



Diep River Sampling Report

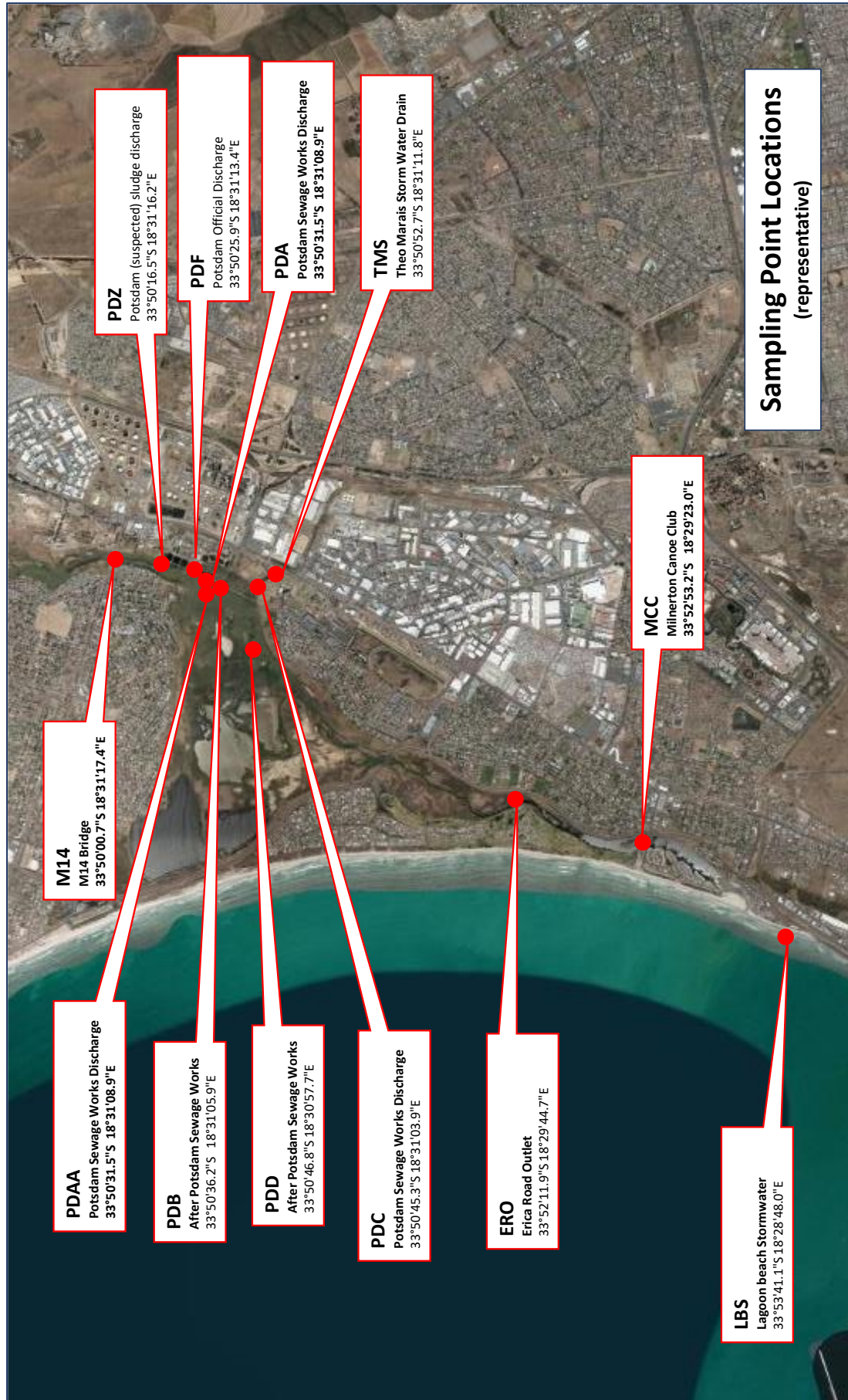
09 May 2021

- For simplicity, this report will focus on the E.coli results. All other parameters are readily available on request for reference.
- E.coli levels are a very good indicator of sewage pollution as well as indicating a direct and high risk for humans and the environmental fauna and flora (indirectly).

Results

Diep River E. Coli Results (cfu/100ml)

Name	M14	PDA	PDB	PDD	PDC	TMS	MCC	PDAA	PDF	WUL	GA	PDZ	ERO	LBS
23 Jan 20	1 100		11 000			6 000 000	2 900			0	1 000			
03 Feb 20	300		34 000			18 000	25 000			0	1 000			
14 Feb 20	200		43 000			2 600	2 500			0	1 000			
26 Feb 20	200	57 000	49 000			2 400	4 700			0	1 000			
13 Mar 20	800	64 000	46 000			31 000	71 000			0	1 000			
08 Apr 20	20000			63000	32000	143000	31000			0	1 000			
21 Apr 20	48000			25000	12800	16000	7700			0	1 000			
06 May 20	420	17 300		25000	4400	3800	110000			0	1 000			
20 May 20	200	102 000				117000	1300	62000		0	1 000			
04 Jun 20	130	32 000					104000	240000		0	1 000			
25 Jun 20	140			111000	8100	49000	10600			0	1 000	1140000		
08 Jul 20	110			19 000		2 600	500			0	1 000			
29 Jul 20	80			11 800		2 200	5 100			0	1 000			
27 Aug 20									0	0	1 000	4 100		
17 Sep 20	80			3 500	6 500	6 100	3 300		270	0	1 000	70 000		
03 Nov 20	30			1 800		320	160			0	1 000			
18 Nov 20	108			1 680 000	8 400 000	1 810	10100		8500	0	1 000			
14 Dec 20	44			2 400		5 600	27200		9400	0	1 000			
28 Dec 20	2100			1 900		710	680		1080	0	1 000			
20 Jan 21	100			180 000		12 000	20			0	1 000			
28 Jan 21	40			11 000		102 000	280		24	0	1 000			
17 Feb 21	1410			21 000 000		12 900 000	33 000			0	1 000			
26 Feb 21	200			2 100 000		1 460 000	104			0	1 000			
03 Mar 21	180 000			1 340 000		4 300 000	600		230	0	1 000			
17 Mar 21	200			910 000		41000	4100			0	1 000		3 900 000	
15 Apr 21	14000			59 000		44000	300			0	1 000		71 000 000	6 000
30 Apr 21	30	260		1 000 000		430 000	54 000		0	0	1 000		20 000 000	120 000
01 May 21		85 000							41000					





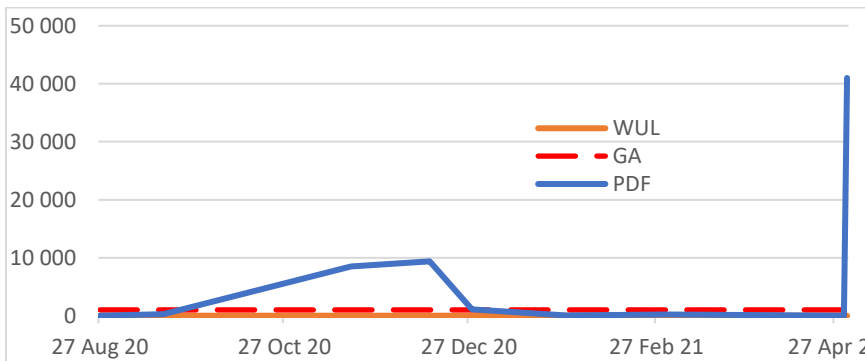
Points of High Concern

1. General Pollution Levels

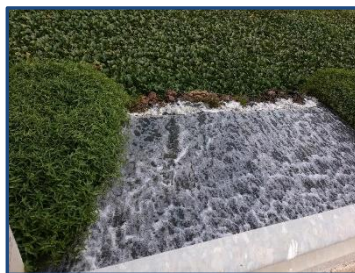
- Taking an overview snapshot of the results, it is clear that:
 - The Diep River system is highly polluted.
 - The pollution is primarily of sewage origin.
 - The water is of a very high risk for any use (recreational, ecological, water sports, swimming, drinking etc).

2. Pots Dam Waste Water Treatment Plant

- This report cannot comment on the effectiveness or compliance of the plant’s actual wastewater works other than to report on their official discharge. Although hardly ever compliant with the Water Use Licence (WUL), and often not achieving “General Authorisation” (GA) limits as laid out in the “REVISION OF GENERAL AUTHORISATIONS IN TERMS OF SECTION 39 OF THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998)”, the official recorded discharge of the plant is not anticipated to be a major contributor.
- Our sample reference is PDF



- **Of much higher concern** are the ponds around the plant that are used for storing treated waste water. On numerous occasions, unofficial discharges have been recorded, sampled and found to be highly contaminated.
- These include the sampling points:
 - a. **PDA** – The concrete spillway from the treated effluent ponds that has often been discharging large amounts of contaminated water, or shows recent evidence of flow.





- b. **PDB** – an underwater discharge from one of the ponds.
This has only been observed on two occasions.



- c. **PDZ** – a discharge out of a drain and headwall that was unobservable from the plant boundary and found to be highly contaminated.

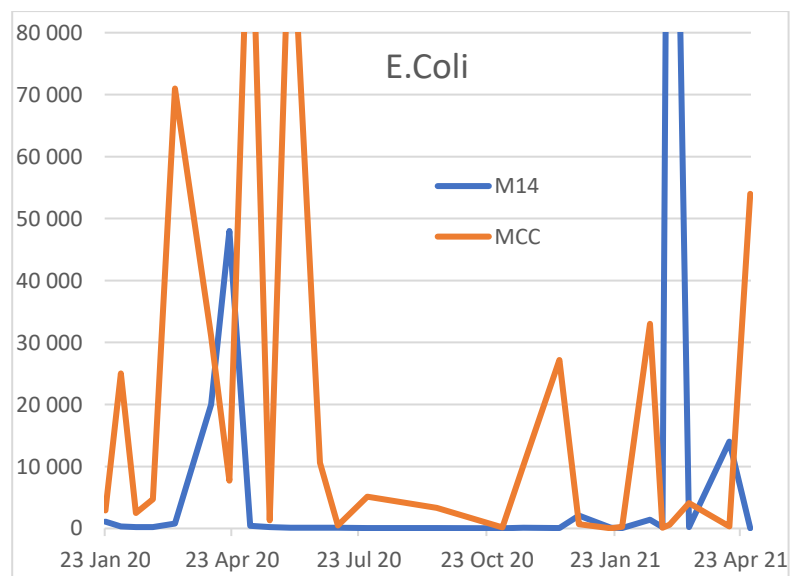


- d. **PDC** – A pond on the Theo Marais side of the plant that usually has water in it, even during summer, and frequently discharges large flows of highly contaminated water into the Theo Marais channel. Initially the water in this pond was reported to be due to a pond wall structure failure that was quickly repaired. However, water is often observed in this pond, and discharges are potentially likely on a regular basis.



3. Pollution Up Stream from Pots Dam

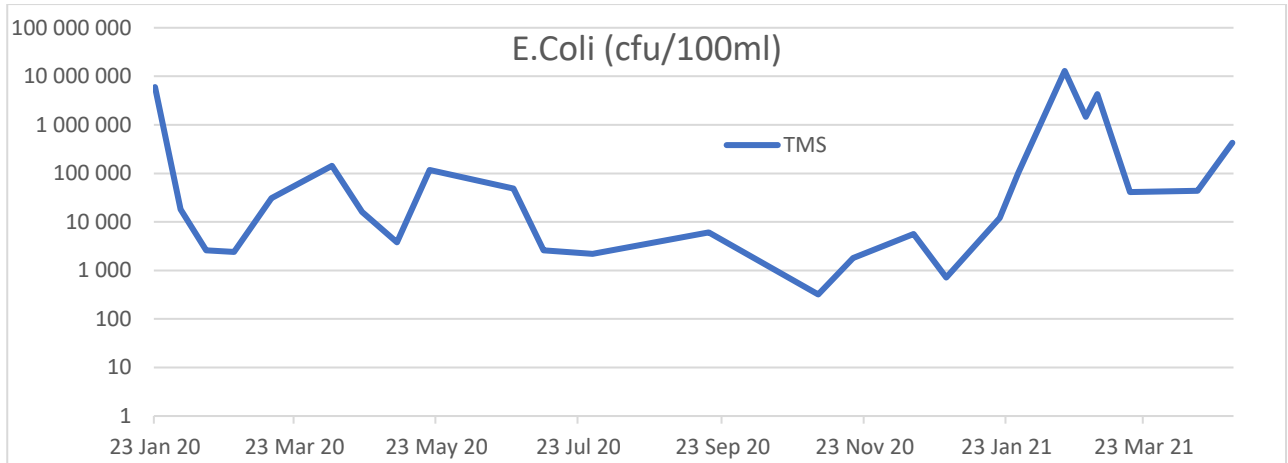
- It is often reported that a major source of the Diep River pollution is upstream from the Pots Dam Treatment Plant.
- However, although there may be pollution sources there, from the sampling, they are much lower than those downstream.
- Using the M14 Bridge as an up stream reference, and the Milnerton Canoe Club (MCC) as the lowest, it is very clear that, except for a few isolated samples, the water is far more polluted downstream.
- This does not excuse the pollution sources upstream, but does serve to highlight areas of higher priority.





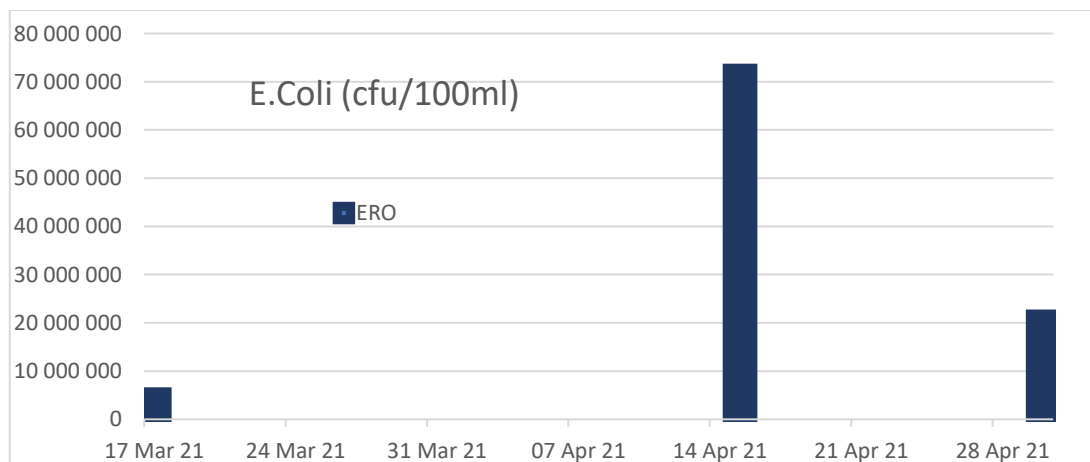
4. Theo Marais Stormwater Drain (TMS)

- This channel is often highly polluted.
- The E.coli counts are often so high that they can only be graphically displayed with a logarithmic scale.
- The most obvious contributor is the adjacent lift station, however, this is not often observed to be malfunctioning, and most of the pollution seems to emanate from up stream.



5. Erica Road Outlet (ERO)

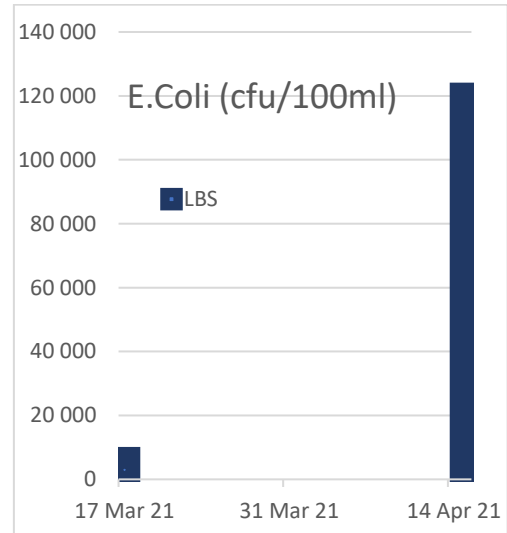
- This is a well know outlet that is often reported to be dirty and with sewage odours.
- The sampling analyses has found the water to be excessively contaminated.





6. Lagoon Beach Stormwater (LBS)

- This is also a well know outlet that discharges onto the beach.
- The E.coli counts are very high, indicating sewage contamination.



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