3 AIR QUALITY

Summary

RPS objectives

- The sustainable management of the air resource by avoiding, remedying or mitigating adverse effects on the environment from the discharge of contaminants to air.
- The reduction of the region's discharges of ozone-depleting substances and the net emissions of greenhouse gases in line with National Policy Statements.

Pressures

- Transport emissions contribute up to 50% of particulates that can be inhaled in urban areas and up to 20% in residential areas.
- In Whangarei City, domestic wood fires contribute up to 50% of air pollution in urban areas and up to 70% in residential areas.
- The number of burning and smoke nuisance incidents increased from 2003 to 2006 as a result of inappropriate burning in backyards.
- There is an increasing trend in the number of air-related environmental incidents, partly linked to decreased public tolerance of poor air quality. These are predominantly nuisance incidents, such as dust, smoke and odour incidents.

State

- Some areas in Northland can have poor air quality, especially during winter months. In winter there are periods of cold, calm weather when pollutants can build up to levels that may affect human health.
- Whangarei City is the most likely area to have air pollution episodes during winter. Air quality around busy roads can be degraded by pollutants emitted from motor vehicles.
- Of the two sites monitored for particulate matter (PM_{10}) in 2006, the National Environmental Standard of 50 $\mu g/m^3$ was exceeded only once at the Robert Street site in Whangarei.
- Carbon monoxide levels exceeded the eight-hour National Environmental Standard of 10 $\mu g/m^3$ on three occasions during August 1996 at Bank Street in Whangarei.
- Sulphur dioxide levels have remained below the New Zealand ambient air quality guideline of 120 $\mu g/m^3$ for all three sites at Whangarei Heads for the last three years.

Doing well

- Northland has no large scale or long term air quality problems.
- Up to 2007 all consents and environmental incidents have been monitored as required.
- Over the last five years air quality problems and incidents associated with industrial discharges have substantially reduced and industry compliance with resource consents conditions in good.

Areas for improvement

- The number of nuisance air-related incidents has increased significantly indicating a need to improve the management of potential sources of offensive and objectionable smoke, dust and odour incidents.

3.1 Introduction

Ambient air quality is the general quality of the air that surrounds us, outside buildings or structures, and is the result of climate and topography as well as the combined effects on the air of human activities (industrial, commercial and domestic) and natural sources.

Northland's air quality is dominated by the region's exposure to the prevailing south-westerly winds, which, particularly during the winter and spring, quickly disperse air pollutants. This, along with the relatively dispersed population, low vehicle density and sparse heavy industry, means that Northland enjoys a high standard of natural air quality.

However, monitoring has identified that at times pollutants approach or even exceed national air quality guidelines. These exceedances are restricted to specific locations and often occur under specific meteorological conditions.

Air quality policy

Regional Policy Statement

The Regional Policy Statement (RPS) for Northland (NRC 2002) contains objectives relating to air quality. These objectives seek to sustainably manage air quality in the Northland region.

The RPS objectives are:

- The sustainable management of the air resource by avoiding, remedying, or mitigating adverse effects on the environment from the discharge of contaminants to air.
- The reduction of the region's discharges of ozone-depleting substances and the net emissions of greenhouse gases in line with National Policy Statements.

The following is the anticipated environmental results after the implementation of the air quality policies in the RPS (NRC 2002):

- The widespread adoption of the best practicable option for all discharges to avoid, remedy or mitigate the adverse environmental affects that may result from the discharge.
- A significant reduction in the number of incidents involving pesticide use, backyard burning and other similar contaminant discharges.
- Greenhouse gas emission levels in line with government directives.

Regional Air Quality Plan

Since the introduction of the Resource Management Act 1991, the Northland Regional Council (NRC) has a responsibility to manage the quality of air in the region. In order to protect the quality of air the Regional Council has developed the Regional Air Quality Plan (RAQP) for Northland (NRC 2003), which has been operative since March 2003. The plan provides guidance to those using the region’s air resource in addition to specifying rules on what discharges into the air are authorised. NRC also undertakes the following to manage the region’s air quality:

- State of the environment monitoring.
- Resource consent compliance monitoring.
- Investigation and response to environmental incidents related to air quality.

National Environmental Standards

The Ministry for the Environment (MFE) introduced National Environmental Standards for air quality (MFE 2004) in 2004. The regulations set ambient standards for five pollutants: carbon monoxide, sulphur dioxide, nitrogen dioxide, ozone and PM10. The National Environmental Standards (NES) also prohibit certain activities and set emission standards and efficiency criteria for wood burners used for household heating.

Under the NES Regional Councils must monitor these five air pollutants and publicly notify any exceedances. The implementation of NES also requires Regional Councils to designate areas (airsheds) where air quality has been adversely affected.

Using research carried out by the National Institute of Water and Atmospheric Research (NIWA), the Regional Council identified five areas in Northland which are suspected of reaching or exceeding the NES. The five airsheds in Northland include Whangarei City, Marsden Point, Kaitaia, Kerikeri and Dargaville. Maps of the airsheds are available on the Regional Council website at the following link:

http://www.nrc.govt.nz/Environment/Air-quality/Rules/National-Environmental-Standards/.

More information on the National Environmental Standards can be obtained on the MFE website, using the following link:

http://www.mfe.govt.nz/laws/standards/air-quality-standards.html

3.2 What are the pressures affecting air quality

Pollutants

The air, like any other natural resource, can be adversely affected by pollutants. Pollutants are substances that, under certain conditions, can harm human, animal or plant life. Polluted air can also interfere with the use and enjoyment of life and property by affecting visibility, causing odour, dust or smoke problems or corroding and disfiguring materials.

Pollutants of concern – such as oxides of nitrogen, reactive organic compounds, particles, lead, carbon monoxide and sulphur dioxide – are released into the atmosphere from a range of human and natural sources. Important sources of these pollutants include motor vehicles, industrial activities and some domestic and commercial activities. Once in the atmosphere some pollutants can then be transported throughout the region by wind and air currents.

The air quality in Northland is primarily affected by the meteorological conditions that are prevailing at the time. Warm, windy conditions tend to promote better dispersion and hence better air quality than cool, calm conditions. Consequently, air quality in Northland tends to follow a seasonal trend with air quality improving in the summer and deteriorating during the winter months.

Environmental incidents

Since November 1993 the Regional Council has operated a system for receiving, investigating and reporting on environmental incidents 24 hours a day, seven days a week.

Since 1993, the Council has responded to more than 11,500 incidents. These range from minor land disturbance through to major oil spills. Approximately 40% of these incidents are air-related incidents (4700). In any given year, air incidents comprise between one third and one half of all incidents received by the Council.

The majority of air-related incidents fall into five categories: Burning or smoke nuisance, agrichemical spraydrift, odour, industrial emissions and dust nuisance as shown in the figure 1 (right). Other incidents include, for example, abrasive blasting, natural phenomena and hazardous substances.

Burning and smoke nuisance, followed closely by odour, comprise the majority of air-related incidents.

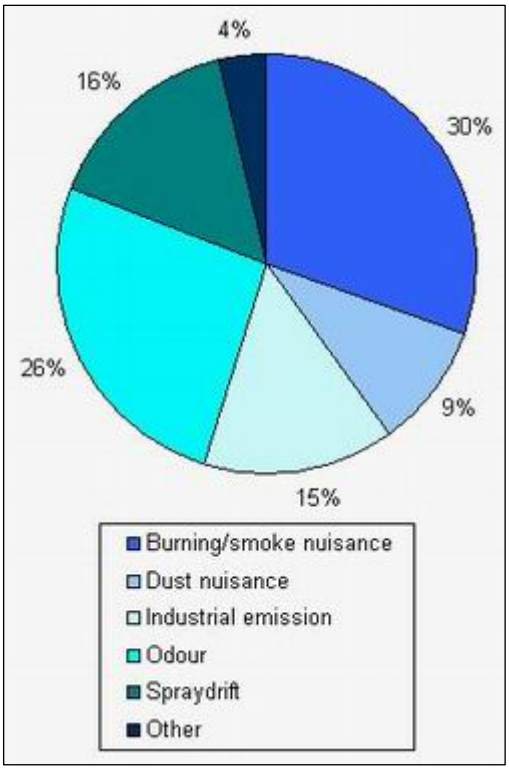


Figure 1: Air-related incidents from 1994 to 2006.

More than 450 air-related incidents were reported to the Council in 2005 and 2006 compared with more than 400 in 2003 and 2004, as shown in figure 2 (below). The overall trend of increasing numbers of air-related incidents is consistent with similar

findings in other parts of New Zealand (NZ) and overseas and seems to reflect an increasing intolerance of poor air quality.

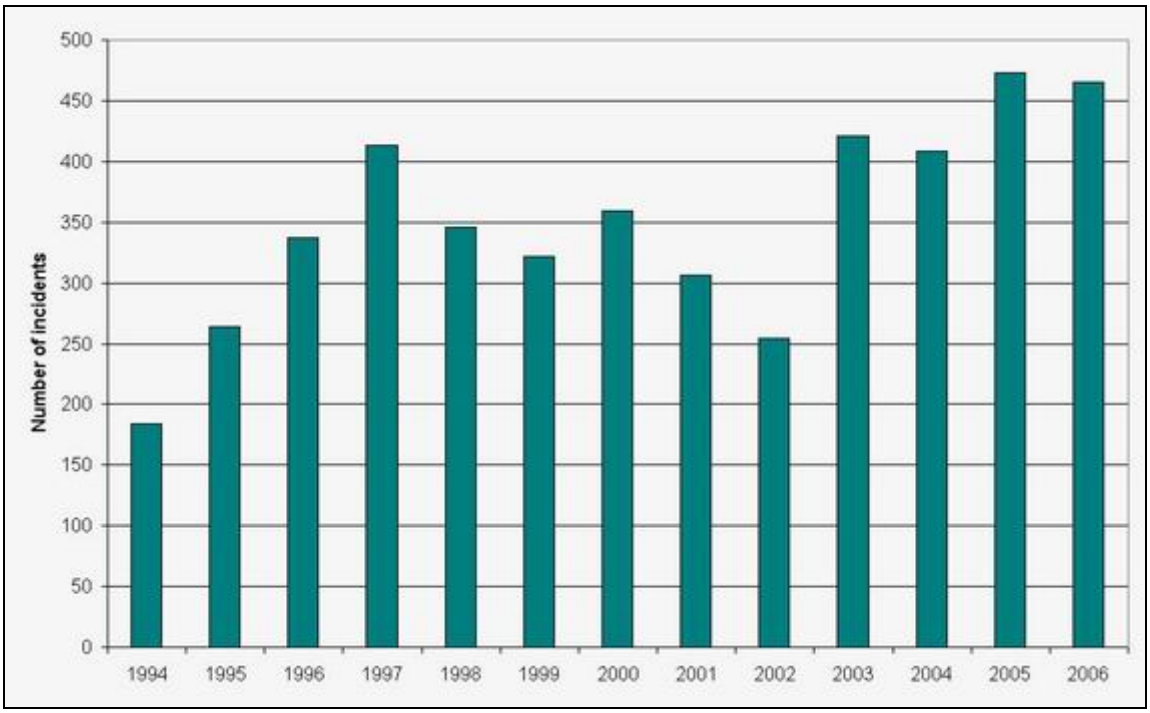


Figure 2: Number of air-related incidents reported to the Regional Council from 1994 to 2006.

Transport

While a single well-tuned and operated motor vehicle is unlikely to have a significant effect on air quality, collectively large numbers of motor vehicles do reduce air quality, particularly in urban areas. Monitoring both in NZ and overseas has demonstrated that vehicles emit carbon monoxide, inhaleable particulate, oxides of nitrogen, sulphur dioxide, ozone and benzene.

Although new vehicles are more fuel efficient and emit less pollution per kilometre travelled than older vehicles, this is offset by the increasing numbers of vehicles on our roads, the relatively old age of the NZ vehicle fleet (average vehicle is 12 years old - MFE 2006) and the lack of emission control checks on vehicle emissions.

In Whangarei City, historical monitoring has identified that the levels of carbon monoxide sourced from motor vehicles in Bank Street occasionally exceeds both the relevant National Environmental Standard (MFE 2004) and ambient air quality guideline (MFE 2002) for this contaminant. These levels are set to ensure the protection of human health.

In relation to inhaleable particulate or PM_{10}, the NRC has identified that vehicle transport contributes up to 50% of PM_{10} in urban areas and up to 20% in residential areas (Hally and Stevenson 2002).

Home heating

Traditionally, many homes have used open fires for warmth during the winter. Individually these fires are unlikely to cause significant air pollution but collectively they reduce the air quality to the point where it can exceed

relevant National Environmental Standards for inhaleable particulate (PM_{10}).

From 1 October 2005 all new domestic fires in urban areas have had to meet the national emission standard. This standard has been introduced to reduce the amount of smoke pollution caused by domestic fires. New burners use up to 30% less wood to produce the same amount of heat and up to 90% less smoke (Department of Energy 2006).

Smoke from domestic fires hangs over Whangarei City during the winter.

In Whangarei City, the NRC has identified that wood fires contribute up to 50% of air pollution in urban areas and up to 70% in residential areas (Hally and Stevenson 2002). Although older burners – including open fires – are gradually being replaced by more modern burners, heat pumps or gas fires, increasing development in and around Whangarei City means the number of wood fires is increasing.

Backyard burning

Disposing of refuse by burning it in the backyard is no longer considered acceptable in urban areas. The close proximity of neighbouring properties means that smoke and odours from rubbish fires frequently impact on adjoining residents.

For elderly residents, very young children or people with pre-existing medical conditions such as asthma, respiratory or heart conditions the inhalation of smoke can have serious potential effects on their health – aside from the unpleasant, acrid smoke and fumes that result from the backyard burning of waste.

The number of burning and smoke nuisance incidents has increased rapidly in recent years reaching 240 complaints in 2006 as shown in figure 3 (below).

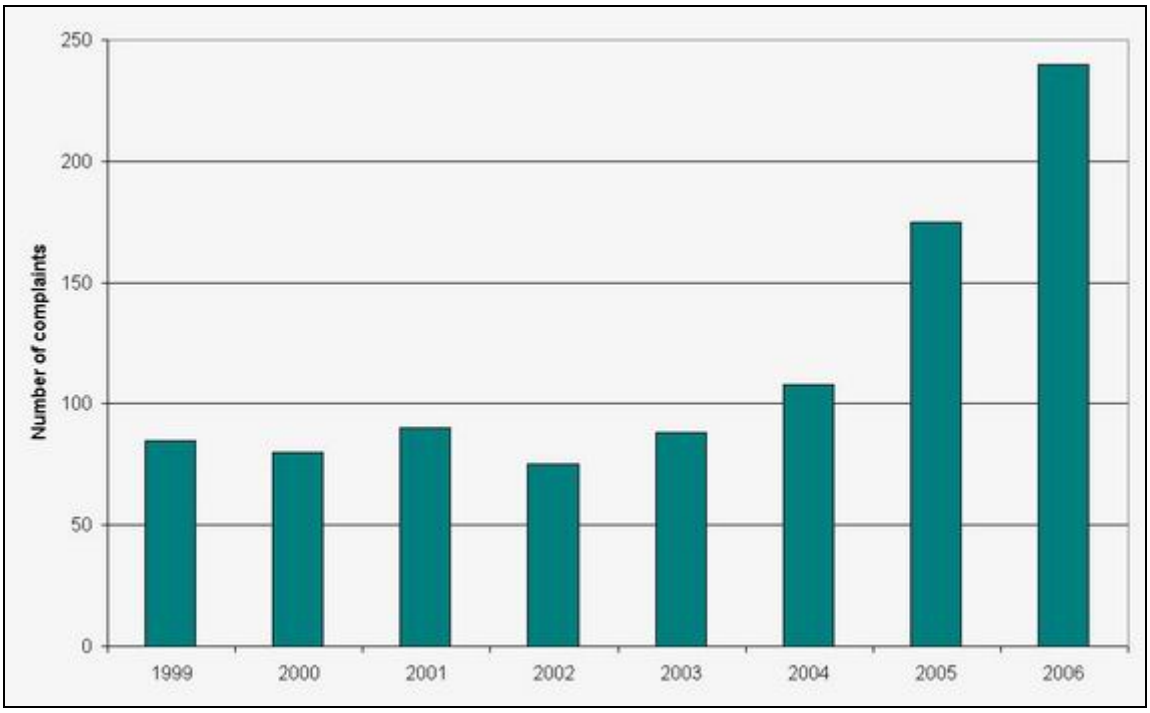


Figure 3: Burning smoke nuisance complaints.

Most occurred in the Whangarei area and followed the decision of the Whangarei District Council to charge for all rubbish disposal, including vegetation but excluding recyclable materials such as paper, plastic, cardboard and glass.

Agriculture

A range of air pollutants are released into our atmosphere from agricultural activities. New Zealand is unique among developed countries in that approximately half (49%) of green house gas emissions come from agriculture (MFE 2007). Agrichemicals, dust and odour are the main air pollutants released from agriculture in Northland.

Industry

At 1 January 2007 there were about 310 resource consents for discharges to air being monitored by the Northland Regional Council. Many of these consents are for small-scale sewage treatment and disposal facilities, which need appropriate controls placed on air emissions to prevent odour problems.

Approximately 90 consents to discharge to air are closely monitored by the Northland Regional Council to ensure that there are no significant adverse effects arising from the exercise of these consents. Major industry sites with consents to discharge to air are labelled in figure 4 (below).

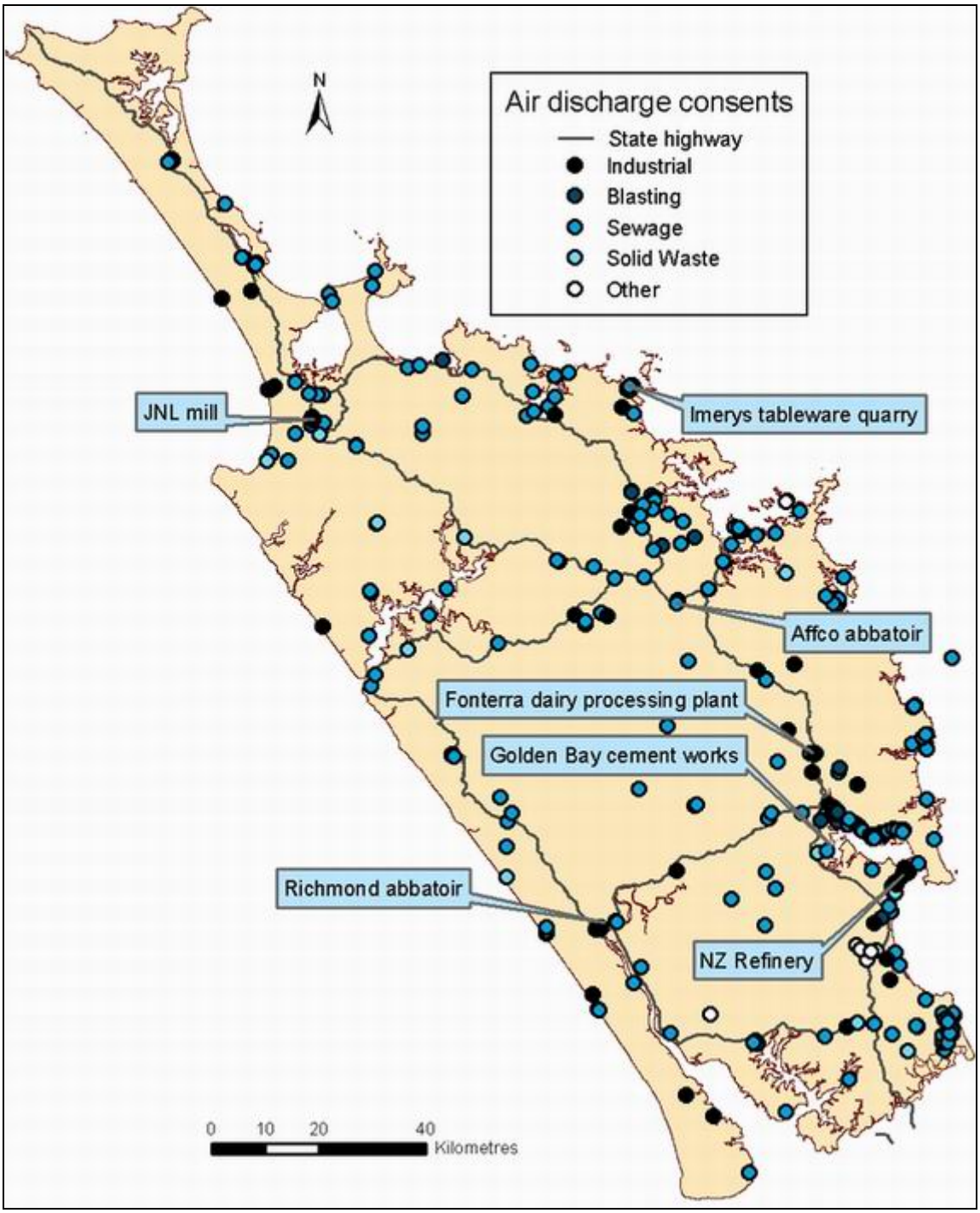


Figure 4: Map showing the location of all air discharge consents in Northland at 1 January 2007.

3.3 What is the state of air quality?

Clear, clean air is essential for the health and well-being of the Northland community. While poor air quality impacts on health, it also affects agricultural, horticultural and tourism industries.

The resource consent process addresses major point source discharges from industrial processes but non-point source discharges from motor vehicles or domestic fires can also collectively impact on air quality. By monitoring these pollutants in ambient air, it is possible to determine long-term trends. These trends can give advance warning of possible problems and enable effective strategies to be developed to prevent any deterioration of air quality.

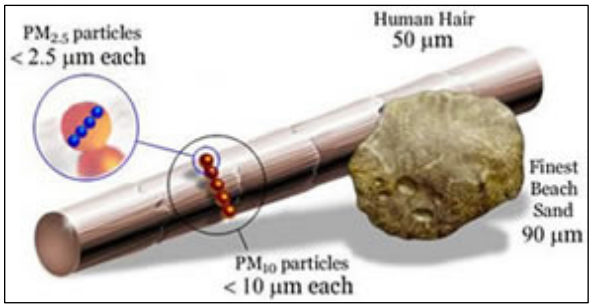
NRC monitors certain air pollutants to find out the quality of the air we breathe. Air quality monitoring in the Northland region shows that there are some areas with poor air quality at times, especially during winter months. In winter there are periods of cold, calm weather when pollutants can build up to levels that may affect human health.

Air quality monitoring to date has shown that Whangarei City is the most likely area to have air pollution episodes during winter. Air quality around busy roads, especially those subject to traffic congestion can be degraded by pollutants emitted from motor vehicles. NRC also has ongoing programmes to carry out air quality monitoring in places suspected of having occasional degraded air quality.

The following parameters are monitored on a regular basis in Northland and a summary of recent results are presented below: Particulate matter (PM_{10}), carbon monoxide (CO) and sulphur dioxide (SO_2).

Particulate matter

Particulate matter is a collective term used to describe very small solid or liquid particles such as dust, fume, smoke and mist or fog. Particulate material, which has an aerodynamic diameter of less than 10 microns, is referred to as 'PM_{10}'.



PM_{10} in the atmosphere originates from both natural (wind blown dust, forest fires, volcanic emissions, sea spray and pollen) and anthropogenic activities including automobile exhausts, solid fuel burning, and industrial emissions.

PM_{10} are small enough to be inhaled. Fine particulate matter especially $PM_{2.5}$ (<2.5 µm diameter in size) can even reach up to the human lungs and aggravate respiratory disorders. Research has shown that fine particles are more responsible for specific health effects. People most susceptible to the effects of particles include the elderly; those with existing respiratory disease such as asthma, chronic obstructive pulmonary disease and bronchitis; those with cardiovascular disease; those with infections such as pneumonia; and children.

The NES set by the Ministry for the Environment for PM_{10} in order to protect human health is 50 $\mu g/m^3$ averaged over a 24 hour period (MFE 2004). PM_{10} is monitored in Whangarei City using two devices. The first is a High-volume sampler operated at Water Street in Whangarei once every six days. The results from this sampler are shown in figure 5 (below).

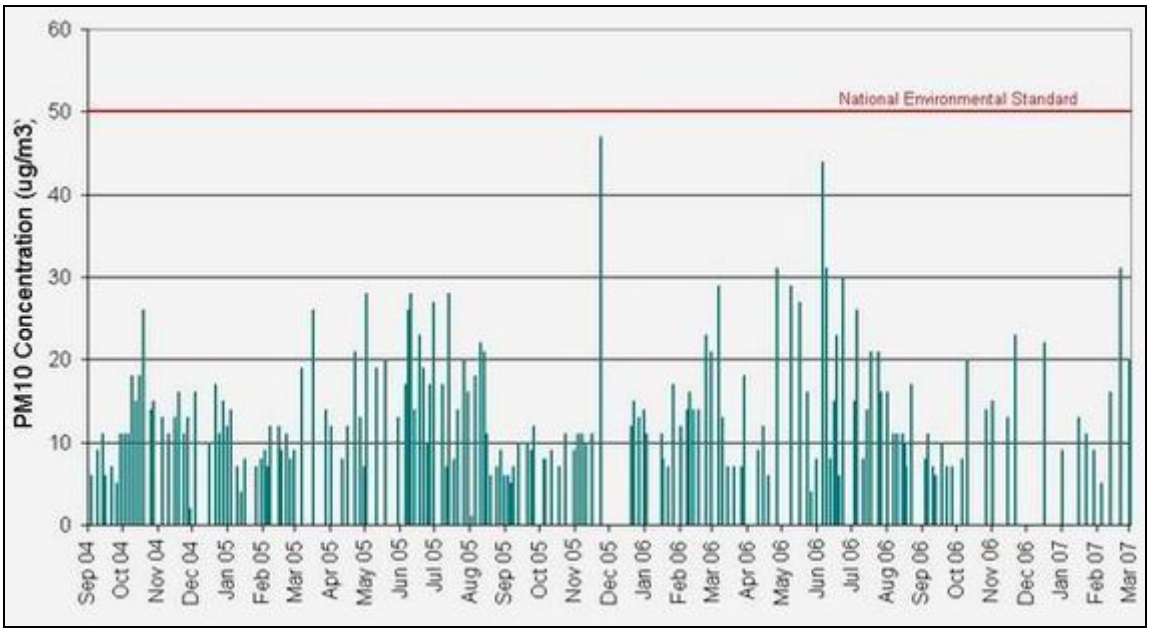


Figure 5: 24 hour PM10 concentration at Water Street in Whangarei.

The results from the High-volume sampler illustrate that in general, the air quality is relatively good. However, there are occasions when the air quality approaches the NES. In general, elevated results occur during the winter months, with better air quality during the summer. However, there are exceptions which occur when smoke from backyard fires or burnoffs impacts on air quality.

More recently, a second instrument, a Beta-Attenuation Monitor (BAM), has been deployed at Robert Street in Whangarei. Unlike the High-volume sampler the BAM samples the air continuously and allows variations over as little as 10 minutes to be detected. The higher resolution and continuous record allows Council staff to determine the likely source and extent of different contributions to the Whangarei air shed.

Results from the BAM sampler shown in figure 6 (below) indicate elevated concentrations typically occur during winter and that the NES was exceeded once during 2006.

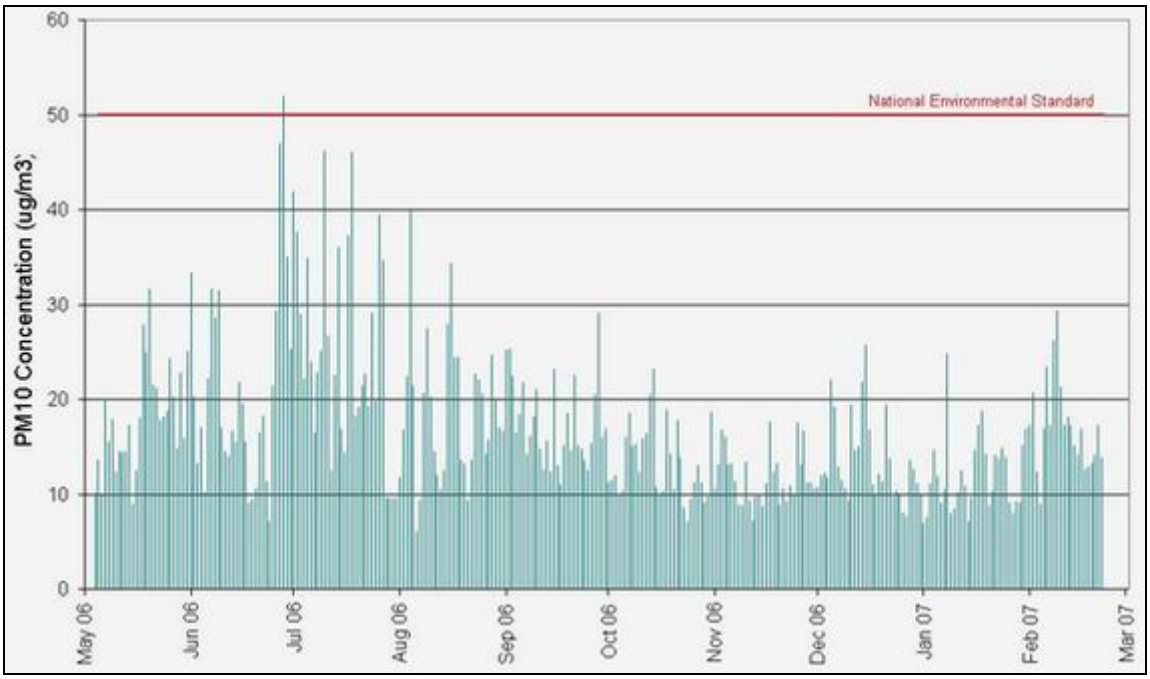


Figure 6: 24 hour PM_{10} concentration at Robert Street in Whangarei.

Carbon monoxide

Carbon monoxide is a colourless, odourless gas that can be hazardous to humans. It is readily absorbed from the lungs into the bloodstream where, because of the stronger affinity haemoglobin has for carbon monoxide, it reduces the oxygen-carrying capacity of the blood.

Carbon monoxide is a trace constituent of the atmosphere, produced by both natural and human activities. Such human activities include vehicle use and domestic burning (where incomplete combustion takes place). Places where vehicle emissions accumulate such as traffic jams, tunnels and carparks are locations of potentially high exposure levels. Office buildings and shops located along congested motorways or below carparks can also accumulate carbon monoxide.

The results from one month of carbon monoxide monitoring (August 1996) at Bank Street, Whangarei are shown in figure 7 (right).

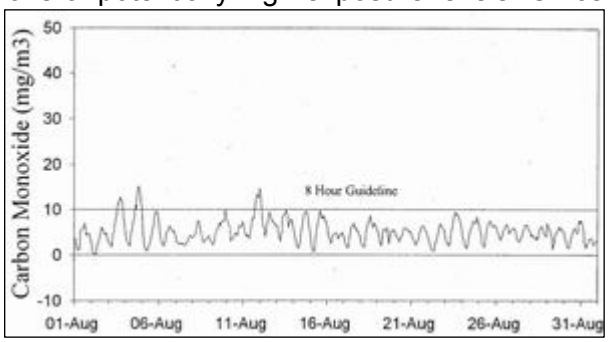


Figure 7: Carbon monoxide concentrations at Bank Street, Whangarei.

The results reveal that the eight-hour NES of 10 milligrams per cubic metre was exceeded on three occasions. In addition, the one-hour guideline value of 30 milligrams per cubic metre was also exceeded on one occasion.

Sulphur dioxide

Sulphur dioxide (SO_2) is a colourless gas that readily reacts with ambient moisture to generate sulphuric acid aerosols (H_2SO_4). This transformation is the major contributor to "acid rain".

Sulphur dioxide is readily identifiable by its characteristic pungent, irritating odour. Studies have shown that sulphur dioxide in combination with particulate matter poses a greater health risk than sulphur dioxide alone. High concentrations of sulphur dioxide are known to trigger the onset of chemical bronchitis and tracheitis. However, lower concentrations may trigger bronchospasm in sensitive individuals such as asthmatics.

Sulphur dioxide is produced during the combustion of fossil fuels, especially coal and oil, due to the oxidation of small quantities of sulphur compounds present within the fuel. In Northland, the major sources of sulphur dioxide are from industries that use feed stocks with substantial quantities of sulphur. These include Marsden Point refinery or other industries that oxidise sulphur as part of their production process such as the Ballance Agri-Nutrients manufacturing plant.

The results from approximately three years of monitoring at three sites (Whangarei Heads School, Little Munro Bay and Urquharts Bay) are shown in figure 8 (below).

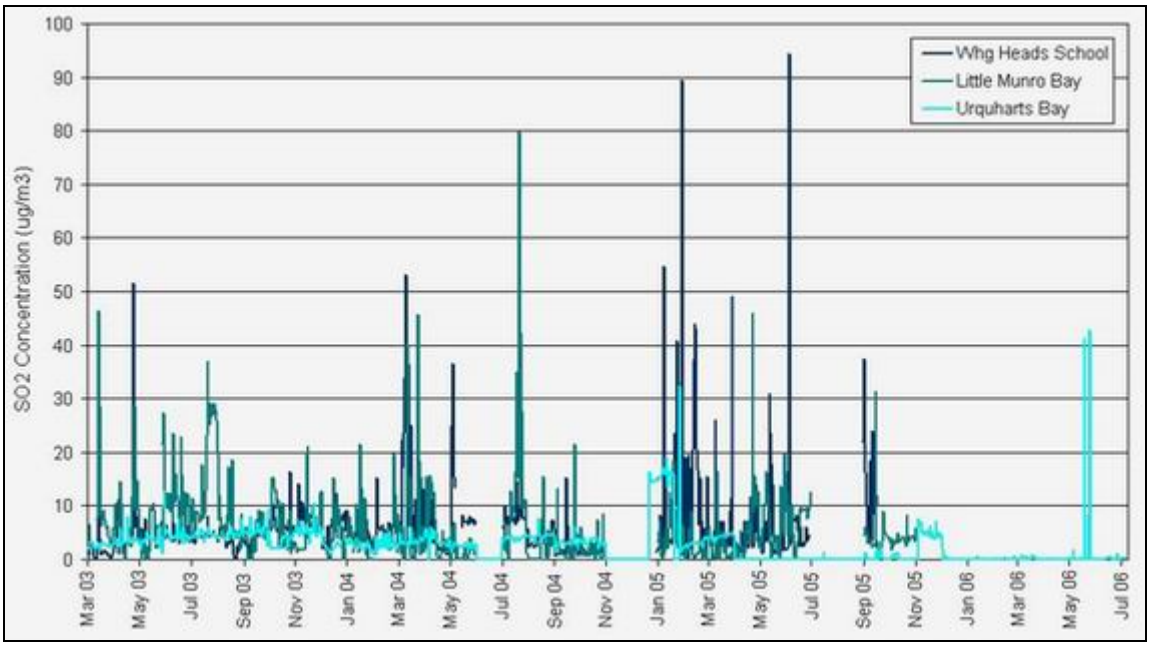


Figure 8: Sulphur dioxide results (24-hour average) for three sites (Whangarei Heads School, Little Munro Bay and Urquharts Bay) operated by NZRC

The results demonstrate that peak concentrations at the three sites remain below the NZ ambient air quality guideline (MFE 2002) of 120 micrograms per cubic metre.

Consent compliance

Northland Regional Council monitors around 310 resource consents which have permits to discharge into the air. Many of these consents are for small-scale sewage treatment and disposal facilities which need appropriate controls placed on air emissions to prevent odour problems from arising.

Approximately 90 discharge to air consents are closely monitored by the NRC to ensure that there are no significant adverse effects arising from the exercise of these consents.

About 85% of monitoring confirms compliance with resource consent monitoring, while another 10% identifies minor non-compliance, which requires further attention. Approximately 5% of monitoring indicates more serious non-compliance, some of which requires formal enforcement action to resolve.

3.4 What is being done?

Policy documents

The Regional Council has produced two policy documents to manage Northland's air resource. The Regional Policy Statement for Northland (NRC 2002) provides an overview of resource management issues in Northland, including those with regard to air quality. It contains objectives, policies and methods to achieve the integrated management of Northland's environment.

The Regional Air Quality Plan (AQP) for Northland (NRC 2003) contains rules that permit, control or prohibit activities which cause discharges of pollutants to air.

Investigation of air incidents

All environmental incidents reported to the NRC are recorded, investigated and reported to the Council every month. When an incident investigation is completed, a summary of the results of the investigation and recommendations is produced. This includes actions that should follow to remedy and avoid any adverse effects on the environment. In some situations formal enforcement action, such as an infringement notice or prosecution, will be taken by the Council.

Regional Council staff members assist new and existing industries with technical advice, information and experience to avoid causing problems and to assist with resolving air-related issues that already exist.

Consent monitoring

There are around 310 resource consents for discharges to air in Northland. Of these approximately 90 are closely monitored by the Regional Council to ensure that there are no significant adverse effects arising from the exercise of these consents.

A monitoring report is produced for each consent holder on a regular basis. The report summarises the results of any monitoring undertaken and comments made during any site inspections.

At times, it is necessary to measure exactly what is being discharged from a stack or chimney. This requires specialised training and equipment and can often be difficult, challenging work. The Council monitors a number of industries annually to check on their emission control equipment and to assess compliance with their consent discharge limit.

Emissions inventory

In order to predict the impact of future developments on the Northland region, it is important to quantify existing discharges so the additional atmospheric burden of future projects can be estimated. Information on existing discharges from Northland is currently being compiled into an emissions inventory.

This document will estimate emissions from point sources such as local industry, as well as non-point source emissions such as particulate emissions from domestic home heating, vehicle emissions from the transport sector and agricultural emissions from livestock. This is the second attempt to quantify these emissions and as such will provide valuable information for resource planners, developers and local industry. The results were to be available by October 2007.

Marsden Point Air Quality Strategy

The Regional Council publicly notified and released Proposed Plan Change 1 (Marsden Point Air Quality Strategy) to the Regional Air Quality Plan (RAQP) for Northland (NRC 2003) on Saturday 14 April 2007. The 'Proposed Plan Change 1 - Marsden Point Air Quality Strategy' comprises proposed changes regarding rules for discharges in and around the Marsden Point Airshed.

The plan change aims to implement the Marsden Point Air Quality Strategy, a document that was approved by Council in September 2005. The estimated release date of the operative plan change is December 2007 (subject to any Environment Court Appeals). A copy of the plan change is available on the Regional Council website at the following link:

http://www.nrc.govt.nz/Your-Council/Have-your-say/Regional-Air-Quality-Plan/Plan-Change-1-Marsden-Point-Air-Quality-Strategy/

Backyard burning

The Regional Council publicly notified and released plan change 2 (Backyard Burning) to the Regional Air Quality Plan (RAQP) for Northland (NRC 2003) on Thursday 2 August 2007.

The purpose of 'Proposed Plan Change 2 – Backyard Burning' is to prohibit backyard fires in the Whangarei urban area, which will help reduce the number of burning and smoke-nuisance incidents. The plan change also introduces a permitted activity rule with conditions for backyard burning within the remainder of Northland. The plan change is expected to have significant air quality and health benefits. For more information refer to the following page on the Regional Council website:

http://www.nrc.govt.nz/Your-Council/Have-your-say/Regional-Air-Quality-Plan/Plan-Change-2-Backyard-Burning/

Dust nuisance in earthwork workshops

The Regional Council has held eight erosion and sediment control workshops for developers, earthwork contractors and planners in 2006 and 2007. The workshops were designed to improve understanding and implementation of erosion and sediment control and the environmental effects. Incorporating dust nuisance and dust management into the workshops has provided useful and practical information to developers/contractors on how to minimise the potential risks.

So far about 200 people from 50 different companies and organisations have attended. Very positive feedback has been received from attendees and there is still significant interest from contractors who have not yet been able to attend due to courses being fully booked. More workshops will be held in the future as required.

Through education, incidents such as the dust nuisance problem that occurred at One Tree Point in 2005 (see case study 1 below) can be avoided.

3.5 Where to from here?

Future monitoring

The Council will continue to monitor particulate matter (PM_{10}) at Robert and Water Streets in Whangarei as discussed above.

The NRC has recently purchased a continuous carbon monoxide analyser, which will be installed in Bank Street, Whangarei. Monitoring of carbon monoxide is scheduled to begin later in 2007.

An additional sulphur dioxide monitoring site is planned for the One Tree Point area. It is expected to be installed late 2007. A further sulphur dioxide monitoring site in Whangarei City is expected to be commissioned early 2008.

Environmental incidents

The number of air incidents has increased in recent years, particularly the number of burning and smoke nuisance incidents as a result of people burning rubbish in their backyards. The number of air-related incidents has now increased to the point where staff are unable to respond to all air incidents in a timely manner.

The plan change 2 (Backyard Burning) to the Regional Air Quality Plan (RAQP) discussed above should assist with reducing the number of incidents that staff need to attend in the long term.

3.6 What can you do to help?

You can help to reduce the amount of air pollution in our region by looking at the following factors in your home, school or businesses.

Domestic wood fires

In Whangarei city around 80-90% of fine particles in the air come from the burning of wood in domestic appliances for home heating. Reduce the amount of pollution that comes from your home wood fire by:

- Using a low emission burner. From 2005 most new burners are required to meet emission standards. These will burn up to a third less fuel, produce the same amount of heat with around 90% less pollution.
- Cleaning your chimney at least once a year.
- Never burning rubbish, plastics or treated wood. Burning these materials will damage your fire and your health.
- Never using coal in a wood burner. Coal burns much hotter and can badly damage your fireplace.
- Only burning dry wood.

For more information refer to the following link:

http://www.nrc.govt.nz/Resource-Library-Summary/Publications/Air/Reduce-smoke-from-your-domestic-fire/

Backyard Burning

Avoid burning rubbish and vegetation in your backyard. Most vegetation can be composted and paper should be recycled through the local recycling scheme.

The Air Quality Plan for Northland explains what you are and are not allowed to burn and sets out rules that you should comply with. The smoke must not cause a nuisance for any of your neighbours. For more information refer to the following link:

http://www.nrc.govt.nz/Environment/Air-quality/Issues/Backyard-burning/

Climate change

Everyone can help reduce the effects of climate change by reducing our carbon footprint - the amount of greenhouse gases we produce. We can all help protect our environment by making changes, big and small, in the way we lead our lives - particularly in the areas of transport, waste and energy use. Refer to the following link on the NRC website for more information:

http://www.nrc.govt.nz/Environment/Air-quality/Take-action/Carbon-footprint/

3.7 Case study 1: Dust nuisance incident at One Tree Point

Background

Coastal areas have been undergoing rapid development in recent years and the One Tree Point area adjacent to Whangarei Harbour is no exception.

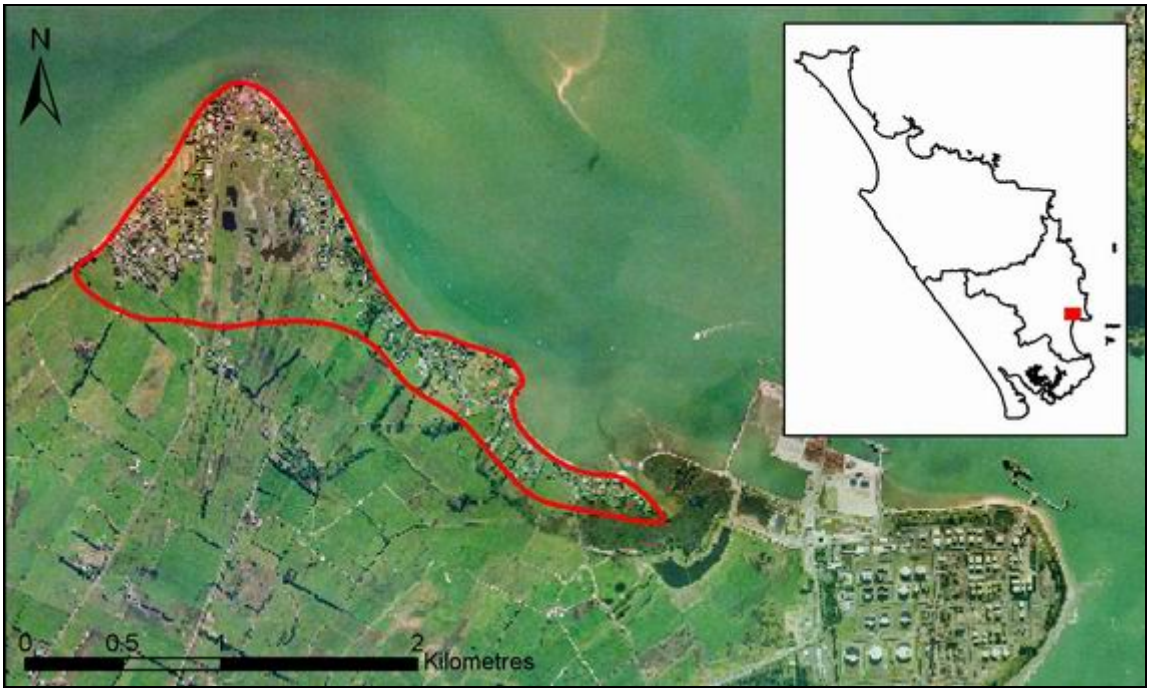


Figure 9: Location of the One Tree Point area outlined in red.

A number of recent developments have converted open farmland into residential lots in the One Tree Point area. These developments involve removing the surface vegetation and undertaking extensive earthworks as part of new residential development. These earthworks expose the underlying light free-draining sandy soils which are characteristic of the One Tree Point area.

Unfortunately, these soils are prone to wind erosion and care must be taken during earthworks to ensure that adequate precautions are in place to prevent strong winds from causing dust nuisance problems for adjoining residents. The prevailing winds in the area are generally south-westerly which means that any residential properties to the north-east of large earthworks developments could potentially be affected by dust.

Such large earthworks for developments usually require resource consents and a normal condition is a requirement not to cause “offensive or objectionable” dust at or beyond the boundary of the development.

Response

In October 2005, the council received several complaints from residents of One Tree Point Road in relation to dust nuisance from earthworks in the area. Council staff responded to the complaints by undertaking site visits, which confirmed that earthworks in the area were causing dust nuisance problems. Initially the development company was warned that they should put in place additional precautions to prevent any further dust nuisance problems.

Digger generating dust, while excavating trees in the One Tree Point area.

After a few weeks the council received additional complaints and site visits confirmed that again dust from the earthworks was resulting in dust nuisance for adjoining residents. The company was requested to cease operating unless they could ensure that any dust from the development was not offensive or objectionable at or beyond the property boundary. The developers were advised that failure to address the dust nuisance could result in formal enforcement action.

On 14 November 2005 another complaint was received regarding dust nuisance. Wind measurements and dust assessments were made by the council officer inspecting the site, who concluded that the dust nuisance was “offensive and objectionable beyond the boundary of the property”. The officer observed members of the public turn back after attempting to use the footpath barely visible on the right hand side of the photograph below. Vehicles were also observed driving slowly through the dust with their lights on.

Dust originating from the earthworks (on left of photograph) being blown across the road towards residential properties on the right.

Successful prosecution

Given the failure of the company concerned to comply with the previous warnings issued by the Regional Council, a decision was made to prosecute the company responsible for the dust discharges.

The earthworks contractors pleaded guilty to causing a dust nuisance and were convicted and fined $22,000 in the Environment Court.

Following the conviction, there has been a distinct improvement. Developers and contractors undertaking earthworks in the One Tree Point area are now careful to ensure that comprehensive dust management plans are in place prior to commencing earthworks.

3.8 References

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