MARLBOROUGH DISTRICT COUNCIL

# Air Quality - Monitoring Summary 2013

## Key Points

- The NES for $PM_{10}$ was exceeded on four occasion in Blenheim. Blenheim must show compliance with the NES by 2016.
- Trend analysis show $PM_{10}$ concentrations are decreasing in Springlands but are steady at the Redwoodtown site.

## Why we monitor air quality

- It's a National Requirement— There is a national requirement for councils to monitor $PM_{10}$ in designated airsheds. Blenheim is the only designated airshed in Marlborough.
- It's a public health risk— Monitoring shows that $PM_{10}$ levels in Blenheim exceed health standards. Exposure to excessive amounts of $PM_{10}$ can lead to serious health problems, such as respiratory problems and heart disease particularly in the young and elderly and in those with pre-existing medical conditions. Currently other air contaminants such as $SO_X$ and $NO_X$ are not at levels which are a public health risk.
- It's a possible health risk — Where there is a concern that air contaminants may be creating a health problem investigations are carried out to determine the risk e.g. previous monitoring of $PM_{10}$ and methyl bromide in Picton.

## Where and how we monitor air quality

- $PM_{10}$ is measured at two sites in Blenheim. Measurements are taken every hour in Redwoodtown and a daily average is recorded. Monitoring occurs 1 in every 3 days in Springlands throughout the year.
- Monitoring of methyl bromide in Picton took place in January and March 2011.

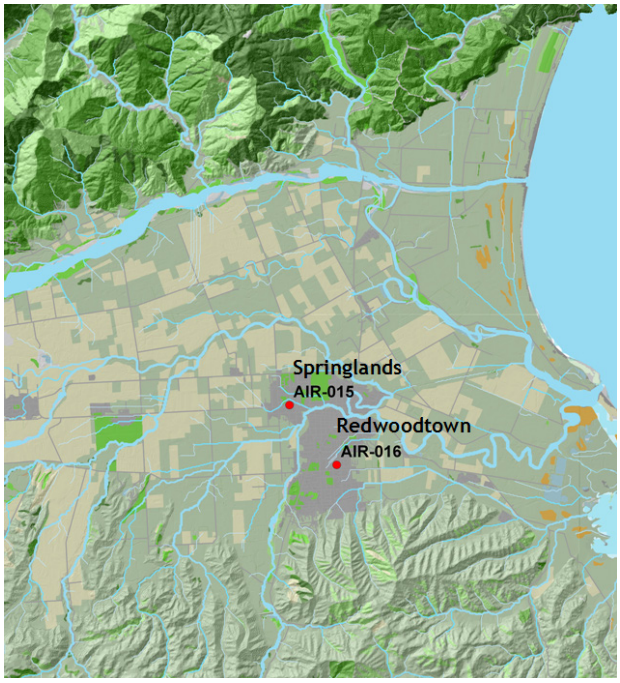



**Figure 1. Locations of the $PM_{10}$ monitoring sites in Marlborough**

**Figure 2. $PM_{10}$ monitor at Middle Renwick Road (Springlands).**

**Figure 3. $PM_{10}$ monitor at Redwoodtown bowling club.**

## What happened in 2013?

### Compliance with the NES

- Concentration of $PM_{10}$ in Blenheim exceed 50 $\mu gm^{-3}$ on five occasions during 2013 resulting in four breaches of the NES. This compares with seven breaches of the NES during 2012 which was the highest number for the site since continuous monitoring commenced in 2006. The maximum daily average $PM_{10}$ concentration breaching the National Standard was 61 $\mu g/m^3$, which is similar to the 2012 maximum concentration of 59 $\mu g/m^3$ and lower than the 2011 maximum of 82 $\mu g\ m^{-3}$.
- Overall the median $PM_{10}$ concentration have remained at similar levels over the past five years.
- The expected reductions in emissions that should have been occurring over this time as a result of the replacement of older burners with new lower emission burners has not occurred. Anecdotal evidence suggests one explanation maybe that the air controls of newly installed wood burners are being adjusted to allow them to achieve an overnight burn. If this is occurring it would negate the benefits of the new low emission burners.

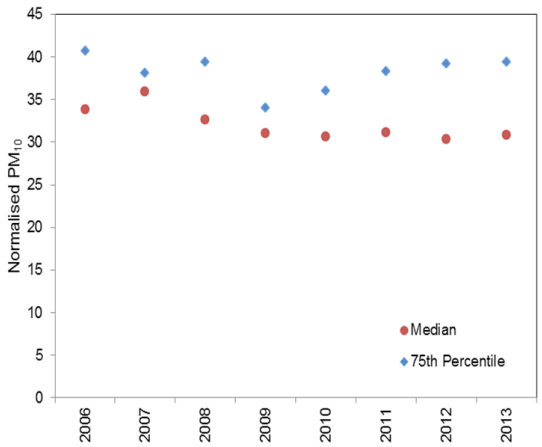



**Figure 4. Trend analysis shows no reduction in $PM_{10}$ concentrations at the Redwoodtown site in the Blenheim**

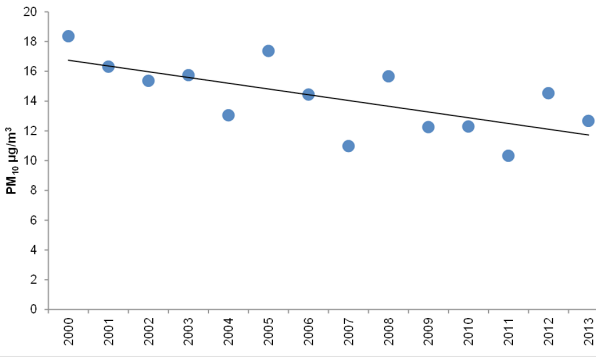
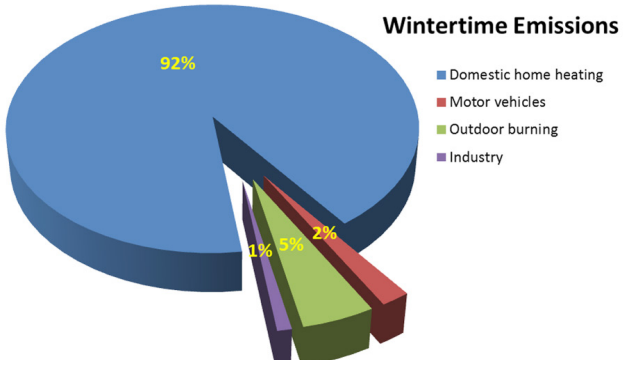



**Figure 5. Annual average concentrations for the Springlands air monitoring site show a reduction in $PM_{10}$ concentrations.**

- In 2013 at the Springlands site there were no exceedences of 50 $\mu g\ m^{-3}$ and the maximum daily $PM_{10}$ concentrations was the second lowest since monitoring commenced in 2000. An evaluation of annual average concentrations measured at this site since 2000 suggests a downward trend in concentrations. Concentrations at this site are less than half those measured at Redwoodtown on average.

## What is the source of emissions?

The main source of daily wintertime $PM_{10}$ emissions in Blenheim are from domestic home heating (around 92% ). Motor vehicles contributed to 2% of $PM_{10}$ emissions, outdoor burning contributed to 5% and industry contributed to 1% of total wintertime emissions.




## What can you do to help clean up our air?

- Only burn dry seasoned wood, get your supplier to check the moisture content, it should have less than 25% moisture content, they will be happy to do so.
- Don't burn rubbish, plastics, treated or painted wood, glossy paper as these release harmful toxic emissions to the atmosphere.
- Ensure your chimney stack is cleaned regularly
- When changing heating methods consider alternatives to wood burners.
- Do not stoke up your wood burner to operate overnight.
- If you have a new burner do not allow the installer or anybody to tamper with the air controls

## Options being considered by Council

- Prohibit the outdoor burning of organic and inorganic waste.
- Prohibit the use of open fires.
- Encourage phase out of solid fuel burners that exceed 15 years in age.
- Require all new multi fuel burners to comply with NES design standard.
- Refuse discharge permit applications that will increase particulate concentration (with exceptions).

The above proposals are subject to consultation with the community.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For more information on air quality go to

www.marlborough.govt.nz


Marlborough District Council

Seymour Square, Blenheim. Telephone 03 520 7400 Fax 03 520 7496