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# **MARLBOROUGH ENVIRONMENT PLAN**

**Section 32 Report**

**Chapter 15: Resource Quality – Soil**

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## Overview

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### Background

Section 32 of the Resource Management Act 1991 (RMA) requires that in the process of reviewing its regional policy statement and resource management plans, the Marlborough District Council (the Council) must prepare and publish an evaluation report. The three documents being reviewed are the Marlborough Regional Policy Statement (MRPS), the Marlborough Sounds Resource Management Plan (MSRMP) and the Wairau/Awatere Resource Management Plan (WARMP). Each resource management plan is a combined regional, coastal and district plan.

Section 32<sup>1</sup> of the RMA requires that:

- reviewed regional policy statements and plans must be examined for their appropriateness in achieving the purpose of the RMA;
- the benefits, costs and risks of new policies and rules on the community, the economy and the environment be clearly identified and assessed; and
- the written evaluation must be made available for public inspection.

The Section 32 process is intended to ensure that the objectives, policies and methods the Council decides to include in the new resource management framework have been well tested against the sustainable management purpose of the RMA. The Section 32 evaluation report for the proposed Marlborough Environment Plan<sup>2</sup> (MEP) has been prepared on a topic basis, centred on the policy chapters of Volume 1 of the MEP. Individual reports have been prepared on the following:

Topic	Volume 1 Chapter of the MEP
Introduction to Section 32 evaluation reports	
Marlborough's tangata whenua iwi	3
Use of natural and physical resources	4
Allocation of public resources – freshwater allocation	5
Allocation of public resources – coastal allocation	5
Natural character	6
Landscape	7
Indigenous biodiversity	8
Public access and open space	9
Heritage resources	10
Natural hazards	11
Urban environments	12
Use of the coastal environment – subdivision, use and development activities in the coastal environment, recreational activities, fishing, residential activity, shipping activity and Lake Grassmere Salt Works	13
Use of the coastal environment – ports and marinas	13
Use of the coastal environment – coastal structures, reclamation and seabed disturbance	13
Use of the rural environment	14

<sup>1</sup> See Appendix A.

<sup>2</sup> The Marlborough Environment Plan is a combined regional policy statement, regional plan, regional coastal plan and district plan.

## Section 32: Chapter 15 - Resource Quality - Soil Quality

Topic	Volume 1 Chapter of the MEP
Resource quality – water	15
Resource quality – air	15
Resource quality – soil	15
Waste	16
Transportation	17
Energy	18
Climate change	19

Chapters 1 and 2 of the MEP are not included within the Section 32 evaluation as they provide an introduction and background to the proposed document. These chapters do not include provisions that must be evaluated in accordance with Section 32.

The Introduction report covers the scope of the review that the Council has undertaken, including consultation and the nature of information and analysis that has occurred. An overview of the Council's statutory obligations, the relationship of the MEP with other plans and strategies and working with Marlborough's tangata whenua iwi is described. A set of guiding principles the Council has used in the development of the objectives, policies and methods for the MEP is provided. The Council acknowledges that the principles have no statutory basis and do not in themselves have specific objectives, policies or methods. However, they have been included as the philosophy and values underlying the content of the MEP and consequently help to inform the Section 32 evaluation.

The policy provisions for soil quality are included within Chapter 15 - Resource Quality (Water, Air, Soil). A separate section 32 evaluation report has been prepared for water, air and soil. The rules for soil quality are included within each of the zones set out in Volume 2 of the MEP. There is also an overlay map in Volume 4 that shows soils susceptible to certain land uses. This Section 32 evaluation report on provisions relating to soil quality is set out as follows:

- Description of issues – this provides an overview of the resource management issues for soil quality.
- Statutory obligations – the extent to which there are direct links with Section 6 or 7 matters and whether the provisions are directed or influenced by national policy statements or national environmental standards.
- Information and analysis – whether specific projects or other information have influenced the inclusion of provisions or other responses to dealing with resource management issues.
- Consultation – an overview of the extent and nature of specific consultation undertaken on the proposed provisions.
- Evaluation – an assessment of the provisions under each of the identified issues. Where appropriate, reference is made to supporting material that has helped to inform why a particular option has been chosen. In some cases the evaluation is undertaken on an individual provision, while in others groups of policies or methods have been assessed together.

In some parts of this evaluation report there are references to provisions within other chapters of the MEP. This is due to those provisions assisting in implementing the management framework for the subject matter of this report or vice versa. A reader should consider the evaluation for these other provisions where they are referred to in this report.

### Key changes

The key changes in the MEP from the approaches in the MRPS, WARMP and MSRMP are:

- recognition that the Council's knowledge of the soil resource is far from perfect and further monitoring is required;

- there is greater emphasis on soil conservation and on delivering sustainable land management programmes through industry groups;
- policy guidance is included to assist with resource consent applications for land disturbance activities;
- the Council will not control the use, storage, transportation and disposal of hazardous substances as it will rely on the minimum controls provided for in the Hazardous Substances and New Organisms Act 1996 (HSNO). Two exceptions to this are that the Council will impose more stringent requirements under the RMA on the use and storage of hazardous substances in groundwater protection areas and on river beds and for the discharge of hazardous waste to land or water.
- commitment is included to an ongoing investigation of known or potential contaminated sites; and
- introduction of the National Environment Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) by central government controlling certain land uses.

## Summary of reasons for the proposed provisions

Section 32(1)(b)(iii) requires a summary of the reasons for deciding on the provisions included in the MEP. This summary of reasons for the provisions in relation to issues concerning soil quality are set out below, however the more detailed evaluation is set out in the remainder of this report.

### *Land use activities or practices may affect soil quality.*

- Soil quality is fundamental to the environmental and economic wellbeing of Marlborough. It is therefore important that land use activities are undertaken in a manner that does not degrade soil quality.
- Monitoring of soil quality has identified some trends in terms of decreasing soil quality. Soil compaction, loss of soil organic matter, increasing sodium levels and nutrient levels have been the main concerns identified, which have come about as a consequence of primary production activities. This is why both regulatory and non-regulatory provisions have been included in the MEP to ensure soil quality is maintained and enhanced.
- The Council has the function under Section 30 of the RMA of controlling the use of land for the purpose of soil conservation. Concerns have been expressed by the public about the lack of involvement in soil conservation (for example in relation to forestry in the Marlborough Sounds) since the dissolution of the Catchment Board.

### *Use, storage, transportation and disposal of hazardous substances*

- The Council has the function under Sections 30 and 31 of the RMA of controlling the use of land for the purpose of preventing and mitigating any adverse effects associated with the storage, use, disposal or transportation of hazardous substances.
- The Council also has the function of investigating, identifying and monitoring contaminated land. As the Council progressively undertakes investigation, there may be a desire to develop land that may have been contaminated by past land use activities. Future development of land needs to be managed to ensure it will not harm people or the environment in the interim.

## Description of issues

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There are over 87 different soil types in Marlborough, each reflecting variation in parent materials, age of soil development, climate and topography. Collectively, these diverse soils are one of the District's most important natural resources. Marlborough's social and economic development has historically been based on its strong primary production sector, including farming, forestry, food (and supplementary feed) crops, horticulture and viticulture. The ability to grow pasture and a wide variety of crops relies upon the health of Marlborough's soil resources. It is therefore important that land use activities are undertaken in a manner that does not degrade soil quality.

## Section 32: Chapter 15 - Resource Quality - Soil Quality

Soil resources are also relied upon to treat and contain many of the contaminants deliberately or inadvertently released into the environment. In doing so, soil helps to maintain community health standards and protect water resources from contamination. Soil also acts to absorb, channel and store water, a particularly important function in Marlborough's dry climate.

It is difficult to establish the extent and severity of soil degradation in Marlborough as limited soil quality monitoring has been carried out. There are likely to be some major problems relating to soil quality in the District and what monitoring that has been done indicates that in some cases primary production has resulted in soil compaction and elevated levels of nutrients/trace elements. Deteriorating soil quality will adversely affect the productive capacity of the soil and all of the other important functions currently performed by soil resources.

There are two regionally significant issues identified for soil quality in Chapter 15 of the MEP:

*Issue 15F – Some land use activities or practices have the potential to adversely affect soil quality.*

- Soil compaction under different land use activities is of particular concern. Frequent use of heavy vehicles/machinery/stock in the same location on susceptible soils is likely to cause soil compaction. Soil compaction increases soil bulk density, reduces aeration and decreases infiltration. In turn, these changes adversely affect pasture and crop growth and lead to increased water and nutrient runoff. Increased water runoff can have significant drainage implications, especially if existing drainage infrastructure is unable to manage the increased volume and rate of runoff.
- The maintenance of organic matter in soils makes a significant contribution to soil quality. Activities such as frequent cultivation of soils and the removal of vegetation can result in low organic matter status in soils. A low organic matter status puts soils at risk of poor aeration, poor drainage and soil structure degradation, all of which can potentially negatively affect crop productivity and predispose soil to a range of environmental issues (such as erosion loss).
- The application of liquid and solid wastes to land can also add elements to the soil. Excessive application of some wastes can have adverse effects on the soil. For example, winery wastewater can have elevated sodium concentrations and if applied at high rates or onto susceptible soils, there is potential for reduced soil quality through the loss of soil structure and reduction in plant growth. Excessive application rates of dairy farm effluent can result in build-up of nutrients such as nitrogen and/or microorganisms such as *E. coli*. High application rates can result in anaerobic soils while excessive application of some solid waste can result in high concentrations of elements such as potassium and organic material.
- As the viticulture industry has expanded there has been a trend toward re-contouring of land into rolling or hill country, which may change soil structure in those areas. However, the effects of re-contouring are currently largely unknown.
- Topsoil is the most productive part of the soil profile and any erosion of topsoil adversely affects soil quality. Excavation, filling, cultivation and vegetation clearance all have the potential to expose bare soil, which in turn creates conditions conducive to accelerated soil erosion, especially on steep slopes. Some soils, such as loess soils, are more susceptible to soil erosion.

*Issue 15G – The use, storage, transportation and disposal of hazardous substances creates the potential for the contamination of soil if the hazardous substances are released into the environment.*

- Due to the risk they pose to the environment, there is a risk that inappropriate use, storage, transportation or disposal of hazardous substances can result in them being released into the surrounding environment. That environment is usually (at least initially) the surrounding soils.
- In a limited number of instances, soil contamination has already occurred due to the historic use or disposal of hazardous substances. Contaminated sites create a significant risk to the environment and community health. Soil contamination can severely limit the ability to safely use land and therefore it is important to manage the risk of adverse

effects on the soil resource arising from past inappropriate use, storage, transportation and disposal of hazardous substances.

## Statutory obligations

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There are no specific Section 6 or 7 matters of the RMA relevant to soil quality. However, some aspects of Section 7 may be considered relevant in terms of managing soil quality, for example Sections 7(c) and (f) on maintaining and enhancing amenity values and the quality of the environment, respectively, can be considered to have a place in managing soil quality. The Council also has specific functions under Sections 30 and 31 of the RMA relevant to soil quality as follows:

Section 30 of the RMA –

- (1) *Every regional council shall have the following functions for the purpose of giving effect to the Act in its region: ...*
  - (c) *the control of the use of land for the purpose of—*
    - (i) *soil conservation: ...*

Section 31 of the RMA –

- (1) *Every territorial authority shall have the following functions for the purpose of giving effect to the Act in its region: ...*
  - (b) *the control of any actual or potential effects of the use, development, or protection of land, including for the purpose of – ...*
    - (ii) *the prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances; and*
    - (iia) *the prevention or mitigation of any adverse effects of the development, subdivision, or use of contaminated land: ...*

Issue 15G has a direct link to the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS). Each territorial and unitary authority implements the NESCS in accordance with their Section 31 functions under the RMA relating to contaminated land, specifically Section 31(b)(iia): “*the prevention or mitigation of any adverse effects of the development, subdivision, or use of contaminated land.*”

The NESCS is a nationally-consistent set of planning controls and soil contaminant values. It ensures that land affected by contaminants in soil is appropriately identified and assessed before it is developed and if necessary, the land is remediated or the contaminants contained to make the land safe for human use.

The Hazardous Substances and New Organisms Act 1996 (HSNO Act) regulates all substances that are classified as hazardous in New Zealand. The HSNO Act provides a comprehensive legal framework for managing risks from hazardous substances and enables the environmental effects of hazardous substances to be assessed and controlled. Although the HSNO Act is implemented by the Environmental Protection Authority (EPA) and enforced by a number of government agencies, the Council's responsibilities under the RMA do cross over with this legislation.

## Information and analysis

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A number of investigations and monitoring activities have helped to inform the review of soil quality and hazardous substances provisions, including state of the environment monitoring, compliance monitoring and investigations into soil and water quality. An overview of these is provided below.

### State of the Environment monitoring

Since 2000, the Council has undertaken a soil quality monitoring programme to determine what effects land use practices are having on the quality of our soils. The Council's understanding and knowledge of Marlborough's soil resources have subsequently increased. This monitoring is ongoing and results are made publically available on the Council's website.

The monitoring programme undertakes a range of investigations into the effects of compaction and pugging under different land uses and the effects of discharging agricultural wastewater and solid waste to land. In addition, the Council undertakes soil characterisation studies to increase its knowledge about the different soil types throughout the District. Investigations on soil erosion are carried out and this includes soil mapping to determine the typical average properties of the specified soil and the spatial distribution of soils at some sites to determine erosion potential.

### **Compliance monitoring**

The Council undertakes annual compliance monitoring of the discharges to land of agricultural wastewater and solid waste from two significant rural-based industries in Marlborough: the viticulture industry and the dairy industry. Both industries rely on soils to treat and retain contaminants present in these two types of waste.

The Council has been monitoring winery waste annually since 1999. Wastewater is produced from the winemaking process (predominantly consisting of water used for cleaning floors, equipment, fermentation tanks and barrels) and grape marc waste (the solid end product after grapes have been pressed for juice) are assessed as part of the monitoring program. Monitoring is undertaken according to resource consent conditions and/or the permitted activities standards of the WARMP. Wineries are required to keep records demonstrating compliance and these are checked during site visits.

Dairy farms have been monitored in Marlborough since 1994. The dairy effluent systems on all operating dairy farms are inspected by the Council to check compliance with resource consents or plan rules. For the MSRMP area, dairy farms are checked against the permitted activity standards, while in the WARMP area farms are checked against their respective resource consent conditions for dairy effluent discharges to land.

The Council also undertakes compliance monitoring related to discharges to land of cleanfill material<sup>3</sup>. Although little is known about the effects of these discharges, there is the potential for significant adverse effects to occur if inappropriate material is disposed of or if the disposal locations are inappropriate. Results from 2010 monitoring found that all six sites monitored accepted unauthorised material and a number of the sites had elevated soil concentrations of metals greater than the relevant guidelines. In some cases, the risk to human health and the local environment from elevated soil concentrations of metals was considered high. Some of the sites required remediation to ensure that the contaminants would not continue to have a harmful effect on human health and the wider environment.

The results from all of these monitoring programs enable the Council to consider the extent to which the current permitted activity standards are being complied with and whether the standards are effective or efficient. Similarly, the results can help to determine where conditions of consent (where consent is required) are effective in avoiding, remedying or mitigating adverse effects. In several instances, results have directly influenced changes in approach to the management framework in the MEP for some discharges to land. (These changes are described later in this report.)

Monitoring reports are publically available on the Council's website.

### **Review of existing resource management plan rules**

The current rules of the MSRMP and WARMP have been analysed, including a review of the activities being undertaken in Marlborough and the different types of activities that can influence soil quality. An analysis of New Zealand and overseas research in relation to land use activities from a range of sources has also been made. The analysis includes the following information:

- an overview of Marlborough's rural environment in terms of the type of land and the operating industries. This information provides an understanding of the main changes, if

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<sup>3</sup> Cleanfill is material that has no potential to produce harmful effects on the environment. This material is generally a natural material such as clay, soil and rock, and such other materials as concrete, brick or demolition products that are free of combustible or organic materials.



any, that have occurred within the industry sectors since the two resource management plans were first notified;

- a review of the District's natural resources (soil and water) directly affected by various activities (e.g. discharges to land or the effects of grazing on soil properties), including the general principles of soil and water processes. This information helps to illustrate how these resources are intrinsically linked, i.e. if one is adversely affected by a discharge, there is greater potential for the other to also be affected; and
- an overview of the legislation relevant for discharges of contaminants to land.

The following types of discharges have been reviewed in the Council report produced in 2015:

- agricultural and horticultural organic-based discharges, with an emphasis on liquid and solid waste (and any associated leachate) produced by these sectors;
- non-agricultural and horticultural organic-based discharges, which focusses on domestic wastewater and stormwater discharges;
- chemical-based discharges from fertiliser and agrichemical discharges; and
- inert waste material discharges, such as those from cleanfills and farm rubbish dumps.

The 2015 Council report describes the potential for adverse environmental effects from these activities and makes recommendations as to how these effects can be mitigated.

## Identifying soils at risk

Throughout the review there has been consideration of the nature of Marlborough's soils and whether some types may be at risk of contamination depending on what activities occur on them. Subsequently, investigations have been carried out and a report has been produced<sup>4</sup> that identifies some high risk soils. From this the Council has produced a 'Soil Sensitive Area' map that identifies three soil types within Marlborough as being high risk: free draining, impeded and loess. This map is provided as an overlay in the MEP.

The free-draining soils are considered high risk because they are located over an underlying shallow, unconfined aquifer and therefore discharges onto these soils could result in groundwater contamination. Impeded soils are considered high risk because of the potential for movement of liquid waste across the soil surface, which can convey waste from land to surface water. Loess soils are considered high risk because of their potential for erosion.

The Soil Sensitive Area map will be used to prevent certain activities occurring on the three high risk soil types unless resource consent is granted. Through the consent process, an assessment will be made as to whether it is appropriate for an activity to occur on a particular soil type.

## Consultation

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### Early consultation

In 2006, the first round of consultation was initially undertaken solely for the review of the MRPS and saw the distribution of a community flyer to all ratepayers advising of the review. The aim of this exercise was to discover the community's views on the most important resource management issues that Marlborough would face over the next ten years. Approximately 380 responses were received, although there was very limited comment on soil quality.

- Several respondents commented that areas for urban expansion and rural lifestyle living should be located on land with poorer soil quality.

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<sup>4</sup> AgResearch (Seth Laurenson and Dave Houlbrooke). (July 2015) Information to support Marlborough District Council's Land Discharge Permit Trigger Soil Profile Map using the AgResearch Soil and Landscape Risk Framework.

## Section 32: Chapter 15 - Resource Quality - Soil Quality

- Respondents raised a concern with the long-term effect on soils from the significant number of treated posts in vineyards.
- It was also stated that dairy farms should not be allowed in the Wairau Valley due to the huge amounts of nitrogen being discharged, which leads to leaching through free-draining soils and contamination of the waters of the Wairau Aquifer.

Following this initial consultation, a series of discussion papers were prepared by the Council and released for public feedback in late 2007. *Discussion Paper 3: Rural Issues* is of particular relevance to this Section 32 evaluation.

In total, 69 responses were received from individuals, iwi, industry groups and environmental groups on *Discussion Paper 3*. Four issues were identified in the paper, which had some bearing (either directly or indirectly relevant to soil quality) on the MEP: increased pressures from land use activities and subdivision on rural land, dealing with the rate or speed with which land use changes can occur, how and where to accommodate the demand for residential living in rural areas and managing the risk arising from unknown contaminated sites. Comments received through the feedback noted the following:

- One response suggested that the Council should require landowners intending to set up a monoculture activity in a certain area, to provide evidence that a proposed change of use is more appropriate to the location in terms of impacts on soil, climate and water use, than any other use for the same land. Taking this further, another respondent suggested the development of 'land banks' with tradeable development rights to be given for uses with minimal environmental damage, i.e. best crop for the locality. The use of incentives to encourage other land uses to establish in Marlborough was also proposed.
- Widespread concern was expressed on the impacts of land conversion to grapes and the associated impacts arising from the viticulture industry, including damage to soil health. This point was made in connection with the spraying of grapes and the use of copper, chromium and arsenic (CCA) treated posts. Support was expressed for ongoing research into the effects of CCA leaching into the soil and groundwater. Disposal of posts was also considered a major issue that needed to be addressed.
- Other responses supported locating new residential development limited to areas with marginal soil productivity.
- A concern was also expressed about the potential for dumping of toxic waste and organic material and that there needs to be encouragement for rural people to make greater use of transfer stations.

### Later consultation

Early in the review process, the Council decided on an iterative approach in developing provisions for the MEP. This sought to test as many of the provisions as possible before the new resource management documents were formally notified under the First Schedule of the RMA. The rationale for this was that the greatest flexibility for change to provisions exists prior to notification of a proposed document; once notified, only those provisions submitted on can be changed and then only within the scope of those submissions. The Council therefore established a number of focus groups with the task of reviewing the provisions to discuss their likely effectiveness or otherwise. The aim was to have as much community participation as possible in developing the provisions to reflect the community's views and to resolve any substantive issues prior to notification. The focus groups that considered the soil quality provisions included the Sounds Advisory Group, the Rural Focus Group, the Practitioners Focus Group and the Iwi Working Group.

In mid-2013, the Council released a collection of draft provisions for community feedback. Although the main focus of the provisions was related to Chapter 13 - Use of the Coastal Environment, other policy, including that on soil quality, was also released. Limited feedback was received on the soil quality provisions.

In August 2014, two industry-based working groups were established to review the draft rules for the discharge of agricultural waste (liquid and solid) to land. These groups included representatives from the wine and farming industries, as these two sectors produce the largest volumes of solid and liquid

waste discharged to land in the District. The Wine Working Group consisted of 18 individuals from local wineries and Sustainable Wine Growers, while the Farming Working Group consisted of four representatives from Federated Farmers and Fonterra.

Each of the two working groups met with staff from the Environmental Policy and Environmental Protection Groups on a number of occasions to review and provide feedback on the draft rules. After initial feedback had been incorporated into the draft document, opportunity was given to each working group to provide further feedback. The Farming Working Group provided subsequent feedback, while the Council received no further communication from any representatives of the Wine Working Group.

Other industry representatives were also given the opportunity to review and provide feedback on the draft rules. In particular, the rules were provided to the local representative for the New Zealand Deer Farm Association (NZDFA), the New Zealand Agricultural Aviation Association (NZAAA) and the New Zealand Helicopter Association (NZHA). Opportunity was given to meet directly with the Environmental Policy Group to discuss feedback. One representative met with Council staff to review specific feedback.

Upon request, in July 2015 the final draft version of the draft rules was circulated to the Farming Working Group, NZAAA, NZHA and a small number of individuals who had requested to be informed of the rules.

## Evaluation for Issue 15F

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*Issue 15F – Some land use activities or practices have the potential to adversely affect soil quality.*

### Appropriateness of Objective 15.4

*Objective 15.4 – Maintain and enhance the quality of Marlborough's soil resource.*

#### *Relevance*

The objective is considered to be highly relevant as it responds directly to the issue. It reflects a community understanding that primary production can have adverse effects on soil quality and activities must be undertaken in a sustainable way. It is important for community wellbeing, particularly from a public health perspective, in terms of Section 5 of the RMA and in terms of fulfilling the direction in Sections 5(2)(a), (b) and (c). The objective is also highly relevant to Section 7(f) - maintaining and enhancing the quality of the environment - and assists the Council in carrying out its functions as a unitary authority under Sections 30 and 31 of the RMA.

The objective complements Chapters 4 - Use of Natural and Physical Resources, 12 - Urban Environments, 14 - Use of the Rural Environment and 16 - Waste in which activities associated with primary production whilst being enabled, also need to ensure such activities are sustainable for the health and quality of the soil resource.

#### *Feasibility*

Achieving the objective is realistic, however it is limited to some degree by a lack of understanding in terms of the impact of some activities on overall soil quality. As a result, there may be challenges in achieving the objective in the short term but if this objective is not set, there is a risk to the future of primary production in Marlborough. This objective relies on there being adequate resources budgeted for related monitoring and research programs.

#### *Acceptability*

The objective is reasonable. Community feedback supports maintaining soil resources for present and future generations and therefore there are whole-of-community benefits. The objective recognises the connection between the soil resource in Chapter 4 - Use of Natural and Physical Resources and social and economic wellbeing of the community. The objective reflects the need for the Council to take a more significant role in soil conservation, which has been somewhat limited since the dissolution of the former Marlborough Catchment Board and Regional Water Board.

Although there are costs associated with this objective, these are considered less than the cost(s) of not having the objective. Costs are a reflection of the direction in the RMA to monitor for state of the

environment. Costs associated with regulations through controls on land disturbance may be incurred but this would be no different to those costs that currently occur.

## Assessment of provisions to achieve Objective 15.4

### Policy 15.4.1

Policy 15.4.1 – Improve our understanding of the effect of land use on soil quality.

#### *Benefits*

This policy acknowledges that very little soil monitoring has been undertaken since State of the Environment (SOE) monitoring started in 2000. However, under the current regulatory management framework, soil quality issues can be identified and resolved through greater monitoring of specific biological, chemical and physical state of soils under the SOE monitoring program.

This policy enables the Council and the community to respond to changes in land use that have the potential to affect soil quality. By including landowners in the monitoring program, a custodial role is developed and with this the likelihood of improving our understanding of soil quality is greater. This policy also takes the existing MRPS policies a step further in focussing provisions and methods of implementation on soil quality rather than it being dealt with in a generic sense as it is currently.

#### *Costs*

The monitoring programmes will incur costs for the Council, in an area that has previously been underfunded. Monitoring programs may identify the need for further regulations, which has the potential to increase costs further.

#### *Efficiency*

The policy is considered efficient as there is a whole-of-community benefit along with the environmental benefit relative to the community cost identified above. As to who will benefit the most from this policy, this will depend on where monitoring occurs and what that monitoring reveals.

#### *Effectiveness*

To maintain and enhance soil quality, it is necessary to understand what the quality of the soil resources are. The policy helps to achieve the objective of improving our understanding of the effect of land use on soil quality.

### Policy 15.4.2

Policy 15.4.2 – Encourage land management practices that:

- (a) maintain soil structure by:
  - (i) avoiding or remedying soil compaction;
  - (ii) avoiding the loss of soil organic matter; and
  - (iii) avoiding or remedying the effects of increased sodium levels;
- (b) maintain nutrients at appropriate levels; and
- (c) retain topsoil in situ.

#### *Benefits*

The benefit of this policy is that it aims to maintain soil quality throughout Marlborough. This policy identifies specific adverse effects on soil quality to be avoided (soil compaction, loss of soil organic matter and increased soil sodium levels) and soil health aspects to be maintained (nutrient levels and topsoil).

This policy acknowledges that some primary production activities rely on the quality of the soil and that there are economic benefits and future productivity gains by retaining productive soils. Of importance to the success of this will be working with landowners and recognising their stewardship of the land and associated soil resources.

*Costs*

The costs of this policy are associated with research and investigations undertaken by staff and external contracts in developing monitoring guidelines. Depending on monitoring results, changes to land management practices may involve an economic cost if changes to regulations (i.e. rules) result. However, the policy itself does not incur a cost to landowners as any change is voluntary.

*Efficiency*

The benefits of the policy outweigh the costs, provided adjustments to land management practices are adopted. There is a potential risk that after the research or investigations are undertaken (i.e. the costs are incurred) the changes may not be adopted because it is voluntary. In addition, in some situations changes may be adopted but no direct benefit realised. For example, changing cleaning products and/or operations in winery operations to reduce sodium levels within the winery wastewater may help prevent loss of soil structure but the winery may not experience any direct benefit from those changes.

*Effectiveness*

The policy is considered to be effective relative to the costs and benefits as it encourages landowners, who are considered stewards of the land, to adopt changes to land management practices to achieve sustainable use of the soil resources they rely upon for their livelihood.

**Policies 15.4.3 and 15.4.4**

Policy 15.4.3 – Control land disturbance activities to retain topsoil and minimise the potential for eroded soil to degrade water quality in lakes, rivers, significant wetlands and coastal waters.
Policy 15.4.4 – In considering any land use consent application to undertake land disturbance, regard shall be had to: <ul style="list-style-type: none"> <li>a) the physical characteristics of the site, including soil type, slope and climate;</li> <li>b) any industry standards that are relevant to the activity;</li> <li>c) sediment and erosion control measures required to reasonably minimise adverse effects caused by rainfall events, including the use of setbacks from waterbodies;</li> <li>d) the proximity of the land disturbance to any freshwater body or coastal water and the potential for eroded soil to reach the waterbody or coastal waters;</li> <li>e) where it is possible for eroded soil to reach any freshwater body or coastal water: <ul style="list-style-type: none"> <li>(i) the objectives and policies of this chapter under Issues 15A to 15C; and</li> <li>(ii) the likely degree of compliance with water quality standards set for the water body;</li> </ul> </li> <li>f) any potential adverse effects on community water supplies; and</li> <li>g) whether the land disturbance is necessary for the operation or maintenance of regionally significant infrastructure.</li> </ul>

*Benefits*

The benefit of these policies is that there is a focus on the retention of soil quality for productive use. Appropriate land disturbance activities are enabled through permitted activities and it is acknowledged that there are situations where rules are required to control adverse effects of such activities. These policies recognise the integrated management between land use and water quality effects from land disturbance activities. These policies also help the Council carry out its functions as a unitary authority under Section 30(1)(c)(i) – the control of the use of land for the purpose of soil conservation.

The criteria included in Policy 15.4.4 aim to assist resource users and decision makers in determining resource consent applications to undertake land disturbance activities and provide certainty for resource users about which matters to focus on in consent applications.

*Costs*

These policies may result in a constraint on land users. However, in many cases this already exists under the current management framework. There is potential for resource users to not realise their aspirations; however, this would be an extreme circumstance as in most cases, the practice has been that conditions have been able to be imposed to mitigate adverse effects.

### *Efficiency*

Overall the benefits of these policies outweigh any costs to the individual resource user. The approach is one that moves from enabling activities through to requiring resource consent where effects may be more than minor. In doing so, it is more likely that the provisions will achieve the objectives at the lowest total cost (environmental, social, human health and wellbeing) to the community.

### *Effectiveness*

To date, experience has shown that a regulatory approach is needed to meet the objective. These policies help achieve the objective to maintain and enhance the quality of Marlborough's soil resource.

### **Policy 15.4.5**

Policy 15.4.5 – Control of animal pests will be a significant focus in maintaining and enhancing soil quality, particularly in the hill and high country of the Wairau, Waihopai, Taylor, Awatere, Ure/Waima and Clarence river catchments.

### *Benefits*

The benefit of this policy is that it recognises the link and integration between other pest-management legislation, i.e. the Biosecurity Act 1993 and the RMA in terms of controlling land use for the purpose of soil conservation.

### *Costs*

This policy incurs no additional costs as the control of pests already occurs under the provisions of the Biosecurity Act through the Council's current regional pest management strategy<sup>5</sup>. The costs associated with the controls set out in the strategy, which include costs for landowners, have been determined in the development of the strategy.

### *Efficiency*

This policy is very efficient given there are no additional costs.

### *Effectiveness*

This policy helps achieve the objective and address the issue. For example, the control of animal pests such as rabbits has been shown to help in maintaining slope stability and soil retention, both of which are considered components of soil quality.

### **Policy 15.4.6**

Policy 15.4.6 – Manage the erosion risk associated with loess soil by:

- (a) continuing to maintain the Wither Hills Soil Conservation Reserve;
- (b) controlling the discharge of liquid waste onto or into loess soils; and
- (c) controlling the excavation of loess soil on slopes.

### *Benefits*

There is a significant environmental benefit from this policy as some of Marlborough's soils are extremely vulnerable to erosion. The management set out under this policy is based in part on a survey undertaken in 2010 of the soils of the Wither Hills-Redwood Pass area (Campbell, 2011). Information from this study provided a detailed assessment of the loess soils and their distribution, the potential for erosion and the risks for urban expansion in these and adjacent areas.

This policy acknowledges potential effects of hydraulic loading on the erosion potential. It also acknowledges secondary benefits not related to soil conservation, e.g. community and economic benefits from recreational activities and/or sheep and cattle farming that currently occur in the Wither Hills Farm Park. This policy also extends the current MRPS policies in focussing provisions and

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<sup>5</sup> The regional pest management strategy is currently being reviewed and in accordance with changes to the Biosecurity Act 1993 will become a regional pest management plan.

methods of implementation on soil quality rather than it being dealt with in a more generic way (as it is currently).

#### *Costs*

Additional costs may be incurred in respect of requiring consent for some activities undertaken within the Soil Sensitive Area map. Any additional costs are warranted due to the correlation between certain activities, i.e. hydraulic loading and tunnel gulley erosion. Costs are ongoing for the Council with the administration of the Wither Hills Soil Conservation Reserve.

#### *Efficiency*

The benefits of this policy outweigh the costs that may be incurred.

#### *Effectiveness*

This policy is effective as it signals there is a risk associated with some activities occurring on loess soils identified in the Soil Sensitive Area map and that these activities will need to be controlled. This policy also allows consideration of the erosion potential to be taken into account, whether it be on the Wither Hills Soil Conservation Reserve or on private land.

## **Methods of implementation**

The main change in the methods of implementation from the current MRPS and the two resource management plans is the inclusion in the MEP of more focussed research and investigations into soil quality through the Council's monitoring programme set out in 15.M.45. The current methods of implementation in the MSRMP and WARMP are limited to erosion prone soils. In contrast, method 15.M.38 in the MEP takes a more broad approach through regulating the discharge of waste onto loess, free-draining and impeded soils identified in the Soil Sensitive Area map.

## **Other options considered to achieve Objective 15.4**

Four other options were considered by the Council to achieve Objective 15.4. These were:

### *1. Status quo in terms of the existing provisions of the MRPS, MSRMP and WARMP*

The status quo would be to retain the existing provisions of the MRPS, MSRMP and WARMP. Within the MRPS, the main objective regarding soil productivity and avoidance of soil erosion and degradation is Objective 6.1.5, which states that '*practices which exacerbate soil erosion and degradation be avoided;*' and that the '*potential and life supporting capacity of all soils be ensured by retaining the productive capability of those soils.*'

The policies under this objective are fairly generic in seeking to avoid soil loss and degradation, maintaining soil fertility at levels which will ensure future productive capacity and taking steps to reduce soil degradation and erosion where reasonably practicable. The methods then describe how the resource management plans will include controls to manage the effects on soil quality and erosion and that there will be identification of versatile soils, further research and the provision of information to the community.

The focus in the resource management plans in relation to soil quality is mostly found within Chapter 13 (Soil Conservation) and Chapter 14 (Discharges of Waste to Land) of the MSRMP and in Chapter 14 (Land Disturbance) and Chapter 15 (Discharges of Contaminants to Land) of the WARMP. Chapter 12 (Rural Environments) of the WARMP also provides direction on the importance of the versatile soils of the Wairau Plain, which has been identified as the Rural 3 Zone. There are similarities between the policy provisions within these chapters and those of the MEP; however, Objective 15.4 of the MEP provides a clear focus about the need to maintain and enhance the quality of Marlborough's soil resources. This clarity of direction is not as evident in the two resource management plans, particularly because the provisions are spread over a number of chapters.

Despite the importance of the soil resource, to date only limited soil quality monitoring has been undertaken in relation to the provisions of the MSRMP and WARMP, which makes it difficult to establish the impact of various land use activities and practices on soil quality. A significant focus of the MEP for soil quality is increasing the knowledge of Marlborough's soil resource, which is reflected in the first policy under Objective 15.4 - 15.4.1, which seeks to improve our understanding of land use activities on Marlborough's soil resources. This is further supported through the methods of

implementation and the parameters set out in the anticipated environmental results for soil quality (15.AER.9), which will be used to monitor the effectiveness of the soil quality provisions.

Policy 15.4.6 introduces the use of at-risk loess soils identified in the Soil Sensitive Area map, which will be used to maintain and enhance the quality of Marlborough's soil resource by controlling some activities on loess soils. This map is also linked to Chapter 16 - Waste, in which it will be used to prevent certain activities from occurring on the three high-risk soil types unless resource consent is granted.

The issues, objectives, policies and methods of implementation included in both of the current resource management plans approach soil quality on a generic level in terms of managing the life supporting capacity of the land and its soils. However, although soil erosion is identified as an issue within the current MRPS, specific maintenance and enhancement of specific soil quality parameters is not identified, which makes overall management of the soil resource difficult under this current regime. The proposed policies for the MEP are therefore preferred, especially when taken in conjunction with the range of methods identified to implement the policies.

## **2. *No soil quality monitoring is undertaken***

Rather than requiring soil quality monitoring as is set out in the MEP, the Council could rely on national information on soils. Sources include national soils databases, including Fundamental Soil Layers (FSL), New Zealand Land Resource Inventory (NZLRI) and *S-map*. The FSL database contains the best estimate for the values of essential soil parameters (pH, rooting depth and carbon content) over the whole of New Zealand. The *S-map* database builds on previous soil mapping by filling gaps with new mapping, and upgrading the information content. The NZLRI database holds physical land resource information.

The information held within the national databases is useful at a national and regional level for environmental modelling. However, relying on such information will not take into account the diversity of the soil types and the impact of the different land uses occurring on them at a local level. As a result, soil quality monitoring undertaken may not be appropriate or targeted. Therefore, the option of having no soil monitoring and relying on national information on soils is not preferred as it would not be possible to determine the actual effects different land use activities have on soil quality at a local level.

## **3. *No assessment criteria is included for consideration of resource consents***

Providing assessment criteria when resource consent is required focusses decision makers and resource consent applicants on the matters that need particular attention in any application. This approach provides clear guidance and will result in more consistent decision making. Not including assessment criteria is therefore not a preferred option.

## **4. *More regulation***

Having more regulation could result in a consent requirement for all land use activities, including those that would be considered normal farming practice, e.g. land disturbance, farming activities known to contribute to soil compaction, frequent cultivation and vegetation removal and discharge of winery wastewater to land.

The most recent SOE monitoring report (2014) highlighted several soil quality issues under some land use activities, although in the majority of instances these can be reversed with appropriate management. These results suggest that rather than including more regulation to deal with soil quality issues, the provisions included in the MEP will help address these issues. In addition, the Council will work with and provide information to resource users about the importance of maintaining soil quality, as set out in methods of implementation.

## **Risk of acting or not acting**

Since 2000, SOE soil monitoring has been undertaken under a range of land use activities, including vineyards, cropping, pasture, dairy, native bush, drystock and exotic forest. Although knowledge has been gained from this monitoring, it is limited in terms of the number of sites monitored annually and monitoring has focussed on aspects of soil erosion associated with land disturbance, rather than a broader consideration of Marlborough's soil quality.



Over the past 15 years, the wine industry has expanded exponentially in Marlborough, with investigations on the potential effects of activities associated with this industry on soil quality only commencing recently. For example, the effect of discharging winery wastewater to land has only been investigated in three surveys undertaken in 2011 and 2012, while no SOE monitoring has been undertaken for the effect of vineyard posts on soil quality, although there were some initial investigations in the early 2000s. Information is also reported on the effects of winery wastewater discharges from annual compliance monitoring. However, current permitted activity rules only indirectly deal with soil quality parameters, while some resource consent conditions do include a requirement for soil sampling.

To date, no SOE monitoring has been undertaken on the effects of the discharge of dairy effluent on soil quality. Monitoring of this land use activity only occurs through annual compliance surveys and this determines whether permitted activity standards or conditions of resource consent are met.

Given the limited information the Council has on monitoring the effects on soil quality from land disturbance and discharging agricultural waste onto land, not controlling these activities poses a significant risk of ongoing soil degradation. However, the Council acknowledges that rules in themselves will not achieve the necessary outcomes and has included a non-regulatory approach for other land management practices to reduce the risk of ongoing soil degradation.

## Evaluation for Issue 15G

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*Issue 15G – The use, storage, transportation and disposal of hazardous substances creates the potential for the contamination of soil if the hazardous substances are released into the environment.*

### Appropriateness of Objective 15.5

*Objective 15.5 – Existing and foreseeable uses of the soil resource are not reduced as a result of soil contamination.*

#### *Relevance*

This policy is very relevant to the issue, given the historical primary production land uses in Marlborough, many of which are on the Ministry for the Environment's Hazardous Activities and Industries List (HAIL). Direct or indirect exposure (e.g. through the consumption of crops and grazing animals) to a hazardous substance that has contaminated the soil has the potential to cause adverse health effects. Soil contamination can therefore restrict the use of soils for productive and residential purposes both now and into the future. This objective recognises the significant constraint to resource use that soil contamination creates and seeks to retain the potential for current and future generations to use the land. This is relevant in the context of the NESCS, which sets soil contaminant standards protective of human health.

In addition, there are also risks associated with the transportation of hazardous substances in Marlborough created by the strategic interisland transport links, i.e. high vehicle movements/transportation of goods through Marlborough on State Highway 1 and the interisland ferries.

The objective helps the Council to carry out its functions as a unitary authority under Sections 30 and 31 of the RMA. In particular, functions described in Sections 30(1)(c)(i) - the control of the use of land for the purpose of soil conservation, 30(1)(c)(v) - the prevention or mitigation of any adverse effects of the storage, use, disposal or transportation of hazardous substances and Section 31(1)(b)(ia) – the prevention or mitigation of any adverse effects of the development, subdivision or use of contaminated land.

#### *Feasibility*

While the objective is considered feasible given there will be controls in place in the context of future uses of land, it is difficult to determine the extent of contaminated land currently as the Council does not have this information. This creates a level of uncertainty as to whether the objective is feasible; potential contamination may be present regardless of the objective. However, screening and investigation will address the issue of contamination and it is at this point that the objective will more

likely be able to be achieved. The objective will in part be achieved through the NESCS at such time as there is land use change at a site.

The screening and assessment work can be costly so there will be some prioritising of effort for screening sites on the Council's Sites At Risk Register (SARR).

### *Acceptability*

There was very limited feedback on issues concerning hazardous substances and soil contamination during the early stages of consultation. Feedback received through the opportunity given in 2013 to consider the draft MEP policies for soil quality was also limited. Notwithstanding this, there can be said to be an indirect level of acceptance of the need to ensure that existing and foreseeable uses of the soil resource are not reduced as a result of soil contamination. This is important because of the reliance placed on the use of soil resources in Marlborough for economic wellbeing. Many of those providing feedback throughout the review process have commented on the significance of primary production to Marlborough's economic wellbeing. Therefore it must be acknowledged that soil resources must be protected to enable economic wellbeing to continue.

## **Assessment of provisions to achieve Objective 15.5**

### **Policy 15.5.1**

Policy 15.5.1 – Primarily rely on regulations promulgated under the Hazardous Substances and New Organisms Act 1996 to ensure hazardous substances are used, stored and transported in an appropriate manner.

### *Benefits*

This policy recognises that the HSNO regulations impose specific environmental controls on hazardous substances to protect the environment. By relying on the HSNO regulations, a significant benefit of this policy is that there is no duplication of the regulatory effort needed by the Council, resource users and community in the control of hazardous substances. It acknowledges that the Council does not have the expertise to deal with hazardous substances, but rather that the expertise lies with the Environmental Protection Agency (EPA).

Two exceptions to this policy have been identified in which the Council will intervene in relation to controlling hazardous substances. The first is in relation to Groundwater Protection Areas (GPAs) where the Council considers it necessary to impose land use controls for the storage of hazardous substances in these areas to provide protection of groundwater and river beds. The second exception relates to the discharge of hazardous waste to land and water.

This policy provides wide-reaching environmental, social, cultural and economic benefits.

### *Costs*

Through this policy, costs will be reduced when compared with the current resource management plans, as currently there are requirements for a hazardous screening procedure associated with hazardous substances. This approach will not be continued with in the MEP. In addition, in most situations land use consents will not be required except for those activities within the GPAs.

### *Efficiency*

This policy is efficient as there will be reduced compliance costs to the resource user, with the EPA being responsible for determining compliance with HSNO standards. This policy is also efficient as it capitalises on the fact that people with the expertise in this area are located together, i.e. within the EPA. As a result, fewer resources are required from the Council and the environment is still protected.

### *Effectiveness*

There is an assumption that national regulations are appropriate for the local environment, with the exception of activities occurring with the GPAs. By having hazardous substances regulated under the relevant legislation (the HSNO Act and by those with expertise of the various regulations and controls) it is likely that the objective will be achieved.

**Policy 15.5.2**

Policy 15.5.2 – Record known contaminated sites and other sites that may be contaminated due to past land use management practices, and make this information available to the public.

**Benefits**

It is difficult to manage contaminated sites if their location is unknown. Therefore, the benefit of this policy is that it allows management of both known and potentially contaminated sites to be recorded. This policy allows landowners/lessees to be aware of the risk of a potentially contaminated site, including potential health hazards. Informing the public about the location of such sites is important for community wellbeing as it allows people to make informed choices. This policy helps inform the national level of potentially contaminated sites and also facilitates the application of the NESCS.

**Costs**

There will be significant costs to ratepayers in investigating and recording the existence of HAIL sites, along with costs associated with establishing and administering the register. Any costs incurred on the landowner/lessee in terms of lost opportunities are imposed as a consequence of the application of the NESCS and not the policy itself. There are social costs associated with the apprehension of a property being identified as potentially contaminated.

**Efficiency**

By identifying potentially contaminated sites the community/social benefit of this policy is greater than the cost to any individual. Although the cost to ratepayers is significant, it is not as significant as the potential health costs if the site(s) is not recorded and awareness of the site(s) is not created.

**Effectiveness**

This policy is effective as it helps the Council to give effect to Sections 30 and 31 of the RMA, in particular functions described in Sections 30(1)(c)(i) - the control of the use of land for the purpose of soil conservation, 30(1)(c)(v) - the prevention or mitigation of any adverse effects of the storage, use, disposal or transportation of hazardous substances and Section 31(1)(b)(iia) – the prevention or mitigation of any adverse effects of the development, subdivision or use of contaminated land.

The Council has been investigating and recording potentially contaminated sites since the release of the HAIL in 2011, therefore robust systems are already in place. Records are not currently available publically and will only be released at the time of Land Information Memorandums. The intention is to make these records available to the public to improve awareness of these sites.

**Policies 15.5.3 and 15.5.4**

Policy 15.5.3 – Screen all sites on the Listed Land Use Register for the risk they pose to human health and/or the surrounding environment.

Policy 15.5.4 – Investigate sites assessed through Policy 15.5.3 as being of high risk to community health and/or the surrounding environment and, depending on the outcome of those investigations, consider the need for site management.

**Benefits**

The benefit of these policies is that they provide a process of screening potentially contaminated sites to establish the level of risk and where necessary, intervention. Resources are focussed on those sites that require management. Public safety and health are provided for through these policies and they also allow the Council or the landowner to make informed decisions on the use of that land.

Because the NESCS applies in a limited set of circumstances and only to aspects pertaining to human health, these policies recognise that management of potentially contaminated sites extends beyond the NESCS, e.g. to the identification and management of adverse effects on the surrounding environment.

**Costs**

Over the life of the MEP, the costs of staff and Council resources will be significant in terms of screening (Policy 15.5.3) and investigating sites (Policy 15.5.4). If active management of a site is

required, there will likely be a cost to the landowner for that management; however, the cost will be dependent on the scale and nature of the contamination and severity of adverse effects.

#### *Efficiency*

The benefits of assessing the risk(s) associated with potentially contaminated sites outweigh the costs incurred by these two policies. Screening and investigating sites is an efficient method of managing potentially contaminated sites as resources will be focussed on sites that require management. Although costs are significant, they are warranted given the potential severity of adverse effects on the community and environment.

#### *Effectiveness*

These two policies are effective in terms of achieving the objective as they allow for targeted management, based on the risk to people and the environment. They recognise that given the number of sites on the register and the history of past land use and land management practices, there may be a significant lag time between reporting, screening and investigating potentially contaminated sites. Targets set as anticipated environmental results will help facilitate the management of these sites over the life of the MEP.

These policies recognise the limitations of the NESCS, which is focussed on human health and not environmental effects. Although there are limitations of acting under the RMA where the NESCS does not apply, working with landowners or using the provisions of Section 17 of the RMA for enforcement are the only other options available to address wider environmental effects.

#### **Policy 15.5.5**

Policy 15.5.5 – Establish a response capability to deal with spills of hazardous substances.
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#### *Benefits*

The benefits of this policy are that it will reduce the environmental impact of spills of hazardous substances, which will in turn have environmental, social, cultural and economic benefits. There will be a more efficient response to spills due to coordination between agencies (the Council, Fire Service, Police and in the coastal marine area, Maritime Safety) and the development of a spills manual. In addition, it is likely that inter-agency relationships may also improve as a result of the coordinated approach.

#### *Costs*

Costs will be incurred through the establishment of responses and response costs in the event of a spill. However, because the response(s) will be coordinated, the costs will be reduced. Environmental costs will be significant if the Council does not work towards a coordinated response for spills of hazardous substances.

#### *Efficiency*

This policy is very efficient as coordination between agencies ensures that the response is appropriate to the given circumstance. The potential benefits are significant relative to the costs of establishing capability.

#### *Effectiveness*

As noted above, this policy is also effective as coordination between agencies ensures that the response is appropriate to the given circumstance. This policy also ensures responses are timely, which can limit the environment effects of a spill. There is integration of this policy with other provisions (e.g. water quality) where a spill may be on land but there is potential for the hazardous substance to enter waterbodies (either freshwater or coastal waters).

### **Methods of implementation**

The most significant change in the methods of implementation from the current MRPS and the two resource management plans is that under Policy 15.5.1, the Council will not have control of the use, storage, transportation and disposal of hazardous substances as it will rely on the minimum controls provided for in the HSNO Act. Two exceptions to 15.5.1 are that the Council will impose more stringent requirements under the RMA on the use and storage of hazardous substances in GPAs and on river beds and for the discharge of hazardous waste to land or water.

The use of the Listed Land Use Register will continue; therefore, the requirement for recording registered sites is not new. This enables the Council to administer properties that may be contaminated.

Information about properties that are potentially contaminated is linked with the register. Making the information on the register publically available is new and positive for the existing landowner. In many cases the Council is dealing with a legacy contamination effect so unless information is made available to 'new' landowners, they will have no idea about the history of land use or potential contamination of the land.

An investigations method allows the Council to screen sites on the Register. This method is new and has been included to provide more information on the likely risks that contaminants pose to human health and/or the surrounding environment. There will be increased costs associated with this method, which has been evaluated in the assessment for Policies 15.5.3 and 15.5.4.

Including a method to establish a spill response is also new. A coordinated spill response will be developed collaboratively by the Council, Fire Service, Police and in the coastal marine area, Maritime Safety. The resulting Spill Response Contingency Plan will identify the methods to be used to contain and clean up any spill of hazardous substances, the role of each agency in implementing these methods and enhance communication between the agencies. This approach will ensure that response actions are effective and the potential for soil contamination caused by spills is minimised.

## Other options considered to achieve Objective 15.5

Five other options were considered by the Council to achieve Objective 15.5. They were:

### **1. *Status quo in terms of the existing provisions of the MRPS, MSRMP and WARMP***

Under the current MRPS, the Council's management of hazardous substances focusses on those facilities and activities that use, store or dispose of hazardous substances occurs under Sections 30 and 31 of the RMA and also under HSNO. The Council maintains a list of all users of hazardous substances and facilities as part of the Hazardous Facility Screening Procedure under the resource management plans and monitors changes to their operations or facilities that may pose an increased risk to the environment or community health. Within the methods of implementation, site management plans may be required as a condition of consent that include measures to reduce the likelihood of accidents occurring, while spill contingency or other emergency plans allow the facilitation of efficient and well-coordinated responses to any accidents.

The Council could continue to run a dual process for the management of hazardous substances for no greater benefit to the community. However, to avoid duplication with other legislation, the Council will rely on the HSNO Act to ensure hazardous substances are used, stored and transported in an appropriate manner. In addition, the Council will impose more stringent controls on the use and storage of hazardous substances in GPAs, on river beds and for the discharge of hazardous waste to land or water.

The MEP will continue to maintain the register, which records known or potentially contaminated sites, with new sites added as the Council becomes aware of them. The Council will also retain the use of the risk screening procedure, which screens all sites on the register for the risk they pose to human health and/or the surrounding environment. For those sites screened through the register, the Council will progressively investigate sites and, to the extent that it can, the nature and degree of contamination and the potential for adverse effects. A new policy has been included for a coordinated, inter-agency spill response to be established.

The proposed policies for the MEP are preferred as they focus the Council's resources on the potential effects at a local level of contaminated sites on human health (through the NESCS) and the environment (e.g. regulation of activities in GPAs), especially when taken in conjunction with the range of methods identified to implement the policies.

### **2. *Regulation under HSNO***

Under the HSNO Act, there is greater use of regulation with regards to the storage, use, transport and disposal of hazardous substances. Running a dual process for the management of hazardous

substance provides no greater community benefit but increases compliance costs under two separate pieces of legislation.

If the Council retained the control of regulating hazardous substances, it would have to determine the triggers for needing resource consent and how the consent would be assessed. As the Council does not have staff with HSNO expertise, there is a significant risk to human health and the environment associated with the storage, use, transport and disposal of hazardous substances.

**3. *Alternative regulatory regime (e.g. volume limits)***

This option would see the Council determining volume limits for hazardous substances. Taking this approach, the Council must have a comprehensive understanding of the hazardous substance being used in a particular situation and make an assessment on the risk of any adverse effects on human health or the environment of that volume limit. The Council does not have the expertise required to make such determinations and therefore this is not a viable option.

**4. *Investigate all sites***

This option would see the Council undertaking thorough screening and investigations of all sites. The cost of undertaking this approach would be prohibitive regardless of the risk to community and the environment. For the MEP, the Council will progressively investigate sites and, to the extent that it can, the nature and degree of contamination and the potential for adverse effects, which will focus its resources on those sites that pose the greatest risk(s). Therefore, investigating all contaminated sites is not an alternative option.

**5. *Not having a coordinated response to hazardous substance spills***

Not having a coordinated response for hazardous substance spills would significantly increase the impact of these harmful contaminants not only on the environment, but also on the social, cultural and economic fabric of the community. Any responses would be inefficient, with wasted resources contributed to agencies working within individual silos. Therefore, this is not an alternative option.

## **Risk of acting or not acting**

The control of hazardous substances will rely on HSNO regulations. In taking this approach, the risk is that the Council will depend on national regulations to deal with hazardous substances and a presumption is made that these are appropriate to the local circumstances. However, if the Council is to continue a dual role of managing hazardous substances under the RMA and HSNO regulations, there is a significant risk that monitoring and management of these significant substances would not occur as the Council lacks the expertise or experience to manage hazardous substances. In addition, there would be greater potential for adverse effects on human health and the environment. The Council has identified GPAs as one area where management of hazardous substances under HSNO is not sufficient.

There is a risk to the environment that a significant amount of time will be taken in screening all sites and investigating all high risk sites. However, the approach taken in the MEP indicates that sites will be progressively screened to determine the likely risk that the contaminants pose to human health and/or the surrounding environment. By using a risk-based approach as opposed to screening all sites, there will be a more efficient use of resources, including time and costs.

In terms of the screening process, there is a risk that the accuracy or appropriateness of the risk categorisation to determine the risk level of a given site (e.g. low, medium or high) is not correct. Given that screening is a desk-top exercise, it is possible that some sites may require greater management than initially determined. Conversely, some sites may be deemed high risk through the screening process but during the investigation the risk may be determined to be lower, which will incur additional, unnecessary costs.

The cost of undertaking thorough screening and investigations of all sites is prohibitive, regardless of the risk to community and the environment.

## Appendix A – Section 32 of the RMA

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### 32 Requirements for preparing and publishing evaluation reports

- (1) An evaluation report required under this Act must—
  - (a) examine the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of this Act; and
  - (b) examine whether the provisions in the proposal are the most appropriate way to achieve the objectives by—
    - (i) identifying other reasonably practicable options for achieving the objectives; and
    - (ii) assessing the efficiency and effectiveness of the provisions in achieving the objectives; and
    - (iii) summarising the reasons for deciding on the provisions; and
  - (c) contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.
  
- (2) An assessment under subsection (1)(b)(ii) must—
  - (a) identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions, including the opportunities for—
    - (i) economic growth that are anticipated to be provided or reduced; and
    - (ii) employment that are anticipated to be provided or reduced; and
  - (b) if practicable, quantify the benefits and costs referred to in paragraph (a); and
  - (c) assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.
  
- (3) If the proposal (an **amending proposal**) will amend a standard, statement, regulation, plan, or change that is already proposed or that already exists (an **existing proposal**), the examination under subsection (1)(b) must relate to—
  - (a) the provisions and objectives of the amending proposal; and
  - (b) the objectives of the existing proposal to the extent that those objectives—
    - (i) are relevant to the objectives of the amending proposal; and
    - (ii) would remain if the amending proposal were to take effect.
  
- (4) If the proposal will impose a greater prohibition or restriction on an activity to which a national environmental standard applies than the existing prohibitions or restrictions in that standard, the evaluation report must examine whether the prohibition or restriction is justified in the circumstances of each region or district in which the prohibition or restriction would have effect.
  
- (5) The person who must have particular regard to the evaluation report must make the report available for public inspection—
  - (a) as soon as practicable after the proposal is made (in the case of a standard or regulation); or
  - (b) at the same time as the proposal is publicly notified.

**Section 32: Chapter 15 - Resource Quality - Soil Quality**

(6) In this section,—

**objectives** means,—

- (a) for a proposal that contains or states objectives, those objectives:
- (b) for all other proposals, the purpose of the proposal

**proposal** means a proposed standard, statement, regulation, plan, or change for which an evaluation report must be prepared under this Act

**provisions** means,—

- (a) for a proposed plan or change, the policies, rules, or other methods that implement, or give effect to, the objectives of the proposed plan or change:
- (b) for all other proposals, the policies or provisions of the proposal that implement, or give effect to, the objectives of the proposal.



## Appendix B – Bibliography

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