



# AFRIFORUM BRANCH PROJECT REPORT

BLUE AND GREEN DROP PROJECT

2019

Date sampled  
Sample



by

## **Lambert de Klerk**

This document forms part of AfriForum's blue and green drop campaign, a project of AfriForum's #CleanWater initiative and launched by

### **AfriForum Community Affairs**

July 2019

## **A WORD OF THANKS**

It is a privilege to work with people who share a passion for their people, the community and the environment in which we live. Thank you to AfriForum staff and all the AfriForum branches across South Africa who have made this project possible.

A special word of thanks to every member of AfriForum for your sustained participation in this national project driven by AfriForum every year and for sharing with us your vision of sustainable development and responsible water management in South Africa.

Thank you also to those municipalities who are taking the lead in South Africa and who are performing their work in an irreproachable way by ensuring that water is managed responsibly, and by doing this they ensure that applicable legislation for water management is complied with. These municipalities should be rewarded because they are protecting their communities and the environment against pollution and health hazards.





AfriForum's Secunda branch conducting water tests during AfriForum's blue and green drop project in 2019. Pictured here is Jan du Plessis.

---

## TABLE OF CONTENTS

## PAGE

Introduction	6
The facts	8
The project	9
Results	10
Blue drop	11
Green drop	21
Plan of action	38
Summary	39

## GRAPHS

Graph 1: Blue drop (drinking water) results – 2013-2019	11
Graph 2: Green drop (sewage) results – 2013-2019	21
Graph 3: Number of sewage treatment works not complying with sewage requirements	22
Graph 4: Green drop (sewage) results by province	22
Graph 5: Green drop (sewage) results of Gauteng	25



## INTRODUCTION

South Africa has been classified as a water scarce country, and this is why solutions need to be found to address the extraordinary challenges with regard to the sustainable management of fresh water resources. The country is experiencing increasing pressure on the demand for and supply of clean drinking water. Growing pressure on existing infrastructure for drinking water and sewage is contributing to the country's threatening crisis in this regard, and furthermore the country's water resources are not being upgraded, such as by building new and larger dams.

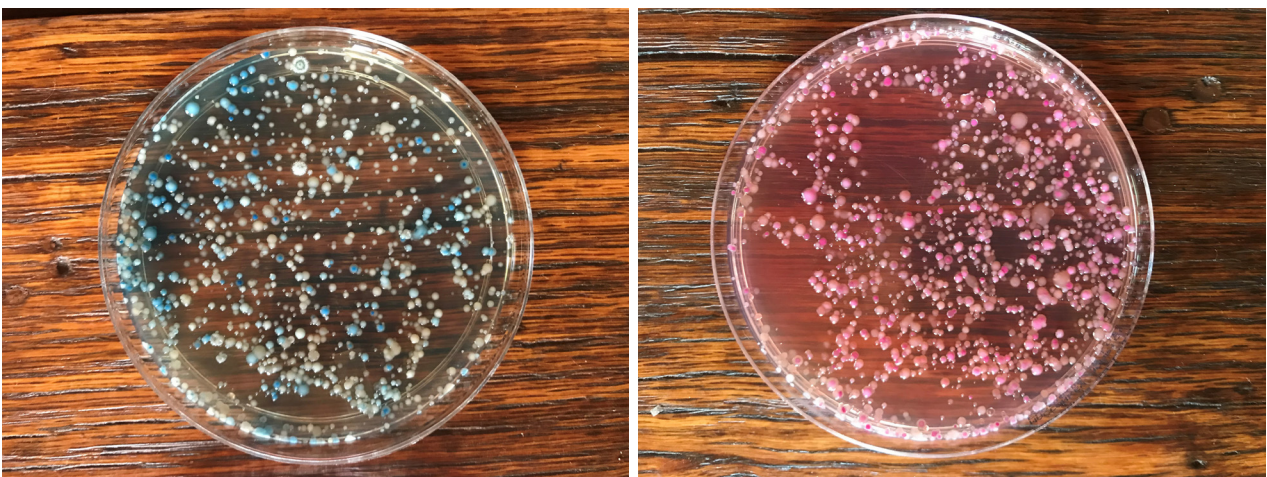
AfriForum has been enabling communities to protect themselves against poor service delivery by the state, particularly regarding the supply of water. Several AfriForum branches have already established emergency water points where clean drinking water is made available at private sources, or municipal boreholes are repaired during crisis situations to improve water supply. Expenses that had to be incurred by the community to supply water themselves because of inadequate or no municipal water supply services are claimed back from the municipality in question.

AfriForum remains committed to research on and striving to reach independent solutions and privatisation of water

systems under the aegis of the state (as custodian of the country's water resources). For this civil rights organisation it is an increasingly important function to find solutions to the demand for water.

AfriForum launched the #CleanWater initiative as far back as February 2013. This yearly report is compiled with the aim of providing the public with reliable information concerning South Africa's water quality regarding drinking water and sewage. The project is aimed at positive change in the management of drinking water and treated sewage across South Africa, and also at holding the specific officials accountable.

According to the World Health Organisation, approximately 4 million people – most of them younger than five years – every year die of diseases that can be ascribed directly to polluted water. This amounts to more than 330 000 people per month or 10 000 people per day; 400 people per hour or seven people every minute ... or one person every eight seconds.



Blue and red agar in petri dishes clearly showing the presence of *E. coli* and faecal coliform bacteria in the 2019 water tests.



South Africa is not unique in the water challenges facing us. The water shortage is forcing us as consumers to think anew about water and how we are using it. The Western Cape specifically was forced to think deeply with water restrictions of 50 litres per capita per day (ℓ/c/d) in 2018. Global average water consumption is 180 ℓ/c/d, compared with South Africa's average of 235 ℓ/c/d according to the Department of Water and Sanitation (DWS).<sup>1</sup>

South Africa will have to change its way with regard to water usage. Research has to be conducted to find techniques and methods to use water for multiple purposes. This means the same litre of water that is made available to consumers at drinking-water quality should not be used once only and then flushed away – it should have an appropriate second and third function.

**Community members collecting water at one of Cape Town's springs near Table Mountain in 2018.**



**Members of AfriForum's Vereeniging branch visiting a sewage plant discharge pipe.**

<sup>1</sup> BENCHMARKING OF WATER LOSS, WATER USE EFFICIENCY AND NONREVENUE WATER IN SOUTH AFRICAN MUNICIPALITIES (2004/05 to 2015/16); bl. iii tot iv Internet 28 Augustus 2018 <https://africacheck.org/wp-content/uploads/2018/04/National-benchmark-2017-09-12-final.pdf>



---

## THE FACTS

The South African Constitution, in section 24, provides for an environment that is not harmful to the health or well-being of people. It aims at conserving the environment for present and future generations and at preventing pollution and ecological degradation. It is also aimed at enhancing environmental conservation and ensuring ecologically sustainable development.

Section 27(1)(b) stipulates that everyone has the right to access to sufficient water and that this right is to be enhanced progressively.

In terms of section 156 and Part B of Schedule 4 to the Constitution, municipalities have executive authority over and the right to administer water and sanitation services.

This right is limited to potable water supply systems and local waste-water and sewage disposal systems. The DWS is responsible for managing and developing water supply and water resources.

The DWS issued the last official Blue and Green Drop Report in 2012. AfriForum therefore decided to act as civil rights watchdog to ensure the quality of drinking water and treated sewage in South Africa.





## THE PROJECT

AfriForum recognises the importance of water quality for human consumption and the role it plays in the ecosystem. This is why the #CleanWater initiative was launched in 2013, to test drinking water and sewage on an annual basis.

This year, AfriForum again succeeded in enabling more than 120 branches across South Africa to test their municipal drinking water and sewage as part of the 2019 blue and green drop project. Drinking water (blue drop) and treated sewage (green drop) were tested in May to June this year so communities could ascertain whether there are any health risks and whether drinking water and sewage comply with legal standards. They were accompanied by AfriForum's coordinators and several other interested parties, including municipal officials, the media and service providers. Participants were encouraged to take pictures as proof, enhancing the credibility of the study in this way.

AfriForum is using water test kits in collaboration with researchers of the University of the Free State and the company iWater, which conducts tests for the following pathogens and minerals in an easy and effective way:

- » *Escherichia coli* (*E. coli*)<sup>2</sup>
- » Faecal coliform bacteria
- » Nitrates<sup>3</sup>
- » Phosphates



AfriForum's test kit for testing water quality.

<sup>2</sup> In terms of SANS: 241 National Standards, there should be no *E. coli* in drinking water.

<sup>3</sup> South African Water Quality Guidelines. Volume 1: Domestic Water Use, Second edition, 1996

## RESULTS

### Blue drop

During May and June 2019, AfriForum tested the quality of drinking water in 206 towns. Four municipalities did not meet the quality standards for drinking water. In 2018, AfriForum's blue and green drop project found that 14 of 199 drinking-water systems were supplying infected drinking water to communities. The watchdog function performed by organisations such as AfriForum by exercising pressure ensured that drinking water of most of these municipalities passed the test this year. Therefore, it is clear that the pressure AfriForum is exerting on municipalities every year is bearing fruit. Unfortunately, the drinking water of the Tswaing and Naledi local municipalities was infected once again, posing health risks to the communities in these municipalities for the second year running.

The results of drinking-water quality tests conducted from 2013 to 2018 are also contained in this report with a view to comparing them with the 2019 results.

The blue drop results indicate that three municipalities did not meet the minimum water quality standards.

1. *Brits* – Madibeng Local Municipality (Phosphates >50 ppm)
2. *Delareyville* – Tswaing Local Municipality (Phosphates >25 ppm / Nitrates >25 ppm)
3. *Sannieshof* – Tswaing Local Municipality (Phosphates >25 ppm)
4. *Stella* – Naledi Local Municipality (Nitrates >100 ppm)

AfriForum immediately warned the communities in question not to drink this water. The municipalities were put on terms to immediately address the poor water quality. Follow-up samples taken at least seven days after the initial tests indicate that the water now is fit for human consumption.



AfriForum taking water samples for inter alia *E. coli*. In the picture, Rudolph de Villiers is conducting a water test in the Moreleta Spruit during AfriForum's internship.



One of the tests conducted by AfriForum involves test strips to test phosphate levels in water.



The graph on this page shows the blue drop results for 2013 to 2019.



Graph 1: Blue drop (drinking water) results 2013—2019.

**Blue drop results**

The table below shows the areas where samples were taken and the results since the project was launched in 2013.

GAUTENG								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Alberton (Randhart)	Ekurhuleni Metro	-	-	-	Clean	Clean	Clean	Clean
Apies River	Tshwane Metro	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Bedfordview	Ekurhuleni Metro	-	-	-	-	Clean	Clean	Clean
Benoni	Ekurhuleni Metro	-	-	-	Clean	Clean	Clean	Clean
Bedfordview	Johannesburg Metro	-	-	-	-	-	-	Clean
Boksburg	Ekurhuleni Metro	-	-	-	-	Clean	Clean	Clean
Brakpan	Ekurhuleni Metro	-	-	-	-	Clean	Clean	Clean
Bronkhorstspuit	Tshwane Metro	-	-	-	-	Clean	Clean	Clean
Centurion Central	Tshwane Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Centurion South	Tshwane Metro	-	-	-	-	-	Clean	Clean
Centurion West	Tshwane Metro	-	-	-	-	-	Clean	Clean

## GAUTENG

Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Cullinan	Tshwane Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Fochville	Merafong City LM	-	-	-	-	-	-	Clean
Florida	Johannesburg Metro	-	-	-	-	-	-	Clean
Edenvale	Ekurhuleni Metro	-	-	-	-	Clean	Clean	Clean
Elsburg	Ekurhuleni Metro	-	-	-	-	-	Clean	Clean
Germiston	Ekurhuleni Metro	-	-	-	-	-	Clean	Clean
Heidelberg	Lesedi LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Hennops River Valley	Tshwane Metro	-	-	-	Clean	Clean	Clean	Clean
Roodepoort	Johannesburg Metro	-	-	-	-	-	Clean	Clean
Kameeldrift	Tshwane Metro	-	-	-	-	Clean	Clean	Clean
Kempton Park	Ekurhuleni Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Krugerdrorp	Mogale City LM	-	-	-	-	-	Clean	Clean
Lochvaal	Emfuleni LM	-	Clean	Clean	Clean	-	-	Clean
Magaliesburg	Mogale City LM	-	Clean	Clean	-	-	Clean	Clean
Meyerspark	Tshwane Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Midvaal	Midvaal LM	-	-	-	-	Clean	Clean	Clean
Moot	Tshwane Metro	-	-	-	Clean	Clean	Clean	Clean
Nigel	Ekurhuleni Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Pretoria North	Tshwane Metro	-	-	-	-	-	Clean	Clean
Pretoria East (Garsfontein)	Tshwane Metro	-	-	-	Clean	Clean	Clean	Clean
Pretoria East (Moreleta Park)	Tshwane Metro	-	-	-	-	Clean	Clean	Clean
Pretoria East (Waterkloof)	Tshwane Metro	-	-	-	-	Clean	Clean	Clean
Pretoria West	Tshwane Metro	-	-	-	High phenol and chromium concentrations	Clean	Clean	Clean
Primrose	Ekurhuleni Metro	-	-	-	-	-	Clean	Clean
Randburg	Johannesburg Metro	-	Clean	Clean	Clean	Clean	-	Clean
Randfontein	Rand West City LM	-	-	-	-	-	-	Clean
Rayton	Tshwane Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Springs	Ekurhuleni Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Tedstoneville	Ekurhuleni Metro	-	-	-	-	-	-	Clean
Vanderbijlpark	Emfuleni LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Vanderbijlpark South	Emfuleni LM	-	-	-	Clean	Clean	Clean	Clean
Vanderbijlpark West	Emfuleni LM	-	-	Clean	Clean	Clean	Clean	Clean



GAUTENG								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Vereeniging	Emfuleni LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Waverley	Tshwane Metro	-	-	-	-	-	Clean	Clean
West Moot	Tshwane Metro	-	-	-	Clean	Clean	Clean	Clean
Westonaria	Rand West City LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Zambezi	Tshwane Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Other								
Tuks Campus	University of Pretoria	-	-	-	Clean	Clean	Clean	Clean

WESTERN CAPE								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Bitterfontein	Matzikama LM	-	-	-	Clean	-	-	Clean
Citrusdal	Cederberg LM	-	Clean	Clean	Clean	-	Clean	-
Clanwilliam	Cederberg LM	-	-	-	-	-	Clean	-
Gans Bay	Overstrand LM	-	-	-	-	-	Clean	Clean
George	George LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Hermanus (Sand Bay)	Overstrand LM	-	Clean	Clean	Clean	-	Clean	Clean
Hessequa (Still Bay)	Hessequa LM	-	-	-	Clean	Clean	Clean	Clean
Cape Town (Bellville)	Cape Town Metro	-	-	Clean	Clean	Clean	Clean	Clean
Klawer	Matzikama LM	-	-	-	Clean	Clean	Clean	Clean
Kleinmond	Overstrand LM	-	-	-	Clean	Clean	Clean	Clean
Ladismith	Kannaland LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Lutzville	Matzikama LM	-	-	Clean	Clean	-	Clean	-
Montagu	Langeberg LM	-	-	Clean	Clean	Clean	-	Clean
Mossel Bay	Mossel Bay LM	-	-	-	-	-	Clean	Clean
Nuwerus	Matzikama LM	Clean	Clean	Clean	Clean	Clean	Phosphates >25 ppm <sup>4</sup>	Clean
Oudtshoorn	Oudtshoorn LM	-	-	-	Clean	-	-	Clean
Pearly Beach	Overstrand LM	-	-	-	-	Clean	Clean	Clean
Robertson	Langeberg LM	-	-	-	-	-	Clean	Clean
Stellenbosch	Stellenbosch LM	-	-	-	Clean	-	Clean	Clean
Vanrhynsdorp	Matzikama LM	-	-	-	-	Clean	Clean	Clean
Vredendal	Matzikama LM	-	-	Clean	Clean	Clean	-	Clean
Vredendal	Matzikama PM	Clean	Clean	Clean	Clean	Clean	Clean	Clean

<sup>4</sup> ppm: parts per million

WESTERN CAPE								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Vredendal South	Matzikama LM	-	-	Clean	Clean	Clean	Clean	Clean
Velddrif	Bergrivier LM	-	-	-	-	-	Clean	Clean
Wellington	Drakenstein LM	-	-	-	-	Clean	Clean	Clean
<b>Other</b>								
Stellenbosch Campus (Maties)		-	-	Clean	Clean	Clean	Clean	Clean

NORTHERN CAPE								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Buffelsrivier	Nama Khoi LM	-	-	-	Clean	-	-	-
Douglas	Siyancuma LM	-	-	-	-	-	Clean	Clean
Hopetown	Thembelihle LM	-	-	-	-	-	Clean	Clean
Kakamas	Ka Garib LM	-	-	-	-	-	Clean	Clean
Kathu	Gamagara LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Kamiesberg	Kamieskroon LM	-	Clean	Clean	Clean	Clean	-	-
Keimoes	Ka Garib LM	-	-	-	-	-	Clean	Clean
Kimberley	Sol Plaatje LM	Clean	Clean	Clean	Clean	-	Clean	Clean
Kuruman	Ga-Segonyana LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Nababeep	Nama Khoi LM	-	-	-	Clean	-	-	-
Orania	Orania Town Council	-	-	-	-	Clean	-	Clean
Postmasburg	Tsantsabane LM	-	-	-	Clean	Clean	Clean	Clean
Springbok	Nama Khoi LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Upington	Khara Hais LM	-	-	-	-	Clean	Clean	Clean
Vaalharts	Phokwane LM	-	Clean	Clean	Clean	-	Clean	Clean
Warrenton	Magareng LM	-	-	-	-	-	Clean	Clean
Williston	Karoo Hoogland LM	-	-	-	-	-	Clean	-



## EASTERN CAPE

Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Aliwal North	Walter Sisulu LM	-	-	-	-	-	Phosphates >25 ppm	Clean
Barkly East	Senqu LM	-	Clean	Clean	Clean	Clean	-	-
Burgersdorp	Walter Sisulu LM	-	-	-	-	-	Clean	Clean
Cradock	Inxuba Yethemba LM	-	-	Clean	Clean	Clean	Clean	-
Elliot	Sakhisizwe LM	<i>E. coli</i>	Clean	Clean	Clean	Clean	-	Clean
Jeffreys Bay	Kouga LM	Clean	Clean	Clean	Clean	Clean	-	Clean
Middelburg	Inxuba Yethemba PM	-	-	-	-	-	Clean	-
Molteno	Inkwanca LM	-	-	<i>E. coli</i>	Clean	Clean	Clean	-
East Londen	Buffalo City Metro	-	-	-	-	-	Clean	-
Port Elizabeth	Nelson Mandela Metro	Clean	Clean	Clean	Clean	Clean	-	Clean
Queenstown	Lukhanji LM	-	-	-	-	-	Faecal coliform bacteria >3 000	-
Sterkstroom	Enoch Mgijima LM	-	-	-	-	-	Clean	-
Stutterheim	Amahlathi LM	-	-	-	-	-	Clean	-
Steynsburg	Gariep LM	-	-	-	-	-	Clean	-
Tarkastad	Tsolwana LM	-	-	<i>E. coli</i>	Clean	Clean	Clean	-

## FREE STATE

Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Allanridge	Matjhabeng LM	-	-	-	Clean	-	Clean	Clean
Bethlehem	Dihlabeng LM	-	-	-	-	Clean	Clean	Clean
Bloemfontein Central	Mangaung Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Bloemfontein (Fichardpark)	Mangaung Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Bloemfontein (Hospitaalpark)	Mangaung Metro	-	-	-	Clean	Clean	Clean	Clean
Bloemfontein (Pellissier)	Mangaung Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Bloemfontein (Rayton- Heuwelsig)	Mangaung Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Bloemfontein (Uitsig)	Mangaung Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Bloemfontein (Langenhoven-park)	Mangaung Metro	-	-	Clean	Clean	Clean	Clean	Clean

FREE STATE								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Bloemfontein (Wilgehof)	Mangaung Metro	-	Clean	Clean	Clean	Clean	Clean	Clean
Bothaville	Nala LM	Clean	Clean	Clean	Clean	Clean	Phosphates >25	Clean
Boshoff	Tokologo LM	-	-	-	-	-	Clean	-
Brandfort	Masilonyana LM	-	-	Clean	Clean	Clean	No water available	-
Bultfontein	Tswelopele LM	-	-	-	-	Clean	Clean	Clean
Dealesville	Tokologo LM	-	Clean	Clean	Clean	Clean	-	Clean
Frankfort	Mafube LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Harrismith	Maluti-A-Phofung LM	-	-	Clean	Clean	Clean	Clean	Clean
Heilbron	Ngwathe LM	-	-	Clean	Clean	5 Faecal coliform bacteria	Clean	Clean
Hennenman	Matjhabeng LM	-	-	-	Clean	Clean	Clean	Clean
Hertzogville	Tokologo LM	14 nitrates	4 E. coli & 14 nitrates	Clean	Clean	Clean	E.coli >1 000 cfu <sup>5</sup>	Clean
Koppies	Ngwathe LM	-	-	-	-	Clean	Clean	Clean
Kroonstad	Moqhaka LM	-	-	-	-	Clean	Clean	Clean
Odendaalsrus	Matjhabeng LM	-	-	-	-	Clean	-	Clean
Parys	Ngwathe LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Petrus Steyn	Nketoana LM	-	Clean	Clean	Clean	Clean	-	Clean
Reitz	Nketoana LM	-	-	Clean	Clean	Clean	-	Clean
Sasolburg	Metsimaholo LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Senekal	Setsoto LM	-	-	-	-	-	Clean	Clean
Theunissen	Masilonyana LM	-	-	Clean	Clean	Clean	Clean	Clean
Villiers	Mafube LM	-	-	-	-	25 Faecal coliform bacteria	Clean	-
Viljoenskroon	Moqhaka LM	-	-	-	Clean	-	Clean	Clean
Vrede	Phumelela LM	-	-	-	-	Clean	-	-
Vredefort	Ngwathe LM	-	-	-	-	Clean	Clean	Clean
Welkom	Matjhabeng LM	-	-	Clean	Clean	-	Clean	Clean
Wesselsbron	Nala LM	-	-	-	Clean	-	Clean	-
Winburg	Masilonyana LM	-	-	Clean	Clean	Clean	Clean	Clean
<b>Other</b>								
Bloemfontein Campus (Kovsies)	University of the Free State	-	-	-	Clean	Clean	Clean	Clean

<sup>5</sup> cfu: coliform units

MPUMALANGA								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Amersfoort	Pixley Ka Seme LM	-	-	-	-	-	Clean	Clean
Badplaas		-	-	-	-	-	-	Clean
Balfour	Dipaleseng LM	-	-	-	-	Clean	Clean	Clean
Barberton	Mbombela LM	-	-	-	-	-	Clean	Clean
Belfast	Emakhazeni LM	Clean	Clean	Clean	Faecal coliform bacteria and <i>E. coli</i>	Clean	Clean	Clean
Bethal	Govan Mbeki LM	-	-	Clean	Clean	Clean	Clean	Clean
Breyten	Msukaligwa LM	-	-	-	-	-	Clean	Clean
Carolina	Albert Luthuli LM	-	-	-	-	-	-	Clean
Charl Cilliers	Govan Mbeki LM	-	-	-	-	Clean	Clean	Clean
Chrissiesmeer	Msukaligwa LM	-	-	-	-	-	Clean	Clean
Delmas	Victor Khanye LM	-	-	Clean	Clean	Clean	Clean	Clean
Dullstroom	Emakhazeni LM	-	-	Clean	Clean	Clean	Clean	Clean
Ermelo	Msukaligwa LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Evander	Govan Mbeki LM	-	-	-	-	-	Clean	Clean
Greylingstad	Dipaleseng LM	-	-	-	-	Clean	-	Clean
Hendrina	Steve Tshwete LM	-	-	-	-	-	-	Clean
Kriel	Emalahleni LM	-	-	-	-	Clean	Clean	Clean
Leandra	Govan Mbeki LM	-	-	-	-	Clean	Clean	Clean
Lydenburg	Thaba Chweu LM	Clean	Clean	Clean	High concentrations of faecal coliform bacteria	Clean	Clean	Clean
Machadodorp	Emakhazeni LM	5 cadmium	Clean	Clean	Clean	Clean	Clean	Clean
Middelburg	Steve Tshwete LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Morgenzon	Lekwa LM	-	-	-	-	Clean	Clean	Clean
Nelspruit	Lekwa LM	-	-	-	-	Clean	Clean	Clean
Ogies	Emalahleni LM	-	-	-	-	-	Clean	-
Piet Retief	Mkhondo LM	-	Clean	Clean	Faecal coliform bacteria and <i>E. coli</i>	Clean	Clean	Clean
Sabie		-	-	-	-	-	-	Clean
Secunda	Govan Mbeki LM	-	-	-	Clean	Clean	Clean	Clean
Standerton	Lekwa LM	-	Colour exceeds limits, but water not unhealthy	Clean	Clean	Clean	Clean	Clean
Stoffberg	Emalahleni LM	-	-	-	-	-	Clean	-
Sundra	Victor Khanye LM	-	-	-	-	-	Clean	Clean



MPUMALANGA								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Trichardt	Govan Mbeki LM	-	-	-	-	-	Clean	-
Volksrus	Pixley Ka Seme LM	-	-	-	-	-	Clean	Clean
Wakkerstroom	Pixley Ka Seme LM	-	-	-	-	-	Clean	Clean
Witbank	Masilonyana LM	-	11 total organic carbon	Clean	Faecal coliform bacteria and <i>E. coli</i>	Clean	Clean	Clean
White River	Mbombela LM	-	-	-	Clean	Clean	Clean	Clean

NORTH WEST								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Bloemhof	Lekwa-Teemane LM	-	68 Faecal coliform bacteria	Clean	Clean	Clean	Clean	Clean
Brits	Madibeng LM	-	-	-	Clean	Clean	Clean	Phosphates >50 ppm
Christiana	Lekwa-Teemane LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Coligny	Ditsobotla LM	-	4 <i>E. coli</i>	<i>E. coli</i>	Clean	Clean	Clean	Clean
Delareyville	Tswaing LM	-	-	-	Clean	Clean	Phosphates >100 ppm	Nitrates >25 ppm Phosphates >25 ppm
Groot-Mariko	Ramotshere Moiloa LM	-	-	-	-	-	Clean	Clean
Hartbeesfontein	City of Matlosana LM	-	-	-	Clean	Clean	-	-
Hartbeespoort	Madibeng LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Jouberton	City of Matlosana LM	-	-	-	Clean	-	-	-
Klerksdorp	City of Matlosana LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Koster	Kgetlengrivier LM	-	-	-	Clean	-	-	-
Leeudoringstad	Maquassi Hills	-	Clean	Clean	Clean	Clean	Clean	Clean
Lichtenburg	Ditsobotla LM	-	-	-	-	Clean	Clean	Clean
Mahikeng	Mahikeng LM	-	-	-	Clean	Clean	Clean	Clean
Makwassie	Maquassi Hills LM	-	Clean	Clean	Clean	Clean	-	Clean
Mooinooi	Madibeng LM	-	-	-	-	-	Clean	Clean
Orkney	City of Matlosana LM	-	-	-	Clean	Clean	Clean	Clean
Ottosdal	Tswaing LM	-	-	-	Clean	Clean	Clean	Clean
Potchefstroom	Tlokwe LM	-	-	-	Clean	Clean	Clean	Clean
Ottosdal	Tswaing PM	-	-	-	Clean	Clean	Phosphates >25 ppm	Clean
Potchefstroom	Tlokwe PM	-	Clean	Clean	Clean	Clean	Clean	Clean

NORTH WEST								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Rustenburg	Rustenburg LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Sannieshof	Tswaing LM	-	-	-	-	Clean	Nitrates >10 ppm Phosphates >100 ppm	Phosphates > 25 ppm
Schweizer- Reneke	Mamusa LM	-	-	Clean	Nitrates above permissible level	Clean	Phosphates >25 ppm	Clean
Stella	Naledi LM	-	140 <i>E. coli</i> & 18 nitrates	50 nitrates	Nitrates above permissible level	Clean	Faecal coliform bacteria >3 000 cfu Phosphates >25 ppm	Nitrates >100 ppm
Stilfontein	City of Matlosana LM	-	-	-	Clean	Clean	Clean	Clean
Swartruggens	Kgetlengrivier LM	-	-	-	-	Clean	Faecal coliform bacteria 3 cfu <i>E. coli</i> 3 cfu	Clean
Ventersdorp	Ventersdorp LM	-	Clean	Clean	Clean	Clean	Clean	-
Vryburg	Naledi LM	-	4 <i>E. coli</i>	Clean	Clean	Clean	Faecal coliform bacteria >3 000 cfu	Clean
Wolmaransstad	Maquassi Hills	-	-	Clean	Clean	Clean	Clean	Clean
Zeerust	Ramotshere Moiloa LM	-	-	-	Clean	Clean	Clean	Clean
<b>Other</b>								
Buffelspoort	Madibeng LM	-	-	-	-	Clean	-	Clean
Potchefstroom Campus (Pukke)	North-West University	-	-	-	Clean	Clean	Clean	Clean

LIMPOPO								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Ellisras	Lephalale LM	-	-	-	Clean	8 units of <i>E. coli</i> per 100 ml	<i>E. coli</i> >2 cfu Faecal coliform bacteria >2 cfu	Clean
Groblersdal	Elias Motsoaledi LM	-	-	-	Clean	Clean	Clean	Clean
Haenertsburg	Greater Tzaneen LM	-	-	-	-	Clean	Clean	Clean
Leeupoort	Thabazimbi LM	-	-	Clean	Clean	-	-	Clean

LIMPOPO								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Louis Trichardt	Makhado LM	-	-	-	Clean	Clean	Clean	Clean
Marble Hall	Sekhukhune DM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Naboomspruit	Lim368 LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Nylstroom	Lim368 LM	-	-	-	Clean	Clean	Clean	Clean
Phalaborwa	Ba-Phalaborwa LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Pietersburg	Polokwane LM	Clean	4 units of <i>E. coli</i> per 100 ml	Clean	Clean	Clean	Clean	Clean
Rooiberg	Thabazimbi LM	-	-	-	-	-	-	Clean
Thabazimbi	Thabazimbi LM	-	-	-	-	-	-	Clean
Tzaneen	Greater Tzaneen LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Vaalwater	Lim368 LM	-	-	-	Clean	Clean	Clean	Clean
Warmbaths	Bela-Bela LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Other								
Letaba Camp	National Kruger Park	-	-	-	Clean	Clean	Clean	Clean
Olifants Camp	National Kruger Park	-	-	-	Clean	Clean	-	Clean

KWAZULU-NATAL								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Hluhluwe	The Big 5 False Bay LM	-	-	-	-	Clean	Clean	Clean
Ixopo	Ubuhlebezwe LM	-	-	-	-	Clean	-	-
Margate	Hibiscus Coast LM	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Newcastle	Newcastle LM	-	-	Clean	Clean	Clean	Clean	Clean
Paulpietersburg	eDumbe LM	-	Clean	Clean	Water in tenks is Clean	Clean	Clean	Clean
Pongola	uPongola LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Richards Bay	uMhlathuze LM	-	-	-	-	-	Clean	Clean
Utrecht	eMadlangeni LM	-	Clean	Clean	Clean	Clean	Clean	Clean
Underberg	Kwa Sani LM	-	-	-	-	Clean	-	-
Vryheid	Abaqulusi LM	-	Clean	<i>E. coli</i>	Clean	Clean	Clean	Clean

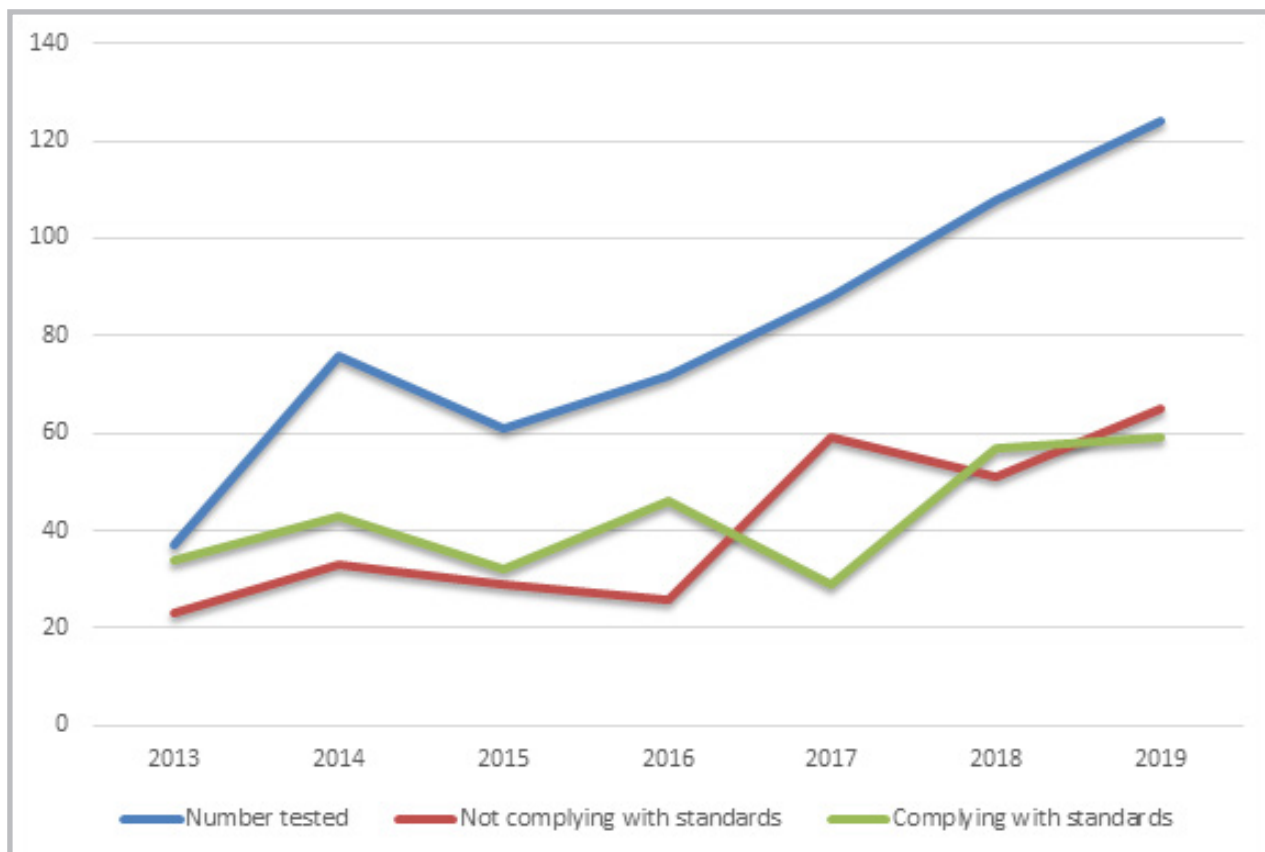


**Green Drop**

In May and June 2019, AfriForum tested the sewage systems of 124 towns, 65 of which did not comply with the set quality standards, compared to 51 of 108 sewage systems in 2018. It is therefore clear that sewage treatment works (STWs) in South Africa continue to be operated in a very bad way.

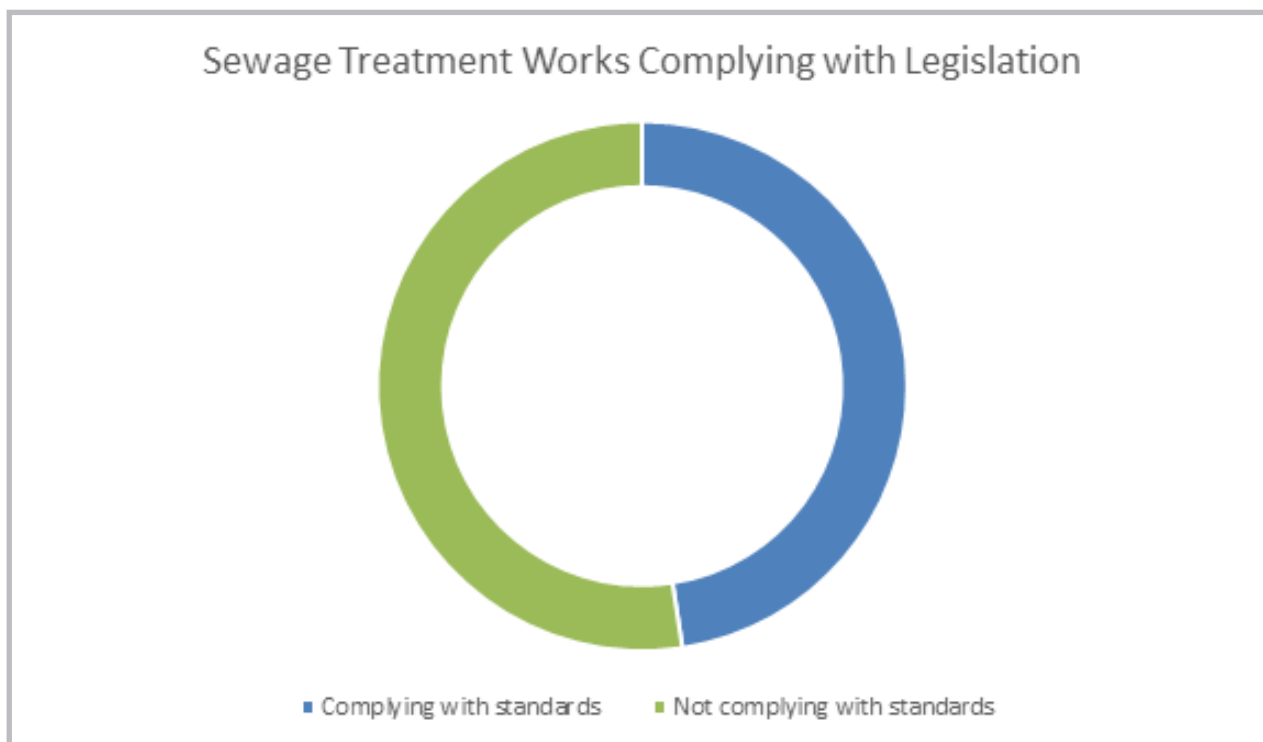
The results of towns' sewage tested in 2013—2018 are included in this report for purposes of comparison with the 2019 results.

The graph below shows the green drop results of 2013 to 2019.

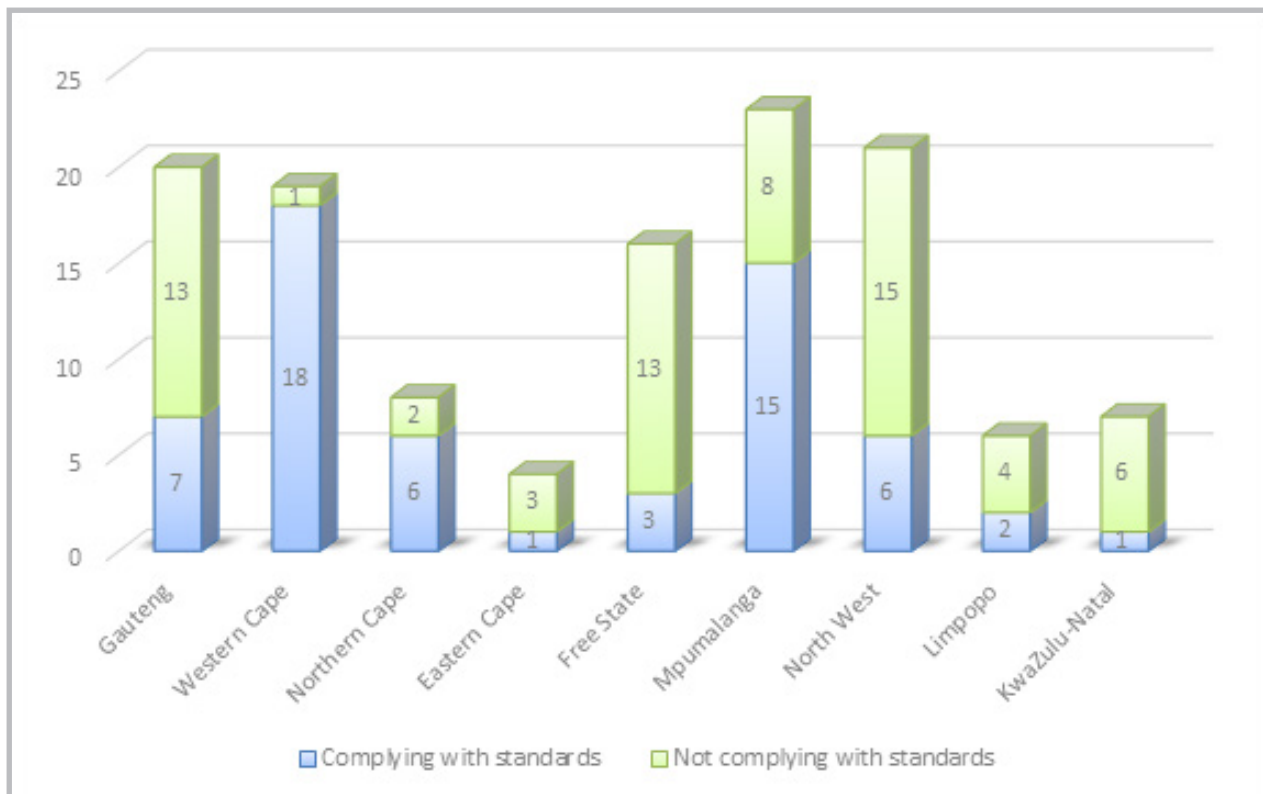


Graph 2: Green Drop (sewage) results 2013—2019.

The graph below shows the percentage pass figure of sewage treatment works for 2019.



Graph 3: Number of sewage treatment works not complying with sewage requirements.



Graph 4: Green drop (sewage) results by province.



From left to right: De Wet Ungerer and Hennie van Eck conducting green drop tests at Rietspruit STW.

There were 65 STWs that did not comply with South African national water quality standards during AfriForum’s project. In terms of these standards, treated sewage may not contain more than 1 000 units of *E. coli* per 100 ml of treated sewage. These 61 STWs are indicated in orange below.

The following table indicates the areas where samples were tested, as well as the results of each STW (the figures indicate units of *E. coli* per 100 ml of water):

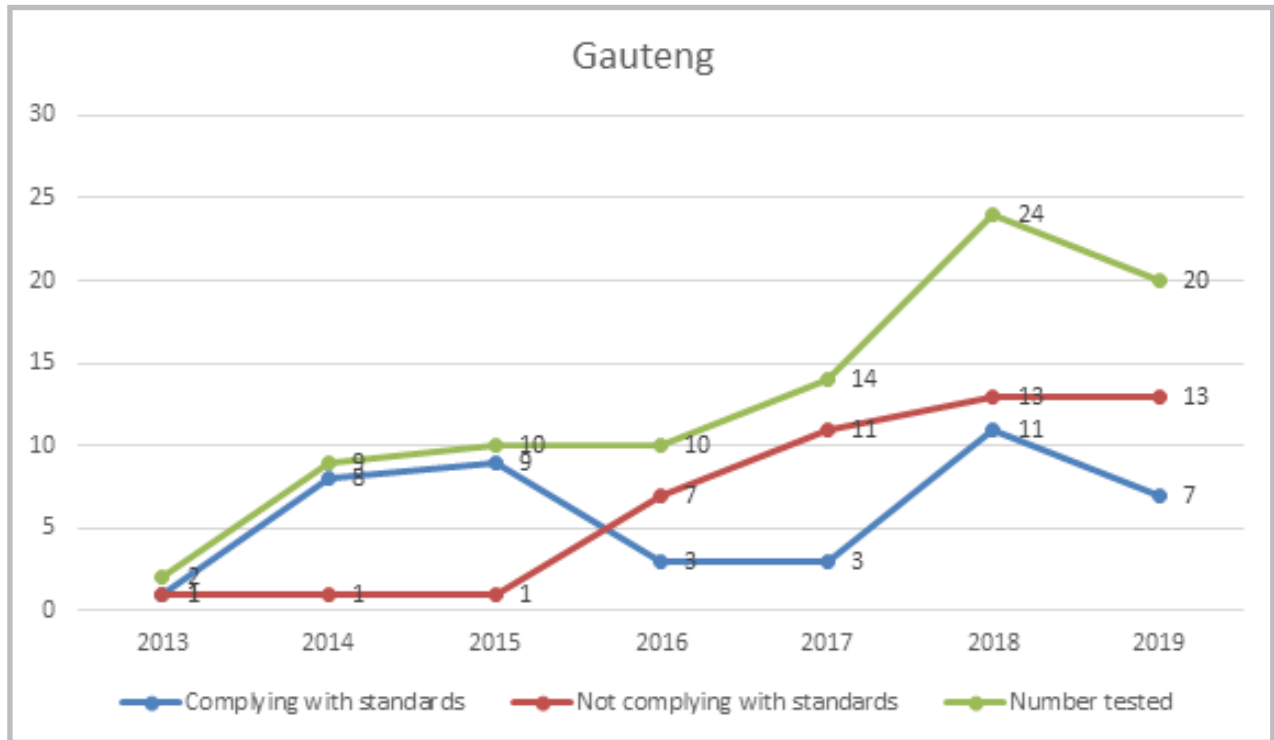
GAUTENG								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Alberton (ERWAT Dekema)	Ekurhuleni Metro	-	-	-	3 900	Clean	Clean	Clean
Apies River (Rooiwal)	Tshwane Metro	77 000	85 000	Clean	2 000	15 000	>100 000	>100 000
Benoni	Ekurhuleni Metro	-	-	-	-	-	Clean	Clean
Brakpan	Ekurhuleni Metro	-	-	-	-	>2 500	Clean	Clean
Bronkhorstspuit	Tshwane Metro	-	-	-	-	2 000	>100 000	>100 000



## GAUTENG

Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Centurion West (Suiderland)	Tshwane Metro	Clean	Clean	10 000	100 000	5 500	>100 000	>100 000
Cullinan (Cullinan)	Tshwane Metro	-	Clean	Clean	Clean	2 400	>10 000	>10 000
Edenvale	Ekurhuleni Metro	-	-	-	-	-	>10 000	>10 000
Elsburg	Ekurhuleni Metro	-	-	-	-	-	Clean	Clean
Germiston	Ekurhuleni Metro	-	-	-	-	-	Clean	Clean
Heidelberg	Lesedi LM	-	Clean	Clean	-	>3 000	Clean	>1000
Roodepoort	West Rand DM	-	-	-	-	-	Clean	-
Kameeldrift (Baviaanspoort)	Tshwane Metro	-	-	-	-	-	>10 000	>100 000
Kempton Park	Ekurhuleni Metro	-	Clean	Clean	-	-	-	Clean
Magaliesburg	Mogale City	-	-	-	-	-	Clean	-
Midvaal ERWAT	Midvaal LM	-	-	-	-	-	Clean	-
Midvaal	Midvaal LM	-	-	-	-	-	-	>15 000
Nigel	Ekurhuleni Metro	-	Clean	Clean	High concentration of faecal coliform bacteria	>3 000	-	-
Pretoria West (Daspoort)	Tshwane Metro	-	-	-	12 000	15 000	>10 000	>10 000
Primrose	Ekurhuleni Metro	-	-	-	-	-	Clean	Clean
Randfontein	Randfontein LM	-	-	-	-	>4 000	>4 000 <i>E.coli</i>	-
Springs	Ekurhuleni Metro	-	Clean	Clean	2 000	>2 000	>5 000 <i>E.coli</i>	>5 000
Vanderbijlpark (Leeukuil)	Emfuleni LM	-	Clean	Clean	Clean	>1 000	>100 000 <sup>6</sup>	>10 000
Vanderbijlpark (Rietspruit)	Emfuleni LM	-	-	-	-	-	>100 000	>50 000
Vanderbijlpark (Sebokeng)	Emfuleni LM	-	-	-	-	-	>100 000	>50 000
Vereeniging	Emfuleni LM	-	Clean	Clean	Clean	Clean	>1 000	-
Westonaria	Rand West City LM	-	-	Clean	2 500	Clean	Clean	-

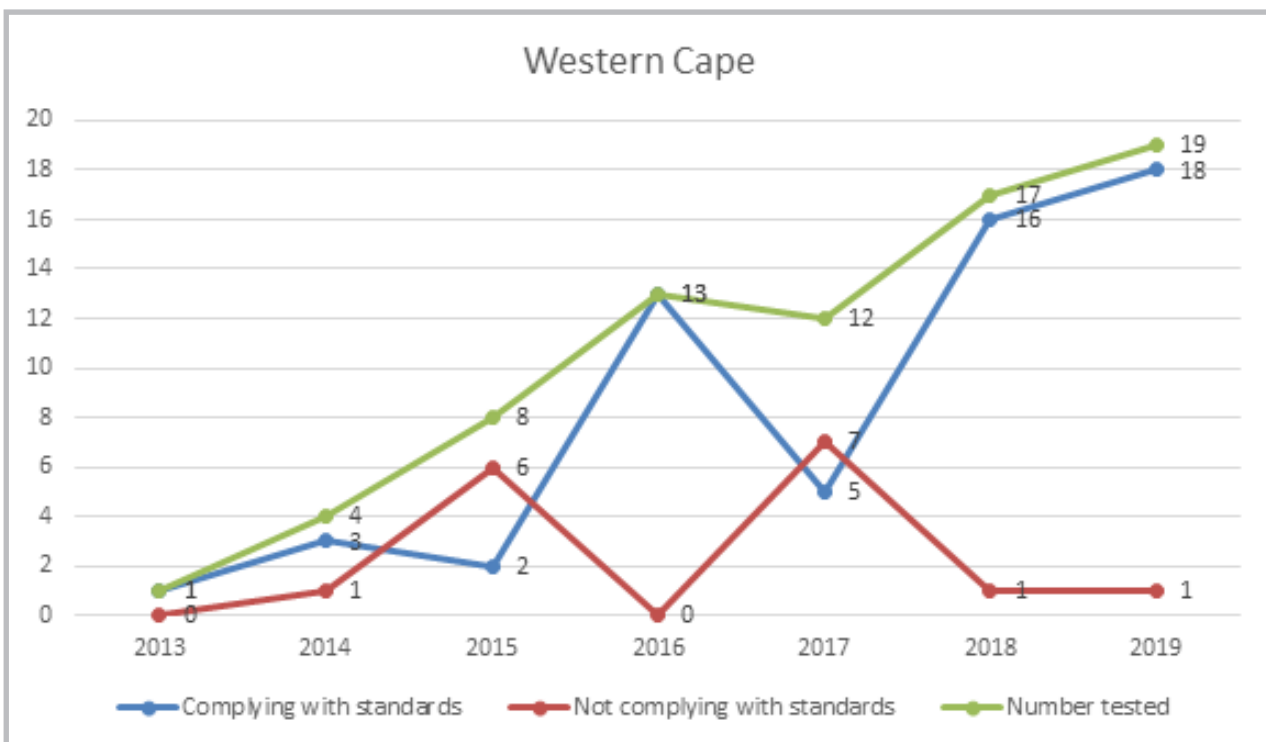
<sup>6</sup> The Emfuleni Local Municipality's Leeukuil sewage treatment plant at the time of the inspection and test was not receiving an estimated 60% of the plant's inflow and sewage because of clogged pipes in the plant's infrastructure in the greater Tshepiso residential area in Vanderbijlpark.



Graph 5: Green drop (sewage) results of Gauteng.

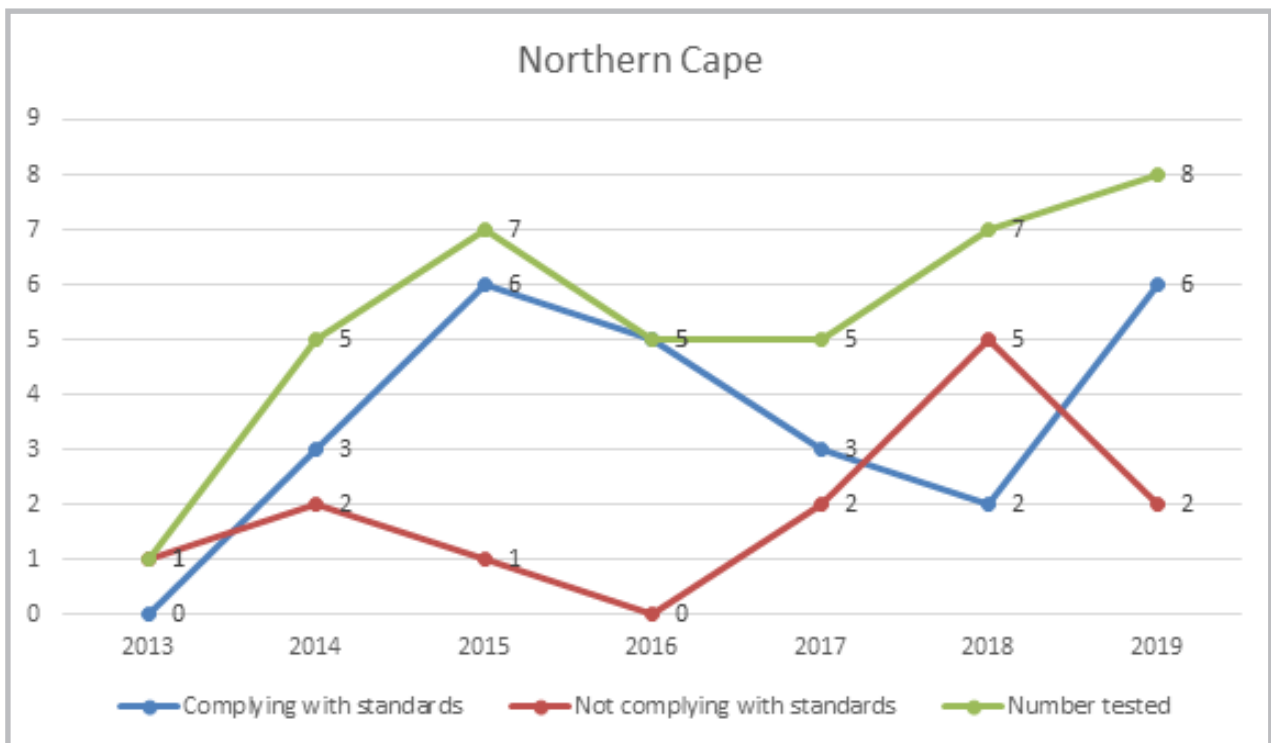
WESTERN CAPE								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Bitterfontein	Matzikama LM	-	-	-	-	-	-	Clean
Darling	Swartland LM	-	-	-	-	-	-	Clean
Clanwilliam	Cederberg LM	-	-	-	-	-	Clean	-
Citrusdal	Cederberg LM	-	-	-	-	-	Clean	-
Gans Bay	Overstrand LM	-	-	-	-	>3 000	-	Clean
George	George LM	-	-	-	Clean	Clean	Clean	Clean
Hawston	Overstrand LM	-	-	-	-	-	-	Clean
Hermanus	Overstrand LM	-	3 600	Clean	Clean	-	-	Clean
Cape Town Kraaifontein (Scottsdale)	Cape Town Metro	-	-	-	Clean	Clean	>1 000	>1 000
Cape Town North (Kewtown)	Cape Town Metro	-	-	-	-	50 000	Clean	-
Klawer	Matzikama LM	-	-	2 000	Clean	>1 500	Clean	Clean
Kleinmond	Overstrand LM	-	Clean	Clean	Clean	Clean	-	Clean
Ladismith	Kannaland LM	-	-	-	Clean	-	Clean	-
Lutzville	Matzikama LM	-	-	1 500	Clean	>2 000	-	Clean

WESTERN CAPE								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Montagu	Langeberg LM	-	-	-	-	-	Clean	-
Mossel Bay	Mossel Bay LM	-	-	-	Clean	>2 400	Clean	Clean
Nuwerus	Matzikama LM	-	-	-	Clean	-	-	Clean
Oudtshoorn	Oudtshoorn LM	-	Clean	100 000	-	Clean	Clean	Clean
Robertson	Langeberg LM	-	-	-	Clean	-	Clean	Clean
Stellenbosch	Stellenbosch LM	-	-	-	-	-	Clean	Clean
Still Bay	Hessequa LM	-	-	-	-	-	Clean	-
Vanrhynsdorp	Matzikama LM	-	-	1 500	Clean	>1 500	-	Clean
Velddrif	Bergrivier LM	-	-	-	-	-	Clean	-
Vredendal	Matzikama LM	Clean	Clean	8 000	Clean	Clean	Clean	Clean
Vredendal South	Matzikama LM	-	-	2 000	Clean	>1 500	Clean	Clean
Wellington	Drakenstein LM	-	-	-	-	-	Clean	Clean



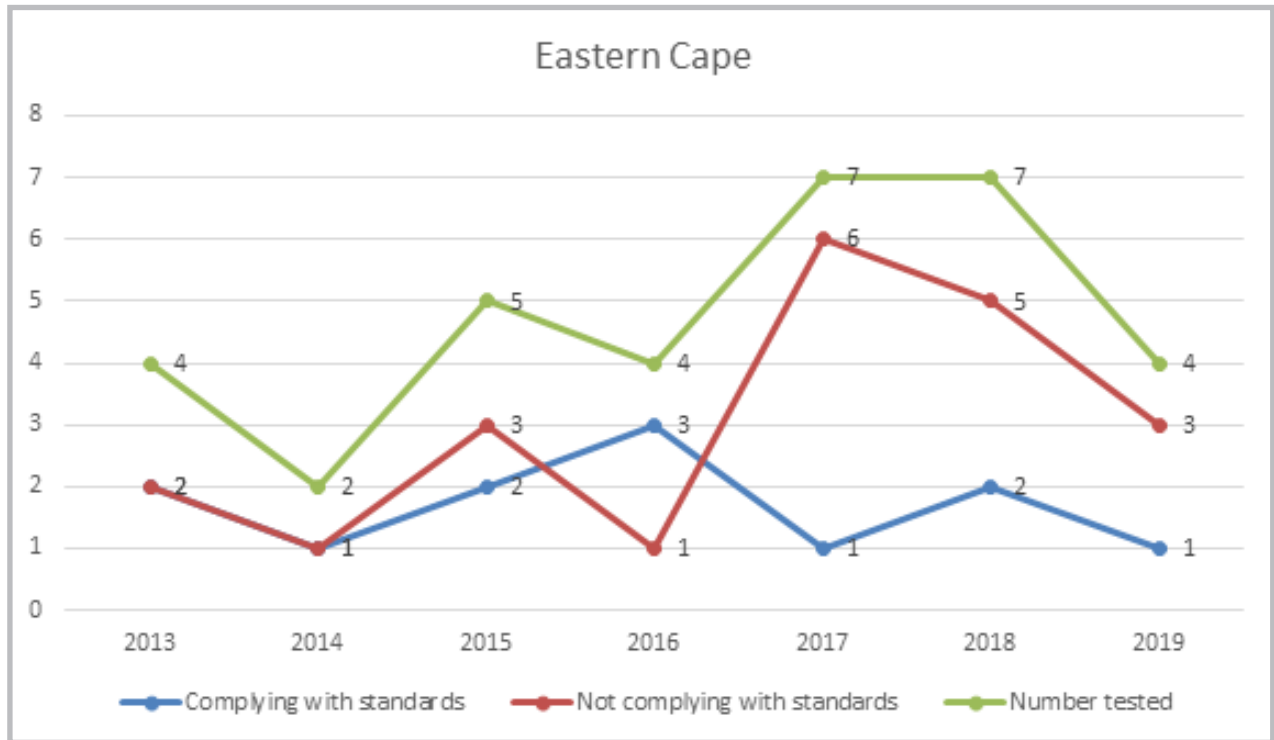
## NORTHERN CAPE

Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Daniëlskuil	Kgatelopele LM	-	Clean	Clean	-	-	-	-
Kathu	Gamagara LM	-	17 000	Clean	-	Clean	Clean	Clean
Kimberley	Sol Plaatje LM	1 600	Rejected	1 500	Clean	-	-	>1 000
Kamiesberg	Kamiesberg LM	-	-	-	Clean	-	-	-
Kuruman	Ga-Segonyana LM	-	Rejected	Clean	-	Clean	>1 000	Clean
Nababeep	Nama Khoi LM	-	-	-	Clean	-	-	-
Postmasburg	Tsantsabane LM	-	-	-	-	>10 000	>1 000	Clean
Springbok	Nama Khoi LM	-	1 250	Clean	Clean	>1 500	>1 000	>1 000
Upington	Khara Hais LM	-	-	-	-	Clean	>2 000	Clean
Vaalharts	Phokwane LM	-	Clean	Clean	Clean	-	>1 000	Clean
Williston	Karoo Hoogland LM	-	Clean	Clean	-	-	Clean	Clean



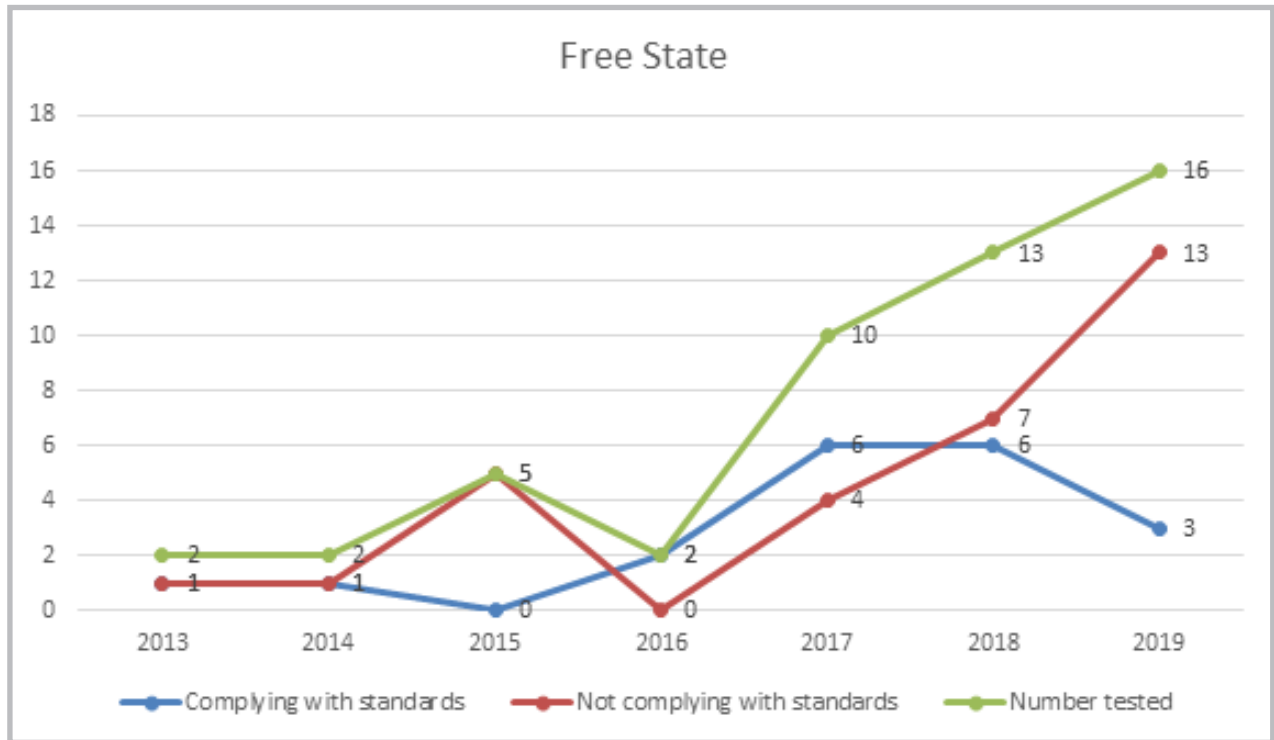


EASTERN CAPE								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Aliwal North	Walter Sisulu LM	-	-	-	-	-	>50 000 <i>E. coli</i>	>1 000
Barkly East	Senqu LM	-	-	2 000	Clean	Clean	-	-
Burgersdorp	Walter Sisulu LM	-	-	-	-	-	Clean	-
Cradock	Inxuba Yethemba LM	-	-	-	2 000	>1 000	>1 500 faecal coliform bacteria	-
Elliot	Sakhisizwe LM	36 000	Rejected	4 000	-	-	Clean	Clean
Jeffreys Bay	Kouga LM	34 000	-	Clean	Clean	High phosphate counts >30 000	>1 000 <i>E. coli</i>	>1000
Langkloof (Joubertina)	Kou-Kamma LM	Clean	11 500	>2 400	-	-	-	-
Molteno	Inkwanca LM	-	-	-	Clean	>30 000	>1 500 faecal coliform bacteria	-
Port Elizabeth	Nelson Mandela Metro	Clean	Clean	Clean	-	>30 000	-	>1000
Queenstown	Lukhanji LM	-	-	-	-	-	>3 000 faecal coliform bacteria	-
Tarkastad	Tsolwana LM	-	-	-	-	High phosphate counts	-	-



## FREE STATE

Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Bethlehem	Dihlabeng LM	-	-	-	-	Clean	>1 000 faecal coliform bacteria	>10 000
Bothaville	Nala LM	-	-	-	-	-	>1 500	-
Bloemfontein	Mangaung Metro	-	-	-	Clean	Clean	-	>1 000
Bultfontein	Tswelopele LM	-	-	-	-	-	-	>10 000
Frankfort	Mafube LM	-	-	-	-	>2 500	Clean	> 5 000
Harrismith	Maluti-A-Phofung LM	-	-	-	-	Clean	-	> 2 000
Heilbron	Ngwathe LM	-	-	-	-	-	Clean	Clean
Hertzogville	Tokologo LM	-	-	-	-	-	>1 000 <i>E. coli</i> cfu	>10 000
Kroonstad	Moqhaka LM	Clean	-	1 000 000	-	-	>1 000 faecal coliform bacteria	>2 000
Parys	Ngwathe LM	-	-	-	-	-	>20 000 <i>E. coli</i> 20 000 faecal coliform bacteria	Clean
Petrus Steyn	Nketoana LM	-	14 000	1 000 000	-	>3 000	-	-
Reitz	Nketoana LM	-	-	2 500	-	>2 500	-	>2 000
Sasolburg	Metsimaholo LM	-	-	-	-	Clean	Clean	Clean
Senekal		-	-	-	-	-	-	>4 000
Theunissen	Masilonyana LM	-	-	25 000	-	-	Clean	-
Villiers	Mafube LM	-	-	-	-	>3 000	Clean	-
Viljoenskroon	Moqhaka LM	-	-	-	-	-	Clean	>1 000
Vrede	Phumelela LM	-	-	-	-	Clean	-	-
Welkom	Matjhabeng LM	-	-	-	-	-	>1 000 <i>E. coli</i>	> 10 000
Winburg	Masilonyana LM	2 000	Clean	10 000	Clean	Clean	>1 000 faecal coliform bacteria	> 4 000



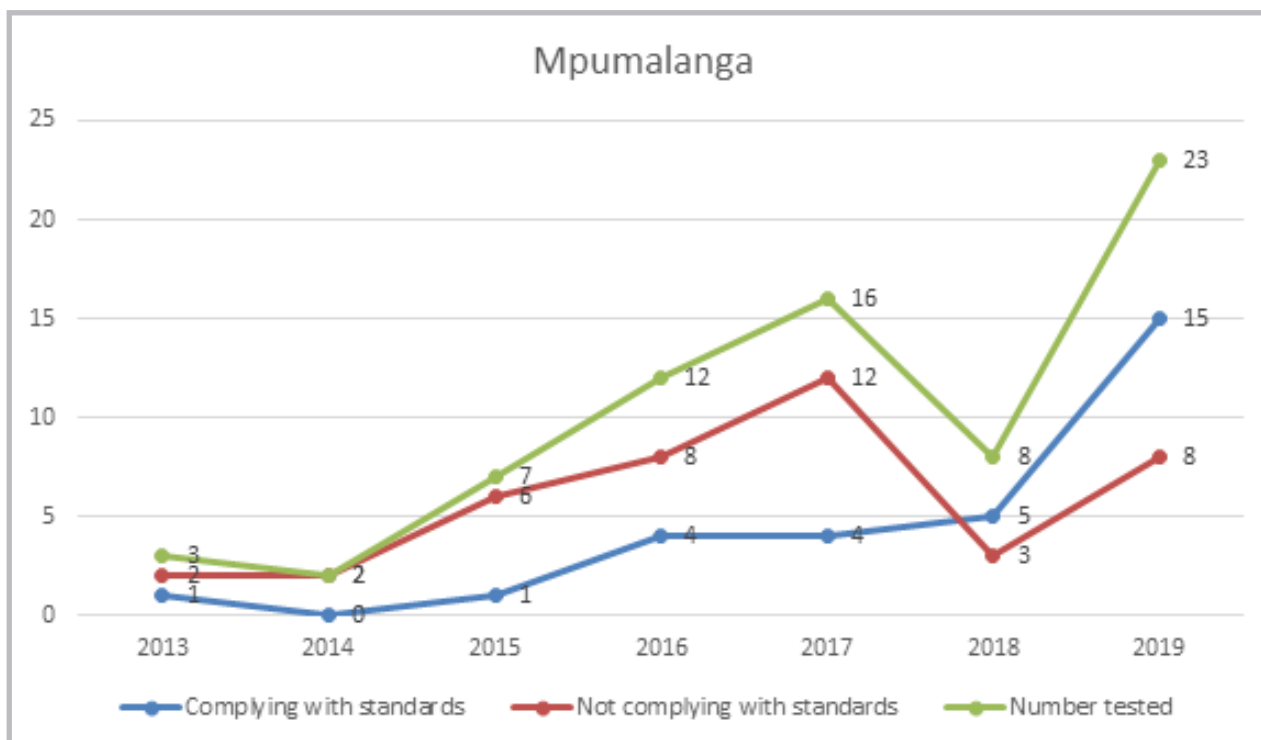
### MPUMALANGA

Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Amersfoort		-	-	-	-	-	-	Clean
Balfour	Dipaleseng LM	-	-	-	-	>2 500	-	Clean
Belfast	Emakhazeni LM	19 000	690 000	5 200	>2 400	>5 000	Clean	Clean
Bethal	Govan Mbeki LM	-	-	450 000	100 000	50 000	>1 000 <i>E. coli</i>	>1 000
Charl Cilliers	Govan Mbeki LM	-	-	-	-	Clean	-	Clean
Delmas	Victor Khanye LM	-	-	Clean	1 500	High phosphates	-	Clean
Dullstroom	Emakhazeni LM	-	-	2 000	Clean	-	Clean	Clean
Ermelo	Msukaligwa LM	Clean	310 000	590 000	-	1 500	-	Clean
Evander	Govan Mbeki LM	-	-	-	-	-	-	>1 000



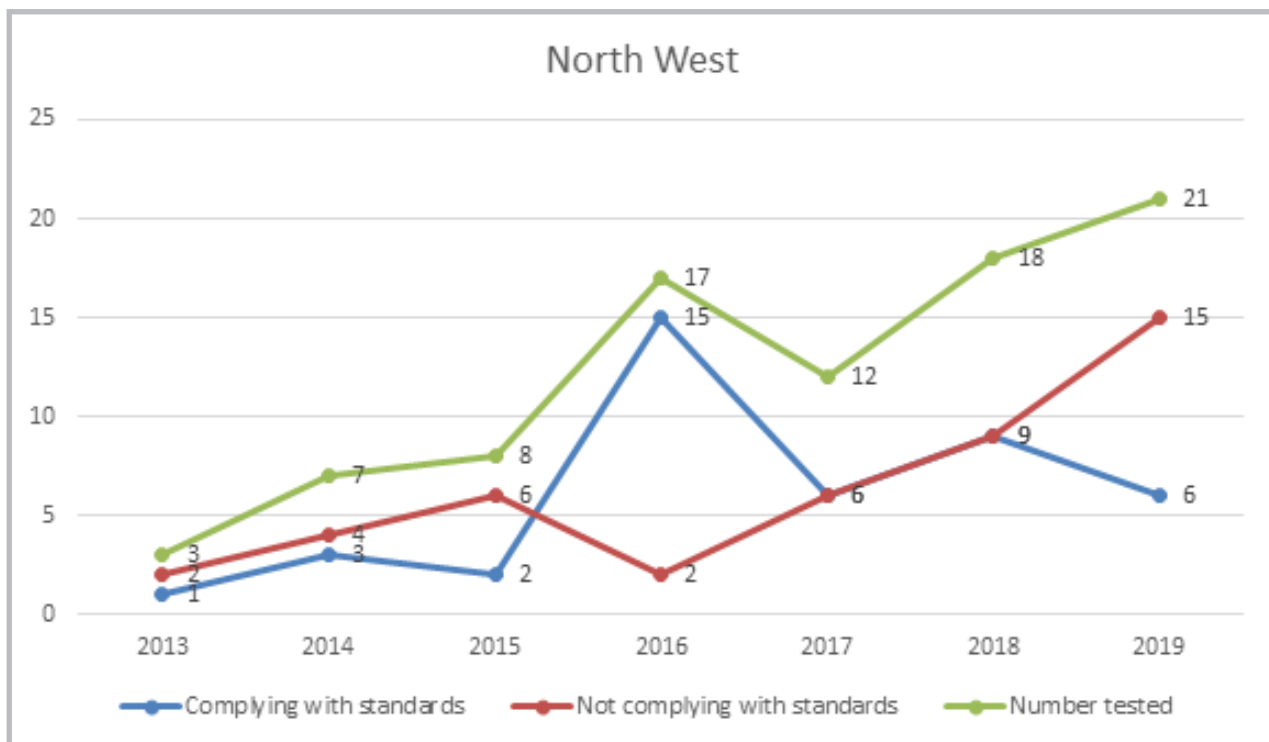
## MPUMALANGA

Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Greylingstad	Dipaleseng LM	-	-	-	-	Clean	-	Clean
Kriel	Emalahleni LM	-	-	-	-	>1 500	-	-
Leandra	Govan Mbeki LM	-	-	-	-	-	-	Clean
Lydenburg	Thaba Chweu LM	1 000 000	-	73 400	>1 000	1 500	Clean	>1 000
Machadodorp	Emakhazeni LM	-	-	-	Clean	-	Clean	Phosphate >10
Middelburg	Steve Tshwete LM	-	-	-	Clean	1 500	>25 Phosphate	Clean
Morgenzon	Lekwa LM	-	-	-	-	>1 500	-	Clean
Nelspruit	Mbombela LM	-	-	-	-	-	-	Nitrate >25
Piet Retief	Mkhondo LM	-	-	-	>1 000	>1 000	-	Clean
Secunda	Govan Mbeki LM	-	-	-	2 000	Clean	Clean	>1 000
Standerton	Lekwa LM	-	-	100 000	50 000	30 000	>1 000 E. coli	>10 000
Volksrus	Pixley ka Seme LM	-	-	-	-	-	-	Clean
Wakkerstroom	Pixley ka Seme LM	-	-	-	-	-	-	Clean
Witbank	Emalahleni LM	-	-	-	4 000	High phosphates	-	Clean
White River	Mbombela LM	-	-	-	Clean	Clean	-	Clean

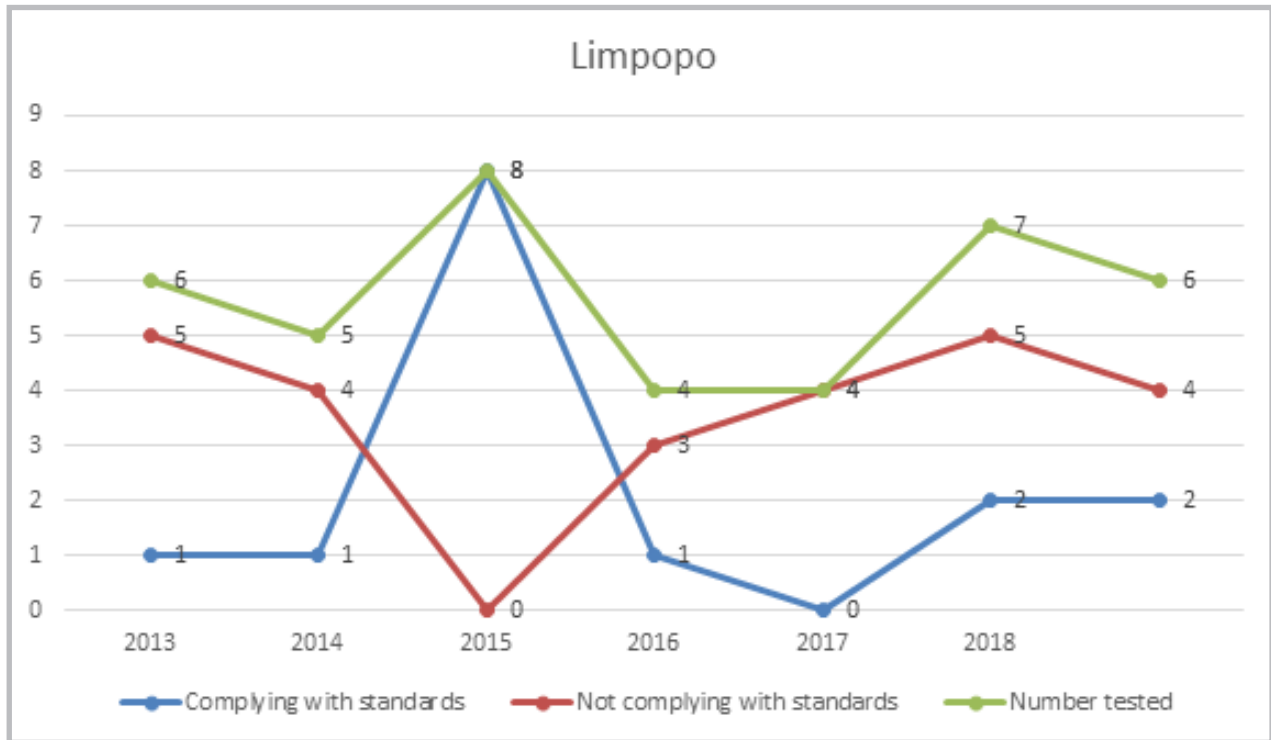


NORTH WEST								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Bloemhof	Lekwa- Teemane LM	-	-	-	Clean	-	>1 000 <i>E. coli</i> 1 000 faecal coliform bacteria	>1 000
Brits	Madibeng LM	-	-	-	Clean	Clean	Clean	Clean
Buffelspoort	Madibeng LM	-	-	-	-	-	-	Clean
Christiana	Lekwa-Teemane LM	-	-	3 500	Clean	Clean	>1 000 <i>E. coli</i> 1 000 faecal coliform bacteria	>10 000
Coligny	Ditsobotla LM	-	4 <i>E. coli</i>	<i>E. coli</i>	Clean	Clean	Clean	>100 000
Delareyville	Tswaing LM	-	-	-	Clean	-	-	Clean
Groot Mariko	Ramotshere Moiloa LM	-	-	-	-	-	-	>1 000
Hartbeespoort	Madibeng LM	-	-	-	Clean	>3 000	>10 000 <i>E. coli</i>	Clean
Klerksdorp	Matlosana LM	-	>40 000	>1 000	Clean	High phosphate counts	Clean	>1 000
Koster	Kgetlengrivier LM	-	-	-	-	Clean	>5 000 <i>E. coli</i>	>1 000
Lichtenburg	Ditsobotla LM	120 000	59 000	>2 000	Clean	-	-	>50 000
Makwassie	Maquassi Hills LM	-	-	-	Clean	Clean	Clean	-
Mooi-nooi	Madibeng LM	-	-	-	Clean	-	Clean	>5 000
Orkney	Matlosana LM	-	-	-	Clean	-	-	-
Ottosdal	Tswaing LM	-	-	-	-	High phosphate counts	>1 000 <i>E. coli</i> 1 000 faecal coliform bacteria	> 10 000
Potchefstroom	Tlokwe LM	Clean	Clean	Clean	-	High phosphate counts >2 000	Clean	Clean
Rustenburg	Rustenburg LM	-	Clean	>1 000	Clean	-	>4 000 <i>E. coli</i>	>5 000
Sannieshof	Tswaing LM	-	-	-	-	-	>1 000 <i>E. coli</i> 1 000 faecal coliform bacteria	-
Schweizer- Reneke	Mamusa LM	-	-	-	-	High phosphate counts	-	>10 000
Stella	Naledi LM	-	>100 000	>1 000	>2 000	-	>1 000 <i>E. coli</i>	-
Stilfontein	Matlosana LM	-	-	-	Clean	-	Clean	>1 000

NORTH WEST								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Swartruggens	Kgetlengrivier LM	-	-	-	-	Clean	Clean	>1 000
Vryburg	Naledi LM	>10 000	Clean	Clean	Clean	High phosphate counts	>1 000 <i>E. coli</i> >1 000 faecal coliform bacteria	>1 000
Wolmaransstad	Maquassi Hills LM	-	-	-	>1 000	-	Clean	Clean
Zeerust	Ramotshere Moiloa LM	-	-	-	Clean	-	-	>10 000



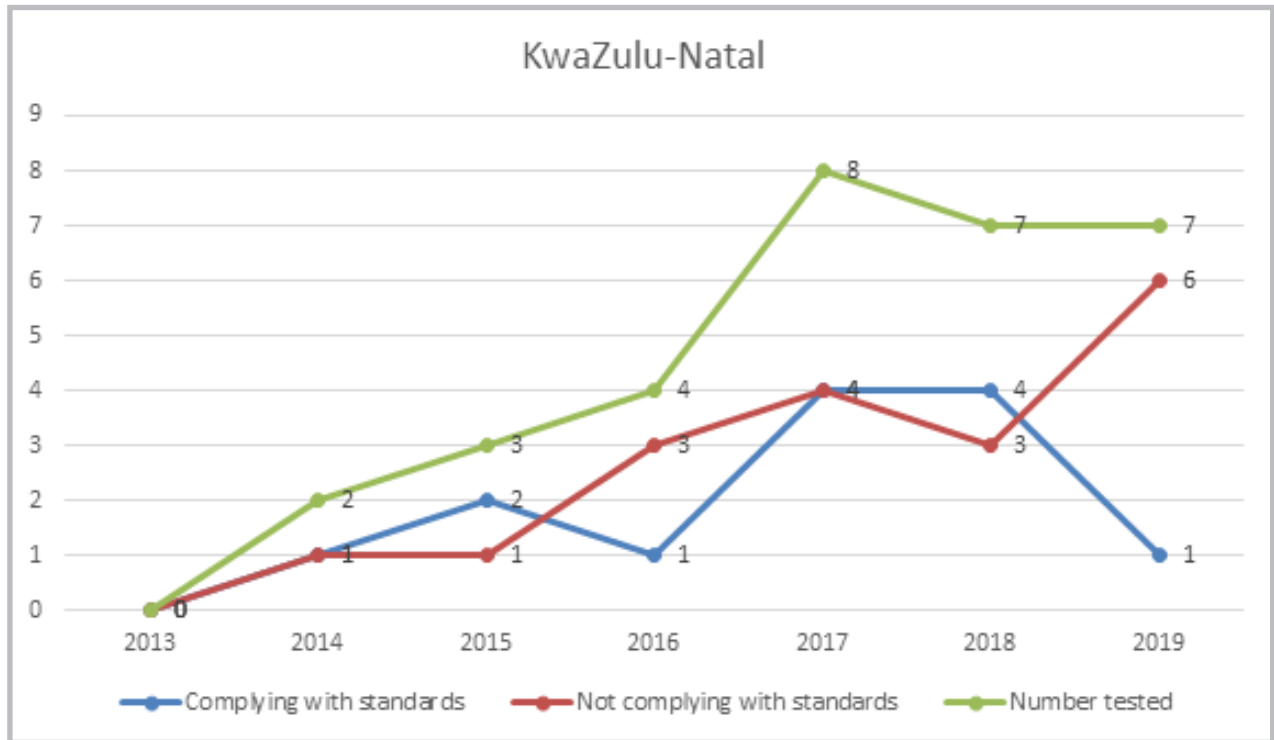
LIMPOPO								
Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Ellisras	Lephalale LM	-	-	-	-	High phosphate counts >15 000	>100 000 <i>E. coli</i> >100 000 faecal coliform bacteria	>1 000
Groblersdal	Elias Motsoaledi LM	-	-	-	>1 000	-	-	-
Leeupoort	Thabazimbi LM	-	-	Clean	-	-	-	-
Marble Hall	Ephraim Mogale LM	17 000	Clean	Clean	-	-	-	-
Naboomspruit	Mookgophong LM	1 000 000	1 000 000	Clean	-	>2 500	>100 000 <i>E. coli</i> >100 000 faecal coliform bacteria	>1 000
Nylstroom	Modimolle LM	-	-	-	>1 000	>1 000	>100 000 <i>E. coli</i> >100 000 faecal coliform bacteria	>1 000
Phalaborwa	Ba-Phalaborwa LM	110 000	1 300	Clean	3 700	4 000	>100 000 <i>E. coli</i> >100 000 faecal coliform bacteria	-
Pietersburg	Polokwane LM	-	110 000	Clean	-	-	>100 000 <i>E. coli</i> >100 000 faecal coliform bacteria	>1 000
Potgietersrus	Mogalakwena LM	1 200	92 000	Clean	-	-	-	-
Tzaneen	Groter Tzaneen LM	Clean	-	Clean	Clean	-	Clean	Clean
Warmbaths	Bela-Bela LM	1 000 000	-	Clean	-	-	Clean	Clean



### KWAZULU-NATAL

Location	Municipality	2013	2014	2015	2016	2017	2018	2019
Hluhluwe	The Big 5 False Bay LM	-	-	-	-	Clean	-	-
Ixopo	Ubuhlebezwe LM	-	-	-	-	Clean	-	-
Margate	Hibiscus Coast LM	-	-	-	>1 100	>1 100	>1 000 <i>E. coli</i>	>1 000
Newcastle	Newcastle	-	-	10 000	>2 000	>1 500	>1 000 <i>E. coli</i>	>1 000
Paulpietersburg	eDumbe LM	-	Clean	Clean	Water in tanks is clean	Clean	Clean	>1 000
Pongola	uPongola LM	-	-	-	>1 200	>4 200	Clean	>2 000
Utrecht	eMadlangeni LM	-	-	-	-	-	Clean	Clean
Richards Bay	uMhlathuze LM	-	-	-	-	-	Clean	>1 000
Underberg	Kwa Sani LM	-	-	-	-	Clean	-	-
Vryheid	Abaqulusi LM	-	Clean	Clean	-	>2 000	>1 000 <i>E. coli</i>	>5 000





National green drop results show a deterioration for 2019 of five percentage points from 47% to 52%. The deterioration with regard to pollution must be reason for concern. This deterioration is alarming and has to be put right, and drastic intervention is needed. A break down per province is even more worrying. Five (Gauteng, North West, Free State, Mpumalanga and KwaZulu-Natal) of the nine provinces today are producing more environmental pollution than a year ago. The results of the Western Cape have remained the same.

The pollution of the Vaal River is largely due to untreated or insufficiently treated municipal sewage being discharged into the river. It has been shown that 55% of the towns along

the Vaal River with sewage plants tested by AfriForum are polluting the river directly on a daily basis. Pollution on a large scale also occurs because of raw sewage running freely from manholes, canals and pumping stations into tributaries of the Vaal River and also into the Vaal River itself.

Another problem is that most of the rivers in the country are being polluted by sewage plants that are not up to standard, and water from these rivers in most cases is then again used for water purification for towns as well as for agricultural purposes.

---

## PLAN OF ACTION

The 2019 report broached several issues with municipalities across the country who are responsible for water quality.

In 2018, AfriForum's local branches highlighted poor quality of drinking water and sewage during municipalities' public participation processes for integrated development plans. AfriForum branches also compiled action lists and submitted these lists to municipal managers to improve water quality. In this way, AfriForum is trying to ensure that municipalities will budget adequately in the coming financial year to be able to provide in the needs of the communities regarding drinking water and sewage.

The 2019 report will be used as a base study to measure the same infrastructure in the areas of all AfriForum branches in 2020.

The process of ensuring compliance includes the following:

1. A comprehensive performance record or paper trail is being established to keep record of the water quality of towns.
2. Non-compliance is addressed in letters demanding a comprehensive plan of action from the responsible authority. The municipality concerned has to indicate how and by what date it is going to meet certain requirements that are currently not met.

3. Should municipalities fail to solve the issues, legal action is taken. The possibility exists of a criminal charge being brought against the administrative official, or the route of private prosecution may be followed.
4. AfriForum furthermore is obliged to assist its members by making short-term water purification products available.
5. This report will also be submitted to the Green Scorpions for further investigation of sewage plants not complying with the requirements.
6. The 2019 report – containing seven years' blue and green drop information – will be handed to the responsible Minister to discuss and implement strategies to address these problems.
7. AfriForum branches also are going to drive self-help initiatives to enable communities themselves to solve problems caused by the state.

AfriForum believes and trusts that municipalities will co-operate to solve these important issues with a view to ensuring a safe and healthy environment for all in South Africa.

---

## SUMMARY

Any deterioration in the quality of drinking water could be life-threatening. This risk is being aggravated because South Africa is still recovering from a serious drought, with a scarcity of water for human consumption, given the high water losses through the water reticulation infrastructure. It stands to reason that agriculture and industry should receive the major part of the country's available water for cultivation and production.

AfriForum is concerned about the management of the entire water supply chain, but even more so about the management of South Africa's treated sewage. The results of the 2019 survey indicate that there has indeed been an improvement in the quality of drinking water in South Africa. Four towns show an improvement compared to last year's report, but it still is a matter of grave concern that some towns are not getting clean drinking water. What is most concerning, however, is that all these towns are situated in North West – a clear indication of the mismanagement in North West.

However, taking into account the large number of sewage pollution complaints across the country, the green drop results do reflect some improvement in the STWs tested by AfriForum and of which historic records are kept. In light of the deterioration, the country is facing very high levels of sewage pollution as a result of the backlog in infrastructure maintenance and incompetent management. This deterioration indicates an invisible crisis threatening communities across South Africa that is now becoming visible at places, such as with the Vaal River crisis. South Africa's water resources are experiencing a serious crisis that has to be tackled at national level by the national government.

AfriForum is using several remedies to fight against the municipalities that are so badly managed, as in the case of the Rooiwal court case. Following a court case of three years, the Tshwane Metro had no option but to enter into a settlement agreement with AfriForum in February 2019 on maintenance and repairs at the Rooiwal sewage works. The Metro Council also has to bear the legal costs of this action, and the court order included a maintenance schedule for the maintenance and repairs at the Rooiwal sewage works to be carried out at specific dates. The deterioration of the Rooiwal sewage works was brought to the attention of the Metro Council by members of AfriForum, following which this civil rights organisation in October 2016 launched an urgent court application. The Metro promised to report to the court the progress made with regard to the maintenance and repairs, but failed to do so. Consequently, AfriForum had to again place the application on the roll for the order to be made final. Driving such a court case is a protracted process.

AfriForum will position itself across South Africa to use all appropriate resources to ensure that issues of water quality are addressed immediately to protect this valuable resource. Letters on non-compliance have been forwarded to municipalities, requiring immediate action not only to prevent peoples' lives being endangered but also to ensure sustainable water management. Where the minimum standards for drinking water are not maintained, AfriForum will take it up with the municipalities in question, using available remedies, including possible legal processes.

The 2019 survey will be used for monitoring the same infrastructure as well as others in the future.

"It is of cardinal importance for us to test the quality of our drinking water and sewage on a permanent and continuous basis. We have to protect this critical resource and ensure that what happened in Bloemhof in 2014 is not repeated." — AfriForum's Lambert de Klerk, Environmental Affairs Manager

