Water Services in South Africa

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Designation: Chief Director: Water Use Compliance and Enforcement

Drinking Water (Blue Drop)
Wastewater (Green Drop)
Water Conservation and Demand Management (No Drop)

WATER IS LIFE - SANITATION IS DIGNITY

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

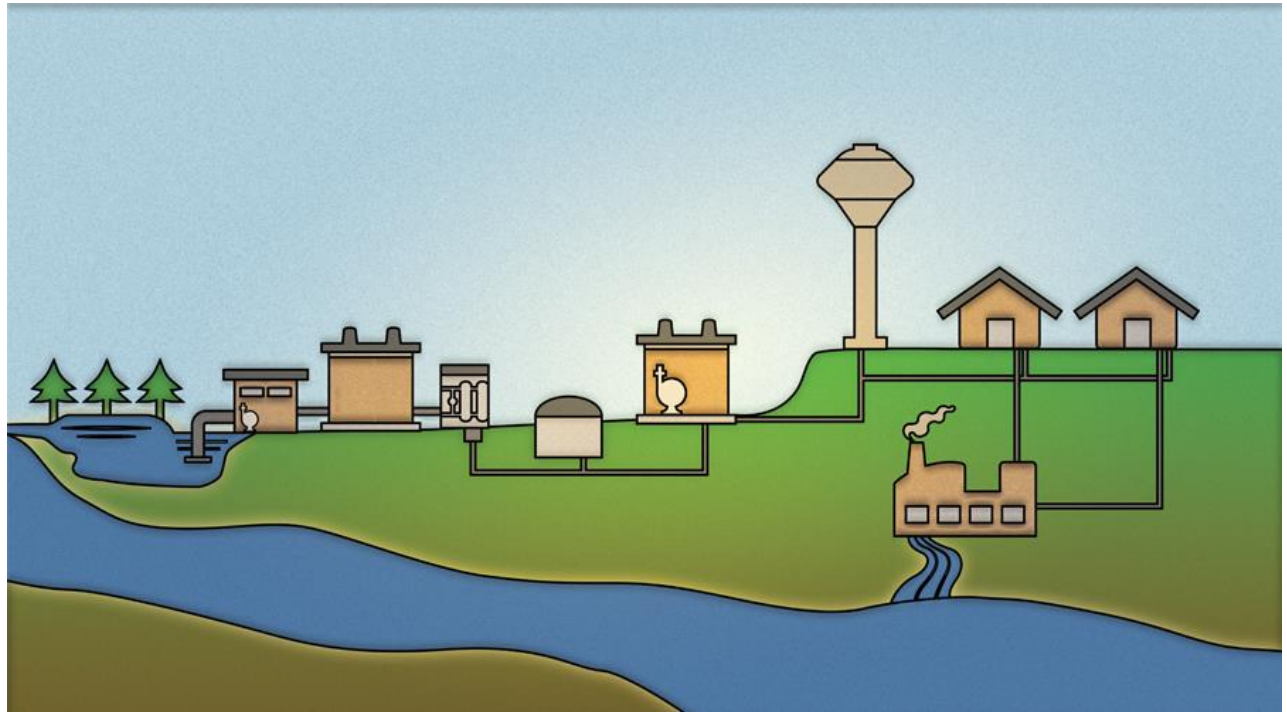
2030 NDP

Introduction to the Drop Programmes

- The Green, Blue and No Drop Certification programmes are tools to provide regulatory information regarding water services, which are largely the Constitutional responsibility of municipalities
- DWS introduced these incentive-based regulation programmes in 2008
- In 2014 DWS stopped the programmes
- Minister Mchunu reintroduced the programmes in 2022 after being appointed as Minister in late 2021

The domestic water cycle

Water for domestic use goes through a cycle.



1. Raw water is drawn from rivers and dams and treated in Water Treatment Works by either water boards or municipalities before it is supplied to households.
2. Treated water is required by law to meet drinking water standards set by the South African Bureau of Standards in South African National Standard (SANS) 241. Municipalities and water boards are also required to conduct regular tests on the treated water to ensure that it complies with the standard.

3. After the water has been used by households, it goes through the sewer system to municipal wastewater treatment works. The wastewater treatment works remove waste from the water and then return the water to the rivers. The effluent from wastewater treatment works which goes into rivers is also required to meet minimum standards, set by the Department of Water and Sanitation.

What the Blue and Green Drop reports focus on

- The **Green Drop report** is a comprehensive assessment of the state of all **wastewater treatment systems** in South Africa, including municipal, Department of Public Works and private wastewater treatment systems
- The **Blue Drop report** is a similar assessment of the state of all **drinking water systems** (including Water Treatment Works and municipal water distribution systems) in the country
- Both reports cover:
  - assessments of the condition of the infrastructure
  - whether the capacity of the infrastructure is sufficient to deal with the demand
  - whether the required maintenance is being done on the infrastructure
  - whether the infrastructure is operated correctly
  - whether the proper treatment processes are followed
  - whether proper monitoring and controls are in place
  - whether the staff have the necessary skills and qualifications

What the No Drop report focuses on

- The **No Drop report** is an assessment of the degree to which the drinking water distribution systems of municipalities supply water efficiently, without **wasting water**
- The No Drop assessment covers:
  - levels of physical water losses in the system (for example through leaks in pipes)
  - levels of non-revenue water
  - the average amount of water used per capita per day
  - whether infrastructure is being maintained properly to minimise wastage
  - the existence of plans and strategies to reduce water losses; the effectiveness of metering, billing and revenue collection systems

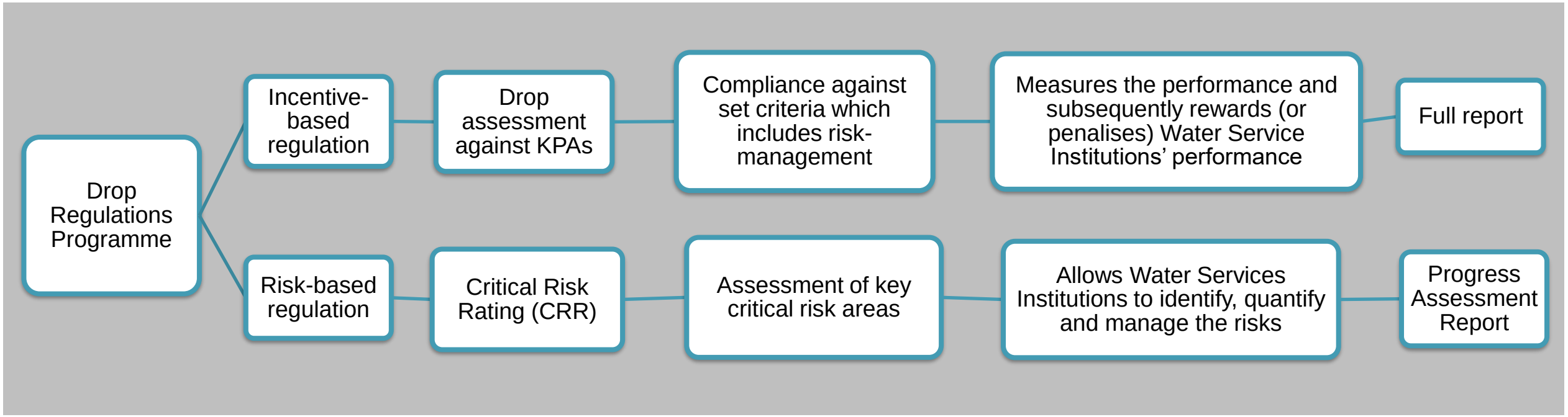
Purpose of the Drop reports

- The aim of this uniquely South African regulatory tool is to improve municipal drinking water quality, wastewater management as well as water conservation and demand management
- The reports keep the public and stakeholders informed and updated with credible data and information about the state of water and sanitation services in the country
- The reports also recognise water services institutions that achieve compliance and excellence in providing such services. This serves as an incentive for water services institutions to improve their performance
- The reports identify what needs to be done to address each of the shortcomings identified in the reports
    - In this regard, the reports are a support mechanism, in addition to being a regulatory mechanism, because they provide the owners of the infrastructure with advice and guidance as to how to improve their water and sanitation services

Publication of the reports

- Each full or comprehensive drop report is released every two years, with progress assessment reports in alternate years
- The Progress Assessment Tool is a risk assessment for each registered treatment works
- The full Green Drop was released in 2022, along with Blue Drop progress assessment report
- **Today the full Blue Drop and the full No Drop reports are being released, along with the Green Drop progress assessment report**
- The full Blue Drop and Green Drop reports measure and compare the performance of Water Service Institutions, and subsequently rewards (or penalises) the institution based on evidence of excellence (or failures) when measured against the defined standards
- The full Blue Drop and Green Drop reports cover the entire system including the distribution or collection network, pumpstations and treatment works for either water or wastewater
- The full No Drop report provides an assessment of water losses and non-revenue water in all municipalities in the country

Publication of the reports: graphic



Blue Drop 2023 Report

Audit year: 1 Jul 2021- 30 Jun 2022

This presentation covers key findings of the 2023 Blue Drop Assessment. The full reports provide more detailed and additional information. The national report and detailed provincial reports are available for download from www.dws.gov.za

2022-23 Blue Drop assessment process

- All 144 water services authorities (WSAs, i.e. municipalities given the responsibility for water services provision by the Minister of COGTA) were audited during the period 1 July 2021- 30 June 2022
- These WSAs own and operate 958 Water Supply Systems (WSS) (each water services authority is responsible for several different water supply systems)
- Most municipalities are provided with bulk water services by the water boards which were also audited
- Each WSA and water board was requested to provide information on their performance against all the Blue Drop criteria
- All the WSAs and water boards were trained on the criteria and the audit process to be followed and were requested to submit information
- DWS then carried out on-site assessments to verify the information provided
- Sessions were then organised with all the WSAs and water boards to clarify any anomalies found
- Finally, sessions were held with all the WSAs and water boards to give feedback on the results and to indicate what the municipalities and or water boards need to do to improve their performance

2022-23 Blue Drop audit coverage

Province	# Water Services Authorities	# Water Supply Systems	# Water Treatment Works
Eastern Cape (EC)	14	154	222
Free State (FS)	19	80	75
Gauteng (GP)	9	29	19
KwaZulu Natal (KZN)	14	172	190
Limpopo (LP)	10	84	85
Mpumalanga (MP)	17	100	107
Northern Cape (NC)	26	176	158
North West (NW)	10	39	33
Western Cape (WC)	25	124	126
Totals	**144**	**958**	**1,015**
SANParks (DFFE) in Mpumalanga	1	13	13
Totals		**971**	**1,028**

Note: Water supply systems include both water board and municipal water supply systems.

2023 Blue Drop: Key Performance Areas summary

KPA and sub-KPAs	Sub-weight
KPA 1: CAPACITY MANAGEMENT	15%
1.a) Registration of Water Treatment Plant	20%
1.b) Registration of Process Controllers and Supervisor	20%
1.c) Maintenance Capacity	20%
1.d) Engineering Management Capacity	20%
1.e) Scientific Capacity	20%
KPA 2: DRINKING WATER QUALITY RISK MANAGEMENT	20%
2.a) Water Safety Planning	40%
2.b) Operational Monitoring	10%
2.c) Compliance Monitoring	20%
2.d) Laboratory Credibility	20%
2.e) Incident Management Protocol	10%
KPA 3: FINANCIAL MANAGEMENT	15%
Water Treatment Operations and Maintenance Cost Determination done:	
i) Determined for the whole Water Supply System; or	
ii) Determined for part of the system; or	
iii) Not system specific (Global only); or	
iv) Not Done at all	
3.a) Water Supply Operations Cost Determination	35%
3.b) Water Supply Operations & Maintenance Budget	10%
3.c) Water Supply Operations & Maintenance Expenditure	25%
3.d) Supply Chain Management of Services and Treatment Products	20%
3.e) Capital Budget and Expenditure	10%

KPA and sub-KPAs (contd)	Sub-weight
KPA 4: TECHNICAL MANAGEMENT	15%
4.a) WTW Design and Supply Capacity Management	20%
4.b) Process Audit	30%
4.c) Water Reticulation Inspection	25%
4.d) Water Treatment and Supply system Asset Management	25%
KPA 5: DRINKING WATER COMPLIANCE	35%
5.a) Monitoring Data Submission to DWS	10%
5.b) Acute Health Microbiological Risk Compliance	30%
5.c) Chemical Compliance	20%
5.d) Risk Defined Compliance	15%
5.e) Treatment (Operational) Efficiency Index	5%
BONUSSES	
6.a) Process Control Training	25%
6.b) Performance Agreements	25%
6.c) Publication of Drinking Water Quality Results	25%
6.d) Water Demand Management	25%
PENALTIES	
7.a) Data variances and Discrepancies	50%
7.b) Non-notification of DWQ Failure	50%

2023 Blue Drop score categorisation

The Blue Drop Scores for each water supply system are categorised as follows:

	≥95-100%	Excellent situation, need to maintain via continued improvement
	≥80-<95%	Good performance, some room for improvement
	≥50-<80%	Average performance, ample room for improvement
	≥31-<50%	Poor performance, need targeted intervention towards gradual sustainable improvement
	0-<31%	**Critical state**, need urgent intervention for all aspects of the water services business

This categorization system is applied to the aggregated score for each water supply system and for each water services authority.

2023 Blue Drop scores by province

	No (%) of systems per Blue Drop score category **2014**						No (%) of systems per Blue Drop score category **2023**					
Province	**Total no systems**	**95–100 Excellent**	**80-<95 Good**	**50-80 Average**	**31-50 Poor**	**0-31 Critical**	**Total no systems**	**95–100 Excellent**	**80-<95 Good**	**50-80 Average**	**31-50 Poor**	**0-31 Critical**
EC	155	0 (0%)	39 (25%)	53 (34%)	32 (20%)	31 (20%)	154	0 (0%)	6 (4%)	88 (57%)	33 (21%)	27 (18%)
FS	79	6 (8%)	7 (9%)	41 (52%)	20 (25%)	5 (6%)	80	0 (0%)	2 (3%)	31 (39%)	16 (20%)	31 (39%)
GP	29	9 (31%)	17 (59%)	3 (10%)	0 (0%)	0 (0%)	29	3 (10%)	15 (52%)	8 (28%)	3 (10%)	0 (0%)
KZN	209	8 (4%)	16 (8%)	124 (59%)	43 (21%)	18 (9%)	172	3 (2%)	19 (11%)	95 (55%)	34 (20%)	21 (12%)
LP	74	1 (1%)	9 (12%)	19 (26%)	23 (31%)	22 (30%)	84	0 (0%)	0 (0%)	44 (52%)	14 (17%)	26 (31%)
MP	100	9 (9%)	7 (7%)	33 (33%)	28 (28%)	23 (23%)	100	4 (4%)	9 (9%)	42 (42%)	11 (11%)	34 (34%)
NC	173	2 (1%)	13 (8%)	76 (44%)	48 (28%)	34 (20%)	176	0 (0%)	5 (3%)	18 (10%)	30 (17%)	123 (70%)
NW	95	1 (1%)	2 (2%)	34 (36%)	26 (27%)	32 (34%)	39	1 (3%)	5 (13%)	13 (33%)	13 (33%)	7 (18%)
WC	122	8 (7%)	19 (16%)	61 (50%)	25 (20%)	9 (7%)	124	15 (12%)	47 (38%)	34 (27%)	20 (16%)	8 (6%)
Totals	**1036**	**44 (4%)**	**129 (12%)**	**444 (43%)**	**245 (24%)**	**174 (17%)**	**958**	**26** (3%)	**108** (11%)	**373** (39%)	**174** (18%)	**277** (29%)

The number of water supply systems in 2023 is slightly lower of that assessed in 2014 because some municipalities have merged some of their systems and some boreholes which were assessed in 2014 were not assessed in 2023.

2023 Blue Drop: key findings

- 26 water supply systems (WSSs) scored more than 95% and qualified for the prestigious Blue Drop Certification. In 2014, 44 WSSs were awarded Blue Drop status
  - An overall decline in excellence is noted between 2014 and 2023
- 277 of 958 (29%) WSSs (in 62 WSAs - see Annexure A) were identified to be in a critical state of performance compared with 174 WSSs (in 33 WSAs) in 2014
  - An overall increase in the number of systems in a critical state of performance is noted between 2014 and 2023
- Drinking water systems in the major metropolitan areas are generally performing well in terms of the Blue Drop key performance areas
- Gauteng has the highest percentage of drinking water systems with excellent or good performance (62%), followed by Western Cape (50%)*
- Northern Cape has the highest percentage of drinking water systems with poor or critical performance (87%). This has deteriorated from 48% in 2014
- The percentage of drinking water systems with poor or critical performance in Free State has also deteriorated markedly from 2014 (31%) to 2023 (59%)

* Notes:

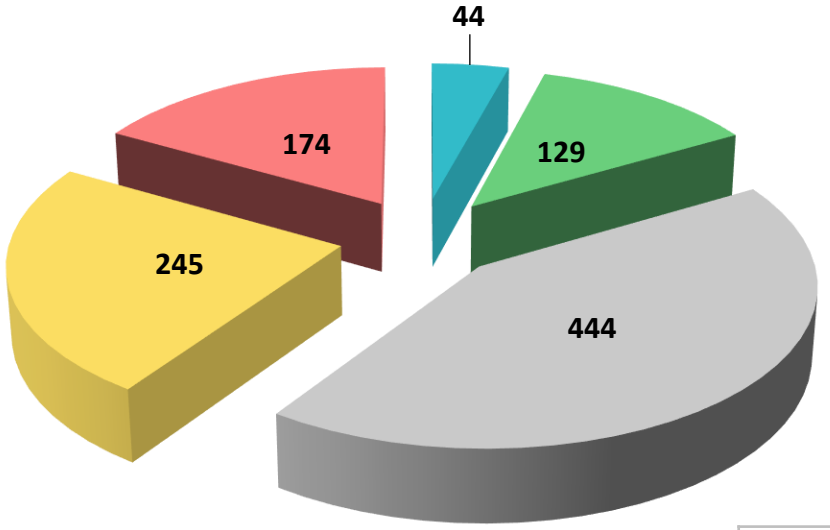
1. The water supply disruptions which have been experienced in Gauteng in recent months are caused by the demand for treated water occasionally exceeding the available supply of treated water, which is not something measured by the Blue Drop audit
2. One of the reasons for the good performance of systems in Gauteng is the fact that Rand Water manages the treatment of water and distribution elements of many of the systems in Gauteng

2023 Blue Drop: critically performing systems

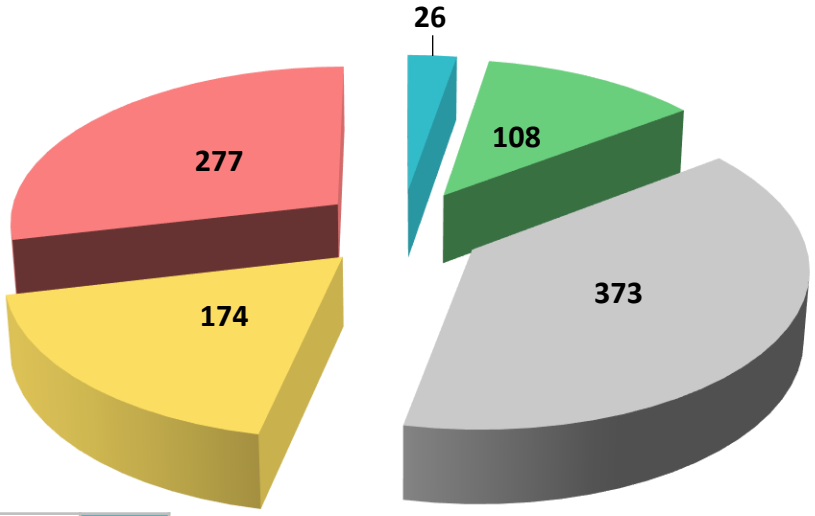
Province	2014 WSSs in a critical state of performance (<31%)	2023 WSSs in a critical state of performance (<31%)	2023 WSAs with systems in a critical state of performance
Eastern Cape	**31**	**27**	**5**
Free State	**5**	**31**	**9**
Gauteng	None	None	None
KwaZulu Natal	**18**	**21**	**4**
Limpopo	**22**	**26**	
Mpumalanga	**23**	**34**	**8**
Northern Cape	**34**	**123**	**22**
North West	**32**	**7**	**3**
Western Cape	**9**	**8**	**4**
Totals	**174**	**277**	**61**

2023 Blue Drop analysis: pie charts

2014 Blue Drop Assessment Results (water supply systems)

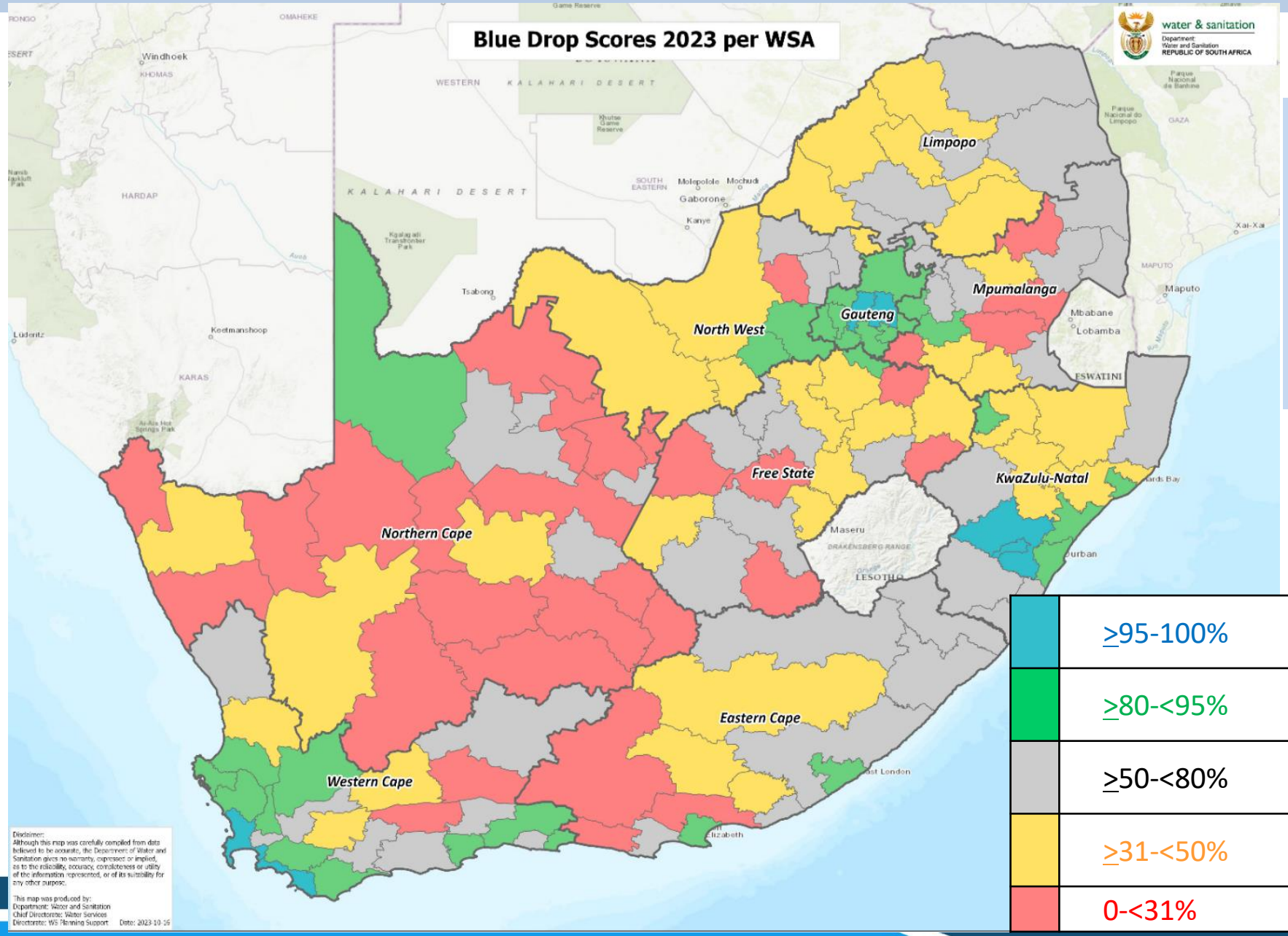


2023 Blue Drop Assessment Results (water supply systems)



≥95 – 100% Excellent	
≥80-<95% Good	
≥50-<80% Average	
31-<50% Poor	
0-<31% Critical state	

2023 Blue Drop scores: map



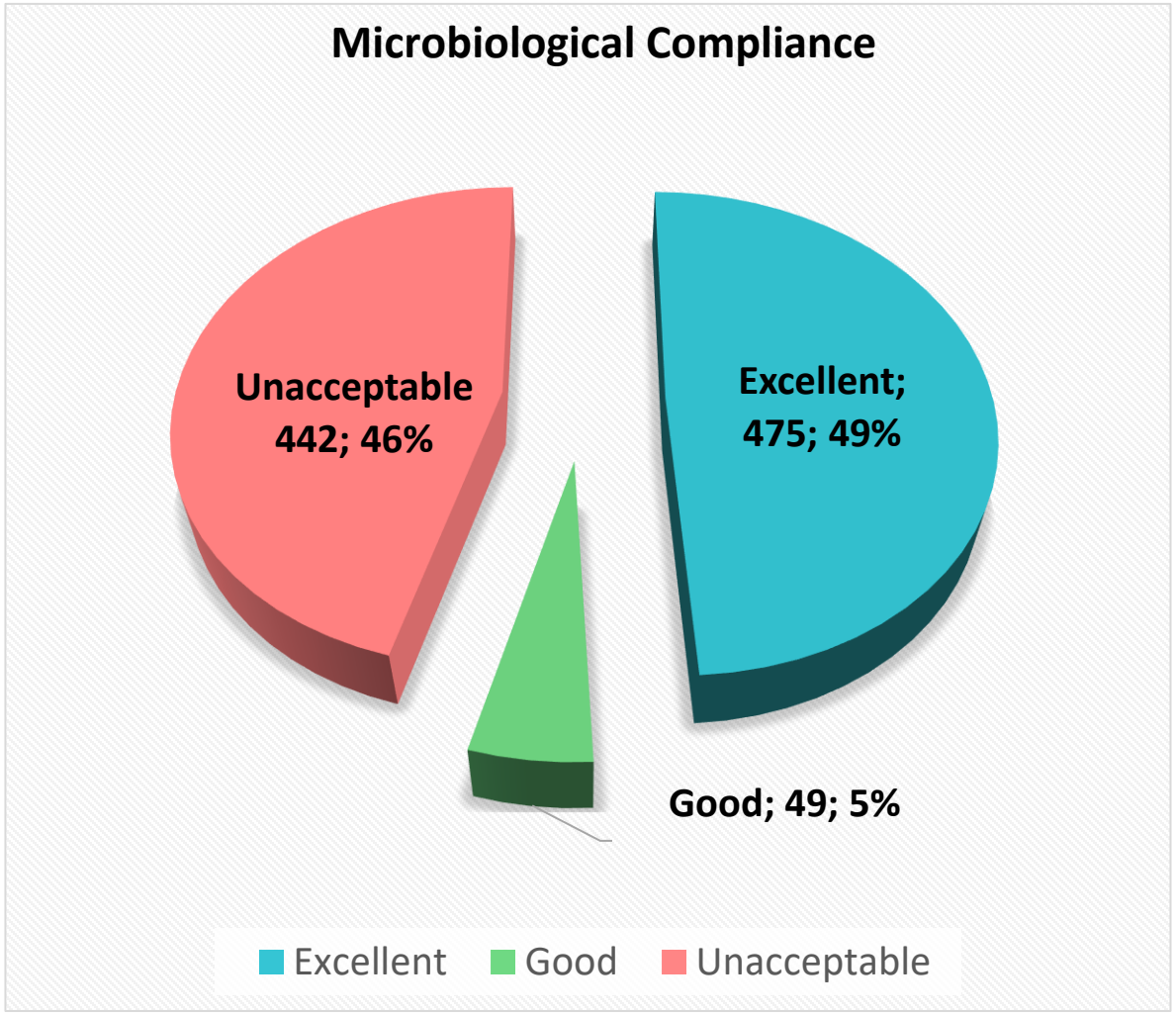
- 144 WSAs & 958 systems audited
- 7 Water Boards audited
- 26 Blue Drop Certifications
- 277 systems found to be in a critical state of performance

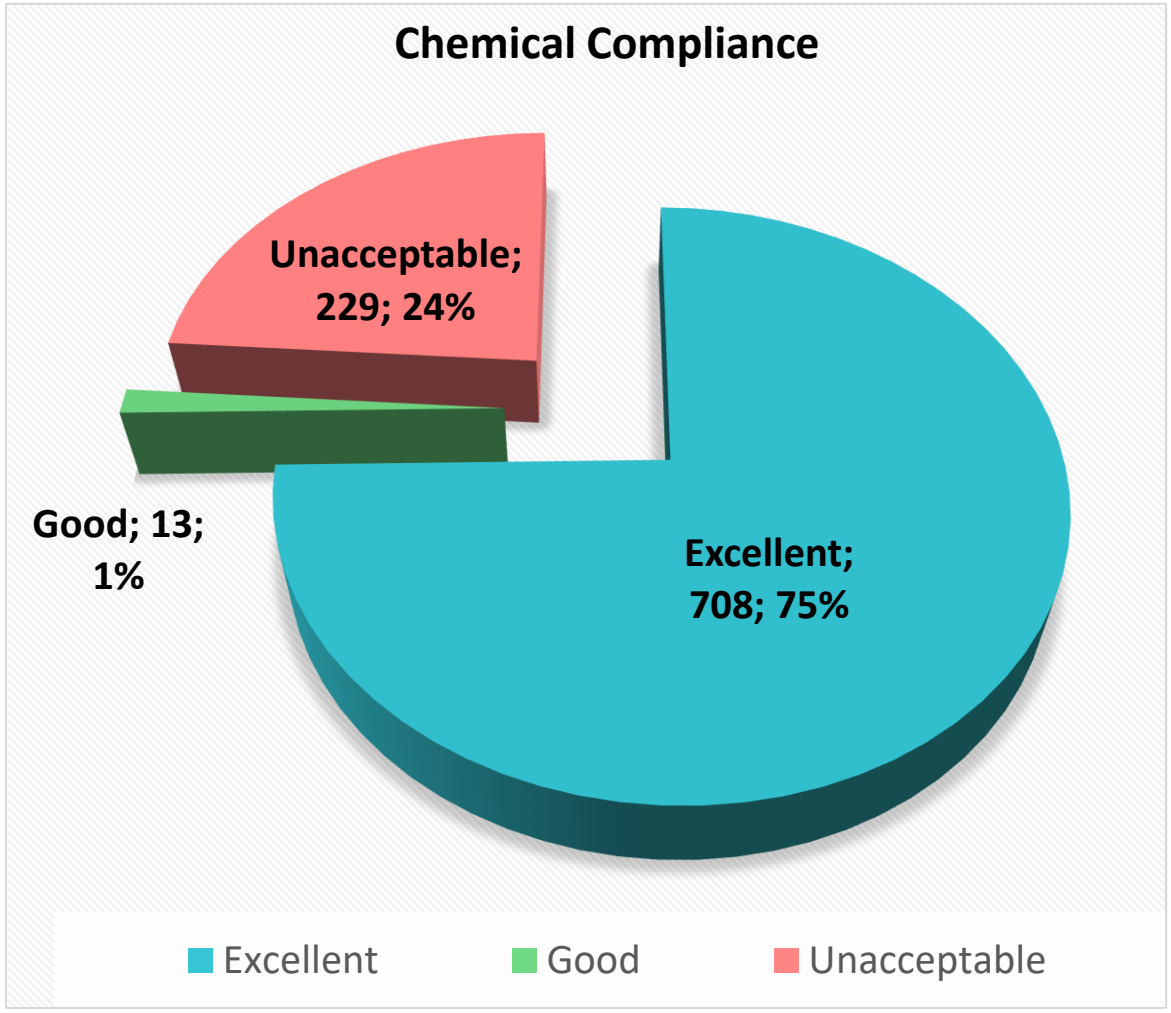
	≥95-100%	Excellent situation
	≥80-<95%	Good performance
	≥50-<80%	Average performance
	≥31-<50%	Very poor performance
	0-<31%	Critical state

2023 Blue Drop: findings regarding drinking water quality

- Based on water quality tests carried out by municipalities themselves during the 2021/2022 municipal financial year (2014 figures in brackets):
  - 54% of systems achieved excellent or good, 46% poor or bad microbiological water quality compliance (5% in 2014)
  - 76% of systems achieved excellent or good, 24% of systems unacceptable chemical water quality compliance (15% in 2014)
- The overall performance trend indicates a severe regression from 2014 to 2023, especially with regard to microbiological compliance
- Drinking water quality is generally good in the major metropolitan areas
- During the audit period, 14 water service authorities (see Annexure B) did not report water quality data to the Department or provide any other evidence that they have been testing their water quality:
  - The Department issued non-compliance notices to those municipalities instructing them to issue advisory notices to their residents that their water might not be safe to drink if it has not been properly tested
  - DWS followed up with these WSAs and some of them indicated that they are in the process of appointing laboratories, others commenced with sampling, and others provided evidence of testing and achieving drinking water quality
  - Where necessary these WSAs did issue advisory notices

2023 Blue Drop Drinking Water Quality: performance of water supply systems





Implications of 2023 Blue Drop drinking water quality findings

- According to the South African Bureau of Standards (SANS 241 which is informed by World Health Organisation Guidelines), it is not safe to drink water if less than 97% of tests for microbiological contaminants and chemical compliance conducted over a year comply with water quality standards
- **It was therefore not microbiologically safe to drink the water in almost half (46%) of our drinking water systems at times during 2022 when the Blue Drop audit was done**, which resulted in increased risk of life-threatening water-borne diseases such as cholera and chronic diarrhoea
- The Blue Drop report does not provide an indication of the current status of water quality in municipalities
- In terms of SANS241 and the norms and standards issued by DWS under the Water Services Act, when the tests carried out by a municipality indicate that the water supplied poses a health risk, **the municipality must inform** its consumers that the quality of the water that it supplies poses a health risk
- DWS has sent non-compliance letters to the municipalities having systems with poor or bad compliance in the 2023 Blue Drop Report. These letters require the municipalities to inform their residents should they still have poor or bad compliance
- The public can safely consume water from their taps if their municipalities indicate that the water being provided is being tested and meets the requirements of SANS 241 – residents should check with their municipalities if this is the case
- The department provides monthly water quality data received from municipalities on its Integrated Regulatory Information System webpage that can be accessed at ws.dws.gov.za/iris/mywater.aspx

2023 Blue Drop: drinking water infrastructure condition

- Of 151 systems (at least 1 per WSA and Water Board) physically assessed:
  - 3% of the sampled systems were found to be in a critical infrastructural condition, 12% in a poor infrastructural condition
  - 49% in an average infrastructural condition
  - 31% in good condition, and 5% in an excellent condition
- The fact that 85% of drinking water systems were in an average or better infrastructure condition indicates that non-infrastructure factors such as a lack of skilled staff or a lack of proper process controls are as important as infrastructure condition, if not more important, as contributors to poor performance
- The 2022 Green Drop report found municipal wastewater collection and treatment infrastructure to be in a worse condition (only 44% in an average or better infrastructure condition), indicating a reluctance of municipal councils to budget for maintenance of wastewater infrastructure in particular

2023 Blue Drop: technical competence

'Technical competence' assesses the technical human resources capacity that is available to manage and operate water treatment processes and maintain the related water infrastructure

Province	# WTWs	# WSSs	# Required Staff		# Available staff with required qualifications		Staff Shortfall	
			Process Controllers	Supervisors	Process Controllers	Supervisor	Process Controllers	Supervisors
EC	222	154	700	276	293	265	407 (58%)	11 (4%)
FS	75	80	276	72	154	58	122 (44%)	14 (19%)
GP	19	29	154	42	128	42	**26 (17%)**	**0 (0%)**
KZN	190	172	615	154	294	143	321 (52%)	11 (7%)
LP	85	84	439	46	235	35	114 (26%)	11 (24%)
MP	107	100	451	165	319	143	132 (29%)	12 (7%)
NC	158	176	370	75	52	52	**318 (86%)**	**23 (30%)**
NW	33	39	110	33	79	29	31 (28%)	4 (12%)
WC	126	124	415	247	272	230	143 (34%)	17 (7%)
Totals	**1,015**	**958**	**3530**	**1110**	**1,826**	**997**	**1,614**	**103**

- **Gauteng has the highest percentage of drinking water systems with excellent or good performance and the lowest shortfall of qualified staff**
- **Northern Cape has the highest percentage of drinking water systems with poor or critical performance and the highest shortfall of qualified staff**

2023 No Drop Report

Audit year: 1 Jul 2021- 30 Jun 2022

The report is available for download from www.dws.gov.za

water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

" Water is Life, Sanitation is Dignity "

2030 NDP

2023 No Drop: introduction

- As indicated earlier, the No Drop Programme assesses the degree to which the drinking water distribution systems of municipalities supply water efficiently, without wasting water
- No Drop assessment covers:
  - Levels of physical water losses in the system (for example through leaks in pipes)
  - Levels of non-revenue water
  - Amount of water used per capita per day
  - Whether infrastructure is being maintained properly to minimise wastage
  - Existence of plans and strategies to reduce water losses
  - Effectiveness of metering, billing and revenue collection systems
- All 144 Water Services Authorities were audited during the period 1 July 2021- 30 June 2022
- The Department trained the WSAs on the scope and the criteria for the audit cycle
- WSAs provided information which was verified by the Department

2023 No Drop: terminology

- Non-Revenue Water (NRW) is treated water that is bought or produced by the municipality for which the municipality gets no revenue
- NRW is caused by:
  - Physical losses e.g. water leaking out of pipes above or underground
  - Poorly functioning or non-existent water meters
  - Illegal connections
  - Poor billing and revenue collection
- Why is NRW a problem?
  - A huge amount of money has to be spent to develop dams to capture and store water. This money is wasted if that water is thrown away through leaks
  - Municipalities buy treated water from Water Boards. If municipalities do not get revenue from that water, then they cannot pay the Water Boards. If Water Boards don't get paid, they can't treat water anymore
  - If municipalities don't collect the revenue they are supposed to collect, then they cannot afford to maintain and operate the infrastructure
  - South Africa is a water scarce country and every drop counts! We cannot afford to throw treated water away through leaks

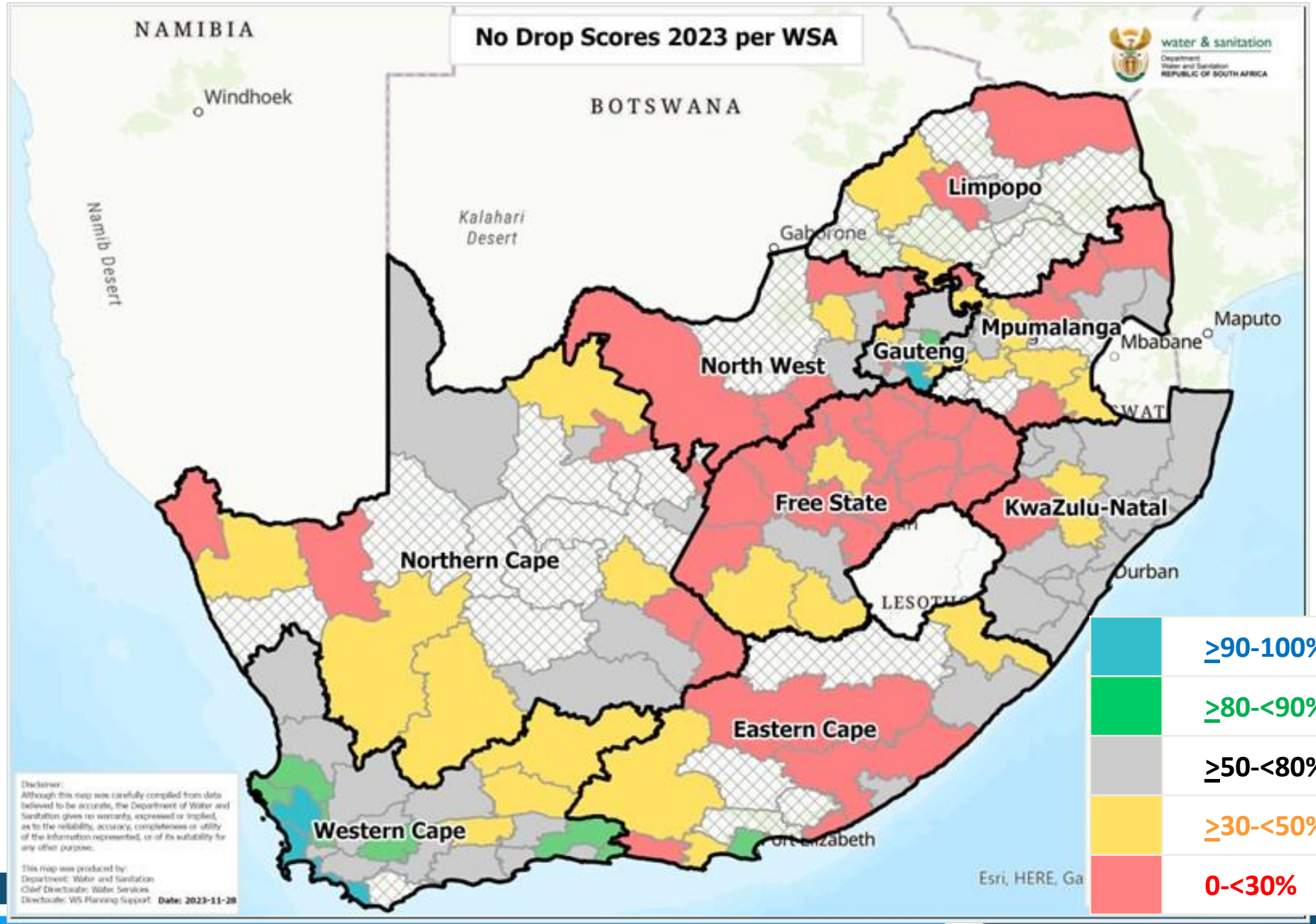
2023 No Drop: summary of criteria

Criteria and Sub-Criteria	Weight/Sub-weight
Criteria 1: WC/WDM Strategy, Planning and Implementation	45%
1.1 Water Resource Balance Diagram	5 %
1.2 Water Balance	20 %
1.3 WC/WDM Strategy, Business Plan and Implementation	20 %
CRITERIA 2: ASSET MANAGEMENT	10%
2.3 Consumer meter maintenance and replacement programme	5-10%
2.5 Monitoring and analysis of, and response to high water loss supply zones	0-5 % (Metro)
CRITERIA 3: TECHNICAL SKILLS	10 %
3.1 Availability and Competence of the water loss manager and team	10 %
CRITERIA 5: Compliance and Performance	35%
5.1 Repair of Reticulation leaks	5 %
5.2 Physical Losses	30 %
5.3 Commercial Losses	
5.4 Non-Revenue Water	
5.5 Water Use Efficiency	
BONUS	10 %
1 a) Multi-year water balances	10 %
PENALTY	10 %
1 b) Inclusion of the WDM strategy in the IDP	10 %

2023 No Drop: key findings

- 4 WSAs scored more than 90% and qualified for the prestigious No Drop Certification
- In 2014, 44 WSAs were awarded No Drop status
  - An overall decline in excellence is noted between 2014 and 2023
- 8 WSAs scored between 80 and <90%, which is good performance
- 64 WSAs scored below 30% (see Annexure C)
- The total volume of water treated for municipal use is 4.4 billion m3/annum. Of this, 2.1 billion m3/annum **(47%)** is estimated to be non-revenue water (NRW)
- NRW was **37%** in the 2014 No Drop report
- The international average for non-revenue water is **30%**
- The national trends suggest that average per capita water consumption is approximately **218 litres/capita/day** compared to the international average of **173 l/c/d**. This is an anomaly given that South Africa is a water scarce county
- The high level of physical losses in municipal distribution systems is one of the main reasons for the relatively high level of per capita consumption in South Africa
- Poor operation and maintenance of infrastructure leads to unacceptably high physical losses
- In order to reduce non-revenue water, municipalities need to improve operation and maintenance of their infrastructure; repair leaks; improve metering, billing, revenue collection, and debtor management; improve pressure management; and engage in community education and awareness; amongst other measures

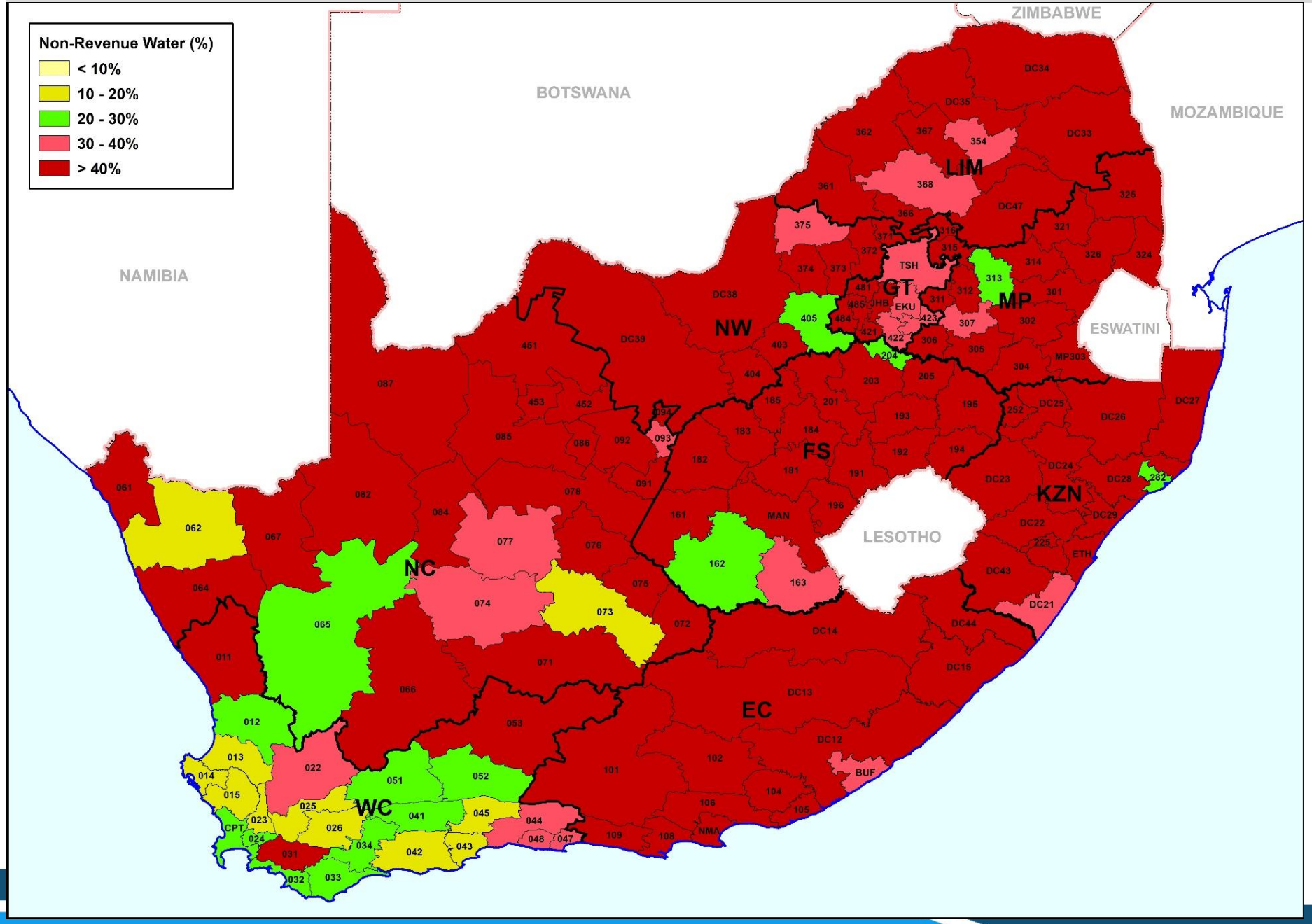
2023 No Drop: map



- 144 WSAs audited
- 4 No Drop Certifications
- 64 critical state WSAs

	≥90-100%	Excellent situation
	≥80-<90%	Good performance
	≥50-<80%	Average performance
	≥30-<50%	Poor performance
	0-<30%	Critical state

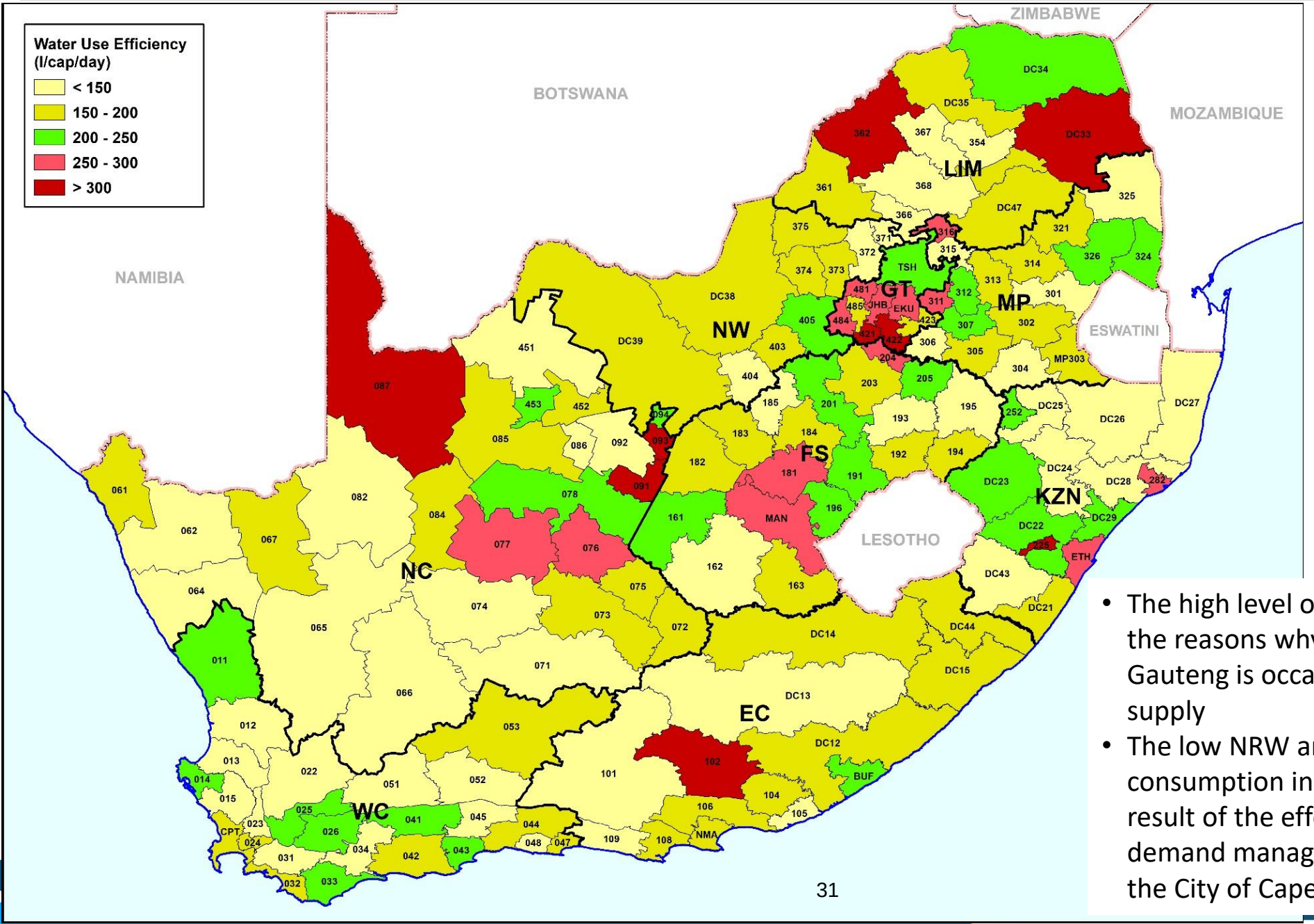
2023 No Drop: percentage NRW per WSA



Province	% NRW
EC	50.6
FS	59.5
GP	49.2
KZN	60.5
MP	54.9
LP	57.7
NC	49.0
NW	55.6
WC	27.6
National	**47.4**

The high levels of NRW, including physical losses, in GP and KZN are one of the reasons for water supply disruptions that have been experienced there

2023 No Drop: average litres per capita per day (l/c/d) water consumption per WSA

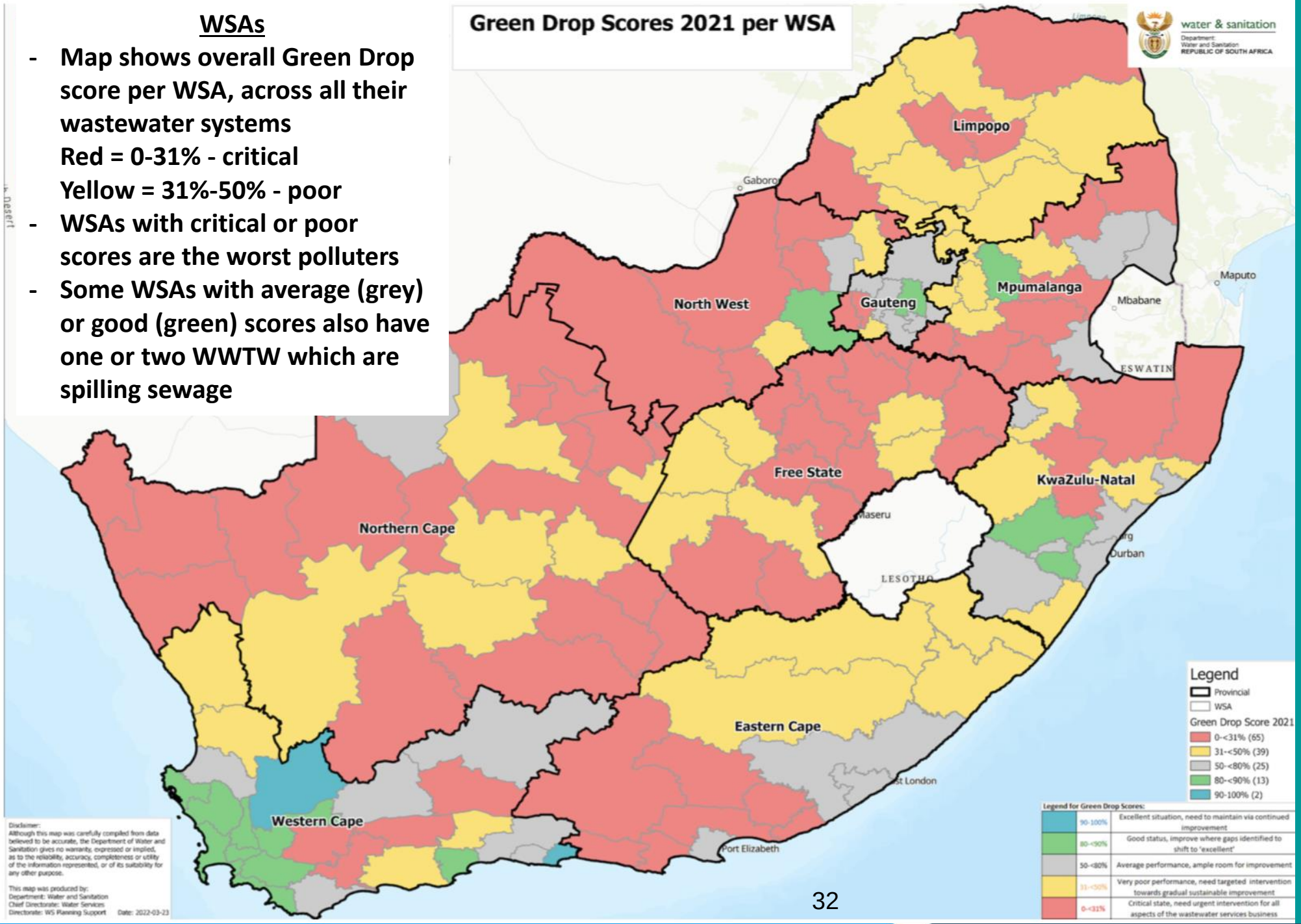


Province	l/c/d
EC	180
FS	196
GP	279
KZN	187
MP	179
LP	197
NC	193
NW	167
WC	164
National	**218**

- The high level of consumption in Gauteng is one of the reasons why the demand for treated water in Gauteng is occasionally exceeding the available supply
- The low NRW and low average level of consumption in Western Cape may be partly a result of the effective water conservation and demand management programme implemented by the City of Cape Town to avoid Day Zero

WSAs

- Map shows overall Green Drop score per WSA, across all their wastewater systems
  Red = 0-31% - critical
  Yellow = 31%-50% - poor
- WSAs with critical or poor scores are the worst polluters
- Some WSAs with average (grey) or good (green) scores also have one or two WWTW which are spilling sewage



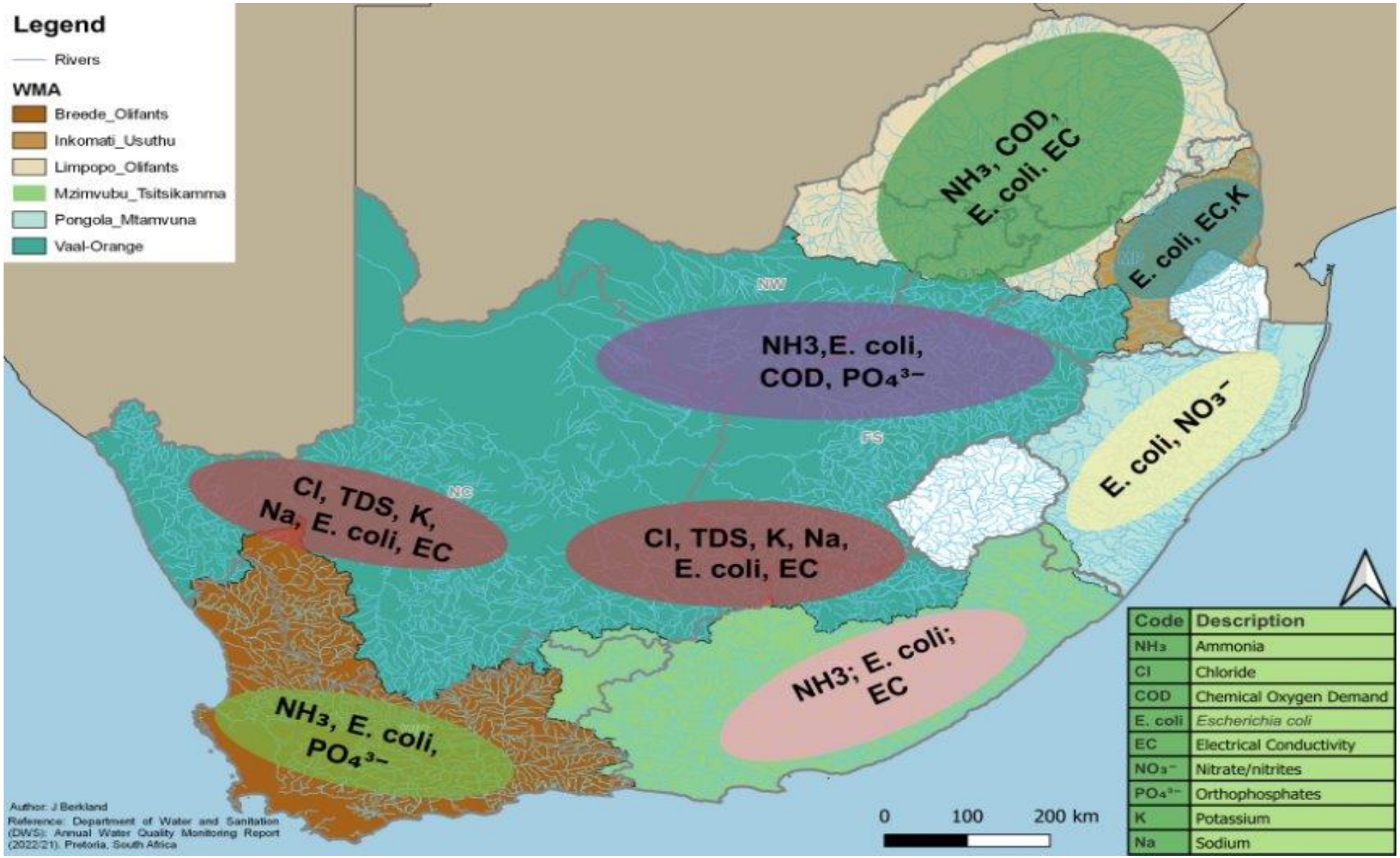
Wastewater systems

2022 Green Drop Report: 334 out of a total of 850 wastewater systems (40%) in 90 municipalities in a critical state of performance (30% in 2013)

Wastewater systems with critical or poor state of performance result in pollution through discharging partially treated or untreated water into rivers and the environment

2023 Green Drop Progress Assessment Report indicated further decline

Variables of concern per Water Management Area

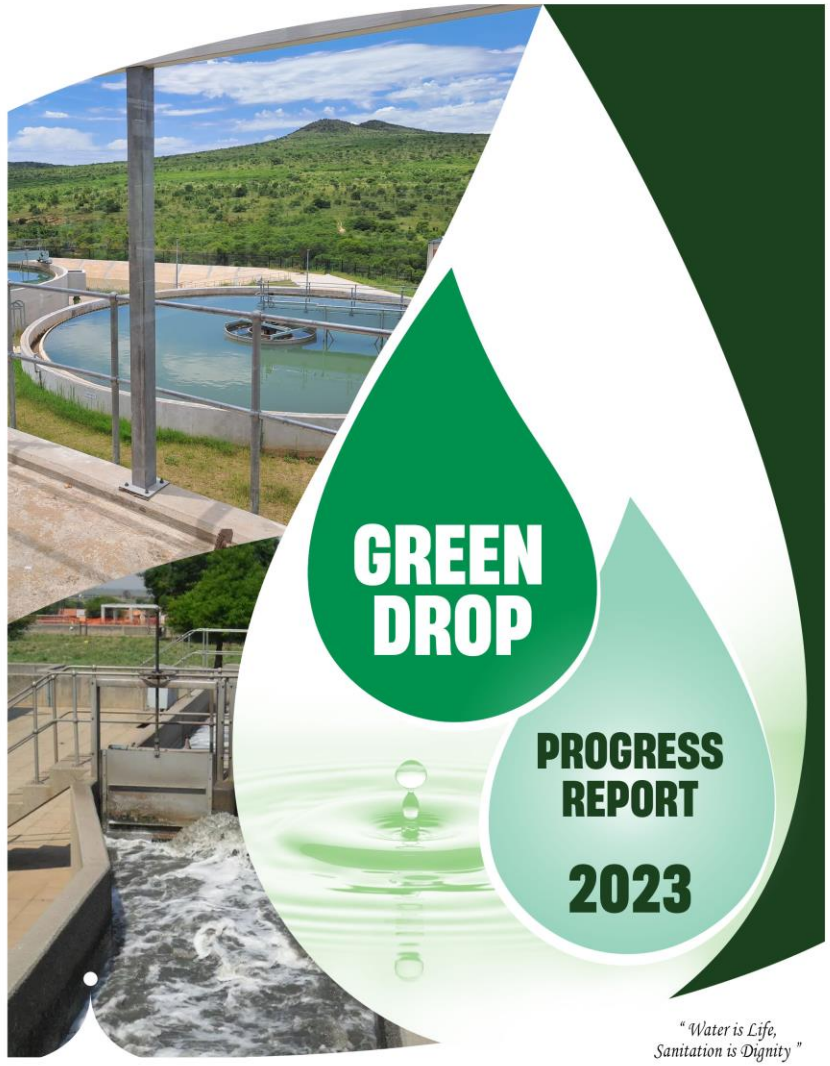


E.Coli is number 1 concern country wide

WWTW also contributes to ammonia and Phosphate levels

2023 Green Drop Progress Assessment Report

Audit year: 1 Jul 2021- 30 Jun 2022



The Report is available for download from www.dws.gov.za

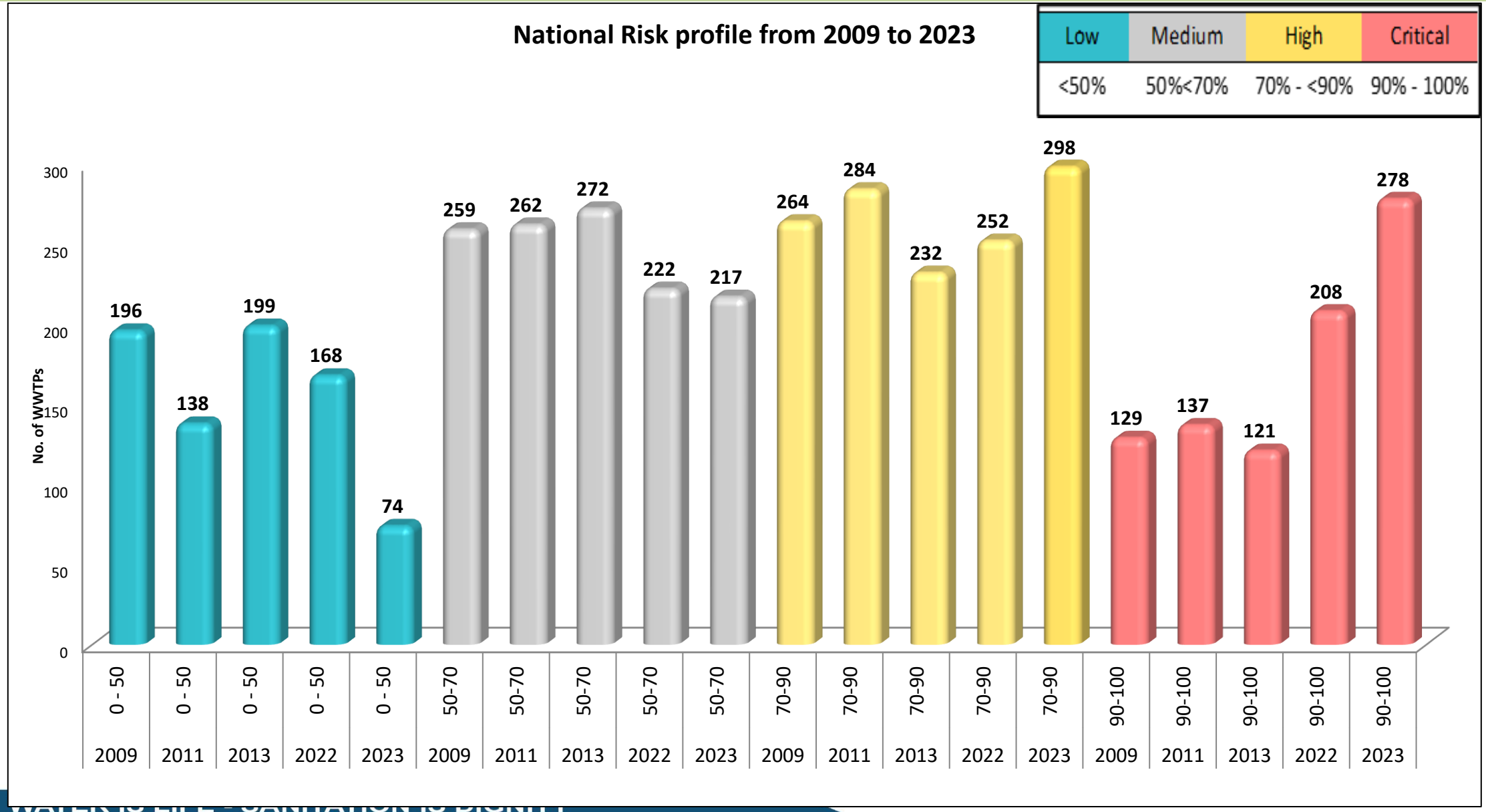
2023 Green Drop: introduction

- As indicated earlier, the Green Drop Progress Report focuses on wastewater treatment works (WWTWs) (the full Green Drop report, released in 2022 is more comprehensive and covers the sewer collection networks and pumpstations as well as the wastewater treatment works)
- The progress assessment report covers WWTW in:
  - 144 Water Services Authorities (867 WWTWs)
  - The Department of Public Works (107 WWTWs)
  - Eskom, Nedbank, Sasol and San Parks (29 WWTWs)
- Each WWTW was assessed in terms of:
  - Whether the plant has the capacity to process the amount of sewage going into it
  - Whether the WWTW have the required staff with the necessary qualifications and experience to properly operate and maintain the plants
  - Whether the plants meet the statutory requirements for the quality of the effluent coming out of the plants
- Each WWTW was categorised in terms of the risk that it poses, in terms of the risk of putting partially treated or untreated wastewater into the environment

2023 Green Drop: findings

- Results:
  - 9% of WWTWs are in the low-risk category
  - 25% of WWTWs are in the medium-risk category
  - 34% of WWTWs are in the high-risk category, and
  - 32% of WWTWs are in the critical-risk category
- WWTWs in the high risk or critical risk category are resulting in high levels of pollution through discharging partially treated or untreated water into rivers and the environment
- This has negative environmental implications and poses risks to human health, e.g. cholera outbreaks are normally associated with wastewater pollution of water resources
- Polluted water resources also raise the cost of water treatment
- The number of WWTWs in the high- and critical-risk categories have both increased since 2013

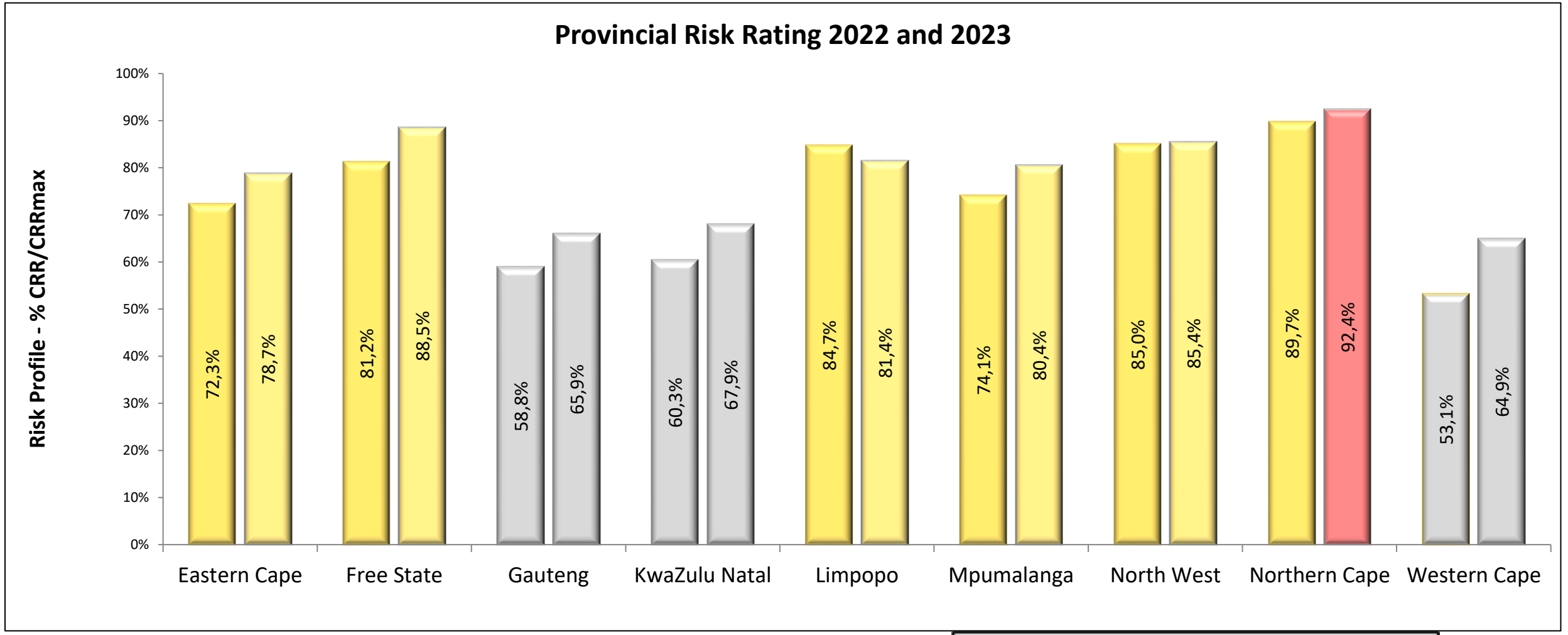
2023 Green Drop: graphic



2023 Green Drop: findings by province

- The report provides an average wastewater treatment risk rating per province, based on the risk ratings for WWTWs in that province
- None of the provinces have improved their WWTWs risk ratings since 2022
- The provincial risk ratings for WWTWs in Gauteng, KwaZulu-Natal and Western Cape have remained in the medium-risk category since 2022
- The performance of WWTWs in the Northern Cape worsened from high-risk to critical-risk rating between 2022 and 2023. 22% (18/81) of WWTWs in the Northern Cape are in the high-risk category and 74% (60/81) of WWTWs are in the critical-risk category
- All other provinces have remained in the high-risk category since 2022

2023 Green Drop: findings by province graphic



2022 (left bar) and 2023 (right bar)

Low	Medium	High	Critical
<50%	50%<70%	70% - <90%	90% - 100%

What government is doing to address the Drop results

Underlying causes of poor performance in terms of Drop reports

- Non-adherence to standard operating processes for drinking water treatment and wastewater treatment
- Infrastructure in a poor condition due to a lack of maintenance
- Causes:
  - Municipalities not hiring the necessary staff with the correct qualifications
  - Non-prioritization of budgets for maintenance and operations by municipal councils
  - Weak billing and revenue collection
  - Poor municipal leadership and management
- There is no legal requirement for municipalities to use revenues from the sale of water and from sanitation charges to fund the maintenance and operation of water and sanitation infrastructure
- Vandalism and metal theft of infrastructure are an increasing cause of infrastructure failure, but this is partly a result of inadequate security being provided by municipalities

Support to municipalities

- WSAs with water or wastewater systems in a critical state are required to submit detailed corrective action plans to DWS, and are offered support to produce these plans
- DWS Minister and Deputy Ministers spend most of their time crisscrossing the country visiting those municipalities with severe challenges with water and sanitation services
- DWS and Water Boards are supporting many of the municipalities to implement improvement plans agreed to by Ministry and municipal leadership
- DWS works with COGTA, the Municipal Infrastructure Support Agency, the Department of Human Settlements, and National Treasury to provide support to the worst performing municipalities, including:
  - Allocating infrastructure grants worth more than R20 billion per annum to municipalities
  - Technical and engineering support and assistance
  - Capacity building and training
  - Financial management advice and support

Limits to impact of support to municipalities

- Despite all the support being provided to municipalities, the drop reports indicate that water services continue to decline
- There are limitations to which national support programmes can turn around the decline:
  - In those cases where the leadership of the municipality is not responding to directives or not listening to advice or not accepting support, performance can only be improved by addressing the leadership challenges
  - The main cause of the decline in water services is poor maintenance and operation by municipalities – which must be funded by revenue from the sale of water by municipalities to customers
  - DWS and COGTA are repeatedly providing municipalities with grants to repair infrastructure, which is not maintained by the municipalities, deteriorates again rapidly, and then funding needs to be provided again
  - National government cannot make decisions to prioritise maintenance and operation funding on behalf of municipalities – these decisions must be made by municipal Councils
  - National government cannot hire staff on behalf of municipalities – the municipal leadership must prioritise the filling of key technical positions with appropriately skilled staff and budget for this from revenue
- Fundamental reform is required to arrest and turn around the decline in municipal water and sanitation services

Strengthening regulation of water services

- DWS will soon issue updated and more comprehensive national norms and standards for water and sanitation services
- DWS will also publish a National Regulatory Dashboard showing compliance with national norms and standards
- DWS has gazetted the Water Services Amendment Bill for public comment
- Water Services Act distinguishes between roles of Water Services Authority (WSA) and Water Services Provider (WSP) in municipalities
  - WSA is the part of the municipality that is responsible for ensuring that water services are provided according to national norms and standards (the local regulator)
  - WSP is the part of the municipality which is responsible for providing the service
- Bill introduces a compulsory operating license system for WSPs, to be managed by DWS as the national regulator
- This will enable WSAs to ensure that WSPs have minimum competency, capability, and performance levels
- Bill empowers Minister to instruct a WSA to appoint a Water Services Provider that is licensed
- Bill clarifies functions of WSAs and WSPs, including that billing and revenue collection for water is a WSP function
- Bill provides for Minister to implement regulatory enforcement protocols (non-compliance notices, directives) for water services, and to make gross non-compliance an offence, similarly to National Water Act

Thank You!

Annexure A:

List of water service authorities and their water supply systems in a critical state of performance per province

National BD Score (<31% Critical State) Summary

WSA Name	2023 Critical State (<31%)
Eastern Cape (5 WSA 27 WSS)	Water Supply Systems
Alfred Nzo DM	Kinira
Chris Hani DM	Farms & Rural, Hofmeyer and Tarkastad
Dr Beyers Naude LM	Aberdeen, Graaff-Reinet, Jansenville, Klipplaat, Nieu-Bethesda, Rietbron, Steytlerville, WaterFord, Willowmore and Wolwefontein
Koukamma LM	Blikkiesdorp, Clarkson, Coldstream, Joubetina, Kareedouw, Krakeel, Louterwater, Misgund, Sanddrif, Storms River and Woodlands
Sundays River Valley LM	Addo and Kirkwood

WSA Name	2023 Critical State (<31%)
Free State (10 WSA 31 WSS)	Water Supply Systems
Mafube LM	Frankfort, Tweeling, Villiers
Maluti-a-Phofung LM	Bluegumbosch, Kestell, Harankopane, Mphatlalatsane, Greater Qwaqwa, Makwane, Harrismith, Tshiame
Mangaung	Soutpan Krugersdrift Dam
Mantsopa LM	Hobhouse, Tweespruit
Masilonyana LM	Brandfort, Theunissen, Verkeerdevlei, Winburg
Mohokare LM	Rouxville, Smithfield, Zastron
Moqhaka LM	Steynsrus
Ngwathe LM	Parys, Vredefort, Koppies, Edenville boreholes
Setsoto LM	Clocolan, Senekal
Tokologo LM	Boshof, Dealesville

National BD Score (<31% Critical State) Summary

WSA Name	2023 Critical State (<31%)
KwaZulu Natal (4 WSA 21 WSS)	**Water Supply Systems**
Harry Gwala DM	Machunwini, Chibini
King Cetshwayo DM	Khombe, Pikiliyeza
Umzinyathi DM	12 of 13 WSSs
Zululand DM	Coronation, eMondlo, Hlobane, Louwsberg, Vryheid
Limpopo (6 WSA 26 WSS)	**Water Supply Systems**
Bela-Bela LM	Radium, Rapotokwane
Capricorn DM	Alldays, Botlokwa, Mogwadi and Senwabarwana
Greater Sekhukhune DM	Flag Boshielo, Kutullo, Magukubjane, Mahlokoena, Mapodile, Marishane, Masemola, Ngwaabe, Nkosini, Penge, Steelpoort, Tsakane and Vergelegen
Modimolle/Mookgophong LM	Mookgophong, Mabaleng, Mabatlane and Roedtan
Mopani DM	Drakensig
Thabazimbi LM	Leeupoort and Rooiberg

WSA Name	2023 Critical State (<31%)
Mpumalanga (8 WSA 34 WSS)	**Water Supply Systems**
Albert Luthuli LM	All 8 WSSs
Dipaleseng LM	Greater Dipaleseng
Emakhazeni LM	Belfast, Dullstroom
Mbombela/Umjindi	Elandshoek, Hazyview, White River, White River Country & Golf Estates, Mjindini Trust-Madakwa, Rimers-Suid Kaap, Sheba, Mjejane, Legogote, Nyongane River, Dwaleni, Mshadza
Mkhondo LM	Rural WSS
Msukaligwa LM	Breyten, Davel, Douglas dam, Lothair, South works (noitgedacht farm)
Thaba Chweu LM	Coromandel, Graskop, Lydenburg, Sabie
Thembisile LM	Langkloof

National BD Score (<31% Critical State) Summary

WSA Name	2023 Critical State (<31%)
Northern Cape (22 WSA 123 WSS)	**Water Supply Systems**
!Kai! Garib LM	All 16 WSSs
!Kheis LM	Gariep, Grootdrink, Wegdraai
Dikgatlong LM	Barkley West, Windsorton
Emthanjeni LM	All 3 WSSs
Gamagara LM	Dibeng
Ga-Segonyana LM	23 of 24 WSSs
Joe Morolong LM	17 of 18 WSSs
Kamiesberg LM	All 16 WSSs
Kareeberg LM	All 3 WSSs
Karoo Hoogland LM	All 3 WSSs
Kgatelopele LM	Danielskuil
Khai-Ma LM	All 4 WSSs
Magareng LM	Warrenton
Nama Khoi LM	Buffelsrivier, Carolusberg, Goodhouse, Kommagas, Rooiwal, Vioolsdrift
Phokwane LM	Hartswater, Jan Kempdorp
Renosterberg LM	All 3 WSSs
Richtersveld LM	All 5 WSSs
Siyancuma LM	All 4 WSSs
Siyathemba LM	Marydale
Tsantsabane LM	Skeyfontein
Ubuntu LM	All 5 WSSs
Umsobomvu LM	All 3 WSSs

National BD Score (<31% Critical State) Summary

WSA Name	2023 Critical State (<31%)
North West (3 WSA 7 WSS)	Water Supply Systems
Dr. Ruth S Mompati DM	Bogosing, Majeakgoro, Pudimoe, Schweizer Reneke
Kgetlengrivier LM	Koster, Swartruggens
Ngaka Modiri Molema DM	Ratlou: Kraaipan Cluster B/H

WSA Name	2023 Critical State (<31%)
Western Cape (4WSA 8 WSS)	Water Supply Systems
Beaufort West LM	Murraysburg, Nelspoort
Hessequa LM	Jongensfontein
Kannaland LM	Ladismith, Van Wyksdorp, Zoar
Prince Albert LM	Klaarstroom, Prince Albert

Annexure B:

List of water service authorities that failed to provide microbiological water quality information for the Blue Drop audit period

Water Service Authorities (WSAs) that failed to provide microbiological water quality information for the BD audit period

Name of WSA	Name of Water Supply System	Name of WSA	Name of Water Supply System
Kou-Kamma LM (EC)	Joubertina, Krakeel Louterwater Misgund	**Maluti a Phofung LM (FS)**	Bluegumbosch Supply system Greater QWAQWA Supply System HaRankopane Supply System Harrismith water Supply System Kestell Supply system Makwane water supply system Mphatlalatsane Supply System Tshiame Water Supply System
Mafube LM (FS)	Frankfort Tweeling Villiers		
Ngwathe LM (FS)	Edenville Boreholes Koppies Supply System Parys Vredefort supply system		

Water Service Authorities (WSAs) that failed to provide microbiological water quality information for the BD audit period

Name of WSA	Name of Water Supply System	Name of WSA	Name of Water Supply System
Modimolle/Mookgopong Local Municipality (L)	Mookgophong Supply System Roedtan borehole System LIM365:Mabaleng Res(Borehole MM 006/2010) LIM365:Mabatlane Res (Borehole MM 007/2010)	**Thaba Chweu Local Municipality (Mpu)**	Coromandel Water Treatment Plant Graskop Water Supply System Lydenburg Water Treatment Plant Sabie Water Supply System
Thabazimbi Local Municipality (L)	Rooiberg Water Scheme Leeupoort Water Scheme	**Khai-Ma Local Municipality (NC)**	Onseepkans (Melkbosrand TW) System Onseepkans (RK) System Witbank System
Dipaleseng Local Municipality (Mpu)	Fortuna.	**Renosterberg Local Municipality (NC)**	Petrusville (from Vanderkloof) System Phillipstown Boreholes System Vanderkloof System
Mbombela/Umjindi Local Municipality (Mpu)	White River Country Estates (White River CE TW)		

Water Service Authorities (WSAs) that failed to provide microbiological water quality information for the BD audit period

Name of WSA	Name of Water Supply System	Name of Water Supply System	Name of Water Supply System
Joe Morolong Local Municipality	Bothetheletsa Groundwater Management Area: D41L-M2 System	Heiso Groundwater Management Area: D41L-M8 System	Metsetswaneng Groundwater Management Area: D41L-M7 System
	Bothithong Groundwater Management Area D41G-04 System	Kikahela Groundwater Management Area: D41L-M1 System	Tsineng Groundwater Management Area: D41L-M11 System
	Churchill Groundwater Management Area: D41L-M10 System	Laxey Groundwater Management Area D41G-05 System	Van Zylsrus (Boreholes) System
			Ward 1 Heuningvlei
	Dithakong Groundwater Management Area D41G-02 System	Maipeng Groundwater Management Area D41L-K9 System	Manyeding A Groundwater Management Area: D41L-M5 System
	Gasehunelo Groundwater Management Area: D41L-M9 System	Mamatwan/Hotazel Ground water Management Area D41K-G2 System	Gasese Groundwater Management Area D41L-K10 System

Water Service Authorities (WSAs) that failed to provide microbiological water quality information for the BD audit period

Name of WSA	Name of Water Supply System	Name of WSA	Name of Water Supply System
Kamiesberg Local Municipality (NC)	Garies System	**Kamiesberg Local Municipality (continued)**	Soebatsfontein System
	Hondeklipbaai System		Spoegrivier System
	Kamassies System		Tweerivier System
	Garies System	**Dr. Ruth S Mompati District Municipality (NW)**	Schweizer Reneke System
	Kharkams System		
	Kheis System		
	Klipfontein System		
	Koiingnaas System		
	Leliefontein System		
	Lepelfontein System		
	Nourivier System		
	Paulshoek System		
	Rooifontein		

National ND Score (<31% Critical State) Summary

Name of the WSA	No Drop Score (%)	Name of the WSA	No Drop Score (%)
Kou-Kamma LM (EC)	11	Thaba Chweu (MP)	19
Ndlambe (EC)	26	Pixley ka Seme (MP)	17
Chris Hani DM (EC)	20	Emakhazeni (MP)	5
Amathole DM (EC)	4	Dr J S Moroka (MP)	20
City of Matlosana(NW)	1	Bushbuckridge (MP)	15
Moretele LM (NW)	0	Rand West City (GP)	0
Maquassi Hills LM (NW)	16	Uthukela DM (KZN)	22
Madibeng LM (NW)	5	Vhembe DM (LP)	0
Dr Ruth Segomotsi Mompati DM (NW)	26	Mogalakwena (LP)	2
Moses Kotane (NW)	10		

National ND Score (<31% Critical State) Summary

Name of the WSA	No Drop Score (%)	Name of the WSA	No Drop Score (%)
Umsobomvu (NC)	0	Nala (FS)	20
Renosterberg (NC)	4	Moqhaka (FS)	6
Khai-Ma (NC)	5	Metsimaholo (FS)	13
Ga-Segonyana (NC)	23	Masilonyana (FS)	0
Magareng (NC)	10	Mantsopa (FS)	11
Richtersveld (NC)	12	Maluti a Phofung (FS)	26
Tswelopele (FS)	4	Mafube (FS)	16
Tokologo (FS)	4	Letsemeng (FS)	16
Setsoto (FS)	1	Dihlabeng (FS)	6
Phumelela (FS)	2		
Nketoana (FS)	4		
Ngwathe (FS)	0		

National ND Score (0% Critical State) Summary

Name of WSA	No Drop Score (%)	Name of WSA	No Drop Score (%)
!Kheis	0% (NI)	Lekwa	0% (NI)
Blue Crane Route	0% (NI)	Makana	0% (NI)
Cape Agulhas	0% (NI)	Modimolle	0% (NI)
Capricorn DM	0% (NI)	Mopane DM	0% (NI)
Chief Albert Luthuli	0% (NI)	Ngaka Modiri Molema DM	0% (NI)
Dikgatlong	0% (NI)	Phokwane	0% (NI)
Dipaleseng	0% (NI)	Sekhukhune DM	0% (NI)
Joe Gqabi DM	0% (NI)	Siyancuma	0% (NI)
Kai !Garib	0% (NI)	Siyathemba	0% (NI)
Kamiesberg	0% (NI)	Sunday's River Valley	0% (NI)
Kareeberg	0% (NI)	Thabazimbi	0% (NI)
Kgatelopele	0% (NI)	Tsantsabane	0% (NI)

NI =No Information Provided during audit