

Chapter 15: Resource Quality (Water, Air, Soil)

Draft Marlborough Regional Policy Statement Provisions

Water Quality

We are fortunate in Marlborough in that we generally enjoy very good water quality¹ in our coastal waters, rivers, lakes, wetlands and aquifers. Monitoring has shown that the quality of water in these water bodies is sufficient to support a wide range of natural and human use values. These include healthy freshwater and marine ecosystems, comprising native fish, plants, algae, crustacean and invertebrates, trout and salmon; stock and domestic water supplies; commercial uses of water in industry, agriculture, viticulture, aquaculture and commercial fishing; and recreational uses of water for activities such as swimming, shellfish gathering and fishing, scenic and tourism purposes. Water is of considerable cultural and spiritual importance to Marlborough's tangata whenua iwi.

The contribution that these uses and values make to the community's social and economic wellbeing and to public health means that maintaining the quality of water in Marlborough's coastal waters, rivers, lakes, wetlands and aquifers is essential. Any reduction in water quality is therefore a significant issue in Marlborough.

Water quality can be adversely affected by discharges of contaminants resulting from human activities on land and on water. Contaminants are those things that have the ability to change the physical, chemical or biological condition of the water. There are two types of contaminant discharge that can affect water quality. These are generally called "point source" discharges, those that enter water at a definable point, often through a pipe or drain, and "non-point source" discharges, those that enter water from a diffuse source, such as land run-off or infiltration through soils.

The generally good state of water quality in Marlborough probably reflects the low number of point source discharges into water bodies and coastal waters, good land management practices and lack of intensive land uses that can impact on water quality (e.g., dairying). It should also be acknowledged that resource users have also, over time, taken action to reduce the impact of discharges on water quality. However, there is always the threat that point source and/or non-point source discharges will adversely affect the life supporting capacity and the community's use of Marlborough's rivers, lakes, wetlands, aquifers and coastal waters.

Water quality in some coastal waters and rivers has unfortunately been degraded as a result of historical point source and non-point source discharges, impacting upon the uses and values that used to be supported by the rivers and coastal waters.

The management of water quality has a strong regulatory focus. This is because the RMA stipulates that the discharge of contaminants into water, or into or onto land in circumstances where it may enter water is prohibited, unless allowed by a resource consent or a rule in a regional plan or a regulation.

Issue 15A - The discharge of contaminants to water can adversely affect the life supporting capacity and the community's use of Marlborough's coastal waters, rivers, lakes, wetlands, and aquifers.

The very good state of water quality in Marlborough's coastal waters, rivers, lakes, wetlands and aquifers makes coastal waters and water bodies more vulnerable to point source and non-point source discharges. Any deterioration in water quality would have dramatic implications for Marlborough's social, economic and cultural wellbeing. That is because water is essential for a wide range of consumptive and non-consumptive uses and any reduction in water quality could threaten those uses. A reduction in water quality could also adversely affect freshwater and marine habitats. The main threats to water quality in Marlborough are described below.

¹ Water quality refers to the physical, chemical and biological characteristics of water that affect its ability to sustain natural and human use values

Sewage Reticulation and Disposal

Treated sewage from Marlborough's larger communities **and from two resorts** is still discharged into freshwater or coastal water. Although these discharges are authorised by resource consents, the review of the RPS/Resource Management Plan provided the community with the opportunity to reconsider the desirability of continuing to discharge contaminants into water. The discharge of treated municipal sewage is the outcome of servicing the communities in order to maintain community health standards. At the same time, Marlborough's tangata whenua iwi consider that the discharge of human waste to fresh or coastal water is profoundly offensive and significantly diminishes the mauri of the receiving waters.

As Marlborough continues to grow, there will be the need to consider how future residential, commercial or industrial developments are serviced. For larger communities, this is still likely to require some form of reticulated community sewerage system. Existing servicing arrangements may also need to be upgraded. For example, the reliance of several Marlborough Sounds communities on the on-site management of domestic wastewater may not be sustainable and may need to be replaced with community sewerage schemes. Discharge of the treated sewage into water may be one of the options that need to be considered.

It is important that the RPS/Resource Management Plan provides direction as to how the community wishes to manage the potential adverse effects of existing and any new discharges on fresh or coastal water quality.

Existing reticulated community sewerage systems operated by the Council are recognised by this RPS/Resource Management Plan to be regionally significant infrastructure. See Chapter 4: Use of Natural and Physical Resources for further details. Unless otherwise specified, policies in this chapter still apply to the discharge of human sewage from this infrastructure.

Stormwater Reticulation and Disposal

Most of Marlborough's townships are serviced by reticulated stormwater systems. Urban stormwater will pick up contaminants as it runs over impervious surfaces, including sediment, solids, organic matter, nutrients, heavy metals, petroleum and product residues. Given the volume of water created by rainfall events, the stormwater receives little or no treatment prior to discharge into the receiving waters.

Monitoring of freshwater and coastal water quality has demonstrated that there are occasions when stormwater discharges are degrading water quality within the receiving waters. Periods of contamination tend to be episodic and are associated with rainfall events. The exception is when contaminants are deliberately washed or poured into the road kerb or stormwater drains.

Stormwater can also pick up sewage through cross connections between sewerage pipes and stormwater pipes. This has been a problem particularly in Picton and has caused periodic contamination of coastal water during rainfall events.

Transport

A large proportion of those urban areas serviced by reticulated stormwater systems is dedicated to motor transport (this area includes public and private carparks, service stations as well as roads). The deposition of materials such as petrochemicals and heavy metals from motor vehicles onto roads and vehicle servicing areas is major source of water pollution. These contaminants are transported by runoff into the reticulated stormwater system and then into coastal waters and rivers.

Industrial and Trade Activities

Nearly all water pollution caused by industrial and trade activities occurs through contaminants entering reticulated stormwater systems. The main causes are untidy yard practices, accidental spills and a lack of awareness in the workforce of the pollution consequences that can stem from actions on such sites. Other contributing factors include inappropriate storage of products, new industrial or trade premises moving into premises which are unsuited for their operation, illegal stormwater connections and inappropriate methods for the disposal of wastewater. Some trade

waste contains human wastes such as mortuary and hospital wastes. Marlborough's tangata whenua iwi consider that the discharge of human waste to fresh or coastal water is profoundly offensive and significantly diminishes the mauri of the receiving waters.

Maritime activities

Degradation of coastal waters can result from common maritime activities including the discharge of human sewage and oily bilge water from vessels, runoff from maritime industries such as boat builders and general litter. The effects of most of these activities tend to be short lived unless they occur on a significant scale or are ongoing in a localised area. There is increasing awareness of the effect of antifoulants on coastal water quality. The antifoulants enter coastal water through leaching and boat maintenance activities. Aquaculture involving fin fish requires the addition of feed, which has the potential to adversely affect coastal water quality in and around the aquaculture operation.

Land disturbance

Land disturbance activities including excavation, cropping, the clearance of land and the harvest of commercial forest, can also expose soils to the elements and result in the run off of sediment laden water during and after rainfall events. Land development for residential, commercial and industrial purposes can have similar effects. Land disturbance activities associated with the installation of bores or the construction of dams can expose aquifers to contamination. While natural processes already affect water quality, it is important to ensure that our activities do not make this situation any worse.

Rural activities

It is acknowledged that many rural land uses rely on good quality water for stock watering and irrigation. However, rural land uses can also adversely affect water quality in a number of ways.

Grazing stock results in the inevitable - faeces and urine being discharged onto the ground surface. Other inputs are also applied to pasture and crops as part of normal operations, including fertiliser and agrichemicals. As in the case of land disturbance, run-off during and after rainfall events can pick up these substances resulting in the input of nutrients, bacteria and some other contaminants into nearby water bodies. The historic loss of wetlands and vegetated riparian margins makes this situation worse as these intercept and/or treat the contaminants present in runoff.

There is also the potential for contaminants, especially nitrate, to leach through the soil into underlying groundwater, especially where the aquifer is shallow and occurs within and below permeable soils.

Dairy herds crossing through the wet bed of creeks, particularly to and from the dairy shed, has been a major cause of degraded water quality in dairy farming catchments. As the herd walks through the wet bed, it disturbs the waterbody resulting in the release of sediment into the water. Individual animals also defecate/urinate in the stream, resulting in the release of bacteria and nutrients into water.

There is the potential for rural activities to change and intensify. For example, in many other regions there has been a change from traditional pastoral farming to dairy farming. This has led to water quality degradation, especially in lowland streams and for groundwater.

Discharges to land

There are many point source discharges to land, including discharges of winery wastewater, vegetable processing wastewater, dairy shed effluent and domestic wastewater. If not correctly operated and managed, these discharges could also contaminate coastal waters and water bodies in close proximity to the discharges. Managing the effects of discharges to land is dealt with in Chapter 16: Waste.

Bed disturbance

Activities occurring within the beds of rivers can result in the deliberate or inadvertent disturbance of the bed. Examples of activities that can involve bed disturbance include gravel extraction, the

installation of infrastructure and flood mitigation works. Bed disturbance can mobilise river sediments and increase the turbidity of river water, especially where the disturbance is occurring within the wet bed (the part of the bed covered by water). This has the effect of reducing the clarity of the water flowing in the river and the river will be discoloured. Similar effects can also occur when land disturbance occurs along the river margin.

Water abstraction

The taking of water from aquifers in coastal areas has the potential to create a landward shift in the freshwater/seawater interface. If the interface moves a sufficient distance inland, salinity levels in the groundwater would become elevated. This would adversely affect the ability to use the water for domestic and municipal supply, irrigation and other uses.

Natural processes

In the context of the above, it is also important to note that natural processes may influence water quality. For example, groundwater quality often reflects the mineralogy of the aquifer it originated from, especially if the groundwater has high residence time. This means that some Marlborough groundwaters have high levels of naturally occurring contaminants such as salt, iron and arsenic.

Another example of natural processes influencing water quality is the potential for bacteria from the faeces of feral animals (e.g., goats, pigs, possums) and other wildlife to contaminate freshwater and coastal waters. This can have a significant effect on the suitability of fish and shellfish for human consumption.

From time to time, natural processes will also result in sediment reaching both freshwater and coastal water, particularly during rainfall events. This affects the clarity and turbidity of water and the resulting dirty waters can have an impact on freshwater and marine life.

Combinations of the above threats can occur within the same catchment, creating the potential for cumulative adverse effects on freshwater and coastal water quality.

Some coastal waters and water bodies are more susceptible to water quality degradation than others. For example, the enclosed nature of the coastal waters in the Marlborough Sounds renders them particularly sensitive to any contamination in the area as dilution and tidal flushing is limited. Unmodified rivers, lakes and wetlands are also particularly vulnerable to the discharge of contaminants into them. Other coastal waters or water bodies may have significant values that warrant special protection.

It is important that the RPS/Resource Management Plan has a framework to deal with the point source and non-point source discharges described above in order to maintain and enhance water quality in Marlborough's coastal waters, rivers, lakes, wetlands and aquifers. There has been a strong preference for discharges to land since the first Marlborough RPS became operative in 1995. This has resulted in a reduction in the number of point source discharges to water. Consequently, the greatest risk to water quality is probably associated with non-point source discharges as a result.

Non-point source discharges are difficult to manage as there is no discrete point to apply management to. This situation does not justify inaction, it just means that the management of non-point source discharges is challenging and will require innovative approaches.

Issue 15B - Water quality has already been degraded in some of Marlborough's coastal waters and rivers to the extent that their ability to support aquatic ecosystems and/or contact recreation has been compromised.

Water quality has been shown to be periodically degraded at a number of coastal sites and in several lowland and/or urban rivers. Every summer the Council monitors bacteria levels at known bathing waters to establish suitability of the waters for contact recreation. The monitoring results are compared against national guidelines to establish a grading. Gradings have been poor at a number of sites on a regular basis, particularly at Picton foreshore, Anakiwa, Tirimoana, Momorangi, Moenui and in the Rai River

catchment. It is very probable that other coastal waters have been affected in this way in the Inner Queen Charlotte and Inner Pelorus Sounds, but monitoring has been restricted to selected bathing sites. The Kaituna, Tuamarina, Taylor, Opawa and Lower Wairau Rivers (below SH1) and Mill Stream have also had bacterial contamination to the extent that the waters have periodically been unsuitable for contact recreation.

Monitoring has shown that other water quality issues exist in these fresh and coastal waters. All of the rivers identified above suffer from nutrient enrichment and water quality in the Tuamarina Opawa, Taylor and Lower Wairau Rivers and Mill Stream have been degraded to the extent that it has impacted upon the aquatic ecosystem supported by these rivers. Coastal waters at Picton and Waikawa have been adversely affected by antifouling chemicals associated with boat building and maintenance activities.

The nutrient, bacteria and toxicant levels in these coastal waters and rivers are indicative of the impact of point source and non-point source discharges. These discharges have reduced the ability of the coastal waters and rivers to safely support contact recreation and aquatic ecosystems. This is of significant concern given the contribution that water based recreation makes to community wellbeing and the intrinsic values of aquatic ecosystems.

Issue 15C – The mauri of wai (water) has been degraded due to the lack of understanding about its spiritual significance.

Mauri is the term that Marlborough's tangata whenua iwi use to describe the cultural concept that all natural resources have a life force. This life force (called wairua) is derived from the physical attributes of the resource but also the spiritual association iwi have with natural resources. Water is considered to be particularly significant to iwi in this regard because it sustains all life. Papā-tū-ā-nuku (Mother Earth) supports all people, flora and fauna and water bodies represent the blood vessels that supply nourishment to her and, through her, to all living things.

Marlborough's tangata whenua iwi feel that there is a lack of understanding in the community and by decision makers that water has wairua. It is their view that land and water is therefore used and managed in ways that do not recognise the spiritual significance of the resource. As a result, the point and non-point source discharge of contaminants to freshwater and coastal water have adversely affected the mauri of water. Of particular concern in this regard is the impact of degraded water quality on the ability of each iwi to support traditional uses and values. Given the whakapapa link between Māori and water, water bodies with poor or deteriorated water quality are a reflection of the health of the tangata whenua. Marlborough's tangata whenua iwi want to avoid making any water body waimate – where water quality becomes so degraded that it no longer has any mauri.

Objective 15.1: Maintain and, where necessary, enhance water quality in Marlborough's rivers, lakes, wetlands, aquifers and coastal waters so that:

- (a) The mauri of nga wai is protected;**
- (b) Water quality at beaches, rivers and lakes is suitable for swimming;**
- (c) People can use the coast, rivers, lakes and wetlands for food gathering, cultural, commercial and other purposes;**
- (d) Groundwater quality is suitable for drinking; and**
- (e) Ecosystems function without adverse effect.**

Marlborough's coastal waters, rivers, lakes, wetlands and aquifers contain a diverse range of natural and human use values and are extensively used by people and the community. The existing water quality in the majority of our water bodies is sufficient to support these values. It is therefore important that no degradation of water quality is allowed to occur. The uses and values identified in (a) to (e) are the most

susceptible uses and values to any water quality degradation and are therefore appropriate water quality outcomes. Providing for these uses and values will, by default, also provide for other uses and values.

Where water quality is no longer sufficient to sustain the values in (a) to (e), the objective identifies that water quality should be enhanced with the ultimate aim of restoring the uses and values that were once supported by these water bodies. There have already been positive trends in this regard, with a reduction in the number of point source discharges to water since the last Marlborough RPS and remaining point source discharges operating with an improved level of treatment. The anticipated environmental results indicate that any enhancement should occur during the life of this RPS/Resource Management Plan.

It is acknowledged that there are “natural” sources of water contamination and that little can be done to mitigate the subsequent adverse effects of this contamination. However, it is important to ensure that our activities do not make this situation any worse.

This objective ensures that the Council’s responsibilities in terms maintaining and enhancing the quality of the environment and safeguarding the life-supporting capacity of water are fulfilled.

Management Purpose

Policy 15.1.1 – As a minimum, the quality of freshwater and coastal waters will be managed so that they are suitable for the following purposes:

- (a) Coastal waters: Protection of marine ecosystems, potential for contact recreation and food gathering/aquaculture, and for cultural and aesthetic purposes;**
- (b) Rivers and Lakes: Protection of aquatic ecosystems, potential for contact recreation, and for cultural and aesthetic purposes;**
- (c) Groundwater: Protection of groundwater for drinking water supply; and**
- (d) Wetlands: Protection of aquatic ecosystems and the potential for food gathering.**

This policy establishes a minimum expectation of water quality in Marlborough’s rivers, lakes, wetlands, aquifers and coastal waters. The policy will be primarily implemented through the application of water quality classifications, against which the impact of point source and non-point source discharges on water quality can be assessed in the preparation of permitted activity rules and the consideration of resource consent applications. The use of “potential” in the criteria reflects a community expectation that contact recreation and/or food gathering should always be able to be undertaken safely in coastal waters, rivers and lakes, and wetlands. This policy assists to give effect to Policy A1 and D1 of the NPS Freshwater Management 2014 and Policy 8 of the NZCPS.

Policy 15.1.2 – Apply water quality classifications (and water quality standards) to all surface water, groundwater and coastal water resources, which reflect:

- (a) The management purposes specified in Policy 15.1.1; and**
- (b) Other uses and values supported by the water body or coastal waters; or**
- (c) Where water quality has already been degraded, the uses and values that are to be restored.**

Water quality classifications will be applied to all water and coastal waters through the RPS/Resource Management Plan. The classifications will, as a minimum, reflect the management purposes set out in Policy 15.1.1. However, particular water bodies and coastal waters may support other natural and human use values and it is appropriate for these values to be reflected in any classification. This means that many water bodies and coastal waters will have multiple classifications. For those water bodies or coastal water experiencing degraded water quality, the classifications will reflect the natural and human use values that are to be restored. Each classification will have water quality standards applying to it.

The classifications and standards will be described in a manner consistent with the Third Schedule of the RMA, although the standards may exceed those in the Third Schedule. Classifications may include NS (natural state), AE (aquatic ecosystem), F (fisheries), FS (fish spawning), CR (contact recreation), SG

(shellfish gathering), A (aesthetic), WS (water supply), I (irrigation), IA (industrial abstraction) and C (cultural).

This policy assists to give effect to Policy A1 and D1 of the NPS Freshwater Management 2011.

Policy 15.1.3 – To investigate the capacity of freshwater bodies to receive contaminants from all sources, having regard to the management purposes established by Policy 15.1.1, in order to establish cumulative contaminant limits by 2024.

Policy A1 of the NPS Freshwater Management 2011 requires the Council to set water quality limits for all water bodies. “Limit” is defined in the NPS as “...the maximum amount of resource use available, which allows a freshwater objective to be met” and includes cumulative limits for contaminants. Although the provisions of this RPS establish water quality standards that are to be complied with in the event of the point source discharge of contaminants, these are not cumulative limits.

The establishment of cumulative contaminant limits is a complex task. It requires a good understanding of the relationship between land use and water quality. That relationship is influenced by the nature of the contaminants produced by different land uses, the way in which those contaminants pass through the environment, and the susceptibility of natural and human use values supported by water bodies to total contaminant loads.

At the time of notification of this RPS/Resource Management Plan, the Council did not hold the resource use and environmental data required to set the cumulative contaminant limits. For this reason, the Council adopted a programme of staged implementation under the NPS, which was publicly notified on 8 November 2012. That programme sets a date of 2024 as a target for implementing cumulative contaminant limits.

This policy establishes a commitment to commence collecting and analysing resource use and environmental data required to establish cumulative contaminant limits. The use of limits could constrain the land uses that could occur in a catchment (existing and potential) or at least the way in which those land uses are managed. For these reasons, care needs to be exercised in establishing cumulative contaminant limits in respect of water quality. It is also important that the limits reflect the management purposes established by Policy 15.1.1 otherwise Objective 15.1 will not be achieved.

The cumulative limits will be added to the RPS/Resource Management Plan by plan change or upon review.

Methods of Implementation

The methods listed below are to be implemented by the Council unless otherwise specified.

15.M.1 Identification of Uses and Values Supported By Fresh Water, Groundwater or Coastal Water Resources

To identify, on an ongoing basis, the uses and values supported by specific rivers, lakes, wetlands, aquifers and coastal waters. These values, including the spiritual and cultural values of Marlborough’s tangata whenua iwi, will be identified in the RPS/Resource Management Plan.

15.M.2 Water Quality Classifications

To establish water quality classifications for all water bodies in the RPS/Resource Management Plan that reflect the uses and values supported by the water body or that could be supported by the water body if water quality was enhanced. Classifications may include NS, AE, F, FS, CR, SG, A, WS, I, IA and C. Refer to Policy 15.1.2 for explanation of the classifications.

15.M.3 Investigations

To undertake catchment specific research to establish the capacity of freshwater bodies to assimilate total contaminant loads from within each catchment. The management purpose

established for the water body, and the uses and values supported by the water body, will both assist to determine the sensitivity of the water body to increases in contaminant loads. Nutrients are priority contaminants to be researched given their association with rural land uses and Marlborough's history of primary production. It may also be necessary to prioritise heavy metals in urban catchments given the prevalence of such metals in urban stormwater.

Enhancing water quality

Policy 15.1.4 – Take action to enhance water quality in the water bodies or coastal waters identified in Table 15.1 and Table 15.2 so that water quality is suitable for the purposes specified in Policy 15.1.1 within 10 years of the RPS becoming operative.

The water bodies and coastal water bodies that are known not to meet the water quality purposes established by Policy 15.1.1 are identified in Table 15.1. Point source and non-point source discharges have degraded water quality in these water bodies and coastal waters to the extent that it is no longer sufficient to support natural and human use values. Another group of water bodies has only fair water quality, meaning that the water quality is not always sufficient to meet the water quality purposes established by Policy 15.1.1. There is a risk that water quality in these water bodies could be further degraded.

Water quality in these water bodies and coastal waters can be enhanced, although it could take a considerable period of time before a significant improvement is achieved.

A catchment specific strategy for enhancing water quality will be developed for each water body included in Table 15.1 and Table 15.2. The methods to be used to enhance water quality will be determined following an assessment of the cause and effect of degraded water quality and will be clearly identified within the strategy. The methods contained in this chapter may be appropriate to use. Where this is the case, priority for the implementation of the methods will be given to those water bodies identified in Table 15.1 and Table 15.2.

The quality of water in some water bodies is unknown as water quality may not have been monitored along a particular river or at a particular location along the Marlborough coast. If the results of future monitoring establish that there are other water bodies with degraded water quality, then these can be added to Table 15.1 through a change to the RPS/Resource Management Plan.

This policy gives effect to Policy A2 of the NPS Freshwater Management 2011.

Table 15.1: Water bodies identified through monitoring as being degraded.

Rivers	Lakes and Wetlands	Coastal waters	Aquifers
Doctors Creek		Inner Queen Charlotte Sound (west of a line from Dieffenbach Point to West Head), including Picton Harbour and Waikawa Bay	
Are Are Creek		Inner Pelorus Sound (west of a line from Okahoka Point to Kaiuma Point)	
Duncan Stream (Linkwater)			
Flaxbourne River			
Opawa River			

Taylor River

Tuamarina River

Table 15.2: Water bodies identified through monitoring as being at risk of degradation.

Rivers	Lakes and Wetlands	Coastal waters	Aquifers
Spring Creek			
Lower Wairau River from SH1 bridge to the sea (including the Diversion)			
Mill Stream			
Kaituna River			
Cullens Creek			
Rai River			

Methods of Implementation

The methods listed below are to be implemented by the Council unless otherwise specified.

15.M.4 Catchment Enhancement Plans

Catchment Enhancement Plans will be developed as a priority for coastal waters or rivers that have degraded water quality, as identified in Policy 15.1.4. The methods to be used to enhance water quality will be determined following an assessment of the cause and effect of degraded water quality and will be clearly identified within the strategy. It may take time to establish the nature of the cause, which may delay the completion of the Plans. Other methods may be able to be used in the interim to reduce the effects of non-point source discharges on water quality. Each Catchment Enhancement Plan will be developed in consultation with resource users in the catchment and other affected parties.

Management of Point Source Discharges to Water

Policy 15.1.5 – Encourage the discharge of contaminants to land in preference to water, but only where the land resource is suited to treating and/or absorbing the contaminants present in the discharge.

The combination of favourable soil properties in many parts of Marlborough and Marlborough’s dry climate, make the discharge of contaminants to land a viable option. Discharging contaminants to land avoids the equivalent discharge to fresh water or coastal waters and therefore assists to maintain and enhance water quality in our rivers, lakes, wetlands, aquifers and coastal waters. For this reason, the policy states a preference for discharges to land. However, the policy also recognises that there can be natural limitations to the capacity of the soils to treat and/or absorb contaminants. Encouraging discharges to land where these limits would be reached may give rise to unsustainable outcomes. Chapter 16: Waste, contains provisions for managing the adverse effects of discharging contaminants to land.

Policy 15.1.6 – Enable point source discharge of contaminants or water to water where the discharge will not result:

- (a) In any of the following adverse effects beyond the zone of reasonable mixing:

- (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - (ii) Any conspicuous change in the colour or significant decrease in the clarity of the receiving waters;
 - (iii) The rendering of fresh water unsuitable for consumption by farm animals; or
 - (iv) Any significant adverse effect on the growth, reproduction or movement of aquatic life.
- (b) In the flooding of, or damage to, another person's property; and
- (c) In significant adverse effects on the spiritual or cultural values of Marlborough's tangata whenua iwi.

The purpose of this policy is to set criteria for authorising discharges to surface water bodies or coastal waters as permitted activities. In an absence of a regional rule, these discharges would require a discharge permit. These discharges, provided they meet certain conditions, should not cause any of the adverse effects identified in this policy or Section 70 of the RMA. The matters specified in (a) are the statutory tests for permitted activity rules from Section 70 of the RMA. There is little justification for requiring a discharge permit for an activity that has little or no adverse effects. If state of the environment monitoring indicates that the cumulative effects of permitted activities are adversely affecting water quality, then it is appropriate to review the status of those rules. Refer to Policy 15.1.12 for the criteria for a zone of reasonable mixing.

Policy 15.1.7 – Require any applicant for a discharge permit proposing to discharge contaminants to water to consider all potential receiving environments and adopt the best practicable option having regard to:

- (a) The nature of the contaminants;
- (b) The relative sensitivity of the receiving environment;
- (c) The financial implications, and the effects on the environment, of each option when compared with the other options; and
- (d) The current state of technical knowledge and the likelihood that each option can be successfully applied.

Reflecting the preference for discharges to land expressed in Policy 15.1.5, it is important that any applicant for a discharge permit to water has thoroughly considered all potential receiving environments for the contaminants. The applicant will have to demonstrate that the option of discharging to water is the best practicable option given the alternative receiving environments available. Even if the discharge of contaminants to water is the best practicable option, it does not necessarily mean that the discharge permit application will be granted. The remainder of the policies will also be relevant to determining the application. In particular, it is expected that discharges to water will be treated to the highest practicable levels to meet the requirements of Policy 15.1.2.

This policy gives effect to Policy A3 of the NPS Freshwater Management 2011.

Policy 15.1.8 - When considering any discharge permit application for the discharge of contaminants to water, regard will be had to the extent to which contaminants present in the discharge have been removed or reduced through treatment.

The adverse effects of any discharge on water quality can depend on the level of contaminants present in the discharge. It is therefore appropriate that decision makers have regard to whether the discharge is treated and the extent of treatment. They can use this information to determine whether the applicant has reduced the level of contaminants sufficiently in the context of the actual or potential adverse effects. It is also important that decision makers also have regard to any practical or technological limitations to further treatment. The policy assists to avoid and mitigate the adverse effects of point source discharges on water quality by encouraging dischargers to minimise the level of contaminants present in discharges to water.

Policy 15.1.9 – Approve discharge permit applications to discharge contaminants into water where:

- (a) **The discharge complies with the water quality classification standards set for the water body, after reasonable mixing; or**
- (b) **In the case of non-compliance with the water quality classification standards set for the water body:**
 - (i) **The consent holder for an existing discharge can demonstrate a reduction in the concentration of contaminants and a commitment to a staged approach for achieving the water quality classification standards within a period of no longer than 5 years from the date the consent is granted; and**
 - (ii) **The degree of non-compliance will not give rise to significant adverse effects.**

Compliance with the specified water quality classification standards will ensure that the quality of water in the water body or coastal waters is sufficient to sustain the natural and human values currently supported by the water body or coastal waters. Any point source discharge requiring discharge permit will generally only be approved if the applicant has demonstrated that the effects of the discharge will comply with the specified water quality classification standards, beyond a zone of reasonable mixing. There are limited circumstances where non-compliance with water quality classification standards will not result in the refusal of the discharge permit application. These circumstances are identified in (b) of the policy.

This policy assists to give effect to Policy A3 of the NPS Freshwater Management 2011.

Policy 15.1.10 – When considering any discharge permit application for the discharge of contaminants to water, regard will be had to the position of the tangata whenua iwi in respect of the proposed discharge.

It is important to have regard to the views of tangata whenua iwi when considering any discharge permit application for the discharge of contaminants to water in order to protect the mauri of nga wai. The iwi will be those that are kaitiaki for the receiving waters. The position of iwi will inform the decision making process about the resources or values of significance to tangata whenua, the potential adverse effects of the discharge on these resources and values, and appropriate measures to avoid, remedy or mitigate any adverse effects. The position of iwi would preferably be established by the resource consent applicant by consulting with the iwi as part of the process of assessing environmental effects. The outcome of this consultation would then be reflected in the subsequent resource consent application.

This policy assists to give effect to Policy D1 of the NPS Freshwater Management 2011.

Policy 15.1.11 – In considering any discharge permit application to water, regard can be had to whether the discharge is of a temporary or short term nature and/or whether the discharge is associated with necessary maintenance work for any regionally significant infrastructure.

The anticipated duration of the discharge and the purpose for which it is undertaken are relevant to the consideration of the adverse effects of any discharge requiring discharge permit. This is particularly the case for discharges that do not comply with the water quality classification standards set for the receiving waters. In such situations, a discharge undertaken for a short or temporary period(s) may still be appropriate, depending on the significance of any adverse effects that results from the non-compliance. Similarly, discharges associated with the maintenance of regionally significant infrastructure may be appropriate when the importance of the ongoing function of the infrastructure is weighed against the adverse effects of non-compliance.

Policy 15.1.12: Except as provided for by Policy 15.1.11, apply a zone of reasonable mixing to the receiving waters for all point source discharges to water. The zone shall not exceed (as measured from the discharge point):

- (a) **For rivers and streams, the lesser of:**
 - (i) **A distance downstream which equals seven times the width of the river **allowing for low flows**; or**

- (ii) 200 metres downstream.
- (b) For rivers subject to tidal influence at the point of discharge:
 - (i) As for rivers, plus a distance upstream equal to half of that allowed downstream.
- (a) For lakes and wetlands (with open standing water):
 - (i) Within a radius of 100 metres of the discharge point.
- (a) For coastal waters, limited to the extent necessary to achieve effective mixing, having regard to:
 - (i) The characteristics of the discharge, including the contaminant type, concentration and volume;
 - (ii) The coastal processes that exist at and near the point of discharge; and
 - (iii) The nature, sensitivity and use of the coastal waters.

Discharges of contaminants to water authorised under discharge permit must meet water quality classification standards set for the receiving waters after “reasonable mixing”. Reasonable mixing is the process of wastewater dispersing through the receiving waters and this occurs in a mixing zone, an accepted area of non-compliance. The policy establishes how to size the mixing zone. In the case of discharges into freshwater, a prescribed formula ensures a consistent and equitable approach. Such an approach is not possible for coastal water due to variation in the coastal environment caused by, amongst other things, tides and currents. Instead, the policy provides criteria for determining the size of an appropriate mixing zone.

Policy 15.1.13 – With the exception of stormwater discharges, the water quality classification standards will be met at the point of discharge where a discharge is:

- (a) Within one kilometre upstream of an intake for a registered drinking water supply from a river; or
- (b) To a river where the receiving waters are to be maintained in a natural state; or
- (c) Within 500 metres of any aquaculture activity in freshwater or coastal waters.

Some water bodies and coastal waters are particularly sensitive to the point source discharge of contaminants. In these circumstances, a zone of reasonable mixing will generally be incompatible with the values supported by the water body or coastal waters. The policy identifies those circumstances where a zone of non-compliance should not be established.

Policy 15.1.14 –The duration of any new discharge permit will be either:

- (a) Up to a maximum of 15 years for discharges into water bodies or coastal waters where the discharge will comply with water quality classification standards for the water body or coastal waters; or
- (b) Up to 10 years for discharges into water bodies or coastal waters identified in Policy 15.1.4 (where the water quality is to be enhanced) and the discharge will comply with water quality classification standards for the water body or coastal waters; or
- (c) No more than 5 years where the existing discharge will not comply with water quality classification standards for the water body or coastal waters;

With the exception of regionally significant infrastructure, no discharge permit will be granted subsequent to the one granted under (c), if the discharge still does not meet the water quality classification standards for the water body or coastal waters.

To provide greater certainty to resource users, the policy identifies the appropriate duration for discharge permit applications if they are to be granted. The duration varies depending on compliance with water quality classification standards and the state of water quality in the water body or coastal waters. Longer durations are warranted where compliance with water quality classification standards will be achieved and

there is currently no water quality issue, reducing to short term consents where water quality classification standards cannot be met. In the latter case, Policy 15.1.9 identifies that consent holders only have 5 years to achieve compliance with water quality classification standards, hence the requirement in (c) above.

This policy gives effect to Policy A3 of the NPS Freshwater Management 2011.

Policy 15.1.15 – Except where Policy 15.1.9(b) applies, require discharge permit holders to comply with the water quality classification standards over the term of any discharge permit.

It is important that compliance with water quality classification standards occurs over the term of any discharge permit granted if water quality is to be maintained or enhanced. The standards will effectively become performance standards for the discharge permit holder and will be imposed by way of conditions on the discharge permit. The policy will also require the effects of the discharge on the quality of the receiving waters to be monitored. Compliance will be established by sampling/measuring relevant water quality parameters beyond the zone of reasonable mixing. In rivers, the parameters should also be measured upstream of the zone of reasonable mixing to establish background water quality.

The policy direction is not relevant if Policy 15.1.9(b) has been applied to the determination of any discharge permit application. This is because the discharge permit holder will have demonstrated why compliance with the water quality classification standards will not occur initially and that compliance will be a process that takes up to five years.

This policy gives effect to Policy A3 of the NPS Freshwater Management 2011.

Policy 15.1.16 – Review, where appropriate, the conditions of existing discharge permits to impose new conditions requiring the monitoring of the discharge effects to determine compliance with the water classification standards.

It may not be known whether existing discharges comply with the water quality classification standards where there is no requirement to monitor effects relative to the standards. As this information will be critical to the consideration of any new discharge permit applications to continue discharging the contaminants, the policy can be used to require the consent holder to commence monitoring the effects of the discharge. This will be achieved through Section 128(b) reviews of discharge permit conditions.

This policy gives effect to Policy A3 of the NPS Freshwater Management 2011.

Policy 15.1.17 – Avoid the discharge of untreated human sewage to water bodies or coastal waters.

The discharge of untreated human sewage to water has the potential for significant adverse effects on the life supporting capacity of freshwater and marine ecosystems, and recreational and commercial use of the waters. Such discharges are also culturally offensive to Marlborough's tangata whenua iwi and the wider community. For these reasons, it is appropriate to avoid any discharge of untreated human sewage to water bodies or coastal waters through prohibited activity rules.

Policy 15.1.18 – Progressively work toward eliminating the discharge of human sewage to coastal waters in the Marlborough Sounds, with the exception of regionally significant infrastructure.

The Marlborough Sounds are one of Marlborough's significant natural resources and, as a predominantly coastal environment, the quality of coastal waters is paramount to the ongoing use and enjoyment of this environment by the community and visitors. There is therefore a strong community desire to eliminate the discharge of all human sewage to coastal waters in the Marlborough Sounds. A policy of progressively eliminating discharges over time recognises that those discharging human sewage will need time to find alternative receiving environments.

An exception has been made for regionally significant infrastructure in recognition that the discharges from Council operated, reticulated community sewerage systems act to maintain public health standards in the townships of Picton and Havelock. However, the remainder of the policies in this chapter do apply to the discharges. This means that the Council will have to consider alternative receiving environments

when consenting these existing discharges and, if discharge to coastal water is the best practicable option, the effects of the discharge will still have to comply with Policy 15.1.9.

Policy 15.1.19 – Avoid the discharge of human sewage from vessels in the Marlborough Sounds within 5 years of the RPS/Resource Management Plan becoming operative.

The Marlborough Sounds are a boaters playground. Larger vessels, especially those that have live on facilities, have holding tanks for human sewage. The discharge of human sewage from vessels is regulated by the Resource Management (Marine Pollution) Regulations 1998. However, the combination of the enclosed nature of the Marlborough Sounds and the prevalence of marine farming throughout the Sounds mean that there are actually very limited opportunities to discharge sewage to coastal waters in a manner that complies with the Regulations. The desirability of continuing to discharge human sewage into such valued and significant enclosed waters has also been questioned by the community. The Regulations do allow for more stringent rules to be included in a regional coastal plan than those prescribed in the Regulations. The policy signals that the Council is to utilise this ability to phase out the discharge of human sewage from vessels.

Policy 15.1.20 - Manage stormwater discharges on a catchment basis to mitigate the adverse effects of urban stormwater on water quality but recognise that the discharge provisions of the RPS/Resource Management Plan apply to stormwater discharges at the point of entry into the environment.

It is important that stormwater discharges are managed on a catchment basis to ensure that there is an integrated approach to managing stormwater quality and any adverse effects on receiving waters. Stormwater quality at the point of discharge reflects land use activities and land management practices in the catchment. A catchment wide approach enables a focused and detailed investigation of potential sources of contaminants in the stormwater to be undertaken. The benefit is that the most appropriate and cost effective solutions can then be identified and implemented.

The Council does not regulate individual inputs into the Council's reticulated stormwater infrastructure under the RMA, as these inputs do not constitute a discharge under the RMA. However, the discharge provisions of the RPS/Resource Management Plan do apply where the collected stormwater enters the environment (usually a river or the sea). It should be noted that the Council can exercise its enforcement powers when contaminants (as opposed to stormwater) are discharged into the stormwater infrastructure and subsequently contaminates a water body.

Policy 15.1.21 – Recognise that the Taylor River, and the coastal waters at Havelock, Picton and Waikawa, will continue to receive urban stormwater for the foreseeable future and, with limited options to treat urban stormwater, may experience reduced water quality on an episodic basis to the extent that the management purposes in Policy 15.1.1 are not achieved.

The water bodies listed in the policy have historically received stormwater from the towns of Blenheim, Havelock, Picton and Waikawa and, given the reliance of those townships on the stormwater systems, will continue to receive urban stormwater for the foreseeable future. Once collected, there is limited ability to treat this stormwater to reduce the level of contamination due to volume of runoff and peak flows. This means that the Taylor River and the coastal waters will experience reduced water quality during and after rainfall events. Although there may be community concern at this outcome, it is important that there is recognition of the role that these water bodies play in enabling ongoing residential, commercial and industrial activity in each of the towns. Without the ability to discharge stormwater to these water bodies, land utilised for these activities would be subject to surface flooding during rainfall events. That is not to say that efforts should not be made to reduce the level of stormwater contamination over time. Policies 15.1.20 and 15.1.22 identify other initiatives that will be utilised in this regard.

Policy 15.1.22 - Control industrial and commercial land uses that have the potential to generate contaminants to ensure that the potential for contaminated stormwater to reach reticulated stormwater network is minimised.

The most significant source of stormwater contamination in urban areas is from industrial and commercial activities. Although the Council does not manage inputs into the stormwater infrastructure under the RMA (see Policy 15.1.20), it can set standards for industrial or commercial activities to reduce the generation of

contaminants and to minimise the potential for contact between contaminants and stormwater runoff on the site. Treatment methods may also need to be utilised for land uses that have a greater risk of stormwater contamination. Established industrial and commercial activities have existing use rights in terms of the way in which they operate. For this reason, the Council may also need to consider other regulatory tools, such as bylaws, to implement this policy. This policy will, over time, reduce the contamination of stormwater from industrial and commercial activities and assist to improve water quality in urban areas.

Policy 15.1.23 – Avoid, to the extent that is necessary to meet the management purposes established by Policy 15.1.1, the discharge of animal effluent to freshwater bodies by

- (a) Preventing the direct discharge of animal effluent to water;**
- (b) Eliminating dairy herd stream crossings;**
- (c) Preventing dairy herd stock access and access of other stock farmed under intensive situations to surface water bodies; and**
- (d) Preventing stock access to water bodies with degraded water quality.**

Animal effluent can be discharged directly into rivers and wetlands through either the point source discharge of collected animal effluent (e.g., dairy shed effluent) or through stock access to water bodies, including dairy herd crossings.

As at the date of notification of this RPS/Resource Management Plan, there were no authorised discharges of animal effluent into water. This policy seeks to maintain this situation in order to avoid the significant risk to surface water quality that discharges of collected animal effluent pose. This will be implemented through prohibited activity rules.

Dairy herd stream crossings have historically caused the contamination of surface water in a number of river catchments. The farming community has made a significant effort to eliminate existing crossings through the construction of culverts and bridges. However, given the significant and regular point source input of urine and faeces at remaining crossings, it is necessary to continue working with the farming community to eliminate those crossings that remain and to prevent the establishment of any new crossings.

Stock can also access water bodies when grazing riparian margins. The adverse effects of casual access on water quality is dependent on a number of factors including the type of stock and the density of stocking, the length of time spent in the water body, and the size and type of water body. Deer, cattle and pigs are attracted to water and tend to congregate in and around water bodies. These types of stock are therefore most likely to cause adverse effects on water quality.

Where stock access has already led to degraded water quality (as identified in Policy 15.1.4) then it is appropriate to require that there be no stock grazing within or in close proximity to the affected water bodies. Additionally, where stock is grazed intensively, the potential for adverse effects on water quality are known and are significant. For this reason, dairy cattle, farmed pigs and deer are prohibited from entering onto or passing across the bed of any lake or river. *May extend to include beef above a certain stocking density.* It is likely that this approach will necessitate the placement of temporary or permanent fencing, and alternative stock water supplies, where those types of stock currently have unrestricted access to the water body.

Due to the practical difficulties associated with fencing stock out of water bodies in some situations, particularly where stock are grazed extensively, the Council has also adopted an approach of using permitted activity rules for managing the adverse effects of stock access not covered by this policy on water quality. The permitted activity rules will require any relevant water quality standard set for the affected water body to be complied with.

Methods of Implementation

The methods listed below are to be implemented by the Council unless otherwise specified.

15.M.5 Regional Rules

Set appropriate water quality standards that reflect the physical, chemical and biological characteristics required to maintain the uses and values supported by the water body. National water quality standards and guidelines will assist this process.

Apply regional rules to allow point source discharges to land (see Chapter 16: Waste for further details).

Permitted activity rules will enable the discharge of contaminants or water to water where the discharge will not give rise to adverse effects on natural and human use values supported by the water body or coastal waters.

Apply regional rules to regulate and, in some instances, prohibit point source discharges to water. This will allow the management framework established by the RPS/Resource Management Plan to be applied. Prohibitions will be placed on the discharge of human sewage from vessels in the Marlborough Sounds within 5 years of the RPS/Resource Management Plan becoming operative, the discharge of untreated human sewage and the discharge of collected animal effluent from dairy sheds.

*Apply regional rules to control the use of land in close proximity to rivers for stock grazing where the stock grazing has already adversely affected water quality in the river or where stock is grazed intensively. This includes rules to prohibit dairy cattle, **farmed pigs and deer** to enter onto or cross the bed of a lake or river.*

Where resource consent is required for discharges to water, conditions may be imposed to ensure that the operator of any treatment system appropriately manages and maintains the system.

Review discharge permit conditions to ensure water quality standards apply to all discharges and that compliance with these standards is monitored.

15.M.6 District Rules

Apply performance standards to industrial and commercial activities to reduce the generation of contaminants on-site and to reduce the potential for stormwater runoff to come into contact with contaminants on the site.

15.M.7 Bylaw

Use bylaws to control the disposal of trade and industrial waste into the Council's reticulated sewerage system, especially the type and characteristics of the waste, to minimise the adverse effects of the subsequent discharge into water.

15.M.8 Stormwater Management Area Plans

The Council will investigate the nature, extent and sources of contamination of stormwater discharges and consider possible means of reducing contaminant levels. This will be achieved through the development and implementation of Stormwater Management Area Plans. It is expected that Stormwater Management Area Plans will form the basis of discharge permit applications to continue discharging stormwater into water.

15.M.9 Community Facilities

Provide further pump-out facilities for vessels in the Marlborough Sounds in a manner that ensures that there are accessible pump-out facilities for boaties throughout the Marlborough Sounds.

15.M.10 Liaison

Liaise with iwi, Nelson Marlborough Fish and Game Council, Department of Conservation, water users and the community to determine the uses and values supported by rivers, lakes, wetlands, aquifers and coastal waters.

Liaise with Port Marlborough, the Department of Conservation and resort owners to establish accessible pump-out facilities for boaties and public toilets at strategic locations in the Marlborough Sounds.

Work with the Marine Farming Association and other organisations that collect coastal water quality information to establish a representative coastal water quality monitoring network, including the sharing of information.

15.M.11 Information

Provide educational material to boating clubs and boaties to inform them of the prohibition on discharges of human sewage from vessels and on alternative methods of disposal.

Share coastal water quality monitoring information with the Marine Farming Association and Marlborough Sounds communities.

15.M.12 Cultural Impact Assessment

A cultural impact assessment is a prepared assessment of the potential effects of an activity on resources and values of significance to tangata whenua. Such reports document iwi values within an area and provide appropriate measures to avoid, remedy or mitigate any adverse effects on those values. A report is prepared to document the assessment. This report can form part of the Assessment of Environmental Effects submitted as part of any discharge permit application. Given Policy 15.1.10, it would be preferable if applicants approached the tangata whenua iwi for a cultural impact assessment as part of pre-lodgement consultation.

15.M.13 Codes of Practice and Industry Guidelines

Advocate to industry groups that they, locally or nationally, prepare and/or adopt codes of practice or other guidelines, where not already in place, aimed at reducing the effects of discharges to water.

Management of Non-Point Source discharges

Policy 15.1.23 – Recognise that, in many situations, non-regulatory methods will be the most effective method of managing the adverse effects of non-point source discharges.

Non-point source discharges are diffuse in nature in that they do not enter the environment at a discrete point. Most non-point source discharges are the result of run-off where rain water picks up contaminants from the land, such as sediment, nutrients, toxicants and pathogens. In some cases, it is also possible for some of these contaminants to leach down into underlying groundwater through infiltration. As such, any non-point source discharge, effectively contaminated runoff, is a consequence of particular land use activities.

The diffuse nature of non-point source discharges means that they are inherently more difficult to manage as there is no particular point, such as an outfall, to which treatment or management can be applied. For this reason, the main approach to addressing the adverse effects of non-point source discharges over the life of this RPS will be to work with landowners to improve land use practices in order to minimise the potential for run-off to pick up contaminants.

In some cases regulation might need to be applied to bring about the necessary change. See Policies 15.1.25 and 15.1.26 for further details.

In time, and as signalled in Policy 5.1.2, the Council will be establishing cumulative contaminant limits to assist the effective manage the adverse effects of all discharges to freshwater within a catchment. These limits will be established as regional rules and will establish a maximum amount of resource use within a catchment for water quality outcomes.

Policy 15.1.24 – Encourage the use of sustainable rural land management practices, in close association with rural industry groups.

All of Marlborough’s established rural land uses have industry groups to represent the interests of their members. The Council’s focus on implementing non-regulatory methods will be to work with and through these established industry groups to co-operatively promote and encourage sustainable rural land use practices. The Council may also undertake joint investigations with rural industry groups to get a better understanding of the impact of particular rural land use activities on water quality.

Policy 15.1.25 – Promote the retirement and planting of riparian margins in rural areas to intercept contaminated runoff.

Riparian margins are those areas of land adjoining surface water bodies or coastal waters. The retirement of riparian margins from productive use creates a physical buffer between the effects of rural land uses and adjoining rivers, lakes, wetlands and coastal waters. This buffer reduces the potential for contaminated runoff to reach these water bodies and coastal waters. On properties where stock is intensively grazed, riparian retirement may require fencing to prevent stock entry to the riparian margin. The effect of riparian retirement is enhanced when the retired margin is planted as vegetation will intercept many of the contaminants present in the runoff (e.g., nutrients and sediment). For this reason, the Council will actively promote the retirement and planting of riparian margins as a sustainable rural land management practice.

Note that **Policy 8.2.3 of Chapter 8**: Indigenous Biodiversity promotes the planting of indigenous vegetation in riparian margins and other areas.

The Council operates and maintains an extensive drainage network on the Lower Wairau Plains that acts to reduce water table levels over what is now some of the most productive land in Marlborough. Riparian planting along these drains needs to be undertaken with care to ensure that the effectiveness of the drainage network is not adversely affected.

Policy 15.1.26 – To require the creation of esplanade reserves and esplanade strips (as part of the subdivision consent process), where appropriate, to maintain or enhance water quality.

Esplanade reserves or esplanade strips can be taken for the purposes set out in Section 229 of the RMA including where this will contribute to the protection of conservation values by maintaining or enhancing water quality. The reason for this policy therefore is to signal that where areas of conservation value are known to exist in surface water bodies, and those values are at risk from degraded water quality, then land may be taken or set aside upon subdivision, or as a financial contribution on activities not requiring subdivision consent. The greatest risk exists where the land is to be used for intensive grazing, cropping or forestry. Identification of the values of various water bodies within Marlborough is included in Schedule X. Regard is to be had to these values when considering whether to take or set aside esplanade reserves or esplanade strips for maintaining or enhancing water quality.

It is important to acknowledge that particularly in rural areas it is more likely that an esplanade strip is a more suitable option.

Policy 15.1.27 – To control land disturbance activities in order to:

- (a) **Mitigate the effects of increased sediment runoff to freshwater bodies or coastal water; and**
- (b) **Avoid the potential for direct entry of contaminants into groundwater.**

The most common source of non-point source discharges, and therefore the greatest risk to water quality in rural areas, is sediment runoff as a result of land disturbance activities. For this reason, controls will be

applied to cultivation, excavation, filling and vegetation clearance to minimise the potential for sediment to reach rivers, lakes, wetlands and coastal waters. The controls will cover the way in which the activity can be undertaken and the proximity of the activity to water bodies or coastal water. Where there is certainty that activities undertaken in a particular way will not adversely affect water quality, the control can take the form of enabling rules. However, where there is uncertainty about the effect of the land disturbance activity on water quality and it is considered necessary to exercise discretion, then a discretionary activity rule will be used.

There also opportunities for aquifer contamination where excavations intercept groundwater at the time of the works or thereafter. Controls will be applied to excavation to minimise the potential for any contaminant to reach groundwater. This includes the drilling of a well and the management of the well head once the well is commissioned.

Policy 15.1.28 – Identify land of high risk in terms of the vulnerability of underlying groundwater to leachate contamination and to manage, with respect to this land:

- (a) **Change in land use to activities which have the potential to result in leachate discharges, so that activities are, where practicable, located elsewhere, or the contaminants are contained;**
- (b) **Existing land use activities so that any potential for groundwater contamination is monitored and, where necessary, corrective action is taken; and**
- (c) **Point source discharges of contaminants to land.**

The vulnerability of aquifers to leachate contamination is determined by the depth of the aquifer and the permeability of the overlying soil. Any area of land over aquifers considered to be high risk in this regard is to be identified as a groundwater protection area. In this area, change of land use to activities likely to generate leachate should, where practicable, be avoided. Where it is not considered possible to do so, provision must be made to contain the leachate generated. The groundwater beneath existing land uses will also be monitored. Where land use in the area is observed to be adversely affecting groundwater quality, actions could be required to avoid the effect in the future. Discharges of contaminants within groundwater protection areas will also be regulated to avoid any adverse effect on groundwater quality. This management will ensure that groundwater quality in Marlborough's aquifers is sufficient to provide for the existing and potential uses to which that water can be put by people and communities.

Policy 15.1.29 – Recognise that disturbing the wet bed of a lake or river, or the seabed, results in a discharge of sediment that has the potential to cause adverse water quality effects.

Sections 12 and 13 of the RMA regulate the activity of disturbing the seabed and the bed of lakes and rivers respectively. This disturbance usually releases sediment into water, effectively a non-point source discharge of contaminants. In order to ensure integrated management of the effects of bed disturbance, this policy signals that any water quality effects caused by such a discharge also need to be managed. For this reason, the discharge of contaminants associated with any bed disturbance will be regulated under Section 15 of the RMA.

Policy 15.1.30 – In considering any land use consent application for the disturbance of a river or lake bed, or the seabed, or land in close proximity to any water body, regard will be had to:

- (a) **Whether the disturbance is likely to result in non-compliance with the **turbidity or clarity** standards set for the water body, after reasonable mixing;**
- (b) **In the event of possible non-compliance with the **turbidity or clarity** standards set for the water body, after reasonable mixing:**
 - (i) **The purpose for undertaking the disturbance and any positive effects accruing from the disturbance;**
 - (ii) **The scale, duration and frequency of the disturbance;**
 - (iii) **The extent to which the bed disturbance is necessary and the extent to which the adverse water quality effects caused by the disturbance are mitigated;**

(iv) The potential effects of increased turbidity/decreased water clarity on the values of the waterbody set out in Schedule X.

The erection, placement, maintenance and repair of structures, the installation and maintenance of water intakes, gravel extraction, dredging, flood and coastal protection works are amongst the activities that can result in disturbance of river, lake and seabed. As well as bed disturbance, activities along the margins of water bodies can generate sediment that has the potential to enter the water and adversely affect water quality. The water quality standards for turbidity and clarity established for water bodies through this chapter are the appropriate starting point for the consideration of any adverse effects of disturbance on water quality. Where these water quality standards are not likely to be met, then it is important that all of the circumstances of the disturbance are considered. The items under (b) of the policy provide guidance on these circumstances. This allows the relative significance of any adverse water quality effects to be assessed when determining land use consent applications.

Methods of Implementation

The methods listed below are to be implemented by the Council unless otherwise specified.

15.M.14 Groundwater Protection Areas

Identify areas above aquifers particularly vulnerable to leachate contamination as groundwater protection areas.

15.M.15 District Rules

Use permitted activity rules to enable the planting of appropriate riparian vegetation on land adjoining rivers, lakes, wetlands and coastal waters. The permitted activity rules will not apply to land adjoining the Council administered drainage network on the Wairau Plains.

Use permitted activity standards to require rural land uses with the potential to adversely affect water quality through non-point source discharges to be setback from rivers, lakes, wetlands and coastal waters.

Apply district rules to land disturbance activities for water quality outcomes. Standards will define the reasonable limits in order to avoid adverse effects on water quality, including the nature and scale of land disturbance activities, and their proximity to water bodies.

Apply district rules within groundwater protection areas to ensure that land uses that have the potential to result in leachate discharges require resource consent.

15.M.16 Regional Rules

Apply regional rules to discharges to land within groundwater protection areas. Standards will define the reasonable limits in order to avoid adverse effects on groundwater quality, including appropriate levels of treatment, and the method, rate and location of any discharge.

15.M.17 Liaison

To work with established rural industry groups to develop and implement sustainable land management programmes. The initial focus will be on viticulture, pastoral farming (especially dairy and intensive beef farming), arable farming and forestry, but may be expanded to other rural activities if the need arises.

A priority for action for sustainable land management programmes are rural land uses upstream of, or adjacent to, coastal waters or rivers that have degraded water quality, and rural land uses in groundwater protection areas.

Work with community groups to establish and enhance riparian margins and improve water quality.

15.M.18 Incentives

Consider the use of incentives such as rates relief and the provision of plant material and fencing at low cost to landowners for riparian management purposes.

15.M.19 Information

Provide information, including guidelines, to landowners, resource users and the public:

- *To generally promote awareness of water quality issues;*
- *To encourage the adoption of appropriate land management practices to minimise non-point source discharges;*

Although the focus of this method will be on rural resource users, the information will also be applicable to residential situations (in both rural and urban environments).

Provide information on the benefits of retiring and planting riparian margins. This will include information on the appropriate width of riparian margins and suitable plant species, taking into account the variation in the nature of water bodies/coastal waters and the adjoining rural land uses. Information on options for formally protecting retired riparian margins can also be provided.

15.M.20 Research

Support research, where appropriate, into the cumulative effects of land use, including land use intensification, on water quality and on improved land management practices.

Undertake investigations to get a better understanding of the impact of particular rural land use activities on water quality and encourage rural industry groups to participate in the investigations.

15.M.21 Advocate

Advocate to the manufacturers and suppliers of agrichemicals and fertilisers, the strengthening of the education and information provision role they play with a view to minimising the likelihood and potential effects of agrichemical and fertiliser application on water quality.

15.M.22 Codes of Practice and Industry Guidelines

Advocate to rural industry groups that they, locally or nationally, prepare and adopt codes of practice or other guidelines aimed at reducing the effects of non-point source discharges where they do not already exist.

Air

Marlborough generally enjoys good air quality. This is because of Marlborough's windy climate, together with its dispersed and low population. However, air quality in some locations is reduced through activities resulting in the discharge of contaminants into air. These localised air quality problems impact on the amenity and health of the community.

National Environmental Standards (NES) for Air Quality came into effect in 2004. It establishes a range of ambient air quality standards applying to carbon monoxide, nitrogen dioxide, ozone, sulphur dioxide and PM₁₀.

The most concerning air pollutant in Marlborough is particulate. Particles found in the air we breathe vary greatly in size. The greatest health hazard from particles comes from the smallest ones – less than 10 microns across – because we easily inhale these small particles into our lungs. This particulate matter is called PM₁₀. The NES sets a threshold concentration for PM₁₀ of 50 microns. In designated areas, called airsheds, the threshold concentration will only be able to be exceeded once in any 12 month period by

2016. More than one such breach from 2016 will mean that the Council is non-compliance with the NES. There is one airshed in Marlborough, which encompasses the urban area of Blenheim.

Smoke, odour and dust are other air quality issues which occur from time to time. These can affect the amenity values enjoyed on neighbouring or nearby properties. A significant proportion of all complaints received by the Council relate to the nuisance effects of smoke, odour and dust.

Complaints are also received about spraydrift. This is when the aerosols from the application of agrichemicals move beyond the boundary of the property on which it is used. Given the nature of agrichemicals, spraydrift creates a risk to human health on neighbouring properties and those in close proximity to the property.

The Council manages the discharge of contaminants into air. Unless expressly allowed by a rule in a regional plan or by a resource consent, the discharge of contaminants into air is prohibited by the RMA. Many activities result, either directly or indirectly, in the discharge of contaminants into air. One of the roles of the RPS/Resource Management Plan is to identify which air discharges are appropriate and the circumstances in which they are appropriate, and which air discharges are not appropriate.

One exception is the discharge of greenhouse gases into air. Although the discharge of greenhouse gases contributes to the global issue of climate change, this issue is being addressed by central government at an international and national level. The RMA effectively excludes regional councils from the role of regulating emissions for climate change purposes (Sections 70A and 104E of the RMA). For this reason, nothing in this chapter specifically deals with the discharge of greenhouse gases into air. However, Chapter 19: Climate Change does contain provisions seeking to more generally mitigate and adapt to the adverse effects on the environment arising from climate change

Issue 15D – The discharge of particulate matter into air has the potential to cause significant health effects in urban areas, particularly Blenheim.

Clean fresh air is an important and valued part of Marlborough's environment and the community's quality of life. Unfortunately, elevated levels of particulate can build-up over Blenheim during the winter months, especially during calm, cold evenings. The main source of PM₁₀ is solid fuel burning for domestic home heating, contributing up to 92 percent of the anthropogenic PM₁₀ measured. Other sources include backyard burning of waste and discharges associated with industrial activities.

Concentrations of PM₁₀ measured in Blenheim have exceeded the NES concentration of 50 micrograms per cubic metre (24 hour average) during winter. During these peak periods, almost one tonne of PM₁₀ can be discharged per day. Some of the most common health effects include irritation of eyes, throat and lungs. For people with existing respiratory conditions, such as asthma or bronchitis, breathing in particles can make the conditions worse.

Achieving compliance with the NES will require a 38percent reduction in PM₁₀ emissions. Only a reduction of 10 percent is possible if the Council relies on home owners replacing polluting heating methods with modern solid fuel burners (or other heating methods) at the end of their useful life. In other words, some form of intervention is required to achieve compliance with the NES and ensure a safe living environment over the winter months.

Blenheim is the only airshed within Marlborough. Picton and Renwick have also been monitored but comply with the NES at this point in time. Other urban areas may also have elevated PM₁₀ levels, but the concentrations have not been monitored in those areas.

Objective 15.2 – Improve the ambient air quality of Blenheim by reducing PM₁₀ concentrations.

Monitoring has shown that there needs to be an improvement in Blenheim's air quality during winter months to protect the health and wellbeing of the urban community. This can be achieved by reducing the

ambient level of PM₁₀, most of which is sourced from home heating. The following policies and methods are targeted at reducing PM₁₀ discharges at source in order to improve Blenheim's air quality. This will ensure that the current health effects of high PM₁₀ levels, which range from minor irritation through to significant respiratory conditions, are minimised.

Policy 15.2.1 – Prohibit the outdoor burning of organic and inorganic waste and the use of open fires within the Blenheim airshed.

It is estimated that 11 percent of the PM₁₀ released from home heating in Blenheim is sourced from open fires. Emissions from open fires are anywhere between two and fourteen times greater than those from appliances meeting the 1.5 grams of particles per kilogram of dry wood burnt criteria established by the NES (open fires using wood, 12g/kg; open fires using coal, 21g/kg; modern enclosed burner 3g/kg). Given these emissions, the policy recognises that open fires are not an appropriate means of home heating if winter air quality is to be enhanced. The use of open fires is not decreasing at significant rates in Blenheim. For this reason, a prohibition is necessary. A transition period will be provided to enable homeowners time to source and finance alternative heating sources.

Note that Regulation 24A of the NES for Air Quality also prohibits the use of open fires.

Outdoor burning of organic and inorganic waste in Blenheim is also another source of PM₁₀ that can be avoided. Outdoor burning is controlled through the Forest and Rural Fires Act 1977 and a system of fire permits. Given Marlborough's dry climate, total fire bans are often in place over summer which can mean that burning occurs during periods when the risk of non-compliance with the NES is higher. The health risk posed by the outdoor burning of waste increases if it contains wood treated with preservatives or that is painted or stained, metals, rubber, synthetic materials, plastics or waste oil. The resulting smoke is also likely to have a considerable nuisance effect given the close proximity of neighbours on urban properties. For all of these reasons, it is appropriate to prohibit the outdoor burning of waste in Blenheim with immediate effect.

Policy 15.2.2 – Encourage the phase out of solid fuel burners that exceed 15 years in age within the Blenheim airshed.

This policy recognises that the burning efficiency of solid fuel burners decreases with time and ceases to be efficient after 15 years. Modelling has shown that the NES will be achieved by 2016 if, in conjunction with the prohibition on open fires and outdoor burning of rubbish, older style enclosed burners are replaced at the end of their 15 year life. This policy seeks to ensure that this phase out occurs by assisting and encouraging people to replace existing solid fuel burners with modern and compliant solid fuel burners or install other clean forms of heating (e.g., electric). The Council retains records of the installation of fuel burners. A priority for action will be solid fuel burners installed prior to 2001 (i.e., 15 years prior to 2016).

The measures included in Chapter 18: Energy promoting and encouraging energy efficient dwellings, including passive heating, will also assist in this regard.

Policy 15.2.3 – Require all new multi fuel burners to comply with the NES design standard for woodburners.

The NES contains regulations for wood burners, including Regulation 23 which sets a design standard requiring woodburners to discharge less than 1.5 grams of particles for each kilogram of dry wood burnt. The Council is aware that there are also multi fuel burners on the market that can burn wood, but also other fuels. There are no standards in the NES that apply to multi fuel burners. However, to ensure that new residential development and the replacement of existing burners do not make air quality in the Blenheim airshed any worse, it is also appropriate to require any new multi fuel burners to comply with the NES design standard. Compliance with the NES design standard is required on an ongoing basis.

Policy 15.2.4 – Refuse discharge permit applications to discharge PM₁₀ into air within the Blenheim airshed if the discharge is likely to increase the concentration of PM₁₀ by more than 2.5 micrograms per cubic metre (24 hour average) in any part of the airshed, unless:

- (a) The Blenheim airshed average exceedance is less than 1 per year; or

- (b) The applicant offsets the proposed PM₁₀ discharge by reducing PM₁₀ discharges from another source(s) in the airshed by the same or greater amount.**

At present, non-residential (e.g., commercial, industrial, public health) emissions represent less than 10 percent of PM₁₀ emissions in Blenheim ambient air. There is the potential for total PM₁₀ emissions from this source to increase as a result of growth. To achieve reductions in ambient PM₁₀ concentrations in the Blenheim airshed, it is important that non-residential sources do not significantly increase their emissions. This would compromise the gains achieved by reducing emissions from the domestic sector. The policy therefore establishes a threshold for acceptable increase in PM₁₀ concentration. The threshold reflects Regulation 17 of the NES and applies to discharges requiring discharge permit only. Regulation 17 also provides for exemptions in (a) and (b) of the policy.

Methods of Implementation

The methods listed below are to be implemented by the Council unless otherwise specified.

15.M.23 Regional Rules

Maintain a Blenheim airshed, and establish other airsheds as necessary, to allow the application of regional rules to achieve compliance with meet the NES.

Apply regional rules to prohibit the outdoor burning of organic and inorganic waste and the discharge of contaminants from open fires within the Blenheim airshed. An exception applies to open fires in scheduled heritage resources included in the RPS/Resource Management Plan.

Set threshold levels for non-residential fuel burning devices (based on energy output) to establish the need for discharge permits.

Permitted activity rules will allow the discharge of contaminants to air from NES compliant woodburners and other appropriate solid fuel burners. These include new multi fuel burners that, although not covered by the NES, comply with the design standard for wood burners and for existing burners that are less than 15 years in age.

15.M.24 Monitoring

In accordance with Regulation 15 of the NES, the Council will continue to monitor for compliance with ambient air quality standards established by the NES within the Blenheim Airshed and any other airshed established in the future.

15.M.25 Incentives

Consideration will be given to assisting landowners to replace open fires and older style enclosed burners and energy efficient improvements. This may require approaches to Central Government and the Energy Efficiency and Conservation Authority for greater financial assistance with offering incentives.

15.M.26 Recycling Services and Facilities

Use of facilities that can be used to dispose of organic and inorganic waste that can no longer be burned.

15.M.27 Information

Ensure that the community is well informed about:

- *Alternative means of managing waste and the facilities that can be used/accessed to dispose of waste that can no longer be burned;*
- *The choices of heating and heat conservation methods;*

- *The incentives available to the public to change to cleaner, more efficient methods of home heating and fuel use; and*
- *The need to use dry firewood to reduce PM₁₀ emissions.*

Issue 15E – The discharge of contaminants into air that reduce the amenity of the surrounding area, or create an undue risk to human health.

The most common sources of air contaminant in a Marlborough context are smoke, dust, odour and spraydrift. All of these have the potential to adversely affect the ability of those living in close proximity to the source to enjoy their own properties and can even cause adverse health effects for residents or workers.

Smoke is most commonly created as a result the burning of vegetation or waste, and the inefficient operation of boilers. This can occur in both urban and rural environments. Outdoor burning of household, garden and farm rubbish can cause localised nuisance problems and can generate potentially hazardous compounds, depending on what is being burnt. The nuisance effects resulting from “backyard burning” of rubbish are the main source of air quality complaints received by the Council.

Odours are caused by mixtures of chemical compounds and can come from a wide range of sources, e.g. garden compost heaps, landfills, fish and shellfish processing, sewage treatment plants and oxidation ponds, land effluent disposal, intensive livestock farming and silage. Odours can affect people’s enjoyment of the outdoors and they can even make them feel sick. Odours affect people differently. For example, people who live and work in rural areas may find silage smells acceptable, while others may find silage smells offensive.

Dust can be a nuisance when it settles on surfaces, such as windowsills or washing. Dust can irritate your eyes or make it difficult to see. Dust occurring at levels that cause nuisance can be generated by many activities, including vehicles being driven along unsealed roads, cultivation, stockpiles of materials, shingle processing, quarries, land development and abrasive blasting. Dust and odour nuisances are often associated with the use of land.

Applying agrichemicals can cause adverse environmental effects if they go beyond the property boundary. Spray-drift has the potential to cause adverse health effects and damage to non-target areas, especially where the property adjoins residential areas or areas frequented by the public (e.g., schools, reserves). Other adverse effects that can occur include damage and contamination of crops, water bodies, and sensitive flora and fauna outside the target area.

A variety of small and medium sized industrial and commercial processes are located in Marlborough (e.g., spray painting, abrasive blasting, food and beverage manufacture/processing timber mills). These can have localised impacts on air quality, as can the disposal of organic wastes arising from people and farming activities and from industries processing agricultural products. These impacts must be weighed against the need for these activities to occur and recognition that in many cases there are few alternatives.

In some localities, “reverse sensitivity” issues may be a problem. Reverse sensitivity refers to situations where lawfully established activities, that have addressed offsite effects as far as practicable and reasonable, may become constrained by the emergence of new and often incompatible land uses in the vicinity. In Marlborough, reverse sensitivity issues are particularly associated with new residential subdivisions in the rural environment, which then become a target of complaints relating to odour and other air emissions.

Objective 15.3 – Reduce the nuisance and health effects from the discharge of contaminants into air.

People should be able to enjoy their properties without having to put up with the nuisance or potential health effects from smoke, dust, odour, spraydrift and other discharges to air from nearby properties.

These effects can usually be minimised through appropriate management practices. The use of such practices should ensure that the potential for these contaminants to move beyond the property boundary and adversely affect others is reduced. Smoke, dust and odour, spraydrift and other discharges to air are usually created in association with a particular use(s) of land. The following provisions are aimed at allowing use and development of natural and physical resources to continue, while ensuring that any adverse effects on air quality are avoided, remedied or sufficiently mitigated.

Policy 15.3.1 – Prohibit the discharge of contaminants into air resulting from the combustion of materials which will give rise to concentration of contaminants likely to be dangerous or toxic.

This policy recognises that some people choose to burn inappropriate materials and that this practice contributes to excessive concentrations of air contaminants, and results in objectionable or offensive smoke and odour, and associated health and nuisance problems. The inappropriate materials are listed in the policy. The Policy implements Regulations 4 to 10 of the NES.

Policy 15.3.2 – Require all discharges to comply with the ambient air quality standards established by the NES for Air Quality.

The NES sets ambient air quality standards that apply to airsheds and to open air. The standards include threshold concentrations for carbon monoxide, nitrogen dioxide, ozone, PM₁₀ and sulphur dioxide, and also specify the number of exceedances allowed (if any). It is appropriate that discharges are required to comply with the ambient air quality standards in order to protect the health and wellbeing of the people in close proximity to any proposed discharge. This policy will be implemented through the assessment of applications for discharge permit, the imposition of resource consent conditions and the establishment of permitted activity rule conditions.

Policy 15.3.3 - Control emissions from large scale fuel burning devices outside of the Blenheim airshed and approve discharge permit applications where the discharge will not be dangerous or noxious, or cause an offensive or objectionable effect beyond the boundary of the site(s) from where the discharge originates

This policy recognises that many of the large scale fuel burning devices in Marlborough are located in rural and industrial environments outside of the Blenheim airshed. These will inevitably discharge contaminants, especially those burning solid fuel, and the policy seeks to prevent nuisance effects beyond the site. Good practice can minimise emissions so that neighbours do not experience significant nuisance effects. For example, good maintenance and operation of industrial boilers can reduce visible smoke emissions to brief periods. Good practice can prevent objectionable or offensive dispersal of smoke or deposition of particles beyond the boundary of the property where the discharge originates. The policy implements the direction provided by Section 17 of the RMA.

Policy 15.3.4: Manage odour as an adverse effect of land use activities and use the boundary of the property on which the land use occurs as the point at which management applies so that no activity creates an offensive or objectionable odour effect beyond the boundary of the property on which it originates.

It is difficult to manage odour in isolation from the land use(s) that has created the odour in the first place. The most effective means of avoiding, remedying or mitigating the odour is to change the land use practices to prevent or reduce the generation of offensive or objectionable odours. The property boundary is the appropriate point to apply management to, as odour has the potential to create nuisance effects beyond the boundary only.

The Council has greater ability to influence the nature of land uses (and therefore the ability to avoid the nuisance effects of odour) prior to the establishment of the land use. Even so, the Council can require existing land uses to adopt the best practicable option to minimising the nuisance odour effects of existing land uses.

The policy implements the direction provided by Section 17 of the RMA, which applies to both existing and proposed activities.

Policy 15.3.5 - Any discharge of dust shall not cause corrosion, be noxious or dangerous, or cause objectionable or offensive dispersal or deposition of particles beyond the boundary of the site(s) where the discharge originates.

This policy sets a performance standard for dust. The property boundary is the appropriate point to apply management to, as dust has the potential to create nuisance effects when it moves beyond the property boundary. No dust should cause the effects listed in the policy beyond the property boundary. People undertaking activities creating dust should take reasonable steps to ensure the generation of dust is minimised. To ensure this is the case, permitted activity standards for dust will be imposed. Failure to meet these standards could trigger the need for enforcement action. It will also be possible to impose conditions on resource consents where the activity authorised is likely to create dust.

Policy 15.3.6 - Avoid the encroachment of sensitive activities on existing land use activities creating odour or discharging dust into air, unless the adverse effects of the discharge can be avoided or mitigated by the encroaching activity.

For the purposes of this policy, existing activities are those activities which were lawfully established on or before [date the RPS/Resource Management Plan becomes operative].

This policy recognises that even if activities discharging to air give effect to Policies 15.3.3 and 15.3.4, adverse effects may still arise if the subdivision of land or land use activities do not take sufficient account of the surrounding land uses. The intent of this policy is not to manage odour or dust caused by the existing activities, but rather to control the siting and establishment of sensitive or incompatible land uses in the vicinity of the activity.

This will minimise problems associated with gradual encroachment of residential and other development on existing industrial and trade processes. In general, existing industrial and trade activities have been developed in areas that are removed from sensitive areas and activities. Poor land use planning shall not diminish the value of the investment of the existing industrial or trade activities. The concept of reverse sensitivity to remedy or mitigate the adverse effects of established activities is an important policy tool to separate incompatible new activities from established activities. This concept recognises the importance of land use planning to ensure activities discharging objectionable or offensive levels of contaminants into the air are kept separate from sensitive land use activities such as residential use or vice versa.

Policy 15.3.7 – Manage the use of agrichemicals in order to avoid spraydrift. The boundary of the property on which the application of agrichemical occurs is the point at which management applies, as follows:

- (a) Any agrichemical should not move, either directly or indirectly, beyond the property boundary of the site(s) where it is or has been applied; and**
- (b) Agrichemical users will be required to utilise best practice and exercise reasonable care to manage the potential for spraydrift.**

The use of agrichemicals is an important management tool, especially in the rural environment, as they contribute to the control of animal and plant pests and help minimise crop diseases. The appropriateness of using particular agrichemicals in the environment is controlled under the Hazardous Substances and New Organisms Act 1996. Each agrichemical must be approved for use by the Environmental Risk Management Agency. The Agency can also impose specific controls on the application of agrichemicals to ensure safe use. The policy signals that the Council's role, in terms of controlling the discharge of contaminants to air, is restricted to ensuring there are no off-site effects.

The property boundary is therefore established as the point to apply management to, as agrichemicals have the potential to cause health effects, and other unintended consequences, once they move beyond the boundary of the property on which they are being used. Spraydrift usually occurs as a result of inappropriate application methods and practices (e.g., applying agrichemicals in windy conditions). The Council will rely on agrichemical users applying best practice and exercising reasonable care in order to reduce the potential for spraydrift.

Policy 15.3.8 - Manage discharges of contaminants to air not specifically provided for in Policies 15.2.1 to 15.2.3 or 15.3.1 to 15.3.7 by:

- (a) **Allowing as permitted activities discharges of contaminants into air from industrial or trade premises or industrial or trade processes that have no more than minor adverse effects on the environment;**
- (b) **Avoiding, remedying or mitigating adverse effects of localised ground level concentrations of contaminants, including cumulative effects, on:**
 - (i) **Human health;**
 - (ii) **Amenity values; and**
- (c) **Avoiding, remedying or mitigating adverse effects on any other values.**

The preceding policies address specific discharges to air that are known to cause significant adverse effects in the Marlborough environment. There is a wide range of other contaminants that are discharged to air as a result of day-to-day activities, especially discharges from industrial or trade premises and industrial or trade processes. Many of these discharges can occur without the risk of significant adverse effects on the environment provided they are properly managed. Permitted activity rules can be used to enable these discharges subject to appropriate performance standards.

Those discharges not covered by the permitted activity rules developed under (a) and not otherwise covered by Policies 15.2.1 to 15.2.3 or 15.3.1 to 15.3.7 will require resource consent. The ground level concentration of contaminants will be used to assess the actual or potential effects of the discharge and the impact it might have on human health and amenity values. The Council can also have regard to any other impact of the discharge on the wider environment, including water quality and biodiversity.

Policy 15.3.9 – Promote measures to avoid, remedy or mitigate the effects of the discharge of contaminants to air at their source.

Consistent with the waste management provisions of the RPS/Resource Management Plan, it is appropriate to minimise contaminants present in discharges to air at source. The Council will work with resource users and groups representing resource users to ensure that best practices are developed and implemented to reduce the discharge of contaminants to air. This could mean avoiding the burning of fuel or waste material in the first place. For example, waste may be able to be re-used, recycled or disposed of through alternative methods. Where the discharge of contaminants to air cannot be avoided (e.g., because it is a step in an industrial or trade process and there are no alternatives), then the Council will encourage resource users to minimise the concentration of contaminants in the discharge through good management.

Policy 15.3.10 – Having adequate information about the state of Marlborough air quality to enable the Council to assess the cumulative effects of discharges to air on amenity values and human health.

The Council's knowledge about the state of air quality in Marlborough is not perfect or complete. This means that the air quality policies may not be effective in achieving Objective 15.3. For this reason, the Council will seek to identify information gaps, either in terms of contaminants monitored or the location of monitoring, and adjust or expand the state of the environment monitoring programme as resourcing and priorities allow.

Methods of Implementation

The methods listed below are to be implemented by the Council unless otherwise specified.

15.M.28 Regional Rules

Use regional rules to establish standards for the discharge of contaminants to air that adequately protect human health and amenity values.

Standards will be imposed through regional rules requiring dischargers to keep accurate records of the discharge of particular contaminants to air, including agrichemicals.

Establish a prohibition on the discharge of contaminants to air resulting from the combustion of materials which result in significant adverse effects on the environment.

15.M.29 District Rules

Use district rules to regulate the proximity of new land use activities (sensitive to dust and/or odour) to existing activities that generate dust and/or odour. This will minimise problems associated with gradual encroachment of residential and other development on existing industrial and trade processes and the potential for reverse sensitivity effects to be created.

15.M.30 Monitoring

In addition to monitoring within airsheds, particulate levels will be monitored in areas not covered by airsheds and where location specific issues arise. This may result in the addition of further airsheds in the event of non-compliance with NES. Monitoring of other air contaminants, including those specified in the NES, may occur from time to time.

15.M.31 Information

Ensure that the community is aware of materials that cannot be burned as a result of prohibitions and why the prohibitions exist. Also ensure that the alternative options to the burning of waste are well publicised.

Include information on LIMs advising prospective purchasers of rural land of the possible presence of activities which might affect amenity values (reverse sensitivity) through effects such as smoke, dust, odour and spraydrift.

15.M.32 Codes of Practice and Industry Guidelines

Advocate to resource user groups that they, locally or nationally, prepare and/or adopt codes of practice or other guidelines aimed at reducing the effects of the discharge of contaminants to air. This will include NZS8409:2004 Management of Agrichemicals (or its successor), which provides specific guidance on the safe, responsible and effective management of agrichemicals.

15.M.33 Advocate

Advocate to the manufacturers and suppliers of agrichemicals and application machinery, the strengthening of the education and information provision role they play in the use of agrichemicals, with a view to minimising the likelihood and potential effects of spray drift beyond property boundaries.

15.M.34 Liaison

Work with Sustainable Winegrowers, and other industry groups that collect information on agrichemical use, to monitor the nature (including methods of application) and extent of agrichemical use in Marlborough.

Soil

Soil is the upper most layer of material that covers much of the earth's land surface. It is made up of different elements including minerals, rock fragments, dead and decaying organic matter and living organisms. Soils evolve over time through additions and losses influenced by climate, living things,

topography, and the original rocks. Because of this, soils are highly variable in their composition, appearance and, importantly, what they can be used for.

Soils are more than just the top 20 cm or so of 'earth' that a farmer or gardener cultivates before sowing crops or pasture - they include soil horizons (layers) that extend downwards to the mineral rock material (parent material) from which the soil has developed.

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 our 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 more recently, viticulture. The ability to grow pasture and a wide variety of crops relies upon the health of our soil resources.

We also depend on soil resources to treat and contain many of the contaminants that we deliberately or inadvertently release into the environment. In doing so, soil assists to maintain community health standards and protect water resources from contamination. Soil also acts to absorb, channel and store water, a particularly important function given Marlborough's dry climate.

Whether we realise it or not, we depend on our soil resource, particularly on the quality of the resource. Soil quality refers to the biological, chemical and physical state of the soil and the maintenance of soil ecosystems. A range of things contribute to soil quality including soil structure, water holding capacity, soil fertility and organic matter content.

Deteriorating soil quality will adversely affect the productive capacity of the soil and all of the other important functions soil resources currently perform. Maintaining and enhancing soil quality is therefore a significant issue.

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

Land use activities, or land management practices associated with particular activities, can change the biological, chemical and physical state of the soil and, in doing so, may adversely affect soil quality and productivity.

Degradation of the soil resource is not always obvious and can progressively occur over a long period of time. It is difficult to establish the extent and severity of soil degradation in Marlborough as there has been limited soil quality monitoring. Although it is considered that there are few major problems relating to soil quality in Marlborough, the monitoring that has been undertaken indicates that primary production has resulted in soil compaction and elevated levels of nutrients/trace elements in some instances.

The potential for soil compaction and changes to the nutrient status of the soil are of particular concern. Heavier clay based soils are more vulnerable to soil compaction than alluvial soils, particularly when they are heavily stocked or worked under wet conditions. Frequent use of heavy vehicles/machinery in the same location is also likely to cause soil compaction. Soil compaction increases soil bulk density, reduces aeration and decreases infiltration. These changes, in turn, adversely affect pasture and crop growth and lead to increased water and nutrient runoff.

Increased runoff of water can have significant drainage implications, especially if existing drainage infrastructure is unable to manage the increased volume and rate of runoff.

Soil organic matter is central to many functions in soils. It is an important source of nutrients, it contributes to a stable soil structure, helps retain and store water and nutrients added to soil, and it also provides a source of energy for soil microbes. The maintenance of organic matter in soils therefore 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 structural degradation and these can potentially negatively affect crop productivity and also predispose soil to a range of environmental issues such as erosion loss.

Soil contains essential mineral elements required by plants and animals. An inevitable consequence of the productive use of soil is that, at some time in the future, soils will be unable to sustain high levels of production unless those nutrients are replaced. Soil depletion refers to reducing soil nutrients down to a level where their potential to sustain primary production is adversely affected. Although fertiliser use has decreased over time in Marlborough, many primary producers still apply fertiliser to their properties to maintain the nutrient status of the soil and therefore soil productivity. Excessive fertiliser application creates the potential for nutrients, such as nitrogen and phosphate, to runoff into adjoining rivers and wetlands, or leach into underlying groundwater.

Other elements are also added to the soil, especially through the application of liquid wastes and, in some cases, the irrigation of water. One nutrient which can be a significant component of wastewater is sodium. Soils with elevated sodium concentrations have the potential to cause a range of adverse effects, including soil structural deterioration (which can reduce water infiltration and reduced hydraulic conductivity) and reduced plant growth. 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.

There is the potential for other soil quality issues to emerge as land use change occurs and as our understanding of the soil resource improves. For example, there has been a trend toward recontouring of land as viticulture has expanded onto rolling or hill country. The effects of recontouring are largely unknown.

The discharge of contaminants into or onto the soil, such as plant, animal and human wastes, can also adversely affect soil quality variables. The potential for these adverse effects is covered in Chapter 16: Waste.

Topsoil is the most productive part of the soil profile and the erosion of topsoil adversely affects soil quality. Erosion can occur naturally as a result of normal geologic processes and/or as a result of extreme weather events. However, activities that disturb the topsoil can accelerate soil erosion processes. 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.

Eroded soil usually moves downhill (the exception is soil eroded by wind) and eventually enters a river or the sea. There, the finer soil will settle, a process called sedimentation. Sedimentation can cause damage to marine and freshwater ecosystems, and may reduce the quality of the water for instream values and uses such as drinking or irrigation. Larger soil particles including gravel and cobbles, can similarly be eroded and deposited in downstream river channels thus reducing the waterway area and leading to flood overflows.

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

The social and economic wellbeing of Marlborough relies on the productive potential of the soil resource, which has been described in Chapter 4: Use of Natural and Physical Resources as a regionally significant resource. To ensure that this continues to be the case, it is important that soil quality is maintained and enhanced.

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

Despite the importance of the soil resource, there has been limited soil quality monitoring in the past. This makes it difficult to establish the impact of various land use activities and practices on soil quality. For this reason, the Council will undertake more monitoring of the biological, chemical and physical state of soils across the district as part of its state of the environment monitoring. This will include the extent of accelerated soil erosion. It is important that the monitoring is undertaken at locations that reflect the diversity of soil types and land uses across Marlborough. The findings can then be applied to determine whether existing or emerging land management practices should be continued or altered in order to minimise the impact on the quality of Marlborough’s soil resource.

The Council will remain vigilant to land use changes in the Marlborough environment as it may need to respond quickly to identify any potential adverse effects of the change on soil quality.

Often rural resource users are best placed to monitor the condition of the soil resource on their property. The Council will encourage rural resource users to undertake such monitoring through the provision of appropriate tools and information. The application of the tools or information may help land owners and resource users to recognise soil quality issues, allowing for modification of land management practices to avoid adverse effects on the soil resource.

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;**
 - (iii) Avoiding or remedying the effects of increased sodium levels;**
- (b) Maintain nutrients at appropriate levels; and**
- (c) Retain topsoil in situ.**

The policy recognises that, while soil structural degradation, nutrient depletion/enrichment and accelerated soil erosion are not of widespread concern in Marlborough, there is a long term risk that irreversible degradation in soil quality may occur if appropriate land management practices are not used. The Council will work with rural industry groups to ensure that land management practices address the potential for unnecessary soil compaction or accelerated soil erosion, the retention of organic matter, soil sodium concentrations, and nutrient levels. This may mean that existing land uses can continue, but in some cases adjustments and changes to land management practices may be required. The Council may also undertake joint investigations with rural industry groups to get a better understanding of the impact of particular rural land use activities and land management practices on the soil resource.

Policy 15.4.3 – Control land disturbance activities in the rural environment in order to retain topsoil and minimise the potential for eroded soil to degrade water quality in lakes, rivers and coastal waters.

Land disturbance is any activity which involves excavation, filling, cultivation or vegetation clearance. Each of these land disturbance activities has the potential to expose bare soil to the elements. This policy signals that these activities are to be controlled in the rural environment. The controls are to be used to ensure that the potential for accelerated soil erosion created as a result of land disturbance is minimised. Where there is certainty that activities undertaken in a particular way will protect the soil resource, the control can take the form of enabling rules. However, where there is uncertainty about the effect of the land disturbance activity and it is considered necessary to exercise discretion, then a discretionary activity rule will be used. The use of such rules reflects the importance of our soil resource for primary production options for rural resource users and to the social and economic wellbeing of Marlborough. The use of controls as detailed above will ensure that our soil resource is conserved for present and future generations.

Land disturbance is also controlled through the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 where there is a risk that the soil is contaminated to the extent of being a risk to human health. In these circumstances, the NES sets out the status of disturbing contaminated soil through rules and allows there to be consideration of the appropriateness of the disturbance given the amount and kind of soil contamination. The rules contained in the NES provide procedures to manage the risk of disturbing contaminated soil on human health only and do not extend to the purpose of soil conservation.

Policy 15.4.4 – In considering any land use consent application to undertake land disturbance, regard shall be had to:

- (a) The physical characteristics of the site, including soil type, slope and climate;**
- (b) Any industry standards that are relevant to the activity;**

- (c) **Sediment and erosion control measures required to reasonably minimise adverse effects caused by rainfall events, including the use of setbacks from water bodies;**
- (d) **The proximity of the land disturbance to any freshwater body or coastal water and the potential for eroded soil to reach the water body or coastal waters;**
- (e) **Where it is possible for eroded soil to reach any freshwater body or coastal water:**
 - (i) **The objectives and policies of this chapter under Issues 15A to 15 C; and**
 - (ii) **The likely degree of compliance with water quality standards set for the water body;**
- (f) **Any potential adverse effects on community water supplies;**
- (g) **Whether the land disturbance is necessary for the operation or maintenance of regionally significant infrastructure.**

This policy identifies the matters that the Council must have regard to when considering any land use consent application to undertake land disturbance. The matters in (a) to (g) will ensure that any adverse effects of land disturbance on soil and water resources are avoided, remedied or mitigated.

For clarity, the policy applies to land disturbance activities to which the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 does not apply or to activities identified as discretionary activities by either the NES and/or by rules implemented under Policy 15.4.3 for soil conservation purposes.

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 and Clarence River catchments.

Pest animals can have a significant impact on soil resources. For example, feral rabbits are a historic threat to the soil resource in South Marlborough. Their browsing reduces vegetation cover and rabbit scratching/borrowing exposes the soil to the elements. Through the Regional Pest Management Strategy for Marlborough, the Council will manage pest animals that have the potential to accelerate soil erosion where these pests fulfil the requirements of the Biosecurity Act 1993.

Policy 15.4.6 – Continue to maintain the Wither Hills Soil Conservation Reserve.

The Wither Hills Soil Conservation Reserve comprises 1100 hectares of land the length of the southern boundary of the Blenheim urban area. . The soils over the Reserve are loess and are particularly vulnerable to erosion. Eroded material has the potential to fill stream channels at the base of the Wither Hills and create a flood risk for the Blenheim urban area. Despite these serious soil erosion issues, the Reserve remains a working sheep and cattle farm. The Reserve is also unique given its proximity to Blenheim and its considerable recreational and amenity value. This policy signals that soil conservation management will continue for the foreseeable future.

Policy 15.4.7 – Liaise with the Department of Conservation regarding any soil erosion issues on Crown land managed for conservation purposes.

A significant proportion of Marlborough is Crown land administered by the Department of Conservation. The Council will liaise with the Department on an ongoing basis in order to discuss soil erosion issues as they arise, and to develop and implement appropriate management responses.

Methods of Implementation

The methods listed below are to be implemented by the Council unless otherwise specified.

15.M.35 Regional Rules

Apply regional rules to land disturbance activities for soil conservation outcomes. Standards will define the reasonable limits, including the nature and scale of land disturbance activities, in order to

avoid adverse effects on the soil resource and adjacent water bodies. This will include the use of setbacks to create a buffer between land disturbance activities and features such as water bodies and roads. Where the standards are exceeded, resource consent will be required to undertake the land disturbance.

Use regional rules to enable, where appropriate, pest management activity for soil conservation outcomes.

15.M.36 Liaison

To work with established rural industry groups to develop and implement sustainable land management programmes. The initial focus will be on viticulture, pastoral farming (especially dairy and beef farming), arable farming and forestry, but may be expanded to other rural activities if the need arises.

A priority for action will be encouraging group members to practice nutrient budgeting (with the exception of the forestry industry).

Farm management plans may assist rural property owners to identify appropriate responses to soil erosion issues on their land. The Council may assist to develop such plans if requested.

15.M.37 Information

Provide information to landowners and resource users to promote recognition of soil quality issues and to encourage the adoption of practices and techniques for avoiding unnecessary damage to soil structure and for maintaining soil nutrients at appropriate levels. The information could be prioritised so that information is provided to landowners and resource users on the most vulnerable soils.

The Council will promote the use of the Visual Soil Assessment tool to enable resource users to monitor soil quality on their own properties.

15.M.38 Advocate

Advocate to the manufacturers and suppliers of fertilisers, the strengthening of the education and information provision role they play in nutrient budgeting, with a view to minimising the likelihood and potential effects of excessive fertiliser application on soil and water quality.

15.M.39 Codes of Practice and Industry Guidelines

Advocate to rural industry groups that they, locally or nationally, prepare and/or adopt codes of practice or other guidelines, where not already in place, aimed at reducing the effects of rural land uses on soil quality. This could include the Code of Practice for Nutrient Management developed by the New Zealand Fertiliser Manufacturers Research Association.

15.M.40 Reserve Management Plans

The Council will continue to manage farming and other activities on the Wither Hills Soil Conservation Reserve through a management plan prepared under the Reserves Act 1977. This plan clearly sets out soil conservation objectives which then influence the nature of any lease to use the land for farming purposes through lease conditions.

15.M.41 Works

The Council will continue to maintain soil conservation works within the Wither Hills Soil Conservation Reserve in accordance with Rivers and Land Drainage Asset Management Plan.

15.M.42 Monitoring

Continue to undertake a regional monitoring programme to gather information on soil quality variables. This will enable the Council to identify the effects of land use activities and practices on soil quality. The monitoring programme is designed to ensure that information is gathered from representative soil types across Marlborough and that it reflects the nature and intensity of the predominant land uses. The programme includes soil intactness monitoring to establish the extent of accelerated soil erosion. The results will help the Council to identify those soils most vulnerable to degradation and allow the application of the above methods to be prioritised.

Undertake monitoring of the effect of specific land disturbance activities and land use changes on the soil resource. This can be implemented through monitoring required as a condition of resource consent or through state of the environment monitoring. A priority is monitoring the effects of forest harvest activities in the coastal environment of the Marlborough Sounds.

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

Hazardous substances are a part of our everyday lives. Activities that use, store or transport a hazardous substance, or which generate hazardous waste include:

- Manufacturing or processing industries (e.g., timber treatment, dry cleaning, spray painting, engineering, boat building and repair);
- Rural industries (e.g., pest control);
- Domestic activities (e.g., household cleaning, house construction, maintenance and repair); and
- Transport related activities (e.g., storage, handling and movement of hazardous substances).

Common examples of hazardous substances are petroleum products, such as petrol, diesel, LPG, oils and solvents; household chemicals such as bleaches, pesticides, paints, adhesives and fuels; and chemical products such as acids, alkalis, pesticides and herbicides.

Due to the risk to the environment, hazardous substances are usually carefully stored and transported and, when being used, are used in a manner consistent with manufacturer directions. However, there is a risk that hazardous substances can be released into the surrounding environment when being inappropriately used, stored, transported or disposed of. 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. Examples include old sheep dip sites, sites at which fuel has been stored in underground tanks, areas where persistent pesticides have been used intensively (e.g., orchards) and the uncontrolled disposal of coal ash from boilers. Contaminated sites create a significant risk to the environment and community health.

Soil contamination can severely limit the ability to safely use a piece of land, so 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. The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 provides a comprehensive response to managing the risk to human health through the use and development of contaminated sites. The following provisions are designed to complement the NES and focus on the provision of information to allow the NES to efficiently and effectively operate.

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

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 therefore has the effect of restricting the ability to use soils for productive and residential purposes 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 the current community and for future generations to use the land

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

The Hazardous Substances and New Organisms Act 1996 places minimum controls for the use, storage, transportation and disposal of all hazardous substances throughout New Zealand. Although the Council is able to impose additional or more stringent requirements, the Council is satisfied that the requirements imposed by the regulations are sufficient to minimise the potential for inadvertent release of hazardous substances into the environment.

Exceptions to this policy include the use and storage of hazardous substances in groundwater protection areas, due to the vulnerability of the aquifers beneath the site soils to contamination, and the discharge of hazardous waste to land or water. In these circumstances, the Council will use its powers under the RMA to impose more stringent controls than the HASNO regulations.

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.

Soil contamination creates a risk to human health and can therefore constrain development options on properties, so it is important that current or potential owners are made aware of any known soil contamination or the potential for soil contamination. To assist this process, the Council maintains a "Sites at Risk Register" which records known or potential contaminated sites. The Hazardous Activities and Industries List (HAIL) is used as the basis for determining the potential for a piece of land to be contaminated by past land use activities and/or management practices. The information on the Sites at Risk Register is made available to the public so they can make informed decisions relating to the ongoing use of the land or any proposed new use of the land. The Register can also be used as a basis of applying Clause 6(2) of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011. Any site included on the Register can be considered as a "piece of land" for the purpose of the NES.

The Sites at Risk Register is not a definitive list of all contaminated or potentially contaminated sites. It includes pieces of land known to be contaminated and pieces of land where the Council is aware that past land use activities and/or management practices could have resulted in soil contamination (through the application of HAIL to existing records such as aerial photography). That awareness does not extend to all historic land use activities and management practices due to the passage of time and incomplete records. As the Council becomes aware of other potentially contaminated sites, these will be added to the Sites at Risk Register.

Policy 15.5.3 – Investigate recorded contaminated sites and, where the contamination is assessed as being high risk to community health or the surrounding environment, undertake appropriate management of the site.

A majority of the sites on the Sites at Risk Register are identified as potentially contaminated and are included on the Register on the basis of HAIL. In other words, many of the sites have been identified on the basis of records of past land use or management practices associated with the land use. The risk of human health effects is unclear in these circumstances. For this reason, the Council will progressively investigate the sites on the Register to substantiate the nature and degree of contamination. This will initially involve an assessment of the site in accordance with contaminated land management guidelines. The information collected will be shared with landowners and resource users so there is a clear understanding of the risk to human health.

While the NES manages the human health effects of contaminated sites in the event of changes in land use, this policy also recognises that the Council can assist to manage any high risk to human health in other circumstances.

Any site assessed through this policy as being high risk to community health or the surrounding environment will trigger the need for more thorough investigation and, depending on the outcome of those investigations, potentially site management. The Council will take a lead role in co-ordinating site management in circumstances where the NES does not apply, including landowner liaison. This role is important given the potential costs for private landowners associated with remediation efforts and the potential for orphan sites.

Management will be specific to the site and will be determined by:

- (a) The type of contaminants;
- (b) The degree of contamination;
- (c) The availability and practicality of appropriate technology for management including recognition of technical and financial constraints;
- (d) Existing and likely future uses of the site;
- (e) Surrounding land uses;
- (f) National standards, guidelines, or both; and
- (g) The potential for adverse environmental and public health effects including the potential for off-site or downstream effects.

In the worst case scenario, where the nature of the soil contaminants represents a significant hazard, where there are pathways for the contaminants to enter into the surrounding environment and where there are sensitive receptors in that environment, remediation of the site might be required.

Policy 15.5.4 – Establish a spill response capability.

In the rare event that hazardous substances are accidentally or deliberately released into the environment, it is important that there is the capability to contain the extent of the spill and then clean-up the site of the spill. Several agencies are potentially involved in any spill event including the Council, the Fire Service, the Police and (in the coastal marine area) Maritime Safety. Ad hoc response from each agency creates the potential for ineffective containment and for soil contamination to occur over a wider area than if the spill was effectively contained. It is important that the actions of each agency responding to a spill are co-ordinated. This is especially the case considering the volume of goods transported to and through Marlborough on State Highway 1 and on the inter-island ferries.

Methods of Implementation

The methods listed below are to be implemented by the Council unless otherwise specified.

15.M.43 Sites at Risk Register

The Council maintains a register of all known contaminated sites and other sites that may be contaminated due to historic land use management practices called the Sites at Risk Register. All sites on the register have been classified as unverified HAIL, verified HAIL, acceptable, contaminated or remediated/managed. The Sites at Risk Register will be added to over time as further information is received as a result of Council and private investigations.

The Register assists with the implementation of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011, especially in terms of establishing whether land subject to land use change is a “piece of land” to which the NES applies

(in terms of Clause 5(7) of the NES). However, the Register is not definitive in this regard and a preliminary site investigation may still be required to establish the potential for historic contamination of site soils (and whether the NES applies).

15.M.44 Information

Property specific information held on the Sites at Risk Register will be available to the public through the issue of LIMs, through the creation of new titles (i.e., through consent notice), through inclusion of the Sites at Risk Register on the Council website or through general enquiry.

The Council will make available the Ministry for the Environment’s Hazardous Activities and Industry List (HAIL) on the Council website to assist resource users to establish the potential for historic contamination of site soils. Other Ministry for the Environment publications relevant to the implementation of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 will also be available via the Council website.

15.M.45 Investigations

The Council will screen sites on the Sites at Risk Register to determine the risk to community health and the surrounding environment. The Ministry for the Environment’s “Contaminated Land Management Guidelines No. 3 - Risk Screening System” will be used to assign a high, medium or low risk category to screened sites. High risk sites will then be investigated and actively managed. Given the number of sites on the Sites at Risk Register, this assessment work will occur progressively over time.

Any investigations for contaminated land must be undertaken by a qualified and experienced practitioner in accordance with Contaminated Land Management Guidelines No. 5 published by the Ministry for the Environment.

15.M.46 Management Plans

The Council will take the lead role in co-ordinating the management of high risk contaminated sites, including any remediation efforts. This may involve further site investigation to establish the nature and extent of contamination, identifying and applying for central government funding sources for remediation, management of remediation efforts and monitoring of relevant environmental parameters. The nature of the management of any high risk contaminated site will be documented in a management plan.

15.M.47 Spill Response Contingency Plan

A Spill Response Contingency Plan will be developed collaboratively by the Council, the Fire Service, the Police and Maritime Safety. The 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 communication between the agencies. In this way, the Plan will ensure that response actions are effective and the potential for soil contamination caused by spills is minimised.

Anticipated Environmental Results and Monitoring Effectiveness

The following table identifies the anticipated environmental results of the water, air and soil quality provisions of the RPS/Resource Management Plan. The anticipated environmental results are 10 year targets, unless otherwise specified. For each anticipated environmental result, there are a series of indicators that will be used to monitor the effectiveness of the water quality provisions.

Anticipated Environmental Result	Monitoring Effectiveness
15.AER.1 Water quality in Marlborough’s rivers, lakes, wetlands is suitable to support and	The quality of water in all surface water bodies routinely monitored is classified as good, very good or excellent. All freshwater bathing sites are graded either good or

<p>sustain swimming, fishing, aquatic ecosystems and customary harvesting.</p>	<p>very good, in accordance with the Ministry for the Environment's Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas.</p> <p>The annual median values for nitrate in the Wairau Aquifer and the Wairau Valley Aquifer (upstream of the Waihopai River confluence) do not exceed 7.2 parts per million.</p> <p>Water quality is enhanced where it was degraded so that the water bodies can support natural and human use values. Catchment enhancement plans are developed and implemented.</p> <p>The number of point source discharges directly to fresh water, other than stormwater discharges, do not increase.</p> <p>No discharges into water that breach water quality standards set in the RPS/Resource Management Plan.</p> <p>Stormwater Management Area Plans are developed for all stormwater catchments that discharge into water bodies and coastal waters with degraded water quality.</p>
<p>15.AER.2</p> <p>An increase in knowledge of the state of Marlborough's water quality.</p>	<p>Need to discuss with ESM</p>
<p>15.AER.2</p> <p>Water quality in Marlborough's coastal waters is suitable to support and sustain swimming, food gathering and marine ecosystems.</p>	<p>Are the AERs below sufficient for coastal water.</p> <p>All coastal water bathing sites are graded either good or very good, in accordance with the Ministry for the Environment's Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas.</p> <p>Water quality is enhanced where it was degraded so that the coastal waters can support natural and human use values. Catchment enhancement plans are developed and implemented.</p> <p>With the exception of regionally significant infrastructure, there are no discharges of human sewage into the coastal waters of the Marlborough Sounds.</p> <p>The number of point source discharges directly to coastal water, other than stormwater discharges, do not increase.</p>
<p>15.AER.3</p> <p>Water quality in Marlborough's aquifers is suitable for drinking.</p>	<p>The annual median values for the following parameters comply with the New Zealand Drinking Water Standards 2005 for each aquifer routinely monitored:</p> <ul style="list-style-type: none"> • Nitrate • E. coli <p>No discharges into groundwater that breach water quality</p>

	standards set in the RPS/Resource Management Plan.
15.AER.4 The quality of air is safe to breath.	Compliance with the ambient air quality standards of the NES.
15.AER.5 Measured downward trends in the winter concentration of PM10 in Blenheim	<p>The average winter concentration of PM10 at Redwoodtown is 37 mg/m³ or less.</p> <p>The average winter concentration of PM10 at Middle Renwick Road is 27 mg/m³ or less.</p> <p>Numbers of open fires and wood burners being replaced with cleaner heating methods.</p> <p>The number of illegal fires.</p>
15.AER.6 A reduction in the nuisance and health effects resulting from the discharge of contaminants to air.	A reduction in the number of complaints regarding smoke, odour, dust and spraydrift.
15.AER.7 An increase in knowledge of the state of Marlborough's air quality.	<p>Ambient monitoring of air pollutants throughout Marlborough including:</p> <ul style="list-style-type: none"> • The background concentrations of PM10 in Picton are established. • Records of agrichemical use allow the cumulative effects of agrichemical use to be established through modelling. • A monitoring programme to establish the extent of agrichemical spraydrift is established.
15.AER.8 The biological, chemical and physical state Marlborough's soils enables safe and productive use of the soils on an ongoing basis.	<p>The values of the following soil parameters for soils routinely monitored fall within target ranges, as defined by Landcare Research (Landcare Research, 2003):</p> <ul style="list-style-type: none"> • Total carbon; • Total nitrogen; • Minerisable nitrogen; • Soil pH; • Olsen phosphorus; • Bulk density; • Macro porosity; • Aggregate stability; and • Trace elements

	<p>All potentially contaminated sites recorded on the Sites at Risk Register as at [the date the RPS/Resource Management Plan becomes operative] are screened for risk by December 20xx.</p> <p>All high risk sites on the Sites at Risk Register as at December 20xx are investigated by December 20xx.</p> <p>All high risk contaminated sites are under active management.</p> <p>A spill response contingency plan is completed within one year of notification of the RPS/Resource Management Plan.</p>
<p>15.AER.9</p> <p>Increase in knowledge of Marlborough's soil resource.</p>	<p>A soil intactness report is produced every 7 years or when new aerial photography is available across the District.</p> <p>The state of Marlborough's soil resource is reported on an annual basis.</p> <p>The number of soil monitoring sites and land uses covered by the soil quality monitoring programme increases.</p> <p>A targeted monitoring programme to assess the adverse effects of forest harvest activities is completed.</p> <p>More is known about the risk of soil contamination across Marlborough.</p>

