

**Tasman Resource Management Plan
Efficiency and Effectiveness Evaluation**

Chapter 34: Discharges to Air

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Executive Summary

This report reviews the effectiveness and efficiency of the provisions in Chapter 34 'Discharges to Air' in the Tasman Resource Management Plan (TRMP).

The chapter is concerned with two main issues:

- 1) adverse health, safety and amenity effects from discharge of contaminants to air; and
- 2) adverse effects from the use of pesticides in the District.

Ambient Air Quality

The objective and policies relating to ambient air quality are largely implemented via rules in the TRMP. The provisions address both urban and rural air quality issues, such as domestic wood burners, industrial combustion and abrasive blasting, offensive or objectionable odour, and outdoor burning. The internal consistency of the Chapter's objectives, policies and rules is strong.

The chapter 'gives effect to' the National Environmental Standard (NES) for Air Quality 2004 (updated 2011, and further amendments are currently being consulted on at the time of writing). Under the NES, councils are required to identify and monitor airsheds where air quality standards are likely to be breached. As a consequence, the TRMP identifies the Richmond Airshed as it exceeds the national standard for concentrations of particulate matter (PM10) during winter months. The main source of air pollution is burning wood for home heating and controls on the types of domestic wood burners that can be installed in homes has also been applied through the TRMP.

Tasman District Council's (TDC) implementation of the NES has had a positive influence on air quality. As a consequence, the number of days that have exceeded the NES Air Quality standard for PM10 in the Richmond airshed has reduced from 40 in 2004 to four in 2019. The response by TDC to the NES, including through regulatory provisions in the TRMP and non-regulatory initiatives (such as education programmes and promotion of best practice) has clearly had a positive effect and helped contribute to an improvement in air quality. However, there has been no significant decrease in median PM10 concentrations in Richmond from 2010 to 2019 and the airshed consistently exceeds the national standard for PM10. Additionally, winter concentrations of PM2.5 are high and have exceeded the World Health Organisation's guidelines on numerous days each year since monitoring began in 2015. The Richmond Airshed home heating rules adopted by Council have not achieved compliance with the NES for PM10.

Implementation of the outdoor burning policies through permitted activity rules and the identification of Fire Sensitive Areas (shown on the planning maps) have been ineffective. Outdoor burning is a typical land management tool used by rural industries (e.g. forestry, horticulture, orchards) and lifestyle blocks. Permissive outdoor burning rules, examples of poor implementation of best practice burning, and the cumulative effect of outdoor fires all contribute to poor winter air quality. This in turn generates a significant number of complaints.

There are some key weaknesses with the ambient air quality provisions which the plan review will need to address, namely:

- Identify how to best manage air quality effects from domestic wood burners, while providing for efficient home heating.
- Identify how to best manage air quality effects from outdoor burning and enabling best practice burning as a land management tool, where this is assessed as the best practicable option.

- Review the boundaries of the Fire Ban and Fire Sensitive Areas to ensure they provide sufficient protection against air pollution and loss of amenity from smoke nuisance for urban settlements.

Discharge of Pesticides

The objective and policies relating to pesticide discharges are also largely implemented via TRMP rules. Rules focused on the discharge of 1080 from air to land for possum and other vertebrates, and controls are concerned with ensuring the pesticide is accurately dispersed in the appropriate areas and avoids contaminating water and non-target land. Rules dedicated to the pesticide sprays address risks to air, land and water, including reverse sensitivity effects from spray drift. However, these rules overlap with more recent legislative changes. The Resource Management (Exemption) Regulations 2017 exempt the discharge of brodifacoum, rotenone, and sodium fluoroacetate (1080) from the requirements of RMA s15 subject to conditions – meaning that discharges that comply with the regulations are not bound by TRMP rules and do not require resource consent. Additionally, there is now a framework in place of other legislation, administered by other agencies, that regulates pesticide use (including the Health and Safety at Work (Hazardous Substances) Regulations 2017; Health and Safety at Work Act 2015; and Hazardous Substances and New Organisms Act 1996) and industry requirements and codes of practice through WorkSafe New Zealand and Growsafe. The plan review will need to determine what remains of Council’s statutory obligations for managing pesticide use under the RMA, and what is regulated by other agencies under other legislation.

A review of consent data indicates pesticide use is increasing in the District, contrary to the TRMP objective to reduce pesticides. Permitted discharges (including agricultural, horticultural and forestry use of herbicides) is likely to account for a significant proportion of pesticide use in the District. However, without knowing the extent of these permitted activity discharges, and whether this is increasing or decreasing, it is not possible to accurately assess overall pesticide use. Despite this, pesticide residues are not making their way into surface or groundwater to any notable degree, where water quality monitoring data is available.

A review of the objective and policy framework highlighted that pesticide and fertiliser use is dealt with separately within the plan (e.g. pesticides is included in Chapter 34 Discharges to Air; fertiliser is included Chapter 33 Discharges to Land and Freshwater). However, the risks and environmental effects are largely the same (e.g. adverse effects on human health and the environment).

In light of legislative changes and overlap of pesticide and fertiliser use as noted above, the TRMP review will need to provide greater clarity on the management of pesticide and fertiliser discharges.

Recommendations

The following recommendations provide a summarised assessment of the effectiveness and efficiency of the specific Chapter 34 provisions. They consider the need for change in the objective and policy framework and intend to inform the review of the TRMP. Refer to the body of this report for full analysis and detailed information from which these recommendations are drawn.

The recommendations provide an initial step in the plan review process. Subsequent information, including from iwi, political and public input, new information and legislative change will affect final proposals.

Ambient Air Quality

Objective Set	Recommendations
<p>General</p>	<ul style="list-style-type: none"> Review Chapter 34 to achieve full compliance with the NES Air Quality (as updated in 2011, or a more recent update when it is finalised) – specifically controls which will enable the Richmond airshed to achieve compliance with the PM standards. Review the issue statements for ambient air quality to ensure they accurately capture the matters to be addressed by TRMP provisions. Refer to ‘particulate matter’ rather than ‘PM10’ throughout this chapter, as this broader term also encompasses PM2.5.
<p>Objective 34.1.2</p> <p>The discharge of contaminants to air in such a way that avoids, remedies or mitigates adverse effects while:</p> <p>(a) maintaining existing air quality; and</p> <p>(b) enhancing air quality where existing quality is degraded for natural or human uses or values.</p>	<ul style="list-style-type: none"> Review; this objective is broad and doesn’t provide specificity; (a) means air quality can’t get worse, which seems unattainable - as soon as a discharge is emitted into air there is an adverse effect; place emphasis instead on effects on receiving environment (i.e. human health and the environment) as per Issue 34.1.1.1. Consider having separate objectives, e.g. addressing overall air discharges, discharges in the Richmond Airshed, discharges in urban settlements, and discharges in rural areas.
<p>Policy 34.1.3.1</p> <p>To ensure that any discharges of contaminants to air are undertaken in a way that avoids, remedies or mitigates any adverse effects on the receiving environment or surrounding activities.</p>	<ul style="list-style-type: none"> Review; lacks specificity and simply quotes ‘avoid, remedy, mitigate’; this is a general policy and its intent needs to be distinct from the other general policies (e.g. 34.1.3.2 & 3).
<p>Policy 34.1.3.2</p> <p>To allow or regulate contaminant discharges to air in relation to their actual or potential contamination effects, including:</p> <p>(a) adverse effects on human health;</p> <p>(b) adverse effects on amenity values;</p> <p>(c) contamination of adjacent sites;</p> <p>(d) degradation of water quality;</p> <p>(e) the production of objectionable, noxious or offensive odours.</p>	<ul style="list-style-type: none"> Retain with amendments; refer to ‘off-site contamination’ in (c) rather than ‘adjacent sites’, which can be interpreted narrowly as immediate neighbours only; include ‘adverse effects on flora and fauna’ in the list (this is particularly relevant for fertiliser plants).
<p>Policy 34.1.3.3</p> <p>To provide for contaminant discharges to air while maintaining or enhancing the ambient air quality.</p>	<ul style="list-style-type: none"> Review; this policy is contradictory as any discharge is going to degrade air quality (as above); this makes it difficult to meet RMA s104d pathways.
<p>Policy 34.1.3.4</p> <p>To provide for management of some actual and potential adverse effects of discharges to air -</p>	<ul style="list-style-type: none"> Retain; useful to have this policy as can cross-reference with earthworks / site development

Objective Set	Recommendations
<p>particularly odour and dust effects - as ancillary to land use activities, and to take them into account when resource consent applications are being considered.</p>	<p>activities; consider removing the word 'some' from the first line.</p> <ul style="list-style-type: none"> • Provide a sound policy-rule framework to enable appropriate compounds/methods for dust suppression as a permitted activity (council is currently giving 5 year consents to companies who use them).
<p>Policy 34.1.3.5 To avoid adverse effects of discharges to air from outdoor burning in parts of Motueka and Richmond urban areas by banning the activity in those areas.</p>	<ul style="list-style-type: none"> • Review the extent of fire ban boundaries with a view to expanding them for all urban areas, not just Motueka and Richmond, and reword policy accordingly. • Consider adding a policy below this one regarding outdoor burning, to have specific controls on the Motueka and Waimea plains;
<p>Policy 34.1.3.6 To mitigate the adverse effects of discharges to air from outdoor burning in rural areas and rural settlements and to ensure best practice is adopted when burning to mitigate adverse cross-boundary effects of fires.</p>	<ul style="list-style-type: none"> • Review; consider separating into two policies: 1. addressing discharges from outdoor burning in rural areas (assuming all rural settlements are included in Policy 34.1.3.5 above which bans outdoor burning in all settlements), and 2. addressing adoption of best practice. • Review the extent of fire sensitive areas as shown on the planning maps and the role it plays in managing outdoor burning (e.g. used as a buffer area between fire ban areas and the wider rural area); refer to fire sensitive areas in the appropriate policy. • Strengthen policy–rule relationship for best practice in line with new research on effective outdoor burning methods; consider including methods in rules to a greater extent (where practicable) to assist with implementation and enforcement, e.g. aspects such as how long the material has dried for, whether it's rain wet, how the burning pile is built. • Consider adding a policy promoting alternative methods to burning for disposing of material, e.g. mulching; require assessment and justification of why burning is the best practicable option. • Review permitted activity rule allowing horticultural burning of diseased wood after only 7 days drying.
<p>Policy 34.1.3.7 To consider other resource management techniques such as buffer areas, separation distances, landscaping or planting requirements, or covenants over the land's title as an alternative means of</p>	<ul style="list-style-type: none"> • Retain with amendments; make this policy more directive, e.g. 'To apply relevant...' instead of 'To consider...'; specify that techniques like buffers should be on the applicant's property (i.e. where the outdoor burning takes place), not on the neighbours; reference to 'landscaping' is useful

Objective Set	Recommendations
protecting sensitive areas or activities from the adverse effects of discharges to air.	for ongoing activities such as quarrying; ditto for covenants on neighbouring titles following subdivision, to say there are effects that you have to live with, e.g. dust (reverse sensitivity issue).
<p>Policy 34.1.3.8</p> <p>To adopt the best practicable option for discharge of contaminants to air associated with activities which are temporary or informal in nature.</p>	<ul style="list-style-type: none"> • Retain with amendments; this is a useful policy that can apply to pesticides, dust, odour etc; consider removing or changing the word ‘informal’ as it’s not clear what this means.
<p>Policy 34.1.3.9</p> <p>To discourage the introduction of new discharges to air in the Coastal Marine Area.</p>	<ul style="list-style-type: none"> • Retain; discharges to the CMA has separate set of rules and needs this policy; it relates to rule banning burning on foreshore; use of ‘discourage’ allows room to move when assessing applications (whereas ‘avoid’ would give less room to move). • Consider adding a policy to address cross boundary effects of discharges to / from CMA / Nelson.
<p>Policy 34.1.3.10</p> <p>To work with other agencies with responsibility for managing air quality, to recognise other statutes regulating discharges to air, and to support nationally co-ordinated policies for the management of motor vehicle emissions, ozone layer depleting substances and substances contributing to global warming.</p>	<ul style="list-style-type: none"> • Retain with amendments; enables other work to happen that otherwise wouldn’t be covered; consider adding ‘including’ to emphasis it’s not an exhaustive list; consider removing the word ‘motor’ and just referring to ‘vehicle emissions’ (e.g. this would then encompass boats).
<p>Policy 34.1.3.11</p> <p>To manage air quality to meet National Environment Standards for ambient air quality, especially in relation to concentrations of PM10.</p>	<ul style="list-style-type: none"> • Retain with amendments; delete last part of policy ‘especially in relation...PM10’, as likely will need to monitor particulate matter other than PM10 (e.g. PM2.5); update as necessary when latest Air Quality NES is finalised.
<p>Policy 34.1.3.12</p> <p>To improve air quality in urban settlements, especially in the Richmond Airshed, where ambient air quality is degraded because of PM10 concentrations by:</p> <p>(a) preventing new solid fuel burners, except pellet fires, from being installed in the Richmond Airshed;</p> <p>(b) enforcing performance standards for levels of smoke, odour and particulate emissions from chimneys in urban areas, especially the Richmond Airshed;</p> <p>(c) enforcing standards for small-scale, solid fuel-burning appliances when a property changes ownership in the Richmond Airshed;</p> <p>(d) ensuring a high level of public awareness about effects of PM10 on human health;</p> <p>(e) advocating and encouraging a reduction in the number of houses using solid fuel, except for pellet fires, for home heating in the Richmond Airshed;</p>	<ul style="list-style-type: none"> • Review; in light of planned work to better understand the nature of Richmond Airshed, to implement the air quality NES, and to reflect improvements to wood burner technology (such as ultra-low emission wood burners); e.g. (a) could be amended to focus on ‘avoiding any total increase in emissions in the Richmond Airshed’ rather than focusing on use of solid fuel burners. • Consider having two separate policies, one dealing specifically with the Richmond Airshed, the other with the more general points.

Objective Set	Recommendations
<p>(f) advocating and encouraging improved operation of existing solid fuel appliances to reduce nuisances and levels of PM10 being discharged;</p> <p>(g) advocating and encouraging use of sustainable housing design, including those that take advantage of solar energy and insulation technology;</p> <p>(h) taking into account effects of vehicle emission on ambient air quality in road transport, cycle and pedestrian strategies.</p>	
<p>Policy 34.1.3.13</p> <p>To mitigate the adverse effects of PM10 and other contaminant discharges from industries in the Richmond Airshed by regulating discharges according to whether they are likely to be a significant source of PM10 in the Airshed, and:</p> <p>(a) requiring adoption of best practice methods to reduce emissions of PM10 and other contaminants;</p> <p>(b) requiring emissions testing and dispersion modelling for any discharge likely to have a significant effect on ambient air quality, including ambient concentration of PM10;</p> <p>(c) where an existing discharge is likely to be a significant source of PM10 in the Airshed, taking into account:</p> <p>(i) social and economic benefits of allowing the activity to continue;</p> <p>(ii) level of investment into the activity;</p> <p>(iii) opportunities to reduce PM10 emissions by at least 10 percent.</p>	<ul style="list-style-type: none"> • Retain intent, but review; the NES trumps (c) (i) & (ii) by putting in hard standards that must be met regardless of social benefits or level of investment; reconsider the word ‘significant’, e.g. is ‘more than minor’ more suitable?
<p>Policy 34.1.3.14</p> <p>To take into account national guidelines for air quality when considering applications to discharge contaminants into the air.</p>	<ul style="list-style-type: none"> • Retain with amendments; the policy reference to guidelines is useful; consider specifying the types of guidelines the policy relates to; could remove the word ‘national’ as some guidelines come from other countries.
<p>Policy 34.1.3.15</p> <p>To work closely with Nelson City Council to manage adverse effects of discharges to air that may cross into any airshed in Richmond or Nelson City especially where the airshed exceeds ambient air quality standards for PM10.</p>	<ul style="list-style-type: none"> • Retain; this policy is relevant as there are discharges coming from Nelson in certain situations, e.g. from the port. • Consider adding a policy (possibly in TRPS) talking more generally about working with NCC on air quality issues.
<p>Policy 34.1.3.16</p> <p>To take into account potential adverse effects on ambient winter-time PM10 concentrations in the Richmond Airshed of discharges to air that may enter the Richmond Airshed.</p>	<ul style="list-style-type: none"> • Retain; this policy supports 34.1.3.15.

Objective Set	Recommendations
District Plan Air Discharge Provisions	
<p>Policy 6.8.3.18 (refer Chapter 6) <i>Richmond</i> To manage existing industrial activities in the Beach Road area that do not meet the Mixed Business Zone objectives for clean industry by: (ii) requiring a reduction in contaminant discharges to air to a level acceptable in the zone;</p>	<ul style="list-style-type: none"> • Retain and review in light of possible zoning changes (discussed in Chapter 6 'Urban Environment Effects' evaluation report).

Discharge of Pesticides

Objective set	Recommendations
<p>General</p>	<ul style="list-style-type: none"> • Review the issue statement for pesticide discharges to ensure it accurately captures the matters to be addressed by TRMP provisions. • Review alongside TRMP Part II in relation to rural land development rules (e.g. subdivision matters and land use controls such as setbacks). • More clearly differentiate between discharges of pesticide sprays to air and discharge of pesticides from air (e.g. aerial drops of 1080). • Consider combining provisions for pesticide and fertiliser use, and include them in an appropriate chapter, e.g. Chapter 33 'Contaminant Discharges'.
<p>Objective 34.2.2 The reduction in use of pesticides in the District while avoiding, remedying or mitigating the adverse effects of pesticide use.</p>	<ul style="list-style-type: none"> • Review; is reducing pesticide use an appropriate focus for the objective and how would council monitor this? Consider reframing the objective to focus on specific effects of pesticide use to be avoided / managed. • Consider adding an objective(s) to address relevant matters other than pesticide use, particularly fertiliser discharges which currently has no objective-policy 'home'.
<p>Policy 34.2.3.1 To avoid, remedy or mitigate any adverse effect on human health or the environment from the discharge of pesticides, particularly through spray drift or discharge into water bodies.</p>	<ul style="list-style-type: none"> • Retain and review; these policies are useful in addressing concerns about pesticide spray drift and cross boundary effects. • Include additional policies as necessary to address any new objectives (e.g. for fertiliser discharges). • Review the need for TRMP provisions covered by other regulations, such as the discharge of animal pesticides (including 1080) under the Resource Management (Exemption) Regulations 2017.
<p>Policy 34.2.3.2 To promote good practice in the use of pesticides to avoid or mitigate any actual or potential adverse effects of the discharge, particularly adverse effects beyond the property boundary.</p>	

1. Purpose Statement

The purpose of this evaluation of the TRMP is to determine the effectiveness and efficiency of the provisions contained within it. It helps us understand if the TRMP provisions are doing what they're meant to do.

This evaluation process is a fundamental step in the policy review cycle and a requirement of the Resource Management Act. It informs good quality plan-making and helps maintain confidence and integrity in the process.

The results of this evaluation will inform the review of the Tasman Resource Management Plan.

What do the terms mean?

Effectiveness: *“assess the contribution ... provisions make towards achieving the objectives and how successful they are likely to be in solving the problem they were designed to address”*

Efficiency: *“measures whether the provisions will be likely to achieve the objectives at the lowest total cost to all members of society, or achieves the highest net benefit to all of the society”*

(Ministry for the Environment s.32 Guidance)

Key Evaluation Questions

What we need to keep in mind

- ✓ Are we focused on the right issues?
- ✓ Have we done what we said we'd do?
- ✓ Have we achieved what we said we'd achieve?
- ✓ How do we know our actions led to the outcome observed?
- ✓ Have we achieved that outcome at reasonable cost (could we have achieved it more cheaply)?
(Enfocus, 2008)

2. Scope

2.1 Regional Plan Provisions Reviewed

Part VI of the TRMP deals with discharges and is made up of the following chapters:

- Chapter 33 Discharges to Land and Fresh Water;
- Chapter 34 Discharges to Air
- Chapter 35 Discharges to the Coastal Marine Area; and
- Chapter 36 Rules for Contaminant Discharges

This report addresses Chapter 34, which is concerned with the following broad issues:

1. **34.1 Ambient Air Quality:** Actual and potential adverse health, safety and amenity effects from discharge of contaminants to air; and maintenance and enhancement of air quality in rural and urban areas.
2. **34.2 Discharge of Pesticides:** Adverse effects from the use of pesticides in the District.

Two objectives and 18 policies have been adopted in addressing the Chapter issues, as shown in Table 1 below. There is also a related air discharge policy in Chapter 6 of the TRMP, which is shown red in the table. This provision has been assessed alongside the Chapter 34 regional plan provisions.

Table 1: Scope of the Evaluation

Chapter 34	Objective	Policies
34.1 Ambient Air Quality	34.1.2	34.1.3.1 – 34.1.3.16 6.8.3.18
34.2 Discharge of Pesticides	34.2.2	34.2.3.1 – 34.2.3.2

2.1.1 Ambient Air Quality

This objective seeks contaminant discharges to air that avoid, remedy or mitigate adverse effects while (a) maintaining existing air quality; and (b) enhancing air quality where existing quality is degraded. The 16 policies address air discharges in both urban and rural areas, including outdoor burning, measures to protect sensitive areas, meeting the requirements of the National Environmental Standards on air quality, improving air quality in the Richmond Airshed, and working with other national and local organisations (including Nelson City Council) on a range of air discharge matters, including cross-boundary effects.

Table 2 below lists a number of provisions relating to dust and odour emissions which are located in Part II of the TRMP (Chapters 5, 7 and 11). The effects of these emissions on ambient air quality are intended to be addressed in those chapters, not Chapter 34, as explained in the TRMP (p.34/5): “The Council will consider odour and dust emissions as effects of land use activities rather than regulating them as discharges to air to avoid overlaps and to ensure the effects of the odour are considered in the context of where they occur”. The effectiveness of these provisions are therefore considered in the relevant chapter Evaluation Reports.

Table 2: Provision Relating to Dust and Odour Emissions in Part II of the TRMP

TRMP Part II Chapter	Relevant Chapter Provisions
<p>Chapter 5 Site Amenity Effects</p>	<p>Policy 5.1.3.9 To avoid, remedy or mitigate effects of: (b) dust and other particulate emissions; (d) odour and fumes; beyond the boundaries of the site generating the effect.</p>
<p>Chapter 7 Rural Environment Effects</p>	<p>Policy 7.4.3.2 To provide for rural activities which may involve levels and types of effects, including noise, dust, smoke and odour, that may be permanent, temporary or seasonal, and that may not meet standards typically expected in urban areas.</p>
<p>Chapter 11 Land Transport Effects</p>	<p>Policy 11.1.3.4 To avoid, remedy or mitigate adverse effects of traffic on amenity values.</p> <p>Policy 11.2.3.3 To promote transport routes, and approaches and methods of design, construction, and operation which avoid, remedy, or mitigate adverse effects on: (c) air and water quality;</p> <p>11.2.30 Principal Reasons and Explanation The existence of the roading network creates adverse effects on adjacent land uses and the quality of living and other environments. Traffic emits fumes and noise, and can generate dust and other contaminants.</p>

2.1.2 Discharge of Pesticides

The second objective in Chapter 34 seeks a reduction in use of pesticides in the District while avoiding, remedying or mitigating the adverse effects of pesticide use. The two policies are concerned with managing effects on human health and the environment, particularly from spray drift or discharge of pesticides into waterways; and promoting good practice in the use of pesticides, particularly to avoid effects beyond the property boundary.

Pesticides are defined in the TRMP as:

any substance that is used to eradicate, modify, or control flora or fauna that:
(a) is a hazardous substance under the Hazardous Substances and New Organisms Act 1996 having any of the following intrinsic properties:
(i) toxicity (including chronic toxicity);
(ii) ecotoxicity (with or without bioaccumulation); or
(b) on contact with air or water generates a substance which has any of these properties;
and includes herbicides and fungicides but excludes any fertiliser or animal remedy.

Regulatory methods adopted in the TRMP to implement the policies include:

- TRMP rules (set out in Chapter 36) that (a) establish permitted discharge activities and those requiring consent; (b) control the discharge of pesticides to land, air and water; (c) enable conditions that promote the best practicable option, standards for emissions or financial contributions; (d) take into account international and national standards; (e) establish

measures to reduce cross-boundary effects of pesticide use; and (f) require training for pesticide users.

- Enforcement or abatement action procedures where necessary.

In support of the Chapter's objectives, a number of non-regulatory methods are set out:

- Education and advocacy, including public information programmes, best practice guidance, and promotion and support for land management practices that avoid adverse effects.
- Investigation and monitoring, including an air quality monitoring programme (with Nelson City Council), and support for research about adverse effects of pesticide use.
- Works and Services through provision of transport, cycling and pedestrian strategies that include measures to improve air quality in urban areas.

The environmental outcomes sought from implementation of the chapter rules and methods are:

1. Maintenance or enhancement of ambient air quality throughout the District over time.
2. A reduction in complaints about discharge to air, particularly dust, smoke, pesticide spray and odour nuisance occurrences over time.
3. Avoidance of land use incompatibilities due to discharges to air.
4. Continuation of some localised and/or temporary reductions in air quality.
5. Improved knowledge about the quality of the air resource in the District.

2.2 Timeframe of Evaluation

The evaluation was conducted from July 2019 to May 2020.

2.3 Summary of Methodology

Broadly, the methodology of this evaluation follows the Plan Outcomes Evaluation process. Plan Outcome Evaluation involves:

1. An examination of the outcomes being sought – what are the objectives trying to achieve?
2. Tracking how the plan has been designed to affect the outcomes – do the intentions in the objectives get carried through to the rules and methods? Are the provisions efficient?
3. Assessing if the provisions have been implemented – what evidence is there that the provisions are being applied to relevant activities?
4. Assessing relevant environmental trends and 'on the ground' data to conclude if the Plan has been successful in achieving its intentions. This includes consideration of the external factor influences such as legislative changes, national policy statements, case law, significant economic changes, demographics etc.

Throughout the evaluation, there is an emphasis on attributing the activities enabled or controlled by the TRMP to observed outcomes. However, attributing outcomes to the TRMP must always be viewed in the wider context of changes. These are noted where known, but it is beyond the scope of this evaluation to capture all of the changes and influences that affect outcomes in our communities and environment.

Limitations with the Plan Outcome Evaluation approach also arise where environmental outcome data is poor, or where there are multiple factors driving outcomes. Time, resourcing and quality of data also affects the comprehensiveness of the evaluation.

To address some of these limitations, the evaluation process has included a ‘rapid assessment’ technique. The technique draws on the combined knowledge and expertise of local TDC staff, and topic experts to create an understanding of plan implementation, efficiency and outcomes. The rapid assessment outputs are supplemented with:

- environmental data or expert reports where available
- Council data (e.g. air quality information, monitoring data, consenting and compliance database information, models, monitoring reports required by consent condition).
- mapping and imagery (e.g. GIS, aerial imagery, LiDAR).
- information or reports prepared during plan change processes (e.g. s.32 Reports, Issues and Options papers, technical reports, submissions, community meetings).

The data sources that have been used for evaluating Chapter 34 are shown in Table 3 below:

Table 3: Information Sources Used in Evaluation

Data source/s	Details and Notes
Rapid Assessment	<ul style="list-style-type: none"> • Meeting with Environmental Policy staff held 5th December 2019 • Workshop with council staff held on 16th December 2019 (representatives from Environmental Policy, Resource Consents, Environmental Information, Compliance)
Councillor input	<ul style="list-style-type: none"> • Workshop held on 20 May 2020
External reports	<ul style="list-style-type: none"> • Legal report for s35 review, Tasman Law, June 2019 • Iwi management plans • EPA annual reports for pesticide use • MfE guidance on implementing the NES - Air Quality • MPI guidance on implementing the NES - Plantation Forestry • MfE State of Aotearoa report 2019
Council reports	<ul style="list-style-type: none"> • Annual air quality reports • State of the Environment monitoring reports • Tasman Resource Management Plan Policy Mapping (Leusink-Sladen, 2019) • Stage 2 of TRPS Efficiency and Effectiveness Review: Statutory Obligations (Mason, 2019)
Council records (MagicBR/NCS/databases)	<ul style="list-style-type: none"> • MagiQ BI – Resource consents data • Complaints database

2.4 Summary of Consultation

The following consultation has been undertaken during the preparation of this evaluation.

2.4.1 Tasman District Councillors

A workshop with elected Councillors was held on 20 May 2020 discussing key issues and recommendations identified for the discharges to air chapter. No additional issues were raised by Councillors at this workshop. Councillors provided feedback on the identified issues and these comments have been incorporated into the relevant sections of this report, where appropriate.

2.4.2 Tasman Environmental Policy Iwi Working Group

The iwi of Te Tau Ihu, as tāngata whenua, have a unique relationship with Tasman District Council. There are a number of legislative requirements which oblige us to engage more collaboratively with iwi and Māori - including provisions in the Resource Management Act, Local Government Act and Treaty of Waitangi settlement legislation. To support this a separate section 35 report with a focus on iwi/Māori provisions has been prepared. Please refer to that report for a record of consultation undertaken.

3. Effectiveness and Efficiency Evaluation

3.1 Context

The primary legislation affecting Chapter 34 is the Resource Management Act (RMA). The purpose of this Act is to promote the sustainable management of natural and physical resources (s5, RMA). The definition of natural and physical resources specifically includes air (s2). Moreover, one of the key requirements of sustainable management is safeguarding the life-supporting capacity of air (s5(2)(b)).

Section 15 of the RMA deals with discharges and states that no-one may discharge a contaminant to air unless the discharge is expressly allowed by a national environmental standard or other regulations, a rule in a regional plan, or a resource consent.

The RMA defines a contaminant as:

Any substance (including gases, odorous compounds, liquids, solids, and micro-organisms) or energy (excluding noise) or heat, that either by itself or in combination with the same, similar, or other substances, energy, or heat—

(a) when discharged into water, changes or is likely to change the physical, chemical, or biological condition of water; or

(b) when discharged onto or into land or into air, changes or is likely to change the physical, chemical, or biological condition of the land or air onto or into which it is discharged.

3.1.1 Legislation Changes

The following amendments to the RMA have some bearing on Chapter 34 provisions. They will need to be taken into account when the TRMP is updated.

Resource Management (Exemption) Regulations 2017

These regulations were made under section 360(1)(h) of the RMA and apply exemptions from s15 requirements with respect to discharges to land, water or air. The aim of the 2017 regulations is to simplify and streamline the regulatory regime for certain pest control agents used against vertebrate animals (such as rats, stoats and possums), and to avoid duplication with other legislation, notably the Hazardous Substances and New Organisms Act 1996 (HSNO) and the Agricultural Compounds and Veterinary Medicines Act 1997.¹ The regulations exempt the discharge of brodifacoum,

¹ For further details see <https://www.mfe.govt.nz/more/briefings-cabinet-papers-and-related-material-search/cabinet-papers/resource-management>

rotenone, and sodium fluoroacetate (1080) from the requirements of s15 subject to conditions. This means that discharges that comply with the regulations are not bound by TRMP rules and do not require resource consent. The TRMP rules will therefore need to be reviewed for relevance and to avoid duplication.

Resource Legislation Amendment Act 2017

The explicit function for councils to control hazardous substances has been removed from RMA ss30 & 31. This is to avoid duplication with HSNO, the Health and Safety at Work Act 2015 and the Health and Safety at Work (Hazardous Substances) Regulations 2017 (HSW). The intention is that in most cases HSNO and HSW controls will be adequate to avoid, remedy or mitigate adverse environmental effects (including potential effects) of hazardous substances.

However, Councils still have a broad function of achieving integrated management, and may use this function to place extra controls on hazardous substance use under the RMA, if existing HSNO or HSW controls are not adequate to address the environmental effects of hazardous substances.

The hazardous substances provisions in the TRMP therefore need to be reviewed and removed where they overlap with HSNO and HSW functions. Areas where the RMA may still be applied include managing discharges of hazardous substances/contaminants to land, water and air.²

RMA Amendment: Protected Customary Marine Title Areas

A new matter of national importance, s6(g) “*The protection of protected customary rights*”, was added to the RMA following the enactment of the Marine and Coastal Area (Takutai Moana) Act in 2011.³ RMA ss61(2A) and 66(2A) were also amended to require regional councils to be ‘recognise and provide for’ relevant matters relating to customary marine title areas in regional policy statements and plans.

RMA S85A was amended so that plans must not permit activities that would have a ‘more than minor’ adverse effect on a recognised customary activity. Additionally, RMA S104(3)(c) was amended to restrict councils from granting a resource consent that would impact on wāhi tapu or cause ‘more than minor’ adverse effects on the exercise of a protected customary right (without written approval from the customary rights group).

Nine applications in the Tasman District have been made to have customary marine rights formally recognised. Decisions on these applications are pending. The effects of point source discharges (including discharges to air) on approved customary marine title areas may need to be included as a consideration under the TRMP provisions.

Resource Management (Energy and Climate Change) Amendment Act 2004

New s7(i) added a requirement for local authorities to have particular regard to “the effects of climate change”. The amendment makes explicit that councils have a role in anticipating and adapting to the effects of climate change, such as increased risk and severity of natural hazards.

New s7(j) also added a requirement for local authorities to have particular regard to “the benefits to be derived from the use and development of renewable energy”. New ss70A & 104E was added to

² From the Quality Planning website. 2019. *Hazardous Substances Under the RMA*. <https://www.qualityplanning.org.nz/node/695>

³ MACA also repealed the earlier Resource Management (Foreshore and Seabed) Amendment Act 2004.

specify that councils are **not** to consider the effects of greenhouse gas discharges on climate change, “except to the extent that the use and development of renewable energy enables a reduction in the discharge into air of greenhouse gases”. In other words, the TRMP is not able to have provisions aimed at regulating discharges to air because of their likely or potential impacts on climate change. However, this stance was reviewed by Government in 2019/2020 and the RMA was amended in order to provide councils with powers to regulate the discharge of greenhouse gases, as detailed below.

Resource Management Amendment Act 2020

Amendments were made to the RMA that now allows councils to fully consider both the effects of climate change on development (adaption), and the effects of development on climate change (mitigation). The amendments focussed on climate change mitigation provides councils with the powers to regulate activities which may cause greenhouse gas emissions. This means that consents for projects such as coal mines and fossil fuel power stations can be declined if they will have significant climate change implications. This will come into effect from 31 December 2021, and the current Government is proposing to have prepared a national directive on climate change by that time.

3.1.2 National Directives

National Environment Standards (NES) are regulations issued under s43 of the RMA which prescribe standards for environmental matters. They must be enforced by councils and recognised as set out in s44A RMA, although in some circumstances councils can impose stricter or more lenient standards where specified by the NES.

National Environmental Standard for Air Quality 2004 (Updated 2011)

The Air Quality NES came into effect on 8th October 2004 and was updated in 2011. It is made up of 14 separate but interlinked standards, including:

- (a) Seven standards banning activities that discharge significant quantities of dioxins and other toxins into the air.
- (b) Five standards for ambient outdoor air quality.
- (c) A design standard for new wood burners installed in urban areas.
- (d) A requirement for landfills over 1 million tonnes of refuse to collect greenhouse gas emissions.

Under the NES, the geographic boundary of each regional council or unitary authority defines an ‘airshed’, within which each council is responsible for monitoring and managing air quality. In addition, the local authority may apply to the Minister for the Environment to partition off a part of their region as a separate airshed for air quality management. These sub-airsheds are specified by notice in the Gazette and are commonly known as ‘gazetted airsheds’.

In the Tasman District, the Richmond Airshed has been identified as a gazetted airshed and is monitored accordingly because it exceeds the standard for concentrations of particulate matter (PM10) during winter months. Richmond is therefore classified as a polluted airshed under the NES.

Changes introduced by the 2011 regulations extended the date councils had to comply with the ambient standard for PM10. For TDC this meant that the Richmond Airshed must meet the standards (with three exceedances allowed) by 1 September 2016, and only one exceedance allowed

by 1 September 2020. The 2011 regulations also banned new solid-fuel burning open fires in polluted airsheds after 1 September 2012.⁴

The NES for Air Quality is currently being reviewed. Included in the proposed changes are⁵:

- The inclusion of a standard for fine particulates (PM2.5);
- Retention of the standard for coarse particulates (PM10);
- Updated and/or appropriate methods for monitoring particulate matter;
- Stricter emission standards for home burners;
- Prohibitions on the use of mercury in industrial processes.⁵

The TRMP review will need to take account of the updated NES when it is finalised.

NES for Plantation Forestry 2018

The Plantation Forestry NES came into effect 1 May 2018. Its objectives are to: 1) maintain or improve the environmental outcomes associated with plantation forestry activities nationally; and 2) increase certainty and efficiency in the management of plantation forestry activities.

The regulations apply to any forest larger than one hectare that has been planted specifically for commercial purposes and harvest. They cover 8 core plantation forestry activities (afforestation; selective felling; earthworks; river crossings; forestry quarrying; harvesting; mechanical land preparation; replanting), allowing these to be carried out as permitted activities, subject to conditions to manage potential effects on the environment.

Under the NES, the discharge of dust to air associated with a plantation forestry activity is permitted provided that *“There must be no airborne or deposited dust beyond the boundary of the property from which the dust is sourced that is noxious, dangerous, objectionable, or offensive”*.⁶

Industry Procedures and Codes of Practice for Pesticides⁷

NZS8409:2004 Management of Agrichemicals

The New Zealand Standard NZS8409:2004 Management of Agrichemicals is an approved code of practice under the HSNO and Agricultural Compounds and Veterinary Medicines Act 1997. It provides guidance to ensure that agrichemicals are used in a safe, responsible and effective manner, while minimising any adverse effects on the environment or human and animal health.

Agrichemicals defined in NZS8409 include herbicides, insecticides and fungicides. Most agrichemicals covered by this Standard are classified as hazardous substances under the Hazardous Substances (Minimum Degrees of Hazard) Regulations and, depending on their hazard classifications, will have a range of controls placed upon them.

⁴ Ministry for the Environment (2011). *2011 Users' Guide to the revised National Environmental Standards for Air Quality: Updated 2014*. Wellington: Ministry for the Environment.

⁵ For more details see the consultation document - <https://www.mfe.govt.nz/publications/air/proposed-amendments-national-environmental-standards-air-quality-particulate-matter>.

⁶ For further details see Ministry for Primary Industries (2018). *Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017: User Guide*, pp.122-3; <https://www.mpi.govt.nz/growing-and-harvesting/forestry/national-environmental-standards-for-plantation-forestry/nep-pf-guidance/>

⁷ For an overview of legislative requirements for agrichemical use, including pesticides, see - https://www.growsafe.co.nz/StandardManual/The_Law/StandardManual/The_Law.aspx?hkey=4e704ebc-2ec0-4086-a0bf-54956726e192

The Standard covers, amongst others, agrichemicals for home and garden, nursery, turf, and amenity use, and fumigants. Some agrichemicals need to be handled by an Approved Handler. The Standard addresses, management, land transport, storage, supply, use, and disposal of agrichemicals, as well as emergency planning.

There have been no changes to NZS8409 since 2004, although a review is underway.⁸

Growsafe Standards and Certification

Under the Health and Safety at Work Act and associated regulations, all users of hazardous substances must be trained in their use. Whilst there is no specific certification requirement, the Growsafe certificates have been designed to meet the requirements set out in the regulations and to ensure compliance with the NZS8409.

Many regional councils, including TDC, require commercial users of agrichemicals to hold Growsafe certificates. The TRMP rules for pesticide use require Growsafe agrichemical rating and certification to meet permitted and controlled activity conditions. The TRMP defines these as follows:

Growsafe agrichemical rating – means a rating that is administered by the New Zealand Agrichemical Education Trust and is awarded to pilots after successful completion of the Growsafe training course for pilots carrying out aerial application of pesticides.

Growsafe standard certificate – means a certificate that is administered by the New Zealand Agrichemical Education Trust, and is awarded following successful completion of the Growsafe Standard training course.

The TRMP also encourages appropriate training of pesticide users in the correct use and application of pesticides, including through the Growsafe training programme and registered chemical applicators scheme developed by the New Zealand Agrichemical Education Trust (Method 34.2.20.2, p.34/7).

Hazardous Substances and New Organisms Act 1996 (HSNO)

The purpose of this Act is to protect the environment and the health and safety of people from the adverse effects of hazardous substances. HSNO is largely implemented by the Environmental Protection Authority. The workplace requirements are enforced by WorkSafe.

Its two guiding principles are:

- 1) safeguarding life supporting capacity of air, water, soil, and ecosystems
- 2) maintaining and enhancing the capacity of people and communities to provide for their future economic, social, and cultural wellbeing.

Under the Act, hazardous substances such as agrichemicals need to be approved before they can be used in New Zealand. Approvals may also be needed for the people who will use them, and where and under what conditions they are stored.

If an agrichemical is approved, it is given:

- One or more hazard classifications which, in turn,
- Trigger one or more controls (or rules) regarding its handling, storage and use.

⁸

https://www.growsafe.co.nz/GrowSafe/News_new/ReviewOfNZS8409/GrowSafe/News/Review_of_NZS8409.aspx?hkey=595449a9-5d04-4721-b93e-9334eb7207ac

The Environmental Protection Authority is no longer responsible for the safe use of substances hazardous to human health in the workplace (which is dealt with by Worksafe, discussed below) but they remain responsible for:

- Importation and manufacture of agrichemicals;
- Disposal of hazardous substances, including waste;
- Use of eco-toxic substances in all locations;
- Use of substances hazardous to human health outside the workplace.

Health and Safety at Work Act 2015 (HSW)

HSW aims to protect people against harm to their health, safety and welfare caused by risks arising from work, and is primarily implemented and enforced by WorkSafe.

The rules around managing hazardous substances that affect human health and safety in the workplace transferred from HSNO to the Health and Safety at Work (Hazardous Substances) Regulations 2017 under HSW. The rules and duties to mitigate risks posed by hazardous substances sit under:

- HSNO for non-work, public health and environmental risks; and specific requirements on importers and manufacturers of hazardous substances.
- HSW (including the Hazardous Substances Regulations) for work risks.

Council’s compliance staff have identified that there is now considerable overlap between the TRMP requirements for hazardous substances, including agrichemicals, and the roles and responsibilities of other agencies under the HSNO and HSW Acts. The extent of this duplication will need to be identified as part of the TRMP review and all redundant provisions removed.

3.1.3 Relevant Plan Changes

The TRMP has had a constant programme of rolling reviews (variations and plan changes) since it was first notified. The changes have been introduced to address unintended outcomes, new issues, new priorities and legislative requirements. The plan changes relevant to Chapter 34 are outlined in Table 4 below.

Table 4: Plan Changes Relating to Chapter 34

Plan Change or Variation	Description of Change and Key Matters
<p>Variation 31: Open Burning</p> <p>Notified 31 May 2003; Operative 26 Feb 2011</p>	<p>The TRMP was amended to regulate outdoor burning. Outdoor burning, including burning in incinerators, burning household rubbish and garden wastes, and burning arising from land clearance, causes adverse health, amenity and environmental effects because of smoke, particulate and odour emissions. Burning some wastes also results in the creation of dioxins. Outdoor fires result in adverse effects across property boundaries, particularly in urban areas.</p> <p>The variation prohibited outdoor burning in urban areas in Motueka and Richmond, with specific exceptions, and outdoor burning of some materials is prohibited in any location. In rural areas and the smaller rural settlements, the variation acknowledged that burning is still an appropriate option for managing some agricultural and garden waste but people are encouraged to consider alternative options to burning. In Fire Sensitive Areas (all other townships and on the outskirts of Motueka and Richmond), burning is not permitted during winter months when there is a higher risk of poor air quality and when there is</p>

	<p>greater risk of creating smoke nuisances. New special maps showing the Fire Ban and Fire Sensitive areas were also inserted to Part VI Discharges by the variation. Note – the proposed variation sought fire bans across all settlements, however as a result of the RMA Schedule 1 hearings and decisions process, most townships were given seasonal restrictions as Fire Sensitive Areas.</p>
<p>Variation 51: Air Quality Management</p> <p>Notified 13 Jan 2007; Operative 1 Nov 2008</p>	<p><i>Richmond</i></p> <p>The variation addressed the need to regulate sources of PM₁₀ to improve ambient air quality in Richmond and other townships in accordance with National Air Quality Standards. It introduced new regulation for the installation of small-scale (domestic) solid fuel appliances in Richmond. Existing burners and open fires are permitted to be replaced, but only with an appliance that meets minimum standards for PM₁₀ emissions. The discharge of any smoke from a non-compliant appliance once a house has changed ownership is prohibited.</p> <p>The Council will also provide regular information about air quality and the effects of PM₁₀ on health, alternative methods of home heating, measures to reduce energy use, and how to operate solid fuel appliances to minimise emissions of PM₁₀.</p> <p><i>Other Settlements</i></p> <p>New solid fuel appliances are required to meet minimum standards for emissions of PM₁₀. In rural areas residents are required to operate woodburners without causing nuisance to their neighbours. TDC will continue to enforce the regulation that requires clean air woodburners on any property that is less than 2ha in size.</p> <p><i>Industrial Emissions</i></p> <p>The variation introduced higher thresholds for industrial sources of PM₁₀. Existing emissions in the Richmond Airshed are mostly regulated by a controlled activity resource consent requirement, while any new sources of PM₁₀ are discretionary activities.</p> <p><i>Agrichemical Containers</i></p> <p>The variation also removed the permission for burning agrichemical containers where a product stewardship programme is in place. Agrecovery is an example of such a programme which delivers sustainable management of waste agrichemical containers.</p> <p><i>Provisions Introduced in Variation</i></p> <p>The variation added: six new policies (34.1.3.11 - 16); a range of new methods of implementation (34.1.20.1 - 4); three new permitted activity rules (36.3.2.2, 36.3.2.5 & 36.3.2.6); one new controlled activity rule (36.3.3.1); two new prohibited activity rules (36.3.7.4 & 36.3.7.5); and a new schedule setting out PM₁₀ daily allocation limits (Schedule 36.3A).</p>

3.1.4 Relevant Case law

Two legal cases – one local in neighbouring Nelson city, and one national - are of particular relevance to Chapter 34, as follows:

Brook Valley Community Group Incorporated v Brook Waimarama Sanctuary Trust [2017] NZHC 19447

The Brook Waimarama Sanctuary Trust (the Trust) intended to carry out three aerial applications of baits containing brodifacoum in the sanctuary (located in Nelson) in order to achieve pest eradication. The Trust relied on the Resource Management (Exemption) Regulations 2017 (the

Regulations), which exempts the discharge of brodifacoum from s15 of the RMA under certain conditions.

The Brook Valley Community Group challenged the validity of the Regulations in the High Court, and also argued that an additional resource consent was required under s13 of the RMA. The Community Group sought declarations that the Regulations were unlawful and that the aerial discharge of brodifacoum was prohibited under s13(1)(d) of the RMA. The High Court held that s13 was not applicable, and that the decision to promulgate the Regulations was properly authorised and made in accordance with all required considerations.

The High Court decision was essentially upheld with similar reasoning by the Court of Appeal in *Brook Valley Community Group Inc v Brook Waimarama Sanctuary Trust* [2018] NZCA 573.

Greenpeace New Zealand Inc v Genesis Power Limited [2008] NZSC 112

The Supreme Court case arose from Genesis Power Limited's proposed gas-fired power station at Rodney. Genesis sought a declaration from the Court of Appeal on whether Auckland Regional Council could have regard to the effects of the discharge to air of greenhouse gases when considering the application by Genesis. This followed an earlier decision of the High Court, in relation to Mighty River Power Limited's proposed Marsden B coal-fired power station, that the benefit of greenhouse gas reductions from the use of renewable energy is potentially relevant to all discharge applications, whether or not they propose the use of renewable energy.

The Supreme Court ruled that councils can only consider the effects (or benefits) of greenhouse gas emissions on climate change when assessing an application for the development of renewable energy. The effects (or 'dis-benefits') of greenhouse gas discharges from applications to develop non-renewable energy (such as coal or gas fired power stations) cannot be considered. Councils will only be able to regulate greenhouse gas emissions if a NPS or NES directs them to do so and currently there are none.⁹

However, as noted above, recent changes to the RMA mean that councils will be able to consider the effects of greenhouse gas emissions from 31 December 2021, and the current Government is proposing to have prepared a national directive on climate change by that time.

3.1.5 Relevant Iwi Management Plan Provisions

Both the RMA (s66(2A)) and NZCPS 2010 (Policy 2) require TDC to "take into account" any relevant iwi planning document recognised by the appropriate iwi authority (or hapū under the NZCPS) and lodged with the council, to the extent that its content has a bearing on resource management issues in the district.

Iwi Management Plans can be wide reaching in scope, for example an iwi management plan may document iwi worldview and aspirations for the management of resources, or a plan may focus on a single issue or resource.

Three Iwi Management Plans (IMPs) have been lodged with TDC by Iwi having interests in the Tasman District:¹⁰

⁹ For more analysis see <https://www.chapmantripp.com/publications/Supreme-Court-dismisses-Greenpeace-climate-change-appeal>

¹⁰ <https://www.tasman.govt.nz/my-region/iwi/iwi-management-plans/>

1. Ngati Koata No Rangitoto Ki Te Tonga Trust Iwi Management Plan (2002)
2. Te Rūnanga O Ngāti Kuia, Pakohe Management Plan (2015)
3. Ngāti Tama ki Te Waipounamu Trust Environmental Management Plan (2018)

These plans were not lodged with Council at the time the Plan was developed in the 1990s.

Two other IMPs prepared by Iwi with an interest in Tasman have been lodged with Nelson City Council:¹¹

4. Nga Taonga Tuku Iho Ki Whakatu Management Plan (2004)
5. Te Ātiawa Ki Te Tau Ihu Iwi Environmental Management Plan (2014)

Relevant provisions in the IMPs will need to be taken into account when the TRMP is updated following the present review. Examples of IMP provisions relating to air quality are shown in Appendix 1.

3.2 Internal Consistency of Provisions

A high level assessment was undertaken to determine internal consistency of overall TRMP provisions. This involved considering the strength of relationship between TRMP objectives, policies and related rules, from which general conclusions are drawn.¹² This section provides a summary of that assessment, as well as some additional observations.

Overall, the internal consistency of the Chapter 34 provisions was assessed as strong, as shown in Table 5 below. The Chapter addresses both rural and urban air quality issues, such as domestic wood burners, outdoor burning and pesticide use. The chapter has a human-health focus, with air-quality amenity also featuring strongly.

Table 5: Chapter 34 Summary of Internal Consistency

Objective	Internal Consistency	Comment
<p>34.1.2</p> <p>The discharge of contaminants to air in such a way that avoids, remedies or mitigates adverse effects while:</p> <p>(a) maintaining existing air quality; and</p> <p>(b) enhancing air quality where existing quality is degraded for natural or human uses or values.</p>	Strong	<p>Sixteen (16) policies aim to implement this objective and overall they appear to be well provided for by rules across the 36.3 rules set. The management of outdoor burning activities in Motueka, Richmond and all smaller townships are provided for through the identification of Fire Ban and Fire Sensitive Areas, and are illustrated on the planning maps.</p> <p>Less strongly provided for policies include a ‘best practicable option’ approach to temporary activities (34.1.3.8), and Policy 34.1.3.7 which aims to encourage ‘other resource management techniques’. Whilst indirectly enabled through assessment matters in rules, such techniques are not as clearly required (and specified) with rules.</p>

¹¹ <http://www.nelson.govt.nz/council/plans-strategies-policies/strategies-plans-policies-reports-and-studies-a-z/iwi-management-plans>

¹² Information in this section has come from a TDC commissioned report: Leusink Sladen, S. (Dec 2019). *Tasman Resource Management Plan Policy Mapping - Review of the Internal Consistency and Integrity of Plan Objectives, Policies and Rules Parts III – VI*.

<p>34.2.2</p> <p>The reduction in use of pesticides in the District while avoiding, remedying or mitigating the adverse effects of pesticide use.</p>	<p>Moderate</p>	<p>The chapter’s short issue statement is concerned with adverse effects of pesticides, whereas the objective focuses on pesticide reduction. Just two policies implement the objective and 34.2.3.2 is education and advocacy focussed. The other is connected to land use rules that provide setbacks and consideration in subdivision design (building locations, setbacks etc). There are rule sets within Chapter 36 that focus solely on pesticide use.</p> <p>While these provisions aim to avoid or minimise the effects of pesticide use (e.g. through safe handling and avoidance of cross-boundary effects), they do not address the goal of reducing pesticide use in the District.</p>
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To improve the internal consistency of the current provisions it is recommended that Chapter 34 be reviewed alongside Part II in relation to rural land development rules (e.g. subdivision matters and land use controls such as setbacks).

3.3 Evidence of Implementation

This section analyses the extent to which the Chapter 34 provisions have been implemented through Council activities, including both regulatory (i.e. resource consenting, compliance action) and non-regulatory methods (e.g. education, promotion of best practice).

3.3.1 Ambient Air Quality

The objective and policies relating to ambient air quality are largely implemented via rules in the TRMP. As noted above, the internal consistency between objectives, policies and rules is strong.

The TRMP rule set 36.3 ‘Discharges to Air’ (see Table 6 below) addresses a range of related activities and effects. The permitted activity rules establish the general baseline of effects, such as contamination, opacity of smoke, water vapour, ‘offensive or objectionable odour’ and particulate matter, as well as addressing effects from specific activities such as domestic burners, outdoor burning, fire training activities, industrial combustion and abrasive blasting.

The rule set includes controlled through discretionary to non-complying and prohibited activities, and addresses a range of matters as well as activity-based conditions.

Table 6: Summary of Rule-Set for Air Discharges

Air Discharge Rules (Chapter 36.3)	Description
<p>36.3.2 Permitted Discharges</p>	<ul style="list-style-type: none"> • Discharge of any contaminant to air • Discharge from small scale solid fuel burning appliances in urban areas • Discharge of contaminants from outdoor burning, including within the Fire Ban and Fire Sensitive Areas • Discharge arising from fire training activities • Discharge from enclosed combustion processes • Discharge from any stationary internal combustion engine • Discharge from abrasive blasting <p>Provided they comply with the specified rule conditions.</p>

36.3.3 Controlled Discharges	<ul style="list-style-type: none"> • Discharge from enclosed combustion processes • Discharge from mobile abrasive blasting • Discharge of contaminants from outdoor burning <p>That do not comply with the permitted activity rule conditions.</p>
36.3.4 Restricted Discretionary Discharges	<ul style="list-style-type: none"> • Discharge from enclosed combustion processes <p>That do not comply with the controlled activity rule conditions.</p>
36.3.5 Discretionary Discharges	<ul style="list-style-type: none"> • Discharge from specified (industrial or trade) premises and processes (as listed in the activity conditions) • Discharge from treatment or remediation of contaminated sites • Discharge of any contaminants to air that do not comply with the permitted or controlled activity rule conditions
36.3.6 Non-Complying Activities	<ul style="list-style-type: none"> • Discharge from specified premises and processes in Residential Zones and Mixed Business <p>That do not satisfy any of the relevant permitted, controlled, restricted discretionary or discretionary activity rule conditions.</p>
36.3.7 Prohibited Discharges	<ul style="list-style-type: none"> • Discharge from open combustion of specified materials (e.g. treated timber) • Discharge from combustion in a small-scale solid fuel burning appliance of specified materials (e.g. plastics) • Discharge from outdoor burning in the Fire Ban Area • New discharges from solid fuel appliances in the Richmond Airshed (after 13th January 2007) • Discharge from non-compliant small-scale solid fuel-burning appliances in the Richmond Airshed
Schedule 36.3A Discharges of PM10 into the Richmond Airshed	<p>Allocation limit for PM10 being discharged on its own or in combination with other authorised discharges into the Richmond Airshed:</p> <ul style="list-style-type: none"> • Home heating - 174 (kg/day) • Enclosed combustion sources (industry) - 53 • Vehicle emissions - 27 • TOTAL - 264

Through the rapid assessment process with staff and feedback from the Councillor workshop, a number of issues were highlighted between the intent of the policies versus implementation via the rules, namely:

- The wood burner rules for the Richmond airshed are confusing and not user friendly for plan users. The current rule framework has created implementation issues and unintentional consequences and it is recommended that through the plan review there is a need to identify how to best manage air quality effects from domestic wood burners, while providing for efficient home heating. Implementation issues include:
 - Implementation of the prohibited activity rule relating to non-compliant wood burners has been hampered by a lack of buy-in from some property owners, lack of compliance staff resourcing, and gaps in council information about the type and age of wood burners installed in households before 1998. These older wood burners tend to be smokier than modern burners and contribute a significant proportion of air pollution in winter.

- Since 2007, new dwellings in the Richmond airshed have only been allowed to install pellet fires (as a new discharge) and installation numbers have been low (there were a total of 82 pellet fires in the airshed at March 2020). However, since the rule was made operative wood burner technology has improved and ultra-low emission burners (ULEBs) are on par with pellet fires for the NES emissions and efficiency standards. Staff occasionally field complaints from residents who wish to install ULEBs but are captured under this discharges rule of only allowing a pellet fire. There is benefit in undertaking research into management options to inform the review of the Richmond airshed home heating rules as it is quite a complex matter. What could be perceived as a ‘simple’ rule fix to allow a choice between burners (wood and pellet fires) could create unintended consequences in an already polluted airshed particularly as latent demand for ULEBs is difficult to quantify and could result in an increase in annual exceedances. At the Council workshop, a Councillor confirmed that they had received complaints from residents who were not allowed to install ULEBs. While it was not clear if these residents were captured under this new discharges rule or if it is a misunderstanding of the current rule framework, this feedback simply highlights that the rules are confusing and are not user friendly for plan users.
- Occasionally residents will apply for a building consent for a burner ‘primarily used for cooking purposes’ as a means to circumvent the rules regarding wood burners (as discussed in the point above).
- The intent of Fire Ban and Fire Sensitive Areas and where these are identified on the planning maps. The plan review should consider the need to apply consistent planning rules to all townships through reviewing the boundaries of the Fire Ban and Fire Sensitive areas to ensure they provide sufficient protection against air pollution and loss of amenity from smoke nuisance for urban settlements. Implementation issues include:
 - The permitted activity rule bans the burning of vegetation waste during June to August (inclusive) in the Fire Sensitive Area (all small townships, and the outskirts of Motueka and Richmond). The exception to the rule is in circumstances where the waste is diseased and may pose a biosecurity risk. European canker (a fungal disease caused by *Neonectria ditissima*) is present in the district (listed in the Nelson Tasman Regional Pest Management Strategy) and this is a common justification to burn waste during winter. However, this permitted wintertime outdoor burning causes smoke nuisance, Council staff and Councillors receive complaints from residents, and anecdotally affects air quality in some townships (which requires further investigation).
 - The Fire Ban Area provides for some ‘exceptions’ for small domestic outdoor fires (e.g. fireworks, BBQs, hangis, small camp fires, braziers, etc). Control of outdoor burning in the Fire Sensitive Areas focuses on larger fires (e.g. agricultural) or domestic outdoor fires (e.g. garden waste) which can have adverse cross-boundary effects if not managed appropriately (as recognised in the policy). The way the permitted activity rule has been drafted, it has inadvertently created a situation where the Fire Sensitive Area seasonal restrictions are more stringent for domestic outdoor burning in comparison to the Fire Ban Area – which was not the intention of the policy framework.
 - All townships, with the exception of Motueka and Richmond, are included within the Fire Sensitive Area, where wintertime outdoor burning restrictions apply. Staff recommend that these townships should be included within the Fire Ban Area, like Motueka and Richmond, as outdoor burning can affect the amenity and health of residents all year round.

- The permitted activity rules for vegetation burning are ineffective. Through the plan review, it is recommended there is a need to identify how to best manage air quality effects from outdoor burning and enabling best practice burning as a land management tool, where this is assessed as the best practicable option. Implementation issues include:
 - Vegetation that is being burnt must have been dried for at least 7 days, however in practice this often doesn't happen (particularly if diseased with canker) and can be rain wet as well as unseasoned, 'green' wood.
 - Often outdoor rural fires are within the permitted activity requirements, however it is the cumulative effect of these fires in combination with climatic inversion layers which contributes to poor air quality.

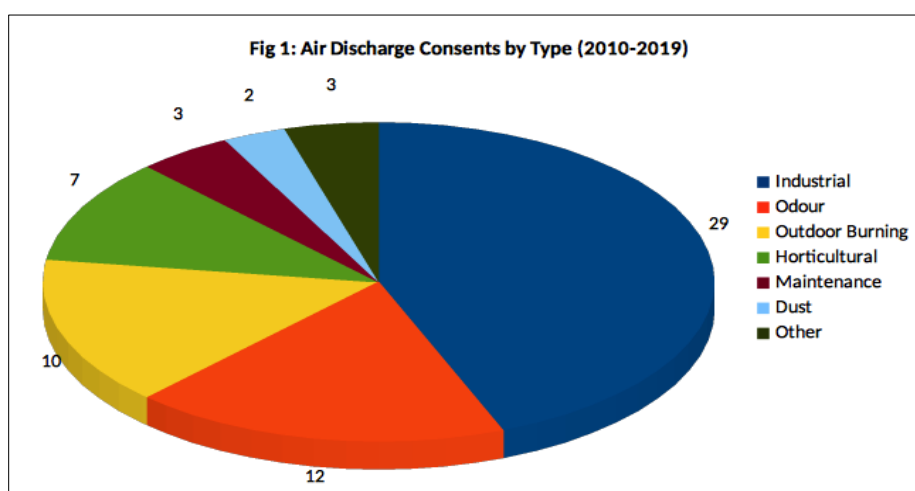
At the Council workshop, a Councillor noted the potential opportunities for biochar in the district as a means to dispose of vegetation and as a land management practice for soil conditioning. The production of biochar requires burning of vegetation waste in a well built and hot fire, consistent with best practice burning which has a minimal smoke discharge. The production and use of biochar also contributes to wider climate change mitigation through carbon emission reduction and diverting vegetation waste from landfill.

Resource Consent Data for Contaminant Discharges to Air

Over the previous ten years (2010–2019) seventy-two (72) resource consents were received by TDC involving a discharge to air under the TRMP rules.¹³ Of these, 66 were new consent applications and 6 were applications to vary the conditions of existing discharge consents.

As shown in Figure 1 below, the majority of applications (29, or 44%) involved air discharges from an industrial activity, including from a kitchen joinery, spray painter, wood and food processing plants, hot-mix asphalt plant, resin plant, and fibreglass manufacturer.

Twelve applications (18%) related to the discharge of odour, including six from TDC as part of the operation of the District's wastewater treatment plants. Consent for odour relating to a variety of composting activities was also sought.



¹³ Resource consent information was extracted from TDC's MagiQ-BI consents database using keyword searches (it is not possible to search by TRMP rule number). As a consequence, there may be relevant resource consent data that was not captured by the key words used, although this is anticipated to be a small number only, if any.

Outdoor burning accounted for ten (15%) of the consent applications and was sought for both forestry (e.g. slash and stumps) and horticultural operations (e.g. apple trees, shelter belt cuttings).

Seven applications (11%) to discharge contaminants from boilers as part of horticultural operations were received, including from hops, orchard and wine-making businesses. The remaining 12% of applications were made up of consents for maintenance activities (water / sand blasting bridges), emission of dust from land disturbance (including for construction of the Waimea Community Dam), emissions from a TDC-operated landfill, and discharges emitted from a crematorium.

Figure 2 below shows the number of consent applications received by TDC each year between 2010 and 2019. Applications received were consistent between 2010 and 2015 with between 6 and 8 per year. There was a decline in 2016 and 2017 (five and two applications respectively) and then a jump in 2018 to fourteen applications. It is not obvious why there was a sharp increase as the 2018 consents relate to a diversity of activities and applicants. With the exception of 2018, eight or fewer applications were received each year, which appears a relatively low number.

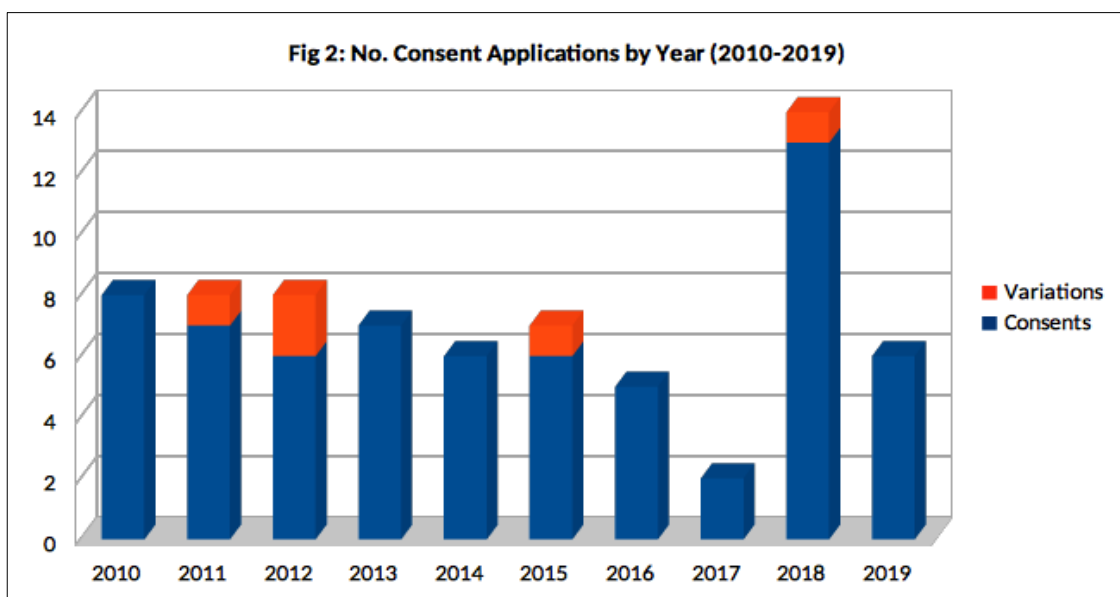
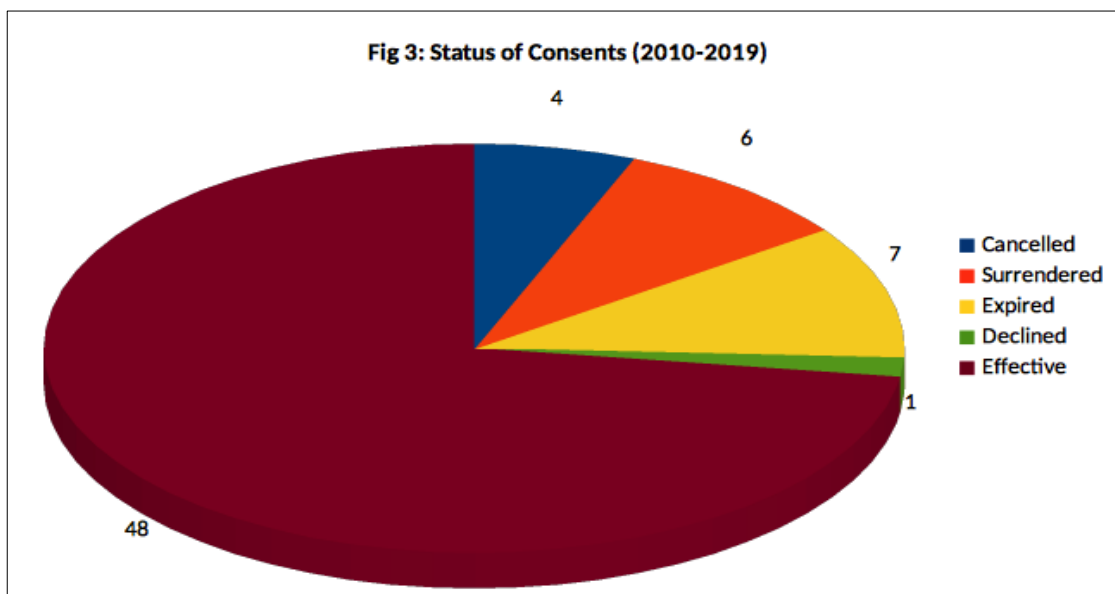


Figure 3 (below) shows that the majority of the consents (73%) are 'consent effective', which means that the activities granted are currently being carried out by the applicants. In contrast, just over a quarter of the consents are not effective, including seven that have expired (11%), six that have been surrendered (9%) and four that have been cancelled (6%).

Only one of the consent applications received between 2010 and 2019 was declined, relating to a proposal to re-establish an electricity generation operation. It was turned down for reasons other than the air discharges (dust and other contaminants) that would have been emitted during alterations to the site.

Sixty of the applications (91%) were non-notified, four consents (6%) were fully (i.e. publicly) notified and two (3%) were processed under limited notification (where specifically identified people or groups are affected by the proposal and given an opportunity to make a submission).



State of the Environment Monitoring Data

Air Quality Monitoring in Richmond Airshed¹⁴

TDC undertakes 24hr daily monitoring of particulate matter in the Richmond Airshed. Both PM10 and PM2.5 concentrations are measured. As shown in Table 7 below, the standard for PM10 is set by the NES for air quality. It requires that PM10 concentration of 50 µg/m³ (24-hour average) will not be exceeded for more than three 24-hour periods per year by September 2016, and then only one exceedance is allowed in a 12-month period by September 2020.

There are currently no NES standards for PM2.5 so TDC uses the World Health Organisation (WHO) guideline for long term (annual) average concentrations and the short term (24-hour) concentrations, which are 10 and 25 micrograms per cubic metre (µg/m³) respectively. However, through proposed amendments to the NES, MfE is signalling NES standards for PM2.5 in line with the WHO guidelines.

Table 7: Particulate Matter Standards and Guidelines

Particle Size	Averaging Period	WHO Air Quality Guideline	National Environmental Standard	Permissible Exceedances per Year
PM10	24-Hour	50 µg/m ³	50 µg/m ³	3 by 1 st Sept 2016 1 by 1 st Sept 2020
PM10	Annual	20 µg/m ³		
PM2.5	24-Hour	25 µg/m ³		3
PM2.5	Annual	10 µg/m ³		

PM10 has been monitored in the Richmond Airshed since 2000 and the NES standard has been exceeded every winter that records are available. The cause of the excessive PM10 concentrations is

¹⁴ Information from this section comes from TDC (Nov 2019). *Annual Air Quality Report*;

a combination of wood smoke emitted from domestic burners and climatic conditions (cold winter temperatures and low wind speeds) which enable the build-up of smoke and degrading air quality.

Daily average PM10 concentrations measured in Richmond over the monitoring period of 1 September 2018 to 31 August 2019 are shown in Figure 4. The data for winter 2019 shows the typical seasonal pattern, with peak PM concentrations occurring during the end of June. The exception is the peak in summer from the Pigeon Valley Fire.

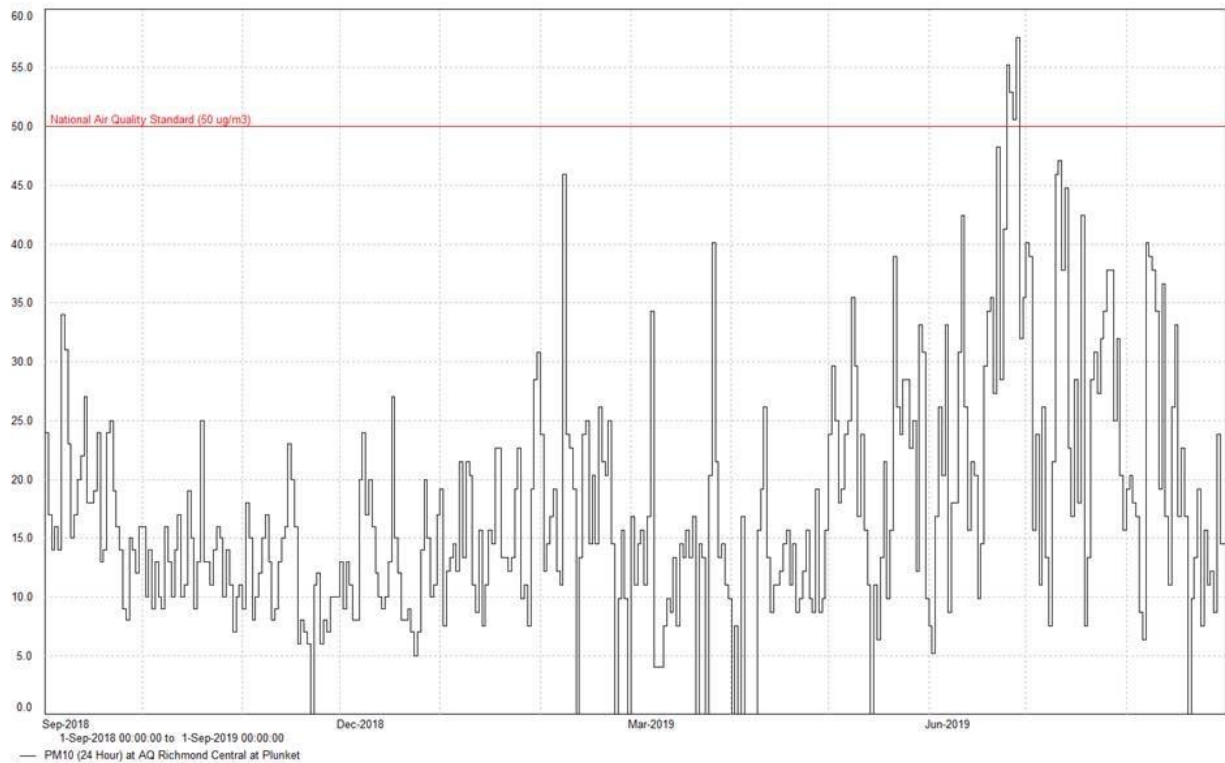


Fig 4: Richmond daily PM10 concentrations in µg/m3 (1 Sep 2018 – 1 Sep 2019)

There were four occurrences over the 12 month period where concentrations of PM10 exceeded the national standard for a 24-hour period. The Air Quality NES for PM10 allows 3 or fewer permissible exceedances per 12 month period until 31 August 2020. A total of 4 exceedance days meant there was one breach of the Air Quality NES in the Richmond Airshed. It is noted that a 5th exceedance was recorded in the airshed on 7 December 2019. The particulate matter levels measured were unusually high for summer, and has been linked to bush fire smoke and dust from Australia which affected air quality across New Zealand for several months. Under the Regulations, councils may apply to the Minister for the Environment to ignore exceedances of the ambient air quality standard for PM10 in exceptional circumstances. TDC along with several other North Island councils were granted exemptions by the Minister for exceedances between 6 and 7 December 2019 linked to the Australian bush fires.

The number of exceedances of the daily PM10 standard has reduced from 44 in 2000 to four in 2019 (Figure 5).

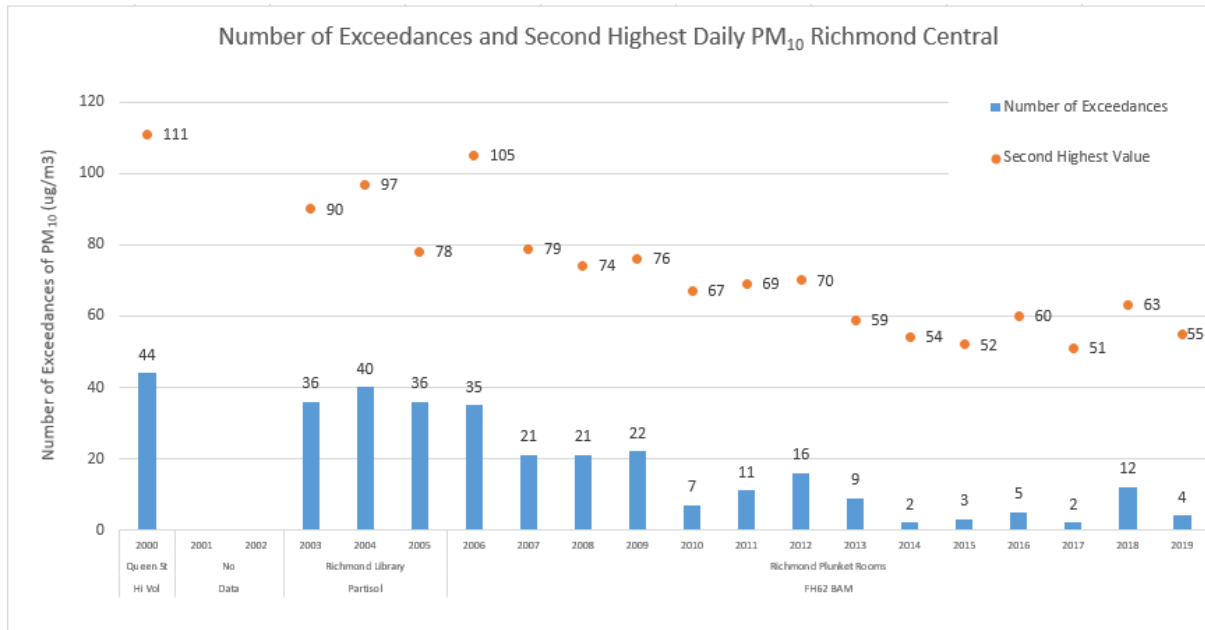


Fig 5: Number of Exceedances of 24-Hour PM10 for Richmond (2000 to 2019)¹⁵

PM2.5 has been measured in Richmond since September 2015. Figure 6 (over page) shows that PM2.5 breached the current WHO daily guideline value of 25 µg/m³ a total of 25 times, with one exceedance in February, associated with the Pigeon Valley Fire, and the remaining exceedances over the winter period from May to August 2019. The data for winter 2019 shows the typical seasonal pattern, with peak PM concentrations occurring in winter and is associated with the use of wood for home heating.

The maximum daily PM2.5 concentration measured in Richmond was 44 µg/m³ on 28 June 2019, which is on the same date as the PM10 maximum for the year. The PM2.5 data is similar to the last full record obtained in 2017, when there was a total of 24 breaches of the WHO daily guideline value over the winter 2017 season.

¹⁵ Note: PM10 was not monitored in 2001 and 2002, and the gaps between the three data sets indicate monitoring was undertaken using different instruments and/or monitoring locations.

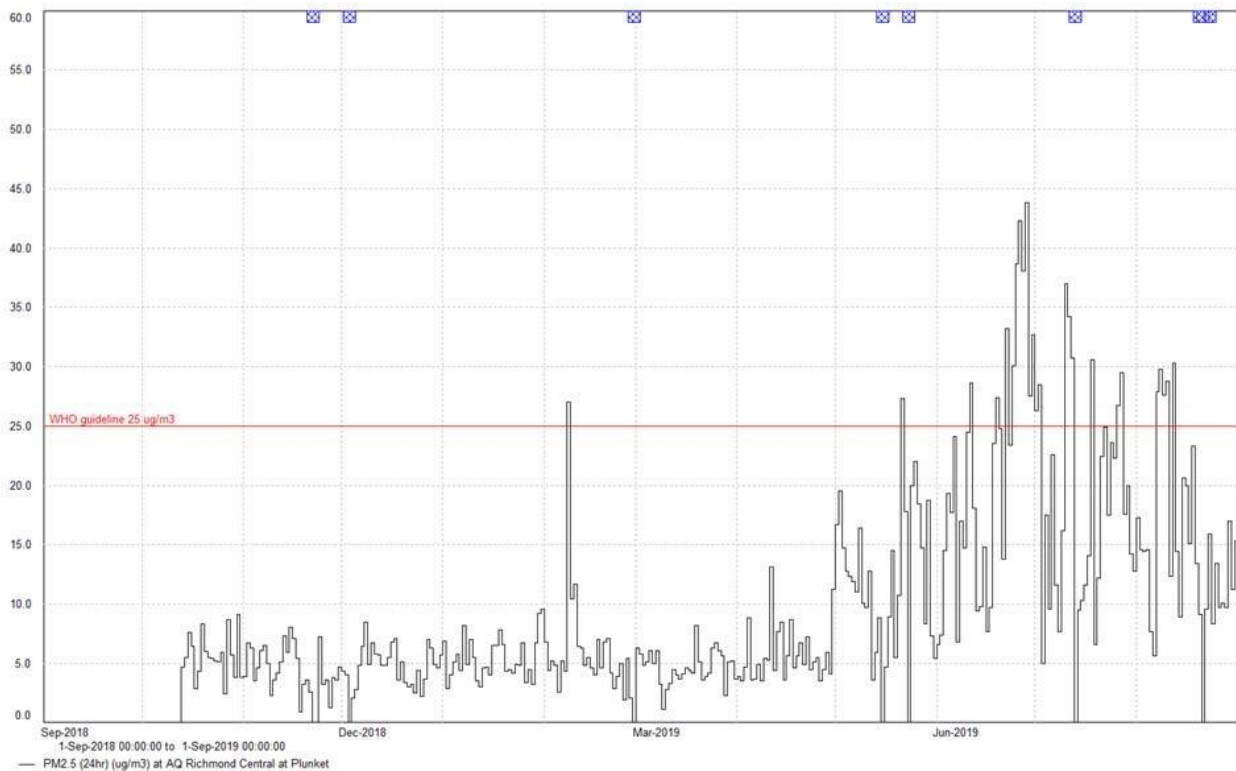


Fig 6: Richmond Daily PM2.5 concentrations in $\mu\text{g}/\text{m}^3$ (1 Sep 2018 – 31 Aug 2019)

Richmond Air Emission Inventory¹⁶

An emission inventory was carried out for the Richmond Airshed with the purpose of evaluating emissions to air for 2019 and the contribution of different sources to those emissions. The inventory includes emissions from domestic heating, motor vehicles, industrial and commercial activities and outdoor burning. Similar inventories were completed in 2010, 2005 & 2000. The inventory focused predominantly on particulate matter (both PM10 and 2.5) as this is the main contaminant of concern in the Richmond Airshed.

The main findings from the inventory are summarised in the report's executive summary as follows (p.1):

Domestic heating was the main source of winter PM10 and PM2.5 emissions in Richmond accounting for 87% of the daily winter PM10 and 74% of the annual PM10 and 89% of the daily winter PM2.5 and 77% of the annual PM2.5 emissions. Other sources included outdoor burning (7% of daily winter PM10 and PM2.5 and 14% of the annual PM10 and 15% of the PM2.5) with motor vehicles and industry having relatively minor contributions. On an average winter's night, around 274 kilograms of PM10 are discharged in Richmond.

This is around 22% less than the 2010 emission estimate (after adjusting for the larger inventory area). This suggests a relatively small reduction in PM10 emissions in Richmond from 2010 to 2019. Between 2005 and 2010 emissions were estimated to have decreased by around 28%.

Emissions from wood burners were further broken down in the inventory report. The NES design criteria for wood burners was mandatory for new installations on properties less than 2 hectares

¹⁶ Information from this section comes from Wilton, E. (2020). *Richmond Air Emission Inventory 2020*. Report commissioned by TDC;

from September 2005. The largest portion (56%) of the PM10 emissions are from pre-2006 wood burners. Wood burners installed during the years 2006 to 2013 contribute to 24% of domestic heating PM10 emissions and burners less than five years old contribute 14%. Burners in these two age categories represent the same technology (the same emission factors are used) and segregations just represent burners age distributions. Open fires and multi fuel burners burning wood contribute 6%.

Air Quality Monitoring for the Rest of Tasman District¹⁷

TDC does not regularly monitor other areas in the District. However, from historical short-term monitoring data collected in Motueka, Brightwater and Wakefield, there have been no recorded exceedances of PM10 or PM2.5 concentrations in the remainder of the District (using NES approved monitoring methods). The NES only requires the monitoring of airsheds where air quality standards are likely to be breached.

Over winter 2019 (May to August), the daily PM10 concentration was measured in Motueka at Parklands School. A review of the available PM10 data has shown there were no exceedances of the Air Quality NES (daily average) standard of 50 µg/m³ at the monitoring location. The maximum PM10 recorded was 29 µg/m³ on 10 July (with the average being 16 µg/m³). The data is consistent with previous short term air quality sampling undertaken in Motueka in 2006, 2014 and 2018 where no exceedances of the Air Quality NES have been recorded. The highest reading previously in Motueka was 43 µg/m³ in winter 2006.

The National Institute of Water and Atmospheric Research (NIWA) was commissioned to undertake wintertime particulate matter monitoring over the same period in the Riwaka, Brooklyn and Motueka area to understand if there is an air quality issue associated with wood burning (outdoor horticultural burning and/or home heating). The key findings of the monitoring was¹⁸:

- Motueka does appear to have an air quality issue with some locations having measured PM concentrations in excess of current Air Quality NES guidelines (PM10) and anticipated future legislation (PM2.5); and
- There is evidence of rural burning in the surrounding countryside, particularly around Riwaka, making a short-term and localised but significant contribution to poor air quality which may require further investigation.

The results from the Council's temporary monitoring station (a partisol monitor) located at Parklands School were compared with the ODINs and show the current monitoring site does not appear to capture the highest concentrations in Motueka. Next steps for the 2020 work programme include relocating the temporary TDC monitoring station from its current location (on the west side of Motueka) to the east side of Motueka. A 2020 autumn/winter monitoring programme will be undertaken to establish a baseline of information using the accredited TDC monitoring station to confirm if there is an air quality issue that requires permanent monitoring. In addition to monitoring, staff will continue to provide education and best practice advice regarding home heating.

Through the air quality technical work programme, staff intend to extend this research monitoring to other townships such as Wakefield and Brightwater (subject to budget and staff resourcing). At the

¹⁷ Information from this section comes from TDC (Nov 2019). *Annual Air Quality Report*;

¹⁸ Information from this section comes from TDC (Feb 2020). *Riwaka, Brooklyn and Motueka Air Quality Monitoring 2019*;

Council workshop, a Councillor expressed support for air quality monitoring in these townships, recognising the acute and chronic effects particulate matter has on human health.

TRMP Investigations and Compliance¹⁹

As well as implementing the TRMP rules via the resource consent process, TDC staff respond to complaints, undertake investigations and initiate enforcement action when required. This aims to ensure compliance with TRMP rules and avoidance of adverse effects on air quality from unconsented activities.

Rural Investigations and Compliance

Each year TDC receives a large number of air quality complaints over the cooler months of 1st April to 30th September. Complaints are received from across Tasman District with the majority relating to smoke pollution from rural and urban sources (outdoor burning and domestic fires respectively). Table 8 below shows the number of complaints received by the council have doubled between 2017 and 2019.

Table 8: Air Quality Complaints across Tasman District

	2017	2018	2019
No. air quality complaints	103	121	208

The main complaint issue is the burning of orchard waste during late autumn and winter. This is a long established land management practice used within orchard replacement programmes and for the disposal of pruning waste and diseased wood. It is a seasonal practice occurring after harvest and pruning, and prior to ground fumigation and replanting in spring. With calm, fine days, the conditions on the ground are often perfect for burning, resulting in minimal cross boundary contamination of smoke from individual properties, and fires are usually compliant with the TRMP permitted activity conditions for outdoor burning. However, the temperature inversion layer that forms on these cool and calm days restricts the height at which the smoke can rise causing it to spread horizontally over a wide area, and is further exacerbated when multiple orchards are burning on the same day in a localised area, causing negative cumulative effects.

Council staff take enforcement if required when following up on complaints. For instance, in 2019 staff undertook a range of enforcement action:

- 4 abatement notices were issued requiring compliance with TRMP rules.
- 6 infringement notices were served for breach of outdoor burning rules.
- 3 formal warnings were given.
- 12 letters were sent out in an educational capacity advising of our rules and expectations.
- Numerous verbal warnings, best practice advice and communications around Council expectations in relation to both wood burner and outdoor burning were given.

The majority of rural outdoor burn operators are now removing all prohibited items such as treated timber posts and irrigation piping from their burn piles prior to burning. Enforcement action for the burning of prohibited items includes an infringement fine; an Abatement Notice to cease the burning of prohibited items and an Abatement Notice to remove and dispose of the contaminated ash and

¹⁹ Information from this section comes from TDC's Annual Air Quality reports for 2017-2019.

topsoil to landfill. In 2018 three properties received abatement notices in relation to burning prohibited items with a fourth property investigated by Worksafe for the burning of an asbestos contaminated demolished building. Only one property received an abatement notice in 2019, and an additional property received a formal request in writing to dispose of burnt and partially burnt prohibited items.

Covid-19 Pandemic and Global Improvements to Air Quality

In 2020, the global Covid-19 pandemic caused unintended yet significant global improvements to air quality in countries where the health response included a national 'lockdown'. Much of these air quality improvements were in relation to significant reductions in emissions from vehicles and industry, and this was also reflected both nationally and locally.

While New Zealand was in level 4 lockdown, an outdoor fire ban remained in place over the Tasman District (over March and April) to reduce the infection risk for firefighters (rather than there being an excessive fire danger). Once the fire ban was lifted on 29 April, a number of land managers undertook burning of green waste. These fires were the typical yearly horticultural burns at the end of the season's pick, coinciding with life style blocks and rural properties burning vegetation after carrying out property maintenance during the lockdown period. The cumulative effect of these fires during calm weather conditions created a noticeable haze over the District, at a time when air quality generally over the lockdown had improved. Council's compliance team received 81 complaints about air pollution due to outdoor burns in the Waimea Plains and Motueka areas over a 20 day period. Staff issued four infringement fines, six abatement notices and a number of warnings to people with excessively smoky outdoor fires.

During the Council workshop on this topic, feedback from a Councillor was that the lockdown period had created exceptional circumstances and the number of outdoor fires during autumn (once the fire ban was lifted) was not a reflection of a typical year, and that going forward for plan review decisions should not be based on this period, which staff agreed with.

Industrial Investigations and Compliance

In 2017, the Council prosecuted Hunter Laminates 2014 Ltd for the industrial burning of treated timber between 2013 and 2016. The company initially pleaded guilty to the charge however went into liquidation earlier this year prior to sentencing in August. Judge Dwyer indicated that had he been able to impose a fine it would be in the final order of \$270,000.

Urban Investigations and Compliance

Within the Richmond Airshed, 1000 properties are known to be subject to TRMP Rule 36.3.7.5. This means the property has sold since January 2007 and owners are required to upgrade their wood burner if they use a non-compliant model. Council investigations have determined that 119 of these properties are still using non-compliant wood burners. Staff are targeting these properties via an initial educational letter to engage with owners and to enable sufficient time to either update their wood burner or install an alternative heating source prior to the 2020 winter. There will then be targeted enforcement of those properties who continue to operate a non-compliant wood burner.

Gaps exist in council information regarding home heating methods at a property level within the Richmond Airshed (approximately 1,970 properties). This has come about because building consents for wood burners were only required from 1998, and council records of wood burners prior to this date are not easily accessible or non-existent. Some of the older style burners (15+ years old) are currently allowed to be operated in the airshed but do not meet the Air Quality NES emission and

efficiency standards. Targeting replacement of these old burners in the airshed through a review of the home heating rule (or possibly via an amended Air Quality NES) is one option which would ultimately help to improve Richmond's air quality. Staff are working to establish a full and accurate dataset on property-specific home heating information, which in turn will enable targeted compliance and enforcement to phase-out old non-compliant wood burners.

Non-Regulatory Methods

In support of its regulatory functions, TDC also undertakes a range of non-regulatory methods that aim to improve air quality throughout the District. This includes education, advocacy and promotion of best practice regarding the operation of wood burners and lighting outdoor fires. Examples of non-regulatory actions taken by council include:

- **Outdoor burning trial (May 2019):** working in partnership with Scion (a crown research institution) and a local contractor, staff undertook an outdoor burning trial in May to monitor the effectiveness of best practice outdoor burning. This will be used to inform best practice guidance.
- **Good Wood Scheme:** Council continues to implement the Good Wood Scheme in partnership with Nelson City Council, which requires participating wood retailers to supply dry firewood according to best practice guidelines.
- **Updated best practice pamphlets:** best practice pamphlets on home heating and outdoor burning are available online and in council service centres.
- **Education on outdoor burning and home heating:** Council publishes education advice and information primarily through the autumn and winter months via Newline, Facebook, and local newspapers. There are also dedicated website pages on air quality on the TDC website.
- **Best Little Woodshed competition:** the inaugural Best Little Woodshed competition was launched in 2019 in tandem with Nelson City Council. The competition was for entries showing great examples of wood storage ideas that residents have come up with to keep their wood dry for winter.
- **Warm Tasman scheme:** In the early 2010s, the Council administered the Warm Tasman scheme which was a voluntary rate offered to help people upgrade their insulation and woodburner, in partnership with Energy Efficiency and Conservation Authority (EECA) subsidies. This scheme is no longer available but there are a number of people who still have this voluntary targeted rate for their property. TDC discontinued this assistance because of the associated administrative costs and because more favourable terms could be secured through banks or direct subsidies from EECA.

3.3.2 Discharge of Pesticides

The objective and policies relating to pesticide discharges are also largely implemented via TRMP rules (see Table 9). Rule 36.1.3.1 focuses on the discharge of 1080 from air to land for possum and other vertebrate control (e.g. stoats and rats). The rules are concerned with ensuring the 1080 is accurately dispersed in the appropriate areas and avoids contaminating water and non-target land.

Rule set 36.6 is dedicated to the discharge of pesticides and addresses risks to air, land and water. TRMP Part II rules address land use activities with risk factors and reverse sensitivity effects from spray drift, including land and subdivision rules relating to setbacks for dwellings from horticultural plantings and boundaries of neighbouring properties where there is a spray drift risk (refer to Chapter 7 s35 report).

Table 9: Rule Set for Pesticide Discharges

Discharge of Pesticides Rules (Chapter 36.6)	Description
36.1.3.1 Controlled Discharges	<ul style="list-style-type: none"> Discharge of 1080 poison from air Provided that a navigational guidance system is used to ensure the discharge is within defined areas and reduces risks of application to surface water.
36.1.5.2 Discretionary Discharges	<ul style="list-style-type: none"> Discharge of 1080 poison from air That does not comply with the controlled activity rule condition.
36.6.2.1 Permitted Discharges	<ul style="list-style-type: none"> Discharge of pesticides provided rule conditions relating to the following matters are complied with: <ol style="list-style-type: none"> label directions location of discharge user training written records drift limitations notification requirements drift control
36.6.2.2 Controlled Discharges	<ul style="list-style-type: none"> Discharge of pesticides That do not comply with the permitted activity rule conditions.
36.6.2.3 Discretionary Discharges	<ul style="list-style-type: none"> Discharge of pesticides That do not comply with the permitted or controlled activity rule conditions.

Through the rapid assessment process, staff highlighted implementation issues with the rules, namely:

- There are double-ups between the plan’s rules and other legislative requirements and codes of practice including WorkSafe and Growsafe. Through the plan review, there is a need to provide greater clarity on the management of pesticide discharges. At the Council workshop, Councillors also supported this view that the plan should not regulate matters which are now the responsibility of other agencies.
- The most difficult aspect of pesticide discharges is drift control compliance and proving which operator may be responsible for cross-boundary drift when complaints are received. Under particular weather conditions, pesticide sprays may drift for several kilometres and can negatively affect sensitive receptors (including other land uses, human health, and the wider environment).

Two additional issues were also raised during the evaluation:

1. The suitability of the objective to reduce pesticide use; and
2. The treatment of fertiliser and pesticide discharges as two separate issues.

Reducing Pesticide Use

The goal to reduce pesticide use in the District is not clearly linked to the short TRMP issue statement: *“Adverse effects from the use of pesticides in the District”*. While the benefits of pesticides are briefly acknowledged in the TRMP’s Principal Reasons and Explanation (*“Pesticides are an important aspect of agricultural, horticultural and other productive use of the land resource”*, p.34/7), the reasons for their continued use could be more clearly outlined and reflected in the issue

statement, objective and policies. For instance, pesticides are used for both economic reasons (in relation to agricultural and horticultural production) and biodiversity protection.

The key question to be considered is what resource management goal is appropriate in relation to pesticide use: is it to (a) seek its reduction over time, or is it to (b) enable the benefits while minimising adverse effects arising through appropriate use? If the goal is ultimately to reduce pesticide use, the TRMP will need to identify alternatives through plan or non-regulatory methods to ensure the economic and biodiversity goals can be met through other means.

Fertiliser vs Pesticide Use

The TRMP deals with pesticides and fertilisers as two separate issues; the pesticide definition excludes fertilisers, and pesticides are treated as an air discharge in Chapter 34, whereas fertiliser use is treated as a non-point source contaminant in Chapter 33 'Discharges to Land and Freshwater'. As well, the rules relating to fertiliser and pesticide use are spread out in Chapter 36:

- Rule-set 36.5.2 'Discharges to Land or Air' addressed fertilisers;
- Rule set 36.6 'Discharges to Land, Water or Air' addresses pesticides; and
- Rule set 36.1.3 'Discharges to Land' includes 1080 as a controlled activity.

This is despite the fact that the activities and risks/environmental effects associated with both pesticide and fertiliser use are largely similar. While both require aerial application, neither pesticide nor fertiliser discharges are air quality issues, as they are applied to land and their effects relate to both land and water.

This similarity is noted in Chapter 33 of the TRMP, which states that:

Contaminants arise from land use activities such as fertiliser and pesticide use, land disturbance, composting or allowing stock to have uncontrolled access to watercourses. Contaminants may enter the environment directly while the activity is being carried out, or diffusely as a result of natural processes such as leaching, run-off or through wind action (p.33/3).

Additionally, while Policy 33.1.3.11 applies to fertiliser use, it could equally apply to pesticides:

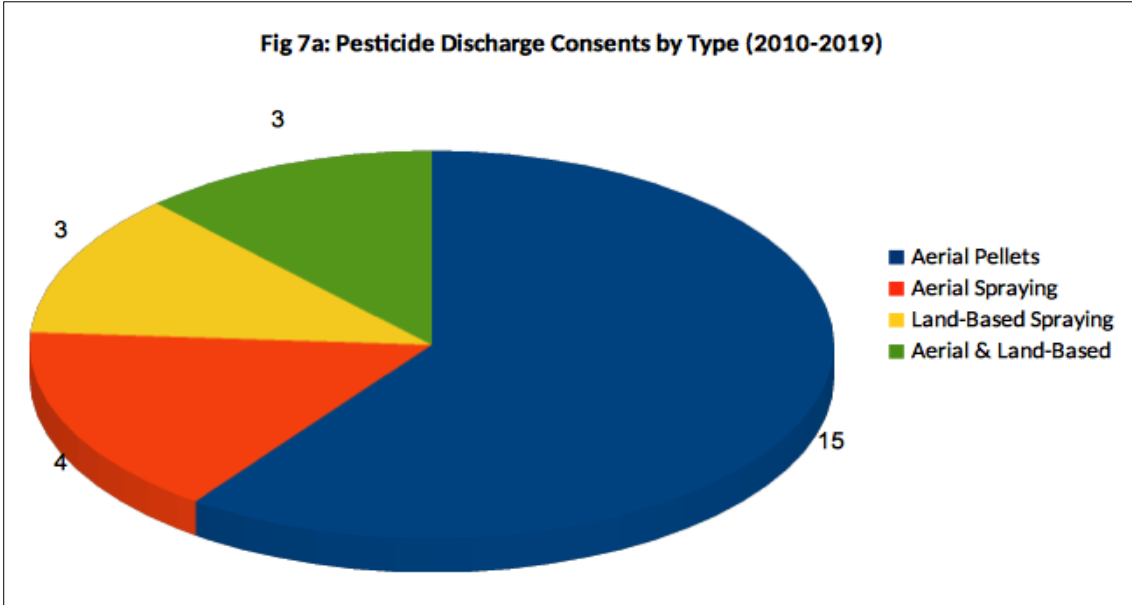
To avoid, remedy or mitigate the adverse effects of non-point source contamination arising from land use and discharge activities by a mixture of methods, including regulation of discharge activities, particularly through advocacy of best management practices, and to review the mixture of methods used if environmental monitoring shows that water quality standards are not being maintained.

The TRMP review therefore needs to reconsider how pesticide and fertiliser discharges are treated. In particular, deciding whether they can be dealt with under the same issue-objective-policy-rule framework, and identifying the chapter that most accurately relates to their use and effects.

Consent Data for Discharge of Pesticides

Between 2010 and 2019 twenty-six consent applications were received by TDC relating to the discharge of pesticides, including one application to vary the conditions of an existing consent.

As shown in Figure 7a below, the applications can be divided into activities involving the aerial discharge of pellets (60%), the discharge of aerial sprays (16%), the discharge of land-based sprays (12%), and consents that involved discharging both aerial and land-based sprays (12%).



Aerial discharges involved the use of helicopters, land-based sprays were discharged either from vehicles (for roadside weeds) or hand-sprayed using a backpack applicator.

Figure 7b shows that the majority of pests targeted in the consent applications are animals (60%), predominantly possums, rats and stoats, with poison-laced pellets being dispersed by helicopter. All but one of these consents involved the use of 1080, the exception being an application to use brodifacoum-laced cereal bait for mice eradication.

The remaining consents focused on a range of plant pests including wilding conifers, weeds common to river corridors and road reserve (such as gorse, broom, blackberry and old man’s beard), sweetgrass and blackberry associated with Rotoroa Wetland, and Bomorea in a forested area in the Richmond Ranges. One application sought to discharge the herbicide endthall to control aquatic plant pests, but this was not processed due to a lack of information.

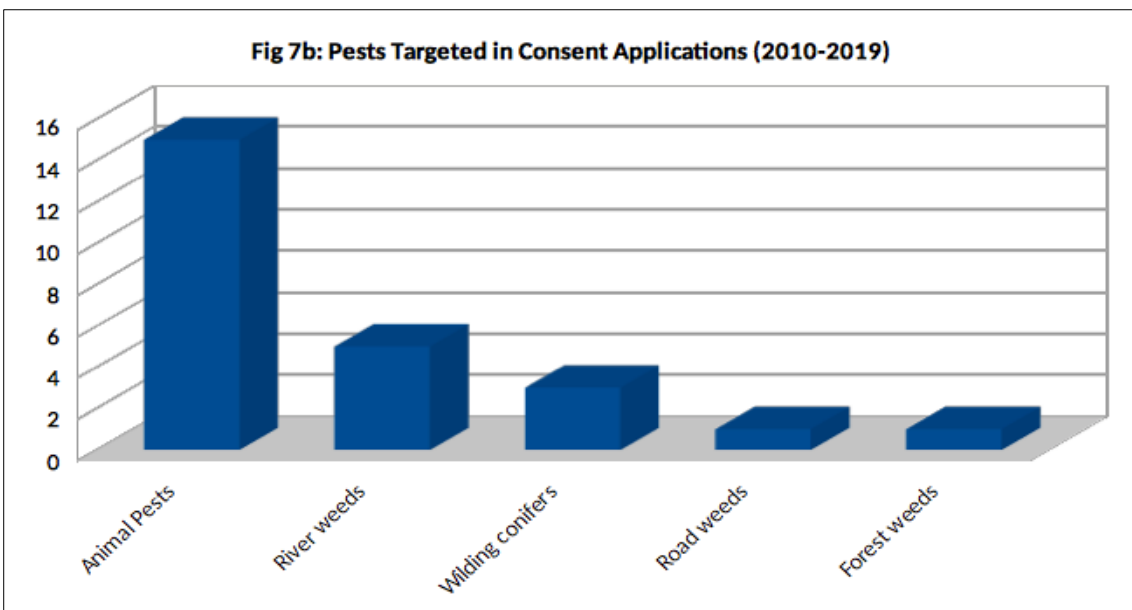
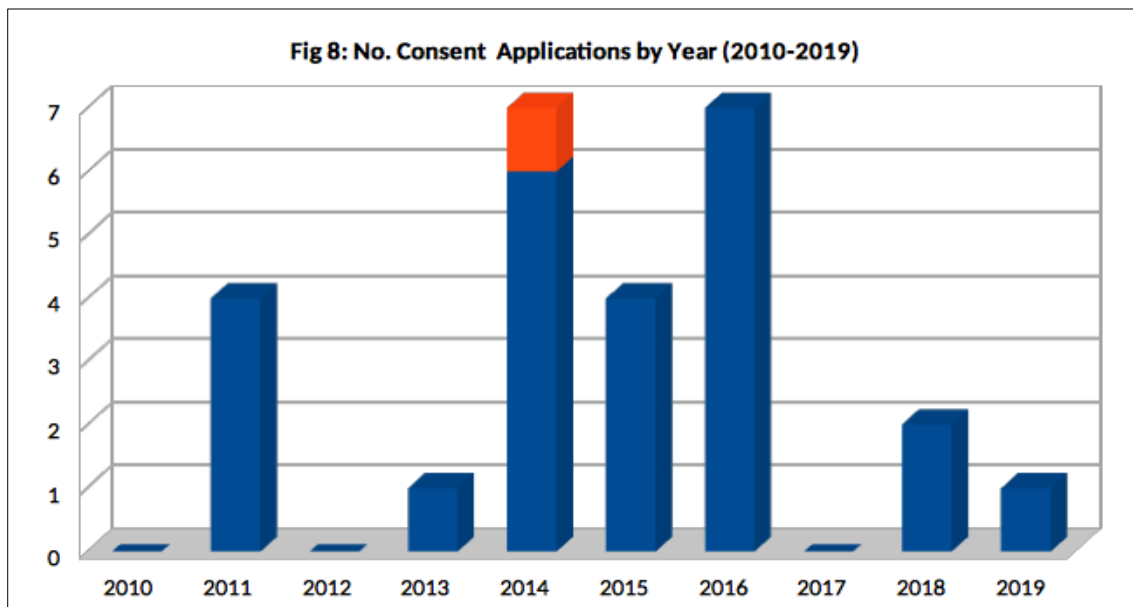


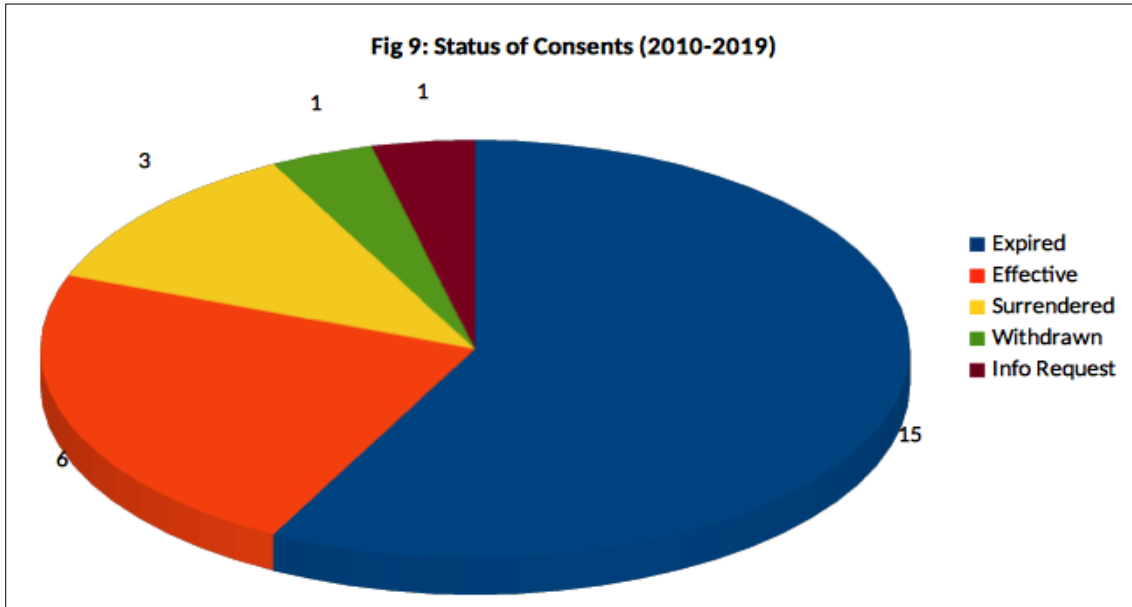
Figure 8 shows the number of consent applications received by TDC each year from 2010-2019. For six of the 10 years there were two or fewer applications, including three years where none were received (2010, 2012 and 2017). Four applications were received in both 2011 and 2015, seven in 2014 (including a variation), and a further seven in 2016. These spikes are due to a greater number of applications to drop 1080, possibly in anticipation of higher pest numbers during the mast years of 2014, 2016 and 2017.²⁰ No applications for aerial discharge of animal pesticides has been received following the enactment of the Resource Management (Exemption) Regulations in 2017.



A difference between pesticide discharges and contaminant discharges to air (covered in section 3.3. above) is that consents for pesticide use tend to have a shorter lifespan. Consents granted for 1080 drops typically had a timeframe of between 5 – 15 months to be actioned, and consents for some spraying operations had a 6 – 18 month timeframe. For this reason, the majority of resource consents granted between 2010 and 2019 (66%) are shown as having expired during the same period (see Figure 9 below).²¹ Another 15% of consents have either been surrendered, withdrawn or placed on hold awaiting further information. As a consequence, only 19% of consents granted between 2010 and 2019 remain effective. These include consents for ongoing activities such as spraying road weeds, managing weeds within river flood channels, and wild conifer control.

²⁰ <https://www.doc.govt.nz/news/media-releases/2019/mega-mast-confirmed-for-new-zealand-forests/>

²¹ An additional seven consents that were granted for pesticide discharges prior to 2010 also expired during the 2010–2019 period.



As shown in Table 10 below, 25 of the consent applicants were government or statutory agencies with the remaining applicant being an environmental Trust. Over the previous 10 years no applications to discharge pesticides were received from individual landowners, or from agricultural, horticultural or forestry companies. This means that pesticide use on private land has relied wholly on the permitted activity rule 36.6.2.1, which in turn relies on the conditions attached to that rule being complied with in all circumstances (see Table 9).

Table 10: Consent Applicants for Discharge of Pesticides

Consent Applicant	No. Consents	% of Total
Dept. Of Conservation	11	42
TB Free NZ / Animal Health Board	8	31
Tasman District Council	4	15
NZ Transport Agency	1	4
Ministry for Primary Industries	1	4
Abel Tasman Birdsong Trust	1	4
TOTAL	26	100

Lastly, two of the 26 consent applications (or 8%) were publicly notified, both being TDC global consents to spray weeds in river flood channels (by both air and land) for a period of 15 years. Each of these consents replaced older consents for the same activity that had expired. The remaining applications were processed on a non-notified basis.

State of the Environment Monitoring Data

Water Quality Monitoring and Pesticide Use

TDC's 2015 State of River Water Quality Report considered the effect of pesticide discharges on water quality.²² It found very low concentrations of pesticides in seven of the 15 groundwater bores sampled as part of a national 4-yearly programme (two in the Waimea, two in the Moutere, one in Riwaka, one in central Motueka, and one in Spring Grove). All the detections were triazine herbicides (mostly terbuthylazine), which were very common field/crop sprays especially for broadleaf and annual weeds. These types of compounds are easily washed through soils and are slow to breakdown in groundwater.

The 2015 monitoring report also noted that only one investigation of pesticides in streams in Tasman was known. A screen for pesticides in sediment from Neimann Creek, an intensively-farmed catchment in the Waimea Plains, found no trace of any pesticides.²³ However there has been a lot of work on residual pesticides in our soils mostly related to historic orchard practices or sheep dips. It is likely that some of these recalcitrant spray residues make their way to waterways bound to the soils.

A national programme to detect pesticides in groundwater has been running since 1990 with samples being tested every four years. The latest survey was undertaken in 2018 and included 279 groundwater bores across the country (mostly accessing the more vulnerable unconfined aquifers), including 22 from the Tasman District.²⁴ The sampling results found that 8 out of the 22 bores tested (36%) found detectable levels of pesticides, with Terbuthylazine being predominant. This was higher than the national result which found 24% of all bores tested to have pesticides present. For the first time in 2018 glyphosate was added to the range of pesticides being tested. None of the bore sites in Tasman tested positive to glyphosate.

The 2018 results represent an improvement when compared with the previous pesticide survey. In the 2014 programme 165 groundwater bores were tested nationally and 28 (17%) were found to have traces of pesticides.²⁵ The results for Tasman were considerably higher with seven out of the 15 bores (47%) tested having detectable traces of pesticides, again with Terbuthylazine being the most common. The level of pesticides detected in Tasman samples for 2014 and 2018 were well below the maximum acceptable values (MAV).

Table 11 shows the national results since the surveys began in 1990. It shows there has been a similar level of pesticides detected over the past 4 surveys (2006-2018). In five out of the eight surveys there has been a maximum of one pesticide detected at a concentration greater than the MAV with the other three surveys having no pesticides detected at a concentration greater than the MAV. The 2018 therefore concludes that *“As these surveys have been focused on shallow unconfined groundwater systems, which are most at risk of pesticide contamination, this indicates that most groundwater in New Zealand should be considered safe to drink with respect to pesticides”*.

²² James, T and McCallum, J 2015. *State of the Environment Report: River Water Quality in Tasman District 2015*. Prepared for Tasman District Council. <https://www.tasman.govt.nz/my-region/environment/environmental-management/water/river-water-quality/water-quality/>

²³ James, T. Unpublished data, 2014.

²⁴ Close, M. & Humphries, B (2019). *National Survey of Pesticides and Emerging Organic Contaminants (EOCs) in Groundwater 2018*. ESR report for regional councils CSC19016. https://research.esr.cri.nz/articles/National_survey_of_pesticides_and_emerging_organic_contaminants_EOCs_in_groundwater_2018/9937304

²⁵ Humphries, B. & Close, M. (2014). *National Survey of Pesticides in Groundwater 2014*. ESR report for regional councils CSC15003.

Table 11: Summary Statistics for the Eight National Surveys of Pesticides in Groundwater in NZ

Year Surveyed	1990	1994	1998	2002	2006	2010	2014	2018
No. bores in survey	82	118	95	133	163	162	165	279
No. regions	6	13	15	15	14	14	13	14
No. regions with pesticides detected	4	8	11	9	11	9	6	12
No. pesticides detected	7	10	22	21	19	22	21	28
No. pesticides detected <MAV	1	0	1	0	1	1	1	0
% detections that were herbicides	50%	95%	92%	92%	74%	91%	86%	88%

Similarly, the Ministry for the Environment’s report ‘Environment Aotearoa 2019’ states that “the concentration of pesticides in surface waters is not routinely measured, but groundwater monitoring shows that pesticides in the water in aquifers currently pose a low risk to health”.²⁶

Monitoring of 1080 Use by the Environmental Protection Authority (EPA)

The Hazardous Substances and New Organisms (HSNO) Act 1996 administered by the EPA outlines the rules around the use of 1080 in New Zealand. Operators who want to use 1080 must follow the controls set out under the HSNO Act and the relevant Health and Safety at Work (Hazardous Substances) Regulations 2017.

The EPA provides an overview of 1080 use each year as part of their annual reporting.²⁷ Table 12 below summarises the use of 1080 in Tasman for the five years 2014-2018. This includes the three years where TDC received the highest number of resource consent applications to discharge 1080 (2014-2016). The figures for Tasman are shown in the top of each row with the total across all of New Zealand shown in brackets.

Table 12: Summary of 1080 use in Tasman 2014-2018

Year	2014	2015	2016	2017	2018
Total Area (ha)	242,500 (967,012)	25,000 (374,227)	429,834 (1,051,204)	46,892 (876,556)	0 (440,909)
Breaches of HSNO controls	2 (6)	0 (6)	4 (13)	2 (12)	0 (1)

Over the five year period, the amount of 1080 discharged in Tasman varied widely from a high of 429,834 hectares in 2016 (41% of the total used in NZ that year) to no discharges in 2018. Similarly the number of breaches of HSNO controls has varied from 4 in 2016 to zero in 2015. Generally speaking, the bigger the areas covered by 1080 discharges, the greater likelihood of breaches occurring. The exception being in 2018 where only one breach was reported for the whole country. Breaches in Tasman include 1080 laced bait being found outside of the programmed pest control area, insufficient warning signage, and public trespass in operation areas.

²⁶ p.61, <https://www.mfe.govt.nz/environment-aotearoa-2019>

²⁷ The EPA’s annual reports dealing with 1080 use are available at <https://www.epa.govt.nz/resources-and-publications/monitoring-and-reporting/?tag=322>

The EPA reports for each year state that water quality monitoring following 1080 programmes found only a small number of incidences where 1080 was detected in the areas affected. All were below the health guidelines set by the Ministry for Health.

Soil Quality, Contaminated Land and Pesticide Use

The Tasman district has a long history of agricultural, horticultural and orchard land uses and these activities have included the use of various pesticides and agrichemicals. Some of these chemicals can persist in the environment such that hazardous residues can build up and remain in soils and in severe cases this may pose a direct hazard to people and the environment. Whilst all historic agricultural and horticultural land has the potential to be impacted, land that has historically been used for orchards is considered particularly vulnerable. Orchard practices prior to the 1970s entailed the use of various pesticides and agrichemicals that persist in the environment (e.g. arsenic, lead, copper and DDT). A TDC-commissioned survey undertaken in 2003²⁸ found that concentrations of arsenic in soils under the trees and around the spray sheds and storage and handling areas at some historic orchards exceeded the Ministry for the Environment's residential soil guidelines.

The Hazardous Activities and Industry List (HAIL) Register is an up to date inventory of properties where land use activities may result in land contamination. By identifying sites where hazardous substances have been used, stored or disposed of, TDC can ensure that land users make sure that the sites do not present a danger to workers, the community or the environment when they develop or use the site²⁹. The HAIL Register is operated according to Ministry for the Environment guidelines. More recent land use changes in the district, particularly conversion of agricultural land into hops, has not been included in the HAIL Register to date. However, if land managers apply pesticides in large quantities for hops disease control, there is merit in adding these sites to the register.

Ministry for the Environment's 'Our land 2018 report'³⁰ provides an overview of the state of New Zealand's soil, indigenous biodiversity and ecosystems (using data up to 2017). The report identifies that changes in agriculture activities can create environmental pressure. For example, soil in productive land use can become depleted over time if nutrients are not added, or affected by compaction or the use of agrichemicals, including fertiliser, herbicide, and pesticides. In relation to land use intensity, it is recognised that nationally there is a need for better input indicators (improved dataset on stock density, fertiliser application, pesticides) and some indicators on agricultural performance such as nutrient use efficiency, to better understand the likely pressures from human activities.

3.4 Effectiveness and Efficiency

This section provides an analysis of the efficiency and effectiveness of Chapter 34 of the TRMP. It focuses on the achievement of objectives contained within the chapter. The analysis draws on the information from earlier sections, including environmental data, consent information, council reports, and the opinion of experienced plan users.

²⁸ Gaw, S. K. (2003): *Historic Pesticide Residues in Horticultural and Grazing Soils in the Tasman District*.

²⁹ Further information on contaminated land and the HAIL register can be viewed on TDC's website:

www.tasman.govt.nz/my-region/environment/environmental-management/land/hail-sites/

³⁰ www.mfe.govt.nz/publications/environmental-reporting/our-land-2018

3.4.1 Ambient Air Quality

Chapter 34 Objectives	Analysis	Rating of Achievement
<p>Objective 34.1.2 The discharge of contaminants to air in such a way that avoids, remedies or mitigates adverse effects while:</p> <p>(a) maintaining existing air quality; and</p> <p>(b) enhancing air quality where existing quality is degraded for natural or human uses or values.</p> <p>Policy set 34.1.3.1 – 34.1.3.16</p>	<p>The Air Quality NES has had a positive influence on outcomes in Tasman, in particular through the requirement for properties under 2 hectares to have an approved low emissions wood burner (at the time of wood burner upgrade).</p> <p>The requirement to identify and monitor the Richmond airshed has highlighted the need for greater action to reduce winter air pollution in Richmond. As a consequence, the number of days that have exceeded the NES Air Quality standard for PM10 have reduced from 40 in 2004 (when the NES came into effect) to four in 2019. The response by TDC to the NES, including through regulatory provisions in the TRMP and non-regulatory initiatives, have clearly had a positive effect and helped contribute to partial achievement of Objective 34.1.2.</p> <p>However, when the PM10 data is considered with the effects of year-to-year variations in temperature and wind speed minimized, the trend evaluation suggests no significant decrease in median PM10 concentrations in Richmond from 2010 to 2019. Additionally, winter concentrations of PM2.5 are high with 2017 and 2019 monitoring records showing WHO health guidelines were exceeded on 24 and 25 days respectively. As PM2.5 has only been monitored since 2015 it is not possible to identify trends in annual concentrations. It is also not a requirement of the NES Air Quality to meet standards for PM2.5, although this is likely to change in a future update to the regulations.</p> <p>There are known issues with the TRMP’s discharge to air rules, particularly in relation to the effectiveness of the outdoor burning rules, the intent and locations of the Fire Ban Area and Fire Sensitive Areas, and implementation of the Richmond Airshed home heating rules. The permitted activity rule for outdoor burning allows for activities that contribute to poor winter air conditions, which in turn generates a significant number of complaints. Further, implementation of the prohibited activity rule relating to non-compliant wood burners has been hampered by a lack of buy-in from some property owners, and gaps in council information about the type and age of wood burners installed in households before 1998. These older wood burners tend to be smokier than modern burners and contribute a significant proportion of air pollution in winter. Even with a compliant wood burner, air quality can be affected if owners do not know how to operate their appliance efficiently and/or they burn wet or treated wood. In this regard, it is difficult to conclude how effective the council’s efforts have been in providing educational material and promoting best practice.</p>	<p>Partial achievement</p>

3.4.2 Discharge of Pesticides

Chapter 34 Objectives	Analysis	Rating of Achievement
<p>Objective 34.2.2 The reduction in use of pesticides in the District while avoiding, remedying or mitigating the adverse effects of pesticide use.</p> <p>Policies 34.2.3.1 & 34.2.3.2</p>	<p>Consent applications to discharge pesticides spiked between 2014 and 2016 predominantly for the use of 1080 to control animal pests. These applications were for specific areas in Tasman District, mostly on conservation land, were undertaken by DOC and TB Free NZ, and had to be given effect to within a limited timeframe of 5-15 months in most instances.</p> <p>Over the past 10 years there was an increase in consent applications to use sprays for plant pests, with three applications being granted during the six years 2010-2015, and double that number (6) being granted during the four years 2016-2019. Three of these applications replaced existing consents for the same or similar activities (control of road reserve and flood channel weeds) that had since expired. The main applicants were TDC, DOC and NZTA.</p> <p>While this information would indicate pesticide use is <i>not</i> reducing in the District, and therefore the objective has not been achieved, this is difficult to conclude due to the lack of information about the discharge of pesticides under permitted activity rule 36.6.2.1. This is likely to account for a significant proportion of pesticide use in the District, particularly taking into account agricultural, horticultural and forestry uses (including herbicides). Without knowing the extent or effects of permitted activity discharges, and whether this is increasing or decreasing, it is not possible to accurately assess overall progress towards achievement of Objective 34.2.2.</p> <p>The latter part of the objective, relating to ‘avoiding, remedying or mitigating’ adverse effects of pesticide use, does appear to have been achieved. Monitoring data shows that pesticide residues are not found in the majority of water sites tested, and where it is detected levels are very low and well within health guidelines. However, very little surface water testing in Tasman has been carried out.</p>	<p>Unable to determine progress</p>

Appendix 1: Iwi Management Plan Provisions Relating to Air Quality

Examples of provisions from Te Tau Ihu Iwi Management Plans relevant to the matters addressed in Chapter 34 'Air Quality' are shown below. For the full text please refer the individual plans.

Air Quality Issues

- A reduction in air quality corresponds directly with a reduction in the health and well-being of indigenous biodiversity, tangata whenua and waahi tapu (sacred places).
- Any activity that reduces air quality contributes to a loss in tangata whenua health and well-being; the mauri (life force) of tangata whenua is compromised through increasing ailments such as bronchitis, asthma, and dermatological conditions such as skin cancer.
- Any visual or foul-smelling contaminants released to air contaminate nga taonga (the treasures) and waahi tapu associated with Tawhirimatea. For example, smoke or smog restricting or blocking visibility of such taonga is an affront to the spiritual well-being of tangata whenua.
- Climate change is disrupting the life cycles of indigenous species. The ability of tangata whenua as kaitiaki (guardians), to look after indigenous habitats and species and utilise the matauranga (knowledge) and tikanga (customary practices) associated with these taonga is compromised.
- More extreme weather is leading to increased erosion of culturally important landmarks, including waahi tapu.
- To manage the air resource we need to know what the state of our air quality is and how it is changing. Environmental indicators can assist in achieving better environmental outcomes.
- Guidelines should not be seen as a permissive limit to pollution. They are minimum requirements for air quality.

Desired Outcomes

- Recognition of the role of tangata whenua as rangatira and kaitiaki of nga taonga tuku iho.
- Tangata whenua, as kaitiaki, will be effective in ensuring that the mauri or essential life principle of the natural world within the rohe is maintained and enhanced.
- The mauri (life force) of air is maintained at a level which achieves the best air quality possible and safeguards the:
 - Spiritual nature of air;
 - Health of flora and fauna;
 - Well-being and health of nga tangata; and
 - Customary practices and tikanga (protocols) of tangata whenua.
 - Cultural heritage is protected from the adverse effects of air pollution and noise contamination.
- The establishment of air quality indicators and the monitoring of the air resource, to indicate the cumulative effects of activities on ambient air quality.
- The adverse effects of discharging contaminants into air be avoided, remedied or mitigated, including adverse effects on local ambient air quality, community well-being, amenity values, resources or values of significance to Tangata Whenua, ecosystems, water and soil.
- Reduction of discharges into air of ozone depleting substances and greenhouse gases to a level which is consistent with central government initiatives and directives.