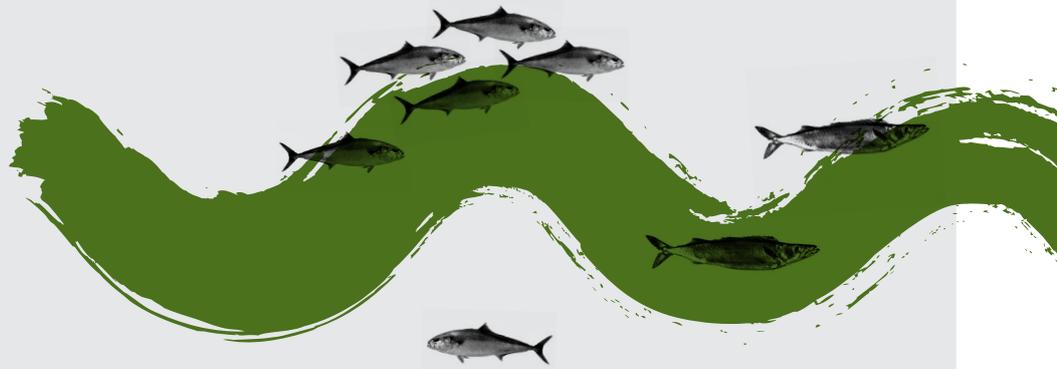




RUAMĀHANGA

GREATER WELLINGTON
REGIONAL COUNCIL
ENVIRONMENT REPORT CARDS
2016/17



RAINFALL AND WATER LEVELS



Why do we monitor rainfall and water levels?

Gathering information on rainfall and water levels in the region's rivers, lakes and aquifers is essential so that we can:

- Develop sound water management policies, including determining how much water can safely be taken from a water body
- Detect changes and trends, and whether these can be related to such things as climate change
- Provide information during Civil Defence emergencies such as floods or periods of drought.

What did the 2016/17 data show?

Like the rest of the region, the year overall was wetter than normal. However unlike the rest of the region, there were also a few dry months in the Ruamāhanga. River levels were also above average for much of the year, with significant highs recorded in November, February and April.

Surprisingly, summer and autumn were much wetter than normal meaning the usual summer/autumn low flows and restrictions on water use were not an issue this year.

Two notable events occurred during the year:

- The violent shaking action of the 7.8 magnitude Kaikoura earthquake on 14 November 2016 caused abrupt changes in some groundwater resources. A number of groundwater bores showed either a rapid increase or decrease in water levels. Some returned to pre-earthquake levels quickly, while others took a number of months to recover.
- At the beginning of April 2017 ex-tropical cyclone Debbie brought intense rainfall to the area. Numerous instances of flooding occurred and water levels in the Ruamāhanga River got so high the Waihenga Bridge near Martinborough had to be closed.



Did you know...

River levels and flows in the Ruamāhanga River have been monitored since 1954!

In the Ruamāhanga we monitor:



Rainfall
at 19 sites



River & stream levels
at 32 sites



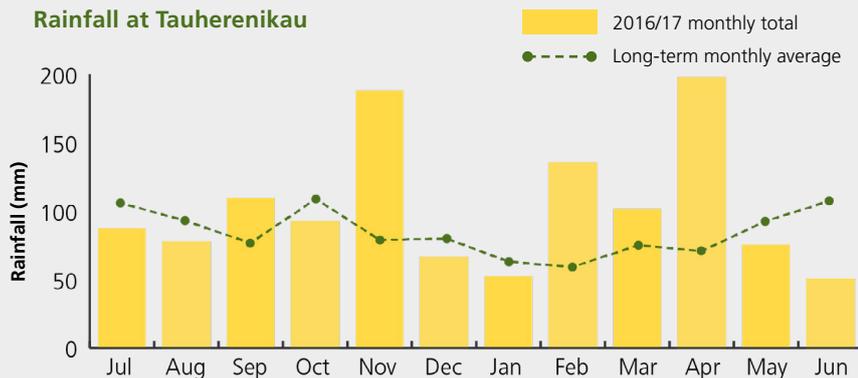
Groundwater levels
at 30 sites



Lake levels
at 3 sites

Highlights from the 2016/17 data

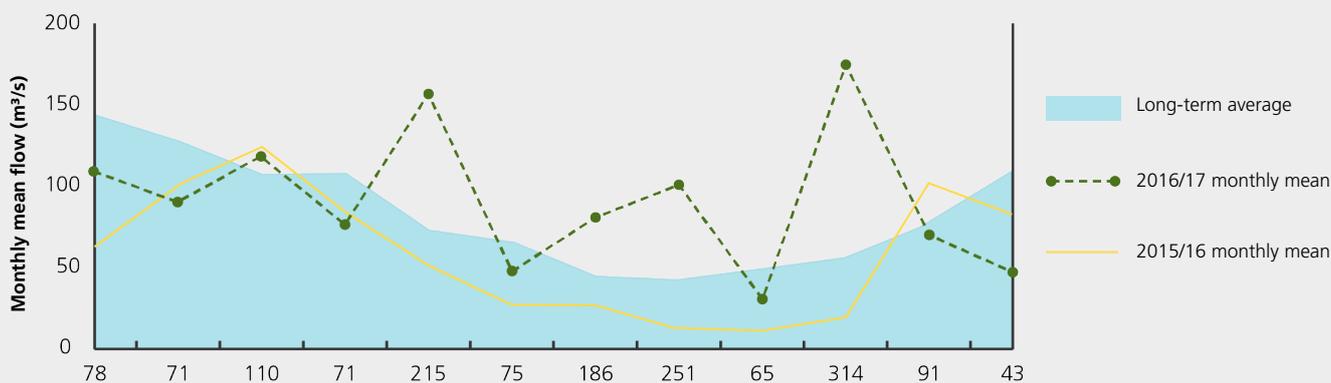
Rainfall at Tauherenikau



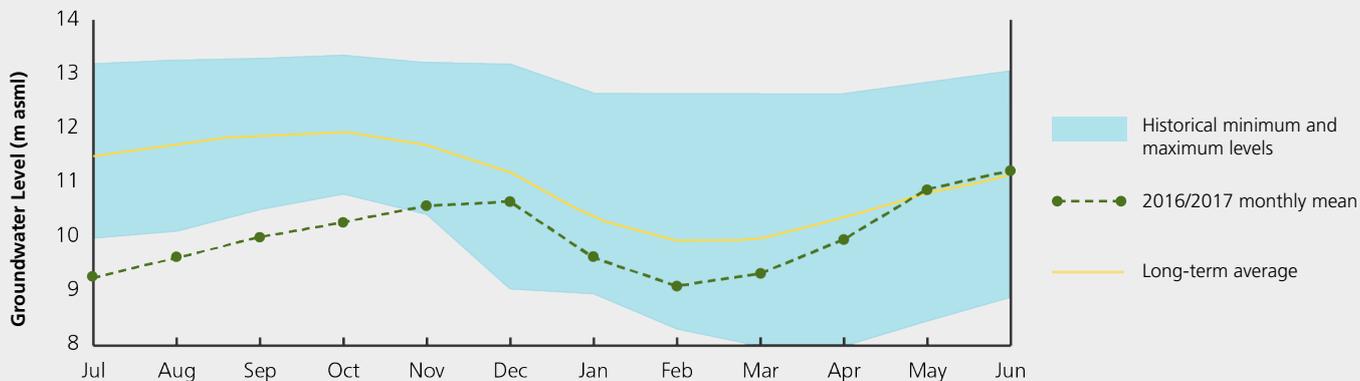
The 2016/17 year was much wetter than normal, particularly in the months of November, February and April.

Average monthly river flows during 2016/17 reflects the rainfall pattern – mostly above average with peaks in November, February and April.

Flows in the Ruamāhanga River



Groundwater levels in the Kahutara aquifer



How many times were flood warnings activated?



Ruamāhanga River
Flood warnings were activated **11 times**.



Waipoua River
Flood warnings were activated **6 times**.



Waiohine River
Flood warnings were activated **11 times**.



Mangatarere Stream
Flood warnings were activated **only once**.

The Kahutara, a deep confined aquifer, started the year with very low groundwater levels due to the previous year being very dry. However the wetter conditions this year saw it slowly but surely recharge back to normal levels.

For further information:

Full details of the 2016/17 monitoring results can be found in our Hydrology Annual Data Report published online at www.gw.govt.nz/Annual-monitoring-reports
To view or download environmental monitoring data go to <http://graphs.gw.govt.nz>