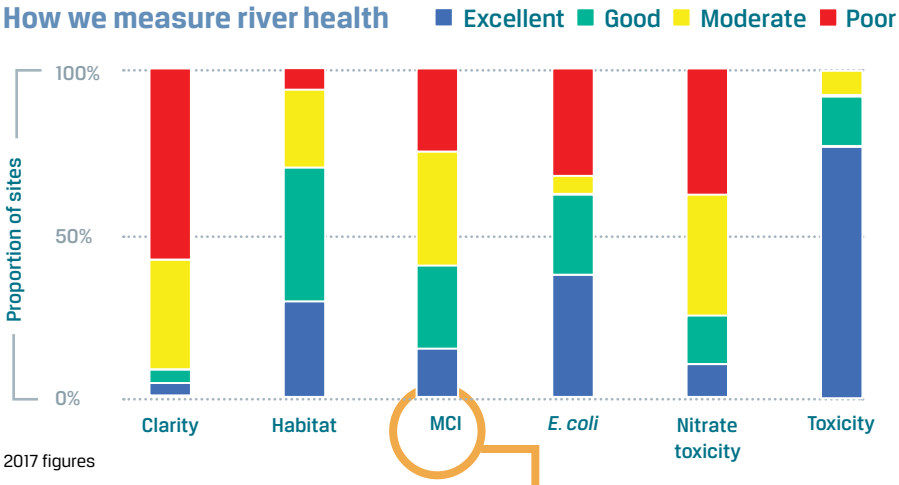
River Ecology

State of the Environment **Report Card 2017**

How do our rivers stack up?

How we measure river health



2017 figures

E. coli

E. coli are common germs found in the gut of warm-blooded animals, including people. Most are harmless, but some can cause illness. High levels of *E. coli* in waterways indicate that other pathogens are likely to be present.

Toxicity

Nitrate and ammonia are natural components of freshwater. However, high levels are toxic to aquatic life, especially fish.

Plant and algal growth

Where shade is lacking, nitrogen and phosphorous can encourage the growth of nuisance aquatic plants and algae. These can choke up waterways and have an adverse impact on water quality.

Habitat

River health is determined by water quality and habitat structure, such as the type of riverbed.

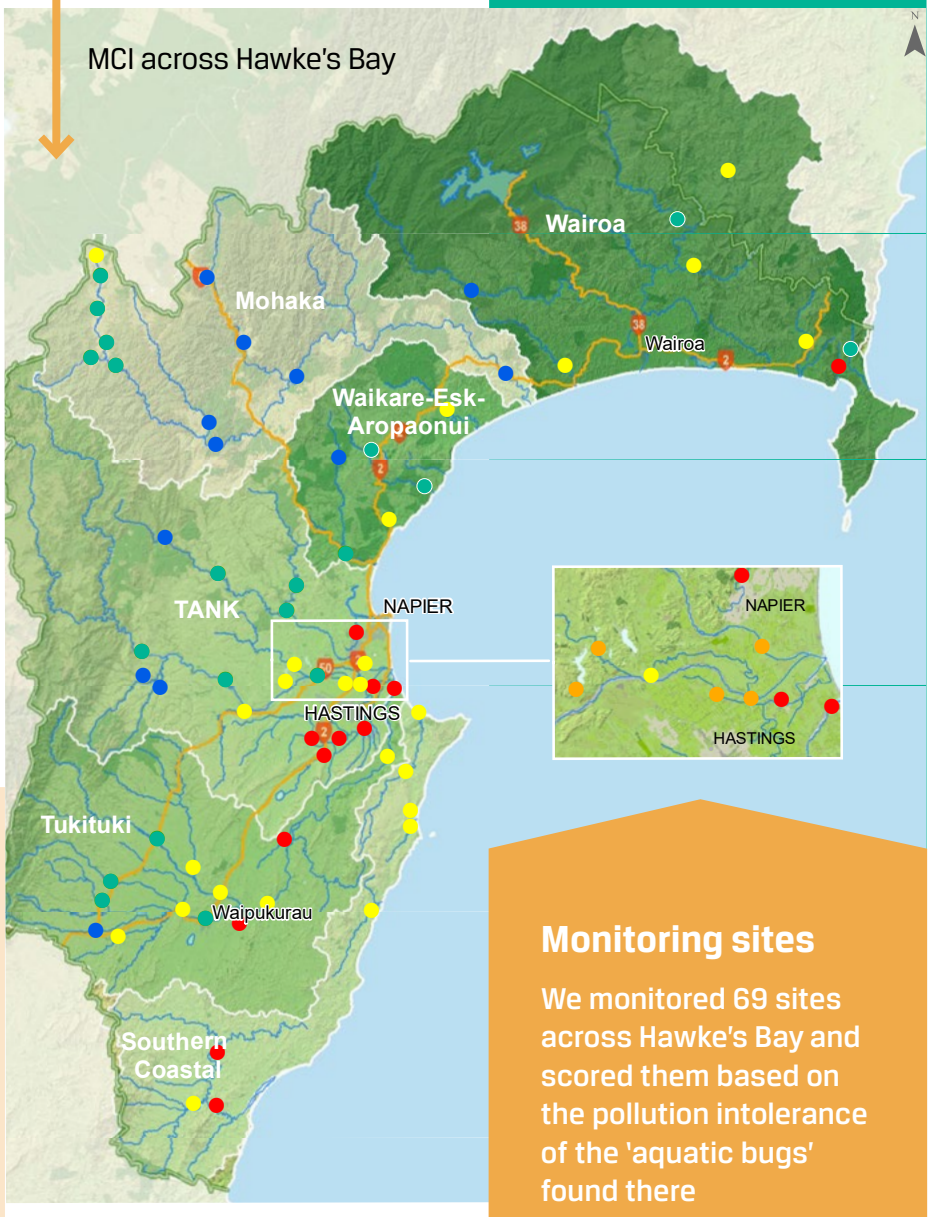
The overall health of our rivers

Overall river health can be summarised by the **Macroinvertebrate Community Index (MCI).** This represents a diverse group of animals that are present in most of our waterways. They include insects, 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 monitored river sites in the region in 2017 **69**

Clarity at **59%** of monitoring sites was poor, reflecting erosion problems across the region



Monitoring sites

We monitored 69 sites across Hawke's Bay and scored them based on the pollution intolerance of the 'aquatic bugs' found there

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In the News

At the beginning of 2017, a media article linked the death of a dog to the condition of the Raupare stream in Pakowhai Regional Park.

While a thorough investigation found that the Raupare Stream was not a threat to dog health, it was a timely reminder that dog owners need to be aware of potential hazards - particularly, black mat cyanobacteria (shown above), which can grow to nuisance levels in some Hawke's Bay rivers. If ingested by dogs it has the potential to cause severe illness.

QUICK FACTS

Health warnings were issued for **4** Tukituki River monitoring sites during 2016-2017

There were **4** high river flow events which reduced black mat algae cover in 2017

Myth-busting

Myth 1: All river growths/slimes are potentially toxic

- Green or brown slimes do not present a risk to humans or animals
- Only black mat toxic algae has the potential to cause serious illness

Myth 2: Many of Hawke's Bays rivers are unsafe for dogs

- Confirmed cases of severe dog illness from cyanobacteria are rare in Hawke's Bay
- HBRC monitors rivers monthly and checks for potentially toxic algae
- In summer, HBRC targets 'risk' sites by carrying out weekly visual inspections
- Information on how to keep your dog safe is available at www.lawa.org.nz

Myth 3: Pollution/dairy farming causes extensive growth of potentially toxic black mat cyanobacteria.

- A variety of factors influence black mat growth (e.g. river flow, habitat and climate)
- Potentially toxic algal mats can be found in all types of rivers
- Increased nutrient levels may increase growth rates of algae.

Find out more

Hawke's Bay Regional Council monitors our land, water and air.

We use this data to inform our work with communities to improve and protect the environment.

Each year we develop a series of report cards to provide you with a snapshot of how our environment is tracking.

For more details including the full technical reports **visit** www.hbrc.govt.nz (search: report search)

For up to the minute monitoring results from Hawke's Bay and other parts of the country **visit** www.lawa.org.nz

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