

Water: Newspaper Articles for Water Quality Lecture

Rotten River

Susan Botha

Published on Paarl Post on 9 December 2004



The Mayor of Drakenstein, Herman Bailey, held an emergency meeting with two Western Cape ministers on Friday, following an urgent application for a court order to force the Municipality, the provincial and the national government to address the pollution of the Berg River between Paarl and Wellington.

The application was lodged by the Upper Berg River Main Irrigation Board, representing farmers in the district dependent on river water for their farming activities.

Bailey met with the Western Cape Minister of Agriculture, Cobus Dowry, and the Western Cape Minister of Local Government, Marius Fransman, on Friday, in an attempt to obtain funds to alleviate the causes of the pollution of the river.

Extremely high levels of E. coli bacteria were measured in the river last summer, in areas where effluent from shack areas reach the river.

The pollution from human waste has caused the river water to become hazardous for human contact and irrigation of crops.

The application was submitted as a last resort, after the Irrigation Board contacted the Municipality early in 2002 to address the situation.

Says chairman Edie Malan, "The Board hopes that this appeal to the court will force the local government to address the issue with the serious resolve that is needed to avert a potential health and economic catastrophe."

This week Bailey said there was a direct link between the quality of water and the lack of proper housing facilities.

"We must look at the human as well as the economic side," he told Paarl Post on Monday and added that in the short term steps had already been done to address the problem.

"But in the long term we have to look at the 4000 families (17 000 people) that are living in shacks and do not have access to sanitation."

He is now awaiting the reaction of the ministers.

A report tabled at a recent meeting of the Mayoral Committee, stated that the Berg River downstream of Wellington is polluted to such an extent that it poses a health hazard for humans who come into direct contact with or drink water from the river. It also impacts negatively on the downstream fruit industry.

Pollution comes from below standard final effluent from Wellington sewerage works, raw sewage spills at sewer pump stations in Wellington and some overstressed sewer mains in Paarl, as well as polluted stormwater effluent from informal settlements in Paarl and Wellington.

According to Bailey the Drakenstein Municipality has spent more than R6 million since 2002 to improve the situation.

The Wellington Waste Water Treatment Works, including the chlorination of the final effluent, has been upgraded over the past six months.

Furthermore, the final effluent flows into downstream maturation ponds which ensure further improvement of the quality before it actually reaches the Berg River.

According to the report, the sewage spills at the Newton pump station occur when a breakdown affects the capacity of the pump station. The station is monitored constantly to minimise the impact of spills.

Problems exist at the Pentz Street pump station due to lack of capacity during heavy rain storms, resulting in frequent spills in winter. The emergency ponds often do not have sufficient capacity and sewage flows directly to the nearby Berg River.

Some improvements were made over the past few years to increase the capacity of both the pump station and the sewerage network.

"However, due to a huge ingress of stormwater into the sewers the capacity is still insufficient. In summer no problem is experienced."

Report on Berg Rivier pollution tabled

Susan Botha

Published on Paarl Post on 9 December 2004

The microbiological pollution of the Berg River has been investigated by consultants appointed by the Municipality. Lyners Consulting Engineers, in association with Ninham Shand Consulting Engineers, presented the report at the Mayoral Committee meeting yesterday.

The report identified several high density informal settlements and confirmed earlier findings that very few people within these areas have access to basic water and sanitation services.

"People relieve themselves on river and channel embankments, open spaces and in isolated cases over utilise chemical toilets or block toilet systems."

Inadequate waste removal adds to the problem as solid waste is thrown into rivers and stormwater canals by shack dwellers.

Funding of R8,6 million would be needed to address various emergency projects to reduce pollution from informal settlements.

An amount of R55,6 million will be needed for longer term solutions and projects, among which basic services for informal settlements, and a possible Newton Canal Wetland.

The consultants recommend an integrated approach, with a core task team consisting of members of the Municipality's Housing, Town Planning and Engineering Departments. Their task will be to plan and co-ordinate activities which affect informal settlements.

They also recommend facilitation with and awareness and involvement of the community.

In the meantime farmers between Wellington and Hermon have expressed their concern on the deterioration of the river and say it is influencing their farming and the health of their workers.

Standing on the bank of the river, Bertie Grobbelaar points out the black sediment on the bottom of the stream.

"The deterioration is unbelievable. When I was a child, we caught freshwater shrimps here. Now, you are lucky if you see a fish."

The stench from the water is overpowering, and after a few days in a reservoir, it is useless for human consumption.

"We are still lucky," he explains, "because we have our own borehole that provides drinking water to us and the workers."

However, the water is still used for everything else, from laundry to irrigation.

"It is also impossible to keep the children out of the water. The result is that there are often stomach complaints among them."

The same is true of the workers working with the irrigation system.

His son scooped some water from the river, to demonstrate the stench and filth. About ten minutes later his forearms were covered with red spots, presumably from the water.

Further along the river, people are solely dependent on the river, and many of the farmers have had to install filtration systems, at great financial cost.

"It was the only way out," one farmer said. "My workers and especially their children were forever ill."

"What is more, the heads on the irrigation system were continuously clogged by the filth (some of it indescribable) in the water."

"The moment we started to filtrate the water, people's health improved."

The Democratic Alliance, official opposition in the Drakenstein Town Council, has expressed concern on the pollution levels, the health risks as well as the possible detrimental effect on the fruit industry.

They warned that the Mayor, his committee and the Council, may be held responsible for any damage sustained by any person, should treated run-off water which does not comply with the legal directives, be pumped into the Berg River.

On pollution from informal settlements, the report states that the micro-biological pollution from raw sewage in virtually all the stormwater drainage pipes and canals is a major concern.

"None of the people in the informal settlements have any access to sanitation. Even in areas already formalised, informal backyard structures have been added, resulting in double the number of people planned for."

So-called "grey....." water and food scraps can often be seen deposited into the storm water catch pits and other inlets.

"Although this matter does not directly carry bacteriological pollution, it provides nutrition, adding to the life of the bacteria.

"To add to the above situation, solid waste removal services are limited to centrally placed skips in the informal areas. The skips are not effective in keeping the areas clean.

"This worsens the problem exponentially, since most of the solid waste is thrown into rivers and open stormwater canals, serving also as nutrition to the bacteria in the polluted drainage water."

Both the food and other solid waste seriously hamper the flow of the stormwater systems, resulting in standing water where concentrations of bacteriological growth occur, with the situation particularly bad in summer when irrigation of crops also take place.

"It is fully realised that due to the complexity of the situation, the situation will also be complex and a long process.

"The situation may in some instances require some short term solutions to address the symptoms, while the planning and implementation of medium and long term solutions to address the causes take place."

The Irrigation Board appointed Dr Jo Barnes, epidemiologist and senior lecturer at the Faculty of Health Sciences at the University of Stellenbosch in November 2002 to investigate the quality of the water and advise the Board regarding the matter.

Dr Barnes submitted various reports as well as memorandums, both to the Municipality as well as the Department of Water Affairs & Forestry in which I have clearly stated that the quality of the water in a number of places in the Berg River is not suitable for drinking water or the irrigation of edible produce.

"It could be dangerous to humans and animals, when it comes to recreation, irrigation, washing or drinking."

Dr Barnes measured an E-coli count of 2,44 billion per 100ml water in the Berg River at a Mbekweni stormwater outlet last summer, the result of fecal waste running into the river from unserviced shack areas.

Contributing to the problem could be an inadequate sewage system in the area. Lower down the E.coli count was 7000 per 100ml water, still much higher than the informal standard for clean water and irrigation (a maximum E-coli count of 2000/100ml).

Drinking water may not contain any traces of E-coli and any measurement above 500 units per 100 ml is considered dangerous for human contact.

According to Edie Malan, chairperson of the Irrigation Board, they have submitted various reports to the Drakenstein Municipality and have had numerous meetings, also with the Department of Water Affairs & Forestry, regarding the pollution that is caused by the flow of raw sewerage into the Berg River from the Mbekweni and Fairyland residential areas.

"After continued investigations, we know that the informal housing structures are causing raw sewerage and household waste water to be dumped into the stormwater drainage system of the Drakenstein Municipality.

"The system carries this pollution into the Berg River, between Paarl and Wellington. Not only does this affect the 400 farmers and approximately 12 000 hectare of agricultural land that is irrigated, but we also believe that the pollution of the Berg River's water is harmful or potentially harmful for the well-being, health and safety of the people and animals who come into contact with the water."

Court approves emergency steps

Published on Paarl Post on 22 December 2004

The court application brought against the Municipality by the Upper Berg River Main Irrigation Board over the pollution of the Berg River from a drainage canal in Wellington was settled in the Cape Supreme Court on Wednesday last week.

The settlement was reached when a third party, the Deciduous Fruit Producers Trust (DFPT) representing export farmers, undertook to carry the costs of solving the immediate problem with pollution from the canal by contributing R500 000 for the work.

It was agreed that the Municipality would take emergency steps before Friday to stop continued pollution from this source, which contains raw sewage, human waste and domestic waste water due to the absence of sanitation in squatter areas.

The application was brought on an urgent basis as the marketing of deciduous fruit could have been in jeopardy if the pollution was not stopped.

As the Municipality was opposing the application on the grounds that it was not urgent, it was feared that the court would not approve the application, thus the matter was settled with the assistance of the DFPT to prevent any further legal costs.

The Irrigation Board pointed out that this settlement should not be interpreted as a precedent for local governments to neglect their duty to prevent pollution or provide sanitation.

"The Board remains committed to the conservation of the valley's water sources and will in future again take steps should circumstances require them."

The settlement was made an order of the court by Judge Deon van Zyl and each party will bear its own costs.

According to Mayor Herman Bailey the emergency measures will be succeeded by "a more permanent weir structure which will be part of a larger project involving government departments."

In its submission to the court, the Drakenstein Municipality pointed out that steps taken in the last year to improve the situation, included the installation of pollution pump stations in Mbekweni and Newton to pump polluted water from drainage canals (Phokeng and Angel Streets) into the sewage system.

The Municipality is also investigating ways to deal with the contamination of the Newton storm water channel from the point where bucket sewage is disposed into the municipal sewer. The bucket system is to be phased out by April.

Should the Newton canal be diverted to the Wellington waste works, which is already overloaded, upgrading and extending of the treatment works will be required at a cost of R36 million.

Informal settlers at unserviced sites next to Fairyland are due to be moved to the serviced sites at Zakwaziwane within the next few weeks, addressing the problem of polluted storm water emanating from this area to a considerable extent.

Some of the pollution is due to backyard dwellers who are denied access to toilets by their landlords, forcing them to use a bucket system, according to the municipality.

Household refuse blocks the inlet pipes to the municipal sewerage system, causing overflows in drains and stormwater pipes.

In the dark - and in the poo

Lynnette Johns

Published on Argus on 23 August 2003

The City is heading for a New York-style catastrophe of blackouts and collapses in the sewerage system because of drastic spending cuts.

The city council is broke, struggling under a debt burden of more than R2.5 billion that has left it unable to adequately maintain its substations and the 17 waste water treatment plants, a risk management report reveals.

This year's budget for trading services, under which electricity and the sewerage system fall, was cut by more than R180m from last year's total.

And the report recommends outsourcing long-term concessions, water treatment plants, waste water works and the Athlone power station.

"This approach diversifies the capital funding burden and is an opportunity for black economic empowerment," the report says.

Already warning lights have been flickering in areas including Rondebosch, Oranjezicht, Claremont and Fresnaye, where regular power outages have been reported over the past month as winter demand has soared.

The report says the council is unable to properly maintain existing water treatment plants, let alone establish them in new housing developments.

Bad odours and the run-off of effluent into rivers, vleis and coastal waters is almost unavoidable in this scenario and the Department of Water Affairs has already expressed its distress.

The report, which forms part of today's full council agenda, was compiled by the executive director of trading services, Mike Marsden.

It details how increasing demand for free electricity, water and sanitation, and large-scale cutbacks on operating budgets, are having a heavy impact on service delivery.

Only R554.8 million was set aside for trading services this year, compared to R738.6m last year and R668.3m in 2001.

Last month, mayor Nomaindia Mfeketo painted a bleak picture of the council's finances. Cape Town is more than R2.5 billion in debt because of heavy rates payment defaulting by national and provincial government, big business and individuals.

Already R300m had been slashed from this year's capital spending budget as part of a strategic plan to ward off bankruptcy.

The report warns emergency capital funding will have to be found to prevent a "catastrophic situation".

The provision of free electricity has eaten 14% of the city's electricity budget, and free water has taken 18.8% off water revenue - much higher than the national requirement.

The free electricity is not meant to cost more than 10% of the electricity budget.

The report says several power links are at serious risk of failure, including the Koeberg Road switching station, the central city transformer at Roggebaai, the Hebron-Eversdale overhead power line and high-voltage underground cables.

The report warns: "Of particular concern is the vulnerability of the CBD to power outages similar to that which occurred two years ago with the catastrophic failure of the Hudson Street switching station which resulted in a prolonged power loss."