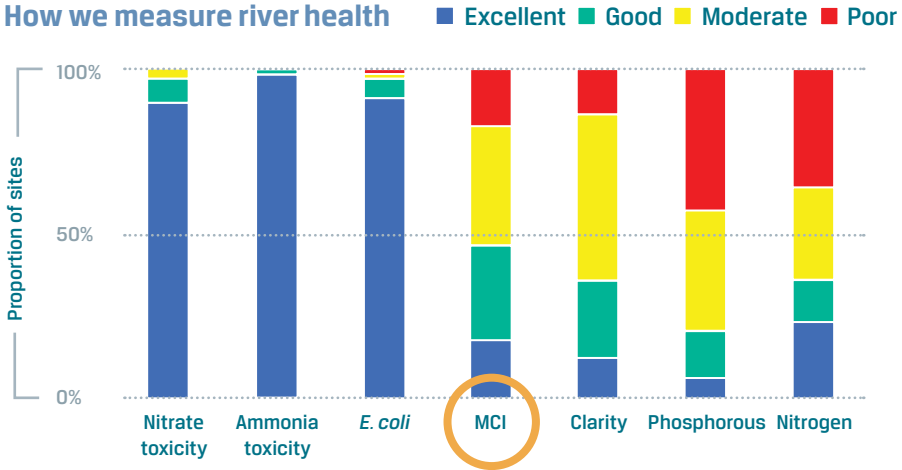
State of the Environment **Report Card 2016**

How do our rivers stack up?

How we measure river health



E. coli

E. coli are common germs normally found in the gut of warm-blooded animals and people. Most types of *E. coli* are harmless; however, some can cause illness. High levels of *E. coli* in waterways indicate that other pathogens (viral and bacterial) are likely to be present.

Ammonia and nitrate toxicity

Nitrate and ammonia are natural components of freshwater. However, high levels caused by a range of human activities are toxic to aquatic life, especially fish.

Algal growth

Where shade is lacking, nitrogen and phosphorous (plant nutrients) can encourage the growth of nuisance aquatic plants. These can choke up waterways and displace native species. They can also have an adverse impact on water quality by altering water chemistry (e.g. oxygen levels).

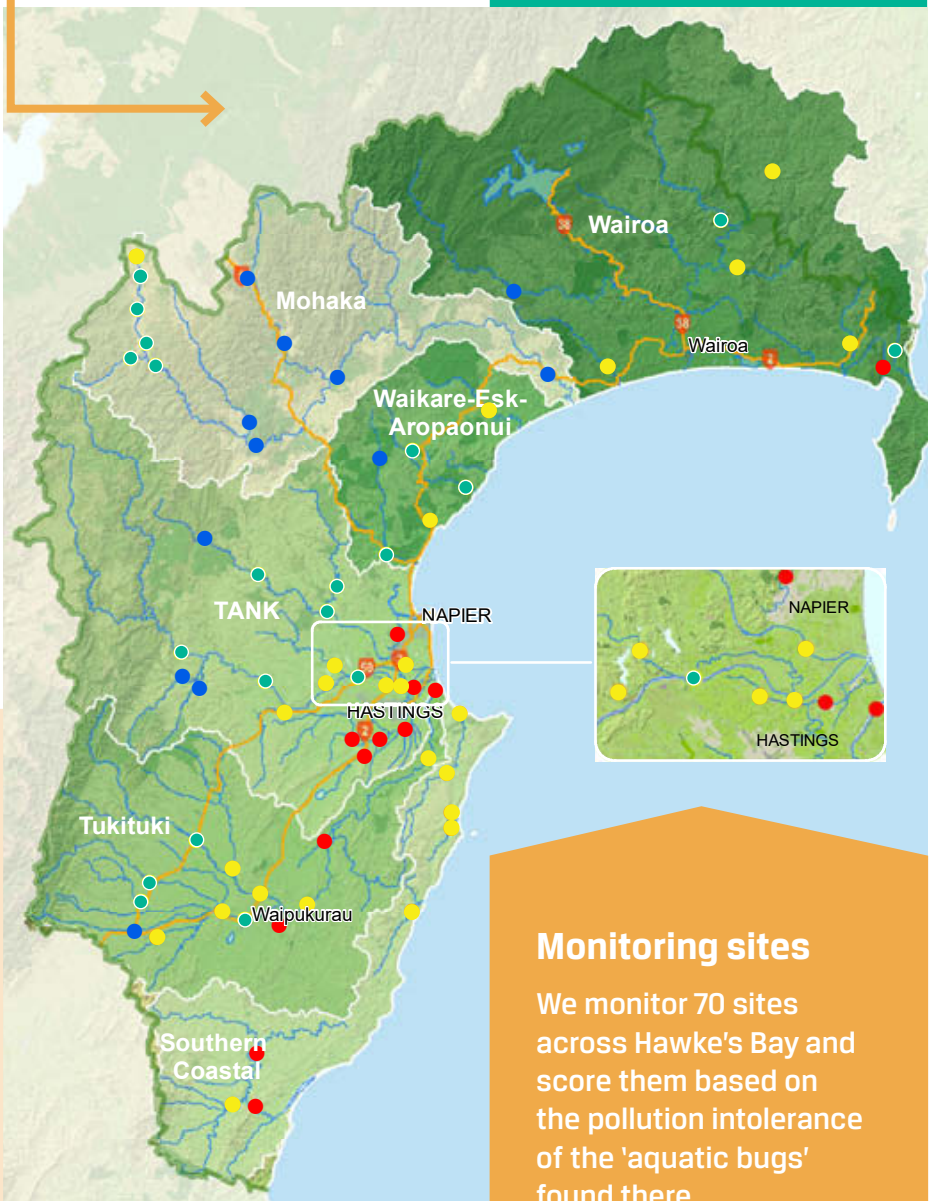
The overall health of our rivers

Overall river health can be summarised by the **Macroinvertebrate Community Index (MCI).** This measure of ecological condition represents a diverse group of animals that are present in the majority of our waterways. These small animals include insects, arthropods (e.g. koura), worms and snails. Macroinvertebrate communities respond to all of the factors listed above (except for *E. coli*), and more. Consequently, the MCI is sensitive to changes in water quality, river flows, habitat structure, and climate.

QUICK FACTS

HBRC monitors river sites in the region **70**

99% of monitoring sites met the national standard for *E. coli*



Monitoring sites

We monitor 70 sites across Hawke's Bay and score them based on the pollution intolerance of the 'aquatic bugs' found there.

River Ecology

State of the Environment **Report Card 2016**

Working alongside our community

Our scientists work with communities to pass on knowledge about rivers. Clive School identified bugs from the Clive River in order to understand the impact of excessive soft sediment deposits on the river.

This survey was designed in partnership with the Kohupātiki Marae and was a great success.

QUICK FACTS

40% of monitoring sites suffered excessive algal growth

It would take over **200** days to walk the length of Hawke's Bay waterways

State of the Environment **Case Study**

A leg up for fish

More than half of New Zealand's native fresh-water species migrate between the sea and freshwater, but man-made barriers, such as perched culverts can act as barriers.

An innovative fish ramp developed by HBRC and its partners has been shown to be inexpensive and robust solution. Ramps have helped species such as whitebait and eels follow their natural life cycle. These $500 moulded plastic ramps have been installed throughout Hawke's Bay.

If you find a fish barrier in Hawke's Bay **visit www.fishbarrier.co.nz**

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**

HAWKE'S BAY REGIONAL COUNCIL
www.hbrc.govt.nz