



Raumati South (Kapiti) winter 2010 air quality study

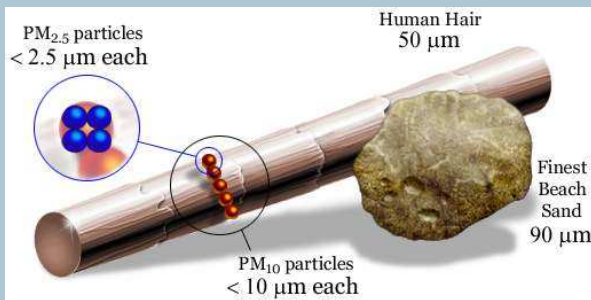
Background

In winter 2010, Greater Wellington (GW) carried out a research study to assess air quality in Raumati South in response to local concerns about the effects of wood burner emissions on air quality.



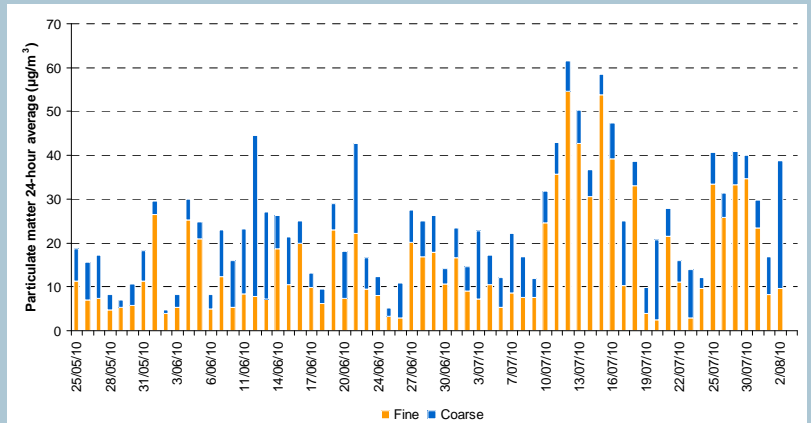
GW established a temporary monitoring device on Glen Road in Raumati South from 25 May to 2 August 2010, to measure the level of particulate matter in the air.

Particulate matter is a mixture of tiny particles derived from many sources. Domestic fires and vehicles emit very fine particles less than 2.5 microns in diameter (PM_{2.5}). Road dust and natural sources, such as sea-salt and soils, produce coarser particles (PM_{2.5-10}). PM_{2.5} causes the most harm to people's health because smaller particles can penetrate deeper into the lungs.



Relative particle sizes

Source: www.mfe.govt.nz

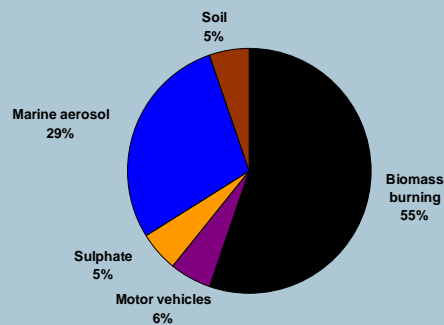


Raumati South daily PM₁₀ measurements, Winter 2010

The highest levels of fine particulate matter (PM_{2.5}) occurred in mid July during a period of calm and cold weather conditions.

Sources of particulate matter in Raumati South

Analysis of the air particulate samples by GSN Science found on average three-quarters of the PM_{2.5} measured in the air arises from domestic fires. Of the PM₁₀ measured in air, just over half arises from domestic fires and just under a third from sea salt.



Source: GNS Science

Relative source contributions to average PM₁₀ concentration

Findings

The graph shows daily average measurements of PM_{2.5} (fine) and PM_{2.5-10} (coarse). Although not directly comparable to health guidelines and standards – the monitoring instrument is designed for research rather than for compliance – the results indicate that the PM₁₀ threshold of 50 µg/m³ set by the national air quality standard may have been exceeded on one or more occasions. The PM_{2.5} levels may have also exceeded the WHO guideline of 25µg/m³ on a number of days.

What is Greater Wellington doing?

GW participates in EECA's home insulation and clean heating scheme, providing up to \$2,600 assistance per ratepayer (paid back via a targeted rate) to help fund the remaining cost of home insulation and clean heating over and above EECA's grant. See www.gw.govt.nz/gw-s-offer/ GW monitors air quality around the region and develops policies and rules to manage air quality through our regional air plan. GW provides advice on how to reduce emissions from woodburners. See <http://www.gw.govt.nz/cut-down-smoke-with-smarter-burning/>

For more information, contact Greater Wellington:

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For a full copy of the Raumat South air quality investigation report, visit www.gw.govt.nz/technical-reports/

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