



State of the Environment Report Card 2016

What is our soil quality like?

HBRC monitors soil quality across 86 sites, looking at a combination of five land use classes and 25 soil types.

The aim of the monitoring is to detect and report any changes in the health of the region's soil resources. Soil quality is the capacity of a soil to sustain biological productivity (e.g. support soil microbes), maintain environmental quality (e.g. filtering of water) and promote plant and animal health.

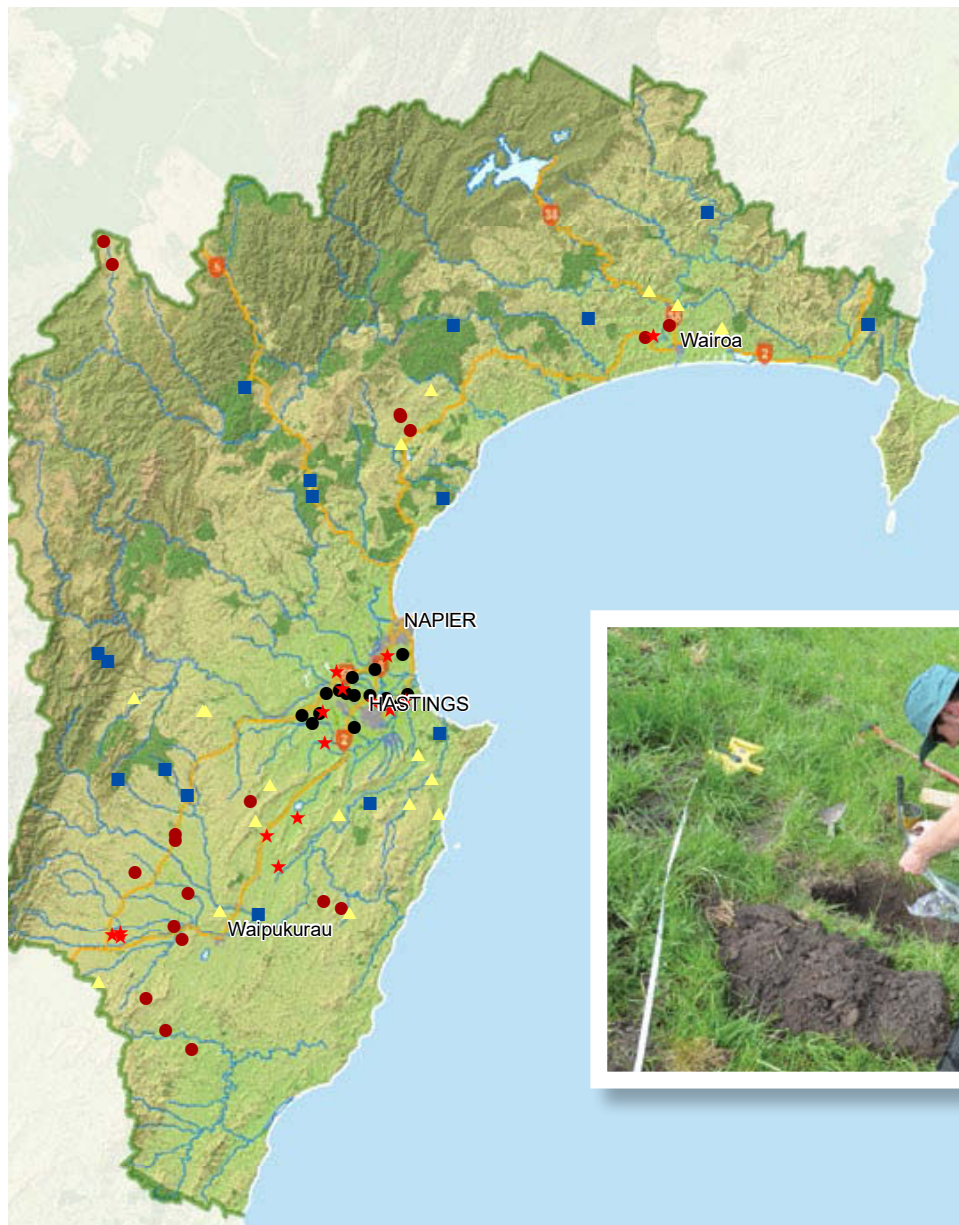
The land use types we monitor are:

- Extensive pasture (mainly sheep & beef)
- Intensive pasture
- Forestry (commercial and native)
- Cropping
- Orchards & vineyards

QUICK FACTS

Extensive land uses cover about **43%** of the total land area of Hawke's Bay

It can take **1000** years to create 2-3cm of top soil



HBRC monitors 86 sites across Hawke's Bay. The number of sites is expected to double in the coming years.

Soil Quality Monitoring Sites - Land Use

- ★ Cropping
- ▲ Sheep or Beef
- Forestry
- Dairy or Bull Beef
- Orchard or Vineyard



HBRC staff member taking bulk density soil core samples

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Focussing on extensive pasture



Each year we focus our monitoring on one particular land use type – in 2016 that was extensive pasture (mainly sheep and beef)

How is soil quality measured?

Soil samples are collected from the 19 sites and tested for seven key soil, chemical, physical and biological factors including:

- pH ● Concentrations of carbon and nitrogen ● Plant available nitrogen
- Plant available phosphorus ● Soil density generally ● Air filled space

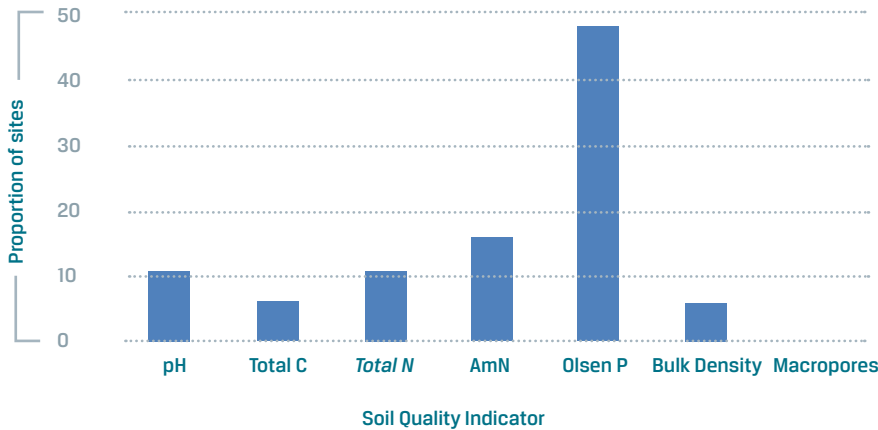
Overall the soil quality on extensive pasture farms in Hawke's Bay is good with 86% of tested soil quality indicators falling within guideline ranges across the 19 sites.

The good result reflects the fact that extensive pasture sites are generally managed as "low intensity". This is largely reflected in low stocking rates, low inputs of fertiliser and minimal soil disturbance.

One indicator - Plant available phosphorus (Olsen P) was below the target range at 42% of the sites monitored. This can be attributed to the following:

- Low inputs of fertiliser
- Loss of topsoil during high erosion rainstorm events
- High retention of Phosphorous in some soils – i.e. In some soils, a high proportion of phosphorous is held in the soil but is not available to plants.

The proportion of sites NOT meeting target ranges for key indicators



QUICK FACTS

1 cup of soil contains about 7 billion micro-organisms and about 6,000 different species.

HBRC monitors 19 extensive pasture sites (mainly sheep and beef) in Hawke's Bay

Recording a soil profile



Find out more The purpose of HBRC's State of the Environment report is to:

- Report on issues that affect our shared environment
- Help councils and communities set priorities for environment management
- Monitor the effectiveness of how we manage the environment
- Provide information people can use in their decision-making

This report card is part of a series prepared by Hawke's Bay Regional Council. It outlines the high-level results from HBRC's monitoring programme.

For more details, including full technical reports and up to the minute monitoring results visit: www.lawa.org.nz

