



OUR RIVERS

Trends in water quality



As part of its National Environmental Reporting Programme, the Ministry for the Environment regularly reports on water quality in our rivers.

Data collected from the 77 National River Water Quality Network sites between 1989 and 2007 was analysed to identify national trends.

Key findings

Nutrients have worsened

- Increasing levels of nutrients in water can cause excessive plant and algal growth and toxic algal blooms, which can affect recreational, aesthetic and ecological values.
- Levels of four nutrients (total phosphorus, dissolved reactive phosphorus, oxidised nitrogen, and total nitrogen) have shown strong increases. This was generally in rivers surrounded by pasture. (See maps over page.)

Clarity has improved

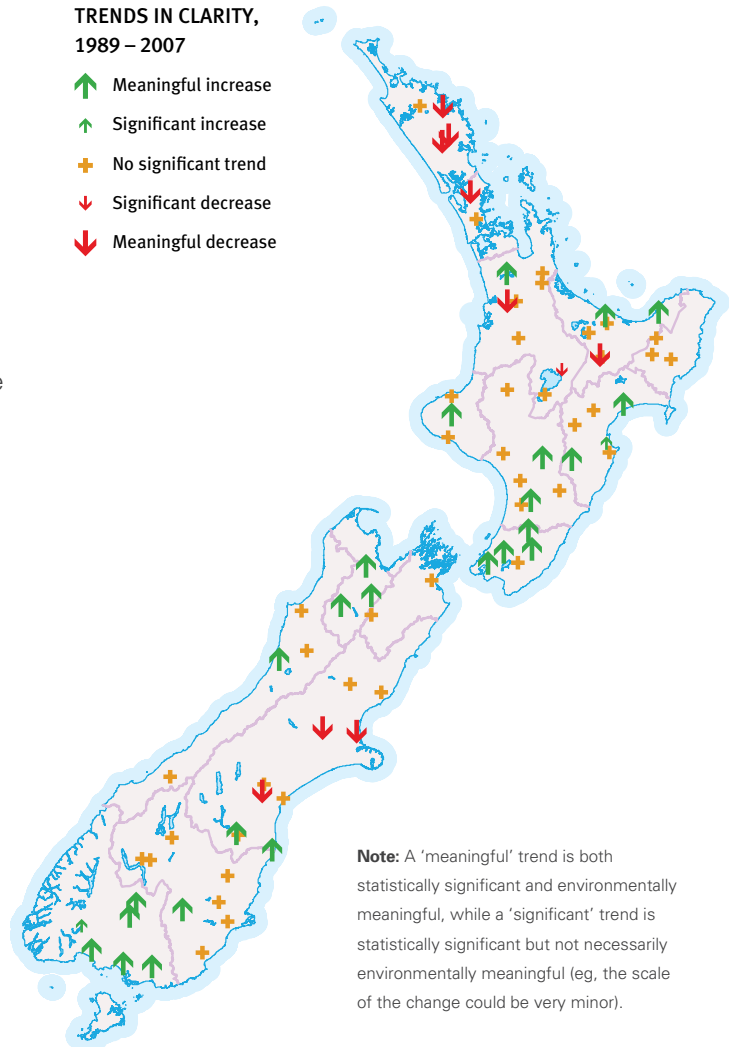
- There was a significant improvement in the visual clarity of rivers at the national scale. This is better for fish and insect life, and improves aesthetic values. However, rivers surrounded by pasture generally had lower clarity.

Temperature and dissolved oxygen

- Looking at individual sites, temperature and dissolved oxygen showed few environmentally meaningful or significant trends. However, when combining results from all 77 sites there is a slight increasing national trend in temperature, which is close to being statistically significant.

TRENDS IN CLARITY, 1989 – 2007

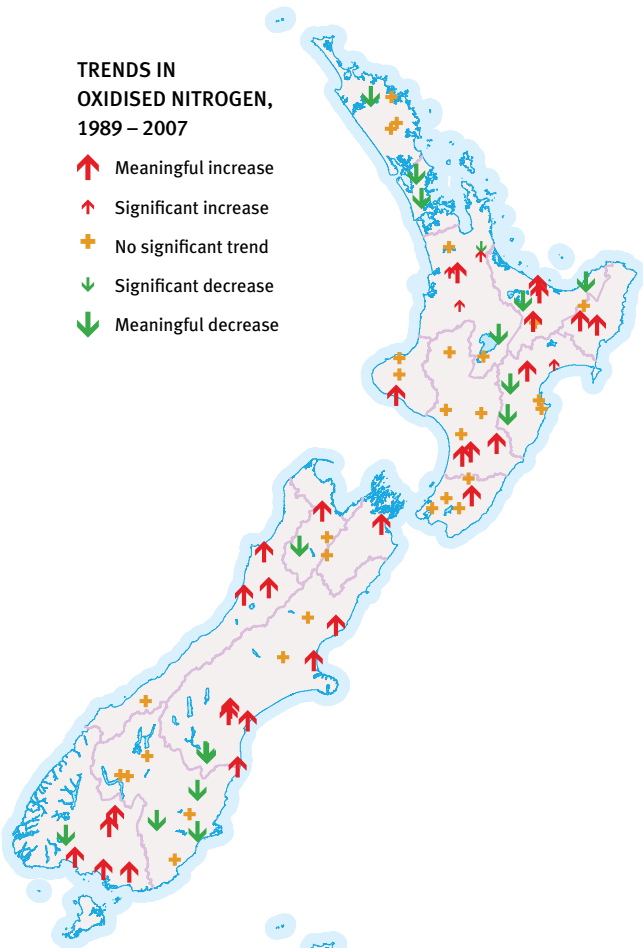
- ↑ Meaningful increase
- ↑ Significant increase
- + No significant trend
- ↓ Significant decrease
- ↓ Meaningful decrease



Note: A 'meaningful' trend is both statistically significant and environmentally meaningful, while a 'significant' trend is statistically significant but not necessarily environmentally meaningful (eg, the scale of the change could be very minor).

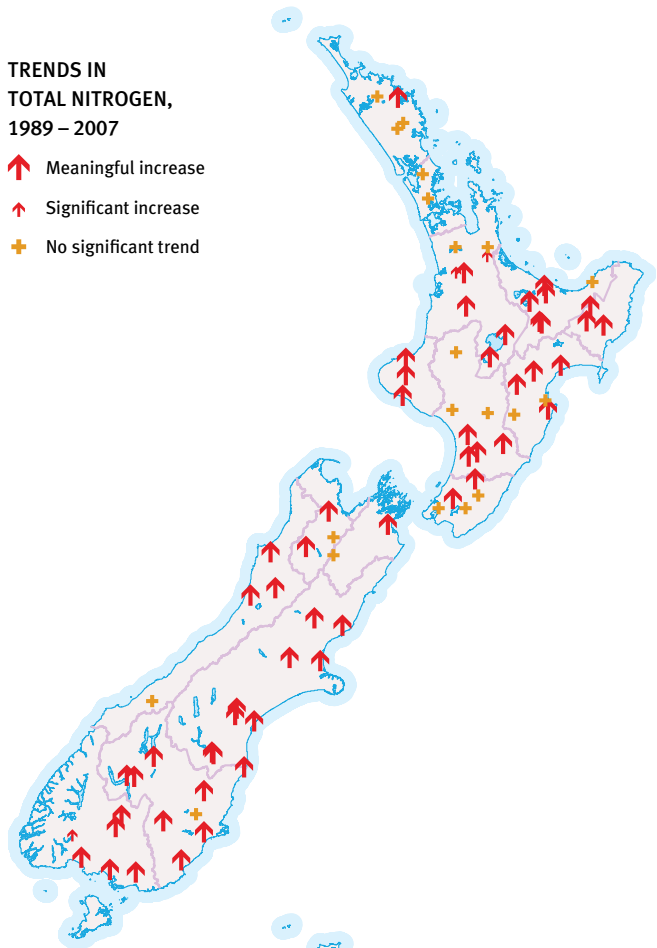
**TRENDS IN
OXIDISED NITROGEN,
1989 – 2007**

- Meaningful increase
- Significant increase
- No significant trend
- Significant decrease
- Meaningful decrease



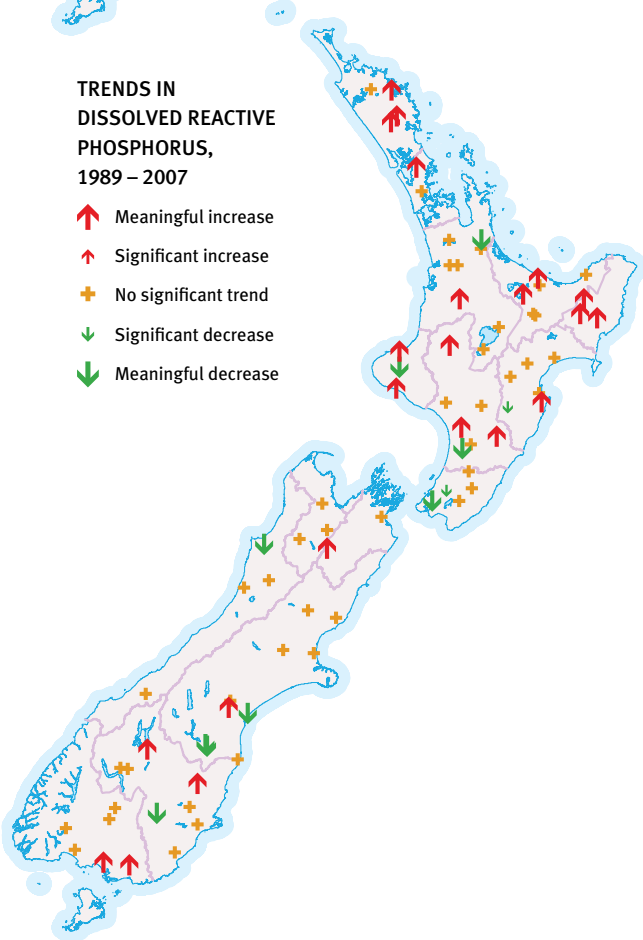
**TRENDS IN
TOTAL NITROGEN,
1989 – 2007**

- Meaningful increase
- Significant increase
- No significant trend



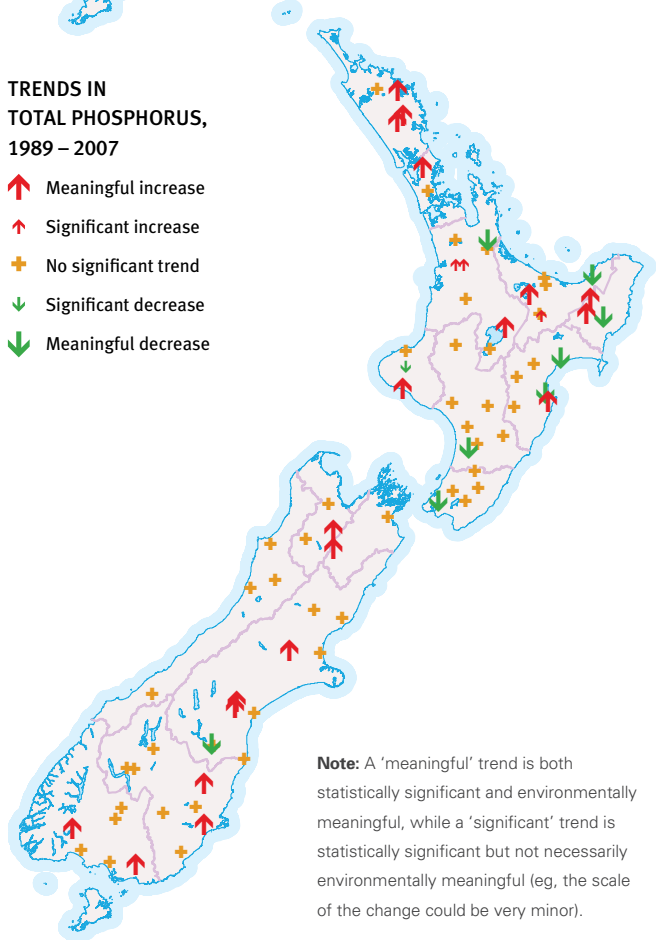
**TRENDS IN
DISSOLVED REACTIVE
PHOSPHORUS,
1989 – 2007**

- Meaningful increase
- Significant increase
- No significant trend
- Significant decrease
- Meaningful decrease



**TRENDS IN
TOTAL PHOSPHORUS,
1989 – 2007**

- Meaningful increase
- Significant increase
- No significant trend
- Significant decrease
- Meaningful decrease



Note: A 'meaningful' trend is both statistically significant and environmentally meaningful, while a 'significant' trend is statistically significant but not necessarily environmentally meaningful (eg, the scale of the change could be very minor).



This information supports the Government's *New Start for Fresh Water* work programme and other freshwater policy initiatives.

New Zealand Government



FOR MORE INFORMATION go to *Water Quality Trends at National River Water Quality Network Sites for 1989–2007* at www.mfe.govt.nz