

WAITĀKERE RANGES REPORTING AREA

Waitākere Local Board

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 eight sites within the reporting area for seven key soil chemical, physical and biological factors including:

- soil acidity
- amounts of carbon and nitrogen
- plant available nitrogen
- plant available phosphorus
- soil bulk density
- air filled space (macroporosity).

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 REPORTING AREA IS

75%
NATIVE BUSH OR SCRUB
(OR 23,184 HECTARES)

JUST 5% IS PRIME LAND
SUITABLE FOR AGRICULTURE
AND HORTICULTURE

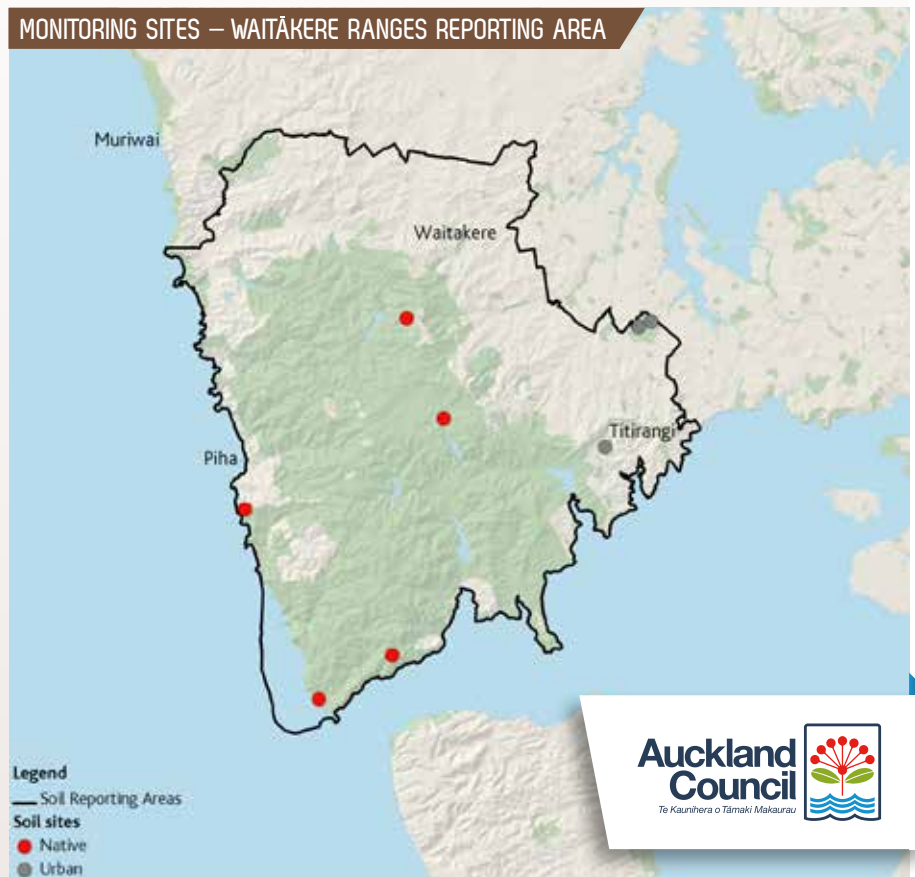
13% PASTURE
LAND

THE MAJORITY IS OLD (WEATHERED) SOIL SUITABLE FOR
PASTORAL GRAZING OR PLANTATION FORESTRY

OLD (WEATHERED) VOLCANIC CLAYS DOMINATE

KAURI DIEBACK (A FUNGUS-LIKE DISEASE WITH SOIL BORNE SPORES)
IS PROMINENT IN THE AREA

MONITORING SITES – WAITĀKERE RANGES 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 – 8
- Land use/last year sampled (number of sites)
 - Indigenous (native)/2012 (5 sites)
 - Urban/2012 (3 sites)

Summary of monitoring results

Soil test	Number of sites outside guideline range
Soil acidity	0/8
Total carbon	2/8
Total nitrogen	3/8
Plant available nitrogen	1/5
Plant available phosphorus	0/5
Bulk density	2/8
Air filled space (macroporosity)	0/5
Trace elements	0/8

MONITORING INTERPRETATION

Test results reveal that the Waitākere Ranges reporting area has an overall environmental soil health grading that's good (grade B) which is attributed to various factors, including:

- the majority of monitoring sites are located in parks and reserves (which are predominantly native bush) that have not been disturbed by land use since timber cutting stopped in the 1930s. Prior disturbance also included livestock grazing
- however, soil tests at a few sites show high levels of soil nitrogen, which reflects a natural (but unknown) cause
- trace elements are all within levels that normally occur in soil and scored grade A.



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

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.