improving land use practices as one avenue for getting better water quality in the Mangatarere Stream catchment.

The proposed Regional Policy Statement provides some direction on the circumstances when Greater Wellington may control land use. Policy 61 provides a steer that Greater Wellington will be responsible for controlling the use of land to maintain and enhance ecosystems in rivers and streams.

3. The management of land use impact on freshwater quality: what other councils are doing?

Most councils around the country have to manage a similar range of activities that impact on freshwater quality.

Attachment 2 provides a summary of what other selected regional councils have in their plans to manage activities similar to this found in the Mangatarere Stream catchment. Waikato, Environment Bay of Plenty, Taranaki, Environment Southland and Otago all have operative regional plans. Decisions have yet to be made on the plans for Horizons and Environment Canterbury.

Almost all these plans, see Attachment 2, require resource consents as a discretionary activity for community sewage discharges to water and land. ECan community sewage discharges to land or water is a non-complying activity. In contrast, Horizons permits the discharge of community sewage to land. All councils studied require resource consents for discharges of agricultural effluent to water as a discretionary activity with one exception, Taranaki, where the discharge is a controlled activity. Wellington, EBoP, Horizions, Taranaki, and ECan each require resource consent for agricultural effluent discharged to land as a controlled activity and Waikato, Otago and Southland councils permit agricultural discharges to land. All the councils listed permit fertiliser discharges to land and on-site sewage discharges.

Waikato and Environment Bay of Plenty have controls on land use in an operative regional plan. Horizons make land use a controlled activity in the proposed regional plan. The decision report for Horizons was due on 24 August.

Attachment 3 sets out the types of resource consents that can be included in the rules of a regional plan.

4. Management options for controlling the impacts on freshwater quality: regulatory and non-regulatory

4.1 Regulatory

When preparing a regional plan, Section 32 of the Resource Management Act governs the council's regulatory processes and requires the council to evaluate and report on alternatives, benefits and costs of objectives, policies, rules and other methods. The requirements for this evaluation are set out in **Attachment 4** to this report, including what the evaluation must cover and what must be taken into account in making a decision.

Attachment 5 sets out some of the regulatory and non-regulatory options Greater Wellington can consider when it addresses discharges and land uses in the Mangatarere Stream catchment and others where there are similar activities taking place. The options should be considered as an integrated package in order to produce the most effective outcome.

Of the options listed at Attachment 5, the regulatory options of permitting activities, requiring resource consents and providing advice are all used in the

Mangatarere Stream catchment at the present time. The regulatory options of prohibiting activities, and controlling land, are not.

4.2 Non-regulatory

A wide range of non regulatory options currently exist to manage the effects of land use on fresh water quality. For instance, Greater Wellington currently has non-regulatory options based on advice, and incentives and/or working closely with landowners. These are typically in connection with other council programmes, such as isolated flood protection works, bovine TB control, riparian planting (as a pilot for the *Streams Alive* programme), supporting Queen Elizabeth II covenants, wetland restoration (through the *Wetland Incentives* programme), and managing pest species in Key Native Ecosystems.

Two other areas where non regulatory methods are successfully being used, and can act as drivers changing practices that impact on water quality, are industry led initiatives and programmes and the use of farm plans.

There are currently a number of industry led initiatives that promote non regulatory response to managing the effect of certain activities.

- The Dairying and Clean Streams Accord sets out performance targets for Fonterra's suppliers to meet. These performance targets relate to excluding stock from streams, rivers, and lakes; regular crossings points having bridges or culverts installed; compliance with consents for farm dairy effluent discharges; having in place systems to manage nutrient inputs and outputs; fencing regionally significant wetlands; and developing regional action plans between Fonterra and regional councils. The Accord is not legally binding, but Fonterra has expanded its services available to suppliers to help improve compliance with effluent disposal consents, after poor results in the annual Clean Streams Accord reports. This expanded service is known as "Every Farm, Every Year" and involves Fonterra staff inspecting farm effluent disposal machinery to identify systems at risk of non-compliance.

- The Primary Sector Water Partnership is a group of primary sector organisations who have developed a combined strategy document for managing water issues. The partnership is made up of Fonterra, DairyNZ, the Foundation for Arable Research, HortNZ, Meat & Wool NZ, NZ Forest Owners Association, NZ Farm Forestry Association, Fertiliser Manufacturers' Research Association, Irrigation NZ, and Federated Farmers. The Leadership Document, released by the partnership in 2008, sets out goals and plans for action on addressing water issues facing the primary sector.

- The Fertiliser Industry has a code of practice for nutrient management, released in 2007. This code of practice focuses on the use of fertiliser within the wider context of nutrient management planning. It contains background information, guiding principles, instructions for preparing nutrient management plans for different production systems, best management practices and considerations for fertiliser use, detailed

explanations on technical and legal topics, and fact sheets on relevant information.

- The DairyNZ's Farm Enviro Walk is a basic toolkit for dairy farmers to check on the risks for non-compliance relating to effluent systems; potential runoff from fertiliser, silage, and dumps and offal holes; waterways – nutrients, sediment, erosion, stock access; runoff and erosion from cultivated areas; and damage to soils or pugging. There is also a section relating to the farmer and staff having knowledge of the regional rules on effluent treatment, fertiliser applications, farm dumps and offal holes, feed and stand off pads, silage storage, stock access to and crossing of waterways, and soil cultivation and earthworks.

- The New Zealand Deer Farmers' Association have a Landcare Manual available to all members. This is a comprehensive tool addressing issues with soil, water, and trees, has a section of case studies outlining examples of what some farms have implemented in terms of sustainable management plans, and a section on further considerations, integrated management options, and help contacts. There is also an appendix with excerpts from the industry QA document, a summary of the RMA background, information on the land use capability classes, a nutrient budget form, further discussion on water issues, a summary of the Landcare Manual contributors' survey, and a summary of the Deer Farmers Environmental Awards.

- Beef and Lamb New Zealand (formerly Meat and Wool New Zealand) produce a Land and Environment Planning Toolkit which is available free to all levy payers. The toolkit contains examples of Land Environment Plans (LEPs), a reference guide, containing links to fact sheets and guides on various environmental issues, a list of land and environment planning specialists, a list of existing planning programmes (mainly regional council plans), a list of available environmental grants, farm mapping resources and other resources which may be useful.

Farm Plans

Almost all regional councils offer some form of Individual Farm Plans, generally for erosion or riparian protection purposes. Some also offer plans encompassing wider issues.

For example, Horizons, Environment Waikato, and Environment BoP all have programmes for farm planning relating to nutrient inputs and outputs in targeted catchments. The recent decision on Horizons One Plan restricts this regulation to dairy farming only. The regulation for the Horizons farm plans is still proposed and has just been the subject of council hearings.

Horizons

Horizons also has a Whole Farm Plan process, where voluntary plans are produced at the request of farmers or the council for farms in priority areas, provided for under the Sustainable Land Use Initiative. These plans are comprehensive plans that produce a land resource inventory and also

incorporate water resources, biodiversity, farm infrastructure, fertiliser use and soil testing history, stock numbers, farm management and farm policies, and a business analyses. Once a mutually acceptable plan is finalised the landowner signs off on the commitments made in the plan, and the work programme begins.

Environment Bay of Plenty

Environment BoP also offers environmental programmes to protect indigenous biodiversity, soils, and water. Programmes typically cover issues such as the protection of significant sites, soil erosion, pest control, riparian planting and protection, the use of chemicals, farm dumps and offal holes, stream channel and streambank stabilisation, effluent disposal and stock access to waterways. A covenant over the farm must be registered with the council to qualify for the financial assistance under the programme. In Environment BoP's Regional Water and Land Plan, the rules relating to stock access to the Rotorua Lakes catchments are less stringent if the matter is addressed in an environmental programme – i.e. the activity is permitted instead of discretionary (note that this does not apply to all Rotorua lake catchments, some specific lakes are listed where stock access is prohibited, these are the priority lakes identified as being of particular concern).

A number of councils also have various types of catchment plans for priority areas. For example, as part of the suite of tools being used for the Rotorua Lakes catchment in the Bay of Plenty provision is made for each of the lakes to have a Community Action Plan developed. An Action Plan working party is set up, typically comprising representatives from community interest groups and sectors present in the catchment. The working party then develops an Action Plan tailored to the specific issues and resources of the catchment. For example, the Lake Okaro Action Plan details the reasons for the lake's degraded water quality and sets out detailed recommended actions to help improve the water quality and meet the Trophic Level Index (TLI) targets set in the Water and Land Plan. The discussion of the recommended actions includes the contribution to the nutrient reduction total, expected costs, and allocation of responsibility.

Environment Waikato has two Integrated Catchment Management programmes running, aimed at addressing nutrient loss to waterways and the resultant effect on water quality. While this approach uses integrated catchment management principles, the plans are developed for individual farms within the catchment, rather than an as an overarching catchment plan. The development of a catchment plan is the second phase of the programme and is currently underway.

Greater Wellington currently offers individual farm plans through several work programmes. The largest of these programmes is delivered by the Land Management team and is focused on erosion prone land, working with farmers to develop and implement plans for planting and retirement. Greater Wellington staff also work with farmers in priority catchments to develop plans for riparian planting and retirement.

4.3 Providing advice and working with landowners

Greater Wellington staff provide information and advice on request and to landowners when visiting sites (for consent matters, when undertaking monitoring, when working on flood management issues, or when working with landowners on farm plans). Advice is also given when staff are on compliance visits, during pre-application visits and also when queries are made via phone, in person, or through the website. Most other regional councils also have quick links to regional monitoring data on their websites. Some also have a specific quick link for farmers or rural landowners.

A number of regional councils hold regular workshops or field days for farmers. For example, Environment Waikato has held the Waikato Agriculture Summit for the past two years. These summits involved the agriculture industry, local government, iwi, research organisations, and environmental groups. Past summits have focused on how these different groups can work together collaboratively to address the issues facing the agriculture industry and the environment in the region.

Otago and Southland also have more detailed information available to farmers though their websites, for example, Southland's soil moisture maps showing whether it is appropriate to irrigate effluent each day – areas are marked no irrigation, pulse irrigation, low rate irrigation, or safe for irrigation and growing conditions map based on the temperature above a base temperature of four degrees is also available and there is also a detailed soil type map.

4.4 Providing incentives

Greater Wellington currently offers financial incentives for some activities through programmes such as *Streams Alive*. Under this programme free native plants, planting and weed control activities, extending for two years after planting, are offered to landowners in selected catchments. The Enaki Stream in the Mangatarere catchment was a pilot catchment for this programme. This programme ended in June 2010.

The *Wetland Incentives* programme aimed at protecting wetlands provides pest control advice and traps (on loan), full funding of weed control and a contribution to fencing costs, to a total maximum of $5000 for each landowner. This assistance, however, is only available for wetlands. The land management group also develops farm plans with farmers at no cost to the farmer and there is a subsidy for the work identified in the farm plans, such as discounts on pole purchases and contributions for planting.

5. Summary of policy approaches for managing water quality and discharge to land

The background material presented on the Mangatarere Stream Catchment and analyses of other councils' approaches for managing water quality and discharges to land offer some initial focus for discussion. It is clear that a range of methods are available and that no single method is likely to provide the outcomes identified in the Regional Policy Statement. Further the methods

used in the case of the Mangatarere Stream Catchment offer valuable lessons to policy makers.

5.1 Managing the discharge of community sewage to water and land

A range of approaches have been used by different councils to manage discharges of community sewage to both land and water. In the context of the regional plan review, retaining the current discretionary activity status for such activities, while offering an option, may need to be considered in light of the continued impacts of discharges on water quality. Equally, the use of discretionary status is a common option used by a number of councils for activities with a high level of risk, either because of a high risk of failure or a high magnitude of adverse effects if failure were to occur. Such an approach allows the risks involved to be managed and monitored.

It may be worth examining the use of more stringent controls on phosphorus (or other contaminants) levels in the discharge as part of an approach to more clearly target key contaminants. For example, and as discussed in the Mangatarere Report, the discharge from the Carterton wastewater treatment plant is contributing heavily to phosphorus levels in the Mangatarere Stream and more stringent controls on phosphorus (or other contaminants) could be achieved by identifying specific standards in the conditions of the rule applying to such discharges, which would then be implemented through specific conditions in resource consents.

5.2 Managing the discharge of agricultural effluent

Discharges of agricultural effluent are managed using both regulatory and non-regulatory methods, including those involving industry partnerships and council funded programmes. Additionally, by identifying certain discharge activities as being of differing activity status plans can signal that some activities are higher risk while others are regarded as being lower risk. It is noted that as a result of current policies, there are no agricultural discharges directly to water occurring in the region.

Discharges of agricultural effluent to land are currently a controlled activity. This allows for some level of control being established while accepting the practical circumstance of agricultural production. The background information suggests that consideration be given to including more specific conditions regarding the appropriate application and storage of effluent when considering conditions attached to discharges to land, as a way of better managing cumulative effects.

This review has also highlighted the scope and potential of industry guidelines and best practice systems on achieving better effluent management and the role farm plans can play in facilitating changes in practices in regard to discharges to land. Such approaches have added benefits of building the capabilities and capacity in farming communities as well as establishing partnerships. A regulatory incentive could be to make the rules less restrictive if the issue was addressed in a farm plan. How such mechanisms might work is as yet unclear, although it seems a number of councils have retained discretion over the contents of such plan, or in case funded the preparation of them.

Another option for incentives is to increase the consent duration for systems addressed under farm plans, which would in essence be a discount for the landowner, who would not need to reapply for consent as frequently, and would provide more certainty for them that their system can operate for a longer period.

A similar range of options could be considered around the application of certain nutrients to land. Councils encourage or in deemed appropriate require compliance with the fertiliser industry's code of practice for nutrient management. In other cases fertiliser use has been covered under farm plans. An issue that need consideration is how to best track the overall quantum of nutrient loads being applied in an effort to better understand the impacts and benefits of nutrient use practices as they relate to both land productivity and water quality management.

5.3 Managing the discharge of on-site sewage (septic tanks) to land

A 'warrant of fitness' type system could be used, as described in the proposed National Environment Standard on on-site wastewater systems, where landowners with on-site wastewater systems are required to have their system checked by an accredited auditor on a regular basis. This approach would allow the number and location of all wastewater systems in the catchment to be known and recorded. The performance of the systems would be regularly checked and required to be maintained to the standards in the rule. A number of issues are as yet unresolved around the proposed National Environment Standard, such as how the programme would be implemented and who would be certified to check the performance of the devices.

If landowners were responsible for funding the inspections, performance incentives could be used, such as less frequent inspections if the inspection record showed a history of good practice or less frequent inspections if systems treated the sewage to a higher standard than conventional systems. A further approach is to encourage or require compliance with the Australia/New Zealand Standard on the design, construction, and installation of systems.

5.4 Managing land use

Land use is not controlled by Greater Wellington at the moment. We have the authority to control land-use practices for water quality or ecosystems in water bodies. This could be done through regulatory or non-regulatory methods, or a combination. Methods include rules for land-use practices and working with landowners to manage land-use practices through farm plans. This would be similar to the way we manage erosion through plans, but would cover a wider range of issues, such as nutrient management, stock management, and riparian management.

As a companion to regulatory tools, the use of a farm plan could mean that the activity is covered under a less restrictive activity status or not subject to the specific standards and conditions in a rule. As a non-regulatory tool, incentives could be provided such as partial funding for implementing actions in the plan, but a budget for this would have to be found. It is unlikely that much take-up of farm plans would occur without some form of incentive, as these tools are

widely available to all agricultural industries through the appropriate industry organisation (i.e. DairyNZ, DINZ, and Beef & Lamb NZ). Opportunities exists to work in partnership with the various industry bodies to build on the programmes of both the council and industry bodies to achieve better land-use practices in terms of the effect on water quality.

5.5 Managing stock access

Stock access is not currently addressed specifically in Greater Wellington's regional plan, so this activity is currently covered by general 'default' rules. The background report identified a range of approaches used to manage stock access, ranging from specific rules addressing stock access to waterways, to industry codes of practice and the use of farm plans. In EBoP's plan, this activity could be included in the farm plan system. Greater Wellington is also in the process of developing a guide to managing stock access, with which we could encourage compliance. Finally council may also examine working with landowners covered by the Clean Streams Accord in an effort to meet the targets agreed.

6. Conclusion

This paper has provided an outline of how some council plans and industry programmes manage water quality issues. This review also demonstrates how a range of policy responses can be applied in the Mangatarere Catchment and more widely across the region. Some of the policy mechanisms highlighted are currently used in the region to manage water quality while others are available for further consideration in the context of other work informing the plan review.

7. Recommendations

That the Committee:

1. ***Receives** the report.*

2. ***Notes** the content of the report.*

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Attachment 1: Proposed Regional Policy Statement provisions
Attachment 2: Table outlining what other councils are doing
Attachment 3: Types of Activities
Attachment 4: Section 32 of the Resource Management Act
Attachment 5: Options for Managing discharges