

GREAT BARRIER REPORTING AREA

Great Barrier Local Board

STATE OF AUCKLAND SOIL REPORT CARD

2018



SOIL QUALITY



TRACE ELEMENTS



Soil quality: Soil samples are tested at five 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 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

88%
BUSH OR SCRUB
(OR 28,541 HECTARES)

ONLY 4% IS PRIME LAND SUITABLE FOR AGRICULTURE AND HORTICULTURE

SOIL SITES LOCATED ON GREAT BARRIER ISLAND WERE RESAMPLED FOR THE SECOND TIME IN 2017

ALMOST ALL THE LAND IS STEEP WITH SHALLOW TOPSOIL, SUITABLE ONLY FOR PLANTATION FORESTRY OR NATIVE BUSH

OLD (WEATHERED) VOLCANIC SOILS DOMINATE WITH SMALL AREAS OF CLAY AND ALLUVIAL (STREAM DEPOSITED) SOIL

MONITORING SITES – GREAT BARRIER 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 ARCTP 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 – 5
- land use/last year sampled (number of sites)
 - indigenous (native) sites/2017 (5 sites).

Summary of monitoring results

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

MONITORING INTERPRETATION

Test results reveal that Great Barrier Island soil health is good which is attributed to various factors, including:

- All sites are regenerating with new indigenous (native) plant cover.
- Disturbance to the land from grazing and timber cutting stopped several decades ago, allowing the land to recover. However, one site may not have fully recovered from compaction from stock treading or machinery (indicated by low macroporosity).
- Trace elements are all within levels that normally occur in soil and scored an A grade.



FIND OUT MORE

This report card is part of a series prepared by the Auckland Council's Research and Evaluation Unit, which undertakes monitoring and research to provide information and evidence to inform the council's activities and reporting. More report cards can be found at: aucklandcouncil.govt.nz/environment. The report card series includes reporting on freshwater, terrestrial, marine, air, soil, capacity for growth, demographics and quality of life.

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

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