



Section 35 Evaluation Report

One Plan Chapters 7 and 15: Air

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EXECUTIVE SUMMARY

This report assesses the effectiveness and the efficiency of the One Plan's air chapters. This report has been completed in accordance with Section 35 of the Resource Management Act 1991 which requires the evaluation of all policies, methods and rules in any council Plan. The findings of this evaluation come in two parts. The first is evaluation of the effectiveness of the provisions, identified through the achievement of the Anticipated Environmental Results (AERs). The air chapters have two AERs and it is the findings of this report that one AER has been achieved and one has not. The first AER is that "By 2013 fine particle (PM₁₀) levels in the Region meet the National Environmental Standards." Having achieved this AER indicates an effectiveness for provisions relating to Objective 7-2. The second AER; "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", has not been achieved which indicates that the provisions associated with Objective 7-1 cannot be confirmed as effective.

The second part of this assessment is to measure the efficiency of the provisions. It is difficult to assess this without quantifying the benefits of good air quality. As these benefits are received in the health sector and by the public it is important to note that the costs Horizons may front do not directly benefit Horizons. The findings of this section of the review looked at the costs of monitoring, advertisement and educational costs along with the costs of consents. This report finds that the provisions are likely efficient as the current costs are justified by the positive impact the provisions have had on environmental and human health.

The report also covers some other matters which relate to the effectiveness of the provisions. The first of these is the current airsheds. The airsheds were gazetted in 2004 as required by the National Environmental Standards for Air Quality (NES-AQ). Taumarunui and Taihape are the two airsheds in our region. Method 7-3 states that Horizons provide for the revision of status of airsheds, including the gazettal of new airsheds. This method has not been actioned. In addition, no monitoring outside of the two airsheds has taken place since the initial gazettal in 2004. There is a need for a review into the status of and identification of new airsheds which may require gazettal under the new NES-AQ provisions. The implications of the NES-AQ amendment mean that Horizons will need to have an idea of air quality region-wide and under the current efforts, Horizons does not have that picture. The other matter raised by this report is in the strength of certain rules in the Regional Plan, strengthening these rules will allow the opportunity to tighten restrictions of discharge of contaminants to air. Overall, this report concludes that the air chapters of the One Plan are partially effective and likely efficient, under the caveats which are expressed.

1 Introduction

The Resource Management Act (RMA) 1991 requires Horizons Regional Council to have a Regional Policy Statement and a Regional Plan in order to outline how it will manage the natural and physical resources within the region. Horizons has the One Plan which encompasses both of these requirements. The One Plan was notified in 2007 and has been operative since 2014. The RMA also requires Horizons Regional Council to evaluate these plans and policies in accordance with section 35(b) of the Act. The requirement includes an evaluation of the effectiveness and efficiency of the provisions in the One Plan. In evaluating these provisions, we test whether they can be relied upon and if they are implemented in a cost effective and valuable way. In addition, this assessment helps indicate whether the provisions are giving effect to other documents in the hierarchy such as National Policy Statements (NPS) and National Environmental Standards (NES).

This report evaluates One Plan Chapters 7 (Air) and 15 (Discharges to Air). Chapter 7 of the One Plan addresses management of air quality in the region, through objectives, policies and methods as part of the Regional Policy Statement. In particular, Chapter 7 addresses the need to monitor and manage the levels of particulate matter (PM₁₀) in ambient air quality within the region. Chapter 15 in Part Two of the One Plan; the Regional Plan, puts into effect the objectives set in Chapter 7 for ambient air quality and acts as another form of method. Objectives and policies in Chapter 15 are aimed at the management of agrichemical and other discharges into air to reduce particulate matter levels and enhance ambient air quality.

2 Purpose of this report

The purpose of this evaluation is discuss the effectiveness and efficiency of Chapters 7 and 15 of the One Plan which relate to the improvement of air quality throughout the region. The evaluation has been initiated to ensure Horizons Regional Council is meeting its statutory obligations under section 35 of the Resource Management Act 1991, noting also the gazettal of an update National Environmental Standard for Air Quality.

In general, evaluation provides an essential check on the practicability of provisions and the capacity for stated methods and targets to be achieved subject to resourcing levels, budget constraints and other circumstances. In this case, the evaluation may also guide future plan changes and amendments.

The following questions have been used to guide the evaluation process:

<i>Effectiveness and efficiency</i>	<i>Issues</i>
<ul style="list-style-type: none">• Of policies and methods in achieving the objectives.• Of polices and methods in achieving the Anticipated Environmental Outcomes.• Of methods.• Is there evidence that the policies and methods are being used/applied in an effective way?• Do the plan provisions have the support of users – is the plan perceived to work, are the provisions enforceable?<ul style="list-style-type: none">◦ Can the Plan be reasonably be implemented?	<ul style="list-style-type: none">• Are the current set of issues still relevant, and have new issues arisen?• Are the issues being adequately addressed?• Can issues be addressed in more efficient ways?

3 Statutory context

3.1 Resource Management Act 1991

The Resource Management Act 1991 (RMA) provides a well-established framework for evaluation, monitoring and review of Regional Policy Statements and Regional Plans. Section 35 of the RMA requires Horizons Regional Council to monitor and evaluate the effectiveness and efficiency of the provisions of the One Plan which is the foundation of this report.

Section 43 of the RMA gives direction for National Environmental Standards. This directive prescribes regulations for the cause and purpose of National Environmental Standards relating to the ambient quality of the environment for matters under sections 9 to 15. The matters include contaminants, water quality, air quality, and soil quality as well as other matters. Section 43 regulations also describe the nature in which environmental standards can address and manage these matters. This section of the RMA sets the groundwork for the National Environmental Standards for Air Quality by giving purpose and ability.

It is important to note that while the RMA serves as a backbone for regional council policy, the National and Built Environments Bill is scheduled to be replacing the RMA and will impact the functions and abilities of regional councils in how they manage natural and physical resources. At the time of this report however, the RMA is still the operative legislation and therefore this report does not account for any new regulation set out in the National and Built Environments Act.

3.2 National Environmental Standards for Air Quality (NES-AQ).

In 2004, the Ministry for the Environment released the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004¹. The regulations require all regional councils to establish airsheds where air quality is likely to exceed the standards in the regulation. Set up and regulated through s43 of the RMA, the NES-AQ standards work alongside the Ambient Air Quality Guidelines 2002 to enforce a maximum level of air contaminant concentration. This ensures a minimum level of health protection for the areas which have the highest concentrations of air contaminants. The key standards within the NES-AQ are the ambient air quality standards, which outline the upper limit of different contaminant concentration levels as shown in Figure 1. This upper limit cannot be exceeded unless under permissible circumstances. The contaminants include Particulate Matter (PM), Carbon Monoxide, Nitrogen Dioxide, Ozone, Sulphur Dioxide.

¹ In 2011 this NES was renamed the Resource Management (National Environmental Standards for Air Quality) Regulations 2004

Contaminant	Ambient Air Quality Standard	Permissible Exceedance
Carbon monoxide	10 milligrams per cubic metre expressed as a running 8-hour mean	1 exceedance per 12-month period
Nitrogen dioxide	200 micrograms per cubic metre expressed as a 1-hour mean	9 exceedances per 12-month period
Ozone	150 micrograms per cubic metre expressed as a 1-hour mean	None
PM ₁₀	50 micrograms per cubic metre expressed as a 24-hour mean	1 exceedance per 12-month period
Sulphur dioxide	350 micrograms per cubic metre expressed as a 1-hour mean	9 exceedances per 12-month period
Sulphur dioxide	570 micrograms per cubic metre expressed as a 1-hour mean	None

Figure 1 NES-AQ Concentration Standards

The NES-AQ requires Horizons Regional Council to monitor air quality in areas of the region which are likely or known to exceed these standards. The name for these areas are airsheds. The monitoring of these airsheds show the state of air quality as well as the trends in the change of concentrations.

In 2005, Horizons Regional Council identified Taihape and Taumarunui as likely to exceed the standards and were mapped as the regions two airsheds. Other areas such as Palmerston North, Pahiatua, Woodville and Ashhurst were indicated as having potential for degraded air quality but were assessed to be within the acceptable standards and therefore not classed as airsheds. Once identified, Horizons defined the airshed boundaries based on topography, population, and industrial activity areas as well as community consultation. These airsheds were set into place to monitor and reduce PM₁₀ concentrations to meet the standards by 2013.

PM₁₀ describes certain particles in the air which have been deemed harmful to human health. Particulate Matter (PM) includes microscopic matter which is suspended in the air. PM₁₀ includes particles which are 10 µm (micrometre) in diameter or less. PM_{2.5} only includes particles 2.5 µm or less. PM₁₀ and PM_{2.5} particles present a significant health risk both globally and nationally. The size of the particulate matter is small enough for these particles to enter the body and cause considerable damage. According to research undertaken by the World Health Organisation² (WHO), almost every organ in the human body can be affected by air pollution. PM_{2.5} makes up 75% of PM₁₀ and is predominantly sourced by human action. A study on the impacts of PM_{2.5} in urban environments (Martins, 2018) shows how PM_{2.5} is more harmful than PM₁₀. Martins 2018 states that while PM₁₀ can enter the respiratory system and cause severe damage to the lungs, PM_{2.5} particles are small enough to penetrate deeper into the lungs and be absorbed into the bloodstream. From there, the damage can spread to other organs through the circulatory system and create a wide range of serious and chronic health impacts. In addition to particulate matter, health problems caused by air pollution also arise from exposure to other air pollutants such as carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂) and sulphur dioxide (SO₂). Both short term and long term exposure to air pollutants can cause health issues, especially in children.

Poor air quality is the highest source of mortality of any environmental contaminant or pathogen in New Zealand. Based on the statistical findings of Environmental Health Intelligence New Zealand (EHINZ) (Environmental Health Intelligence New Zealand, 2022),

² (World Health Organisation, 2022)

there was an estimated 3,300 deaths attributed to human-made air pollution in 2016 in New Zealand. EHINZ also report that in the same year, there was also 13,155 hospitalisations for cardiovascular and respiratory disease which includes 845 hospitalisations for childhood asthma. Therefore action against increasing the level of air pollution in New Zealand communities is important, to preserve life and reduce medical costs for cardiovascular and respiratory disease.

The NES-AQ also sets out regulations for prohibiting activities and limiting discharges to air of contaminants. In addition, prohibition of the burning of certain substances are also stated to reduce the toxins that are released. The NES-AQ also sets the standards for concentrations of PM₁₀. The standard concentration for PM₁₀ at 50 µm/m³ in a 24-hour period. Only one exceedance of this standard is permitted per year. This standard is based off the WHO Guidelines which set a limit of 45 µm/m³ for a daily average and 15 µm/m³ for annual averages. These standards are intended to improve overall ambient air quality. In 2020, the Ministry for the Environment proposed amendments to the NES-AQ. This change would place more focus onto PM. The proposed amendments to the NES-AQ will mean that regional councils and unitary authorities must monitor PM_{2.5} concentrations and have the option to continue monitoring PM₁₀ levels but it will not be obligated. It is still unclear when these amendments will take effect but it is expected to be during 2023.

3.3 One Plan

The One Plan is the combined form of both the Regional Policy Statement (RPS) and Regional Plan (RP) for the Manawatū-Whanganui (Horizons) region. The RPS describes the significant resource management issues in the region and sets out the objectives, policies and methods to address those issues. The RP forms another type of method for achieving the RPS Objectives. The RP primarily focuses on regional rules prescribing how certain activities in the region are controlled through regulation by the Regional Council. The RP also guides decision-making for resource consent applications.

One Plan RPS Chapter 10 (Administration) states that the Regional Council will regularly check the effectiveness of the policies and methods in this Plan in achieving anticipated environmental results. This will be done every three years at the same time as reporting progress made by the community in achieving community outcomes for the Region, being the Regional Council's Long-term Plan (LTP)³.

Monitoring and reporting on the effectiveness of the One Plan will be based on the following process:

- a) *Evaluation of the Regional Council's Annual Reports and the policies and methods in this Plan to assess which policies and methods have been implemented,*
- b) *Evaluation of the LTCCP [sic] and Annual Reports to assess actual work done to implement this Plan compared to the intended level of work each year, including consent, compliance and environmental incident response activity,*
- c) *Evaluation of the results of environmental monitoring carried out under the Regional Monitoring Strategy to assess the condition and trends of the Region's environment, with an emphasis on those parts of the environment where specific work has been done to make improvements, and*
- d) *Assessment of whether changes need to be made to policies and methods where there is slow or no progress toward achieving anticipated environmental results.*

Chapter 10 then continues that changes to the One Plan will be sought when:

- a) plan effectiveness monitoring identifies the need to enhance progress toward achieving anticipated environmental results, or

³ Chapter 10 refers to the Regional Council's Long-Term Council Community Plan (LTCCP).

- b) major resource management developments arise such as significant amendments to the RMA or the adoption of national policy statements or national environmental standards by Government that have major implications for the contents of this Plan, or
- c) the results of new scientific work enhance this Plan and make plan provisions more certain for resource users.

Changes to the Regional Plan may be requested by any person, including by a Minister of the Crown, the Regional Council or any District Council within, or partly within, the region. The process used to review and change this Plan is set out in Schedule 1 to the RMA.

As referenced above, Chapter 10 relied partly on Long Term Council Community Plans, which were a requirement under Section 279 of the Local Government Act to monitor the One Plan. However this section was repealed in 2010 and LTCCP's are no longer a requirement of local government. Instead, Councils are required to prepare Long Term Plans, with monitoring and reporting now included in Annual Reports prepared by Council.

Given updates to the LGA and changes over time, consideration of the effectiveness and efficiency of Chapter 10 will need to be considered through a separate s35 evaluation on this topic.

4 Evaluation scope

The scope of the evaluation is limited to Chapters within the One Plan that relate to air quality. The provisions subject to evaluation are outlined in Table 1 below:

Table 1 *Specific One Plan Chapters to be evaluated under section 35 of the RMA.*

One Plan Chapter to be reviewed:	Specific provisions subject to review	Comment
- Chapter 7: Air	<ul style="list-style-type: none"> -Full Chapter -Objectives 7-1 & 7-2 -Policies 7-1, 7-2, 7-3, 7-4, 7-5, 7-6, & 7-7 -Methods 7-1, 7-2, 7-3, 7-4, 7-5, & 7-6 -Anticipated Environmental Results 	This chapter deals with the management of air quality by identifying Issues, Objectives, Policies and Methods which set goals for what Horizons want to achieve for air quality in the region.
- Chapter 15: Discharges to Air	<ul style="list-style-type: none"> -Full Chapter -Objectives 15-1 -Policies 15-1, 15-2, 15-3 -Rules 15-1, 15-2, 15-3, 15-4, 15-5, 15-6, 15-7, 15-8, 15-9, 15-10, 15-11, 15-12, 15-13, 15-14, 15-15, 15-16, 15-17 	This Chapter works as another method for the RPS to achieve the goals set in Chapter 7 by implementing rules and guidelines on consenting decisions for air discharges.

5 Evaluation

The objectives and policies that make up the air chapters of the One Plan are outlined as follows:

Chapter 7 - Air

Objectives

Objective 7-1: Ambient air* quality	A standard of ambient air* quality is maintained which is not detrimental to <i>amenity values</i> [^] , human health, property or the life-supporting capacity of air and meets the national ambient air* quality standards.
Objective 7-2: Fine particle (PM₁₀*) levels	<ol style="list-style-type: none"> Fine particle levels in Taihape and Taumarunui are reduced to comply with the national <i>ambient air</i>* quality standard for PM₁₀* by 1 September 2013⁴. Fine particle levels in other areas are managed in a manner which ensures ongoing compliance with the national <i>ambient air</i>* quality standard for PM₁₀*.

Policies

Policy 7-1: National Environmental Standards[^]	<p><i>The National Environmental Standards</i>[^] set out in Table 7.1 must be adopted as ambient air* quality standards for the Region and ambient air* quality must be:</p> <ol style="list-style-type: none"> maintained or enhanced in those areas which meet the standards, and enhanced in those airsheds which do not meet the standards in accordance with the air quality categories and designated responses in Table 7.2.
Policy 7-2: Regional standards for ambient air* quality	In addition to the <i>National Environmental Standards</i> [^] set out in Policy 7-1, ambient air* quality must be managed in accordance with the regional standards set out in Table 7.3.
Policy 7-3: Regulation of discharges[^] to air	<p><i>Discharges</i>[^] of <i>contaminants</i>[^] into air will be generally allowed, provided:</p> <ol style="list-style-type: none"> the <i>effects</i>[^] of the <i>discharge</i>[^] are consistent with the approach set out in Policy 7-1 for implementing the <i>National Environmental Standards</i>[^] for ambient air* quality, and the <i>discharge</i>[^] is consistent with the regional standards for ambient air* quality set out in Policy 7-2.
Policy 7-4: Incompatible land[^] uses	<p>Air quality problems arising from incompatible <i>land</i>[^] uses establishing near each other must be avoided, remedied or mitigated primarily through <i>district plans</i>[^] and <i>Territorial Authority</i>[^] consent decisions which:</p> <ol style="list-style-type: none"> prevent the future establishment of potentially incompatible <i>land</i>[^] use activities near each other, or allow the establishment of potentially incompatible <i>land</i>[^] use activities near each other provided no existing lawful activity, operated in a

⁴ The date of 1 September 2013 for achieving compliance with the national *ambient air** quality standard for PM₁₀*, is set in the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004.

	manner that adopts the <i>best practicable option</i> [^] or which is otherwise environmentally sound, is restricted or compromised.
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Policies 7-1, 7-2, 7-3 and 7-4 give effect to **Objective 7-1** by recognising and implementing the National Environmental Standards for Air Quality (P7-1), adopting regional standards to work in conjunction with the NES-AQ (P7-2), giving direction on allowance of discharges of contaminants where the effects are consistent with the NES-AQ (P7-3), and identifying and mitigating incompatible land uses which contribute to air quality problems (P7-4).

Policy 7-5: Fine particles in Taihape, Taumarunui and other unacceptable airsheds	<ul style="list-style-type: none"> a. The Regional Council has established airsheds for Taihape and Taumarunui, as shown in Schedule H, on the basis that the fine particle (PM_{10}^*) levels at these centres breach the <i>National Environmental Standards</i>[^] under Policy 7-1. The Regional Council must establish additional airsheds where monitoring shows fine particle levels that are in breach of the <i>National Environmental Standards</i>^{^4}. b. Strategies to reduce fine particle (PM_{10}^*) levels must be established by 2011 for Taumarunui and Taihape, and after this date for any other airsheds with concentrations of fine particles that breach the <i>National Environmental Standards</i>[^]. The strategies will primarily focus on existing woodburners* and other home heating appliances, and will identify ways of facilitating and supporting the changes necessary to comply with the fine particle standard. c. Applications to <i>discharge</i>[^] fine particles (PM_{10}^*) in the Taihape and Taumarunui airsheds (and within any other airsheds with concentrations of fine particles that breach the <i>National Environmental Standards</i>[^] and which are gazetted by the Regional Council) that are likely to increase significantly the concentration of fine particles (PM_{10}^*) in those airsheds, must 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 7-6: Fine particles in Ohakune, Feilding, Dannevirke and Pahiatua and other degraded areas	<p>The Regional Council will generally only grant <i>resource consents</i>[^] to <i>discharge</i>[^] fine particles (PM_{10}^*) into the air in Ohakune, Feilding, Dannevirke and Pahiatua and other areas classified as degraded under Policy 7-1:</p> <ul style="list-style-type: none"> a. if the applicant has shown that the <i>discharge</i>[^] is the <i>best practicable option</i>[^], and the consent is for a duration of five years or less, or b. if the applicant can show that the <i>discharge</i>[^] of PM_{10}^* will be offset by a reduction in other sources of PM_{10}^* within the same area.
Policy 7-7: Fine particles in airsheds within the Region	<ul style="list-style-type: none"> a. All applications to <i>discharge</i>[^] fine particles (PM_{10}^*) into airsheds within the Region lodged before 1 September 2013 must be managed in accordance with regulation 18 of the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004. b. All applications to <i>discharge</i>[^] fine particles (PM_{10}^*) within the Region lodged after 1 September 2013 must be managed in accordance with regulation 19 of the Resource Management (National Environmental

	Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004.
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Policy 7-5, 7-6 and 7-7 gives effect to **Objective 7-2**, by establishing and monitoring airsheds in the region alongside implementing methods and strategies to reduce PM₁₀ (P7-5), limiting the conditions for resource consents in areas of significance outside of the airsheds (P7-6), and requiring that all discharge applications with the airsheds be managed in accordance with the NES-AQ (P7-7).

Chapter 15 - Discharges to Air

Objectives

Objective 15-1: Air quality	<p>The management of air quality in a manner that has regard to:</p> <ul style="list-style-type: none"> a. maintaining or enhancing <i>ambient air</i>* quality in a manner that safeguards the health of the Region's community, b. meeting the regional <i>ambient air</i>* standards (Table 7.3) and <i>National Environmental Standards</i>[^] (Table 7.1), c. managing air quality so that it is not detrimental to <i>amenity values</i>[^], and d. managing fine particle (<i>PM₁₀</i>*) levels to ensure that they are reduced in unacceptable airsheds and managed in other areas to ensure compliance with the national <i>ambient air</i>* quality standard for <i>PM₁₀</i>*.
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Policies

Policy 15-1: Consent decision-making for agricultural*	<p>When making decisions on <i>resource consent</i>[^] applications and setting consent <i>conditions</i>[^] for <i>discharges</i>[^] of <i>agricultural</i>* that fail to meet either Rule 15-1 or Rule 15-2 (and which are therefore <i>discretionary activities</i>[^]), the Regional Council will have regard to:</p> <ul style="list-style-type: none"> a. requiring compliance with Parts 2 and 5 of the NZS 8409:2004 Management of Agricultural, b. avoiding <i>effects</i>[^] on human health, c. avoiding or mitigating any unreasonable prevention or reduction in access to adjoining <i>properties</i>* or <i>public land</i>* because of <i>agricultural</i>* spraying, d. avoiding damage to non-target plants or animals, and e. preventing any <i>discharge</i>[^] that is likely to adversely affect sensitive areas including, but not limited to: <ul style="list-style-type: none"> (i) residential buildings, (ii) public places and amenity areas where people congregate, (iii) education facilities, (iv) public roads*, (v) surface water bodies[^],
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	<ul style="list-style-type: none"> (vi) wāhi tapu*, marae and other sites* of significance to hapū* and iwi*, (vii) domestic, commercial and public water supply* catchments and intakes, (viii) <i>rare habitats*</i>, <i>threatened habitats*</i> and <i>at-risk habitats*</i>, and (ix) sensitive crops or farming systems (including certified organically farmed <i>properties*</i> and greenhouses), <p>f. the matters in Policy 14-9.</p>
Policy 15-2: Consent decision- making for other <i>discharges</i>[^] into air	<p>When making decisions on <i>resource consent</i>[^] applications and setting consent <i>conditions</i>[^] for <i>discharges</i>[^] of <i>contaminants</i>[^] into air, the Regional Council must have regard to:</p> <ul style="list-style-type: none"> a. the objectives and policies of Chapter 7 including: <ul style="list-style-type: none"> (i) the degree of consistency with the approach set out in Policy 7-1 for implementing the <i>National Environmental Standards</i>[^] for <i>ambient air</i>* quality, (ii) the degree of compliance with the regional standards for <i>ambient air</i>* quality set out in Policy 7-2, and (iii) for <i>discharges</i>[^] of fine particles, the approaches for managing fine particles (<i>PM₁₀</i>*) in Policies 7-5, 7-6 and 7-7, and the likely contribution of the proposed <i>discharge</i>[^] to cumulative adverse <i>effects</i>[^] in an unacceptable airshed or degraded area as identified under these policies, b. the guidelines in Section 15.3 for managing noxious, dangerous, offensive and objectionable <i>effects</i>[^], c. any <i>national policy statements</i>[^], <i>national regulations</i>[^], or nationally-accepted guidelines or codes of practice relevant to the activity, including the matters in Policy 14-9 for activities involving an ancillary discharge, d. the location of the <i>discharge</i>[^] in relation to, and any associated <i>effects</i>[^] on, sensitive areas including, but not limited to: <ul style="list-style-type: none"> (i) residential buildings, (ii) public places and amenity areas where people congregate, (iii) education facilities, (iv) public roads, (v) surface <i>water bodies</i>[^], (vi) wāhi tapu*, marae and other <i>sites</i>* of significance to hapū* and iwi*, (vii) domestic, commercial and <i>public water supply</i>* catchments and intakes, (viii) <i>rare habitats*</i>, <i>threatened habitats*</i> and <i>at-risk habitats*</i>, and (ix) sensitive crops or farming systems (including certified organically farmed <i>properties*</i> and greenhouses), e. effects on scenic, landscape, heritage and recreational values, f. the appropriateness of adopting the <i>best practicable option</i>[^] to prevent or minimise adverse <i>effects</i>[^] in circumstances where:

	<ul style="list-style-type: none"> (i) numerical guidelines or standards establishing a level of protection for a receiving <i>environment</i>^ are not available or cannot easily be established, (ii) insufficient monitoring data is available to establish the existing air quality with sufficient certainty, or (iii) the likely adverse <i>effects</i>^ are minor, and the costs associated with adopting the <i>best practicable option</i>^ are small in comparison to the costs of investigating the likely <i>effects</i>^ on air quality, <p>g. the need for contingency measures to avoid accidental <i>discharges</i>^, including <i>discharges</i>^ arising from mechanical failure, and</p> <p>h. adverse <i>effects</i>^ on <i>aircraft</i>^ safety from high velocity vertical <i>discharges</i>^ to air.</p>
Policy 15-3: Regional Rules^ for Air	The Regional Council must regulate <i>discharges</i> ^ into air through regional <i>rules</i> ^ in accordance with Objectives 12-1, 12-2 and 15-1 and Policies 12-1 to 12-8.

Policies 15-1, 15-2, and 15-3 give effect to **Objective 15-1** through the restrictions which they place on regulation of discharges to air. They also link to the provisions set out in Chapter 7 so that the RP achieves the targets and goals set by the RPS.

Table 2 The links in Table 2 show how the provisions in the Chapter 7 flow and are implemented from objectives to rules and their relevance to the AER's.

ONE PLAN: Chapter 7 linkages				
Objectives (RPS)	Supporting Policy Framework	Provisions that give effect (Methods and Rules)	Indicators	Anticipated Environmental Results
<p>Objective 7-1: Ambient air* quality</p> <p>A standard of ambient air* quality is maintained which is not detrimental to <i>amenity values</i>^, human health, property or the life-supporting capacity of air and meets the national ambient air* quality standards.</p>	<p>RPS Policies: 7-1, 7-2, 7-3 and 7-4</p> <p>Regional Plan</p> <p>Objective 15-1 and</p> <p>Policies 15-1, 15-2, 15-3</p>	<p>Method 7-3: Monitoring by the Regional Council</p> <p>Method 7-4: Protocols with Territorial Authorities and District Health Boards</p> <p>Method 7-5: Public Information – Air Quality</p> <p>Methods 7-6: 24 Hour Pollution Hotline</p> <p>Rules: 15-1 to 15-17</p>	<p>Number of confirmed incidents</p>	<p>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.</p>
<p>Objective 7-2: Fine particle (PM₁₀) levels</p> <p>a. Fine particle levels in Taihape and Taumarunui are reduced to comply with the national ambient air* quality standard for PM₁₀ by 1 September 2013².</p> <p>b. Fine particle levels in other areas are managed in a manner which ensures ongoing compliance with the national ambient air* quality standard for PM₁₀.</p>	<p>RPS Policies: 7-5, 7-6 and 7-7</p> <p>Regional Plan</p> <p>Objective 15-1 and</p> <p>Policies 15-1, 15-2, 15-3</p>	<p>Method 7-1: Improving Air Quality (PM₁₀) – Long-term Strategies: Taumarunui and Taihape and Other Unacceptable Airshed</p> <p>Method 7-2: Improving Air Quality Improving Air Quality (PM₁₀) – Awareness programme: Ohakune, Feilding, Dannevirke, Pahiatua and other degraded areas</p> <p>Method 7-3: Monitoring by the Regional Council</p> <p>Method 7-5: Public Information – Air Quality</p> <p>Methods 7-6: 24 Hour Pollution Hotline</p> <p>Rules: 15-1 to 15-17</p>	<p>PM₁₀ concentrations in Taumarunui and Taihape</p>	<p>By 2013 fine particle (PM₁₀) levels in the Region meet the National Environmental Standards.</p>

5.1 Effectiveness assessment

5.1.1 Ambient air* quality

Methods 7-1, 7-2, 7-4, 7-5,

Rules 15-1, 15-2, 15-3, 15-4, 15-5, 15-6, 15-7, 15-9, 15-10

Objective 7-1 seeks to manage ambient air quality. Policies 7-1 to 7-4 along with the associated methods and rules in the RP set forth the framework to manage the different forms of discharge which impact ambient air quality. The policies, methods, and rules work to maintain a standard of air quality which is not detrimental to human health or to amenity values, achieved by managing factors for ambient air quality including reducing nuisance effects of contaminants on a general scale.

Policy 7-1 sets out a framework for the regional standards for ambient air based on the NES-AQ. These standards are also reflected in Policy 7-2 and have helped develop the methods Horizons has used to comply with the requirements outlined by the National Environmental Standard for Air Quality. Policy 7-3 directly addresses the management of air discharges and requires that permitted discharges are consistent with the National Environmental Standards implemented in Policy 7-1 and regional standards implemented in Policy 7-2. The combination of Policies 7-3 and 7-4 address activities which degrade air quality and seek to manage and mitigate situations where adverse effects are created such as discharges to air and managing new land uses to avoid reverse sensitivity situations. Policies 7-3 and 7-4 are supported largely by the rules set out in the RP.

The methods in Chapter 7 thus far have proven useful for supporting the NES-AQ in improving air quality throughout the region. Air quality improvement in our region can largely be attributed to the NES-AQ through the regulations around emissions from wood burners. Through this, Horizons has worked to encourage replacement of wood burners across the region through Policy 7-5, Methods 7-1 and 7-2, and Rule 15-6. In this respect, these methods have been effective in achieving the regulations set by the NES-AQ. Method 7-4 guides the development of protocols/memorandums of understanding (MOU) with Territorial Authorities and District Health Boards to agree on respective responsibilities for air quality issues. This method has partially been implemented with a small number of MOUs having been completed with a few Territorial Authorities. In addition, informal discussions have taken place with members of District Health Boards but no protocols have since developed. Therefore, solely for ambient air quality throughout the region, the majority of Chapter 7 methods have been effectively implemented.

Objective 15-1 also seeks to manage and enhance air quality across the region. Policy 15-1 manages the consent decision-making process for agrichemical application to mitigate the contamination of a discharge of agrichemicals into the air. This Policy is reflected in Rules 15-1 to 15-5. Policy 15-2 addresses consent conditions for other discharges to air to a degree which is consistent with the objectives and policies set out in Chapter 7. Policy 15-2 is supported by Rules 15-6 to 15-17. Policy 15-3 directs the rules in Chapter 15 to regulate consent decision-making processes to achieve the ambitions set out in Chapter 7 and Chapter 15.

The rules in Chapter 15 act as another method to achieve the objectives and policies in Chapters 7 and 15. The rules do not have any result outcomes which can be used to measure their effectiveness but instead can be measured through the consent decision making process. The rules can be described as effective as consents for air discharge permits have been recorded. Further on in this report, figure 3 displays the number of consent applications for air discharge permits from the last 10 years. The data displays a decrease over time in the amount of applications per year which indicates the effectiveness of the rules in regulating air discharges, particularly in the airsheds. A decrease in consents indicates that the more stringent rules for PM₁₀ discharges with in

degraded areas is a measure of effectiveness. Overall, the provisions relating to ambient air quality are largely effective.

5.1.2 Fine particle (PM₁₀) levels

Methods 7-1, 7-2, 7-5 and 7-6

Objective 7-2 and Policies 7-5, 7-6, and 7-7, along with the associated methods create the framework to reduce fine particles (PM₁₀). This reduction is required in order to meet the Resource Management (National Environmental Standards Relating for Air Quality) Regulations 2004. Policy 7-5 addresses reduction of fine particle PM₁₀ by focussing on existing wood burners. The policy requires Horizons to establish strategies to support and facilitate changes to more efficient and safe heating options. The rules in the RP support this by creating tighter management of applications for discharge which are likely to *significantly* increase the fine particle concentrations. Policy 7-6 addresses fine particle PM₁₀ in Ohakune, Feilding, Dannevirke and Pahiatua. This policy allows consent for discharge of fine particles in the above areas or other areas classified as degraded only if the applicant can show that the discharge is the best practicable option, and if the applicant can show that PM₁₀ is being offset by a reduction in other sources of PM₁₀. Policy 7-7 more tightly manages applications to discharge fine particles into air sheds which are to be managed in accordance with Clause 19 of the NES-AQ which again is supported by the rules in the RP. Policy 15-2 ensures that consenting decision must have particular regard for the provisions in Chapter 7. Specifically Objective 7-1 and Policies 7-2, 7-5, 7-6, and 7-7. Consenting decisions must be consistent with the NES-AQ controlling discharges of fine particles (PM₁₀) within an airshed or degraded area highlighted in the aforementioned provisions. In this regard, the rules in Chapter 15 are a regulatory method which sets stronger restrictions to regulate both ambient air quality and fine particle matter primarily in the airsheds of the region.

Since the implementation of the policies, methods, and rules; Horizons Regional Council has been effectively reducing (PM₁₀) levels within the Taihape and Taumarunui airsheds. Both airsheds have displayed an improving air quality over the last five years. The continued monitoring of PM₁₀ in the airsheds will continue to reflect the progress of the Anticipated Environmental Results as the methods continue to give support in changing existing domestic heating options. Continued change will reduce the increase in fine particle discharges over the winter months.

Based off the data collected by Horizons⁵, both the Taihape and Taumarunui airsheds measure average PM₁₀ concentrations below the 50 µg/m³ daily average and 20 µg/m³ annual average limits set by the NES-AQ standards. Neither airshed had an exceedance on either or those limits and continue to display a trend where they will not. Appendix 2 of this report displays the average PM₁₀ concentrations per year for both airsheds to give more context. With this in mind, it can be said that Policies 7-5 and 7-7 have been effective at reducing fine particle PM₁₀ concentrations in the Taihape and Taumarunui airsheds. Horizons has not implemented Policy 7-6 as no funding has been allocated to do this. Monitoring of areas outside of the current airsheds has not happened since the initial case study to create the airsheds in 2004.

5.1.3 Fine particle (PM_{2.5}) levels

Methods 7-1, 7-2, 7-5 and 7-6

⁵ The data is hosted on the Land, Air Water Aotearoa website <https://www.lawa.org.nz/>

Horizons does not specifically address fine particle (PM_{2.5}*) in objectives, policies, or methods within the One Plan but PM_{2.5} is a subset of fine particle (PM₁₀) and therefore the objectives of ambient air quality and PM₁₀ reduction still apply.

The proposed amendments to the NES-AQ seek to place focus only on PM_{2.5} to emphasise a reduction in human caused air pollution. Submissions on this change have indicated a desire for continued PM₁₀ monitoring. This would take place as an optional monitoring program and would not impact the requirements of the amendment. While the focus is taken away from PM₁₀ there are differences in the health effects of PM₁₀ and PM_{2.5}. Therefore recording exceedances of PM₁₀ for Public Health information is still important.

Table 3 Proposed provisions in the amendment of the NES-AQ

Proposed provisions in the NES-AQ amendment
Daily average PM _{2.5} standard - 25 µg/m ³ (three or fewer exceedances allowed in a 12-month period)
Annual average PM _{2.5} standard- 10 µg/m ³
Monitoring required in all airsheds
Publicly notify breaches
Replace PM ₁₀ with PM _{2.5} for 'offset' and open fires provisions

These proposed provisions take root from the World Health Organisation (WHO) Air Quality Guidelines ⁶ but do not completely encompass the ambition of them. The WHO guidelines seek to limit PM_{2.5} concentrations to no more than 5 µg/m³ in a 24-hour period. The proposed amendments to the NES-AQ will allow for an average daily concentration of 25 µg/m³ and an annual average of 10 µg/m³.

Horizons has already been monitoring PM_{2.5} within the Taumarunui and Taihape airsheds to varying degrees. The data collected thus far is minimal and cannot be used to show any reliable trends of air quality. Reasons behind this include a lack of need prior to the work being undertaken. Malfunctions in equipment have left plot points have also contributed to missing data. With the equipment fixed, monitoring has resumed but not to the extent to base policy on the findings. However, if we do take a preliminary look, there is indication that both the Taihape and Taumarunui airsheds have failed to comply with the new standards. Since the start of PM_{2.5} monitoring in April 2022, the Taihape airshed exceeded the daily average three times more than the standards allowed for in the winter period of 2022. The Taumarunui airshed looks more promising having more than the allotted amount of PM_{2.5} exceedances for the daily average in 2021 but measuring well under for the first six months of 2022. There are gaps in data due to a monitoring equipment issues yet concentration levels are looking manageable. Outside of the airsheds, Horizons has no such monitoring in place to assess the levels of PM_{2.5} in other populated parts of the region. There is still yet to be a confirmed date for the implementation of these new standards which allows Horizons some time to implement some temporary measurements to gain a snapshot of the rest of the region's PM_{2.5} concentrations.

⁶ (World Health Organisation, 2022)

5.1.4 Incidents

Methods 7-1, 7-2, 7-5, and 7-6

One Plan air quality policies, and methods also seek another anticipated environmental outcome:

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.

Methods 7-1, 7-2 and 7-5 have been implemented to improve ambient air quality which in turn will theoretically reduce the number of incidents. However it is Method 7-6 which most prominently displays the progress of this outcome. Method 7-6 is the 24-hour pollution hotline managed by Horizons Consents Monitoring Team, which records and responds to air quality complaints which indicate a breach in air quality standards. Method 7-6 has allowed Horizons to track the number of incidents through complaints. These instances of complaints are recorded and the data stored with information about incident type, date, location along with notes for detail. Complaints are prominently caused either by smoky fires or odour. Occasionally, Horizons will be notified of an incident by the polluter themselves if the situation is an accident (mainly industrial sites).

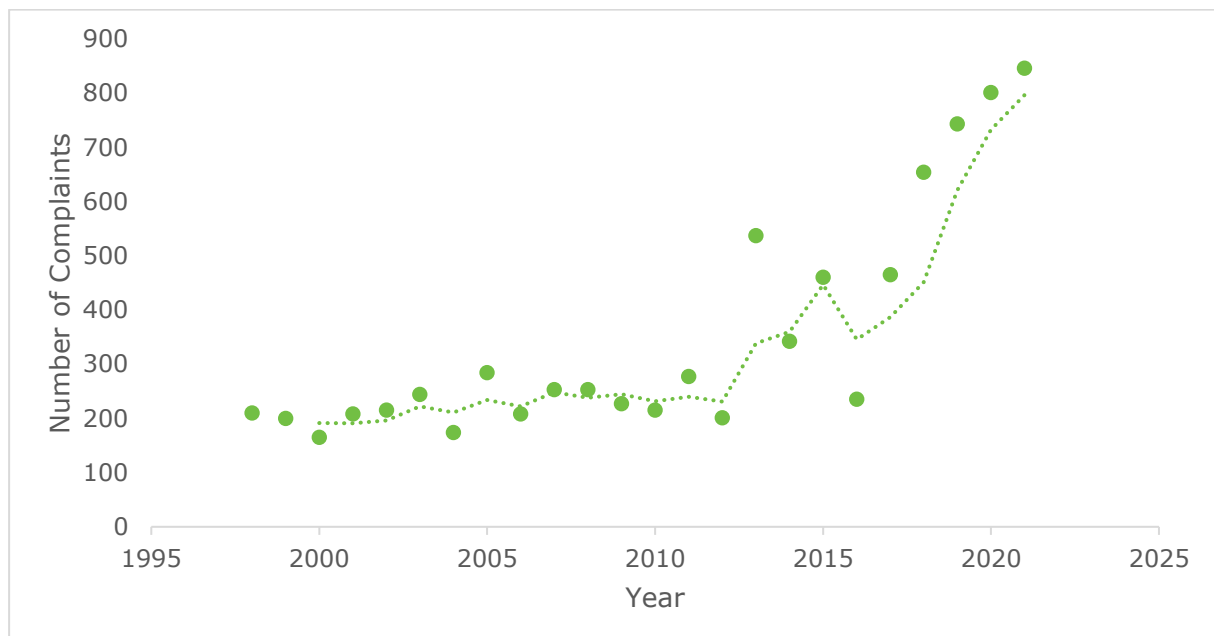


Figure 2 Total number of air quality complaints per year from 1998 to 2021 with a three year rolling average.

The graph shows how the anticipated environmental result (AER); “*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*” has not been achieved. The opposite of such outcome has occurred. The graph shows a clear increasing trend over the past decade. Tracking incidents of poor air quality through complaints is the best method Horizons has in measuring the AER but it should be noted that this does not identify the exact number of incidents, only a close representation of air quality incidents. As discussed in the following sections of this evaluation, the nature of this measurement is largely subjective which brings in to question whether or not it is a reliable measurement tool despite being the only measurement tool employed.

There are some key contributors which may explain why the number of complaints has increased in the last decade. The spike in complaints in 2013 can most likely be contributed to the failure of the Whanganui Wastewater Treatment Plant. This caused an objectionable odour incident which lasted

for an extended period of time over a large area of the region. The result being a significant spike in complaints made to the Pollution Hotline in this space of time. As for the years following, there appears to be no clear cause for the increase in complaints in the region. In 2020, FENZ (Fire and Emergency New Zealand) undertook a restructure which in this process changed the bylaws for district councils. The changing of the bylaws meant that complaints for burning were no longer received by the district councils but instead by Horizons. Additionally, lockdowns in 2020 and since may have contributed to higher number of burnings and therefore complaints. These reasons only give partial explanation to why the number of incidents have increased to such a high level. It is unknown if there have been other causes except that the number has simply risen due to more incidents. That said, there is a margin of error in this measurement system. Complaints are recorded regardless of whether the complaint is confirmed to be an objectionable or offensive breach in air quality. Therefore this data set contains both confirmed and unsubstantiated incidents. A highlighted issue is that it is not uncommon for officers to arrive at the site of a complaint and the breach to air quality has dissipated. This reinforces that there is an inconsistency in the reliability of complaints monitoring as a measurement tool.

Overall effectiveness

Overall, the effectiveness of the One Plans provisions have been somewhat effective. The AER to have reduced PM₁₀ concentrations below the NES Standards has been achieved within the intended timeframe and has continued to stay below the standard limited after the specified timeframe. All of the Policies, Methods and Rules have worked in conjunction to reduce concentrations and overall improve the air quality within Taihape and Taumarunui. However, we are only able to see the improvement in these airsheds and therefore cannot confidently say that the same has happened outside of the airsheds. We cannot gather that information through the frequency of consents as the restrictions on consents are tighter in the airshed areas. The AER to reduce the number of incidents has not been achieved. Horizons has recorded an increase in incidents and simultaneously the measurement method for tracking air quality incidents should not be considered fully reliable for policy making as the subjective nature of assessment and the often unsubstantiated incidents leaves margins of error within the data. Therefore while one of the AER's has been achieved, it cannot be fully said that the provisions in the RPS and RP are effective.

5.2 Efficiency assessment

This section evaluates the efficiency of Chapter 7 Air and Chapter 15 Discharges to Air. It considers the costs of, monitoring, scope of the current airsheds, and current provisions.

5.2.1 Costs and Resourcing

-Costs of resource consents and time spent on resource consents.

One measure for the efficiency of the air provisions and rules is the costs of the consenting process. Air permits are granted by consent applications which typically amass large costs. The frequency and costs of air discharge permit consents give insight into whether the rules are efficient as a higher frequency of applications shows the stringent nature of the rules. If costs are much higher comparative to the frequency of applications, then there would be indication of inefficiency.

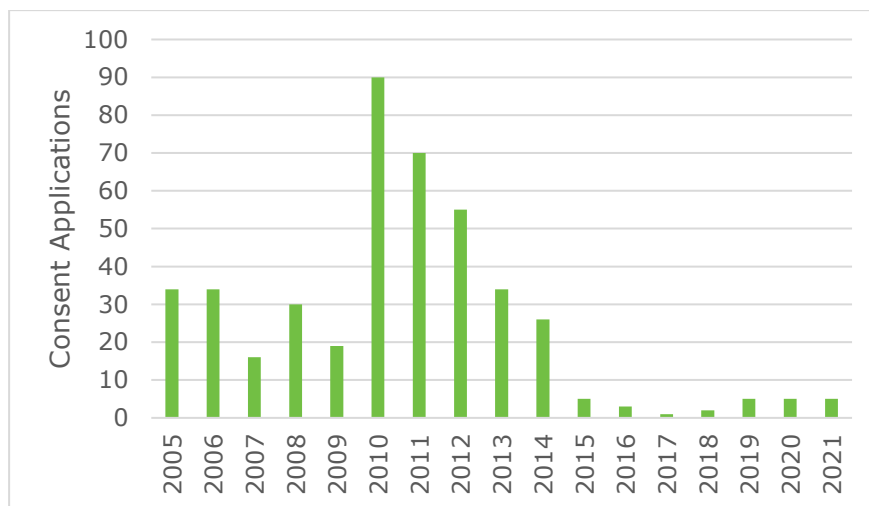


Figure 3 Number of consent applications lodged per year.

The graph below displays the costs of consents for air discharge permits from the last 5 years. The green bars represent total cost of consents which include air discharge permits. This means all applications for a consent which combine multiple activity consents including air discharge permits. The blue bar represent the total costs for purely air discharge permits. In the last 5 years, costs of consents have remained relatively steady and proportionately lower than previously recorded. Given that the number of applications are also quite low, this either means that there have been less consents needed for non-permitted activities due to the effectiveness of the One Plan provisions, or we are in a lull while applications are active and we are currently between application phases.

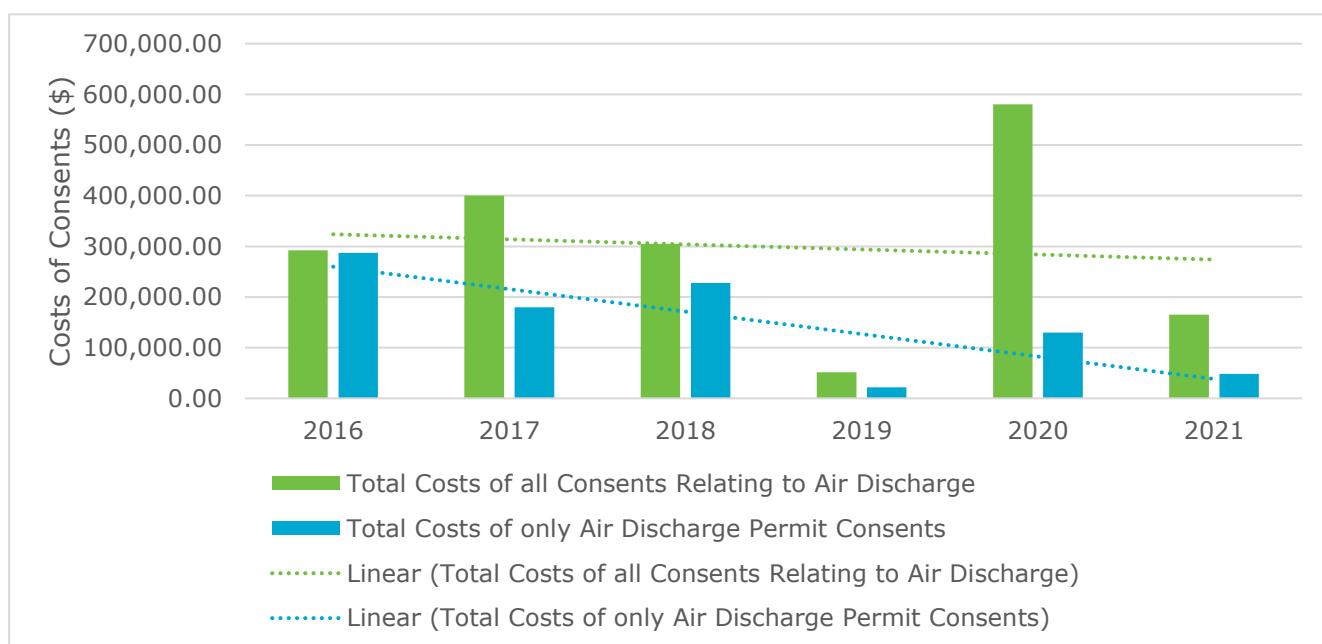


Figure 4 Costs of air discharge permit consents since 2016.

While the costs are not attributed to Horizons but the applicant themselves, this data shows that the relative costs for consents are reasonably low comparatively to the frequency of applications which does indicate that the process is efficient in this regard. Over the last five years, the average cost of consents have decreased further indicating that the system is efficient as the provisions appear to be reducing the frequency of applications. Reducing the frequency of activities which require resource consents is a measure that the provisions in the RPS and RP are not just efficient but also displays their effectiveness.

-Cost of monitoring & compliance (PM10, PM2.5 & incidents)

The annual budget for air quality monitoring is \$86,662. This makes up the budget for equipment, maintenance, and staff hours. This funding has only been allocated for the monitoring which takes place in the two airsheds. No funding has been allocated outside of the airsheds. Monitoring equipment requires replacement of the air filters as frequent as every second day through the winter period and can be as frequent as once a week in the summer periods but largely depends on the air contaminant levels. As Horizons monitors year round in the airsheds, monitoring and maintenance is time consuming and high maintenance which is a consideration when deciding how much monitoring should take place.

Costs for compliance enforcement for air quality incidents. Over the last 5 years, compliance officers logged in over 25,000 hours in time spent dealing with air quality complaints over the last 5 years. The costs of funding these hours are significant enough to note and improvement of air quality would reduce the number of complaints and by extension, the cost of compliance monitoring.

- Educational Impact

Horizons has made a total of 25 posts across Facebook, Twitter, and Instagram, two of which were paid adverts. The first was \$500 over 96 days and the second was \$500 over 18 days. In total, the number of times all posts were seen was over 115,000 times. The Chip and Burnie educational videos were viewed just under 7,000 times. Horizons have a number of ads in papers across the region totalling a cost of \$6,500 from 22 separate newspaper adverts. 30 second radio advertisements will also be created to broad cast across the region which will cost but will also reach an estimated number of people. While it is hard to measure the true amount of engagement with the different forms of advertisement, the costs are justified as they have likely contributed to achieving the AER for PM₁₀.

5.2.2 Overall efficiency

Before coming to a conclusion of the efficiency of the Chapter 7 & 15 provisions, it is important to note a few caveats. Firstly, it is difficult to assess efficiency without quantifying the benefits. In this case, the benefits of good air quality is better health. If these benefits are quantified, those benefits do not directly impact Horizons but the healthcare system and the public. With these caveats addressed, the costs involved with air quality management show that the provisions are likely efficient.

5.3 Airsheds

The creation of the airsheds in 2005 were based off the NIWA definition of an airshed (National Institute of Water & Atmospheric Research Ltd, 2006), prior PM₁₀ monitoring, and a Graphic Description Plan. Boundaries for these airsheds were determined after taking into account:

- Topography - physical boundaries forming 'area of influence' regarding air quality
- Population – encompassing the population affected by air quality & population impact on air quality
- Industry/Activities – Encompassing industry and activities within the airshed boundary where they are in topographical area of influence

Horizons has monitored the air quality within the two airsheds effectively over the lifespan of the One Plan but not effectively outside of the airsheds and has efficiently reduced PM₁₀ for those areas identified as breaching the NES-AQ standards. With the amendment for the NES-AQ approaching, the focus will no longer be placed on PM₁₀. This will change the importance of Policy 7-5 and 7-6 which addresses monitoring and reduction of PM₁₀ inside and outside of the airsheds. We must ask whether or not the reduction in PM₁₀ concentrations in the airsheds conveys the same reduction region-wide. Policy 7-5 and Method 7-1 specifically set strategies for reducing PM₁₀ in the airsheds. In addition to this Policy 5 details that the Rules for granting consents of PM₁₀ are more stringent in the airsheds. Method 7-2 seeks to improve air quality outside the airsheds. Therefore it should not be assumed that reduction in PM₁₀ has been the same region-wide. With this in mind, the current data on PM_{2.5} monitoring shows that the airsheds will likely fail to meet the standards that are brought in by the NES amendment and there is a relative likelihood that the same may be true in other areas of the region.

Due to the lack of certainty of the air quality situation outside of the airsheds, it will be necessary for Horizons to reassess the region to update its airsheds. Method 7-3 in the One Plan states that a target for Horizons is to revise the status of the regions airsheds every two years and gazette new airsheds as necessary. This target has not been achieved as there has been no monitoring outside of the current airsheds since the early 2000's. This indicates the provisions for monitoring outside of the airsheds are not efficient since they have achieved no result and previously have not been obligated.

5.4 Provisions

Several air factors have been highlighted for adaption or change within the next plan change. See Appendix 1 for more detailed reasoning on potential plan changes.

- Policy 7-5(c) and Policy 7-7(a) refer to old NES-AQ regulation which has been revoked and therefore should be changed.

-Rule 15-7(a)(iv) permits the outdoor burning of non-halogenated plastics and 15-8(c) only specifies the prohibition of burning "halogenated and Polyvinylchloride (PVC) plastics". Reassessing prohibition to cover all types of plastics not just those listed or incorporating some kind of permit would help reduce air contaminants but enforcement would be a main challenge.

-Amendment to Rule 15-7 to exclude outside fires, except outside cooking fires and recreational fires burning dry untreated wood only and backyard contained fires excluding use of incinerators. Burning of rubbish and green waste within urban limits makes up a significant amount of air quality complaints. Compliance officers must assess all complaints so to reduce his number and the cost of compliance assessment, making this rule stricter may have a positive impact.

-Rule 15-2 changing the use of GROWSAFE® as this is no longer the name.
-Since becoming operative, the One Plan has treated odour as ancillary for fertiliser and effluent discharges to land on the condition that no offensive or objectionable odour goes beyond the property boundary. The table below displays all of the rules in which air discharges are also considered ancillary.
-When the NES-AQ amendment becomes operative, a plan amendment will need to take place to update the NES-AQ standards which are currently held in Table 7.1

Below is a table of all the rules in the One Plan which have air discharge as an ancillary for a permitted activity:

Table 4 Rules which contain air as ancillary to another activity

Rules which contain air as ancillary to another activity	
14-1	Existing intensive farming land^ use activities
14-2	Existing intensive farming land^ use activities not complying with Rule 14-1
14-3	New intensive farming land^ use activities
14-4	New intensive farming land^ use activities not complying with Rule 14-3
14-5	Fertiliser
14-6	Stock feed including feedpads*
14-7	Discharges^ of grade Aa biosolids* and compost* to production land^
14-8	Grade Ab, Ba or Bb biosolids*
14-9	Discharges^ of poultry farm litter* or pig farm litter* and associated temporary stockpiling
14-10	Offal holes and farm dumps
14-11	Farm animal effluent* including effluent from dairy sheds, poultry farms and piggeries
14-13	Existing discharges^ of domestic wastewater*
14-14	New and upgraded discharges^ of domestic wastewater*
14-15	Discharges^ of domestic wastewater* not complying with Rules 14-13 and 14-14
14-16	Human effluent storage and treatment facilities
14-21	14-21 Discharges^ of cleanfill material*
14-23	Closed landfills*
17-17	Other gravel extraction
18-25	Minor disturbances from drilling

The activities in Table 4 are all regulated by rules within the RP. These activities are regulated by chapters outside of the Chapter 15 Discharges to Air but also have the potential for air discharges as an ancillary. These ancillary air discharges are not regulated as they are not a primary activity. An example to put this into context is that offensive/objectionable odour beyond the boundary from

a poultry operation that does need a discharge permit for effluent because it is collected and trucked off for disposal. In this case, there is a permit for the effluent discharge but the ancillary discharge to air is unregulated. Furthermore, the RP does not explain how ancillary air discharge shall be handled. Ancillary discharges to land and water are managed through Policy 14-9 and Policy 15-2 makes mention of Policy 14-9 but is unclear on how ancillary air discharges fit into this management. My recommendation is that if the Council wants to tighten control on air discharge specifically through regulatory means, then part of a plan amendment should include explicit regulation for such ancillary activities.

6 Overall Assessment

Based upon the above assessment, it can be concluded that the air provisions in Chapter 7 and Chapter 15 have been effective and efficient to a limited extent. The provisions that set out to improve air quality within the airsheds have indeed been effective as we have seen a reduction in PM₁₀ levels in both Taumarunui and Taihape. This brings both airshed concentrations below the limit placed by the NES-AQ. Therefore Horizons is currently meeting its statutory obligations for air quality in the region. However, if the proposed amendment to the NES occurs is progressed and made operational, the airsheds and likely areas outside of the current airsheds will not meet the new PM_{2.5} concentration targets.

Method 7-3 has not been implemented as monitoring outside the airsheds is not an obligation and is costly both in equipment and in man-hours. Implementation of Method 7-3 has not been practicable. The result of this is a lack of knowledge for what air quality looks like region wide outside of the airsheds. Similarly, the second anticipated environmental outcome - a reduction in incidents by 10% over the life of the One Plan - has not been achieved by the time of this assessment. From the data that we have, there has instead been an increase in monitored incidents in the region. Keeping in mind that the measurement process for incidents is subjective in nature and does not give an accurate picture of the true frequency of incidents, even with margins of error, the data is still reliable enough to conclude that there has not been a reduction in incidents. Only achieving one of two AER's does not convey a strong effectiveness overall in the Chapter 7 Methods. With a high incident rate, we can also assume that our Chapter 15 regulations may not be strong enough either.

In the space of efficiency, the provisions are largely efficient but there are changes which can be made to make the One Plan air chapters more so. The cost of monitoring air quality for the airsheds alongside a gazettal outside of the airsheds will be expensive. However, as the current spending is to meet statutory requirement and future gazettal may also be needed to meet statutory obligation, those costs are justified. Other costs overall have been decreasing. While consent costs do not directly impact Horizons, a decrease in total consent costs indicates that the Rules in the RP are efficient at discouraging activities which are not permitted. Changes can be implemented to a number of rules in the RP to increase efficiency and strength of the rules which could take place in a future plan change.

7 References

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Appendix 1: potential amendments to provisions identified through implementation

Table 5 List of Provisions

Provision	Suggested change	Reason
Policy 7-5	Change reference to 17 of the NES-AQ	17A and 17C were revoked by the 2011 amendment
Policy 7-7	Change reference to 17 of the NES-AQ	18 and 19 were revoked by the 2011 amendment
Rule 15-7	Amend to exclude outside fires, except outside cooking fires and recreational fires burning dry untreated wood* only and backyard contained fires** excluding use of incinerators	<p>Since the 2018 changes to management of fire services, FENZ no longer regulates this except during restricted or closed fire season. Rubbish and green waste fires in urban areas are frequently giving rise to nuisance complaints from neighbours, and given recycling is available there is no need to burn in back yards.</p> <p>* Definition of cooking fire as per FENZ website https://www.checkitsalright.nz/can-i-</p>

		<p>light-a-fire) – Haangi, Umu, Lovo , pizza ovens, charcoal bbqs / grills.</p> <p>**Definition of backyard contained fire as per FENZ website https://www.checkitsalright.nz/reduce-your-risk)</p>
Rule 15-7, 15-8	Amendment to prohibit burning of all types of plastics or change to reduce permission of burning non-halogenated plastic.	There are some existing rules around what can be burned (i.e. the type of plastic) and causing objectionable smoke. These could be strengthened via a plan change. I think the ongoing challenge here will be enforcement. We can deal with the worst cases such as the piggery fire but dealing with lots of smaller fires would require a different level of intervention. This would be a candidate issue for a largely outsourced plan change.
Rule 14-9, 14-11, 14-30, 15-7	Clarity of restriction on air discharges relating to odour which is incorporated more than just as an ancillary control to land and water discharges.	<p>Rule 14-9 (permitted activity Discharge of poultry farm litter or pig farm litter and associated temporary stockpiling) and Rule 14-11 (controlled activity Farm animal effluent including effluent from dairy sheds, poultry farms and piggeries) treat odour as ancillary.</p> <p>Rule 14-30 is specific to discharges of water or contaminants into surface water or discharge of contaminants onto or into land; Rule 15-17 covers the discharge of contaminants into air that does not comply with one or more conditions of a PA rule but is not expressly classified as a controlled, RD, discretionary, NC or prohibited activity. That is, if it doesn't meet a PA rule condition and isn't covered by another specific rule anywhere in the Plan.</p>

Rule 15-2	Amendment of use of the trade name GROWSAFE® which is the accreditation of agrichemical spraying which has changed.	The trade name GROWSAFE® was originally opposed as it was said that the use of the name would give an unfair competitive advantage. The name has since been changed and therefore the use of GROWSAFE® in Rule 15-2 needs to be changed.
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Appendix 2: PM₁₀ Concentrations and guidelines

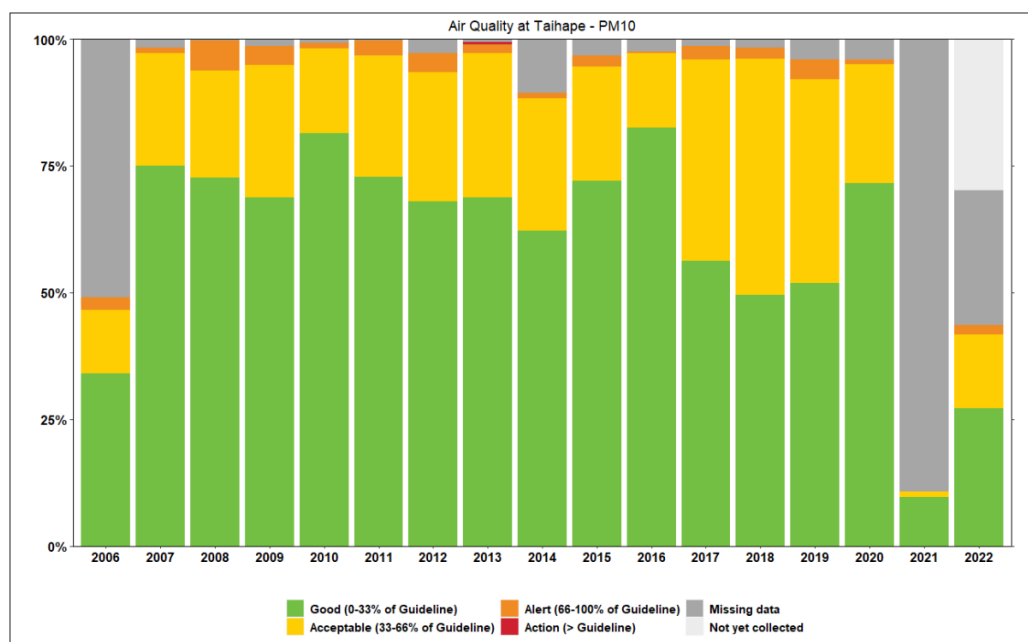


Figure 5 PM₁₀ concentrations in Taumarunui by year.

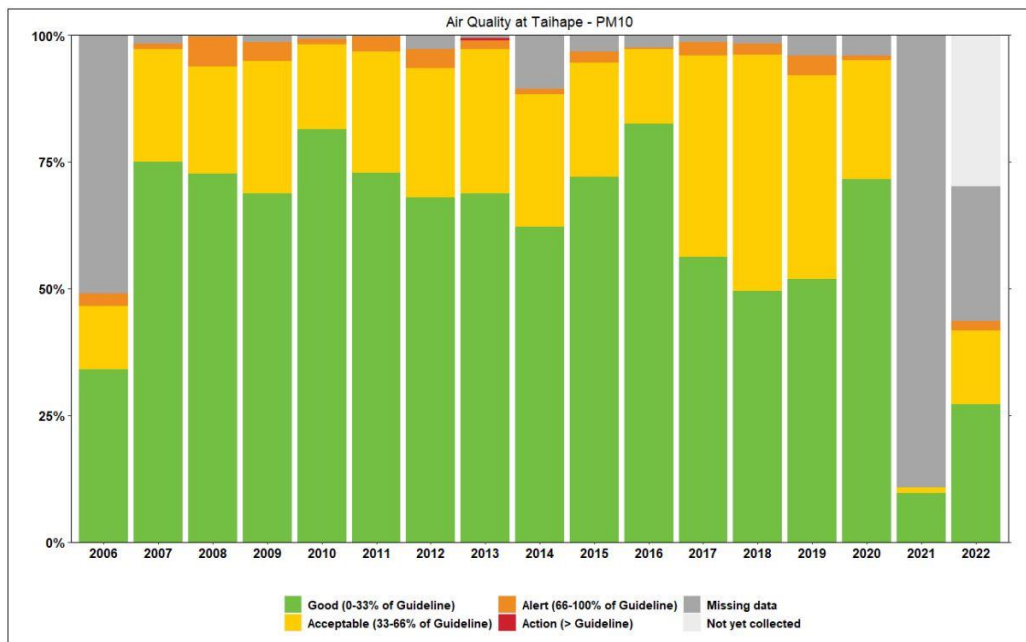


Figure 6 PM₁₀ concentrations in Taihape by year



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