

FHVRRA QGM 22 AUGUST 2019

Minutes

1. **Welcome**

Brian Youngblood (BY), Chairman of FHVRRA, welcomed the attendees and discussed two administration issues:-

Minutes - the minutes of the QGM of 30 May, 2019 were approved (proposed by Peter Scott and seconded by James Ricketts, the latter being recently co-opted to our Exco)

Treasurer - BY mentioned that Allen Rose-Innes (ARI) would be leaving the FHVRRA area at the end of the year and that the post of Treasurer would become vacant. He called for a volunteer to take the post under Allen's mentorship.

2. **Presentation - Professors Leslie Petric (LP - UWC) & Jo Barnes (JB - U Stel)**

Professor Petrik - Coastal Pollution by Sewage Effluent

LP and her research team are investigating pollution of the the Cape Peninsula coastal environment (sea and beach) by microbial organisms, pharmaceuticals, herbicides and other chemicals known to occur in sewage.

She showed a map depicting algal bloom around the Cape Peninsula. The highest concentrations of bloom correlated with sewage effluent outfalls into the sea, but tidal flow patterns led to high concentrations along almost the whole peninsula coast close to shore. The situation had become so bad during the last summer that the membranes of the desalination plant in the Green Point area were blocked and the plant was unable to operate. Severe algal bloom is always evident at the Zandvlei sewage effluent discharge outfall.

LP then showed a series of graphs showing the concentrations of indicator species for pharmaceutical, pesticide & herbicide, industrial chemicals, domestic cleaning agents, fluorocarbons, carcinogens and hormone disrupting species in the sea, on the beaches, in benthic sea organisms (mussels, limpets, etc) and in pelagic and reef fish.

These studies demonstrate that many toxic and hormone disrupting chemicals, originating in Cape Peninsula sewage effluent, are found in concentrations orders of magnitude greater than WHO standards and that there is a dramatic bio-accumulation effect in the order sea < beach < benthic organisms < reef & pelagic fish.

Of particular concern are diclofenac anti-inflammatory, fluorocarbons (orders of magnitude higher than anywhere else in the world), simazine & atrazine pesticides (banned in Europe) and hormone disruptors.

Unsurprisingly, the worst pollution, both microbial and chemical occurs at the Greenpoint and Hout / Camps Bay outfalls where sewage is discharged after only primary (solid settlement) treatment.

The conclusion of this research is that the Cape Peninsula's sewage treatment plants do not have sufficient microbiological treatment capacity to cope with the increasing flow of sewage and hardly have any UV, ozone or peroxide treatment equipment capable of breaking down the offending pharmaceuticals, pesticides & herbicides, industrial & domestic chemicals so prevalent in the sewage effluent.

Professor Barnes - Stormwater Pollution

JB studied stormwater pollution, which in turn leads to surface and ground water and eventually sea pollution.

According to JB of the 824 sewage plants in South Africa only 10 produce effluent of good quality. Although most large cities are able to monitor their sewage effluent quality to an extent, many rural sewage works do not monitor effluent quality at all. Most sewage plants

were designed and built decades ago and are in poor condition, badly managed and re-sourced - a major environmental crisis.

Of particular concern in urban areas is the fact that many sewerage systems leak or block, resulting in sewage overflowing into the stormwater system which typically has larger diameter piping and an inlet usually situated within 50m of sewer manholes.

Although being designed to clear the roads of stormwater and not to limit pollution, most stormwater systems were old and not properly maintained. Litter tends to block the inlets and piping with the result that stormwater often flows down the roads. This problem is particularly severe in poorer residential areas.

JB showed a picture of a net over a stormwater outlet that is used to collect litter in Kwinana, a coastal resort in Australia.

Another major source of stormwater pollution was food waste. All restaurants in Cape Town were required to have fat traps to collect surplus food waste. These traps were poorly maintained and even more poorly policed and often food waste overflows or is deliberately dumped into the stormwater system. Bacteria thrive on food waste.

While discussing litter, JB commented on the environmental impact of plastic, paper and textile packaging. Paper manufacture had a very large carbon footprint and was very polluting. Textiles similarly have large carbon footprint and involved dyes and effluent. Plastic has many advantages as a packaging material and is not necessarily the worst environmental option provided it is not single use. She showed a picture of recycled plastic being used for road making in Jeffries Bay.

JB then turned to the project with FHVRRA (Brian Youngblood & Helen O'Regan) in Fish Hoek to attempt to establish the sources of the sewage contamination of the stormwater outfalls on Fish Hoek beach.

She reported that only one polymer stormwater manhole could be lifted with ease; the rest were so rusted that it was apparent they had not been maintained for many years. Eventually, with the help of two municipal workers, Henry Pontac and Bongile, seven samples were taken. Only two did NOT have very severe sewage contamination.

Questions

The speakers answered questions from the floor. Most pertinent was how Fish Hoek residents could contribute to redressing the situation. The reply was to spread the message as widely as possible and make representations via all possible civic associations. Both professors were prepared to speak to these organisations.

Local, provincial and national government officials and politicians were in denial. Indeed the speakers were under constant attack for publicising their views - LP was being sued by CoCT for describing her teams findings and so was Carte Blanche for airing an interview she had given.

BY thanked the speakers and presented some gifts to them to rapturous applause.

5. Chairman's Report

The chairman made a visual presentation of his report and referred to the quarterly newsletter on the www.fishhoekratepayers.com website.

5.1 Feedback re Stormwater Sampling in Fish Hoek

The City samples the four main stormwater culverts in Fish Hoek every two weeks: Silvermine River East and West, "Lighthouse" and Beach (next to the Galley)

BY reported on his efforts to identify the sources of sewage entering the Fish Hoek stormwater system. He showed / quoted several examples:-

- The "Captain" of Fish Hoek's surveillance cameras reported that he had seen night soil being dumped from a 25l bucket into one of our stormwater grates. When the "Captain" confronted her, she denied this, but when he provided evidence, she apologised and promised it would never happen again.

- A surveillance camera owner said “The problem is they throw all the fat & rice etc. down the drain and it only takes a week or two to block up the drains. That is why they use the storm water drains.” A photo was shown that supported this statement.
- When sampling behind KFC and the Town Square, the stormwater was very greasy indicating the grease traps were not being maintained properly.
- There appears to be a sewage leak at the 1st Avenue / Recreation Road grate and thence into the sea via the Galley outfall.
- The sewage pumped from the Galley appears to get blocked and overflows into the car park stormwater drain on the railway side.
- High counts of mammalian bacteria at Silvermine River appeared to be linked to sewage pump failures and the effect of load-shedding as the pumps couldn't handle the back-up. Sewage then flowed into the stormwater systems that end at the river outfalls.
- There was also documented evidence of pump overflow pipes that were linked underground directly to the storm-water system leading into the Silvermine estuary.

5.2 Questions to Far South Sub Council re Stormwater Contamination

BY listed a set of questions about sewage contamination of stormwater that FHVRRA had directed to the Far South Sub-Council 19 as follows:-

- 1 What is the source of sewage entering our stormwater system grate near the Book Worm?
- 2 Can a “low-flow stormwater diversion grate” be installed in the Train Precinct?
- 3 What is the source of the grease found in the stormwater system behind KFC and Town Square?
- 4 Can the “Lighthouse” culvert be “warning” sign-posted like the Beach culvert?
- 5 Can all stormwater grates be stencil painted “Don't litter – The sea starts here”?
- 6 Can a net be installed at the culverts to catch all the loose plastic that needs to be flushed from the stormwater grates?
- 7 Can further stormwater samples be taken upstream to confirm our findings?
- 8 Can the health inspectors issue fines for repeat offenders dumping into our stormwater grates?