SMELLY GREEN DAMS

Three of KwaZulu-Natal's biggest water storage dams are in danger of becoming so green and smelly just six years from now that Umgeni Water and Durban's water department will have to invest more money to get rid of the foul taste and odour of rotting algae in tap water.

This is the warning from environmental scientists in a report to the uMgungundlovu District Municipality about the increasing load of sewage and agricultural pollution flowing into the Albert Falls, Midmar and Nagle dams, which supply drinking water to Durban, Pietermaritzburg and other urban areas.

The report, by Kevan Zunckel and Roger Davis of Isikhungusethu Environmental Services, says the volume of nutrients and phosphorous from municipal sewage treatment plants and overflowing sewers in informal settlements has increased dramatically over the past 10 years.

Phosphorous loads had increased by 85 percent at Midmar Dam, by 132 percent at Albert Falls and 668 percent at Nagle Dam in the past 10 years. If these trends continued, Midmar and Albert Falls would be classified as eutrophic by 2019, while the water in Nagle Dam could reach hypertrophic levels. Eutrophic describes visibly green water bodies with high levels of nutrient pollution, where algae proliferate and then rot.

If phosphorous and chlorophyll levels continue to rise in these dams, this could also lead to the occurrence of "problem species" of algae – such as toxic blue-green algae – that create taste, odour and filter-clogging problems and push up the cost of purifying the water so it is fit to drink. "It is predicted that by 2019 raw water abstracted from the critical water supply of the Durban Heights water treatment plant will show 89 percent dominance by these problematic algal species."

Some early signs of nutrient pollution levels could be seen in the uMngeni and Msunduzi rivers, where water hyacinth and other water weeds had choked up parts of the rivers and every year the organisers of the Dusi Canoe Marathon had to spend more time and money clearing paths through the weeds.

Midmar Dam was also polluted with sewage from the nearby Mpophomeni low-cost housing settlement. Although Mpophomeni occupied less than 3 percent of the dam's catchment area, it produced about 51 percent of the Escherichia coli (E coli) and 15 percent of the phosphorous load in Midmar Dam. "This impact was predominantly the

result of defective and surcharging municipal sewer systems within settlement areas," says the report, which is part of a draft strategic environmental assessment of the vast uMgungundlovu District Municipality. Four years ago, a study showed E coli levels as high as 660 000 units flowing into Midmar Dam, way more than the safe target level of 130 units of E coli. These problems were likely to get worse if the proposed Khayalisha low-cost housing development was built near Midmar Dam.

In the Umgeni and Mooi river catchment areas, excessive nutrients were also pouring into water storage dams from farm fertilisers and the dung from dairies, piggeries and cattle feedlots.

Municipalities were another major source of water pollution because of poor sewage management. For example, the sewage treatment plant at Howick was operating close to full capacity, with the result that raw sewage had to be dumped and diverted into the uMngeni River during storms and high rainfall to avoid overwhelming the treatment works. The Darvill treatment works in Pietermaritzburg were also operating close to full capacity, which created sewage pollution problems in the Msunduzi River when it rained heavily. There were similar problems at the Mooi River and Albert Falls sewage treatment plants.

Almost half the land in the uMgungundlovu District Municipality had been transformed and degraded by farming, industry and human settlement. Zunckel and Davis make the point that water was a strategically important resource and the Durban-Pietermaritzburg region was the country's second most important economic complex.

Water was in short supply and the region faced a looming crisis. The imminent completion of the new Spring Grove Dam near Mooi River would provide only a temporary solution.

The time had come for municipal planners in the 9 500km uMgungundlovu hinterland to pay more attention to protecting the province's vital "water factory" in the Drakensberg-uKhahlamba mountain range. Rather than investing in huge new dams, decision-makers should first protect the province's vital water catchment areas from degradation, Zunckel and Davis said. The costs of building a dam, a sea-water desalination plant, a water-diversion scheme or a recycling plant would translate into about R10 for a cubic metre of water, compared with only about R2 for the same amount of water if catchment areas were properly maintained and protected.

Source: https://umngeniriverwalk.wordpress.com/2013/04/04/smelly-green-dams/