

**Provincial Best Performer**

Polokwane Local Municipality is the best performing municipality in Limpopo Province:

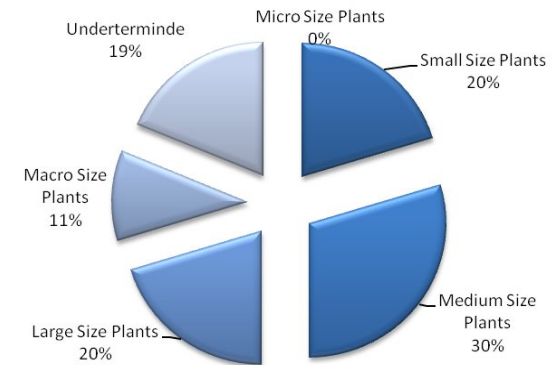
- ✓ 92.61% Municipal Blue Drop Score



**Introduction**

Water services delivery is performed by eleven (11) Water Services Authorities in Limpopo via 64 drinking water supply systems. Magalies Water and Lepelle Northern Water Boards are the main Water Services Providers in Limpopo that abstract and treat raw water and supply treated water in bulk to the municipal networks. The Blue Drop results are therefore also a reflection of the Water Board’s performance as bulk provider.

**Distribution of Water Supply Systems in Limpopo**



A total design capacity of 803.4 is available for drinking water supply in Limpopo Province. Distribution of drinking water takes place via 64 supply systems. Operational data is not available for all systems and the table below assumes an average operating capacity of 80% (of systems design capacity), where data is not available. This result in an average output volume (final water) of 670 Ml/day.

	MICRO SIZE <0.5 Mℓ/day	SMALL SIZE 0.5-2 Mℓ/day	MEDIUM SIZE 2-10 Mℓ/day	LARGE SIZE <10-25 Mℓ/day	MACRO SIZE >25 Mℓ/day	Undeter- mined	Total
No of Water Supply Systems	0	13	19	13	7	12	64
System Design Volume (Mℓ/day)	0	14.7	97.5	221.7	469.5	NI	803.4
Average Operating Capacity (%)	0	96.5	84.4	75.1	77.7	NI	83.4
Output volume (Mℓ/day)	0	14.2	82.3	166.3	364.8	NI	670.2

N/A = Not Applicable  
NI = No Information

**Provincial Blue Drop Analysis**

Analysis of the Blue Drop assessments and site inspection results indicate that performance vary from excellent to unsatisfactory. The municipal Blue Drop results vary from a low of 14.3% to a high of 92.6%. A total of **100% municipalities** were assessed during the 2010/11 Blue Drop Certification.

BLUE DROP COMPARATIVE ANALYSIS				
Performance Category	2009	2010	2011	Performance trend
<i>Incentive-based indicators</i>				
Number of municipalities assessed	6 (of 11) (54.5%)	11 (of 11) (100%)	11 (of 11) (100%)	↑
Number of water systems assessed	37	64	64	→
Number of Blue Drop scores ≥50%	17 (45.94%)	26 (40.62%)	29 (45.31%)	↑
Number of Blue Drop scores <50%	20 (54.05%)	38 (59.37%)	35 (54.69%)	↑
Number of Blue Drop awards	0	3	5	↑
PROVINCIAL BLUE DROP SCORE	54.33%	79.4%	77.33%	N/A

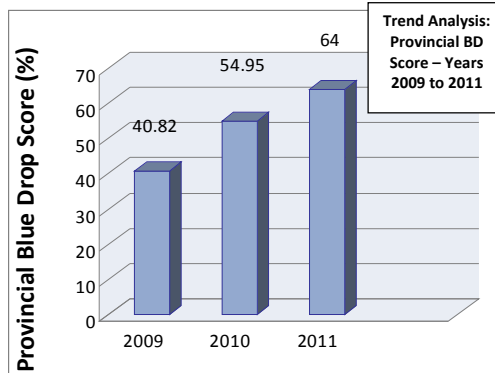
N/A = Not applied

↑ = improvement, ↓ = digress, → = no change

A total of 64 systems were assessed during both the 2010 and 2011 assessment cycles, respectively. Readers must be mindful that smaller systems have collapsed into centralised systems or larger systems may have divided into various smaller supply systems. The Department is tracking these changes diligently to ensure that all systems are continuously being monitored.

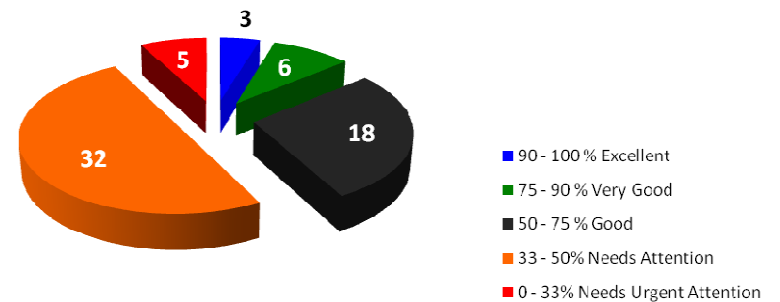
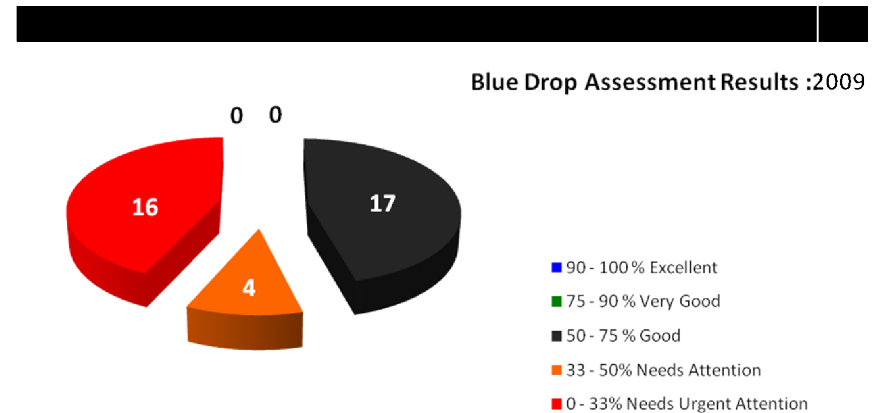
The 100% assessment coverage serves to affirmation the continued commitment by Limpopo municipalities and the Water Boards to provide reliable and uninterrupted water supply to consumers. Unfortunately, the results indicate that some municipalities need urgent attention in terms of their water quality and management aspects to live up to this expectation.

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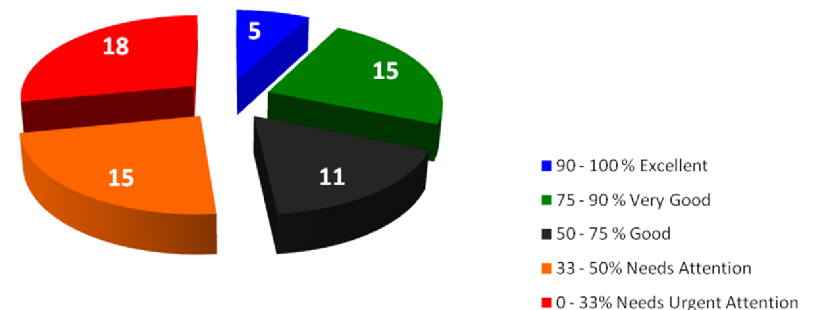


Despite the isolated pockets of poorly performing municipalities in the Province, the overall impression is one of commitment to the Blue Drop process by the submission of Portfolios of Evidence that are improving with each assessment year. Municipalities seems to use the process to continuously renew operational baselines and reprioritise plans with the primary objective of raising the current performance status in terms of municipal drinking water quality management. The incentive-based regulatory approach succeeds to act as a positive stimulus to facilitate improved performance and public accountability, whilst establishing essential systems and processes to sustain and measure gradual improvement. The trends analysis indicates that Limpopo is succeeding to slowly but methodically improve its Provincial Blue Drop score over time. The provincial scores increased from 40.8 (2009) to 54.9 (2010) to 64.0% in 2011.

Whereas only 3 systems obtained Blue Drop scores ≥50% in 2010, 5 systems obtained >50% in the 2011 Blue Drop cycle. In addition, the number of systems scoring between 75 – 100% increased from 0 (2009) to 9 (2010) to 20 in 2011. The pie diagram hereunder illustrate that the systems in critical condition (red and orange) are moving from its dominant position (>50%) to a lesser position of 51%. Expectations are that the Province will break the water shed during 2012 whereby a significantly lower portion of systems will reside in the red/orange space.



Blue Drop Assessment Results: 2011



When comparing 2011 Blue Drop results with 2009 and 2010, the following trends are observed:

- ✓ 64 systems are assessed in 2011 compare to 64 (2010) and 37 (2009)
- ✓ 5 systems achieved Blue Drop Certification, compared to 3 (2010) and 0 (2009)
- ✗ 31.3% of all systems are now in excellent and very good state (2011) compared to 14% of systems (2010) and 0% (2009).

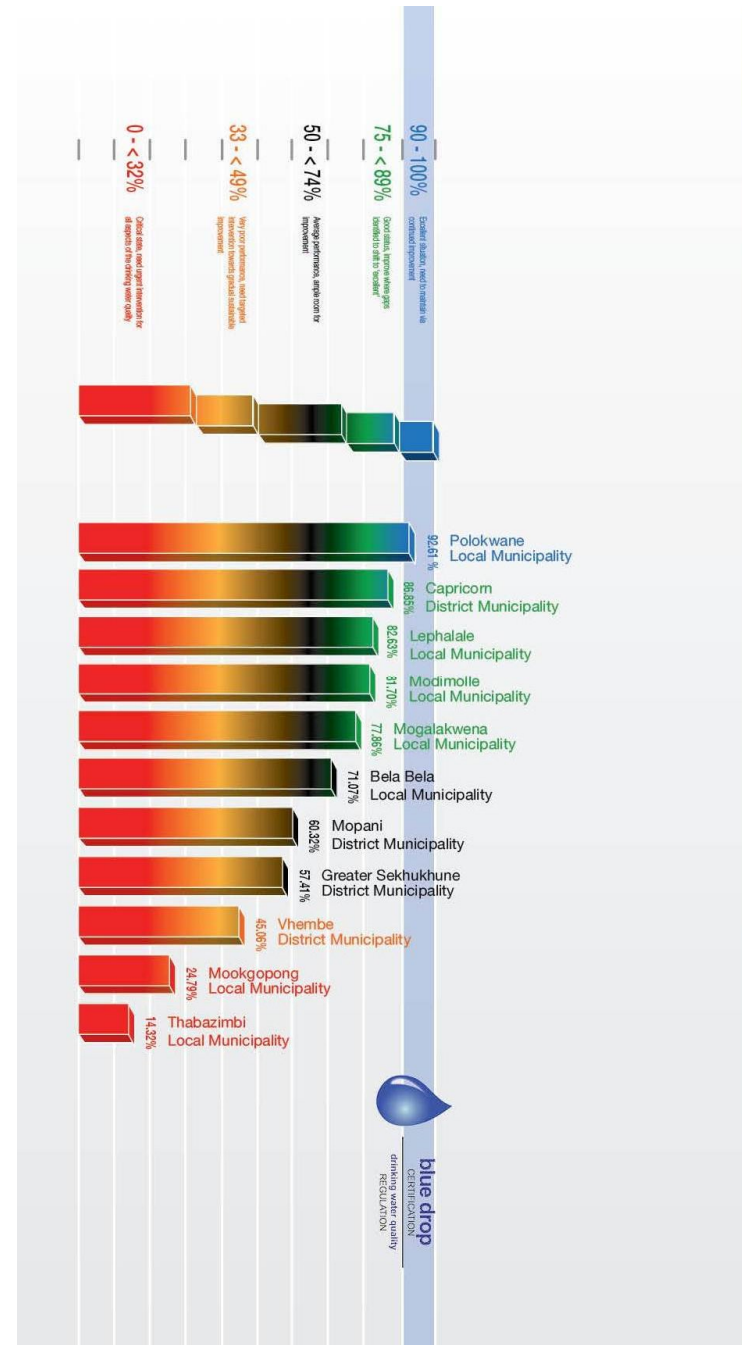
Readers need to be mindful that Blue Drop Certification follows a regulation strategy that facilitates **gradual and sustainable improvement**.... Thereby, Blue Drop requirements become more stringent with every assessment cycle. Municipalities who merely 'maintained' their water on same levels year in and out, is likely to achieve reduced Blue Drop scores, whilst municipalities that drive 'continuous' improvement, are likely to be awarded with improved Blue Drop scores with each assessment cycle.

### Conclusion

The Blue Drop results for 2011 indicate that municipal drinking water quality management in Limpopo vary from excellent to unsatisfactory, with 18 systems that need urgent attention. The overall business of drinking water supply and quality management for the Province is not on standard as yet, although pockets of excellence are certainly evident.

**Five Blue Drop Certificates** are awarded in Limpopo:

- ◆ **1 Blue Drop** : Modimolle Local Municipality / Magalies Water
- ◆ **2 Blue Drops** : Mopani District Municipality / Lepelle Water and Greater Tzaneen Local Municipality
- ◆ **2 Blue Drops** : Polokwane District Municipality / Lepelle Water



Municipal Blue Drop Score 2011: **71.07%**

Performance Area	Systems	Bela Bela / Magalies <sup>a</sup>	Radium Boreholes	Rapotokwane Boreholes
Water Safety Planning Process & Incident Response Management		28	28	28
Process Control, Maintenance & Management Skills		88	18	8
Monitoring Programme		81	89	89
Credibility of Sample Analyses		90	100	100
Submission of Results		100	0	0
Drinking Water Quality Compliance		100	20	55
Performance Publication		75	75	75
Asset Management		31	8	8
Bonus Scores		6.2	4.5	4.5
Penalties		0	0	0.6
<b>Blue Drop Score (2011)</b>		<b>78.67% (↑)</b>	<b>38.95% (→)</b>	<b>48.45% (→)</b>
Blue Drop Score (2010)		61.38%	NA	NA
System Design Supply Capacity (MI/d)		7.2	NI (yield)	NI (yield)
System Operational Capacity		56	NI	NI
Population Served by System		46 671	3 500	6 500
Ave. Daily Consumption per Capita (l)		86	-	-
Microbiological Compliance(12 months)		97.80%	81.25% (7 months)	100.00% (6 months)
Chemical Compliance(12 months)		99.79%	92.31% (7 months)	75.00% (6 months)

#### Regulatory Impression:

The regulator is most optimistic regarding the continued improvement of the drinking water quality (DWQ) management performance of the municipality. The improved Bela Bela supply system Blue Drop score, together with the presentation of more supply systems for evaluation, are testimony that Bela Bela could, with the appropriate resources and focus, effect further positive changes to their DWQ management performance. DWQ failures at the Radium and Rapotokwane boreholes however require immediate attention to protect public health. Water in Radium is of unacceptable microbiological and chemical quality, fluoride failures in Rapotokwane infer non-compliance to national legislation for chemical drinking water quality (SANS 241).

The municipality should target to complete their water safety plan addressing risks in all the supply systems, municipal management should thereafter show support by making budget available to implement control measures. Disinfection as a control measure should immediately improve in all the supply systems. Other gaps to address include process control and asset management at the borehole systems.

#### Findings

1. Magalies Water, water services provider in the Bela Bela supply system, should improve information submission on the Blue Drop System (BDS). DWA received no evidence of a water safety plan, compliance with Regulation 2834 or asset management. Final water from the Klipdrift treatment plant was evaluated of poor microbiological quality and although of excellent chemical compliance, the fluoride failures reported in the final water

continued to be a problem within the distribution network. Magalies Water must improve disinfection.

2. Information is still outstanding from the WSA to ensure BDS credibility of all DWQ data. BDS data credibility implies that the municipality supplied DWA with all the information needed to confirm the accuracy of results. This implies amongst others, date of analyses, laboratory performing the analyses and method used to obtain the result.

Municipal Blue Drop Score 2011: **86.85%**

Performance Area	Systems	Mashashane	Olifantspoort <sup>a</sup>
Water Safety Planning Process & Incident Response Management		96	96
Process Control, Maintenance & Management Skills		83	98
Monitoring Programme		95	82
Credibility of Sample Analyses		96	96
Submission of Results		0	100
Drinking Water Quality Compliance		70	65
Performance Publication		60	100
Asset Management		58	90
Bonus Scores		0	2.0
Penalties		0.5	0.3
<b>Blue Drop Score (2011)</b>		<b>72.55% (↑)</b>	<b>87.13% (↑)</b>
Blue Drop Score (2010)		55.88%	NA
System Design Supply Capacity (MI/d)		1.2	60
System Operational Capacity		NI	67
Population Served by System		8 999	108 518
Ave. Daily Consumption per Capita (l)		-	370
Microbiological Compliance(12 months)		100.00% (6 months)	97.80%
Chemical Compliance(12 months)		94.44% (1 month)	99.79% (2 months)

#### Regulatory Impression:

The Department commends the performance of Capricorn during this Blue Drop assessment period. The municipal officials were well prepared and found to place the required value to improve drinking water quality (DWQ) management within the 2 evaluated supply systems. DWQ in the Mashashane system, reported in 2010 to pose an unacceptable risk to consumers due to microbiological failures, were with sufficient monitoring data confirmed to be safe for human consumption. DWA encourage the municipality to maintain the performance ensuring that the monitoring programmes are maintained. Submitting information on the Blue Drop System (BDS) required to access credibility of results, as well as improved communication to constituents could see the municipality on its way to Blue Drop status.

Lepelle Water, Water Service Provider within the Olifantspoort supply system, provided with the municipality the required information to also confirm outstanding performance in the Olifantspoort system. The WSA and WSP should continue the good relationship and performance.

DWQ within Olifantspoort was evaluated as having good microbiological and chemical quality. Fluoride levels in excess of the national drinking water standard (SANS 241), reported by Capricorn in the distribution network, raises some concern. While the WSP conducted a full SANS 241 analyses only once a year as minimum requirement of SANS 241, a similar failure was not detected. The WSA and WSP should therefore investigate the deterioration of water quality from the treatment plant to the distribution network, also determining the duration of the failures. Findings will determine the need for control measures.

On further evaluation of the Blue Drop System (BDS), apart from the supply systems presented for evaluation, DWA noted 19 other supply systems. Varying quantities of E. coli, fluoride and sulfate data

had been loaded against these systems. Of the total Capricorn population (535 256), the 2 assessed systems represents the quality of service provided to 117 517 inhabitants, service delivery to 417 739 people is thus assumed unknown. Capricorn should explain to DWA within 30 days why so many un-assessed systems appear on BDS.

Municipal Blue Drop Score 2011: **59.05%**

Performance Area	Systems	Burgersfort <sup>a</sup>	Flag Bosheilo <sup>a</sup>	Groblersdal <sup>b</sup>	Hlogotlou
Water Safety Planning Process & Incident Response Management		93	93	64	9
Process Control, Maintenance & Management Skills		60	50	28	50
Monitoring Programme		74	87	73	51
Credibility of Sample Analyses		93	93	75	75
Submission of Results		100	100	20	20
Drinking Water Quality Compliance		85	20	78	78
Performance Publication		100	100	100	0
Asset Management		85	45	40	40
Bonus Scores		2.4	6.6	2.7	0
Penalties		0.4	0.1	0.5	0.5
<b>Blue Drop Score (2011)</b>		<b>87.62%(↑)</b>	<b>66.45%(↑)</b>	<b>66.35% (↑)</b>	<b>45.39% (↑)</b>
Blue Drop Score (2010)		74.75%	NA	44.38%	39.75%
System Design Supply Capacity (MI/d)		5	8	5	3
System Operational Capacity		91.4%	125%	68%	80%
Population Served by System		39 000	200 000	149 712	12 600
Ave. Daily Consumption per Capita (l)		117	50	<50	190
Microbiological Compliance(12 months)		98.38%	87.10%	92.86% (10 months)	100% (10 months)
Chemical Compliance(12 months)		100% (4 months)	100% (7 months)	99.13%	100% (10 months)
Performance Area	Systems	Magukubjane	Marble Hall <sup>a</sup>	Masemola	Penge
Water Safety Planning Process & Incident Response Management		9	93	9	9
Process Control, Maintenance & Management Skills		50	70	50	30
Monitoring Programme		39	86	49	42
Credibility of Sample Analyses		75	90	75	75
Submission of Results		20	100	20	0
Drinking Water Quality Compliance		78	29	78	20
Performance Publication		0	100	0	0
Asset Management		25	45	33	33
Bonus Scores		0	8.3	0	6.8
Penalties		0.5	0.4	0.5	0.1
<b>Blue Drop Score (2011)</b>		<b>41.99% (↑)</b>	<b>72.61%(↑)</b>	<b>44.04% (↑)</b>	<b>29.86% (→)</b>
Blue Drop Score (2010)		36.75%	11.63%	41.25%	NA
System Design Supply Capacity (MI/d)		0.8	5	1.5	NI
System Operational Capacity		97.5%	NI	127%	NI
Population Served by System		4 092	20 262	35 000	3 000
Ave. Daily Consumption per Capita (l)		191	-	54	-
Microbiological Compliance(12 months)		97.37% (8 months)	94.70%	100% (9 months)	33.33% (2 months)
Chemical Compliance(12 months)		98.31% (10 months)	98.92% (9 months)	100% (10 months)	100% (2 months)

Performance Area	Systems	Roosenekal <sup>b</sup>	Tubatse	Vergelegen
Water Safety Planning Process & Incident Response Management		64	9	9
Process Control, Maintenance & Management Skills		78	80	80
Monitoring Programme		54	56	50
Credibility of Sample Analyses		100	75	75
Submission of Results		0	20	0
Drinking Water Quality Compliance		20	20	78
Performance Publication		100	0	0
Asset Management		33	33	33
Bonus Scores		3.8	0	6.8
Penalties		0.1	0.1	0.5
<b>Blue Drop Score (2011)</b>		<b>52.40% (↑)</b>	<b>30.49% (↓)</b>	<b>52.94% (↑)</b>
Blue Drop Score (2010)		44.13%	41.25%	40.00%
System Design Supply Capacity (MI/d)		0.5	5.8	5.1
System Operational Capacity		140%	100%	88%
Population Served by System		5 000	49 000	49 273
Ave. Daily Consumption per Capita (l)		140	118	91
Microbiological Compliance(12 months)		90.00% (9 months)	74.00% (5 months)	100.00% (6 months)
Chemical Compliance(12 months)		98.00% (9 months)	94.12% (5 months)	100.00% (6 months)

Report cards were not prepared for the zero Blue Drop scores calculated for the Boskloof, Nkosini and Sekhukhune supply systems

#### Regulatory Impression:

From a regulatory point of view, drinking water quality (DWQ) management services by Greater Sekhukhune District Municipality presents a high risk situation to public health. The Department of Water Affairs has to express concern since the microbiological quality of water in 6 of the evaluated 11 supply systems shows non-compliances with the South African standard for drinking water (SANS 241). While the municipality and service providers maintained the required monitoring for 12 months in only 4 supply systems, available chemical data further confirmed risks of irreversible health effects in one of the supply systems. The WSA and WSP's has to urgently improve the quality of water supplied to residents, DWA has to be furnished with information within 30 days to confirm how the municipality intends on improving disinfection as control measure.

Other prominent areas of concern include the lack of water safety plans in supply systems under full control of Sekhukhune. DWA encourages the municipality to speedily complete risks assessments, thereafter a risk-based approach should be followed to prioritise monitoring and implementation of control measures. Municipal management should take the lead in improving the situation, staff should be guided in the development and implementation of appropriate management processes informed by the water safety planning process. To improve asset management, identified as another area requiring immediate improvement, funds must be made available to complete process optimisation audits and acquire calibrated flow meters as a start.

DWA requests the municipality in conclusion to ensure proper registration of water supply systems on the Blue Drop System. Boskloof and Sekhukhune presented for evaluation are not registered as supply systems on the BDS, 15 other water supply systems, not presented for evaluation, however appears on BDS with no data loaded against the systems.

Municipal Blue Drop Score 2011: **82.63%**

Performance Area	Systems	Lephalale (Zeeland) <sup>a</sup>	Lephalale (Matimba) <sup>b</sup>
Water Safety Planning Process & Incident Response Management		64	63
Process Control, Maintenance & Management Skills		88	98
Monitoring Programme		93	93
Credibility of Sample Analyses		69	59
Submission of Results		100	100
Drinking Water Quality Compliance		100	100
Performance Publication		100	85
Asset Management		70	18
Bonus Scores		2.1	0
Penalties		0	0
<b>Blue Drop Score (2011)</b>		<b>88.63%</b>	<b>77.41%</b>
Blue Drop Score (2010)		NA	NA
System Design Supply Capacity (MI/d)		20	23
System Operational Capacity		60%	28%
Population Served by System		20 373	15 000
Ave. Daily Consumption per Capita (l)		>500	>500
Microbiological Compliance(12 months)		100.00%	100.00%
Chemical Compliance(12 months)		100.00%	100.00%

#### Regulatory Impression:

Lephalale Local Municipality presented 2 supply systems for the 2011 Blue Drop assessment. Water Service Providers (WSP's) assists the municipality in both systems with drinking water quality (DWQ) service delivery. EXXARO acts as WSP in the Zeeland system, while ESCOM maintain function in the Matimba system. On further evaluation of the Blue Drop System (BDS), neither system was found registered under the municipality. As a result DWA could not verify performance of the municipality within the 2 supply systems, drinking water quality (DWQ) data submitted by the WSPs were consequently used to evaluate compliance. In future, DWA requires a service level agreement wherein the WSP's and the WSA agrees that the respective service providers takes full responsibility for the provision of drinking water, if not submitted, DWA will apply a penalty for the lack of the municipality to take accountability.


BDS confirms 37 supply systems registered under Lephalale, most appear as borehole systems, none was however presented by the municipality for evaluation. E. coli and varying quantities of chemical determinand data had been loaded against most of the systems. Lephalale should confirm correctness of the supply systems on BDS, DWA should thereafter receive information to confirm that all residents within the municipal area receive drinking water of a quality meeting the requirements of the South African standards (SANS 241).

#### Findings

1. Blue Drop scores confirm drinking water of excellent quality in the Zeeland system. DWA has confidence that EXXARO and Lephalale can maintain the service, the WSA and WSP is encouraged to improve aspects such as credibility of the DWQ results in an attempt to attain Blue Drop status. EXXARO should maintain all aspects of performance, monitoring in particular was noted exceptional.
2. While service delivery by ESCOM and Lephalale also deserves to be applauded by DWA, gaps such as poor credibility of DWQ results and asset management prevented DWA from acknowledging excellence. ESCOM should improve these aspects, while DWA encourages the WSP to maintain the comprehensive compliance monitoring programme.



Municipal Blue Drop Score 2011: **81.70%**

Performance Area	Systems	Modimolle <sup>a</sup>	Mabaleng	Mabatlane
				
Water Safety Planning Process & Incident Response Management		<b>83</b>	<b>60</b>	<b>60</b>
Process Control, Maintenance & Management Skills		<b>84</b>	<b>30</b>	<b>30</b>
Monitoring Programme		<b>87</b>	<b>0</b>	<b>0</b>
Credibility of Sample Analyses		<b>96</b>	<b>0</b>	<b>0</b>
Submission of Results		<b>100</b>	<b>0</b>	<b>0</b>
Drinking Water Quality Compliance		<b>100</b>	<b>0</b>	<b>0</b>
Performance Publication		<b>100</b>	<b>100</b>	<b>100</b>
Asset Management		<b>97</b>	<b>46</b>	<b>46</b>
Bonus Scores		1.2	5.1	5.1
Penalties		0	0	0
<b>Blue Drop Score (2011)</b>		<b>95.01%(↑)</b>	<b>34.00%(→)</b>	<b>34.00%(→)</b>
Blue Drop Score (2010)		39.88%	NA	NA
System Design Supply Capacity (MI/d)		21.5	1	5
System Operational Capacity		113%	100%	100%
Population Served by System		<b>80 000</b>	<b>3 000</b>	<b>7 000</b>
Ave. Daily Consumption per Capita (l)		304	<50	71
Microbiological Compliance(12 months)		<b>97.45%</b>	<b>No data</b>	<b>No data</b>
Chemical Compliance(12 months)		<b>99.87%</b>	<b>No data</b>	<b>No data</b>

#### Regulatory Impression:

The Department commends ModimolleLocalMunicipality and Magalies Water with the excellent performance in the management and operations of the Modimolle water supply system which qualifies for Blue Drop Certification status. The Department wish to encourage the Municipality to not rest on its laurels but to ensure that all possible is done to maintain or improve performance. It has to be noted that the municipality and Magalies Water needs to maintain the monitoring programmes registered on the Blue Drop System (BDS). Although DWA accessed the compliance of the supply system against a compliance calculated from all available data, microbiological compliance at both the Klipdrift and Donkerpoort treatment works infers that treatment at both systems require optimisation. Disinfection needs to be closely monitored to confirm continuous disinfection of the water supplies.

Sadly, the performance of ModimolleLocalMunicipality was not duplicated in the Mabaleng and Mabatlane water supply systems. The situation demands the attention of the municipal administration and governance, the Regulator trusts that the poor performance against the Blue Drop evaluations will motivate the municipality to immediately commence monitoring of drinking water supplies in these two systems, while other areas of performance also improve.

Municipal Blue Drop Score 2011: **77.86%**

Performance Area	Systems	Doorndraai <sup>a</sup>
Water Safety Planning Process & Incident Response Management		<b>54</b>
Process Control, Maintenance & Management Skills		<b>88</b>
Monitoring Programme		<b>70</b>
Credibility of Sample Analyses		<b>81</b>
Submission of Results		<b>100</b>
Drinking Water Quality Compliance		<b>82</b>
Performance Publication		<b>50</b>
Asset Management		<b>75</b>
Bonus Scores		4.1
Penalties		0.3
<b>Blue Drop Score (2011)</b>		<b>77.86%(↑)</b>
Blue Drop Score (2010)		46.63%
System Design Supply Capacity (MI/d)		12
System Operational Capacity		104%
Population Served by System		<b>25 000</b>
Ave. Daily Consumption per Capita (l)		499
Microbiological Compliance(12 months)		<b>97.79%</b>
Chemical Compliance(12 months)		<b>100.00% (1 month)</b>

#### Regulatory Impression:

The Department commends Mogalakwena Local Municipality and Lepelle Water Board with the improved drinking water quality (DWQ) management performance in the Doorndraai water supply system. Although the service level agreement confirms that Lepelle Water Board takes responsibility for the service, the municipality remains accountable for the quality of the service and should therefore ensure that the stay abreast of the situation.

DWQ management practices of Lepelle Northern Water mostly appeared compliant with the requirements of the regulatory programme. The WSP was well prepared for the evaluation. Data submission confirmed that both the WSA and WSP maintain comprehensive microbiological compliance monitoring programmes. Chemical monitoring was mostly evaluated compliant with the minimum monitoring requirements of the national drinking water standard (SANS 241). DWA applauds the WSA and WSP for improving monitoring as requested in the 2010 Blue Drop Report.

Excellent DWQ from the treatment plant unfortunately deteriorated within the distribution network to the point that the water posed a risk to public health. Mogalakwena and Lepelle should investigate reasons for the microbiological non-compliances. Disinfection needs to improve, distance between the treatment facility and points of use could warrant secondary disinfection within the distribution network as control measure. Non-compliance with the microbiological standard for drinking water appeared to be the main requirement from the previous assessment not satisfactorily addressed. It is now required that municipal management provides leadership in the turn-around of this unwanted situation.



## Findings

1. On further inspection of the Blue Drop System (BDS), DWA noted two supply systems registered under Mogalakwena. Evidence submitted to DWA appears mostly against the one system, DWA requires that the WSA confirms the need for both systems. Data either needs to appear under only one system to correlate with the number of systems presented for evaluation, alternatively, both systems should be evaluated in future.
2. Other areas requiring attention of the municipality include verification that monitoring of the distribution network represents 80% of the supply network, while efforts also ensue to ensure credibility of all data submitted by the municipality.

Water Services Authority:	<b>Mookgopong Local Municipality</b>
Water Services Providers:	<b>Mookgopong Local Municipality</b>

Municipal Blue Drop Score 2011: **24.79%**

Performance Area	Systems	Welgevonden
Water Safety Planning Process & Incident Response Management		<b>36</b>
Process Control, Maintenance & Management Skills		<b>13</b>
Monitoring Programme		<b>36</b>
Credibility of Sample Analyses		<b>50</b>
Submission of Results		<b>0</b>
Drinking Water Quality Compliance		<b>20</b>
Performance Publication		<b>25</b>
Asset Management		<b>24</b>
Bonus Scores		0
Penalties		0
<b>Blue Drop Score (2011)</b>		<b>24.79% (↓)</b>
Blue Drop Score (2010)		44.88%
System Design Supply Capacity (MI/d)		1.6
System Operational Capacity		100%
Population Served by System		<b>25 000</b>
Ave. Daily Consumption per Capita (l)		6
Microbiological Compliance(12 months)		<b>90.00% (9 months)</b>
Chemical Compliance(12 months)		<b>100.00% (1 month)</b>

### Regulatory Impression:

Unfortunately, the Blue Drop score indicate that drinking water quality (DWQ) services within Welgevonden are still not on par with the requirements of the regulatory programme. Reports by the WSA however imply that with municipal support, the performance of the municipality will show future improvement. DWA is encouraged to note that the municipality, assisted by a service provider, intends to re-draft their water safety plan while also conducting a full SANS 241 (South African standard for drinking water) analyses on the drinking water supplies. Areas of concern within the water safety plan are however listed below.

In general, one of the key challenges faced by the assessment team was the lack of documented proof to verify assertions made by the WSA to improve compliance. The lack of DWQ data and other performance information on the Blue Drop System (BDS) consequently hampered DWA's ability to verify performance and scoring of Mookgopong. DWA furthermore noted that the WSA mentioned the hazard of ever-experiencing water supply shortages as a critical risk, plans to address the problem, including the upgrade of the treatment system should be submitted to DWA. The municipality is in addition required to compile and submit a portfolio of evidence on their Blue Drop performance to ensure a better platform from which to access their DWQ service.

## Findings

- The Water Safety Plan does not indicate the risk prioritisation method. All risks (i.e. ability of the works to treat water to comply with SANS 241) cannot be confirmed considered / addressed until such time that the municipality conducts a full SANS 241 analyses on the raw and final water. Risks such as financial constraints, process controller availability, power failures amongst others, are not listed. Other areas of the water safety plan to improve include more specific detail on roles and responsibilities, proof of municipal commitment and the availing of budget to implement findings.
- DWA received no evidence of a DWQ Incident Management Protocol or DWQ Incident Register.
- Treatment system and process controller classification as per requirement of Regulation 2834 needs to be finalised on BDS. Operational and maintenance procedures must be available to ensure continued operation of the plant, the importance of an O&M manual increase with the age of the plant.
- DWA requires proof of operational monitoring. The programme should be registered on BDS, log sheets will serve as proof of implementation.
- Monitoring needs to improve to ensure uninterrupted 12 months of microbiological data. Chemical compliance monitoring needs to be verified inclusive of all potential risks.
- Lastly, Mookgopong needs to urgently address the lack of asset management, this includes an annual process audit and improvements to the asset register to include aspects such as remaining life and replacement value.

Municipal Blue Drop Score 2011: **63.87%**

Performance Area	Systems	Nkowan Kowa <sup>a</sup>	Phalaborwa <sup>a</sup>	Modjadji <sup>a</sup>	Politsi <sup>a</sup>
Water Safety Planning Process & Incident Response Management		56	56	56	56
Process Control, Maintenance & Management Skills		60	80	60	60
Monitoring Programme		89	89	65	65
Credibility of Sample Analyses		93	93	93	93
Submission of Results		100	100	100	0
Drinking Water Quality Compliance		45	85	20	65
Performance Publication		75	75	75	75
Asset Management		46	46	46	46
Bonus Scores		8.8	5.7	11.0	9.1
Penalties		0.5	0.5	0.2	0.5
<b>Blue Drop Score (2011)</b>		<b>69.62% (↓)</b>	<b>80.47% (↓)</b>	<b>61.97% (↓)</b>	<b>68.55% (↑)</b>
Blue Drop Score (2010)		82.50%	86.00%	84.25%	NA
System Design Supply Capacity (MI/d)		24	76	12.1	6.5
System Operational Capacity		NI	NI	NI	NI
Population Served by System		55 000	NI	18 000	18 000
Ave. Daily Consumption per Capita (l)		-	-	-	-
Microbiological Compliance(12 months)		95.71%	99.32%	91.72%	96.96% (9 months)
Chemical Compliance(12 months)		100% (8 months)	100% (7 months)	100% (5 months)	100% (5 months)

Performance Area	Systems	Tzaneen <sup>a,b</sup>	Letsitele <sup>b</sup>	Giyani <sup>c</sup>	Nkuri / Mapuve
Water Safety Planning Process & Incident Response Management		95	95	52	0
Process Control, Maintenance & Management Skills		100	100	85	55
Monitoring Programme		94	93	81	84
Credibility of Sample Analyses		93	93	63	63
Submission of Results		100	100	100	20
Drinking Water Quality Compliance		93	93	20	20
Performance Publication		100	100	0	0
Asset Management		94	94	23	0
Bonus Scores		0	0	0	0
Penalties		0.2	0.2	0	0
<b>Blue Drop Score (2011)</b>		<b>95.08% (→)</b>	<b>95.05% (→)</b>	<b>41.85% (↓)</b>	<b>24.00% (→)</b>
Blue Drop Score (2010)		95.63%	95.63%	54.38%	NA
System Design Supply Capacity (MI/d)		15	1.5	28	4.1
System Operational Capacity		NI	NI	NI	90%
Population Served by System		98 000	3 000	182 000	17 000
Ave. Daily Consumption per Capita (l)		-	-	-	>500
Microbiological Compliance(12 months)		99.39%	98.39%	83.87%	86.36% (10 months)
Chemical Compliance(12 months)		100.00%	100.00%	100.00%	100% (10 months)

Performance Area	Systems	Middle Lethaba	Zava	Thabina	Tours
Water Safety Planning Process & Incident Response Management		0	0	0	0
Process Control, Maintenance & Management Skills		85	5	25	25
Monitoring Programme		76	0	30	81
Credibility of Sample Analyses		63	0	0	63
Submission of Results		50	0	0	100
Drinking Water Quality Compliance		78	0	0	53
Performance Publication		0	0	0	0
Asset Management		23	0	15	0
Bonus Scores		0	0	0	0
Penalties		0.4	0	0	0
<b>Blue Drop Score (2011)</b>		<b>48.38% (↔)</b>	<b>0.50% (↔)</b>	<b>7.75% (↓)</b>	<b>29.55% (↓)</b>
Blue Drop Score (2010)		NA	NA	49.38%	41.88%
System Design Supply Capacity (MI/d)		24	0.6	12	4.2
System Operational Capacity		NI	NI	NI	NI
Population Served by System		52 000	NI	50 000	NI
Ave. Daily Consumption per Capita (l)		-	-	-	-
Microbiological Compliance(12 months)		100% (11 months)	No data	No data	83.87%
Chemical Compliance(12 months)		100% (10 months)	No data	No data	100.00%
Performance Area	Systems	Thapane	Nkambako	Nondweni	
Water Safety Planning Process & Incident Response Management		0	0	0	
Process Control, Maintenance & Management Skills		65	35	75	
Monitoring Programme		48	63	79	
Credibility of Sample Analyses		63	63	63	
Submission of Results		100	100	50	
Drinking Water Quality Compliance		53	20	20	
Performance Publication		0	0	0	
Asset Management		23	23	23	
Bonus Scores		0	0	0	
Penalties		0.1	0	0	
<b>Blue Drop Score (2011)</b>		<b>38.50% (↓)</b>	<b>27.33% (↓)</b>	<b>30.43% (↓)</b>	
Blue Drop Score (2010)		44.63%	53.63%	51.13%	
System Design Supply Capacity (MI/d)		4.5	12	2.2	
System Operational Capacity		NI	NI	NI	
Population Served by System		30 500	60 000	NI	
Ave. Daily Consumption per Capita (l)		-	-	-	
Microbiological Compliance(12 months)		95.00%	81.82%	93.18% (11 months)	
Chemical Compliance(12 months)		100.00%	100.00%	100.00% (10 months)	



#### Regulatory Impression:

Mopani District Municipality, as Water Services Authority, is responsible for 15 water supply systems. In general, the 2011 Blue Drop performance against systems managed solely by Mopani however instil no confidence that the responsibility is executed with the level of efficiency required to ensure continuous supply of safe drinking water. Water in many of the supply systems (Giyani, Nkuri / Mapuve, Tours, Nkambako and Nondweni) has been evaluated to pose a risk of infection to consumers. Conservatively, DWA also has to regard the water of unacceptable quality in other systems not monitored by the municipality (Zava and Thabina).

Information needs to be submitted to the DWA within 60 days to confirm address of the microbiological water quality non-compliances. The situation demands that municipal administration and governance takes leadership in ensuring turn-around of the unacceptable situation. DWA needs to be convinced that municipal staff who showed no interest in attending the Blue Drop assessments will take lead to ensure that people within the municipal area of jurisdiction is protected from risk of infections.

On a positive note, the Department commends Lepelle Water Board and Tzaneen Local Municipality with the excellent performance in the management and operations of the Tzaneen and Letsitele water supply system which respectively qualifies for Blue Drop Certification status. The Department wish to encourage the Municipality to not rest on its laurels but to ensure that all possible is done to maintain or improve the quality of service to consumers.

Municipal Blue Drop Score 2011: **92.61%**

Performance Area	Systems	Polokwane City <sup>a</sup>	Chuenemaja	Molepo
				
Water Safety Planning Process & Incident Response Management		95	35	35
Process Control, Maintenance & Management Skills		100	60	50
Monitoring Programme		89	89	81
Credibility of Sample Analyses		83	94	96
Submission of Results		100	100	100
Drinking Water Quality Compliance		93	93	93
Performance Publication		100	100	100
Asset Management		88	85	85
Bonus Scores		1.7	1.1	1.2
Penalties		0.1	0.1	0.1
<b>Blue Drop Score (2011)</b>		<b>95.05% (→)</b>	<b>81.44%(↑)</b>	<b>79.89% (↑)</b>
Blue Drop Score (2010)		95.70%	55.10%	66.38%
System Design Supply Capacity (MI/d)		134	3.6	1.4
System Operational Capacity		41%	NI	NI
Population Served by System		100 000	40 000	40 000
Ave. Daily Consumption per Capita (l)		54	-	-
Microbiological Compliance(12 months)		99.03%	100.00%	98.73%
Chemical Compliance(12 months)		100.00%	100.00%	100.00%
Performance Area	Systems	Moletji (Houtrivier)	Seshego <sup>a</sup>	Mankweng <sup>a</sup>
				
Water Safety Planning Process & Incident Response Management		35	95	95
Process Control, Maintenance & Management Skills		50	70	90
Monitoring Programme		80	89	88
Credibility of Sample Analyses		96	84	83
Submission of Results		100	100	100
Drinking Water Quality Compliance		93	80	95
Performance Publication		100	100	100
Asset Management		63	85	93
Bonus Scores		1.4	3.5	1.7
Penalties		0.1	0	0.1
<b>Blue Drop Score (2011)</b>		<b>76.57%(↑)</b>	<b>89.65%(↑)</b>	<b>95.15% (↑)</b>
Blue Drop Score (2010)		53.63%	66.38%	NA
System Design Supply Capacity (MI/d)		3.4	60	56
System Operational Capacity		NI	20%	10%
Population Served by System		60 000	100 000	100 000
Ave. Daily Consumption per Capita (l)		NI	12	6
Microbiological Compliance(12 months)		98.22%	100.00%	99.67%
Chemical Compliance(12 months)		99.11%	100.00% (11 months)	100.00%

**Regulatory Impression:**

The Department commends the performance of PolokwaneLocalMunicipality, assisted by Lepelle Northern Water during this Blue Drop assessment period. Officials from both the WSA and WSP were truly well prepared and found to place the required value to ensure that the municipality provides residents within the municipal area with drinking water quality (DWQ) management services of excellent quality. The definitive laudable feat would therefore be that DWA can award the Polokwane with Blue Drop Certification in 2 water supply systems (PolokwaneCity and Mankweng). The Department wish to encourage the Municipality to not rest on its laurels but to maintain the performance and supply of drinking water safe for human consumption.

Municipal Blue Drop Score 2011: **14.32%**

Performance Area	Systems	Leeupoort	Northham	Rooiberg
Water Safety Planning Process & Incident Response Management		10	10	10
Process Control, Maintenance & Management Skills		0	0	0
Monitoring Programme		43	30	39
Credibility of Sample Analyses		45	45	45
Submission of Results		0	0	0
Drinking Water Quality Compliance		44	20	20
Performance Publication		0	0	0
Asset Management		0	0	0
Bonus Scores		0	0	0
Penalties		0	0	0
<b>Blue Drop Score (2011)</b>		<b>21.28% (→)</b>	<b>12.78% (→)</b>	<b>13.68% (→)</b>
Blue Drop Score (2010)		NA	NA	NA
System Design Supply Capacity (MI/d)		1.66	NI	2
System Operational Capacity		NI	NI	NI
Population Served by System		4 909	21 800	2 900
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		94.74% (10 months)	66.67% (8 months)	62.50% (8 months)
Chemical Compliance(12 months)		81.18% (10 months)	100.00% (9 months)	85.00% (8 months)
Performance Area	Systems	Schilpadnest	Greater Thabazimbi <sup>a</sup>	
Water Safety Planning Process & Incident Response Management		10	10	
Process Control, Maintenance & Management Skills		0	0	
Monitoring Programme		34	41	
Credibility of Sample Analyses		45	42	
Submission of Results		0	0	
Drinking Water Quality Compliance		20	20	
Performance Publication		0	0	
Asset Management		0	0	
Bonus Scores		0	0	
Penalties		0	0	
<b>Blue Drop Score (2011)</b>		<b>13.13% (→)</b>	<b>13.69 (↓)</b>	
Blue Drop Score (2010)		NA	54.25	
System Design Supply Capacity (MI/d)		NI	12	
System Operational Capacity		NI	NI	
Population Served by System		17 000	24 000	
Ave. Daily Consumption per Capita (l)		-	-	
Microbiological Compliance(12 months)		50.00% (3 months)	72.73% (8 months)	
Chemical Compliance(12 months)		87.50% (2 months)	100.00% (8 months)	

### Regulatory Impression:

The lack of accountability and passivity by Thabazimbi Local Municipality in terms of its drinking water quality (DWQ) management services is deplorable. The municipality provided almost no evidence in support of good services delivery and performance within its area of jurisdiction. The absence of Magalies Water, water services provider in the Greater Thabazimbi supply system, as well as the lack of information on the Blue Drop System (BDS) prevented a thorough evaluation of work done by the WSP in the Thabazimbi system (the latter noted the largest in terms of population).

From a regulatory point of view, poor DWQ presents a high risk situation to public health. As a result, the Department of Water Affairs expresses a zero confidence level in the municipality's ability to render a safe and sustainable DWQ service. The failure to improve drinking water quality which already posed a risk to consumers in 2010 now becomes critical. Disinfection, as shown by the low free available chlorine levels, but more importantly the continuous actual detection of microbiological pollutants in almost all the water supply systems, put people at risk of diarrhoeal diseases. Furthermore, data confirms unacceptable continued levels of fluoride in excess of the South African national standard for drinking water (SANS 241).

The WSA should provide the Department with information within 60 days to confirm that the microbiological water quality failures reported in almost all the supply systems had been addressed. Action plans should indicate planning to immediately improve disinfection, long-term planning should focus on applying treatment effective to render water of safe chemical quality. Municipal management must ensure immediate turnaround. Disciplinary action should be taken against staff failing to fulfil their duties.

Other prominent gaps in the current performance include poor process control, the lack in quality assurance at the laboratory which compromise the credibility of results, as well as the lack of performance publication and asset management.

### Findings

1. Monitoring, in particular the number of determinands tested, is probably one of the aspects of the Thabazimbi DWQ management services that earns praise from the Department. As per legal requirement, the WSA however failed to maintain microbiological monitoring for 12 months.
2. The increase in registered supply systems further imply that the DWA could perform a more focussed, system specific assessment which allows for improved identification of problem areas.

Municipal Blue Drop Score 2011: **45.06%**

Performance Area	Systems	Tohoyandou <sup>a</sup>	Elim <sup>b</sup>	Kutama Sinthumele <sup>b</sup>	Makhado <sup>b</sup> (Louis Trichardt)
Water Safety Planning Process & Incident Response Management		10	0	10	10
Process Control, Maintenance & Management Skills		80	8	28	78
Monitoring Programme		59	23	24	28
Credibility of Sample Analyses		63	63	63	61
Submission of Results		100	0	0	0
Drinking Water Quality Compliance		65	61	20	70
Performance Publication		0	0	0	0
Asset Management		58	35	35	58
Bonus Scores		0	0	0	0
Penalties		0.2	0.5	0	0.5
<b>Blue Drop Score (2011)</b>		<b>51.65% (↓)</b>	<b>29.73% (↓)</b>	<b>21.03% (↔)</b>	<b>44.66% (↓)</b>
Blue Drop Score (2010)		58.13%	32.50%	NA	54.13%
System Design Supply Capacity (MI/d)		76.06	NI (yield)	NI	10
System Operational Capacity		NI	NI	NI	80
Population Served by System		120 000	70 000	120 000	50 000
Ave. Daily Consumption per Capita (l)		-	-	-	160
Microbiological Compliance(12 months)		98.84%	100% (2 months)	88.89% (4 months)	100% (9 months)
Chemical Compliance(12 months)		100% (8 months)	100% (2 months)	100% (3 months)	100% (6 months)
Performance Area	Systems	Malamulele <sup>a</sup>	Musekwa	Musina <sup>c</sup>	Mutale <sup>d</sup>
Water Safety Planning Process & Incident Response Management		10	10	0	10
Process Control, Maintenance & Management Skills		68	8	0	68
Monitoring Programme		59	0	26	41
Credibility of Sample Analyses		63	18	63	63
Submission of Results		100	0	0	100
Drinking Water Quality Compliance		20	0	70	70
Performance Publication		0	0	0	0
Asset Management		58	47	35	58
Bonus Scores		0	0	0	0
Penalties		0	0	0.5	0.5
<b>Blue Drop Score (2011)</b>		<b>36.93% (↓)</b>	<b>10.18% (↓)</b>	<b>32.00% (↓)</b>	<b>50.10% (↑)</b>
Blue Drop Score (2010)		44.13%	40.25%	44.00%	41.25%
System Design Supply Capacity (MI/d)		39.4	0.864	NI (yield)	16.08
System Operational Capacity		77	100	NI	42
Population Served by System		250 000	1 000	50 000	85 000
Ave. Daily Consumption per Capita (l)		121	86	-	79
Microbiological Compliance(12 months)		95.45%	No data	100% (8months)	100.00%
Chemical Compliance(12 months)		100% (9 months)	No data	100% (5 months)	100% (8 months)

Performance Area	Systems	Mutshedzi <sup>b</sup>	Nzhelele <sup>b</sup>	Tshedza <sup>b</sup>	Tshifhire Murunwa <sup>b</sup>
Water Safety Planning Process & Incident Response Management		10	10	0	10
Process Control, Maintenance & Management Skills		52	28	54	54
Monitoring Programme		41	0	45	56
Credibility of Sample Analyses		63	18	63	63
Submission of Results		50	0	0	0
Drinking Water Quality Compliance		70	0	70	70
Performance Publication		0	0	0	0
Asset Management		58	47	35	47
Bonus Scores		0	0	0	0
Penalties		0.5	0	0.5	0.5
<b>Blue Drop Score (2011)</b>		<b>46.00% (↔)</b>	<b>12.18% (↓)</b>	<b>39.20% (↓)</b>	<b>43.65% (↔)</b>
Blue Drop Score (2010)		NA	41.50%	44.00%	NA
System Design Supply Capacity (MI/d)		8.64	5.2	1.469	2.074
System Operational Capacity		166	66	174	96
Population Served by System		97 000	55 000	20 000	12 800
Ave. Daily Consumption per Capita (l)		148	62	127	156
Microbiological Compliance(12 months)		100% (11 months)	No data	100% (7 months)	100% (9 months)
Chemical Compliance(12 months)		100% (9 months)	No data	100% (7 months)	100% (7 months)

#### Regulatory Impression:

The 2011 Blue Drop scores indicate that drinking water quality (DWQ) management services are yet to be on par with expectations of the regulatory programme. The consolidation of 26 water supply systems into 12 is however seen as a positive step towards a more focussed approach for DWQ management. DWA is also encouraged to note that system specific information was available on the Blue Drop System (BDS) to evaluate actual DWQ in almost all the supply systems.

Although monitoring still has to improve to ensure at least 12 months of microbiological data for each of the supply systems, available data confirm that DWQ in the Elim, Makhado, Musina, Mutale, Mutshedzi, Tshedza and Tshifhire systems are of excellent microbiological quality. DWQ in the Kutama and Malamulele systems demand the immediate attention of the municipal administration and governance, water within the systems poses a risk to public health. Disinfection needs to be optimised immediately. The complete lack of monitoring data for the Musekwa and Nzhelele systems makes it impossible to evaluate DWQ compliance, from a conservative perspective, DWA has to assume that water within these systems also pose a risk to public health. Monitoring must commence immediately, while the WSA verify that all determinands of concern are included in the chemical-health compliance monitoring programme. DWA requires proof of a full SANS 241 analyses at least annually in the supply systems.

#### Findings

1. The Water Safety Plan needs to improve to cover all the supply systems. Other aspects requiring improvement include a more thorough assessment of risks, inclusion of a risk prioritisation method, while a full SANS analysis of raw and final water has to be conducted to confirm the capability of the various treatment systems to address all contaminant possibilities (latter needs to be outsourced if the municipal laboratory can't perform all the analysis). Without management support and availing of budget, DWQ management services will never adhere to all the requirements of satisfactory performance.
2. DWA received no evidence of a DWQ Incident Management Protocol or Register.
3. Treatment system and process controller classification as per requirement of Regulation 2834 needs to be finalised on BDS.