New Zealand's fresh water at a glance

Our fresh water 2017

90% of wetlands have been drained since people arrived in NZ.

Wetlands are important for filtering nutrients, flood control, and native wildlife habitat.

Livestock waste and fertiliser, eroded soil, septic tanks, and wastewater and stormwater systems are the main sources of phosphorus in rivers. Phosphorus levels are improving at more river sites than worsening (1994–2013). Phosphorus, combined with nitrogen, can lead to excessive algae growth.

Nitrogen enters rivers through run-off of livestock urine and fertiliser, septic tanks, and wastewater and stormwater systems. Nitrogen levels are worsening at more river sites than improving (1994–2013). Nitrogen also filters through groundwater. Agricultural nitrogen leaching has increased (1990–2012). High nitrogen levels can affect drinking water.

Animal or human faeces in fresh water can increase the risk of illness for swimmers in the area. When E.coli is detected in rivers or lakes, this indicates that faecal matter is present in fresh water. E.coli levels are 22 times higher in urban rivers and 9.5 times higher in pastoral rivers compared to rivers in native areas.

Many of our native freshwater fish, invertebrates, and plants are threatened with, or at risk of, extinction.

The greatest pressures they face are from pests, and habitat loss and change

29% nitrogen leaching increase

90% wetlands drained

10% wetlands remain

River sites monitored for nitrogen

28% improving

55% worsening

River sites monitored for phosphorus

42% improving

25% worsening

Health of monitored lakes

24 lakes good to very good

17 lakes moderate

24 lakes poor to very poor

Consented water volume for consumptive use

51% irrigation

14% drinking

13% industry

22% other

Urban river contamination compared to native rivers

E. coli 22x higher

Nitrogen 18x higher

Phosphorus 3x higher

Threatened with or at risk of extinction

31% plants

72% fish

34% invertebrates

Cultural Health Index of 41 freshwater sites

11 sites good to very good

21 sites moderate

9 sites poor to very poor

Sediment loss is a widespread problem for NZ waterways. Deposited sediment occurs naturally in the beds of rivers and streams, but too much fine sediment (particles less than two millimetres in size) can severely degrade streambed habitat, carry excess nutrients into surface water, and affect water clarity and recreational activities.

The health of our monitored lakes varies. Those that are good are clear (unless naturally turbid) with little algae growth. Those that are poor are green and murky with high amounts of nutrients and algae. These lakes are rarely suitable for recreation and have habitats that are unsuitable for some native aquatic species. Monitored lakes are less than 5% of all lakes greater than 1 hectare.

The ability to take water is allocated through consents from regional councils. Not all consented water is used. Managing water takes is important for maintaining flows downstream. If flows of rivers are reduced, algae and fine sediment can build up, which reduces amenity and recreational value and results in a poor habitat for aquatic species.

Our urban rivers are generally the most polluted of NZ's waterways.

In addition to high nutrient levels, stormwater from roofs and roads contains heavy metals, which can be toxic to freshwater species and for people who eat them. There are contaminants that are much higher in urban rivers when compared with rivers in native areas.

The Cultural Health Index scores a site's traditional status, mahinga kai status, and cultural stream health status to provide a rating of the cultural health of a site on a water body. Tangata whenua groups have assessed 41 freshwater sites and have graded 11 as good to very good, 21 as moderate and 9 as poor to very poor.

More information at **www.mfe.govt.nz** or **www.stats.govt.nz**

Published in April 2017 INFO 792

Stats NZ Tatauranga Aotearoa

Ministry for the Environment Manatū Mō Te Taiao