

CURRENT STATUS

The risk of taps running dry has increased since the last update a month ago. This is due to:

- Temporary decommissioning of Grassridge temporary water treatment plant to resolve water quality failures, and
- Lack of rainfall and runoff to boost local dam levels.

Over the past year, Nelson Mandela Bay Municipality (NMBM) has released multiple notices to the media and on our website explaining that the local dam levels are critically low and that we have to adhere to restrictions imposed by the national Department of Water and Sanitation (DWS). The volume of water we are allowed to draw from the local Eastern Cape dams located on the western side of the city has been restricted by between 50 and 85%. Under current restrictions, this is limited to ± 60 MLD, leaving a shortfall of 130 MLD. Even with the transfer of 80 MLD from Nooitgedagt, it leaves a shortfall of ± 50 MLD. We are trying to manage this shortfall daily, by balancing reservoirs and fluctuating flows into various areas. This creates volatility in the system, which inevitably results in further maintenance issues. These problems would largely be eliminated if the load is reduced on the demand side, but to date our pleas to consumers to reduce consumption have not had sufficient success.

We are trying to balance the system with less water, but this means that more households are reporting low-pressure, no-water (intermittent water supply), or water quality concerns. The metro should be using 230 million litres a day, but we have exceeded this volume by nearly 50 million litres every day. The restricted availability of water from local dams has resulted in reducing our flexibility to provide water from alternative supply sources, should we require planned or unplanned maintenance on our infrastructure. As a result, the restrictions on our dams have caused more widespread outages recently than experienced in previous years.

In February 2022, water quality failures led to NMBM issuing a boil notice. Investigations into the source of quality failures resulted in Grassridge temporary water treatment plant being taken off-line, resulting in a reduced volume of water available from Nooitgedagt. To provide water to as much of the city as possible, water production at local dams has been increased, resulting in a more rapid depletion in dam level. While water quality has been restored to potable standard, the Grassridge works is not yet back in operation, resulting in a continued shortfall of water from Nooitgedagt. At current consumption, Impofu Dam is modelled to fail in May while Churchill Dam will fail in June.

NMBM has an extensive capital refurbishment program in which all major water utility infrastructures are upgraded and repaired as per the water master plan. If we hadn't been implementing this program, we would not have been able to provide as much water as we have been able to during the drought. For example, the low water levels of Churchill dam would mean that we would not have been able to access this water had it not been for refurbishment of the Churchill pump station. Similarly, multiple pump stations have been refurbished or newly built in the last decade and these continue to supply water to NMB. We commit to continue work on improving the reliability of our mechanical and electrical infrastructure to enable efficient system operations.

Collectively, Nelson Mandela Bay is STILL using too much water. Only if everybody reduces their water use, will water reach all areas. When we use too much water, reservoirs run dry as we cannot supply water in the volumes consumed. This affects the high-lying areas first, and often takes a couple of days for reservoirs to be replenished. If we continue to use too much water, this will continue to happen throughout summer.

COMMUNICATIONS

Reducing water demand is not very difficult, it requires some effort at individual, household and business level. Compared to the threat of not having running water or working toilets, it is certainly a minor inconvenience. Here are some tips to slash your water use. We will continue to run our communications campaigns but need your help to reach every person in the city.

How to use less water as an individual (target usage = 50 litres per person per day direct use):

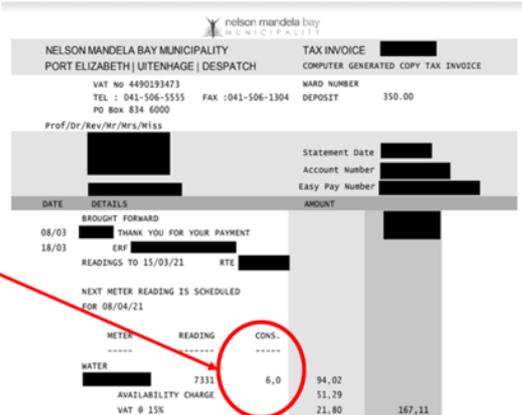
- Don't bath, instead, wash in a basin or have a 2 minute shower;
- Catch your shower water in a bucket and use this to flush the toilet, and don't flush the loo unless really necessary. Use grey/recycled water where possible;
- Don't ever leave the tap running unless absolutely critical;
- Talk about what you're doing to save water and share on social media, report water leaks, etc.

How to use less water as a household (target usage in kl/month = number of people x 50 litres x 30 days):

- Read your meter daily to see how much water you use and find leaks as soon as they occur;
- Reduce your water pressure by partially closing the tap at your meter;
- Don't water your garden, wash your car, or spray down hard surfaces. Cover your pool and don't fill it with potable municipal water;
- Put a plastic bottle filled with water in your cistern, install low-flow showerheads and tap aerators;
- Remember to close all taps during water outages to avoid wastage once supply is restored;
- At 50 litres per day, each person should add no more than 1.5 kilolitres to the monthly bill. So multiply 1.5 by the number of people in your household to see how much your bill should be. For example, if 4 people live in your house, your water bill should reflect consumption of no more than 6.0 kl/month:

READ YOUR WATER BILL		
NUMBER OF PEOPLE IN HOUSEHOLD		MONTHLY WATER BILL VOLUME
	1	1.5
	2	3.0
	3	4.5
	4	6.0
	5	7.5
	6	9.0
	8	12.0
	10	15.0
(household size)		(kilolitres per household)

For example, for a household of 4:



The image shows a sample water bill from Nelson Mandela Bay Municipality. The bill is for a household of 4 people. The consumption is listed as 6.0 kl, which is circled in red. A red arrow points from the '6.0' in the table to this '6.0' on the bill. The bill also shows a total amount of 167.11.

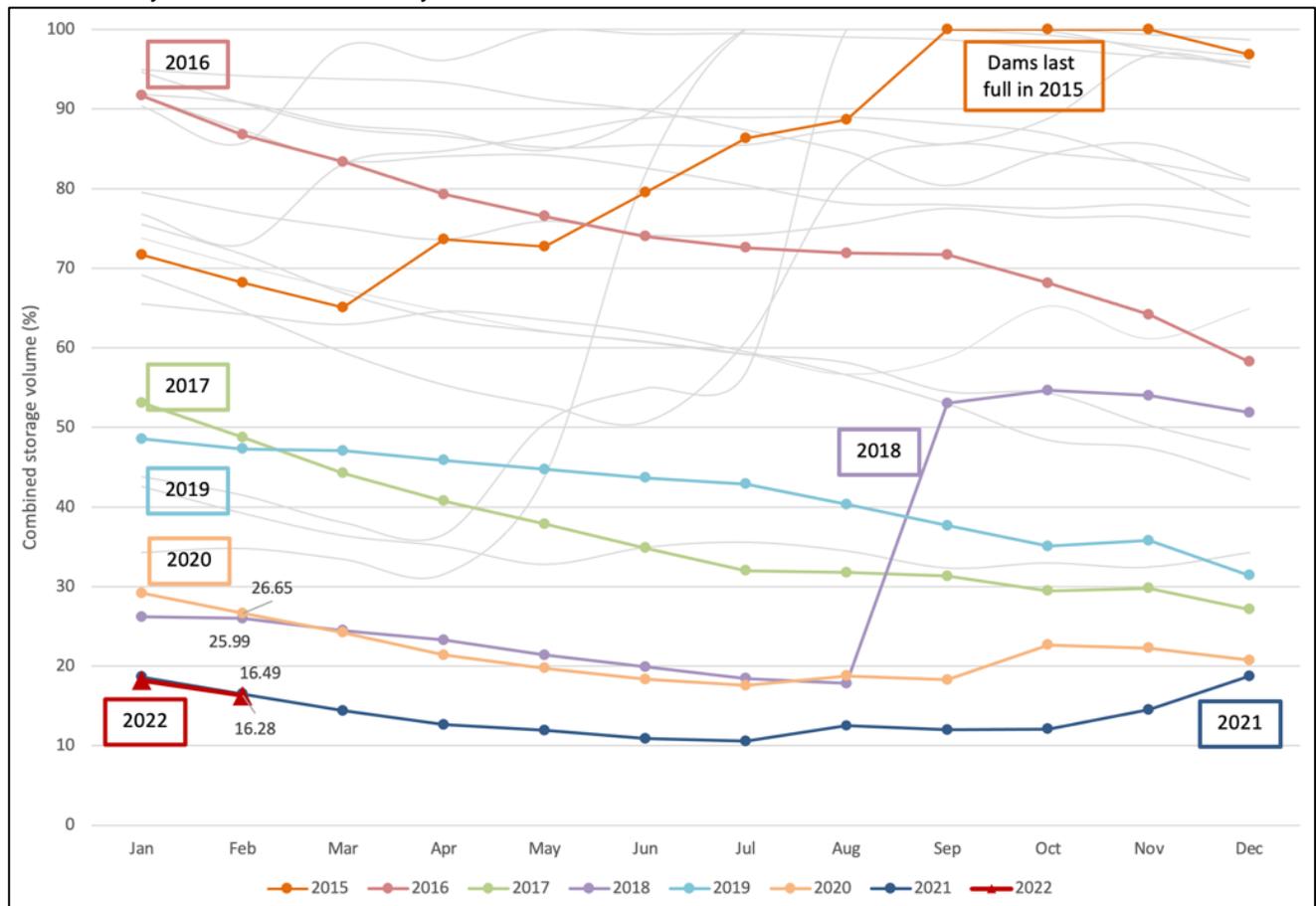
How to use less water as a business (target usage = 20% reduction in demand):

- Know what your historical and current consumption is so that you can make sure you meet your target reduction of 20%;
- Read your meter regularly and check your premises for underground leaks;
- Review all your processes which use water;
- Print your own signage (use city templates if you want to) and educate your visitors and staff to save water at work and at home;
- Provide hand sanitiser in bathrooms instead of soap, and install aerators in taps, etc.

BACKGROUND AND TECHNICAL INFORMATION

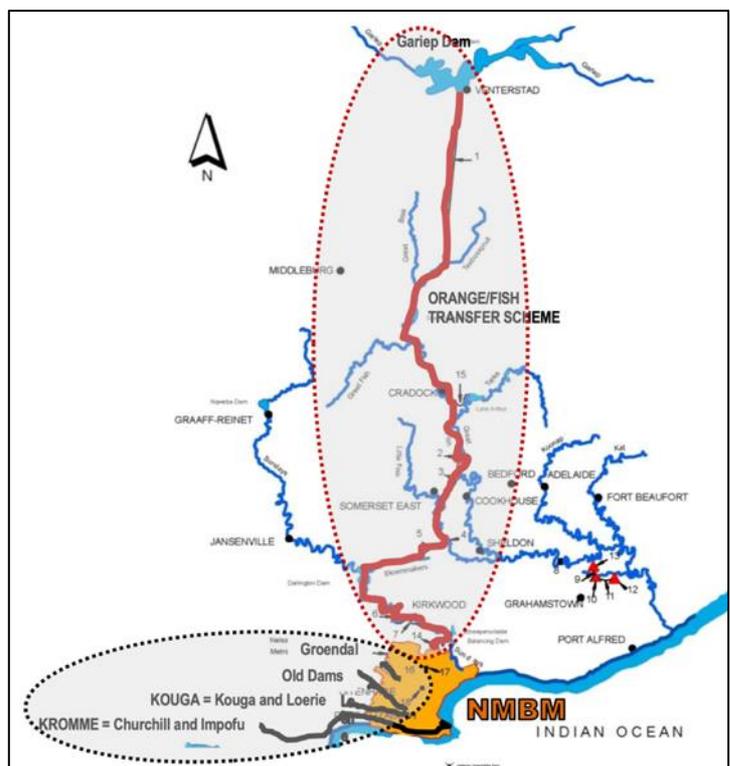
Dam levels were at 16.28% at the end of February 2022, slightly lower than a year ago, and the lowest on record for this time of year. With uncertainty of future rainfall, we have to protect the remaining water in local

dams for as long as possible. We cannot afford to reduce our efforts now. In fact, restrictions will only be relaxed if storage increases to above 65% before July 2022. Combined storage volume of local dams serving Nelson Mandela Bay to the end of February 2022 are shown here.



Taps running dry is not something any city wants to consider to be possible. But running dry remains a threat in NMB right now. The region has been classified as a drought disaster, and not without cause. If we don't act NOW to reduce our demand, large parts of the city may have to collect water from water tankers for weeks or even months. We are all in this together – even if some of our taps run dry, it will affect the entire economy and business confidence, potentially damaging NMB permanently. If the system fails before connecting infrastructure is complete, the municipality will not be able to restore water at all. The sanitation system will also fail. We have to avoid this at all costs.

Nelson Mandela Bay gets its water from two main sources. When supply is not restricted, just less than half the water is supplied through the Nootitgedagt scheme from the Gariep dam, which is currently nearly 100% full. Under non-drought conditions, the local dams to the west of



NMB provide just more than half of the city's water (i.e. unrestricted allocation). This supply is from the Kromme and Kouga sub-systems, the Groendal dam and a number of Older Dams. In the current drought conditions with restrictions on the local dams, Nooitgedagt provides around 85%, and the local dams only 15% of NMB's water. We need to stretch the available storage in local dams to last as long as possible while we connect infrastructure and reduce overall demand.

The National Department of Water and Sanitation (DWS) confirmed the restrictions on the system, as shown in the table and we *must* comply. To date we have been over-abstracting, not adhering to restrictions as we have tried to continue providing water across NMB.

DWS Curtailment of Water Sources							
Component			Licenced Volumes		Restrictions		
Sub-system	Category	Consumer			2021/22		
			Mm3/a	MI/day	Curt.%	Mm3/a	MI/day
Kouga	Irrig.	Gamtoos IB	60.3	165.2	85%	9.0	24.8
	Loss	Canal	6.9	18.9	20%	5.5	15.1
	Urban	Hankey	0.5	1.4	65%	0.2	0.5
	Urban	Patensie	0.4	1.1	65%	0.1	0.4
Loerie	Urban	NMBM	23.0	63.0	85%	3.5	9.5
Kromme: Churchill+ Impofu	Urban	NMBM	38.1	104.3	70%	11.4	31.3
	Irrig.	Kromme	2.0	5.5	70%	0.6	1.6
	Env.	Release	2.0	5.5	100%	0.0	0.0
Groendal	Urban	NMBM	4.4	12.1	50%	2.2	6.0
	Irrig.	Release	2.4	6.6	70%	0.7	2.0
Uitenhage Springs	Urban	NMBM	2.2	5.9	0%	2.2	5.9
Old Dams	Urban	NMBM	3.3	9.0	0%	3.3	9.0
Sundays	Urban	NMBM	76.7	210.0	0%	76.7	210.0
Total for Existing Algoa System							
	All	All	222.2	608.5	52%	115.5	316.1
	Urban	NMBM only	147.7	404.4	37%	99.3	271.8

AVOIDING DRY TAPS

To avert disaster, we have developed an updated system optimisation plan that allows us to distribute water as far as practically possible across the metro so that everyone has access to water to meet their basic needs, even if the local dam catchments get no further rainfall. While *no* rainfall is unlikely, we have no control of how much, where or when rain will fall, but we *do* have control over other parts of our water cycle. One such area of control is in how water is distributed and how much we use. There is a complex network of reticulation mains fed from various supply sources and distributed by means of pump stations.

The water supply & distribution system is not yet fully integrated. To date, system integration has been supported by extending Nooitgedagt water to other areas, including large portions of Kwanobuhle via the Bloemendal pipeline. Critical components of drought intervention projects will come online by end April 2022. We thus have to stretch the supply system to match, so that the local dams don't run dry before May 2022, at which point we will be able to better distribute the available water from Nooitgedagt across the entire NMB. Keep in mind that we will still need to reduce consumption to meet restrictions unless dam levels recover to exceed 65%.

In parallel to your saving water, the NMBM will do everything in its power to complete all the required projects so that taps don't run dry even if the local dams do. Groundwater projects across the metro will be coming on-stream to augment the water supply and we will continue attending to other maintenance matters such as bursts and leaks. We know that our customers have been complaining that our infrastructure is failing, and that the municipality is slow to fix leaks and reduce water loss. Since its establishment, the city's water infrastructure developed organically, in response to growing demand, under many different leaderships and ever-evolving legislation. Some of the infrastructure is old and competing demand on city budgets has often meant that we've not been able to maintain it as well as we would have liked. Our plan is dependent on infrastructure working, and we are committed to continue our repair & maintenance programs, but pipe bursts are still likely to happen, which could result in areas not having water for a couple of days, but water will be restored in terms of this plan.

We have worked hard to improve this and get additional capacity to shorten the length of time it takes, so that we lose less water. The impact of our efforts has been evident in reduced water demand, and will continue to show in the coming weeks.

Together we CAN avoid our taps running dry.

Report Water Leaks in one of three ways:

- Call Centre: 0800 20 5050
- Email: waterleaks@mandelametro.gov.za
- Smart phone: Download the NMBM App and log an incident.

For further communication material on how to reduce your demand, please see:

https://nelsonmandelabay.gov.za/DataRepository/Documents/watersavingtipsbooklet_JJvh0.pdf