

URBAN REPORTING AREA

JULY 2014

AREA
GRADE

B

STATE OF AUCKLAND
SOIL REPORT
CARD

WHAT MAKES UP THIS GRADE?

OVERALL GRADE



SOIL QUALITY



TRACE ELEMENTS



The overall environmental health score from A to F is based on average scores for soil quality and trace elements in soil.

Soil quality: Soil samples are tested at 60 sites within the reporting area for four key chemical, physical and biological factors including:

- soil acidity
- amounts of soil carbon
- amounts of soil nitrogen
- soil density.

Trace elements: Soil samples are tested for eight trace elements including arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc.

Grades will vary for individual sites, land use and soil type.



QUICK FACTS

THE URBAN REPORTING
AREA OCCUPIES

11%
OF THE REGION
(565KM²)

THE MAJORITY OF GREEN SPACE (40%)
IS URBAN PARKLAND AND RESERVE

20%
NATIVE BUSH AND SCRUB

25% IS GREEN SPACE

A MEAN INTEGRATED POLLUTION INDEX OF 3.3 WAS
CALCULATED AND DEEMED HIGH IMPLYING ELEVATED
LEVELS OF TRACE ELEMENT SOIL POLLUTION

MONITORING SITES – URBAN REPORTING AREA



MONITORING BACKGROUND

Auckland Council monitors soil quality to observe and report any changes that occur in the extent, quality or health of the region's soil resources. Soil quality refers to the ability of the soil to sustain biological production (for example the amount of tiny microbes in the soil), maintain environmental quality (for example water purification), and promote plant and animal health.

Recommended guidelines for soil quality are those defined by nationwide studies and trace element background concentrations are taken from a regional study (as outlined in ARC TP 153). Soil quality guidelines are refined over time as a result of new research and continuous monitoring; therefore changes can be reflected in overall grade scores.

MONITORING RESULTS

Data used to produce this report card includes:

- Number of sites – 60
- Land use/last year sampled (number of sites)
 - Urban parks and reserves/2012 (58 sites)
 - Plantation forestry/2011 (2 sites)

Summary of monitoring results

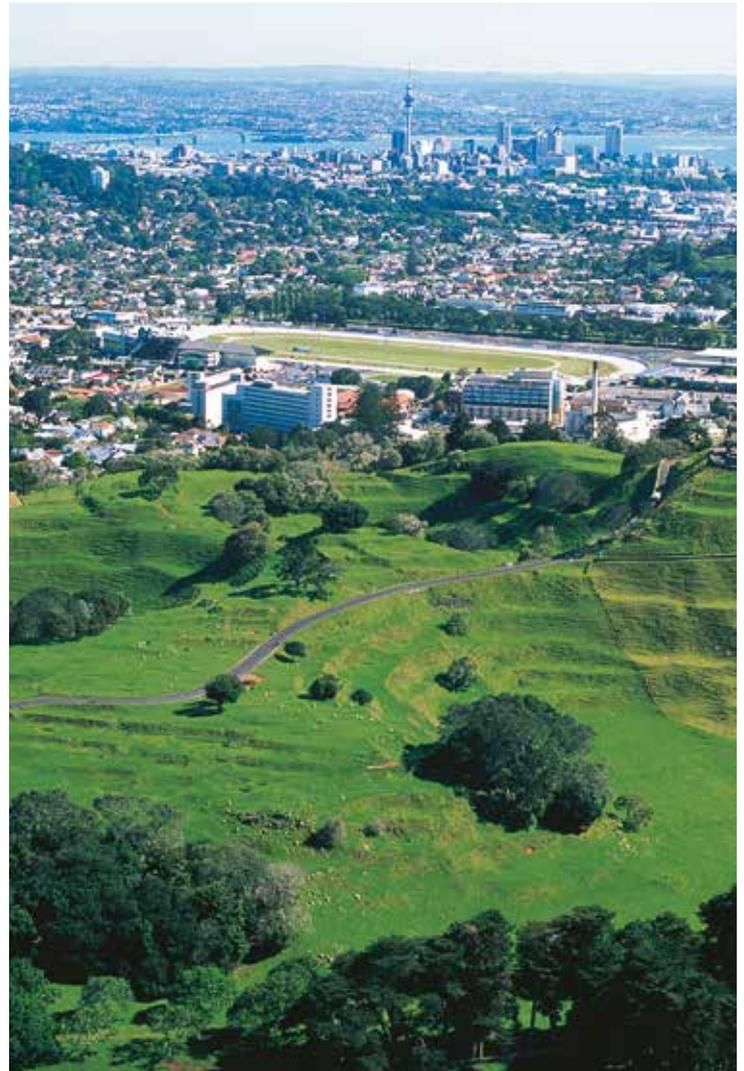
Soil test	Number of sites outside guideline range
Soil acidity	8/60
Total carbon	6/60
Total nitrogen	15/60
Soil bulk density	1/60
Trace elements	15/60 (10/60 for lead)

Please note: plant available nitrogen and phosphorus and air filled space are not sampled for urban sites.

MONITORING INTERPRETATION

Test results reveal that despite an overall good score (grade B), urban soils have some health issues. The main issues are:

- lead concentrations exceeded normal concentrations at 10 out of the 60 sites. This is likely due to pollution from vehicle exhausts in days before lead free petrol. However, none of the lead concentrations are high enough to be a threat to public health
- a high percentage of sites have low total nitrogen concentrations reflecting a lower use of fertiliser use.



FIND OUT MORE

This report card is part of a series prepared by the Auckland Council's Research, Investigations and Monitoring Unit, which undertakes monitoring and research to provide information and evidence to inform the council's activities and reporting. Auckland's environment must be healthy and resilient in order

to support life and lifestyle. More report cards can be found at: aucklandcouncil.govt.nz/stateofauckland. The report card series includes reporting on freshwater, terrestrial, marine, air, soil, capacity for growth, demographics and quality of life.

GET INVOLVED

Auckland Council provides more than 20 environmental programmes across the region for you to get involved with and improve your local environment.

► For more information: e-mail monitoring@aucklandcouncil.govt.nz or call us on 09 301 0101.