



WASTE NOT WANT, NOT

It's been nearly five years since the Southern Cape emerged from the longest drought in recorded history. While rain patterns have normalised and much has been done to avoid a future water supply crisis, precautionary measures remain a long-term reality.

WORDS **LOUISE F VENTER** PHOTOGRAPHS **DESMOND SCHOLTZ**



Garden Route Dam

On a rainy afternoon in September I find myself on the N2 heading towards George with my five-year old son in the back of the car singing a song begging the “rain to go away so

that I can go outside and play”. Even though I’m sympathetic to his plea after having spent two days cooped up with him in the house I am quite happy the Garden Route has been blessed with exceptionally good rain for the past few months.

Being lush green and surrounded by water, one is easily deceived into believing this region has water in abundance, but in fact it is often a case of ‘water, water everywhere and not a drop to spare’.

When *South* last reported on the region’s water supply situation (Winter 2010), the Eden district had just emerged from a severe drought, which escalated into a full-blown emergency when all seven municipalities experienced serious water shortages.

With joint efforts by all the municipalities, emergency government funding, careful planning, quick action and an increased public awareness, the Garden Route survived the crisis, but it was a huge wake-up call.

Eden District Municipality disaster management head Gerhard Otto, who captained the ship through the drought crisis, says the present situation is significantly more positive but locals must remain vigilant about water consumption.

“For now the entire district is looking very good in terms of water supply and we do not

foresee problems any time soon. However, there is a perception that because the Garden Route normally receives good rainfall, and we are surrounded by water, we have endless supply, but it does not work that way. It is not about how much rain the region receives, but rather about the capacity of local infrastructure to store, process and supply water,” says Gerhard.

At the time of going to print, most of the district’s dams were full or almost full, stream flow in rivers and mountain run-offs were good, the area was blessed with above-normal rainfall and groundwater resources were well replenished. Potable water supply was sufficient and water restrictions in most of the municipalities had been lifted.

“We have learned valuable lessons from the 2008-10 drought period and we are more conservation-oriented and more prepared,” says Gerhard.

Since 2009, local municipalities have adapted their water management plans to include early warnings to pre-empt problems before they become crises. For instance, when a dam level reaches a certain percentage, water restrictions will be implemented much earlier than before.

Stream flow in rivers, water run-offs and salt levels in estuaries are also monitored more consistently since 2009 as a decrease in river flow or an abnormal rise in estuarine salinity (indicating that less water is coming into the estuaries) will immediately trigger alarm bells.

Water reuse is gaining momentum and George Municipality is taking the lead with its advanced ultra-filtration plant through which waste water can be treated for indirect use. The municipality

BELOW
Swartvlei outside
Sedgefield

also upgraded its water laboratory to monitor water quality. Mossel Bay is following suit by purifying waste water through reverse osmosis.

Maintenance and upgrades to water supply infrastructure are also receiving more attention. In Knysna much needed maintenance has been done to the Akkerkloof Dam pipeline and large-scale upgrades to the Sedgfield Water Treatment Works are underway.

While not operational unless required, coastal municipalities also maintain desalination plants in case of emergencies and high demand periods.

The Eden District Municipality is putting in place several interventions to address problems of sufficient water supply still being experienced in the Kannaland area, specifically the Klein-Karoo.

Vernon Gibbs-Halls of Biodiversity and Coastal Management (environmental management) at Eden District Municipality says climate change scenarios are at play at a far more rapid rate and the unpredictable nature of extreme events makes it hard to determine where exactly we stand concerning water security. He agrees the region is making strides to overcome water shortages.

“There are more residents who capture rain water and employ other water saving devices and technologies in personal gardens or for agricultural irrigation. There is a growing momentum to eradicate water sucking alien plants throughout the Garden Route and many projects underway are enjoying deserved success.”

However, Vernon points out the ‘knee-jerk reactions’ to droughts and water supply shortages – like desalination plants, building

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additional dams and depending too much on groundwater from aquifers – are ironically often to the detriment of the environment.

There are also other challenges. The Garden Route has largely intact wetlands, which prevent erosion and flooding, and naturally purify water. However, many wetlands are being degraded through illegal channelling, the removal of reeds, peat and other water flora by transgressors who abstract water, mostly for agricultural purposes.

Chantel Petersen, a researcher for the Council for Scientific and Industrial Research (CSIR), who is part of a team studying water quality in the Garden Route catchment area since 2012, says their studies, although still ongoing and inconclusive, have found despite some deterioration in water quality, the catchment is still able to purify itself and the rivers are still in a good condition in terms of vegetation and quality of water.

Although the study does not specifically focus on it, she thinks this may be attributed to dams acting as filters, perhaps an increase in responsible agricultural practices, and more awareness and vigilance of what people are putting into water and how it is affecting water quality.

“You can’t just keep adding and adding.



ABOVE
Wolwedans Dam
outside Mossel
Bay

Eventually there comes a tipping point and perhaps we just haven't reached that point yet," she says.

With more people settling in the Garden Route and associated development, more strain is being put on the region's vulnerable water resources.

Vernon says economic growth can only be possible if natural resources can sufficiently sustain area growth and development, and development should therefore be approached responsibly.

"More attention needs to be devoted to investing in our natural capital by protecting ecological infrastructure and we need to take an eco-systems based approach to climate change adaptation. This includes land restoration where land has been degraded, wetland rehabilitation, integrated fire management, alien eradication and maintaining healthy estuaries."

Future development may also pose challenges to local municipalities' water supply infrastructure, especially in towns like Plettenberg Bay (Bitou Municipality) and Knysna, which have limited water storage abilities and rely mostly on rivers for their water supply.

Gerhard says the future lies in cross-boundary collaborations between neighbouring municipal areas by implementing shared bulk water systems and water transfer schemes.

A recent study investigating the possibility of regional integration of bulk water supplies for Bitou and Knysna shows bulk infrastructure for these two municipalities is strategically necessary on the long term, but not feasible in the short term.

The reason for this, according to Eden District bulk infrastructure coordinator Faan van der Merwe, is the towns' respective water supply infrastructures would first need to be upgraded to meet certain standards before work could start on the connection line.

"Perhaps this project will be feasible in about 20 years, but at present it is just not viable as it has enormous financial implications," says Faan.

The Department of Water Affairs (DWA) has been approached for possible funding to help with the upgrades, but a final decision has not yet been made.

The coherent Breede-Gouritz Catchment Management Agency has undertaken to look at the reserve determinations of local catchments and establish exactly what amounts of water are required for all living organisms to survive. "Of utmost importance, though, is to control abstraction for consumption," says Vernon. "The Garden Route's rivers need validation and we need verification studies on water licences, user groups, quotas and monitoring of water usage."

It would seem better water management and control, an increase in public awareness and education, a reduction in water usage, more focus on water quality and more collaboration between government, NGOs, the public and business sectors are vital if we are to weather the challenges ahead.

The Garden Route may not be paradise in terms of water supply and the story is far from complete, but for now I feel privileged to just enjoy the rain splashing onto the huge ferns in the forest outside my window. ■