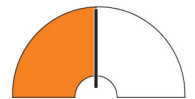




Air quality

PM₁₀ levels



STEADY

Purpose of indicator

Air quality affects people's health and the natural environment. Air quality is measured in particulates that are smaller than 10 micrometres, a measurement referred to as PM₁₀. PM₁₀ are very small specks of particle such as smoke, coal, wood and dust that are suspended in the air. Due to the size of these particulates they tend to stay airborne and can be inhaled deep into the lungs causing significant health effects, particularly in the young, the elderly and those with respiratory and cardiovascular conditions. The daily maximum concentration of PM₁₀ is 50 micrograms for every cubic metre of air ($\mu\text{g}/\text{m}^3$).

Current information and trend

Three sites monitor air quality continuously for PM₁₀, carbon monoxide and hydrogen sulphide gas. They are located at Edmund Road, Pererika Street and at Vaughan Road in Ngāpuna. Monitoring has shown that the causes of Rotorua's air pollution are the burning of wood, coal and household rubbish, exhaust from vehicles and air discharge from some industrial activities. Graphs in figures 1, 2 and 3 show that most of the time air quality is at least acceptable. The Edmund Road monitoring station shows the frequency of exceeding air quality standards requiring action. However in 2010 it shows an increase in the percentage of time that air quality is good, as opposed to acceptable.

Wintertime PM₁₀ exceedances are the result of emissions from solid-fuel burners used for home heating, for example wood burners, multi burners and open fires. In summertime most exceedances at the Ngāpuna site were due to yard and road dust.

It is estimated that 228 tonnes of fine particulates are discharged annually into Rotorua's air in the urban area. To meet standards set by the Ministry for the Environment this needs to be reduced by 60 tonnes. Fourteen different actions are set out in the Rotorua Air Quality Action Plan to reduce particulate emissions, mainly from domestic heating and industrial sources, including two main goals:

- To reduce the number of times the National Environmental Standards for Air Quality are exceeded in a year. The desired target is no more than one a year.
- To convert approximately 7,650 solid fuel burners to clean heat appliances.

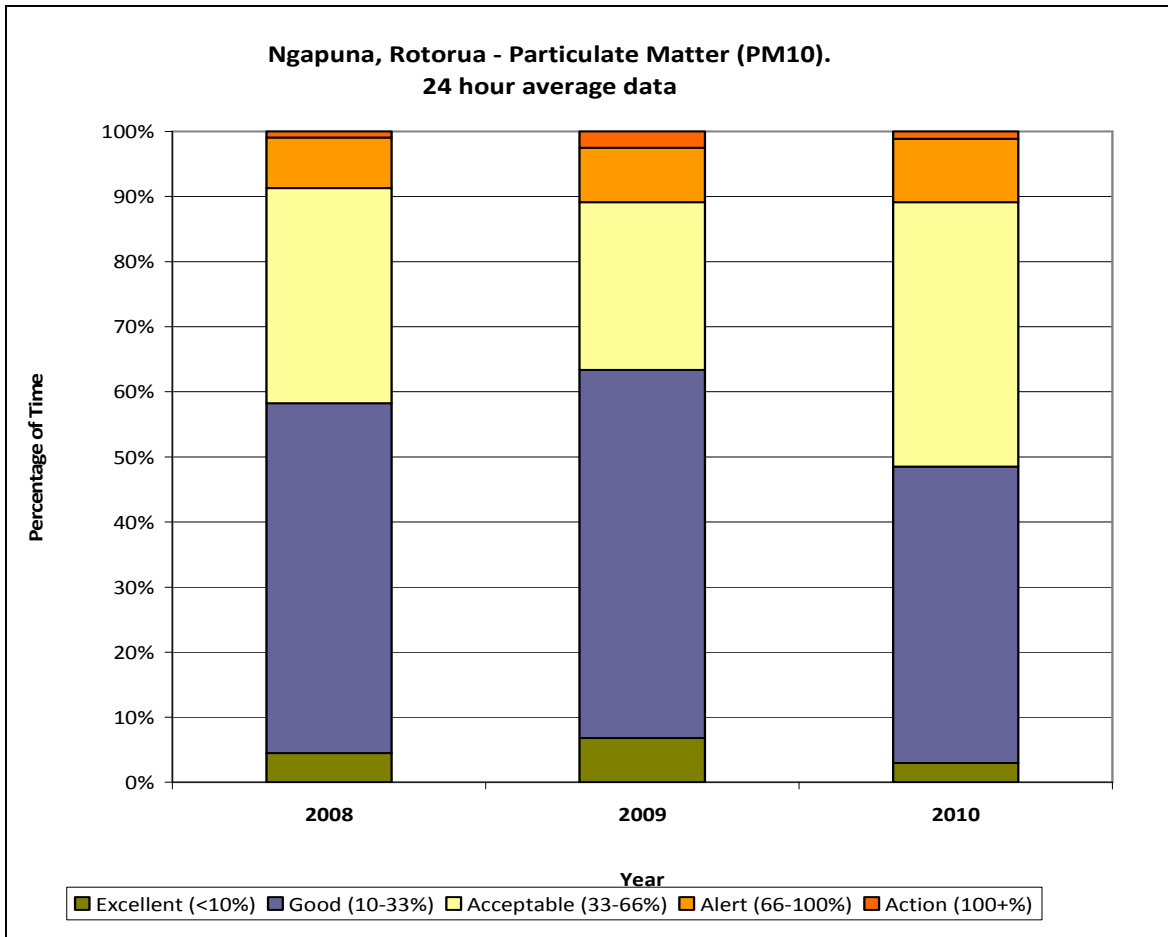


Figure 1.
Source: Bay of Plenty Regional Council, 2011

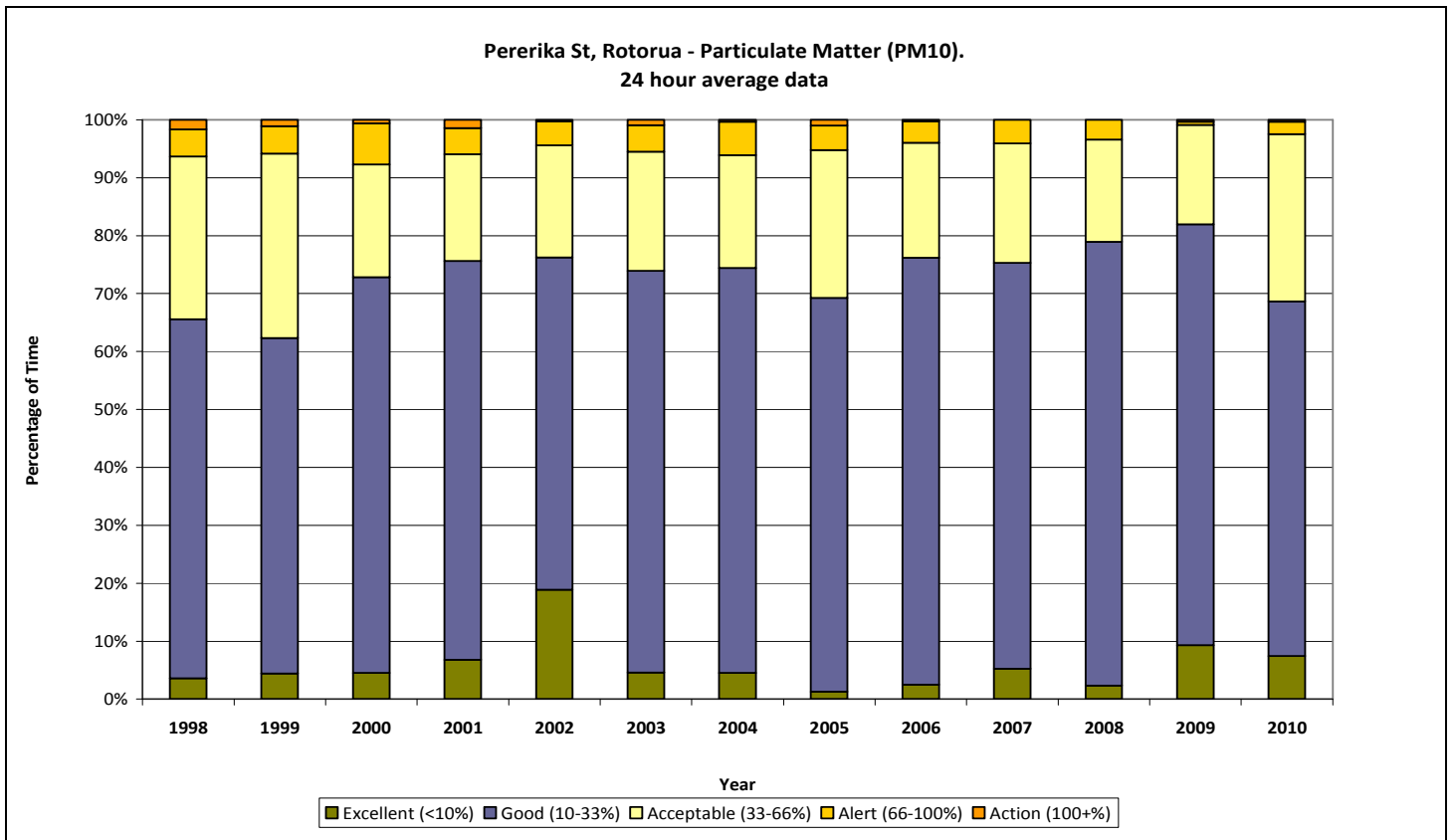


Figure 2.
Source: Bay of Plenty Regional Council, 2011

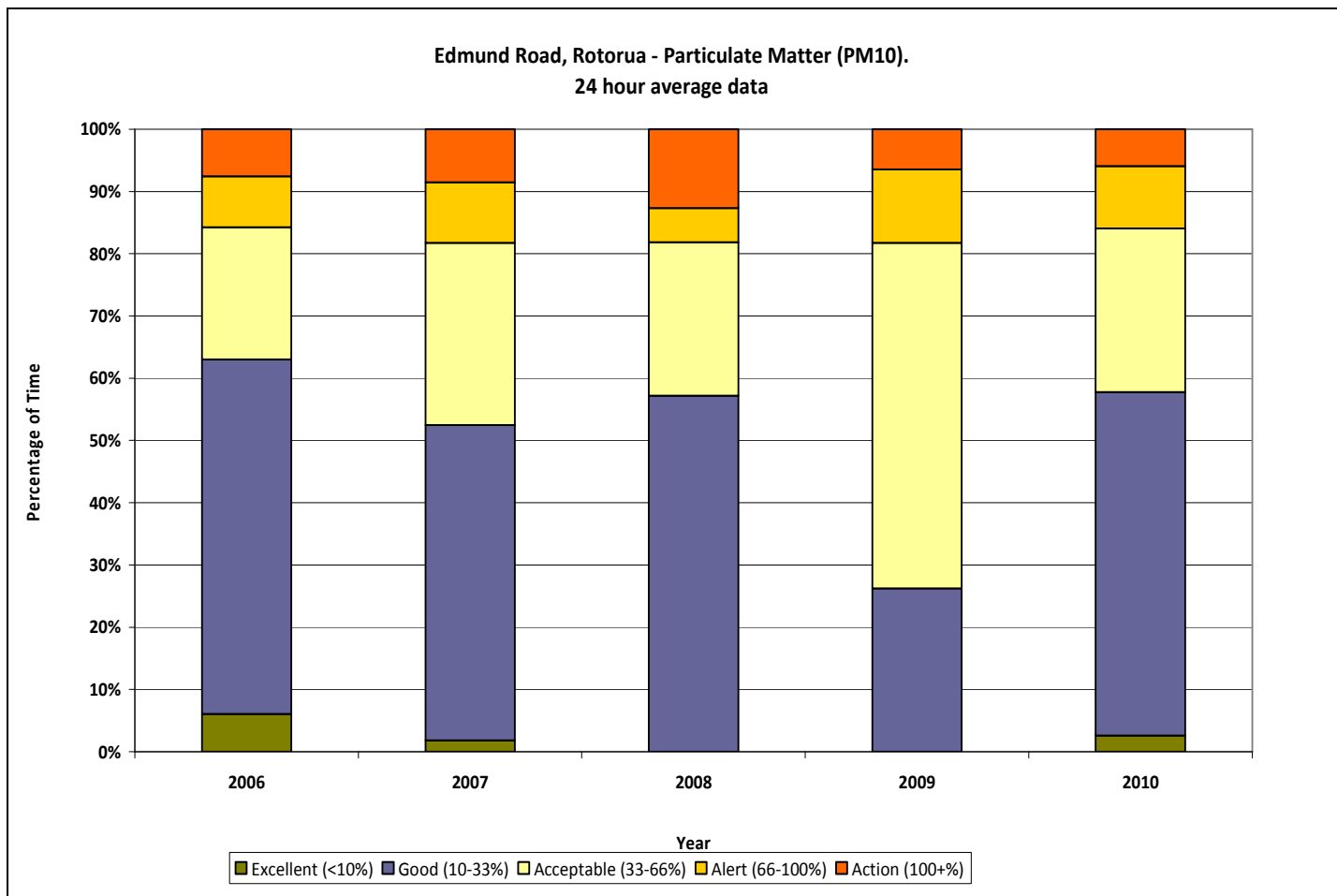


Figure 3.

Source: Bay of Plenty Regional Council, 2011

In Summary

- Air quality issues are the result of burning wood, coal and household rubbish, exhaust from vehicles and some industrial activity.
- All three monitoring sites show exceedances at times. Most of the time air quality is at least acceptable.
- Rotorua Air Quality Action Plan has 14 actions to reduce particulate emissions

Further information sources

www.boprc.govt.nz