

ARF013 Drinking Water Resilience

Risk Status Progress Report for September 2020

Description of risk and impact

In accordance with our Risk Management Policy, adopted by Council August 2019, the “Drinking Water Resilience” risk has been identified and then adopted at the 05/07/20 Council meeting as a top organisational risk. This risk was scored and prioritised using the FNDC IDEATE methodology which assessed this risk against the defined risk categories and risk tolerances.

The primary source for Kaikohe, Kaitaia, Opononi, Rawene, Kawakawa and Paihia are surface water takes from local rivers and streams. Kerikeri also relies heavily on surface water as its secondary source. For each of these surface water takes FNDC hold a consent issued by the Northland Regional Council (NRC). The consents have conditions relating to many things but most importantly:

- the volume of water FNDC is authorised to take, and
- the instantaneous residual flow we are required to leave in the environment.

Surface water takes are impacted by droughts. Droughts typically cover a large geographically area; not just a single catchment or community. Having several surface water sources for a community drinking water supply does not increase its drought resilience. All the local streams are going to approach their own unique design minimum flow at roughly the same time. Practical solutions for drought resilience are large reservoirs of water in form of:

- lakes,
- man-made storage, or
- aquifers.

The “Drinking Water Resilience” risk has been analysed as both an organisational and a strategic risk. A score of 35 or greater is in the high-risk category. Drinking Water Resilience scored 35:

1. **Finance category**, 9: Impact is high ($\geq 0.3\%$ rates increase); likelihood is will happen (the risk is likely to occur and there is frequent exposure to this risk)
2. **FNDC Customer category**, 9: Impact is high (potential loss of essential service and cost to customer); likelihood is will happen (the risk is likely to occur and there is frequent exposure to this risk)
3. **Reputational category**, 7: Impact is medium (loss of national trust and confidence, 1-2 years to re-establish); likelihood is will happen (the risk is likely to occur and there is frequent exposure to this risk)
4. **Compliance / Legal**, 3: Impact is medium (we are challenged and found to be non-compliant with fines or penalties <\$500,000); Likelihood is unlikely (there is a low exposure to this risk)
5. **Health & safety**, 7: Impact is high (public health outcome); Likelihood is probable (risk will possibly occur)

Group / SLT	Risk level	Inherent Risk	Risk description	Because of	There is a chance that...	leading to...
Infrastructure and Asset Management	Organisational	35	Strategic	Lack of freshwater resilience - long-term trends in rain fall coupled with changing and increasing consumer demands	Current freshwater supply systems will continue to not meet demand both now and into the future	Critical impact on our communities i.e. lengthy water restrictions; no/interrupted supply; costly economic consequences (affordability); extensive Health & Safety impacts across the district; economic and reputational risk from a failure to supply adequate potable and fresh water; negative environmental impacts.

To ensure clarity this risk excludes “Action for healthy waterways” new rules and regulations aimed to:

- stop further degradation of New Zealand's freshwater resources and improve water quality within 5 years
- reverse past damage and bring New Zealand's freshwater resources, waterways, and ecosystems to a healthy state within a generation.

Existing Treatments

Water Shortage Directions are a cost-effective treatment to the risk of drought but only if there is enough water remaining in the stream at the time of drought. FNDC have a Water Shortage Management Plan (Nov. 2019) which outlines processes and provides guidance on how water restrictions can be implemented to manage demand.

Water restrictions are enabled by the Water Supply Bylaw. The General Manager of Infrastructure and Asset Management (GMIAM) has the appropriate delegations to issue restrictions and the committee makes recommendations for the GMIAM to consider.

The Water Shortage Management Plan lays out each scheme, key conditions of consent and learnings from previous water shortages. In an organisation which experiences high staff turnover this document has provided the structure required for a team to work effectively every year for only 3 or 4 months at a time. The Water Shortage Management Plan will be updated again this year and there are many opportunities to learn from our experiences in 2020. Recent work, to improve drinking water resilience has been completed:

- Installation of a rock weir immediately downstream of the Awanui River. The weir was installed to increase the water level around the intake structure to eliminate the risk of air being drawn into the network and causing an unplanned shut down or infrastructure failure.
- Temporary and emergency water take from Lake Omapere to supply Kaikohe.
- Temporary and emergency change of use for the consented water take from Te Rarawa’s bore at Sweetwater.

The need to invest to improve the resilience of the water supply in some areas is urgent, in other areas there is important work already planned in future years. The programme of work for water infrastructure being developed in the early stages of the 2021/2031 Long Term Plan is significant and includes many renewals projects to the treatment plants and the networks.

High level treatment plan and progress up-date:

High level treatment plan:	Progress update:
Drought resilience work for 20/21 financial year.	Agenda item, Council meeting 25 Aug 2020.
2021/2031 Long Term Plan.	Programme of work for water infrastructure is being developed.
Water storage management plan.	Current being drafted.
Project Darwin – to understand asset knowledge to refine investment planning.	Underway. Pilot of the living asset plan by June 2021.
Council engagement with the Crown on 3-waters reforms.	Political decision to be made re sign up. Crown investment to be advised.

Where are the gaps? / what more could we be doing?

- What is Council obligations in respect of non-public schemes?
- If a private scheme starts to impact ratepayer health what is Councils responsibility?
- Council needs to determine what level of residual risk are we prepared accept.
- The uncertainty of the ongoing ownership/management of these schemes under the Crowns proposed water supply reforms.

Inherent Risk:	Trend	Residual Risk:	Accountable:	CEO	Date raised:	March 2020	Report frequency:
			Responsible:	GM IAMs	Date accepted:	05/07/20	Three monthly