8 Air

8.1 Scope and Background

This chapter addresses the management of air quality. Most people living in the Manawatu-Wanganui Region enjoy air that is clean and clear. The high standard of air quality exists not only because of the exposed nature of the Region's landscape to the prevailing winds but also because the Region is mainly rural, with a low population density compared to large urban centres, and a comparatively small number of industrial emissions.

Discharges to air can include odour, products of combustion, particulate matter, solvents, nitrogen oxides, and other gases. They can be complex in nature and have the potential to cause adverse effects on ambient air quality and human health. Certain discharges must be assessed individually and regulated appropriately.

Nuisances caused by odours, smoke and dust have dominated complaints received by the Regional Council for some time, making up more than half of the complaints received between 2000 and 2004. Some of these emissions can also be harmful to human, animal and plant health. Setting clear regional standards for ambient air quality, a 24-hour pollution hotline service and provision of public information are intended to help reduce these nuisance effects.

In 2004 14 national environmental standards relating to air quality were introduced. These national regulations place a requirement on Regional Councils to monitor air quality and to report ambient air quality exceedances to the public. The primary purpose of the national ambient air quality standards is to set minimum requirements for outdoor air quality in order to provide a guaranteed level of protection for the health of all New Zealanders. The Regional Council has established airsheds for Taihape and Taumarunui (see Schedule G) for the purpose of managing ambient air quality.

The ambient standards have been adopted in this Plan and the activity standards are reflected in the rules. However, in most cases they have minimal impacts on industrial emissions, which will largely continue to be regulated in the same manner as in the past. As degraded air quality can impact on human health, the Health Act 1956 also gives Territorial Authorities and health boards some responsibilities for dust, smoke and odour. Because of this overlap, some nuisance effects are not dealt with as efficiently as they could be. The Regional Council is committed to establishing protocols with Territorial Authorities and health boards to establish clear relationships for response.

8.1.1 Fine Particle (PM_{10}) Levels

The Ministry for the Environment released the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 to help reduce or manage fine particle levels (PM_{10}). PM_{10}* are of concern as they can be drawn into the lungs causing or aggravating health problems, particularly respiratory problems. The main cause of the PM_{10}* problem is emissions from domestic wood burners, although vehicle emissions, backyard burning and, to a lesser extent, industry, may also contribute.

As PM_{10}* can adversely affect people's health, the national standard has been included in the airshed monitoring programmes. Direct monitoring results for wintertime PM_{10}*, between 2001 and 2003 in 11 population centres in the Region

showed that Taumarunui and Taihape exceeded the PM_{10} standard and Ohakune, Feilding, Dannevirke and Pahiatua had the potential to exceed it. Wintertime PM_{10} levels in the other five centres – Wanganui, Palmerston North, Levin, Marton and Ashhurst – were under the PM_{10} standard. PM_{10} levels will continue to be monitored and programmes will be established to reduce them to the standards set in the regulation by 2013.

8.2 Significant Resource Management Issues

Issue 8-1: Ambient air quality

Aside from fine particle levels in some towns, as described in Issue 8-2, air quality in the Region is high. Nevertheless adverse effects on amenity values, human health, property or the environment can arise where:

(a) odour, dust, smoke or the discharge of contaminants is not adequately managed, or

(b) incompatible land uses are located near each other.

Issue 8-2: Fine particle (PM_{10}) levels

The use of home heating appliances is likely to be causing fine particle levels to exceed the national ambient air* quality standard for PM_{10}* in Taumarunui and Taihape, and to risk exceeding this standard in Ohakune, Feilding, Dannevirke and Pahiatua.

8.3 Objectives

Objective 8-1: Ambient air quality

A standard of ambient air* quality is maintained which is not detrimental to amenity values, human health, property or the life-supporting capacity of air and meets the national ambient air* quality standards.

Whāinga 8-1: Te kounga hau o-waho

Ka tiakina tētahi paenga kounga hau o-waho kāore he whakawhara ki ngā ūara taonga whakaahuru, te hauora tangata, ngā rawa, te oranga tonutanga rānei o te hau – ka eke hoki ki ngā paenga kounga hau o-waho o te motu.

Objective 8-2: Fine particle (PM_{10}) levels

(a) Fine particle levels in Taihape and Taumarunui are reduced to comply with the national ambient air* quality standard for PM_{10}* by 1 September 2013[1].

(b) Fine particle levels in other areas are managed in a manner which ensures ongoing compliance with the national ambient air* quality standard for PM_{10}*.

Whāinga 8-2: Ngā taumata ira meroiti (PM10)

(a) Hei mua mai i te 1 o Hepetema 2013 ka whakahekea iho ngā ira meroiti i Taihape me Taumarunui kia hāngai tonu ki te paenga kounga hau o-waho (PM_{10}) o te motu.

[1] The date of 1 September 2013 for achieving compliance with the national ambient air quality standard for PM_{10}, is set in the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004.

(b) Ka whakahaeretia ngā taunga ira meroiti i wāhi kē kia hua ai ka hāngai tonu ki te paenga kounga hau o-waho (PM_{10}) o te motu.

8.4 Policies

8.4.1 Ambient Air Quality

Policy 8-1: National Environmental Standards

The National Environmental Standards set out in Table 8.1 shall be adopted as ambient air* quality standards for the Manawatu-Wanganui Region and ambient air* quality shall be:

(a) maintained or enhanced in those areas which meet the standards

(b) enhanced in those airsheds which do not meet the standards

in accordance with the air quality categories and designated responses in Table 8.2.

Table 8.1 National Environmental Standards for Ambient Air Quality[2]

Contaminant	Threshold Concentration	Permissible Excess
Carbon monoxide	10 mg/m^3 (running 8-hour mean)	One 8-hour period in any 12-month period
Nitrogen dioxide	200 µg/m^3 (1-hour mean)	Nine 1-hour periods in any 12-month period
Ozone	150 µg/m^3 (1-hour mean)	Not to be exceeded at any time
Fine particles (PM_{10})	50 µg/m^3 (24-hour mean)	One 24-hour period in any 12-month period
Sulphur dioxide	350 µg/m^3 (1-hour mean)	Nine 1-hour periods in any 12-month period
	570 µg/m^3 (1-hour mean)	Not to be exceeded at any time

Table 8.2 Air Quality Categories and Designated Response

Category	Measured Value	Designated Response
Unacceptable	Greater than the threshold concentration in the National Environmental Standards for Air Quality, and exceeds the permissible excess in Table 8.1	• Enhance • Establish long-term strategy • Monitor • Publicly notify exceedances
Degraded	66% to 100% of the threshold concentration in the National Environmental Standards for Air Quality in Table 8.1, with one exceedance	• Maintain, and enhance where practicable • Establish awareness programmes • Monitor where practicable
Acceptable	Up to 66% of the threshold concentration in the National Environmental Standards for Air Quality in Table 8.1, with one exceedance	• Maintain

[2] Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004.

Policy 8-2: Regional standards for ambient air quality

In addition to the National Environmental Standards set out in Policy 8-1, ambient air* quality shall be managed in accordance with the regional standards set out in Table 8.3.

Table 8.3 Regional Standards for Ambient Air Quality

Contaminant	Regional Standard
Odour	• A discharge shall not cause any offensive or objectionable odour to the extent that causes an adverse effect beyond the property boundary or on public land.
Dust	• A discharge shall not cause any noxious, offensive or objectionable dust to the extent that causes an adverse effect beyond the property boundary or on public land.
Smoke and water vapour	• A discharge shall not result in any objectionable or offensive smoke or water vapour to the extent that causes an adverse effect beyond the property boundary or on public land.
Agrichemicals*	• A discharge shall not give rise to noxious or dangerous levels of agrichemicals* in locations that are likely to cause adverse effects on human health, non-target plants or animals, or property.
Gases and other airborne contaminants	• A discharge shall not result in noxious or dangerous levels of gases or other airborne contaminants beyond the property boundary or on public land.

Policy 8-3: Regulation of discharges to air

Discharges of contaminants into air will be generally allowed provided:

(a) the effects of the discharge are consistent with the approach set out in Policy 8-1 for implementing the National Environmental Standards for ambient air* quality, and

(b) the discharge is consistent with the regional standards for ambient air* quality set out in Policy 8-2.

Policy 8-4: Incompatible land uses

Problems arising from incompatible land uses establishing near each other shall be avoided, remedied or mitigated primarily through district plans and Territorial Authority consent decisions which:

(a) prevent the future establishment of potentially incompatible land-use activities near each other, or

(b) allow the establishment of potentially incompatible land use activities near each other provided no existing lawful activity, operated in a manner that adopts the best practicable option or which is otherwise environmentally sound, is restricted or compromised.

8.4.2 Fine Particle (PM_{10}) Levels

Policy 8-5: Fine particles in Taihape, Taumarunui and other unacceptable airsheds

(a) The Regional Council has established airsheds for Taihape and Taumarunui, as shown in Schedule G, on the basis that the fine particle (PM_{10}*) levels at these centres are unacceptable under Policy 8-1. The Regional Council will establish additional airsheds where monitoring shows fine particle levels that are unacceptable [3].

(b) Strategies to reduce fine particle (PM_{10}*) levels shall be established by 2008 for Taumarunui and Taihape, and after this date for any other airsheds with unacceptable fine particle levels. The strategies will primarily focus on existing wood burners and home heating appliances, and will identify ways of facilitating and supporting the changes necessary to comply with the fine particle standard.

(c) Applications to discharge fine particles (PM_{10}*) in the Taihape and Taumarunui airsheds, and in any other airsheds with unacceptable fine particle levels, shall be managed in accordance with regulations 17A and 17C of the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004.

Policy 8-6: Fine particles in Ohakune, Feilding, Dannevirke and Pahiatua and other degraded areas

The Regional Council will generally only grant resource consents to discharge fine particles (PM_{10}*) into the air in Ohakune, Feilding, Dannevirke and Pahiatua and other areas classified as degraded under Policy 8-1:

(a) if the applicant has shown that the discharge is the best practicable option, and the consent is for a duration of five years or less, or

(b) if the applicant can show that the discharge of PM_{10}* will be offset by a reduction in other sources of PM_{10}* within the same area.

8.5 Methods

Managing discharges to air is a mix of regulatory and non-regulatory approaches. Part II of this Plan contains regional rules relating to the activities described in this chapter. The key non-regulatory methods the Regional Council will pursue are outlined below.

Project Name	Improving Air Quality (PM_{10}) – Long-Term Strategies: Taumarunui and Taihape and other unacceptable airsheds
Project Description	Long-term strategies will be developed to improve air quality in Taumarunui and Taihape, and other unacceptable airsheds, to meet the national ambient air* quality standard for fine particles (PM_{10}*). The primary focus of the long term strategies will be to reduce PM_{10} emissions from home heating appliances (wood burners). Strategies will include:

[3] Under the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 airsheds must be established for areas failing to meet the National Environmental Standards for ambient air quality, for the purpose of monitoring and managing air quality.

Project Name	Improving Air Quality (PM_{10}) – Long-Term Strategies: Taumarunui and Taihape and other unacceptable airsheds
	• consultation with the community • participation in the Ministry for the Environment "home heating programme" • investigation of funding options for upgrading domestic heating appliances • emissions inventory assessments and education • monitoring of PM_{10} • encouraging practices that may reduce PM_{10} emissions, including reduction of backyard burning.
Who	Regional Council, Ministry for the Environment, Energy Efficiency Conservation Authority, health boards, Territorial Authorities, industry and the community.
Links to Policy	This project links to Policy 8-5.
Target	Taumarunui and Taihape airsheds will meet the national ambient air* quality standard for fine particles (PM_{10}) by September 2013.

Project Name	Improving Air Quality (PM_{10}) – Awareness Programme: Ohakune, Feilding, Dannevirke, Pahiatua and other degraded areas
Project Description	The aim of this project is to increase awareness of air quality issues in Ohakune, Feilding, Dannevirke and Pahiatua, and other degraded areas, and to encourage practices that may improve air quality such as: • more use of efficient wood burners • upgrading of wood burners to reduce PM_{10} emissions • reducing backyard burning • monitoring of PM_{10} where practicable.
Who	Regional Council, Ministry for the Environment, Energy Efficiency Conservation Authority, health boards, Territorial Authorities, industry and the community.
Links to Policy	This project links to Policy 8-6.
Target	PM_{10} levels in Ohakune, Feilding, Dannevirke and Pahiatua will be maintained or improved to ensure ongoing compliance with the national ambient air* quality standard for fine particles (PM_{10}*).

Project Name	Monitoring
Project Description	Air quality will be monitored for particulate matter (PM_{10}*) in Taumarunui and Taihape as per National Environmental Standards requirements and in Dannevirke, Ohakune, Feilding and Pahiatua as practicable. Air quality will also be monitored for particulate matter (PM_{10}*) in Palmerston North and possibly Wanganui, because of the increased potential for population exposure. This project will also provide for the revision of the status of airsheds, including the gazettal of new airsheds in relation to National Environmental Standards for ambient air quality.
Who	Regional Council, Ministry for the Environment, National Institute of Water and Atmospheric Research and Territorial Authorities.
Links to Policy	This project links to Policy 8-1.
Targets	To monitor air quality to the standard required in the National Environmental Standard for ambient air quality. To revise airshed status every two years after this Plan becomes operative and gazette new airsheds as necessary.

Project Name	Protocols with Territorial Authorities and Health Boards
Project Description	This project includes the development of protocols or memoranda of understanding with Territorial Authorities and health boards for air quality issues to agree on respective responsibilities, in particular: • smoky fires and incinerators • fire permits and open burning* • dust complaints • odour complaints • complaints about airborne contaminants, gases and fumes, and dangerous or noxious discharges.
Who	Regional Council, Territorial Authorities and health boards.
Links to Policy	This project links to Policy 8-2.
Target	Protocols agreed and signed off by 2009.

Project Name	Public Information – Air Quality
Project Description	Easily accessible information will be developed and provided on the following air quality issues for the general public: • smoky fires and incinerators • fire permits and open burning* • dust • odours • airborne contaminants, gases and fumes • burning of wastes • PM_{10} and home heating • agrichemical* spray drift*.
Who	Regional Council, Territorial Authorities, health boards and other relevant agencies.
Links to Policy	This project links to Policy 8-2.
Target	Information provided via website and available in paper form by 2009.

Project Name	24 Hour Pollution Hotline
Project Description	This service relates to the ongoing provision of a 24-hour pollution hotline to record and respond to air quality complaints.
Who	Regional Council.
Links to Policy	This project links to Policy 8-2.
Target	24-hour pollution hotline continues.

8.6 Anticipated Environmental Results

Anticipated Environmental Result	Link to Policy	Indicator	Data Source
By 2013 fine particle (PM_{10}) levels in the Region meet the national air quality standard.	Air Policy: 8-1, 8-5 and 8-6	• PM_{10} levels, especially in Taumarunui and Taihape	• Horizons' state of environment air quality monitoring programme
The number of confirmed incidents of objectionable, offensive or noxious airborne substances causing adverse effects beyond property boundaries is reduced by 10% over the life of this Plan.	Air Policy: 8-1, 8-2, 8-3 and 8-4 Administration Policies: 2-5, 2-2, 2-3 and 2-5	• Number of confirmed incidents	• Horizons' incidents database • Consent compliance database

8.7 Explanations and Principal Reasons

8.7.1 Ambient Air Quality

Objective 8-1, Policies 8-1 to 8-4 and the associated methods establish a framework to manage ambient air* quality, in particular to manage the effects of various discharges to air and to reduce nuisance effects.

Policy 8-1 sets out the National Environmental Standards (NES) for ambient air quality as required by the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004. The Regional Council has used the standards as a framework for the regional standards for ambient air quality as reflected in Policy 8-2. These policies will assist in developing the methods the Regional Council has put in place to ensure that compliance with the National Environmental Standards is achieved by 1 September 2013. To achieve the compliance date the Regional Council will need to work closely with Territorial Authorities and health boards to establish clear responsibility protocols.

The Regional Council recognises that resource users need to discharge to air to provide for their social, cultural and economic well-being. Even those who operate under best practice guidelines may receive nuisance complaints. Policies 8-3 and 8-4 allow for such resource users and the monitoring methods (such as public information, a 24-hour pollution hotline and compliance monitoring) to ensure National Environmental Standards and regional standards are not breached. Policy 8-4 and the associated methods assist in educating the community about rural versus lifestyle block incompatibilities and also encourage Territorial Authorities to review future land-use developments to prevent incompatibility and reduce future nuisance complaints.

8.7.2 Fine Particle (PM_{10}) Levels

Objective 8-2, Policies 8-5 and 8-6, and the associated methods set out a framework to reduce or manage fine particle levels (PM_{10}) in order to meet the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004.

The Ministry for the Environment released these regulations in September 2004. One of the standards applies to PM_{10} which can adversely affect people's health. The regulations require that airsheds are established where exceedance of standards are likely, that PM_{10} levels are monitored and reduced in those airsheds to the standards set in the regulation by 2013, and that resource consent applications in those airsheds are determined as per regulations 17 to 17C.

Monitoring results for wintertime PM_{10}* between 2001 and 2003 confirmed that Taumarunui and Taihape exceeded the PM_{10} standard and Ohakune, Feilding, Dannevirke and Pahiatua had the potential to exceed it. Policy 8-5 specifically targets Taumarunui and Taihape and Policy 8-6 targets Ohakune, Dannevirke, Feilding and Pahiatua at a response level consistent with the PM_{10} monitoring results mentioned above. Domestic home heating is the most likely main contributor to wintertime PM_{10} levels. Resource consent applications in those airsheds will be determined as per regulations 17 to 17C.

While Palmerston North was under the PM_{10}* standard, monitoring will continue, to ensure that PM_{10}* levels remain at an acceptable standard for the city's population base.