

15. Resource Quality (Water, Air, Soil)

Water

We are fortunate in Marlborough to generally enjoy good water quality¹ in our coastal waters, rivers, lakes, wetlands and aquifers. Monitoring has shown that the quality of water in these waterbodies is sufficient to support a wide range of freshwater values. These include healthy freshwater and marine ecosystems, comprising native fish, plants, algae and invertebrates, trout and salmon; stock and domestic water supplies; commercial uses of water in industry, agriculture, viticulture, marine farming and commercial fishing; and recreational uses 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 or 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: "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 reflects the low number of point source discharges into waterbodies 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 over time, resource users have also taken action to reduce the impact of discharges on water quality. However, there is always the potential that point source and/or non-point source discharges will occur and adversely affect the life supporting capacity and community use of Marlborough's rivers, lakes, wetlands, aquifers and coastal waters.

Unfortunately, water quality in some rivers has been degraded as a result of point source and non-point source discharges, impacting upon the uses and values that were once supported by the rivers and coastal waters.

The management of water quality has a strong regulatory focus. This is because the Resource Management Act 1991 (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 resource consent or a rule in a regional plan or a regulation.

In addition, the National Policy Statement for Freshwater Management 2014 (NPSFM) sets out objectives and policies that direct the steps that must be taken to manage water in a sustainable manner. In particular, there is a requirement to set objectives for water resources and subsequently to set water quantity and quality limits to achieve those objectives. The NPSFM sets as an objective that the overall state of water quality within any region must be maintained or improved.

A key component of the NPSFM is the National Objectives Framework (NOF). The NOF is designed to assist the process of establishing appropriate freshwater quality objectives in a

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

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nationally consistent manner. It is based on the identification of values supported by waterbodies and the setting of objectives to protect those values. The NOF contains two compulsory national values: ecosystem health and human health for recreation. Attributes, or measurable physical, chemical and biological characteristics are identified with respect to these values.

The PMEPP was prepared under the NPSFM 2014 and the corresponding 2017 amendment. The PMEPP does not give full effect to the NPSFM 2020 and has not followed the processes set out in the NPSFM. A separate work programme is currently being implemented to give effect to the NPSFM 2020. This process will result in proposed changes to the water quality provisions of the PMEPP. These changes will be proposed by way of a plan variation or plan change (depending on the status of the Plan). The plan variation or plan change will be publicly notified by December 2024.

In the interim, resource consent applications must include an assessment against the NPSFM 2020 and decision makers must have regard to the NPSFM 2020.

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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 good state of water quality in Marlborough’s coastal waters, rivers, lakes, wetlands and aquifers makes them 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, as good water quality is essential for a wide range of consumptive and non-consumptive 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.

Sewage reticulation and disposal

Treated sewage from Marlborough’s larger communities is still discharged into fresh or coastal water. Although these discharges are authorised by resource consents, the review of the MEP 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 communities to maintain community health standards. However, Marlborough’s tangata whenua iwi consider that the discharge of human waste into fresh or coastal water is profoundly offensive and significantly diminishes the mauri of the receiving waters.

As Marlborough continues to grow, it will be necessary 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 be unsustainable and need to be replaced with community sewerage schemes. Discharge of treated sewage into water may be one of the options that need to be considered.

It is important that the MEP provides direction as to how adverse effects of existing and any new discharges on fresh or coastal water quality should be managed. Existing reticulated community sewerage systems operated by the Council are recognised by the MEP as regionally significant infrastructure. (See Chapter 4 - Use of Natural and Physical Resources for further details.) Unless otherwise specified, policies in Chapter 15 still apply to the discharge of human sewage from this infrastructure.

Stormwater reticulation and disposal

Most of Marlborough’s towns are serviced by reticulated stormwater systems. Urban stormwater will pick up contaminants including sediment, solids, organic matter, nutrients,

heavy metals and petroleum and product residues as it runs over impervious surfaces. 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 fresh and coastal water quality has demonstrated that stormwater discharges do sometimes degrade the quality of 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 and stormwater pipes. This has been a particular problem in Picton and has caused periodic contamination of coastal water during rainfall events.

Transport

A large part of the urban areas that are serviced by reticulated stormwater systems are used extensively by and for motor transportation (this includes public and private carparks, service stations and roads). The deposition of materials such as petrochemicals and heavy metals from motor vehicles onto roads and vehicle servicing areas is a major source of water pollution. These contaminants are transported by run-off into the reticulated stormwater system and subsequently 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 within 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 unsuited for their operation, illegal stormwater connections and inappropriate methods for the disposal of wastewater.

Some trade waste entering the sewer contains human waste, 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 ships, run-off from maritime industries such as boat builders, and general litter. The effects 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 anti-foulants on coastal water quality. Anti-foulants enter coastal water through leaching and boat maintenance activities. Marine farming involving fin fish requires the addition of feed, which has the potential to adversely affect coastal water quality in and around the marine farming operation.

Land disturbance

Land disturbance activities including excavation, cropping, clearance of land and harvest of plantation forest can 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 exacerbate this situation.

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 inevitably results in the discharge of faeces and urine onto the ground surface. Other inputs such as fertiliser and agrichemicals are also applied to pasture and crops as part of normal operations. As in the case of land disturbance, run-off during and after rainfall events can pick up these substances and lead to the input of nutrients, bacteria and other contaminants into nearby waterbodies. The historic loss of wetlands and vegetated riparian margins makes this situation worse, as these intercept and/or treat the contaminants present in run-off. There is also the potential for contaminants (in particular, nitrate) to leach through the soil into underlying groundwater, especially where the aquifer is shallow and occurs within and below permeable soils.

Dairy herds and other intensively farmed stock crossing the wet bed of waterbodies has been a major cause of degraded water quality in some catchments. The animals disturb the waterbody as they walk through the wet bed, resulting in the release of sediment into the water. They also defecate and urinate in the stream, resulting in the release of bacteria and nutrients into the water.

There is the potential for rural activities to change and intensify in the future. For example, in many other regions there has been a change from traditional pastoral farming to dairy farming. This has, in some instances, contributed 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, vegetable processing and domestic wastewater and dairy shed effluent. If not correctly operated and managed, these discharges could also contaminate coastal waters and waterbodies 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 riverbeds can result in the deliberate or inadvertent disturbance of the bed. Activities that can cause bed disturbance include gravel extraction, 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 (that part of the bed covered by water). This has the effect of reducing the clarity of the water, discolouring the river. 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 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. There is also potential for bacteria from the faeces of feral animals (e.g. goats, pigs and possums) and other wildlife to contaminate fresh and coastal waters.

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

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

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

There has been a strong preference for discharges to land since the first Marlborough Regional Policy Statement (MRPS) 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. Non-point source discharges are difficult to manage as there is no discrete point to which management can be applied. This situation does not justify inaction, but means that the management of non-point source discharges is challenging and will require innovative approaches. It is important that the MEP provides a framework to deal with the point source and non-point source discharges to maintain and enhance water quality in Marlborough's coastal waters, rivers, lakes, wetlands and aquifers.

Issue 15B – Water quality in some of Marlborough's rivers has already been degraded, to the extent that their ability to support aquatic ecosystems and/or contact recreation (primary and secondary) has been compromised.

Monitoring of water quality as part of the Council's State of the Environment monitoring programme has established that water quality has become degraded in some rivers, relative to the freshwater values that these rivers support or have supported in the past. Of particular note are changes in nutrient (nitrate and phosphorus), sediment and bacteria levels. Increasing levels of these contaminants is indicative of the impact of point source and non-point source discharge to rivers. These discharges have reduced the ability of the rivers to safely support primary contact recreation (i.e. swimming), secondary contact recreation and aquatic ecosystems. This is a significant concern given the contribution that water-based recreation makes to community wellbeing and the intrinsic values of aquatic ecosystems.

Water quality degradation is measured relative to the attribute values provided by the National Objectives Framework included in the NPSFM and the Council's water quality index. The water quality index, based on the Canadian Water Quality Index, summarises monthly measurements of nine chemical and physical parameters to produce an aggregate score for the state of water quality in Marlborough's rivers. The score allows the overall state of water quality to be categorised as excellent, good, fair, marginal and poor, relative to the natural or desirable level. The Canadian Water Quality Index uses NPSFM attribute state thresholds and also uses additional parameters including temperature and pH.

The rivers determined to be degraded (poor or marginal in the index) or at risk of degradation (close to marginal in the index) on the basis of the Council's 2014/15 State of the Environment Report are identified in Tables 15.1 and 15.2 below.

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Table 15.1: Waterbodies identified through monitoring as being degraded.*

Waterbodies
Are Are Creek
Doctors Creek
Duncan (Linkwater) Stream
Flaxbourne River
Mill Creek
Murphys Creek
Omaka River
Ōpaoa River
Ronga River
Taylor River
Tuamarina River (including Para Swamp)
Wairau Diversion

Table 15.2: Waterbodies identified through monitoring as being at risk of degradation.*

Waterbodies
Cullens Creek
Kaituna River
Kenepuru River
Lower Pelorus River (downstream of the Rai River)
Lower Wairau River from SH1 bridge to the sea
Mill Stream
Opouri River
Rai River
Spring Creek
Waitohi River

The tables identify waterbodies in the interim pending full implementation of the NPSFM 2020. Other waterbodies may be added to Tables 15.1 and 15.2 as a result of that implementation.

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

Mauri is the term used by Marlborough's tangata whenua iwi 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 as well as the spiritual association iwi have with natural resources. Water is considered to be particularly significant to iwi in this regard as it sustains all life. Papā-tū-ā-nuku (Mother Earth) supports all people, flora and fauna, and waterbodies 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 are 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 fresh and coastal water have adversely affected the mauri of water. Of particular concern 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, waterbodies with poor or deteriorated quality are therefore a reflection of the health of the tangata whenua. Marlborough's tangata whenua iwi wish to avoid making any waterbody waimate (where water quality becomes so degraded that it loses its mauri).

Freshwater values

[RPS, R, C]

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

- (a) the mauri of wai is protected;
- (b) water quality at beaches and in rivers is suitable for contact recreation (primary and secondary);
- (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;
- (e) the quality of surface water utilised for community drinking water supply remains suitable for drinking after existing treatment; and
- (f) coastal waters, rivers, lakes and wetlands support healthy ecosystems.

Marlborough's coastal waters, rivers, lakes, wetlands and aquifers contain a diverse range of freshwater values and are used extensively by the community. The freshwater values are identified in Appendix 5. In addition to this, water is a taonga to Marlborough's tangata whenua iwi. However, in relation to cultural values of Marlborough's tangata whenua iwi, Appendix 5 is an interim record and not all cultural values have been recorded. The existing water quality in the majority of our waterbodies is sufficient to support these values, but it is important that no degradation of water quality is allowed to occur. In addition to the national values addressed through Objectives 15.1b to 15.1e, the uses and values identified in (a) to (f) of the Objective 15.1a are the most susceptible to 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 (f), 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 waterbodies. Positive trends have already been shown since the MRPS became operative, with a reduction in the number of point source discharges to water 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 the MEP.

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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 worsen this situation.

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

Te Hauora o te Wai/the health and mauri of water

[RPS, R]

Objective 15.1b – Maintain or enhance freshwater water quality so that the annual median nitrate concentration is ≤ 1 milligram nitrate-nitrogen per litre and the annual 95th percentile concentration is ≤ 1.5 milligrams nitrate-nitrogen per litre, as measured by the Council's State of the Environment monitoring programme.

The NPSFM identifies ecosystem health as a compulsory national value of freshwater. In addition to this, water is a taonga to Marlborough's tangata whenua iwi. Under the NPSFM for rivers, nitrate concentrations are determined to be an attribute of ecosystem health. The majority of Marlborough's rivers that are monitored have an attribute state of "A" for nitrate and the community has a strong desire to maintain or enhance Marlborough's existing water quality. This is also the aim of Objective A2 of the NPSFM. For this reason, and having considered the matters set out in (f) of Policy CA2 of the NPSFM, the objective is to maintain an attribute state of A for nitrate. Where water quality does not currently meet an attribute state of A, the objective is to enhance water quality to meet this state. The numeric attribute states for A are specified in Objective 15.1b. The freshwater units relevant to this objective are Water Resource Units detailed in Schedule 1 of Appendix 5.

The process set in Policy CA2 of the NPSFW has been used to formulate this objective.

[RPS, R]

Objective 15.1c – Maintain freshwater water quality so that the annual median ammonia concentration is ≤ 0.03 milligrams ammoniacal nitrogen per litre and the annual maximum concentration is ≤ 0.05 milligrams ammoniacal nitrogen per litre, as measured by the Council's State of the Environment monitoring programme.

The NPSFM identifies ecosystem health as a compulsory national value of freshwater. In addition to this, water is a taonga to Marlborough's tangata whenua iwi. Ammonia concentrations are determined to be an attribute of ecosystem health under the NPSFM for rivers. All of Marlborough's rivers that are monitored have an attribute state of "A" for ammonia. The community has a strong desire to maintain or enhance Marlborough's existing water quality and Objective A2 of the NPSFM requires this to occur. For this reason, and having considered the matters set out in (f) of Policy CA2 of the NPSFM, the objective is to maintain an attribute state of A for ammonia. The numeric attribute states for A are specified in Objective 15.1c. The freshwater units relevant to this objective are Water Resource Units detailed in Schedule 1 of Appendix 5.

The process set in Policy CA2 of the NPSFM has been used to formulate this objective.

This objective is interim pending full NPSFM 2020 implementation.

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Te Hauora o te Tangata/the health and mauri of the people

[RPS, R]

Objective 15.1d – Maintain or enhance freshwater water quality so that the annual median *E. coli* level is ≤260 per 100 ml, as measured by the Council's State of the Environment monitoring programme.

The NPSFM identifies human health for recreation as a national value of freshwater and secondary contact recreation as a compulsory national value of freshwater. Secondary contact recreation is activity that involves occasional immersion and some ingestion of water, such as boating or wading. The NPSFM has determined that *Escheria coli* (*E. coli*) bacteria are to be an attribute of the suitability of the water for contact recreation. The majority of Marlborough's rivers that are monitored have an attribute state of "A" for secondary contact recreation. The community has a strong desire to maintain or enhance Marlborough's existing water quality and Objective A2 of the NPSFM requires this to occur. For this reason, and having considered the matters set out in (f) of Policy CA2 of the NPSFM, the aim is to maintain an attribute state of A for secondary contact recreation. Where water quality does not currently meet an attribute state of A, the aim is to enhance water quality to meet this state. The numeric attribute states for A are specified in Objective 15.1d. The freshwater units relevant to this objective are water Resource Units detailed in Schedule 1 of Appendix 5.

The process set in Policy CA2 of the NPSFM has been used to formulate this objective.

This objective is interim pending full NPSFM 2020 implementation.

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[RPS, R]

Objective 15.1e – Maintain or enhance freshwater water quality in waterbodies valued for primary contact recreation so that the 95th percentile *E. coli* level is <540 per 100 ml, as measured by the Council's State of the Environment monitoring programme.

The NPSFM identifies human health for recreation as a national value of freshwater. *E. coli* bacteria are determined to be an attribute of the suitability of the water for contact recreation under the NPSFM. Some of Marlborough's rivers, or specific sites in those rivers, are valued by the community for swimming. (These values of Marlborough's rivers are identified in Appendix 5 of the MEP.) The majority of these rivers/sites have an attribute state of "B" for primary contact recreation. The community has a strong desire to maintain or enhance Marlborough's existing water quality and Objective A2 of the NPSFM requires this to occur. For this reason, and having considered the matters set out in (f) of Policy CA2 of the NPSFM, the aim is to maintain an attribute state of B for these rivers. Where water quality in the river does not currently meet an attribute state of B and it is reasonable to expect swimming to occur in the river, the aim is to enhance water quality to meet this state. The numeric attribute states for B are specified in Objective 15.1e.

The process set in Policy CA2 of the NPSFM has been used to formulate this objective.

This objective is interim pending full NPSFM 2020 implementation.

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All of the following policies collectively seek to achieve Objectives 15.1a to 15.1e.

Management purpose

[RPS, R, C]

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; contact recreation (primary and secondary) and food gathering/marine farming; where identified as having these values; and for cultural and aesthetic purposes;**
- (b) **Rivers and lakes: protection of aquatic ecosystems; contact recreation (primary and secondary); where identified as having these values; community water supply (where water is already taken for this purpose); and for cultural and aesthetic purposes;**
- (c) **Groundwater: drinking water supply and processing of food for human consumption; and**
- (d) **Natural wetlands: protection of wetland ecosystems and the potential for food gathering.**

And in all cases further decline in water quality is prevented so that the health and wellbeing of water bodies and freshwater ecosystems is maintained.

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 discharges on water quality can be assessed in the preparation of permitted activity rules and the consideration of resource consent applications. Natural wetlands has the same meaning as "natural inland wetlands" in the NPSFM 2020, except that it also includes natural wetlands in the coastal marine area. This policy assists to give effect to Policy A1, CA2 and D1 of the NPSFM and Policy 8 of the New Zealand Coastal Policy Statement 2010 (NZCPS).

[RPS, R, C]

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, including the values of Marlborough's tangata whenua iwi, supported by the waterbody 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 through the MEP to all water and coastal waters. The classifications will, as a minimum, reflect the management purposes set out in Policy 15.1.1. However, particular waterbodies and coastal waters may support other freshwater values and it is appropriate for these values to be reflected in any classification. This means that many waterbodies and coastal waters will have multiple classifications. For those waterbodies or coastal water experiencing degraded water quality, the classifications will reflect the freshwater values that are to be restored.

Schedule 1 of Appendix 5 provides a list of Water Resource Units which cover the entire Marlborough region. The Water Resource Units are also detailed in the Water Resource Units Map in Volume 4. For each Water Resource Unit, specific values have been attributed, and water quality classifications have been applied, that reflect the purpose of 15.1.1.

Water quality standards apply to each classification.

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The classifications and corresponding standards listed in Schedule 2 of Appendix 5 are 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).

Not all freshwater values and water quality classifications associated with water Resource Units within Marlborough have been identified, particularly cultural values. The values and classifications listed in Appendix 5 are an interim list pending full NPS FM 2020 implementation.

This policy assists to give effect to Policy A1 and D1 of the NPSFM.

Policy 15.1.3 – [Deleted]

Methods of implementation

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

[RPS, R, C]

15.M.1 Identification of uses and values supported by freshwater, 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 MEP.

[R, C]

15.M.2 Water quality classifications

To establish water quality classifications for all waterbodies in the MEP that reflect the uses and values supported by the waterbody or that could be supported by the waterbody 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 [Deleted]

[RPS, R]

15.M.4 Monitoring plan

Building on the Council's existing State of the Environment monitoring programme, develop a plan that sets out the methods for monitoring progress toward the achievement of Objectives 15.1a to 15.1e.

Enhancing water quality

[RPS, R]

Policy 15.1.4 – Take action to enhance water quality in the following rivers to meet Objective 15.1b within ten years of the Marlborough Environment Plan becoming operative:

- (a) Mill Creek; and
- (b) Murphys Creek.

The rivers identified in this policy do not currently meet Objective 15.1b. In other words, the water quality in these rivers does not meet an attribute state of A for nitrate under the NPSFM. Water quality in these rivers can be enhanced, although it could take a considerable period of time before a significant improvement is achieved. The policy sets a timeframe of ten years from the date this policy becomes operative to achieve the enhancement.

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A catchment-specific plan for enhancing water quality will be developed for each river. The methods to be used to enhance water quality will be determined following an assessment of the cause and effect of excessive nitrate levels. 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 the identified rivers.

The potential role of cumulative contaminant limits in enhancing water quality will be considered through the process of developing the plan.

This policy gives effect to Policy A2 of the NPSFM.

[RPS, R]

Policy 15.1.5 – Take action to enhance water quality in the following rivers to meet Objective 15.1d within ten years of the Marlborough Environment Plan becoming operative:

- (a) **Are Are Creek;**
- (b) **Cullens Creek;**
- (c) **Doctors Creek; and**
- (d) **Kaituna River.**

The rivers identified in this policy do not currently meet Objective 15.1d. In other words, the water quality in those rivers does not meet an attribute state of A for secondary contact recreation under the NPSFM. Water quality in these rivers can be enhanced, although it could take a considerable period of time before a significant improvement is achieved. The policy sets a timeframe of ten years from the date this policy becomes operative to achieve the enhancement.

A catchment-specific plan for enhancing water quality will be developed for each river. The methods to be used to enhance water quality will be determined following an assessment of the cause and effect of excessive *E.coli* levels. 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 the identified rivers.

The potential role of cumulative contaminant limits in enhancing water quality will be considered through the process of developing the plan.

This policy gives effect to Policy A2 of the NPSFM.

[RPS, R]

Policy 15.1.6 – Take action to enhance water quality in the following rivers to meet Objective 15.1e within ten years of the Marlborough Environment Plan becoming operative:

- (a) **Taylor River;**
- (b) **Rai River; and**
- (c) **Waihopai River.**

The rivers identified in this policy do not currently meet Objective 15.1e. In other words, the water quality does not meet an attribute state of B for primary contact recreation. Water quality in these rivers can be enhanced, although it could take a considerable period of time before a significant improvement is achieved. The policy sets a timeframe of ten years from the date this policy becomes operative to achieve the enhancement.

A catchment-specific plan for enhancing water quality will be developed for each river. The methods to be used to enhance water quality will be determined following an assessment of the cause and effect of excessive faecal bacteria levels. 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 the identified rivers.

The potential role of cumulative contaminant limits in enhancing water quality will be considered through the process of developing the plan.

This policy gives effect to Policy A2 of the NPSFM.

[RPS, R]

Policy 15.1.7 – Take action to enhance water quality in the waterbodies identified in Tables 15.1 and 15.2 so that water quality is suitable for the purposes specified in Policy 15.1.1 within ten years of the Marlborough Environment Plan becoming operative.

The waterbodies with water quality known not to meet the management purposes established by Policy 15.1.1 are identified in Table 15.1. Point source and non-point source discharges have degraded water quality to the extent that it is no longer sufficient to support freshwater values. Another group of waterbodies, identified in Table 15.2, has fair water quality, but there is a risk that it may become insufficient to meet the management purposes established by Policy 15.1.1 if the water quality is further degraded. Water quality in these waterbodies can be enhanced, although it could take a considerable period of time before a significant improvement is achieved.

A catchment-specific plan for enhancing water quality will be developed for each river catchment included in Tables 15.1 and 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 plan. 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 rivers identified in Tables 15.1 and 15.2.

The quality of water in some waterbodies and coastal waters is unknown as they have not been monitored. If the results of future monitoring establish that there are other waterbodies with degraded water quality, then these can be added to Table 15.1 through a change to the MEP.

This policy gives effect to Policy A2 of the NPSFM.

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Methods of implementation

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

[RPS, R]

15.M.5 Catchment Enhancement Plans

Catchment Enhancement Plans will be developed as a priority for rivers that have degraded water quality, as identified in Policies 15.1.4 to 15.1.7. 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 Plans. It may take time to establish the nature of the cause, which may delay the completion of the Plans. Other methods may 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

[RPS, R, C]

Policy 15.1.8 – Encourage the discharge of contaminants to land in preference to water.

The combination of favourable soil properties in many parts of Marlborough, along with Marlborough's dry climate, make the discharge of contaminants to land a viable option. Discharging contaminants to land avoids the equivalent discharge to freshwater 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, it is also acknowledged that there can be limitations to the capacity of soils to

treat and/or absorb contaminants. Encouraging discharges to land where these limits would be exceeded may give rise to unsustainable outcomes. Chapter 16 - Waste contains provisions for managing the adverse effects of discharging contaminants to land.

[R, C]

Policy 15.1.9 – Enable point source discharge of contaminants or water to water where the discharge will not result:

- (ia) in the degradation of ecosystem health in combination with all other discharges;
- (a) in any of the following adverse effects beyond the zone of reasonable mixing:
 - (i) the production of conspicuous oil or grease films, scums, 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 freshwater unsuitable for consumption by farm animals;
 - (iv) any significant adverse effect on the growth, reproduction or movement of aquatic life; or
- (b) in the flooding of or damage to another person's property.

The purpose of this policy is to set criteria for authorising discharges to surface waterbodies or coastal waters as permitted activities. In the 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 15.1.14 for the criteria for a zone of reasonable mixing.)

[RPS, R, C]

Policy 15.1.10 – Require any applicant applying for a discharge permit that proposes the discharge of contaminants to water to consider all potential land and water receiving environments and adopt the best practicable option, having regard to:

- (a) the nature of the contaminants;
- (b) the relative sensitivity of the receiving environments;
- (c) the effects on the environment of each option when compared with the other options;
- (ci) the financial implications of each option when compared to 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 15.1.8, it is important that any applicant applying for a discharge permit to water has thoroughly considered all potential land or water receiving environments. 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 management purposes set out in Policy 15.1.1.

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This policy assists to give effect to Policy A3 of the NPSFM and Policy 23 of the NZCPS.

[RPS, R, C]

Policy 15.1.11 – When considering any discharge permit application for the discharge of contaminants to water, regard will be had to:

- (a) the potential adverse effects of the discharge on spiritual and cultural values of Marlborough’s tangata whenua iwi;
- (b) the extent to which contaminants present in the discharge have been removed or reduced through treatment;
- (c) whether the discharge is of a temporary or short term nature and/or whether the discharge is associated with necessary maintenance or replacement work for any regionally significant infrastructure; and
- (d) the potential for adverse effects on ecosystem health including in combination with other consented discharges.

In order to protect the mauri of nga wai, it is essential to have regard to the potential adverse effects on the spiritual and cultural values of Marlborough’s tangata whenua iwi when considering any discharge permit application for the discharge of contaminants to water. The relevant iwi will be those who are kaitiaki for the receiving waters or those who have a statutory acknowledgement with respect to the waterbody. 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 necessary to avoid, remedy or mitigate any adverse effects. The position of iwi would preferably be established by the resource consent applicant in consultation 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.

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 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.

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 a 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 result 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.

This policy assists to give effect to Policy D1 of the NPSFM and Policy 23 of the NZCPS.

[RPS, R, C]

Policy 15.1.12 – After considering Policies 15.1.10 and 15.1.11, approve discharge permit applications to discharge contaminants into water where:

- (a) the discharge complies with the water quality classification standards and the objectives in 15.1(b)-(e) set for the waterbody, after reasonable mixing; or
- (b) in the case of non-compliance with the water quality classification standards set for the waterbody or the objectives in 15.1(b)-(e):

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- (i) **the applicant is a consent holder for an existing discharge and can demonstrate a reduction in the concentration of contaminants and a commitment to a staged approach for achieving the water quality classification standards and the objectives in 15.1(b)-(e) within a period of no longer than five years from the date the consent is granted; and**
- (ii) **the degree of non-compliance will not give rise to significant adverse effects.**

If discharge to water is the best practicable option, compliance with the specified water quality classification standards will ensure that the quality of water is sufficient to sustain the natural and human values currently supported by the waterbody or coastal waters. Any point source discharge requiring a 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 result in the approval of the discharge permit application; these circumstances are identified in (b) of the policy.

In some circumstances, it will be necessary to take into account other influences on water quality upstream of the discharge point in applying this policy. For example, the receiving waters may already be in a state in which means the water quality standards are not being met. This is reflected in the ability to take into account the degree of additional adverse effect created by the discharge in (b)(ii).

There is an expectation that the effects of the discharge on the quality of the receiving waters will be monitored to establish compliance with the water quality classifications standards over the life of the discharge permit. 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.

Compliance with water quality standards in the context of wetlands applies to natural wetlands only. Natural wetlands has the same meaning as "natural inland wetlands" in the NPSFM 2020, except that it also includes natural wetlands in the coastal marine area.

This policy assists to give effect to Policy A3 of the NPSFM and Policy 23 of the NZCPS. Policies 15.1.14 and 15.1.15 provide guidance on determining the size of an appropriate mixing zone.

[R]

Policy 15.1.13 – Where it is proposed to discharge contaminants to water upstream of any registered community drinking water supply providing for more than 501 people, have regard to the effect of the proposed discharge on the quality of water within the river and its subsequent suitability for human consumption after existing treatment.

The NES for Sources of Human Drinking Water introduced requirements for the consideration of discharge permit applications upstream of abstraction points for community water supplies registered in accordance with section 55 of the Water Services Act 2021. Regulations 7 and 8 of the NES specify circumstances when resource consent must not be granted. This policy complements the regulations by ensuring regard is had to the effect of the proposed discharge on the suitability of the water for human consumption following existing treatment. Regulations 7 and 8 of the NES must still be used to determine whether any application should be granted.

[R, C]

Policy 15.1.14 – Except as provided for by Policy 15.1.15, 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 equal to seven times the width of the river (allowing for low flows); or**

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- (ii) 200 metres downstream.
- (b) For rivers subject to tidal influence at the point of discharge:
 - (i) as for rivers in 15.1.14(a), plus a distance upstream equal to half of that allowed downstream.
- (c) For lakes and wetlands (with open standing water):
 - (i) within a radius of 100 metres of the discharge point for lakes, and 10 metres of the discharge point for wetlands.
- (d) 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 (among other things) tides and currents. Instead, the policy provides criteria for determining the size of an appropriate mixing zone.

This policy assists to give effect to Policy 23 of the NZCPS.

[R, C]

Policy 15.1.15 – 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 marine farming activity in freshwater or coastal waters.

Some waterbodies 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 waterbody or coastal waters. The policy identifies those circumstances where a zone of non-compliance should not be established.

This policy assists to give effect to Policy 23 of the NZCPS.

[R, C]

Policy 15.1.16 – The duration of any new discharge permit will be either:

- (a) Up to a maximum of 15 years for discharges into waterbodies or coastal waters where the discharge will comply with water quality classification standards for the waterbody or coastal waters; or
- (b) up to ten years for discharges into rivers identified in Policies 15.1.4, 15.1.5, 15.1.6 or 15.1.7 (where the water quality is to be enhanced) and the discharge will comply with water quality classification standards for the waterbody or coastal waters; or
- (c) no more than five years where the existing discharge will not comply with water quality classification standards for the waterbody or coastal waters.

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 waterbody or coastal waters.

In the case of regionally significant infrastructure, (a), (b) and (c) do not apply and a duration will take into account:

- (d) the nature of the discharge;
- (e) the potential effects of the discharge on water quality;
- (f) the current state of water quality in the receiving waters and the risk of water quality degradation from the discharge;
- (g) the contribution of contaminants to any waterbody or coastal waters that do not meet quality classification standards for that contaminant; and
- (h) the long term nature of the infrastructure.

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 waterbody 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, while short term consents will occur where water quality classification standards cannot be met. In the latter case, Policy 15.1.12 identifies that consent holders only have five years to achieve compliance with water quality classification standards, hence the requirement in (c) above. The policy also recognises that many types of regionally significant infrastructure operate for many decades and can have contaminant profiles that do not contribute to the cause of a waterbody not meeting water quality classification standards.

This policy gives effect to Policy A3 of the NPSFM.

[R, C]

Policy 15.1.17 – 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 in the conditions of consent 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 NPSFM.

[R, C]

Policy 15.1.18 – Avoid the discharge of untreated human sewage to waterbodies or from land based activities to 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 as well as the 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 waterbodies or from land based activities to coastal waters through prohibited activity rules.

Note that the discharge of human sewage from ships into coastal waters is regulated by the Resource Management (Marine Pollution) Regulations 1998. Policy 15.1.20 provides further

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direction on the way in which Council is implementing the regulations to manage the risk to water quality posed by discharges of human sewage from ships.

This policy gives effect to Policy 23 of the NZCPS.

[C]

Policy 15.1.19 – Progressively work toward eliminating the discharge of human sewage from the land based activities to coastal waters in the Marlborough Sounds, with the exception of regionally significant infrastructure.

The Marlborough Sounds are one of the District's significant natural resources and as a predominantly coastal environment, the quality of coastal waters is paramount to their ongoing use and enjoyment 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 of the fact that the discharges from Council operated, reticulated community sewerage systems act to maintain public health standards in the towns 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 new resource consents are sought for these existing discharges and if discharge to coastal water is the best practicable option, the effects of the discharge will still be considered in accordance with Policy 15.1.12.

The Resource Management (Marine Pollution) Regulations 1998 control the discharge of human sewage from ships into coastal waters. Policy 15.1.20 provides further direction on the discharge of untreated human sewage from ships in the Marlborough Sounds.

This policy assists to give effect to Policy 23 of the NZCPS.

[C]

Policy 15.1.20 – Except for Grade A or Grade B treated sewage, control the discharge of human sewage from ships.

The discharge of human sewage from ships is regulated by the Resource Management (Marine Pollution) Regulations 1998. The Council has utilised the ability in the regulations to increase the setbacks that apply to such discharges from MHWS and marine farms for non Grade A and Grade B treated sewage. This is particularly important in the Marlborough Sounds, a popular destination for local and visiting boats. The combination of the enclosed nature of the Marlborough Sounds and the prevalence of marine farming throughout this area mean that there are limited opportunities to discharge sewage to coastal waters in a manner that complies with the Regulations. In addition, in many locations there is limited movement of water that would provide for mixing of the contaminants with the receiving waters.

The control implemented via this policy is an interim measure as part of a progressive response to eliminate the discharge of untreated human sewage into the coastal waters of the Marlborough Sounds. Other measures are likely to be proposed for discharges from ships to give effect to Policy 23(2)(a) of the NZCPS. The policy will inevitably be made more restrictive in time as collection facilities are developed throughout the Marlborough Sounds. The interim measure also provides recreational boat owners time to prepare for more stringent controls.

The continuation of discharging human sewage into such valued and significant enclosed waters has been questioned by the community. The Regulations do allow for more stringent rules than those prescribed in the Regulations to be included in a regional coastal plan in certain circumstances. The policy signals that the Council is to utilise this ability to manage the adverse effects potentially created by the discharge of untreated human sewage from ships.

This policy assists to give effect to Policy 23 of the NZCPS.

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[R, C, D]

Policy 15.1.21 – Manage the adverse effects of urban stormwater discharges on water quality by applying management to activities within each urban stormwater catchment in order to reduce the potential for stormwater to become contaminated at source.

The Council does not regulate individual inputs into the Council's reticulated stormwater infrastructure, as these inputs do not constitute a discharge under the RMA. (The Council can exercise its enforcement powers when contaminants - as opposed to stormwater - are discharged into the stormwater infrastructure and subsequently contaminate a waterbody.) However, the discharge provisions of the MEP do apply where the collected stormwater is discharged into receiving waters. The volume of stormwater generated during rain events and the rate of discharge make treating stormwater prior to discharge difficult. For this reason, the policy emphasises that the Council will focus on managing the potential for stormwater to become contaminated at source before it enters the reticulated system.

Stormwater quality at the point of discharge reflects land use activities and land management practices within the catchment serviced by the stormwater infrastructure. A catchment approach to managing stormwater quality enables a focussed investigation of potential sources of contaminants within the catchment to be undertaken. The benefit is that the most appropriate and cost effective solutions can then be identified and implemented. It is expected that these actions will be set out and detailed in Stormwater Management Area Plans. The Plans will ensure that there is a co-ordinated and integrated approach to managing stormwater quality within each urban stormwater catchment and any adverse effects on receiving waters. Over time, the policy will reduce the contamination of stormwater from industrial, commercial and residential activities and assist to improve water quality in urban areas.

This policy assists to give effect to Policy 23 of the NZCPS.

[R, C]

Policy 15.1.22 – Recognise that the Taylor, Ōpaoa and Waitohi rivers, Waikawa Stream (and some of their tributaries) and 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 on an episodic basis experience reduced water quality to the extent that the management purposes in Policy 15.1.1 are not achieved.

The waterbodies listed in the policy have historically received stormwater from the towns of Blenheim, Havelock, Picton and Waikawa. Given the reliance of those towns on the stormwater systems, these waterbodies will continue to receive urban stormwater for the foreseeable future. Once collected, due to volume of run-off and peak flows there is limited ability to treat this stormwater to reduce the level of contamination. This means that the Taylor, Ōpaoa and Waitohi rivers, Waikawa Stream (and relevant tributaries) and coastal waters will experience reduced water quality during and after rainfall events. Although there may be community concern at this outcome, it is important to recognise the role that these waterbodies play in enabling ongoing residential, commercial and industrial activity in each of the towns. Without the ability to discharge stormwater to these waterbodies, land utilised for these activities would be subject to surface flooding during rainfall events. However, efforts should still be made to reduce the level of stormwater contamination over time. Policy 15.1.21 identifies other initiatives that will be utilised in this regard.

[R]

Policy 15.1.23 – Avoid the discharge of animal effluent from farming to fresh and coastal waterbodies to the extent necessary to meet the management purposes established by Policy 15.1.1 by preventing the direct discharge of collected animal effluent to water.

Animal effluent from farming can be discharged directly into waterbodies through the point source discharge of collected animal effluent (e.g. farm dairy effluent). At the date of notification of the MEP, there were no authorised discharges of animal effluent into water. This policy seeks to avoid the significant risk posed to water quality by discharges of collected animal effluent. This will be implemented through a prohibited activity rule.

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[R, C]

Policy 15.1.24 – Establish a response capability to deal with spills of hazardous substances that enter waterbodies or coastal waters.

In the 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 subsequently clean-up the site. Several agencies are potentially involved in any spill event, including the Council, Fire and Emergency New Zealand, Police and (in the coastal marine area) Maritime Safety. An 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 therefore that the actions of each agency in responding to a spill are co-ordinated. This is especially the case considering the risks posed by the volume of goods transported to and through Marlborough on the Cook Strait ferries.

Methods of implementation

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

[R, C]

15.M.6 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 waterbody.

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 freshwater values supported by the waterbody 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 MEP to be applied. Prohibitions apply to the discharge of human sewage from ships in the Marlborough Sounds, the discharge of untreated human sewage and the discharge of collected animal effluent from dairy sheds.

In the case of discharge of human sewage from ships, a prohibition will be placed on the activity six years from the date of notification of the MEP. It will not apply to the discharge of Grade A or Grade B treated sewage.

Apply regional rules to control the use of land in close proximity to rivers for stock grazing. This includes rules to control intensively-farmed stock from entering onto or crossing the bed of a lake or flowing river. A prohibition will be placed on this activity as from 9 June 2022.

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

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

[D]

15.M.8 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.

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[R, C, D]

15.M.9 Stormwater Management Area Plans

The Council will investigate the nature, extent and sources of contamination of urban stormwater discharges and consider possible means of reducing contaminant levels. This will be achieved through the development and implementation of Stormwater Management Area Plans. The preparation of these Plans will include consultation with Marlborough's tangata whenua iwi. These Plans will be developed progressively and implemented for each urban stormwater catchment. It is expected that Stormwater Management Area Plans will form the basis of discharge permit applications to continue discharging stormwater into water.

[C]

15.M.10 Community facilities

Facilitate the provision of further pump-out facilities for ships in the Marlborough Sounds in a manner that ensures that pump-out facilities are accessible for boaties throughout the Sounds.

[R, C]

15.M.11 Liaison

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

Liaise with Port Marlborough New Zealand Limited, 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 collecting coastal water quality information to establish a representative coastal water quality monitoring network, including the sharing of information.

[C]

15.M.12 Information

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

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

[R, C]

15.M.13 Cultural impact assessment

A cultural impact assessment is an 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 and can form part of the Assessment of Environmental Effects submitted as part of any discharge permit application. Given Policy 15.1.11, it would be preferable if applicants approached the iwi traditionally associated with the receiving waters (as recognised via statutory acknowledgement) for a cultural impact assessment as part of pre-lodgement consultation.

[R, C]

15.M.14 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.

[R, C]

15.M.15 Spill Response Contingency Plan

A Spill Response Contingency Plan will be developed collaboratively by the Council, Fire and Emergency New Zealand, Police and (in the coastal marine area) 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.

Management of non-point source discharges

[RPS, R, C]

Policy 15.1.25 – Recognise that non-regulatory methods may be an effective method of managing the adverse effects of non-point source discharges.

Non-point source discharges are diffuse in nature as 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 such as sediment, nutrients, toxicants and pathogens from land. It is also possible for some of these contaminants to leach into underlying groundwater through infiltration. As such, any non-point source discharge (effectively contaminated run-off) 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 the MEP will be to work with landowners to improve land use practices to minimise the potential for run-off.

[R, C]

Policy 15.1.26 – Encourage, in close association with rural industry groups, the use of sustainable rural land management practices.

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 gain a better understanding of the impact of particular rural land use activities on water quality.

[R, C]

Policy 15.1.27 – Promote the retirement and planting of riparian margins in rural areas to intercept contaminated run-off, especially where water quality is degraded or at risk of degradation.

Riparian margins are those areas of land adjoining surface waterbodies 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 run-off to reach these waterbodies 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 contaminants present in run-off (e.g. nutrients and sediment). Tall riparian vegetation further improves water quality by reducing water temperature and algal growth. For these reasons, the Council will actively promote the retirement and planting of riparian margins as a sustainable rural land management practice. Note that Policy 8.2.11 of Chapter 8 - Indigenous Biodiversity promotes the planting of indigenous vegetation in riparian margins and other areas.

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The positive effects of retiring and planting riparian margins will be greatest where the quality of water in rivers that flow through rural environments is degraded or at risk of degradation. These rivers are identified in Tables 15.1 and 15.2.

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 carefully to ensure that the effectiveness of the drainage network is not adversely affected.

[R, C]

Policy 15.1.27A – Where a resource consent is required for an activity that may generate contaminant run-off, include resource consent conditions specifying measures to avoid or minimise run-off and the performance requirements of those measures.

A range of measures can be taken to avoid or minimise contaminated run-off, including minimising contaminants at-source, riparian planting, vegetation retention and regeneration, riparian retirement, critical source area management, and detention and treatment. Where a resource consent is required, this gives the opportunity to secure the implementation and performance of contaminant reduction measures through details included in the application and secured through resource consent conditions. Conditions on resource consents can be imposed where mitigation measures are not included in the application or are considered to be insufficient.

[D]

Policy 15.1.28 – To require where appropriate (as part of the subdivision consent process) the creation of esplanade reserves and esplanade strips 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. This policy signals that where conservation values are known to exist in surface waterbodies and those values are at risk due to degraded water quality or the potential for reduced water quality, then land may be taken or set aside upon subdivision. The resulting esplanade reserve or esplanade strip would act as a buffer between the waterbody and adjoining land use, reducing the potential for land use to adversely affect water quality.

Tables 15.1 and 15.2 identify rivers that could benefit from the establishment of either an esplanade reserve or esplanade strip for water quality reasons. There may also be other circumstances where the application of the policy is relevant.

[R, C]

Policy 15.1.29 – To control land disturbance activities in order to:

- (a) avoid where practicable, or otherwise mitigate the effects of increased sediment run-off to fresh waterbodies or coastal water; and
- (b) avoid the potential for direct entry of contaminants into groundwater.

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. These controls will include the way in which the activity can be undertaken and the proximity of the activity to waterbodies 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.

At times, natural sources of sediment can affect water colour and clarity. The reference to "where practicable" in (a) of the policy takes this occurrence into account. For example, the relevant standards for permitted activity land disturbance activities set an acceptable level of change relative to the existing state.

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Where excavations intercept groundwater at the time of the works (or thereafter), there is a possibility of aquifer contamination. 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 it is commissioned.

This policy assists to give effect to Policy 22 of the NZCPS.

[R]

Policy 15.1.30 – Protect groundwater sources of community drinking water by identifying land overlying groundwater vulnerable to leachate contamination. Manage, with respect to this land:

- (a) change in land use to activities that 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;
- (c) point source discharges of contaminants to land; and
- (d) excavation.

Groundwater is the source of drinking water for most of Marlborough's towns and small settlements. This policy establishes controls on activities that could result in groundwater becoming unsafe for consumption as a result of the leaching of contaminants into groundwater. 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 above an aquifer considered to be high risk has been mapped in the MEP as a Groundwater Protection Area. Within 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 may be required to avoid the effect in the future. The discharge of contaminants and excavation within groundwater protection areas will also be regulated to avoid any adverse effect on groundwater quality. Collectively, the controls implemented through this policy will assist to protect the health and wellbeing of communities that rely on groundwater as a source of drinking water.

[R, C]

Policy 15.1.31 – Recognise that disturbing the seabed or the wet bed of a lake or river results in a discharge of sediment that has the potential to cause adverse effects on water quality.

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. 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.

[R, C]

Policy 15.1.32 – In considering any resource consent application for the disturbance of a river or lake bed, or the seabed, or land in close proximity to any waterbody or coastal water, regard will be had to:

- (a) whether the disturbance is likely to result in non-compliance with the clarity standards set for the waterbody or coastal water, after reasonable mixing;
- (b) in the event of possible non-compliance with the clarity standards set for the waterbody or coastal water, after reasonable mixing:
 - (i) the purpose for undertaking the disturbance and any positive effects accruing from the disturbance;

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- (ii) the scale, duration and frequency of the disturbance;
- (iii) the extent to which the bed disturbance is necessary and adverse water quality effects caused by the disturbance are mitigated; and
- (iv) for freshwater, the potential effects of increased turbidity on the values of the waterbody set out in Schedule 1 of Appendix 5 of the Marlborough Environment Plan or on the natural character values of the coastal environment in relation to water quality as set out in Appendix 2 of the Marlborough Environment Plan.

The construction, placement, maintenance and repair of structures and the installation and maintenance of water intakes, gravel extraction, dredging, flood and coastal protection works activities can all result in disturbance of river, lake and seabed. As well as bed disturbance, activities along the margins of waterbodies can generate sediment that has the potential to enter the water and adversely affect water quality. Water quality standards for turbidity and clarity established throughout this chapter for waterbodies 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, it is important that all of the circumstances of the disturbance be considered. Matters under (b) of the policy provide guidance on these circumstances, allowing the relative significance of any adverse effects on water quality to be assessed when determining land use consent or coastal permit applications. Application of the policy could be influenced by background levels of suspended sediment in the waterbody.

This policy assists to give effect to Policy 22 of the NZCPS.

[R]

Policy 15.1.33 – Require land use consent for the establishment and operation of any new dairy farm.

The policy identifies that land use consent will be required to convert rural land for dairy farming. This will allow the Council to evaluate the extent to which the proposed farm operation is to be set up to avoid or mitigate adverse effects of the operation on ground or surface water resources in the surrounding environment, including significant wetlands. This evaluation is assisted by Policy 15.1.34 below. This policy helps to implement the Council's Progressive Implementation Plan developed to give effect to the NPSFM.

[R]

Policy 15.1.34 – Approve land use consent applications for new dairy farms where the proposed farming would have no more than minor adverse effects on ground or surface water quality or on significant wetlands. A land use consent application must identify the risks of new dairy farming and provide measures to address those risks, including as a minimum:

- (a) measures (including fences, bridges or culverts) to prevent stock entering onto or passing across the bed of any river or lake, significant wetland, or any drain or the Drainage Channel Network;
- (b) provision of an appropriate, non-grazed buffer along the margins of any river, lake, significant wetland, drain or the Drainage Channel Network, to intercept the run-off of contaminants from grazed pasture, with reference to the values of fresh waterbodies as identified in Appendix 5;
- (c) provision for storage of dairy effluent, with all storage ponds sufficiently sized to enable deferral of application to land until soil conditions are such that surface run-off and/or drainage do not occur;
- (d) demonstration of appropriate separation distances between effluent storage ponds and any surface waterbodies to ensure contamination of water does not occur (including during flood events); and

- (e) **an industry approved nutrient management plan that includes nutrient inputs from dairy effluent, animal discharges, fertiliser and any other nutrient input and has regard to relevant Plan standards.**

This policy defines the test for securing land use consent for a new dairy farm operation. It also describes the measures that the applicant can utilise to manage the adverse effects of the operation on ground or surface water quality, and significant wetlands. The measures set out in (a) to (e) are the minimum expected to be utilised by the applicant. The way in which these measures are to be implemented should be set out in the application.

A resource consent cannot be granted under Regulation 24 of the Resource Management (Freshwater) Regulations 2020 unless there is no increase in contaminant loads or concentrations in freshwater or other receiving environments (including the coastal marine area), compared with the concentrations at the close of 2 September 2020.

[R]

Policy 15.1.35 - Avoid stock disturbance of river beds, lakes and Significant Wetlands and the associated discharge of animal effluent to those water bodies to the extent necessary to meet the management purposes established by Policy 15.1.1 by avoiding the access of intensively farmed stock to rivers, lakes and Significant Wetlands.

Stock tend to access rivers, lakes and wetlands when grazing riparian margins. In such circumstances, it is likely that there will be a discharge of animal effluent to water and the river or lake bed or wetland will be physically disturbed. The resulting increase in bacteria and turbidity in the receiving waters have the potential to reduce water quality.

The adverse effects of casual access on water quality are dependent on a number of factors, including the type and density of stock. Intensively farmed stock create a significant risk of adverse effects on water quality. For this reason, the policy seeks to avoid stock access where stock is farmed intensively.

Due to the practical difficulties in some situations of fencing stock out of waterbodies, 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. The permitted activity rules will require compliance with any relevant water quality standard set for the affected waterbody.

The Resource Management (Stock Exclusion) Regulations 2020 require dairy cattle, pigs, dairy support cattle, intensively grazed beef cattle and deer, and beef cattle and deer on low slopes to be excluded from lakes and wide rivers, and also require stock to be excluded from any natural wetland that supports a population of threatened species or any natural wetland 0.05 hectares in area or greater.

Methods of implementation

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

[R]

15.M.15 Groundwater Protection Areas

Identify land in the vicinity of community drinking water supply bores as Groundwater Protection Areas. The spatial extent of the area will be determined by the vulnerability of the underlying groundwater to leachate contamination.

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[D]

15.M.16 District rules

Use permitted activity rules to enable the planting of appropriate riparian vegetation on land adjoining rivers, lakes, significant wetlands and coastal waters.

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

Apply district rules within Groundwater Protection Areas to ensure that land uses with the potential to result in leachate discharges require resource consent. This will ensure that the potential adverse effects of the proposed activity on groundwater quality for the community water supply are appropriately assessed.

[R, C]

15.M.17 Regional rules

Apply regional rules to discharges to land and excavation activity within Groundwater Protection Areas. In most cases, resource consent will be required to discharge or excavate, in order to ensure that the potential adverse effects of the proposed activity on groundwater quality for the community water supply are appropriately assessed.

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

Apply regional rules to control disturbance to the seabed, river and lake beds.

[R, C]

15.M.18 Liaison

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.

Rural land uses upstream of or adjacent to rivers that have degraded water quality and rural land uses in groundwater protection areas are a priority for sustainable land management programmes.

Work with landowners, Marlborough's tangata whenua iwi and community groups to establish and enhance riparian margins and improve water quality.

Work with resource users, community groups, agencies and Marlborough's tangata whenua iwi to develop riverbed activity guidelines where potential conflict between river users is identified.

[R]

15.M.19 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.

[R]

15.M.20 Monitoring

Monitor groundwater within groundwater protection areas to establish the effect of existing land use activities on groundwater quality.

[R, C, D]

15.M.21 Information

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

- to generally promote awareness of water quality issues; and
- to encourage the adoption of appropriate land management practices to minimise any adverse effects of non-point source discharges. This includes promoting industry Codes of Practice and industry guidelines and encouraging the adoption of Agreed Good Management Practices.

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 waterbodies/coastal waters and the adjoining rural land uses. Information on options for formally protecting retired riparian margins can also be provided.

[R]

15.M.22 Research

Where appropriate, support research into the cumulative effects of land use (including land use intensification) on water quality and improved land management practices.

Undertake investigations to gain 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.

[R]

15.M.23 Advocate

Advocate to the manufacturers and suppliers of agrichemicals and fertilisers to strengthen 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.

[R, C]

15.M.24 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.

[R]

15.M.25 Management plans for dairy farming

Water Quality Management Plans can be used as a means of demonstrating on an ongoing basis that any adverse effects on water quality resulting from dairy farming will be avoided, remedied or sufficiently mitigated. They provide the ability to consider all farm management practices with the potential to adversely affect surface or groundwater quality or wetlands and manage these risks in an integrated way. This also enables the dairy farmer to progressively plan farm upgrades based on priority or in the case of new farms, at the time of establishment. Water Quality Management Plans can be used to support applications for land use consent to convert the use of land to dairying.

Nutrient Management Plans will be required as a means to demonstrate how nutrient inputs associated with dairy farming are to be managed to ensure any adverse effects on water quality will be avoided, remedied or mitigated. Nutrient Management Plans should be written documents that incorporate a nutrient budget developed by a recognised professional using OVERSEER® or similar. This should describe how the major plant nutrients (nitrogen, phosphorus, sulphur and

potassium) and any other nutrients of importance to specialist crops will be managed (including all sources of nutrient - for example, discharges from farm dairy effluent systems, animal discharges and/or atmospheric nitrogen fixation.

Water Quality Management Plans and/or Nutrient Management Plans prepared and provided in accordance with this method may be contained within or form part of Farm Environment Plans prepared as a farm specific tool to identify on-farm environment risks and the methods and/or programme for managing those risks.

Air

In general, Marlborough enjoys good air quality, due to the District's windy climate and low, dispersed population. However, air quality in some locations has been reduced due to human activities resulting in the discharge of contaminants into the air. These localised air quality problems impact on the amenity and health of the community.

National Environmental Standards for Air Quality (NESAQ) came into effect in 2004. These comprise of a range of ambient air quality standards applying to carbon monoxide, nitrogen dioxide, ozone, sulphur dioxide and particulate matter (PM₁₀). The air pollutant of most concern in Marlborough is particulate matter. Particles found in the air we breathe vary greatly in size and the greatest health hazard comes from the smallest particles (those less than 10 microns in diameter) as they are easily inhaled into our lungs). The NESAQ sets a threshold concentration for PM₁₀ of 50 microns. By 2016, in designated areas (called airsheds) the threshold concentration will only be allowed to be exceeded once in any 12 month period. From 2016, more than one such breach will mean that the Council is non-compliant with the NESAQ. There is currently one airshed in Marlborough, encompassing the urban area of Blenheim.

Other occasional air quality issues in Marlborough include smoke, which can affect the amenity values enjoyed on neighbouring or nearby properties, and spraydrift, resulting in complaints to the Council. Spraydrift occurs when the aerosols from the application of agrichemicals move beyond the boundary of the property on which the chemicals are used. Given the hazardous nature of agrichemicals, spraydrift creates a risk to human health on neighbouring properties and those in close proximity to the property.

The Council is responsible for the management of the discharge of contaminants into air. Unless expressly allowed by a rule in a regional plan or by resource consent, the discharge of contaminants into air is prohibited by the RMA. However, many activities result (either directly or indirectly) in the discharge of contaminants into air. One of the roles of the MEP is to identify which air discharges are appropriate, the circumstances in which they are appropriate, and which air discharges are not appropriate.

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 more generally to 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 in 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 this PM₁₀ is solid fuel burning, mainly from domestic home heating, which contributes up to

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92 percent of the anthropogenic PM₁₀ measured. Other sources include backyard burning of waste and discharges associated with industrial activities.

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

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

Picton and Renwick have also been monitored. This indicated Renwick would comply with the NESAQ, however Picton's status was less certain. One breach of the PM₁₀ standard was measured, which would comply with the NESAQ, but because monitoring was only done on every third day, and the monitoring site was not necessarily 'worst case', it is possible that Picton may breach the NESAQ on other days or at other locations. Blenheim is the only separately defined airshed within Marlborough.

[RPS, R]

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

Monitoring has shown that Blenheim's air quality during the winter months needs to improve 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 to improve 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.

[RPS, R]

Policy 15.2.1 – Prohibit the use of open fires and the outdoor burning of organic and inorganic waste 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 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 NESAQ (open fires using wood, 12g/kg; open fires using coal, 21g/kg; modern enclosed burner 3g/kg). Based on these emissions, the policy recognises that open fires are not an appropriate means of home heating if winter air quality is to be enhanced. As the use of open fires is not decreasing at significant rates in Blenheim, 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 NESAQ also prohibits the use of domestic open fires in new homes.

Outdoor burning of organic and inorganic waste in Blenheim is also another source of PM₁₀ that should be avoided. Outdoor burning is controlled through the Forest and Rural Fires Act 1977 and a system of fire permits. Due to 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 NESAQ is higher. The health risks posed by outdoor burning increases if the waste contains wood treated with preservatives, painted or stained wood, 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. It is therefore appropriate to prohibit the outdoor burning of waste in Blenheim with immediate effect.

[RPS, R]

Policy 15.2.2 – Phase out small scale solid fuel burning appliances older than 15 years of age that do not comply with the efficiency and emissions standards in the Plan within the Blenheim airshed.

This policy recognises that older solid fuel burning appliances have higher particulate emissions than more modern burners that comply with the standards in NESAQ and this Plan. Modelling has shown that the NESAQ will be achieved by 2017 if, in conjunction with the prohibition on open fires and outdoor burning of rubbish, older style enclosed burning appliances are replaced at the end of their 15 year life. This policy seeks to ensure that this phase out occurs by encouraging people to either replace existing solid fuel burning appliances with modern and compliant solid fuel burning appliances or install other clean forms of heating (e.g. electric). The Council retains records of the installation of fuel burning appliances and the priority for action will be those solid fuel burning appliances installed prior to 2001 (i.e. 15 years prior to 2016).

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

[RPS, R]

Policy 15.2.3 – Require all new multi-fuel burning appliances to comply with the National Environmental Standards for Air Quality design standard for wood burning appliances.

The NESAQ contains regulations for wood burning appliances, including Regulation 23 which sets a design standard requiring wood burning appliances to discharge less than 1.5 grams of particles for each kilogram of dry wood burnt. The Council is aware that multi-fuel burning appliances exist that can burn wood as well as other fuels. Currently there are no standards in the NESAQ that apply to multi-fuel burning appliances. However, to ensure that new residential developments and the replacement of existing burning appliances do not reduce air quality in the Blenheim airshed any further, it is appropriate to require any new multi-fuel burning appliances to comply with the NESAQ design standard on an ongoing basis.

[R]

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 and 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 as 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 NESAQ and applies to discharges requiring discharge permit only. Regulation 17 also provides for the 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.

[R]

15.M.26 Regional rules

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

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 MEP.

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 NESAQ compliant wood burning appliances and other appropriate solid fuel burning appliances. These include new multi-fuel burning appliances, which although not covered by the NESAQ, comply with the design standard for wood burning appliances and for existing burning appliances that are less than 15 years in age.

[R]

15.M.27 Monitoring

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

[R]

15.M.28 Incentives

Council will consider methods to assist landowners in replacing open fires and older style enclosed burning appliances and to make energy efficient improvements. This may require approaches to central government and the Energy Efficiency and Conservation Authority for financial assistance with offering incentives.

[D]

15.M.29 Recycling services and facilities

Use of facilities that can be used to dispose of organic and inorganic waste that cannot be burnt.

[R]

15.M.30 Information

Through community engagement and public education material, 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*
- *better burner operation, including the need to use dry firewood, fuels whose use is prohibited, flue cleaning, and ways to operate the fire to reduce PM₁₀ emissions and improve heating efficiency.*

The Council will work collaboratively with commercial firewood merchants to develop a scheme to promote and certify dry wood (less than 25% moisture content) to provide confidence to people buying firewood that it is dry at the time of purchase or is capable of being dry by wintertime use.

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 contaminants in Marlborough are smoke and spraydrift. These have the potential to adversely affect the ability of people living in close proximity to the source to enjoy their own property. Smoke and spraydrift can also cause adverse health effects for residents or workers.

Smoke is most commonly created as a result of 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 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.

Agrichemicals that spread beyond the property boundary can cause adverse environmental effects. Spraydrift has the potential to cause adverse health effects and damage in non-target areas, especially where the property adjoins residential areas or spaces frequented by the public (e.g. schools and reserves). Other adverse effects include damage and contamination of crops, waterbodies and sensitive flora and fauna outside the target area.

A variety of small and medium sized industrial and commercial processes are located in Marlborough, including spray painting, abrasive blasting, food and beverage manufacture and processing timber mills that have the potential to have localised impacts on air quality. Disposal of organic waste arising from human and farming activities and industries processing agricultural products can also affect air quality. These impacts must be weighed against the need for these activities to occur. It is recognised that in many cases there are few alternatives.

In some areas, “reverse sensitivity” issues may be a problem. Reverse sensitivity situations arise where lawfully established activities that have addressed offsite effects as far as practicable and reasonable are sought to be constrained with new and often incompatible land uses locating nearby, including residential development.

Also, the background receiving environment and expectation of amenity values will differ in different areas. For example, primary production activities can generate effects such as noise, odour and dust, so that even with appropriate management of effects, the amenity values experienced by residents living in the rural environment will be different to that within a residential zone.

[R]

Objective 15.3 – Reduce the potential for adverse effects including health effects, from the discharge of contaminants into air.

People should be able to enjoy their own property without the nuisance or potential health or other effects caused by smoke, 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, spraydrift and other discharges to air are usually created in association with particular uses of land. The following provisions aim to allow the continued use and development of natural and physical resources while ensuring that any adverse effects on air quality are avoided, remedied or sufficiently mitigated.

[R]

Policy 15.3.1 – Prohibit the discharge of contaminants into air resulting from the combustion of materials that 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, resulting in objectionable or offensive smoke and odour and associated health and nuisance problems. Those materials inappropriate for burning are listed in the MEP zone rules. Regulations 4 to 10 of the NESAQ also apply.

[R]

Policy 15.3.2 – Manage discharges to air so that ambient air quality is consistent with the National Environmental Standard for Air Quality.

The NESAQ sets ambient air quality standards that apply to both airsheds and open air. The standards include threshold concentrations for carbon monoxide, nitrogen dioxide, ozone, PM₁₀ and sulphur dioxide, and specify the number of exceedances allowed (if any) within a certain timeframe. The Ambient Air Quality Guidelines (Ministry for the Environment) cover these and additional contaminants, and, unlike the NESAQ, address ecosystem health as well as human health. The Standards and Guidelines are not intended as assessment criteria for individual discharges, but those applying for discharge permits will need to show whether their activity would be likely to cause a breach of the NESAQ (or the ambient air quality guidelines where relevant). This policy will be implemented through the assessment of discharge permit applications, the imposition of resource consent conditions and the establishment of permitted activity rule standards and Method 15.M.38.

[R]

Policy 15.3.3 – Control emissions from large scale fuel burning devices outside 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.

Many of the large scale fuel burning devices in Marlborough are located in rural and industrial environments outside the Blenheim airshed. These devices will inevitably discharge contaminants, especially those devices burning solid fuel, and the policy seeks to prevent the stated adverse effects beyond the site. Good practice can minimise emissions so that neighbours do not experience significant nuisance or other adverse 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 the discharge originates from. The policy uses the standards provided by Section 17 of the RMA.

[R]

Policy 15.3.4 – Seek to avoid spraydrift beyond the boundary of the property on which the agrichemical is used by applying management 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 achieve (a) by minimising any such spray drift.

The use of agrichemicals is an important management tool, especially in rural environments where they contribute to the control of animal and plant pests and help to minimise crop diseases. Use of 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 Protection Authority. The Authority can also impose specific controls on the application of agrichemicals to ensure safe use. The policy signals that the Council's role in controlling the application of agrichemicals is to ensure that there are no off-site adverse effects. The application

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of agrichemicals onto crops or unwanted vegetation typically involves spraying the agrichemical into air and subsequent settlement of the droplets onto the vegetation. The Plan regulates the application (involving discharge) of agrichemicals as a discharge to land as that is the intended receiving environment. However, the potential for spraydrift occurs as a result of inappropriate application methods and practices (e.g. applying agrichemicals in windy conditions). The property boundary is therefore established as the point to which management is applied, 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. The Council will rely on agrichemical users applying best practice and exercising reasonable care to avoid spraydrift beyond their property boundary.

[R]

Policy 15.3.5 – Manage discharges of contaminants to air not specifically provided for in Policies 15.2.1 to 15.2.3 or 15.3.1 to 15.3.4 by:

- (a) allowing, as permitted activities, discharges of contaminants into air from activities that have no more than minor adverse effects on the environment;
- (b) avoiding or mitigating adverse effects of localised ground level concentrations of contaminants, including cumulative effects on:
 - (i) human health; and
 - (ii) amenity values; and
- (c) avoiding or mitigating adverse effects on any other values and other receiving environments.

A wide range of contaminants are discharged to air as a result of day-to-day activities, especially from industrial or trade premises and processes. Provided they are properly managed, many of these discharges can occur without the risk of significant adverse effects on the environment. Permitted activity rules can be used to enable these discharges, subject to appropriate 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 15.3.4 will require resource consent. Ground level concentration of contaminants will be used to assess the actual or potential effects of the discharge and its impact on human health and amenity values. The Council can also have regard to any other impact of the discharge on the wider environment, including on water quality and biodiversity.

[R]

Policy 15.3.6 – Promote measures to avoid or mitigate the effects of the discharge of contaminants to air at their source.

Consistent with the waste management provisions of the MEP, it is appropriate to minimise contaminants present in discharges to air at their 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. For example, waste may be able to be re-used, recycled or disposed of through alternative methods, rather than being burned. Where the discharge of contaminants to air cannot be avoided (e.g. in an industrial or trade process for which there are no alternatives), then the Council will encourage resource users to minimise the concentration of contaminants in the discharge through good management (whether a discharge permit is required or not).

[R]

Policy 15.3.7 – Having adequate information about the state of Marlborough's 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

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By consent order dated 31 January 2023

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. The information gathered may inform the next review of the MEP or even require a plan change if the adverse effects are significant enough.

Methods of implementation

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

[R]

15.M.31 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.

Apply a prohibition to the discharge of contaminants to air by the combustion of materials that result in significant adverse effects on the environment.

[R]

15.M.32 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 the NESAQ. Monitoring of other air contaminants, including those specified in the NESAQ, may occur from time to time.

[R]

15.M.33 Information

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

Consider including information on LIMs advising prospective purchasers of rural land of the possible presence of activities that may affect amenity values (reverse sensitivity) through effects such as smoke and spraydrift.

[R]

15.M.34 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.

[R]

15.M.35 Advocate

Communicate to manufacturers and suppliers of agrichemicals and application machinery the role they have in education and providing information on the use of agrichemicals, with a view to minimising the likelihood and potential effects of spraydrift beyond property boundaries.

[R]

15.M.36 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.

Work with industry groups and individuals undertaking discharges to air to develop and implement measures to reduce contaminant concentrations in discharges to air.

[R]

15.M.37 Ambient Air Quality Guidelines

Where relevant and appropriate, use the Ambient Air Quality Guidelines to assess the adverse effects of proposed discharges to air.

Soil

Soil is the upper most layer of material that covers much of the earth's land surface. It consists of different elements including minerals, rock fragments, dead and decaying organic matter and living organisms. Soil is comprised of more than the top 20 centimetres of earth cultivated by the farmer or gardener before sowing crops or pasture; it includes soil horizons (layers) that extend down to the mineral rock material (parent material) from which the soil has developed.

Soils evolve over time through the additions and losses of materials. Such changes can be influenced by climate, living organisms, topography and original rock forms. Soils are therefore highly variable in their composition, appearance and importantly, use.

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 most 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 we deliberately or inadvertently release into the environment. In doing so, soil helps to maintain community health standards and protect water resources from contamination. Soil also acts to absorb, channel and store water, a particularly important function in Marlborough's dry climate.

Though it is easy to take for granted, we depend on our soil resource, particularly its quality. Soil quality refers to the biological, chemical and physical state of the soil and the maintenance of soil ecosystems. A range of factors 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 currently performed by soil resources. 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.

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. 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 occur progressively over a long period of time. It is difficult to establish the extent and severity of soil degradation in Marlborough as limited soil quality monitoring has been carried out. There are

considered to be some major problems relating to soil quality and what monitoring that has been done indicates that in some cases primary production has resulted in soil compaction and elevated levels of nutrients/trace elements.

Soil compaction and changes to the nutrient status of soils 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. In turn, these changes adversely affect pasture and crop growth and lead to increased water and nutrient run-off. Increased water run-off can have significant drainage implications, especially if existing drainage infrastructure is unable to manage the increased volume and rate of run-off.

Soil organic matter is central to many functions in soils. It is an important source of nutrients, contributes to a stable soil structure, helps retain and store water and nutrients added to soil, and 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 structure degradation, all of which can potentially negatively affect crop productivity and 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 become unable to sustain high levels of production unless those nutrients are replaced. Soil depletion refers to the reduction of soil nutrients 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 it 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 run-off into adjoining rivers and wetlands or leach into underlying groundwater. The water quality effects of excessive fertiliser application are addressed through the water quality provisions earlier in this chapter.

Other elements may also be added to the soil, especially through the application of liquid wastes and in some cases the irrigation of water. For example, sodium can be a significant component of wastewater. 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 hydraulic conductivity) and reduction in plant growth.

As land use change occurs and our understanding of the soil resource improves, there is the potential for other soil quality issues to emerge. For example, a trend toward re-contouring of land as viticulture has expanded onto rolling or hill country may change soil in those areas. However, the effects of re-contouring are currently largely unknown.

The discharge of contaminants such as plant, animal and human wastes into or onto the soil 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 any 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 (unless eroded by wind) and eventually enters a river or the sea. Once in these waterbodies, 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.

[RPS, R]

Objective 15.4 – Maintain and, where necessary, 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, it is important that soil quality is maintained and enhanced.

[RPS, R]

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

Despite the importance of the soil resource, to date only limited soil quality monitoring has been undertaken. This makes it difficult to establish the impact of various land use activities and practices on soil quality. The Council will therefore undertake greater 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 investigating 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 to minimise impact on the quality of Marlborough’s soil resource.

The Council will continue to monitor 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 themselves are best placed to monitor the condition of the soil resource on their property. The Council will encourage rural resource users to undertake 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.

[R]

Policy 15.4.2 – Encourage land management practices that:

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

This 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. Soil compaction may be necessary in some circumstances, such as providing a stable foundation for a road or building. The Council will work with rural industry groups to ensure that land management practices address the potential for unnecessary soil compaction, accelerated soil erosion, retention of organic matter and increased soil sodium concentrations and nutrient levels. Subsequently, some existing land uses may continue while elsewhere adjustments and changes to land management practices may be required. The Council may also undertake joint investigations with rural industry groups to gain a better understanding of the impact of particular rural land use activities and land management practices on the soil resource. There are a range of codes of practice or guidelines that set out good management practices for rural land uses.

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[R]

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

Land disturbance is any activity that involves excavation, filling, cultivation or vegetation clearance. Each of these activities has the potential to expose bare soil to the elements. This policy signals that these activities are to be controlled in the rural, coastal and urban environments. The controls will be used to ensure that the potential for accelerated soil erosion and water quality degradation created as a result of land disturbance is minimised. Where there is certainty that activities undertaken in a particular way will protect the soil and water resource, control can take the form of enabling rules. However, where there is uncertainty about the effect of the land disturbance activity, a discretionary activity rule will be used.

The use of these rules reflects the importance of the soil resource to the social and economic wellbeing of Marlborough, particularly for retaining primary production options for rural resource users. The policy also recognises the potential for run-off contaminated with sediment to adversely affect water quality and seeks to manage the effects of land disturbance on water quality in an integrated manner. The use of the controls detailed here will ensure that soil and water resources are conserved for current 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 consideration of the appropriateness of the disturbance, given the amount and kind of soil contamination. The rules of 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.

[R]

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

- (a) the physical characteristics of the site, including soil type, slope and climate;
- (b) any industry standards, guidelines and codes of practice 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 waterbodies;
- (d) the proximity of the land disturbance to any fresh waterbody or coastal water and the potential for eroded soil to reach the waterbody or coastal waters;
- (e) where it is possible for eroded soil to reach any fresh waterbody or coastal water:
 - (i) the objectives and policies of this chapter under Issues 15A to 15C; and
 - (ii) the likely degree of compliance with water quality standards set for the waterbody;
- (f) any potential adverse effects on community water supplies; and
- (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. These matters will ensure that any adverse effects of land disturbance on soil and water resources are avoided, remedied or mitigated.

For clarity, the policy also applies to activities identified as discretionary by the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011.

[R]

Policy 15.4.5 – Control of animal pests will be a significant focus in maintaining and enhancing soil quality, particularly in the hill and high country of the Wairau, Waihopai, Taylor, Awatere, Ure/Waima and Waiau-toa/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 southern Marlborough. Their browsing reduces vegetation cover and scratching/borrowing exposes the soil to the elements. Through the Regional Pest Management Plan, the Council and landowners will manage those pest animals that have the potential to accelerate soil erosion, where these pests fulfil the requirements of the Biosecurity Act 1993.

[R]

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

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

Loess soil consists of accumulated wind-blown silt prone to tunnel gully erosion as it is held together weakly and tends to disperse or "melt away" if it becomes excessively wet. There are significant areas of loess soil in the rural environment of south Marlborough and a long history exists of managing these soils to reduce the extent of tunnel gully erosion, particularly on the Wither Hills Conservation Reserve.

This reserve comprises 1,100 hectares of hill country that extends the length of the southern boundary of the Blenheim urban area. Eroded material from the reserve 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. It is also unique due to its proximity to Blenheim and its considerable recreational and amenity value. This policy signals that soil conservation management will continue for the foreseeable future.

The policy recognises that the discharge of liquid waste onto loess soil has the potential to increase the risk of tunnel gully erosion by adding to the hydraulic loading on the soil. For this reason, the discharge of liquid waste onto or into loess soils will require a discharge permit so that this risk can be appropriately managed through the resource consent process. Other provisions in Chapter 16 - Waste guide the consideration of any discharge permit application.

Excavation of loess soil on slopes is also controlled under the policy. Such excavation can create preferential flow paths and concentrate run-off and drainage. If not well managed that run-off and drainage has the potential to cause tunnel gully erosion.

Policy 15.4.7 – In determining resource consent applications for plantation forestry afforestation and plantation forestry replanting within 200m of the coastal marine area within the Coastal Environment Zone, avoid any significant increase in sedimentation in the coastal marine area, and have regard to the following matters when controlling effects of sedimentation:

- (a) The susceptibility of the land to erosion and slope failure, taking into account slope, geology, soils and proximity to water bodies;
- (b) Harvesting methods to reduce sedimentation;
- (c) Measures within the harvested area to reduce the area of bare soil exposed;

- (d) The width of setbacks from rivers and the coastal marine area;
- (e) Relevant industry standards and guidelines;
- (f) The measures to reduce sedimentation;
- (g) The need to manage effects of sedimentation on indigenous biodiversity in accordance with Policy 8.3.1.

Plantation forestry activities undertaken near the coastal marine area in the Marlborough Sounds may cause sedimentation, which in turn can have adverse effects on marine habitats/indigenous biodiversity. This policy manages afforestation and replanting within 200m of the coastal marine area (measured as a horizontal distance), because soils in this area in the Marlborough Sounds are generally clay-rich, highly weathered and therefore could be prone to erosion. The policy provides guidance on measures that can be applied at the time of planting to control the potential for, and effects of, sedimentation. This may include consideration of the potential effects of harvesting at the end of the rotation to ensure planting or replanting is undertaken in appropriate locations and in appropriate ways. While various measures can be used to reduce the transfer of fine sediment into coastal waters, afforestation or replanting may not be appropriate in some locations because it could result in a significant increase in sedimentation in the coastal marine area and/or would be contrary to Policy 8.3.1. This policy assists in giving effect to Policies 11 and 22 of the NZCPS.

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Methods of implementation

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

[R]

15.M.38 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, to avoid adverse effects on the soil resource and adjacent waterbodies. This will include the use of setbacks to create a buffer between land disturbance activities and waterbodies. Where the standards are exceeded, resource consent will be required before the land disturbance can be undertaken.

Where appropriate, use regional rules to enable pest management activity for soil conservation outcomes.

Apply regional rules to manage the risk of tunnel gully erosion by requiring a discharge permit for the discharge of liquid contaminants onto or into loess soil.

[R]

15.M.39 Liaison

To work with 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 extend to other rural activities if the need arises.

Encouraging group members to use nutrient budgets as a way of understanding the nutrient cycling, inputs and losses from their activities will be a priority.

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

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

[R]

15.M.40 Information

Provide information to landowners and resource users to promote recognition of soil quality issues, encourage the adoption of practices and techniques for avoiding unnecessary damage to soil structure and maintain soil nutrients at appropriate levels. Information could be prioritised so that information is provided to those 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.

[R]

15.M.41 Identification

Soils that are most susceptible to erosion or increase the vulnerability of groundwater or surface water to the adverse effects of discharges to land will be identified on the planning maps in Volume 4 as Soil Sensitive Areas. A Soil Sensitive Area is an area of soil where certain activities may have a high risk of environmental harm, human health risks or property damage. Three different soils are categorised within the Soil Sensitive Area Overlay as follows:

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

The Council will undertake further investigations of vulnerable soils to refine the accuracy of the Soil Sensitive Areas Overlay mapping by taking into account published literature on Marlborough soils and the risks of different activities on specific soil types, site specific soil information and LiDAR mapping.

[R]

15.M.42 Advocate

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

[R]

15.M.43 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.

[R]

15.M.44 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 that influence the nature of any lease to use the land for farming purposes through lease conditions.

[R]

15.M.45 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.

[R]

15.M.46 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 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. Monitoring the effects of forest harvest activities in the coastal environment of the Marlborough Sounds is a priority. A further priority is monitoring the effects of recontouring of land in South Marlborough, particularly on loess soils.

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 hazardous substances 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 they pose to the environment, hazardous substances are usually carefully stored, transported and used in a manner consistent with manufacturer directions. However, there is a risk that inappropriate use, storage, transportation or disposal of hazardous substances can result in them being released into the surrounding environment. That environment is usually (at least initially) the surrounding soils.

In a limited number of instances, soil contamination has already occurred due to the historic use or disposal of hazardous substances. 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 and therefore it is important to manage the risk of adverse effects on the soil resource arising from past inappropriate use, storage, transportation and disposal of hazardous substances. The National

Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 (NESCS) 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 NESCS and focus on the provision of information to allow the NESCS to operate efficiently and effectively.

[RPS, R]

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 can therefore restrict the use of soils for productive and residential purposes both now and into the future. This objective recognises the significant constraint to resource use that soil contamination creates and seeks to retain the potential for current and future generations to use the land.

[RPS, R]

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

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

Exceptions to this policy include:

- (a) the use and storage of hazardous substances in groundwater protection areas and on river beds, due to the vulnerability of the aquifers and rivers to contamination; and
- (b) the discharge of hazardous waste to land or water.

In these circumstances, the Council will use its powers under the RMA to impose controls more stringent than the HSNO regulations.

[RPS, R]

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 land and properties. It is important that current or potential owners are made aware of any known or potential soil contamination. To assist this process, the Council maintains a "Listed Land Use Register" (the Register), which records known or potentially contaminated sites. Such awareness by the Council does not extend to all historic land use activities and management practices due to the passage of time and incomplete records. Other potentially contaminated sites will be added to the Register as the Council becomes aware of them.

The Ministry for the Environment's 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 Register is made available to the public so that individuals can make informed decisions about the ongoing use of the land or any proposed new use of the land. The Register can also be used as a basis for applying Clause 6(2) of the NESCS. Any site included on the Register can be considered a "piece of land" for the purpose of the NESCS.

[RPS, R]

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

A majority of the sites on the Register are identified as potentially contaminated and are included on the basis of HAIL. However, the risk of human health effects or adverse effects on the environment is unclear. For this reason, the Council will progressively screen those sites on the Register to determine the likely risk that the contaminants pose to human health and/or the surrounding environment. The degree of risk and the reasons will be recorded on the Register.

[RPS, R]

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

Although the NESCS manages the human health effects of contaminated sites in the event of changes in land use, the current policy also recognises that the Council can assist in managing sites that create a high risk to human health or the environment in other circumstances. The Council will progressively investigate sites on the Listed Land Use Register screened as high risk to substantiate (to the extent that it can) the nature and degree of contamination and the potential for adverse effects. The information collected will be shared with landowners and resource users so that there is a clear understanding of the risks to human health and the surrounding environment.

In circumstances where the NESCS does not apply, the Council will take a lead role in co-ordinating any site management, including landowner liaison. This role is important given the potential costs associated with management for landowners and given that the contamination is often a legacy of historic activities undertaken by previous landowners.

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

- (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 may be required.

[R]

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

In the 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 subsequently clean-up the site. Several agencies are potentially involved in any spill event, including the Council, Fire and Emergency New Zealand, Police, the New Zealand Transport Agency, Marlborough Roads and (in the coastal marine area) Maritime Safety. An 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

therefore that the actions of each agency in responding to a spill are co-ordinated. This is especially the case considering the risks posed by the volume of goods transported to and through Marlborough on the state highway network.

Methods of implementation

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

[RPS, R]

15.M.47 Listed Land Use 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. All sites on the Register have been classified as unverified HAIL, verified HAIL, acceptable, contaminated or remediated/managed. Additions will be made to the Register over time as further information is received as a result of Council and private investigations.

The Register assists with the implementation of the NESCS, especially in terms of establishing whether land subject to land use change is a "piece of land" to which the NESCS applies (in terms of Clause 5(7) of the NESCS). 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 NESCS applies).

[RPS, R]

15.M.48 Information

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

The Council will make available the HAIL List on the Council website to assist resource users in establishing the potential for historic contamination of site soils. Other Ministry for the Environment publications relevant to the implementation of the NESCS will also be available via the Council website.

[R]

15.M.49 Investigations

The Council will screen sites on the Listed Land Use Register (the Register) to determine the risk to community health and the surrounding environment. High risk sites will then be investigated further. Given the number of sites on the Register, this assessment work will occur progressively over time.

Any detailed 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.

[RPS, R]

15.M.50 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.

[R]

15.M.51 Spill Response Contingency Plan

A Spill Response Contingency Plan will be developed collaboratively by the Council, Fire and Emergency New Zealand, Police, Marlborough Roads and the New Zealand Transport Agency. 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 MEP. Unless otherwise specified, the anticipated environmental results are ten year targets. A series of indicators that will used to monitor the effectiveness of the water quality provisions for each anticipated environmental result.

Commented [43]: WITHDRAWN
Te Atiawa o Te Waka-a-Maui Trust
ENV-2020-CHC-43
By memorandum dated 20 July 2021

Appeal Version

Anticipated environmental result	Monitoring effectiveness
<p>15.AER.1</p> <p>Water quality in Marlborough's rivers, lakes and wetlands is suitable to support and sustain swimming, fishing, aquatic ecosystems and customary harvesting.</p>	<p>The quality of water in all surface waterbodies routinely monitored is classified as good, very good or excellent.</p> <p>The annual median nitrate concentration in each Freshwater Management Unit is <1 milligram nitrate-nitrogen per litre and the annual 95th percentile concentration is <1.5 milligrams nitrate-nitrogen per litre.</p> <p>The annual median ammonia concentration in each Freshwater Management Unit is <0.03 milligrams ammoniacal nitrogen per litre and the annual maximum concentration is <0.05 milligrams ammoniacal nitrogen per litre.</p> <p>The annual median <i>E. coli</i> level in each Freshwater Management Unit is <260 per 100 ml.</p> <p>The 95th percentile <i>E. coli</i> level in waterbodies valued for primary contact recreation is <540 per 100 ml.</p> <p>All freshwater 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>The annual median values for nitrate in the Wairau Aquifer and in groundwater upstream of the Waihopai River confluence do not exceed 7.2 parts per million.</p> <p>Water quality which was degraded is enhanced so that the waterbodies can support freshwater values. Increase in the number of catchment enhancement plans developed and implemented for waterbodies deemed degraded.</p> <p>The number of point source discharges directly to freshwater, other than stormwater discharges, do not increase.</p> <p>No discharges into water that breach water quality standards set in the MEP.</p> <p>Stormwater Management Area Plans are developed and implemented for all stormwater catchments that discharge into waterbodies and coastal waters with degraded water quality.</p> <p>The number of complaints about unlawful discharges of contaminants to water or discharges to land in circumstances where contaminants may reach water.</p>

Commented [44]: RESOLVED:
 Nelson-Marlborough Fish and Game Council
 ENV-2020-CHC-35
 By consent order dated 2 November 2023

Anticipated environmental result	Monitoring effectiveness
<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>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>With the exception of regionally significant infrastructure, there are no discharges of human sewage from land-based activities into the coastal waters of the Marlborough Sounds in the areas identified in the MEP where such discharges are a prohibited activity</p> <p>The number of point source discharges directly to coastal water, other than stormwater discharges, do not increase.</p> <p>No discharges into water that breach water quality standards set in the MEP.</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 (Revised 2008) for each aquifer routinely monitored:</p> <ul style="list-style-type: none"> • nitrate • <i>E. coli</i> <p>No discharges into groundwater that breach water quality standards set in the MEP.</p> <p>Continue to participate in the national survey of pesticides in groundwater.</p>
<p>15.AER.4</p> <p>The quality of air is safe to breath.</p>	<p>Compliance with the ambient air quality standards of the NES.</p>
<p>15.AER.5</p> <p>Measured downward trends in the winter concentration of PM₁₀ in Blenheim.</p>	<p>The average winter concentration of PM₁₀ at Redwoodtown is 37 mg/m³ or less.</p> <p>Numbers of open fires and wood burning appliances being replaced with cleaner heating methods.</p> <p>The number of illegal fires.</p>

Anticipated environmental result	Monitoring effectiveness
<p>15.AER.6</p> <p>A reduction in the nuisance and health effects resulting from the discharge of contaminants to air.</p>	<p>A reduction in the number of complaints regarding smoke and spraydrift.</p>
<p>15.AER.7</p> <p>An increase in knowledge of the state of Marlborough's air quality.</p>	<p>Ambient monitoring of air pollutants throughout Marlborough, including:</p> <ul style="list-style-type: none"> • background concentrations of PM₁₀ in Picton are established; • records of agrichemical use allow the cumulative effects of agrichemical use to be established through modelling; and • a monitoring programme to determine the extent of agrichemical spraydrift is established.
<p>15.AER.8</p> <p>The biological, chemical and physical state Marlborough's soils enables safe and productive use of the soils on an ongoing basis.</p>	<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 Listed Land Use Register as at 9 June 2016 are screened for risk within 5 years of the MEP becoming operative.</p> <p>All high risk sites on the Listed Land Use Register identified as a result of screening are investigated.</p> <p>A spill response contingency plan is completed within one year of notification of the MEP.</p>

Anticipated environmental result	Monitoring effectiveness
<p>15.AER.9</p> <p>Increase in knowledge of Marlborough's soil resource.</p>	<p>A soil intactness report is produced every seven years or when new aerial photography is available across the District.</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> <p>A review of the accuracy of the Soil Sensitive Overlays is completed.</p>

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