Activity Profile: Water supply

Why we do this

A constant, adequate, sustainable and high-quality water supply to Kaipara district's reticulated areas is essential for communities and local economic development. Public water supplies ensure communities receive water at the cost of production. Our water supply activities also protect and enhance our natural assets and open spaces.

Which Community Outcomes does the activity primarily contribute to?

This activity contributes to all three Community Outcomes, primarily "A trusted Council making good decisions for the future" as set out below.

Community Outcome	We do this by…
A trusted Council making good decisions for the future	• Providing a base level of supply for businesses where a need is proven • Reliable access to clean and safe water is needed by most businesses. By providing infrastructure services, this activity supports growth of the local economy.
A district with strong and welcoming communities	• Supporting communities to use local solutions e.g. encouraging harvesting rainwater for domestic and commercial use where appropriate • Providing a base level of supply to communities where a need is proven • Contributing to a safe living environment by providing safe drinking water and water for firefighting. • Helps maintain public health standards
A district with plenty of active outdoor opportunities	• Complying with all regulations including consent conditions (community and Council) o ensuring Council's infrastructure complies o enforcing compliance of private owners with their consents • Balances the provision of this service with environmental protection. If done well, minimises the impact of taking water from the natural environment.

This activity plays an important role in enabling community well-being. Its overall contribution to progressing Community Outcomes at a district level is considered to be high.

What we do

- Operate four community water supply schemes for Dargaville (including Baylys), Glinks Gully, Ruawai and Maungaturoto giving them a sustainable drinking water supply. There is also a small scheme in Mangawhai, mostly supplying the Mangawhai Heads Holiday Park and the Woods Street commercial precinct;
- We own and maintain the whole water supply network for the five schemes;
- Activities include collecting raw water:
    - We treat raw water to produce quality and quantities of drinking water to drinking water standards (potable); and
    - Distribute treated water to the point of supply to customers to meet specific flow, pressure and quality standards. This includes water for emergency fire-fighting services for Dargaville's urban area.
- We also operate:
    - customer services;
    - water billing;
    - asset management;
    - planning;
    - treatment plant operations and maintenance;
    - network operations and maintenance;
    - capital and refurbishment programme; and
    - consent monitoring and compliance.

How this benefits the community

Water supply is crucial to our economic and social well-being. While water supply in Kaipara district is discretionary and defined by historic circumstances specific to different communities, we also support industries such as Silverfern Farms in Dargaville and Fonterra in Maungaturoto. Except for current systems supplying urban communities, households should expect to provide their own water supply through harvesting of water.

- We will continue providing water as is currently supplied within Kaipara district;
- We will provide water to Drinking Water Standards for New Zealand 2005 (Revised 2008) (NZDWS) except for raw water connections where we will provide non-potable raw water as an extraordinary supply;

- We will not extend our reticulation areas to include new residential areas;
- Where there are proposals for new commercial and industrial areas, we will consider supporting that economic development through the water supply as part of a re-zoning proposal, on a cost-recovery basis; and
- We will comply with resource consents in respect of water takes, ensuring they do not adversely affect the environment.

Risks and issues

- Supplying raw water to customers for pastoral uses is a risk as it does not comply with the NZDWS, and if incorrectly used as drinking water without appropriate treatment, it may result in public health issues;
- Dargaville water supply has drought risks and the security of supply for Dargaville is challenging during dry years;
- The renewals programme is still based on affordability and condition assessments. Our water supply assets are generally in good shape, except pipes for the older schemes which are nearing the end of their effective lives and need renewal. Renewal costs will be high and must be done in a planned and affordable manner. Some small communities serviced by old schemes and the small Mangawhai scheme may find the renewals required unaffordable; and
- Asset knowledge (mainly pipes) is mixed and we risk unforeseen asset failure.

How we fund this service

- Targeted rates;
- Fees and charges;
- Development contributions;
- Financial contributions;
- Borrowing;
- Asset sales; and
- Lump sum contributions.

Legislation associated with this service

- Local Government Act 2002;
- The Health (Drinking Water) Amendment Act 2007;
- Drinking-water Standards for New Zealand 2000 and 2005;
- Resource Management Act 1991.

Improvement programme 2018/2028 - Water Supply	
Year 1 – 2018/2019 **Planned improvement / change**	• Develop a central database and Geographic Information Systems (GIS) mapping for condition assessment information and generate a renewal programme; • Replace the manual system for consents, compliance and monitoring with a central management software system; • Continue the data cleansing project to improve our knowledge of our assets, including asset life to help with renewal planning; • An ecological study of the Kaihu River to assess the possibility of varying the water take consent; • Water loss management by ensuring the contractor adheres to reactive timeframes for leak requests, and is proactive in leak detection and effective meter reading; • Review and update water safety plans for all five water supply schemes using the latest requirements from Northland District Health Board (NDHB); • Continue with condition assessments of water supply assets in alignment with wastewater and stormwater services, and feed into the renewals programme; • Develop hydraulic computer models for Dargaville, Maungaturoto and Ruawai reticulation networks, predicting pressures and flows to confirm network capacity and manage growth; and • Review data management procedures and include development of a system for recording maintenance and costs at asset component level in our asset register.
Year 2 – 2019/2020 **Planned improvement / change**	• Continue developing a central database and GIS mapping for condition assessment information and generate a renewal programme; • Review and update the water safety plans for all five water supply schemes using the latest requirements from NDHB; • Continue with the condition assessments of water supply assets in alignment with wastewater and stormwater services, and feed into the renewals programme; • Continue developing hydraulic computer models for Dargaville, Maungaturoto and Ruawai reticulation networks, predicting pressures and flows to confirm network capacity and manage growth;

Improvement programme 2018/2028 - Water Supply	
	• Review data management procedures and include development of system for recording maintenance and costs at asset component level in the asset register; and • Water loss management by ensuring the contractor adheres to reactive timeframes for leak requests, and is proactive in leak detection and effective meter reading.
Year 3 – 2020/2021 **Planned improvement / change**	• Continue developing a central database and GIS mapping for condition assessment information and generate a renewal programme; • Continue developing a central database and GIS mapping for condition assessment information and generate a renewal programme; • Review and update the water safety plans for all five water supply schemes using the latest requirements from NDHB; • Continue with condition assessments of water supply assets in alignment with wastewater and stormwater services, and feed into the renewals programme; • Continue developing hydraulic computer models for Dargaville, Maungaturoto and Ruawai reticulation networks, predicting pressures and flows to confirm network capacity and manage growth; and • Water loss management by ensuring the contractor adheres to reactive timeframes for leak requests, and is proactive in leak detection and effective meter reading.
Years 4-10 – 2021/2028 **Planned improvement / change**	• Review and update the water safety plans for all five water supply schemes using the latest requirements from NDHB; • Continue with condition assessments of water supply assets in alignment with wastewater and stormwater services, and feed into the renewals programme; and • Water loss management by ensuring the contractor adheres to reactive timeframes for leak requests, and is proactive in leak detection and effective meter reading.

Measuring Performance - Water Supply

What we measure	LTP Year 1 Target 2018/2019	LTP Year 2 Target 2019/2020	LTP Year 3 Target 2020/2021	LTP Years 4-10 Target 2021/2028
The extent to which Council's drinking water supply complies with part 4 of the NZDWS (bacteria compliance criteria).	Dargaville, Maungaturoto, Ruawai, Glinks Gully and Mangawhai	Dargaville, Maungaturoto, Ruawai, Glinks Gully and Mangawhai	Dargaville, Maungaturoto, Ruawai, Glinks Gully and Mangawhai	Dargaville, Maungaturoto, Ruawai, Glinks Gully and Mangawhai
The extent to which Council's drinking water supply complies with part 5 of the NZDWS (protozoal compliance criteria).	Dargaville, Maungaturoto, Ruawai, Glinks Gully and Mangawhai	Dargaville, Maungaturoto, Ruawai, Glinks Gully and Mangawhai	Dargaville, Maungaturoto, Ruawai, Glinks Gully and Mangawhai	Dargaville, Maungaturoto, Ruawai, Glinks Gully and Mangawhai
The percentage of real water loss from our networked reticulation system (average for total network of all schemes). Real water loss is calculated by subtracting the meter readings and 'other components' from the total water supplied to the networked reticulation system.	≤30%	≤29%	≤28%	≤27%
Median response time for attendance for urgent call-outs; from the time the local authority receives notification to the time that service personnel reach the site.	≤2 hours	≤2 hours	≤2 hours	≤2 hours
Median response time for resolution of urgent call-outs; from the time the local authority receives notification to the time that service personnel confirm resolution of the fault or interruption.	≤48 hours	≤48 hours	≤48 hours	≤48 hours
Median response time for attendance for non-urgent call-outs; from the time the local authority receives notification to the time that service personnel reach the site.	≤3 hours	≤3 hours	≤3 hours	≤3 hours

What we measure	LTP Year 1 Target 2018/2019	LTP Year 2 Target 2019/2020	LTP Year 3 Target 2020/2021	LTP Years 4-10 Target 2021/2028
Median response time for resolution of non-urgent call-outs; from the time the local authority receives notification to the time that service personnel confirm resolution of the fault or interruption.	≤3 days	≤3 days	≤3 days	≤3 days
Total number of complaints about drinking water quality e.g. clarity, odour, taste, pressure or flow and continuity of supply. Expressed per 1,000 water connections.	≤40	≤39	≤38	≤37
Total number of complaints received by Council about Council's response to any of these issues. Expressed per 1,000 water connections.	≤40	≤39	≤38	≤37
Water take consents:	100% compliance with Northland Regional Council consents.	100% compliance with Northland Regional Council consents.	100% compliance with Northland Regional Council consents.	100% compliance with Northland Regional Council consents.
The average consumption of drinking water per day per resident within Kaipara district. Average calculated by the billed metered consumption (m^3) x 1000 divided by the number of connections x 365 x 2.5 (occupancy rate).	Dargaville – 275 Maungaturoto – 340 Ruawai – 130 Glinks Gully – 52 Mangawhai – 230	Dargaville – 275 Maungaturoto – 340 Ruawai – 130 Glinks Gully – 52 Mangawhai – 230	Dargaville – 275 Maungaturoto – 340 Ruawai – 130 Glinks Gully – 52 Mangawhai – 230	Dargaville – 275 Maungaturoto – 340 Ruawai – 130 Glinks Gully – 52 Mangawhai – 230
Major capital projects are completed within budget.	Achieved	Achieved	Achieved	Achieved

Significant negative effects - Water Supply

- A potential negative effect is the supply of non-compliant drinking water to the community. Non-compliance can occur at the water treatment plant (WTP) or within the water network. We have stringent monitoring and testing regimes to control and supply the community with compliant drinking water;
- Water treatment system failure could affect dialysis patients or flood properties. Our contractors have a list of dialysis patients and notify them immediately of any outages, supplying water if needed. Breaks in the lines are unpredictable and difficult to detect in wet weather. However, any rapid reservoir depletion is a trigger for network investigation. Our Water Asset Management Plan describes our water assets and the practices used to manage them which helps to reduce possible negative effects and risks; and
- We mitigate potential negative effects through a mix of asset management planning activities, including:
    - asset development work;
    - monitoring and testing;
    - demand management initiatives; and
    - public education, including water conservation programmes.

Funding Impact Statement – Operating

For the year ended:	Annual Plan	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget
30 June	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Operating funding											
Sources of operating funding											
General rates, uniform annual general charges, rate penalties	0	0	0	0	0	0	0	0	0	0	0
Targeted rates	3,240	3,157	3,315	3,403	3,493	3,760	4,005	4,093	4,208	4,325	4,407
Subsidies and grants for operating purposes	0	0	0	0	0	0	0	0	0	0	0
Fees and charges	15	491	504	516	528	541	554	569	583	599	616
Internal charges and overheads recovered	0	0	0	0	0	0	0	0	0	0	0
Local authorities fuel tax, fines, infringement fees and other receipts	0	0	0	0	0	0	0	0	0	0	0
Total operating funding	**3,255**	**3,648**	**3,819**	**3,919**	**4,021**	**4,301**	**4,559**	**4,662**	**4,791**	**4,924**	**5,023**
Application of operating funding											
Payments to staff and suppliers	1,126	1,307	1,327	1,340	1,283	1,316	1,350	1,387	1,426	1,467	1,513
Finance costs	278	261	274	295	320	389	457	430	415	396	377
Internal charges and overheads applied	600	749	764	777	773	805	835	857	880	905	932
Other operating funding applications	0	0	0	0	0	0	0	0	0	0	0
Total applications of operating funding	**2,004**	**2,317**	**2,365**	**2,412**	**2,376**	**2,510**	**2,642**	**2,674**	**2,721**	**2,768**	**2,822**
Surplus (deficit) of operating funding	**1,251**	**1,331**	**1,454**	**1,507**	**1,645**	**1,791**	**1,917**	**1,988**	**2,070**	**2,156**	**2,201**

Funding Impact Statement - Capital

For the year ended:	Annual Plan	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget
30 June	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Capital funding											
Sources of capital funding											
Subsidies and grants for capital expenditure	0	214	251	0	489	0	868	0	1,080	0	614
Development and financial contributions	0	0	0	0	0	0	0	0	0	0	0
Increase (decrease) in debt	-77	386	224	221	1,070	1,033	-542	-577	-623	-669	-672
Gross proceeds from sale of assets	0	0	0	0	0	0	0	0	0	0	0
Lump sum contributions	0	0	0	0	0	0	0	0	0	0	0
Other dedicated capital funding	0	0	0	0	0	0	0	0	0	0	0
Total sources of capital funding	**-77**	**600**	**475**	**221**	**1,559**	**1,033**	**326**	**-577**	**457**	**-669**	**-58**
Applications of capital funding											
Capital expenditure - to meet additional demand	0	0	0	0	0	0	0	0	0	0	0
Capital expenditure - to improve the level of service	394	13	13	13	1,490	1,526	14	14	15	15	16
Capital expenditure - to replace existing assets	781	1,865	1,825	1,471	1,443	762	3,407	2,794	3,802	2,333	3,550
Increase (decrease) in reserves	-1	53	91	244	271	536	-1,178	-1,397	-1,290	-861	-1,423
Increase (decrease) of investments	0	0	0	0	0	0	0	0	0	0	0
Total applications of capital funding	**1,174**	**1,931**	**1,929**	**1,728**	**3,204**	**2,824**	**2,243**	**1,411**	**2,527**	**1,487**	**2,143**
Surplus (deficit) of capital funding	**-1,251**	**-1,331**	**-1,454**	**-1,507**	**-1,645**	**-1,791**	**-1,917**	**-1,988**	**-2,070**	**-2,156**	**-2,201**
Funding Balance	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Capital Expenditure Programme

		Budget 2018/2019 $	Budget 2019/2020 $	Budget 2020/2021 $
Water Supply		**1,878,000**	**1,837,752**	**1,484,568**
127 - Dargaville Water Supply		**1,414,500**	**1,123,872**	**1,341,610**
	Baylys trunk main Stage 3: Replace 1.5km 100mm ID from Duck Creek to Colville Road	✓		
	Beach Road 480m watermain renewal stage 2 - upgrade to 150mm ID including connecting to Baylys Trunk main	✓		
	Compliance with drinking water standards	✓	✓	✓
	Dargaville raw watermain river crossing Stage 1 of 2		✓	
	Dargaville raw watermain river crossings Stage 2			✓
	Lorne Street: Replace 335m of 100mm ID water main; 215m of 50mm ID rider main loop			✓
	Main under Dargaville High School: Re-route and replace 850m of 250mm ID pipe	✓		
	Montgomery Avenue: replace rider main with 360m of 50mm ID	✓		
	Normanby Street between Hokianga intersection and Gladstone Street intersection 550m watermain renewal - upgrade to 150mm ID		✓	
	Pirika Street: replace 515m of 100mm ID water main; 300m of 50mm ID rider main loop			✓
	Racecourse State Highway 14 watermain: replace 2km 100mm ID from Awakino River bridge to race course gate		✓	
	Victoria Street: Replace 150m of 100mm ID pipe from Kaipia Street to Hokianga Road and tap into the 150mm from across Hokianga Road		✓	
	Water take consent compliance	✓	✓	✓
	Water Treatment Plant		✓	✓
154 - Maungaturoto Water Supply		**309,000**	**361,825**	**3,146**
	NZDWS Compliance	✓	✓	✓
	Raw watermain renewal: replace 200mm ID pipe plus 1965 (install) reticulation renewals	✓	✓	
	Water take consent	✓	✓	✓
158 - Mangawhai Water Supply		**1,500**	**1,538**	**12,059**
	Reticulation			✓
	Take consent compliance	✓	✓	✓
161 - Ruawai Water Supply		**151,500**	**348,981**	**126,181**
	NZDWS compliance	✓	✓	✓
	Replace balance (Stage 4) of 2.3km reticulation of 100 to 150mm ID to meet fireflow	✓		
	Water Treatment Plan and reservoir		✓	✓
239 - Glinks Gully Water Supply		**1,500**	**1,538**	**1,573**
	Water take consent compliance	✓	✓	✓