



Northland Civil Defence Emergency Management (CDEM) Group

Drought Plan

2020 / 2021
Version 3.0

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Version Control

Date and Version	Change Made	Reason
6/11/2020 V 2.0	Additions from external agency feedback	Consultation with agencies
18/11/2020 V 3.0	Updating the responsibilities section for DHB, DOC	Consultation and feedback from agencies

Situation

Background

In early 2020 Northland experienced one of the most severe droughts on record. Rainfall across Northland during 2019 was at record low levels, and with the lack of rainfall during the summer of 2019/20 severe drought resulted across the entire Northland region.

This prolonged drought and lack of rainfall impacted adversely on ground and surface water, resulting in adverse impacts for water suppliers, dairy farmers, sheep and beef farmers, horticultural operations, growers and producers, industry, government facilities and communities. Those who were reliant upon rainfall to replenish drinking and other water supplies were all adversely impacted.

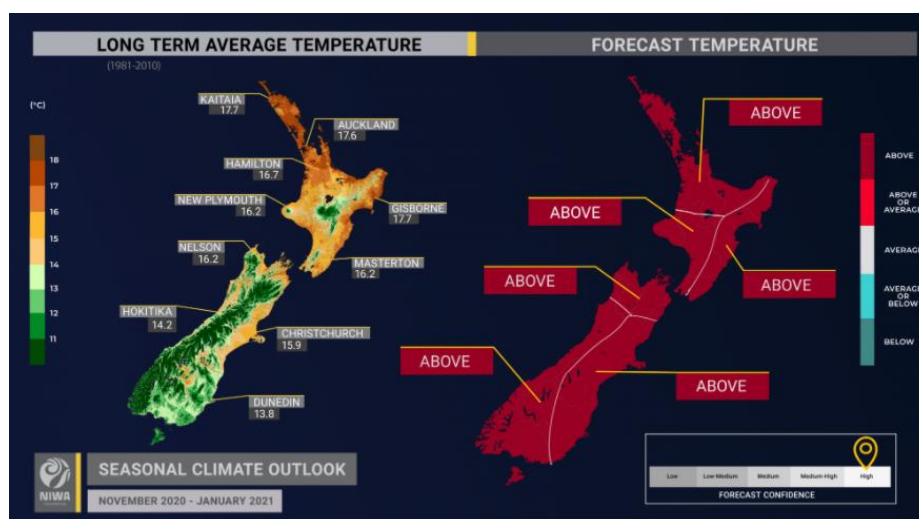
Alternate and emergency water supplies were commissioned in Kaikohe, Kaitia and Rawene. Emergency tanks were established, and action taken to ensure that community buildings and Marae were able to have immediately available supplies of water for emergency purposes in the event that communities required it. Caches of water in small containers for immediate delivery were also established at strategic locations and in some instances distributed. The Northland Regional Council Water Shortage Directions were issued to allow the taking of water below permitted consented levels in catchments (bores and rivers).

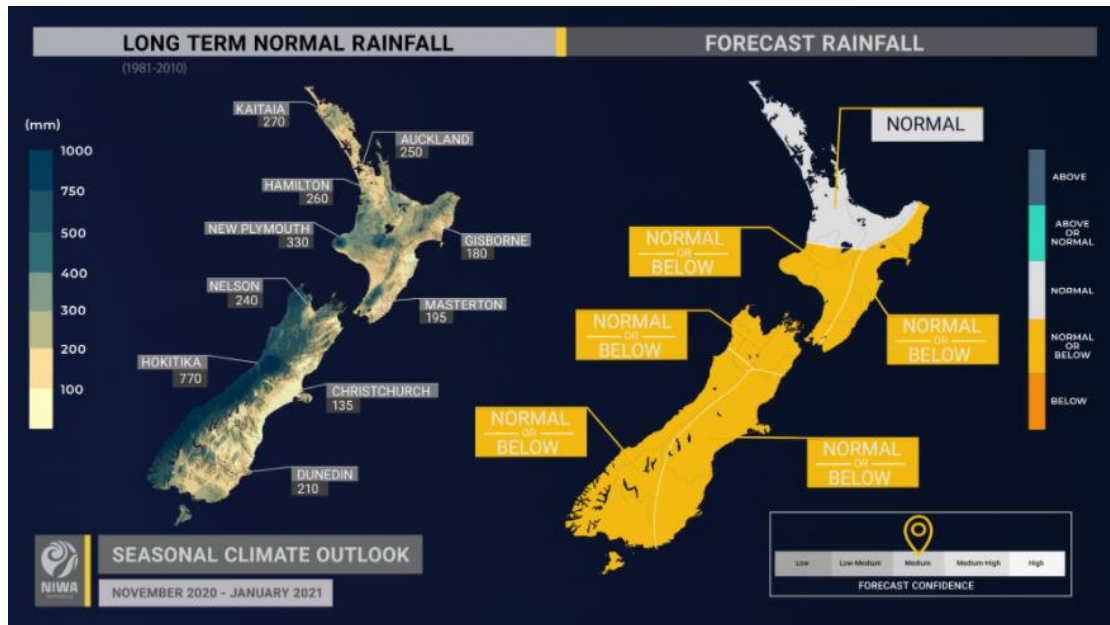
Alongside the district council response, the Northland CDEM Group coordinated a region wide response. Over 350 tanker deliveries of water were made to residential dwellings, additionally Ministry of Social Development funded over 1500 deliveries of water on top of the usual commercial water carrier deliveries.

District Council's imposed water restrictions up to Level 4 in some areas of Northland and took steps to proactively manage water supplies to ensure that communities were able to access potable water and no reticulated water systems in Northland failed.

Current Situation

The current NIWA Seasonal Climate Outlook** November 2020 to January 2021 confirms *La Niña* * conditions and a north-easterly airflow. Rainfall totals are most likely to be near normal in the north and east of the North Island and temperatures are likely to be above normal.





The table below shows the probabilities (or percent chances) for each of three categories: above average, near average, and below average for Northland between November 2020 and January 2021.

	Temperature	Rainfall	Soil moisture	River flows
Above average	75	30	25	25
Near average	20	40	25	25
Below average	05	30	50	50

- Temperatures are very likely to be above average (75% chance).
- Rainfall totals are most likely to be near normal (40% chance).
- Soil moisture levels and river flows are likely to be below normal (50% chance).

***NIWA publish a seasonal climate outlook each month for the following three months. This information can be updated as the outlook is updated.*

** La Niña means “the little girl” in Spanish and is a phase of a naturally occurring global climate cycle also known as “the cold event”. La Niña events have different impacts on New Zealand's climate. More north–easterly winds are characteristic, which tend to bring moist, rainy conditions to the north–east of the North Island, and reduced rainfall to the south and south–west of the South Island.*

Intent

The intent of this plan is to provide a coordinated and coherent across agency readiness and response framework for a future drought in Northland.

This plan is based on the learnings from the response to the drought in 2019/2020. To mitigate future water shortage situations a coordinated and coherent response is required across agencies, organisations and stakeholders alongside cooperation and readiness from the wider community.

This plan sets out the roles and responsibilities of agencies, organisations and stakeholders in relation to water management during a drought response and includes references to emergency reticulated water supplies, rainwater tank supplies and other ground water and surface water sources (including bores, rivers and springs).

A joint agency approach to timely and accurate public communications and education is a high priority. Timely messaging and public information may assist in mitigating the speed at which the development of water shortages during the summer season may occur.

Water storage and limiting water use will also mitigate the development of water shortages. This joint approach and collaboration should continue through a water shortage situation to address issues, provide information to the public and avoid increasing the severity of the situation.

The plan sets out potential water shortage scenarios for the Northland region based on previous experience. The scenarios assist with understanding how the roles and responsibilities of agencies, organisations and stakeholders fit into any water shortage related activities and any related emergency response.

Planning Factors

- The Northland CDEM Group role is mandated by the CDEM Act 2002 to coordinate the response during an emergency. The Act defines an emergency as any event which may cause loss of life, injury, illness or distress and cannot be managed by emergency services or requires a significant coordinated response. The Northland CDEM Group does not have a role in business as usual (BAU) activities of water supply management.
- Public water supplies and providing alternate or emergency supplies is the responsibility of the respective councils and water suppliers.
- The activation of an emergency response by the Northland CDEM Group will not occur until an emergency situation has been reached, this will be indicated by the occurrence of the triggers (as outlined in the Triggers section). If a CDEM Declaration of a local State of Emergency is required, this will be decided by the Northland CDEM Group Controller using situational awareness and intel. An emergency response from Northland CDEM can be initiated when a Declaration is not required.
- CDEM do not have access to additional water supplies

- CDEM do not have additional funding to support failing infrastructure
- CDEM do not have additional access to water delivery systems
- Councils will act and deliver on their water management plans and implemented as funded through their Long-Term Plan process.
- Businesses, schools and specific self-supplies should have appropriate business continuity plans in place and the ability and capability to activate them to manage water shortages and other impacts.
- An expectation that agencies, organisations and stakeholders will carry out their mandated BAU responsibilities.
- Agencies, organisations and stakeholders will initiate early collaboration and cooperation to formulate consistent joint-agency public information and disseminate through their usual communication channels.

Triggers

There are several information sources which can provide an overall picture of the water situation across the Northland region. Information is used for decision making to trigger actions relating to water shortages. Information used to trigger certain actions include:

Information source	Trigger point for action
- NIWA Drought Index and NIWA Seasonal Climate Outlook	A reading of very dry / extreme outlook for the region
- Metservice Weather Outlook	Outlook forecasts extreme dry conditions for the region
- Northland Regional Council hydrological data	Water levels are approaching minimum allowable levels for water takes.
- Ministry for Primary Industries (MPI) Drought "Event Classification"	Minister for Primary Industries classifies that the region is in a medium scale a drought impacting significant parts or all of the region.
- District Councils imposing water restrictions	Combinations of water restrictions at Level 3 and 4 affecting parts or all of the region.
- Intelligence reporting from agencies, organisations and stakeholders on water shortage impacts in the region	Widespread water shortages impacting large numbers of people in parts of the region

Risks

Risks associated with water shortages in the region have been identified in the list below, raising awareness to agencies, organisations and stakeholders to take into consideration in their planning and readiness and response activities. Agencies, organisations and stakeholders should undertake mitigation activities in relation to identified risks where possible, to reduce the impacts of water shortages in the region.

- Public expectations for information, continuous safe supply of drinking water
- Political pressure
- Availability of timely, accurate and informative public information through various channels
- Cooperation, capacity and capability of agencies, organisations and stakeholders
- Commercial water carrier wait-times for water deliveries
- Time taken for water suppliers / water carriers to address statutory requirements as advised by Public Health Units Drinking Water Assessment Unit.
- Disease outbreaks due to no water available for sanitary services for rural communities on tank water or contaminated water supplied to communities through temporary water supplies / water carriers.
- Northland tourism operators water usage
- District Council engagement and responsibilities for residents on rainwater tank supply in their district
- Increase in tourists in Northland this summer (NZ holidaying in NZ)
- Large public events and water usage
- State Highway One (SH1) Mangamuka no access to the Far North until road repairs are complete.
- Maintaining sufficient resources capability
- Concurrent emergency responses activities
- Competing work priorities at the time of dealing with water shortages, pandemic, cyanobacterial blooms in water sources etc.
- Restrictions in place on water takes due to low water table levels.
- Major infrastructure failure to more than one reticulated water system at the same time
- Extreme weather conditions beyond initially forecast
- Contamination of source of a water supply

Communication

Early and clear communication between agencies, organisations and stakeholders is necessary when any risk of a water shortage increases.

Early public information and education is a high priority. Significant water savings were made by various communities when public messaging sought community cooperation to make water savings and conserve water in preparedness.

The Northland CDEM Group Public Information Manager, in collaboration with relevant agencies, councils, organisations and stakeholders, will coordinate the public education themes to ensure consistency of information. The themes, mechanisms of publication and the target audience will be identified, and consistent common messaging distributed.

It is essential that all agencies, organisations and stakeholders effectively communicate, and across-agency engagement occurs throughout the summer season to ensure consistent messaging and delivery to the community in a timely manner.

Roles and Responsibilities

The generic across-agency responsibilities outlined below are expected to be undertaken **during readiness and response** by each of the agencies, organisations and stakeholders mentioned in the following table:

- Solving, management and planning to mitigate water shortage issues within their own business structures before escalation occurs
- Promoting water conservation messaging and arrangements internally for the organisation, agency or business and externally with their public facing services with the community.
- Reasonable intelligence gathering and reporting on water shortages as requested.

Role	Responsibilities
Northland Civil Defence Emergency Management (CDEM)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Across-agency coordination and collaboration to ensure a coherent approach during readiness and response phases. - Compile and disseminate to stakeholders, a 4Ws document (as used during COVID response) with the Who, What, When, where of water carriers and water infrastructure providers, agencies, organisations and stakeholders who can give support during a water shortage. - Provide coordination for across-agency early public education and information on water usage and saving, including public information on the water situation as required (for a single point of truth). - Engage with CDEM stakeholders regarding Business Continuity Plans (BCP) and Councils for water management plans for water shortages. - Engage with commercial water carriers regarding their BCPs (trucks, drivers, access to water collection points) - Manage the National Emergency Management Agency (NEMA) central government funding for emergency water provision and manage the claims process for reimbursement of funds through NEMA.

	<ul style="list-style-type: none"> - Liaise with CDEM stakeholders during any water shortage situations. - Work alongside the Ministry of Social Development with needs assessment and funding for the provision of drinking water to the community - Deliver strategic communications to CDEM Governance, district Mayors and Chair of the regional council and community leaders - Prompt agencies, organisations and stakeholders from the reduction, readiness, response and recovery aspects of a drought or water shortage situation.
Ministry of Social Development (MSD)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Providing financial support to their clients for the provision of water and water related expenses (including tank cleaning, water deliveries and water infrastructure repairs). - Carry out needs' assessments for people who have water shortage issues - Allocate financial assistance as determined by needs assessment from both MSD and CDEM funding
Northland District Health Board (DHB) and Public Health	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Manage and care of dialysis patients in the region - Ensure District Hospitals water supplies are not restricted to the point of endangering patients. - Contribute to public education on drinking water quality - Provide guidance to water suppliers on Health Act requirements relating to provision of safe drinking water. - Approve and issue temporary drinking water supplies for water carriers and sources for restricted supplies - Investigate waterborne infectious disease outbreaks, insanitary conditions in communities due to no water availability or due to consumption of contaminated water supplied by a temporary water supply.
Ministry of Education (MoE)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Oversee schools drinking water access and availability. - Anticipate requirements and develop plans and put contingencies in place for the provision of water.

Northland Rural Support Trust (RST)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Remind agricultural, horticultural, forestry and rural industry sectors regarding their arrangements to manage water shortages in the summer. - Liaise with Ministry of Primary Industries (MPI) in regard to provision of support and resources available to small block holders and to monitor potential animal welfare issues that may arise. - Ensure psychological support is in place for farmers should it be required for water shortage issues and related stress
Ministry of Primary Industries (MPI)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Assess and determine if a drought classification is required for the region. - Provide supportive resources for the rural sector and primary producers (including feed budgeting, assisting with sourcing stock feed, provide funding where applicable). - Provide animal welfare oversight and support when issues arise.
Department of Internal Affairs (DIA)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Provide funding where available for water infrastructure at community level - Provide education on water saving and security
Northland Regional Council (NRC)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Monitor and report on ground-water and surface water levels - Issue Water Shortage Directions (WSDs) as required in a timely manner - Process resource consents where required in a timely manner - Utilise the NRC Regional Drought Plan for Regulatory Response / Compliance purposes. - Identify, monitor and respond to risks to drinking water supplies taken from ground-water and surface water e.g. saltwater intrusion into aquifers and cyanobacteria blooms in surface waters).
District Councils Far North District Council (FNDC) Whangarei District Council (WDC)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - In a CDEM role, provide emergency water supplies to the community where required. <i>E.g. in the form of tank farms and bottled water as required if public water supply is interrupted.</i> - Choose the appropriate locations for installation of tank farms and / or water collection points in consultation with

Kaipara District Council (KDC)	<p>water carriers for accessibility and infrastructure requirements if required or provide water tankers and bottled water in communities for an emergency water supply if required.</p> <ul style="list-style-type: none"> - Use council water management plans in an effective and timely manner (i.e. early intervention to reduce large scale non-essential water usage). - Manage council reticulated water supply demand and water restrictions as required - Plan and provide extra tap stands' / filling stations and access for commercial water carriers as required, where there is an appropriate source. - Monitor and manage district council water supply infrastructure to reduce water loss.
Department of Corrections	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Implement business continuity plans for water shortages for its facilities.
Water Infrastructure Contractors	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Provide personnel and parts to check and repair water infrastructure as required
Te Puni Kokiri (TPK)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Provide funding where available for water infrastructure at a community level - Provide education on: <ul style="list-style-type: none"> o Water saving and security o Accessing available funding for water deliveries and water infrastructure repairs o Advice for landlords and tenants on water shortages in rental accommodation
Te Kahu O Taonui (TKoT) Iwi and Hapu representatives	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Provide public education on: <ul style="list-style-type: none"> o Water saving and security o Accessing available funding for water deliveries and water infrastructure repairs o Advice for landlords and tenants on water shortages in rental accommodation - Support Iwi with water shortage issues where required.
Commercial Water Carriers	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Prepare drivers, trucks and business continuity plans to meet water requests over the summer season.

	<ul style="list-style-type: none"> - Consider road access routes and road issues across the region that may impact their services. - Link with Councils for access to tap stands / water filling stations.
Fire and Emergency New Zealand (FENZ)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Forward plan for water sources for fire fighting purposes during water shortages - Identify strategic locations for transportable water storage tanks - Review Pre-determined attendance (PDAs) and add trucks and tankers if required. - Prepare media releases to minimise issues regarding the use and replacement of water for fire fighting - Plan and communicate arrangements for managing and suppressing a fire where there may be a shortage of water - Review the operational tactics to be used in a drought situation. - Have prepared fire appliance water capacity and water tanker travel time charts for all Northland zones. - Monitor and advise all stakeholders of changes to fire restrictions and bans.
Department of Conservation (DOC)	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Plans for water provision, uses and restrictions for DOC visitor facilities across the region should water shortages occur. - Manage the welfare of protected species (e.g. kiwi)
Kainga Ora	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Ensure tenants in Kainga Ora homes have access to water.
Other Water Suppliers	<p style="text-align: center;">Readiness and Response</p> <ul style="list-style-type: none"> - Manage relevant reticulated water supply demand and water restrictions as required - Monitor and manage relevant water supply infrastructure to reduce water loss. - Plan and prepare for water shortages in water supplies with business continuity plans

Appendix 1 Scenarios

Scenarios

1. 4,000 people without a reticulated water supply

Scenario

The public reticulated water supply in a single location of 4,000 people is interrupted with damage to infrastructure due to dry ground movement. The public water supply restoration time is known, meanwhile 4,000 people are without a reticulated water supply to their properties.

Or

10,000 people are without a public water supply when cyanobacterial blooms appear on one of the district councils supply dams that then produces cyanotoxins.

The relevant **district council** provides an alternate water supply *e.g. installs sufficient Tank Farms and / or water collection points for people to collect a minimum of 25 Litres of water per person per day and the district council provides means for those unable to collect water from a collection point i.e. vulnerable sectors such as elderly, infirm and/or disabled.*

Consideration could be given to tankers filling water treatment plants directly to serve a reticulated water supply. This is dependent on several factors including availability of tankers and accessibility to water treatment plants.

The **Northland CDEM Group Action Plan for Rural Water Provision** can be utilised to assist with the operation.

Possible Tasks

Water collection points can be set up at community buildings and Marae on rainwater tanks. **Commercial water carriers** may be required to fill Tank Farms.

In the absence of being able to set up a tank farm, **district councils** could position water carriers positioned in the community and / or bottled water supplied.

The **Northland District Health Board (DHB)** requires regular water quality testing of the Tank Farm supply. The DHB also manage their community outpatients on dialysis and any affected district hospitals.

Pre-planning is required by the district council to provide the volume of water required.

Kainga Ora provide information and support to the tenants in their properties.

The **Department of Corrections** (if affected) implement their pre-planned business continuity plans.

The **Ministry of Education** (MoE) implement their pre-planned business continuity plans

Fire and Emergency New Zealand (FENZ) activate their pre-planned water source plans for fire fighting in the affected area.

Businesses, organisations and agencies implement their pre-planned business continuity plans.

2. Three reticulated water supplies fail long term affecting 1,500 people

Scenario

Water restrictions have been in place for the last few weeks imposed by the district council due to dry weather and lowering river levels.

In anticipation of river levels becoming too low to provide a reticulated water supply, 3 tank farms have been set up in 3 locations by the **district council**.

The reticulated water supplies in all 3 locations are interrupted when river levels drop below the intake. There are now 1,500 people without a water supply to their properties over 3 locations.

Possible Tasks

Like scenario 1, water collect points are required to be activated and managed across the 3 locations and pre-planning by the district council is required.

In the absence of being able to set up a tank farm, **district councils** could position water carriers positioned in the community and / or bottled water supplied.

3. 150 people in a small remote rural community are running out of rainwater tank supply and some do not have finances to pay for a water delivery.

Scenario

Low rainfall amounts and temperatures 25+ degrees Celsius for the last 3 months have affected a small rural community of 150 people on rainwater tank supply. People are running out of water and supporting each other where they can.

Some people have ordered a truck delivery of water, but some residents do not have the finances for the high cost of delivering to a remote part of Northland (\$800+ per delivery) and will run out of water in the next week.

Public education and information to remote communities from agencies and organisations through various channels has informed residents to approach **Ministry of Social Development** (MSD) for a needs assessment for funds.

Possible Tasks

Te Kahu o Taonui (TKOT) work with Iwi organisations to ensure whanau can connect with support agencies, in particular those in more remote locations and limited connectivity.

MSD carry out a needs assessment and decide if funding can be provided to the caller from either MSD or CDEM for water delivery.

The caller also contacts **Te Puni Kokiri** (TPK) and the **Department of Internal Affairs** (DIA) to enquire about funding to improve water infrastructure at their property to assist with the collection and storage of water if issues have been identified in the collection of rainwater.

Some of the affected properties are farms and the increased stress accessing feed and water for stock requires support from the **Northland Rural Support Trust** (RST) and the **Ministry of Primary Industries** (MPI), especially access to feed and the provision of psychological support.

4. Coastal bores suffer saltwater intrusion and hundreds of people are affected around the Northland coastline

Scenario

Numerous properties at coastal locations rely on coastal bores for their water supplies. Ground water levels are so low, the risk of intrusion from salt water is becoming a threat and water usage needs to stop to save the bore from being permanently damaged.

Residents reduce the amount of water they are using through receiving information and updates from the **Northland Regional Council** who are monitoring ground water and surface water sources.

Some bores become contaminated with saltwater and can no longer be used, the **district council** provides water collection points where needed to assist people with their water supply.

Possible Tasks

MSD provide needs assessments and make decisions of funding available through MSD or **CDEM** for water provision (CDEM funding is only available if a CDEM emergency has occurred).

TPK and DIA may provide funding for long term water infrastructure to replace the need for using the contaminated bore.

Te Kahu o Taonui (TKOT) work with Iwi organisations to ensure whanau can connect with support agencies, in particular those in more remote locations and limited connectivity.

Department of Conservation (DOC) assess the use of their camp grounds.

5. Business and primary industry affected by water restrictions or no access water (people, business, animals).

Scenario

Businesses are forced to close due to no access to water. Some businesses have livestock that require drinking water and water to operate plant and machinery (i.e. dairy herd).

Support from a dairy company provides some livestock drinking water and dairy advisors provide on farm advice.

Possible Tasks

Rural Support Trust (RST) provides psychosocial support to farmers and links into financial, feed and water sources support.

The **Ministry of Primary Industries (MPI)** provide resources, links to potential funding streams and provides animal welfare advice and oversight.

The **Northland Regional Council (NRC)** would monitor ground water levels.

Water Contractors, if contacted, support farmers with setting up water storage facilities.

MSD carry out needs-assessment for the provision of financial support.