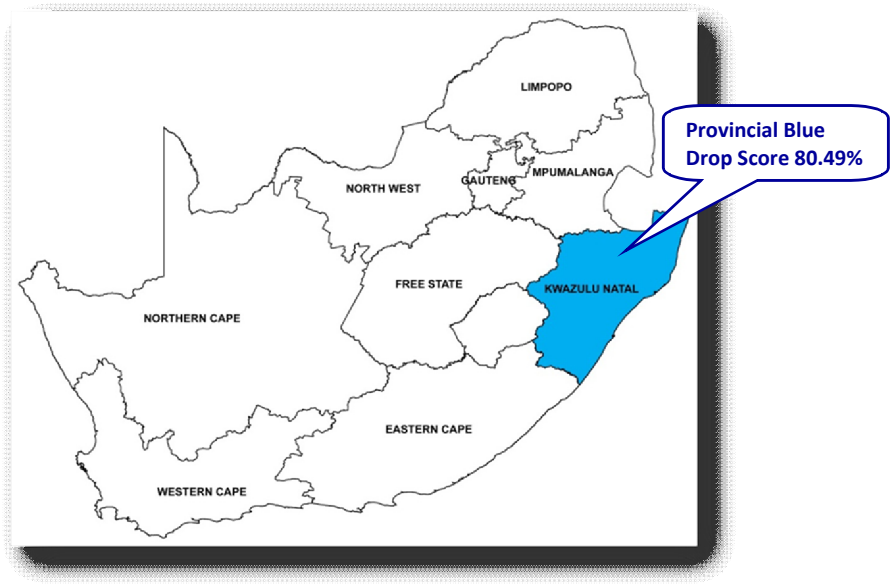
CHAPTER 6 – KWA-ZULUNATALPROVINCE



Provincial Best Performer

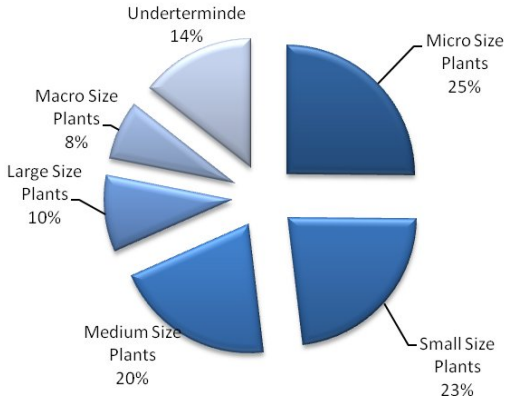
Ugu District Municipality is the best performing municipality in Kwa-Zulu Natal Province:

- ✓ 98.82% Municipal Blue Drop Score

Introduction

Water services delivery is performed by fourteen (14) Water Services Authorities in Kwa-Zulu Natal via 187 drinking water supply systems. Umgeni Water and Uthukela Water Boards are the main Water Services Providers in the Kwa-Zulu Natal that abstract, treat and feed drinking water to the various municipal networks via a number of bulk water supply schemes.

Distribution of Water Supply Systems in KZN



A total design capacity of 1362 is available for drinking water supply in Kwa-ZuluNatalProvince, distributed over 187 supply systems. Operational data is not available for all systems, however the existing data indicates average operating capacities between 71 and 210.5%. This result in an average output volume (final water) of 1147 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	47	43	38	18	14	27	187
System Design Volume (Mℓ/day)	9.4	41.7	155.8	312.0	843.1	NI	1362.0
Average Operating Capacity (%)	210.5	79.6	70.9	95.1	91.1	NI	84.2
Output volume (Mℓ/day)	98.9	33.2	110.5	296.4	767.2	NI	1146.6

N/A = Not Applicable
NI = No Information

Provincial Blue Drop Analysis

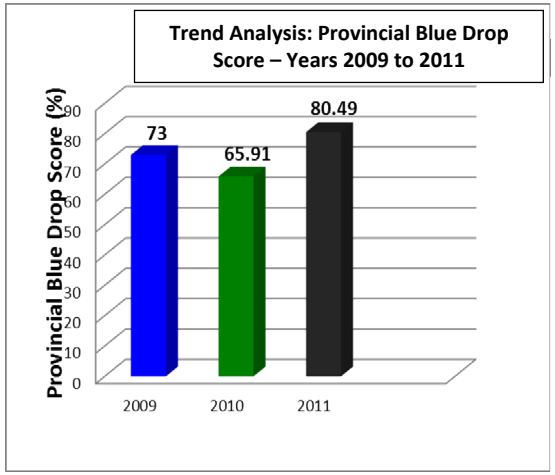
Analysis of the Blue Drop assessments and site inspection results indicate that performance vary from

excellent to very poor. A total of **100% municipalities** were assessed during the 2010/11 Blue Drop Certification.

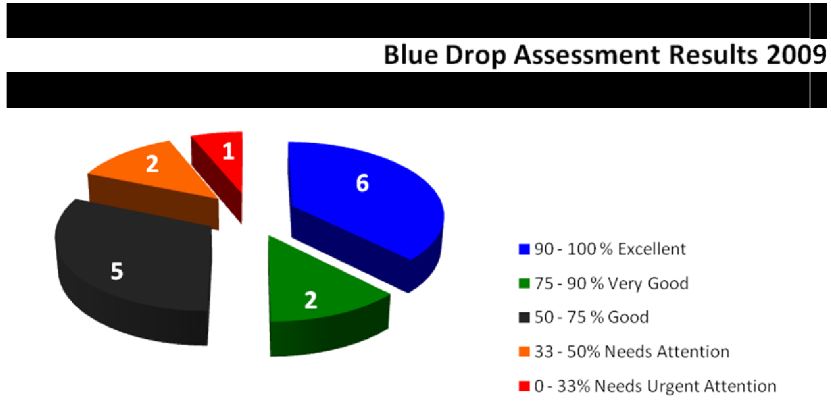
BLUE DROP COMPARATIVE ANALYSIS				
Performance Category	**2009**	**2010**	**2011**	**Performance trend**
Incentive-based indicators				
Number of municipalities assessed	13 (of 14) (93%)	14 (of 14) (100%)	14 (of 14) (100%)	→
Number of water systems assessed	16	173	187	↑
Number of Blue Drop scores ≥50%	13 (81.25%)	101 (58.38%)	138 (73.80%)	↑
Number of Blue Drop scores <50%	3 (18.75%)	72 (41.61%)	49 (26.20%)	↑
Number of Blue Drop awards	2	1	7	↑
PROVINCIAL BLUE DROP SCORE	73%	65.91%	80.49%	N/A

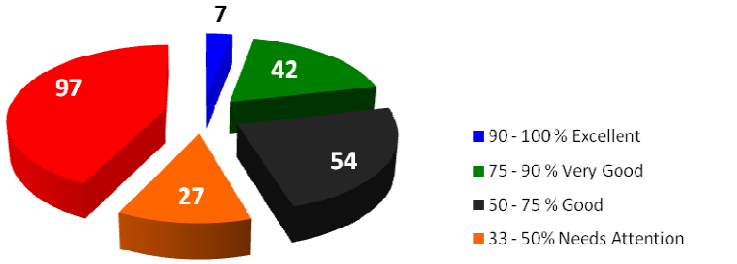
N/A = Not applied *↑ = improvement, ↓ = digress, → = no change*

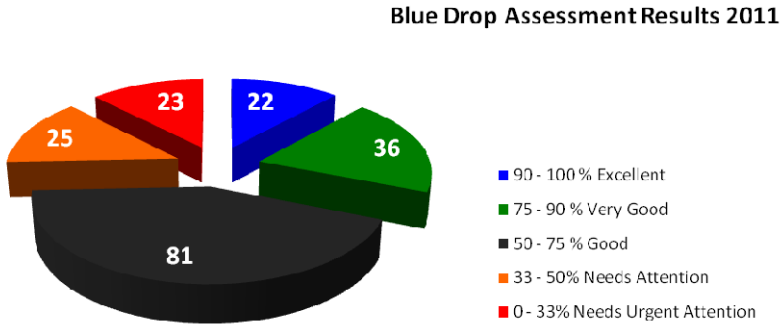
The 100% assessment coverage serves to affirmation the continued commitment by Kwa-Zulu Natal municipalities and the Water Boards to provide reliable and uninterrupted water supply to consumers. Through the Blue Drop process, municipalities are renewing their operational baselines and reprioritise their plans with the primary objective of raising the current performance status in terms of municipal drinking water quality management. The trends analysis indicates that Kwa-Zulu Natal is succeeding in its endeavour to improve the Provincial Blue Drop score. After an initial decline in Blue Drop Score between the 2009 and 2010 assessment cycles, the Provincial Blue Drop score increased from 65.91 to 80.49%, which places KZN amongst the better performers on a national scale. Unfortunately this view is scewed, as the high scoring municipalities are balancing the few very low scores which is noted with concern in the province.



Whereas only 101 system obtained Blue Drop scores ≥50% in 2010, 138 systems obtained >50% in the 2011 Blue Drop cycle. In addition, the number of systems scoring between 90 – 100% increased from 7 (2010) to 22 (2011) systems, as indicated in the pie chart hereunder. However, the most significant statistic is the Provincial Blue Drop Score of 80.49%, which place Kwa-Zulu Natal in an above average position on the national performance log.







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

- ✓ 178 systems are assessed in 2011 compare to only 16 (2009) and 173 (2010)
- ✓ 7 systems achieved Blue Drop Certification, compared to 1 (2010) and 3 (2009)
- ✓ 12.9% systems scored between 0-33% in 2011, compared to 56% in 2010, which moves a substantial portion of critical systems into more acceptable positions
- × 32.5% of all systems are now in excellent and very good state (2011) compared to 28.3% of systems in 2010.

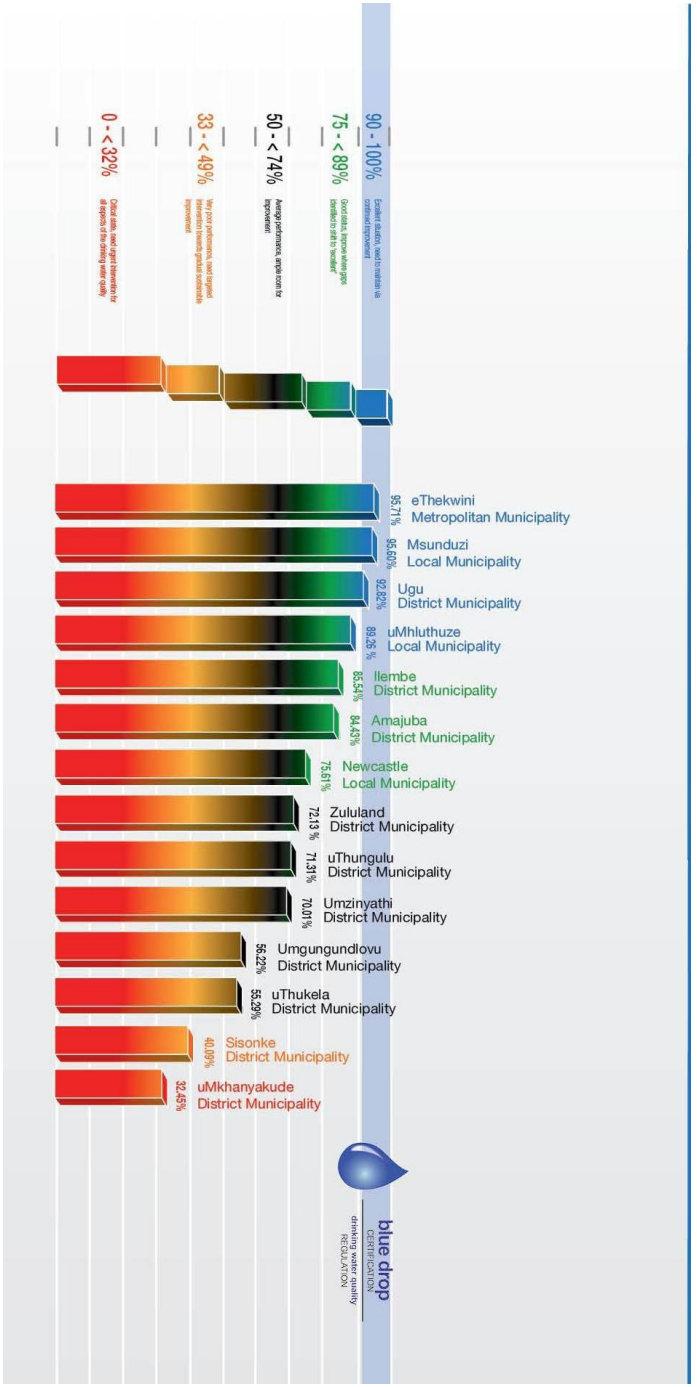
With the above results, KZN is making a leaving a remarkable signature in terms of overall improved Blue Drop status. Readers need to be mindful that Blue Drop Certification follows a regulation strategy that facilitates **gradual and sustainable improvement**.... Thereby, Blue Drop requirements become 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 Kwa-Zulu Natal vary from excellent to good, with 4 systems that need attention, as indicated in the Provincial Performance Log. The overall business of drinking water supply and quality management is satisfactory, however areas of concern are raised where improvement is required. Kwa-Zulu Natal is taking the third position of best performing provinces in the country.

Seven Blue Drop Certificates are awarded in Kwa-Zulu Natal:

- **1 Blue Drop** : eThekwini Metro Municipality / Umgeni Water
- **2 Blue Drops** : Ilembe Local Municipality / Umgeni Water and Siza Water
- **1 Blue Drop** : Msunduzi Local Municipality
- **4 Blue Drops** : Ugu District Municipality / Umgeni Water



Water Services Authority:	**Amajuba District Municipality**
Water Services Providers:	**Uthukela Water**[a]

Municipal Blue Drop Score 2011: **84.43%**

Performance Area	*Systems*	**Utrecth**[a]	**DanhauserTown**[a]	**DurnacolTown**[a]
Water Safety Planning Process & Incident Response Management		**58**	**58**	**58**
Process Control, Maintenance & Management Skills		**40**	**80**	**40**
Monitoring Programme		**78**	**78**	**78**
Credibility of Sample Analyses		**100**	**100**	**100**
Submission of Results		**100**	**100**	**100**
Drinking Water Quality Compliance		**85**	**85**	**85**
Performance Publication		**100**	**100**	**100**
Asset Management		**78**	**63**	**63**
Bonus Scores		*6.7*	*6.1*	*7.3*
Penalties		*0.2*	*0.2*	*0.2*
Blue Drop Score (2011)		**84.33%** (↑)	**85.55%** (↑)	**82.75%** (↑)
Blue Drop Score (2010)		70.88%	71.88%	66.88%
System Design Supply Capacity (Ml/d)		4.5	2	1.6
System Operational Capacity		44%	60%	75%
Population Served by System		**23 285**	**14 152**	**8 754**
Ave. Daily Consumption per Capita (l)		85	84	137
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**

Performance Area	*Systems*	**Hattingspruit**[a]	**Alcockspruit**[a]	**Utrecth - Waterval**[a]
Water Safety Planning Process & Incident Response Management		**0**	**48**	**48**
Process Control, Maintenance & Management Skills		**10**	**100**	**100**
Monitoring Programme		**36**	**78**	**78**
Credibility of Sample Analyses		**100**	**100**	**100**
Submission of Results		**100**	**100**	**100**
Drinking Water Quality Compliance		**60**	**60**	**70**
Performance Publication		**100**	**100**	**100**
Asset Management		**40**	**93**	**93**
Bonus Scores		*11.2*	*7.0*	*6.0*
Penalties		*0.3*	*0.3*	*0.5*
Blue Drop Score (2011)		**59.88%** (↓)	**83.75%** (↑)	**85.85%** (↑)
Blue Drop Score (2010)		63.88%	NA	NA
System Design Supply Capacity (Ml/d)		1.6	108 (combined)	108 (combined)
System Operational Capacity		75%	78%	78%
Population Served by System		**3 000**	**3 000**	**5 000**
Ave. Daily Consumption per Capita (l)		400	>500	>500
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**No data**	**No data**	**100.00% (1 month)**

Systems not assessed: Dannhauser Rural, Utrecht Rudimentary Boreholes and Dannhauser Rudimentary Boreholes

Regulatory Impression:

The regulator is encouraged with the continued improvement of the drinking water quality (DWQ) management performance of the AmajubaDistrictMunicipality. DWA is optimistic that if the municipality, with Uthukela Water as service provider in all the supply systems, continue their efforts to implement findings of the recently developed water safety plan, further improvement will ensue.

Compliance monitoring confirms water of excellent quality in the Utrecth, DanhauserTown and DurnacolTown water supply systems. Evidence that the municipality (&WSP) maintains risk-based monitoring (data of a full SANS 241 (South African standard for drinking water) analyses per supply system, will result in DWA giving full credit for the DWQ compliance. Chemical monitoring in the Hattingspruit, Alcockspruit and Utrecth – Waterval systems should also commence for the municipality to have sufficient information to confirm that water supplied to residents is safe for human consumption.

Process control was identified another aspect requiring improvement. In particular process control should be shown adequate / competent to maintain operation of all the water treatment systems, O&M manuals should be available and in-use to maintain optimum treatment efficacy. The lead inspector for the 2011 assessment further requested that the WSA / WSP improve distribution of their sampling points to cover the entire area of supply, populations affected by borehole systems furthermore needs to be registered on BDS. The WSA / WSP thereafter have to plan for future monitoring of the affected populations.

Water Services Authority:	eThekwini Metropolitan Municipality
Water Services Providers:	eThekwini MM; Umgeni Water[a]

Municipal Blue Drop Score 2011: **95.71%**

Performance Area	*Systems*	eThekwini Main[a]	Ogunjini
Water Safety Planning Process & Incident Response Management		100	97
Process Control, Maintenance & Management Skills		96	50
Monitoring Programme		96	64
Credibility of Sample Analyses		100	100
Submission of Results		100	100
Drinking Water Quality Compliance		88	60
Performance Publication		100	100
Asset Management		93	74
Bonus Scores		*1.7*	*4.1*
Penalties		*0.5*	*0*
Blue Drop Score (2011)		**96.05%** (→)	**79.08%** (↑)
Blue Drop Score (2010)		96.08%	NA
System Design Supply Capacity (Ml/d)		1305	1
System Operational Capacity		-	128%
Population Served by System		**3 285 026**	**4 800**
Ave. Daily Consumption per Capita (l)		-	266
Microbiological Compliance(12 months)		**98.29%; WSP: 99.89%**	**85.71% (5 months)**
Chemical Compliance(12 months)		**100.00% (1 month); WSP: 100.00%**	**100.00% (1 month)**

Regulatory Impression

eThekwini Metro and Umgeni Water worked well to maintain the illustrious Blue Drop status for the eThekwini main system. The panel of inspectors were impressed with the level of preparedness shown for the assessment from both municipality and Water Board.

The Blue Drop certified status was under threat though for a short while due to incorrect data records. The microbiological compliance figure was adjusted after eThekwini found that the validation data for Colilert had been erroneously submitted to DWA as compliance data. This resulted in a duplication of data for some points giving an incorrect compliance figure which was certainly not favouring their performance. This was rectified in time, but the Metro is advised to prevent such a situation from reoccurring.

The Metro is required to implement measures to drastically improve the performance of the Ogunjini water treatment plant. Even though only a small part of Durban receives water from this system it should be noted as underperforming, especially as far as quality compliance is concerned. The chemical compliance monitoring should be increased; especially at the Ogunjini plant.

Water Services Authority:	iLembe District Municipality
Water Services Providers:	iLembe DM; Water and Sanitation SA (WSSA)[a]; SAPPI[b]; Umgeni Water[c]; Siza Water[d]

Municipal Blue Drop Score 2011: **85.54%**

Performance Area	*Systems*	Sundimbili[a]	Mandeni[b]	uThukela[b]	Mathonsi
Water Safety Planning Process & Incident Response Management		82	73	73	73
Process Control, Maintenance & Management Skills		80	50	40	40
Monitoring Programme		100	81	81	63
Credibility of Sample Analyses		95	100	100	100
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		100	53	85	10
Performance Publication		50	25	25	25
Asset Management		100	52	48	48
Bonus Scores		*1.6*	*1.8*	*1.4*	*2.3*
Penalties		*0*	*0.1*	*0.2*	*0*
Blue Drop Score (2011)		**91.54%** (↑)	**61.78%** (↑)	**69.49%** (↑)	**46.00%** (↑)
Blue Drop Score (2010)		70.63%	29.38%	04.50%	19.38%
System Design Supply Capacity (Ml/d)		27	2	2	NI
System Operational Capacity		67%	115%	100%	NI
Population Served by System		**70 000**	**10 000**	**9 000**	**3 600**
Ave. Daily Consumption per Capita (l)		258	230	222	-
Microbiological Compliance(12 months)		**97.68%**	**95.90%**	**100.00%**	**67.90%**
Chemical Compliance(12 months)		**100.00%**	**100% (11 months)**	**100% (11 months)**	**No data**

Performance Area	*Systems*	Makwanini	Amatikhulu Centre	Ifalethu	Ohwebede
Water Safety Planning Process & Incident Response Management		73	73	73	73
Process Control, Maintenance & Management Skills		50	50	56	50
Monitoring Programme		49	49	49	49
Credibility of Sample Analyses		100	100	100	100
Submission of Results		0	0	0	0
Drinking Water Quality Compliance		10	10	60	10
Performance Publication		25	25	25	25
Asset Management		48	48	48	48
Bonus Scores		*2.3*	*2.3*	*2.1*	*2.3*
Penalties		*0*	*0*	*0.3*	*2.3*
Blue Drop Score (2011)		**40.63%** (↑)	**40.63%** (↑)	**55.47%** (↑)	**40.63%** (↑)
Blue Drop Score (2010)		15.38%	19.38%	49.63%	19.88%
System Design Supply Capacity (Ml/d)		NI	NI	NI	NI
System Operational Capacity		0.03	0.15	0.025	0.040 - 0.100
Population Served by System		**3 900**	**3 600**	**3 000**	**3 200**
Ave. Daily Consumption per Capita (l)		-	-	-	-
Microbiological Compliance(12 months)		**43.75% (8 months)**	**70.37% (8 months)**	**100% (8 months)**	**60.00% (8 months)**
Chemical Compliance(12 months)		**No data**	**No data**	**No data**	**No data**

Performance Area	Systems	Hlanganani	Lambothi	Ethembeni	Uthukela Mouth
Water Safety Planning Process & Incident Response Management		73	73	73	73
Process Control, Maintenance & Management Skills		50	50	50	50
Monitoring Programme		36	36	48	55
Credibility of Sample Analyses		100	100	100	100
Submission of Results		0	0	0	100
Drinking Water Quality Compliance		10	10	10	10
Performance Publication		25	25	25	25
Asset Management		48	48	48	48
Bonus Scores		*2.3*	*2.3*	*2.3*	*2.3*
Penalties		*0*	*0*	*0*	*0*
Blue Drop Score (2011)		**39.38% (↑)**	**39.38% (↑)**	**40.63% (↑)**	**46.25% (↑)**
Blue Drop Score (2010)		19.88%	19.88%	19.88%	19.88%
System Design Supply Capacity (Ml/d)		NI	NI	NI	NI
System Operational Capacity		0.0.3 - 0.1	0.01 - 0.02	0.01 - 0.04	0.016
Population Served by System		**2 760**	**5 000**	**3 000**	**2 000**
Ave. Daily Consumption per Capita (l)		-	-	-	-
Microbiological Compliance(12 months)		**33.33% (3 months)**	**75.00% (4 months)**	**55.56% (8 months)**	**60.32%**
Chemical Compliance(12 months)		**No data**	**No data**	**No data**	**No data**

Performance Area	Systems	Matzipele	Dolphin Coast [c,d]	KwaDukuzaTown [c]	Groutville [c]
Water Safety Planning Process & Incident Response Management		73	89	85	83
Process Control, Maintenance & Management Skills		50	100	50	100
Monitoring Programme		43	96	96	89
Credibility of Sample Analyses		100	100	100	100
Submission of Results		0	100	100	100
Drinking Water Quality Compliance		10	100	100	100
Performance Publication		25	95	75	75
Asset Management		48	98	98	98
Bonus Scores		*2.3*	*0.5*	*1.9*	*1.1*
Penalties		*0*	*0*	*0*	*0*
Blue Drop Score (2011)		**40.00% (↑)**	**97.03% (↑)**	**91.44% (↑)**	**95.01% (↑)**
Blue Drop Score (2010)		19.88%	84.13%	54.05%	36.13%
System Design Supply Capacity (Ml/d)		NI (yield)	45	11	45
System Operational Capacity		0.008-0.01	88%	145%	89%
Population Served by System		**500**	**54 300**	**70 000**	**8 900**
Ave. Daily Consumption per Capita (l)		-	>500	227	>500
Microbiological Compliance(12 months)		**60.00% (5 months)**	**98.77%**	**98.98%**	**99.26%**
Chemical Compliance(12 months)		**No data**	**100.00%**	**100.00%**	**100.00%**

Performance Area	Systems	ZinkwaziBeach [c]	BlythedaleBeach [c]	NdwedweTown [c]	MontebelloHospital [c]
Water Safety Planning Process & Incident Response Management		85	86	85	85
Process Control, Maintenance & Management Skills		50	50	100	40
Monitoring Programme		66	65	79	79
Credibility of Sample Analyses		100	100	100	100
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		96	85	20	85
Performance Publication		75	75	75	75
Asset Management		46	46	98	53
Bonus Scores		*1.0*	*1.2*	*3.5*	*1.1*
Penalties		*0*	*0.3*	*0*	*0*
Blue Drop Score (2011)		**78.62% (↑)**	**75.28% (↑)**	**72.41% (↓)**	**76.76% (↑)**
Blue Drop Score (2010)		55.63%	51.13%	72.63%	58.50%
System Design Supply Capacity (Ml/d)		0.6 (yield)	0.419 (yield)	45	0.7
System Operational Capacity		146%	270%	89%	33%
Population Served by System		**5 000**	**5 000**	**56 000**	**10 000**
Ave. Daily Consumption per Capita (l)		175	226	>500	<50
Microbiological Compliance(12 months)		**97.71%**	**100.00%**	**90.82%**	**100.00%**
Chemical Compliance(12 months)		**100.00%**	**100% (6 months)**	**100% (11 months)**	**100% (5 months)**

Performance Area	Systems	eMayelisweni [c]	Ntabaskop [c]	Isiminya [c]	Esidumbini [c]
Water Safety Planning Process & Incident Response Management		85	85	85	85
Process Control, Maintenance & Management Skills		40	40	38	40
Monitoring Programme		79	79	79	76
Credibility of Sample Analyses		100	100	100	100
Submission of Results		50	50	100	50
Drinking Water Quality Compliance		20	20	20	20
Performance Publication		75	75	75	75
Asset Management		46	46	46	46
Bonus Scores		*2.1*	*2.1*	*2.0*	*2.2*
Penalties		*0*	*0*	*0*	*0*
Blue Drop Score (2011)		**54.67% (↓)**	**54.67% (↑)**	**56.87% (↑)**	**54.32% (→)**
Blue Drop Score (2010)		57.25%	39.25%	38.50%	55.50%
System Design Supply Capacity (Ml/d)		NI	0.27	2.0	1
System Operational Capacity		NI	30%	0	80%
Population Served by System		**3 000**	**5 000**	**5 000**	**10 000**
Ave. Daily Consumption per Capita (l)		-	<50	-	80
Microbiological Compliance(12 months)		**92.00% (11 months)**	**90.00% (11 months)**	**90.59%**	**85.96% (11 months)**
Chemical Compliance(12 months)		**88.89% (6 months)**	**100% (5 months)**	**100% (4 months)**	**96.00% (6 months)**

Performance Area	Systems	Glendale Heights [c]	Glendale [c]	KwaSathane [c]	Madundube [c]
Water Safety Planning Process & Incident Response Management		85	85	85	85
Process Control, Maintenance & Management Skills		40	50	40	14
Monitoring Programme		31	63	31	19
Credibility of Sample Analyses		100	100	100	100
Submission of Results		100	50	100	100
Drinking Water Quality Compliance		20	85	85	85
Performance Publication		75	75	75	75
Asset Management		46	46	46	46
Bonus Scores		*2.2*	*1.3*	*1.4*	*1.5*
Penalties		*0*	*0.3*	*0.3*	*0.3*
Blue Drop Score (2011)		**52.48% (↓)**	**72.77% (↑)**	**71.10% (↑)**	**67.42% (↑)**
Blue Drop Score (2010)		59.50%	60.75%	59.50%	43.25%
System Design Supply Capacity (Ml/d)		0.03	0.03	0.03	0.04
System Operational Capacity		833%	3920%	833%	705%
Population Served by System		**10 000**	**10 000**	**1 000**	**NI**
Ave. Daily Consumption per Capita (l)		<50	96	249	-
Microbiological Compliance(12 months)		**76.92%**	**100% (11 months)**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**100% (5 months)**	**100% (5 months)**	**100% (5 months)**	**100% (6 months)**

Performance Area	Systems	Waterfall [c]	Masibam-bisane [c]	Ngcebo [c]	Mphumula [c]
Water Safety Planning Process & Incident Response Management		85	85	85	74
Process Control, Maintenance & Management Skills		40	80	70	40
Monitoring Programme		60	60	89	96
Credibility of Sample Analyses		100	100	100	100
Submission of Results		50	100	0	100
Drinking Water Quality Compliance		59	29	85	29
Performance Publication		75	75	75	75
Asset Management		46	46	46	46
Bonus Scores		*1.7*	*1.8*	*1.2*	*1.9*
Penalties		*0.5*	*0.2*	*0.3*	*0.3*
Blue Drop Score (2011)		**63.94% (↑)**	**61.62% (↑)**	**74.73% (↑)**	**59.58% (↑)**
Blue Drop Score (2010)		40.75%	17.56%	07.06%	32.56%
System Design Supply Capacity (Ml/d)		NI (yield)	0.8	0.456	0.43
System Operational Capacity		0.1 – 0.5	102%	65%	44%
Population Served by System		**1 000**	**13 000**	**31 980**	**3 500**
Ave. Daily Consumption per Capita (l)		-	62	<50	54
Microbiological Compliance(12 months)		**100% (11 months)**	**94.83%**	**98.00% (9 months)**	**95.00%**
Chemical Compliance(12 months)		**78.26% (4 months)**	**100% (1 month)**	**100% (4 months)**	**95.45% (4 months)**

Performance Area	Systems	Ntunjambili [c]	VukileHigh School [c]	Isithundu [c]	Mbitane [c]
Water Safety Planning Process & Incident Response Management		74	74	74	74
Process Control, Maintenance & Management Skills		40	40	40	40
Monitoring Programme		86	78	33	68
Credibility of Sample Analyses		100	100	100	100
Submission of Results		100	100	0	0
Drinking Water Quality Compliance		85	85	45	10
Performance Publication		75	75	75	75
Asset Management		46	46	46	46
Bonus Scores		*1.2*	*1.2*	*2.2*	*2.3*
Penalties		*0.3*	*03.*	*0.6*	*0*
Blue Drop Score (2011)		**74.67% (↑)**	**73.95% (↑)**	**53.37% (↑)**	**46.48% (↑)**
Blue Drop Score (2010)		44.06%	35.56%	17.56%	16.31%
System Design Supply Capacity (Ml/d)		0.314(yield)	0.2	0.2	0.1
System Operational Capacity		95%	NI	303%	188%
Population Served by System		**7 500**	**10 000**	**1 312**	**1 000**
Ave. Daily Consumption per Capita (l)		<50	-	46	188
Microbiological Compliance(12 months)		**98.62%**	**100.00%**	**100% (4 months)**	**79.87% (10 months)**
Chemical Compliance(12 months)		**100% (2 months)**	**96.15% (6 months)**	**No data**	**94.44% (2 months)**

Performance Area	Systems	Mushane [c]	Maqumbi [c]	Driefontein [c]
Water Safety Planning Process & Incident Response Management		74	74	74
Process Control, Maintenance & Management Skills		80	80	80
Monitoring Programme		58	43	56
Credibility of Sample Analyses		100	100	100
Submission of Results		20	100	100
Drinking Water Quality Compliance		10	20	85
Performance Publication		75	75	75
Asset Management		46	46	46
Bonus Scores		*2.3*	*2.1*	*1.1*
Penalties		*0*	*0*	*0.3*
Blue Drop Score (2011)		**50.50% (↑)**	**55.76% (↑)**	**75.70% (↑)**
Blue Drop Score (2010)		16.31%	54.06%	NA
System Design Supply Capacity (Ml/d)		0.08	NI (yield)	0.08
System Operational Capacity		51%	0.218	162%
Population Served by System		**3 000**	**38 000**	**10 000**
Ave. Daily Consumption per Capita (l)		<50	-	<50
Microbiological Compliance(12 months)		**77.50% (10 months)**	**90.50%**	**100.00%**
Chemical Compliance(12 months)		**No data**	**100.00% (5 months)**	**100.00% (6 months)**

Regulatory Impression:

Although not satisfactory, iLembe LocalMunicipality showed improved performance. With the exception of 3 water supply systems, most of the 39 registered supply systems shows increased Blue Drop scores. The Department commends iLembe, assisted by Umgeni Water Board, for excellent management of drinking water quality (DWQ) in the DolphinCoast and Groutville water supply systems which qualifies for Blue Drop Certification status. WSSA contributed to this wonderful feat in the DolphinCoast system.

While the municipality (assisted by all water services providers) maintains the effort to further improve on all aspects of DWQ management, urgent attention should be given to disinfection of water supplies in 21 supply systems. Water in all of these systems, reported mostly under the control of the municipality alone, poses an unacceptable risk of infection to consumers. DWA needs to be furnished with information within 60 days depicting how the municipality intends on ensuring that all consumers within its area of supply receive water meeting the requirements of the South African standard for drinking water (SANS 241).

Most systems presented information to confirm the water safe from chemical risks. Aluminium failures in the eMayelisweni and Waterfall supply systems, however, rendered the water not suitable for human consumption. The WSA / WSP are consequently encouraged to improve treatment efficacy.

DWA in conclusion requests the municipality, and all service providers, to again confirm that the responsibilities of the various service providers are correctly noted per respective supply system. Although the assessment improved from previous years, challenges again ensue following the continued upload of information by the WSA and all service providers just prior the 2011 confirmation assessments. Since legally required to do so, DWA consequently requests that the WSA and all WSP's in future maintains monthly submission of information to prevent the upload of large volumes of information just prior the Blue Drop assessments.

Water Services Authority:	**Msunduzi Local Municipality**
Water Services Providers:	**Umgeni Water** [a]

Municipal Blue Drop Score 2011: **95.60%**

Performance Area	*Systems*	**Msunduzi** [a]
Water Safety Planning Process & Incident Response Management		**90**
Process Control, Maintenance & Management Skills		**100**
Monitoring Programme		**99**
Credibility of Sample Analyses		**88**
Submission of Results		**100**
Drinking Water Quality Compliance		**89**
Performance Publication		**100**
Asset Management		**100**
Bonus Scores		*1.2*
Penalties		*0.2*
Blue Drop Score (2011)		**95.60% (↑)**
Blue Drop Score (2010)		73.19%
System Design Supply Capacity (Ml/d)		390
System Operational Capacity		73%
Population Served by System		**536 613**
Ave. Daily Consumption per Capita (l)		>500
Microbiological Compliance(12 months)		**99.31%**
Chemical Compliance(12 months)		**100.00%**

Regulatory Impression:

The Department commends Msunduzi Local Municipality with the excellent performance in the management and operations of the Msunduzi water supply system which qualifies for Blue Drop Certification status. The municipal officials and representatives from Umgeni Water were truly well prepared and found to place the required value to drinking water quality (DWQ) management practices.

Drinking water was evaluated as having excellent microbiological and chemical quality. The Department congratulates Msunduzi for implementing and maintaining a comprehensive microbiological water quality monitoring programme which allowed DWA to confirm that the excellent quality water supplied by Umgeni Water remained safe for human consumption until the point of use. Information provided by Umgeni Water furthermore confirmed that the water meets the chemical requirements set in the South African national drinking water standard (SANS 241). DWA however applied a partial penalty for the lack of information by the municipality to confirm no chemical water quality deterioration in the distribution network. Msunduzi is encouraged to complete a full SANS 241 analyses as part of their risk assessment, findings should be used to inform future chemical compliance monitoring.

Findings

1. Msunduzi should maintain effort to develop a water safety plan for the distribution network, roles and responsibilities should be clearly defined, while management ensures availability of budget to meet deadlines for implementing control measures.

Water Services Authority:	Newcastle Local Municipality
Water Services Providers:	uThukela Water[a]

Municipal Blue Drop Score 2011: **75.61%**

Performance Area	*Systems*	Newcastle[a]	Charlestown[a]
Water Safety Planning Process & Incident Response Management		71	32
Process Control, Maintenance & Management Skills		100	28
Monitoring Programme		78	48
Credibility of Sample Analyses		84	65
Submission of Results		50	100
Drinking Water Quality Compliance		37	50
Performance Publication		100	0
Asset Management		93	20
Bonus Scores		*6.0*	*2.3*
Penalties		*0.1*	*0.1*
Blue Drop Score (2011)		**75.93%** (→)	**40.69%** (↑)
Blue Drop Score (2010)		75.00%	53.75%
System Design Supply Capacity (Ml/d)		108	NI
System Operational Capacity		78%	NI
Population Served by System		**353 000**	**2 000**
Ave. Daily Consumption per Capita (l)		238	-
Microbiological Compliance(12 months)		**96.10% (11 months)**	**99.88%**
Chemical Compliance(12 months)		**100.00% (4 months)**	**100.00%**

Regulatory Impression:

From a regulatory perspective, the situation in Newcastle Local Municipality improved slightly from previous assessments, areas of concern still in clear view is the limited correspondence between Newcastle (assisted by uThukela Water as water services provider) and the Pixley ka Seme Local Municipality supplying Charlestown with water from the Volksrust water treatment plant. Areas of concern (i.e. water safety planning, process control and adequacy of the monitoring programme) can only improve if Newcastle shows that Charlestown is managed according risks which had been identified from the treatment facility.

Actual drinking water quality (DWQ) compliance within the Newcastle supply systems needs to improve before the municipality and uThukela Water can content for Blue Drop certification. Disinfection needs to be optimised, while monitoring occurs for 12 months as required for microbiological determinands. Chemical monitoring also needs to improve, in particular proof of a full SANS 241 analyses (South African standard for drinking water) needs to be submitted to confirm that monitoring only fluoride is sufficient to confirm that drinking water is safe for lifetime human consumption.

Water Services Authority:	Sisonke District Municipality
Water Services Providers:	Sisonke DM; Umgeni Water[a]

Municipal Blue Drop Score 2011: **40.09%**

Performance Area	*Systems*	Ixopo[a]	Kokstad	Underberg	St Apponlinars
Water Safety Planning Process & Incident Response Management		71	18	18	18
Process Control, Maintenance & Management Skills		99	45	45	85
Monitoring Programme		78	48	35	40
Credibility of Sample Analyses		100	91	91	96
Submission of Results		100	100	100	20
Drinking Water Quality Compliance		44	10	10	0
Performance Publication		50	10	10	10
Asset Management		93	56	58	58
Bonus Scores		*6.9*	*1.1*	*1.1*	*1.1*
Penalties		*0*	*0*	*0*	*0*
Blue Drop Score (2011)		**77.17%** (↓)	**35.18%** (↓)	**33.93%** (↓)	**31.65%** (↓)
Blue Drop Score (2010)		83.63%	54.13%	34.13%	34.88%
System Design Supply Capacity (Ml/d)		3	0.018	3.5	1.1
System Operational Capacity		2.5	NI	NI	NI
Population Served by System		**50 000**	**28 000**	**18 000**	**12 000**
Ave. Daily Consumption per Capita (l)		-	-	-	-
Microbiological Compliance(12 months)		**94.74%**	**91.57%**	**75.00%**	**70.00% (10 months)**
Chemical Compliance(12 months)		**100.00%**	**No data**	**No data**	**No data**

Performance Area	*Systems*	Hlanganani / Pulela	Riverside	Isibi	Bulwer
Water Safety Planning Process & Incident Response Management		18	18	18	18
Process Control, Maintenance & Management Skills		35	35	45	35
Monitoring Programme		34	0	39	30
Credibility of Sample Analyses		91	5	89	91
Submission of Results		100	0	0	100
Drinking Water Quality Compliance		10	0	10	10
Performance Publication		10	0	10	10
Asset Management		58	58	50	58
Bonus Scores		*0.5*	*0*	*0*	*2.3*
Penalties		*0*	*0*	*0*	*0*
Blue Drop Score (2011)		**32.80%** (↓)	**15.00%** (→)	**26.99%** (↓)	**35.55%** (→)
Blue Drop Score (2010)		34.13%	NA	30.88%	NA
System Design Supply Capacity (Ml/d)		0.45	0.7	1.08	0.472
System Operational Capacity		NI	NI	NI	NI
Population Served by System		**22 000**	**15 000**	**10 000**	**30 000**
Ave. Daily Consumption per Capita (l)		-	-	-	-
Microbiological Compliance(12 months)		**58.33%**	**No data**	**37.50% (8 months)**	**16.67%**
Chemical Compliance(12 months)		**No data**	**No data**	**No data**	**No data**

Performance Area	Systems	Highlands / Wasbank	Creighton	Jolivet / Vulamehlo
Water Safety Planning Process & Incident Response Management		18	18	18
Process Control, Maintenance & Management Skills		25	85	25
Monitoring Programme		0	33	26
Credibility of Sample Analyses		0	91	100
Submission of Results		0	100	0
Drinking Water Quality Compliance		0	10	45
Performance Publication		0	10	10
Asset Management		30	58	0
Bonus Scores		*0*	*2.3*	*2.3*
Penalties		*0*	*0*	*0.6*
Blue Drop Score (2011)		**09.63% (↓)**	**38.80% (↓)**	**29.50% (→)**
Blue Drop Score (2010)		22.63%	56.13%	NA
System Design Supply Capacity (Ml/d)		0.82	1	NI
System Operational Capacity		NI	NI	NI
Population Served by System		**28 000**	**25 000**	**30 000**
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		**No data**	**91.67%**	**100.00% (5 months)**
Chemical Compliance(12 months)		**No data**	**No data**	**No data**

Performance Area	Systems	Umzimkulu	Donnybrook Boreholes
Water Safety Planning Process & Incident Response Management		18	18
Process Control, Maintenance & Management Skills		95	25
Monitoring Programme		33	31
Credibility of Sample Analyses		91	96
Submission of Results		100	20
Drinking Water Quality Compliance		10	45
Performance Publication		10	10
Asset Management		50	2
Bonus Scores		*2.3*	*2.3*
Penalties		*0*	*0.6*
Blue Drop Score (2011)		**38.68% (↑)**	**30.78% (→)**
Blue Drop Score (2010)		35.38%	NA
System Design Supply Capacity (Ml/d)		5	NI
System Operational Capacity		NI	NI
Population Served by System		**25 000**	**25 000**
Ave. Daily Consumption per Capita (l)		-	-
Microbiological Compliance(12 months)		**65.22%**	**100.00% (10 months)**
Chemical Compliance(12 months)		**No data**	**No data**

Systems not assessed: Emacabazini (not commisioned), Nokweja (not commisioned), Franklin (not under control of WSA), Hlokozi (managed by Ugu DM), High-flats (managed by Spoornet), Springfield, Mahehle and Mzinkulu

Regulatory Impression:

From a regulatory point of view, drinking water quality (DWQ) management services by Sisonke presents a high risk situation to public health. The Department of Water Affairs expresses a zero confidence level in the municipality's ability to render safe and sustainable DWQ management services. Apart for the good performance in the Ixopo system, which largely reflects the performance of Umgeni Water as service provider, DWA considers the increase in evaluated supply systems as means to monitor the entire area of supply the only positive step in the DWQ management approach of the WSA.

It is a concerning factor that the microbiological quality of drinking water in almost all the supply systems continues to show non-compliance to national legislation (SANS 241). The water is evaluated to pose a significant risk of infection. The situation demands the urgent attention of the municipal administration and governance, the Regulator trusts that the risks to public health will motivate the municipality to improve disinfection as a control measure without further hesitation or excuse. DWA also notes that apart from data submitted by Umgeni Water in the Ixopo system, Sisonke made no attempt to provide the Department with information to access the chemical quality of water in all the supply systems. Conservatively until proven otherwise, the Department therefore also assumes the water unsuitable for human consumption due to chemical contaminants.

DWA requires proof within 30 days that the microbiological non-compliances are being addressed. Action plans must furthermore state how the municipality intends on implementing risk-based chemical water quality monitoring.

Findings

1. DWA congratulated Sisonke during the 2010 assessment for commencing with a risk assessment process. Disconcerting Sisonke provided no information during this assessment to confirm continuation of the process, no data on the Blue Drop System (BDS) further confirms that a full SANS 241 analyses had not been done to inform the risk assessment process. No information was available to DWA to evaluate the management of incidents as reported to be done by the municipality during the previous assessment.

2. Process Control needs to be addressed to ensure compliance at all the treatment systems with Regulation 2834. DWA notes some attempts to improve asset management, little information was however presented on O&M.

Water Services Authority:	**Ugu District Municipality**
Water Services Providers:	**Ugu DM; Umgeni Water**[a]

Municipal Blue Drop Score 2011: **92.82%**

Performance Area	*Systems*	Hibberedene to Ramsgate	Southbroom to Port Edward	Ghost Town to Mazakhele	Kwajali to Mlozane
Water Safety Planning Process & Incident Response Management		98	98	98	98
Process Control, Maintenance & Management Skills		100	100	70	50
Monitoring Programme		93	93	93	93
Credibility of Sample Analyses		89	89	89	89
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		80	100	100	93
Performance Publication		100	100	100	100
Asset Management		94	94	93	96
Bonus Scores		*2.0*	*0.9*	*1.5*	*2.2*
Penalties		*0.1*	*0.1*	*0.1*	*0.1*
Blue Drop Score (2011)		**91.24%** (↑)	**96.11%** (↑)	**95.32%** (↑)	**92.66%** (↑)
Blue Drop Score (2010)		89.25%	89.25%	87.00%	77.00%
System Design Supply Capacity (Ml/d)		54	20	1.4	3.6
System Operational Capacity		87%	80%	114%	94%
Population Served by System		**105 045**	**65 135**	**20 000**	**30 000**
Ave. Daily Consumption per Capita (l)		447	245	79	112
Microbiological Compliance(12 months)		**98.45%**	**98.44%**	**100.00%**	**99.05%**
Chemical Compliance(12 months)		**100.00%**	**100% (11 months)**	**100.00%**	**100.00%**

Performance Area	*Systems*	KwaFodo to Esitholweni	KwaMbotho to KwaBhidla	KwaNyusa to Ekuzameni	KwaNyusa to St Martin
Water Safety Planning Process & Incident Response Management		98	98	98	98
Process Control, Maintenance & Management Skills		50	50	50	50
Monitoring Programme		93	93	93	93
Credibility of Sample Analyses		89	89	89	89
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		53	53	93	93
Performance Publication		100	100	100	100
Asset Management		94	94	94	94
Bonus Scores		*4.1*	*4.1*	*1.8*	*1.8*
Penalties		*0.1*	*0.1*	*0.1*	*0.1*
Blue Drop Score (2011)		**82.30%** (↑)	**82.30%** (↑)	**92.05%** (↑)	**92.05%** (↑)
Blue Drop Score (2010)		60.50%	84.00%	85.50%	83.75%
System Design Supply Capacity (Ml/d)		0.36	0.48	0.36	0.5
System Operational Capacity		14%	42%	56%	40%
Population Served by System		**17 416**	**5 700**	**9 072**	**2 720**
Ave. Daily Consumption per Capita (l)		<50	<50	<50	73
Microbiological Compliance(12 months)		**95.89%**	**95.83% (11 months)**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**96.67% (10 months)**	**100% (8 months)**	**100% (10 months)**	**100.00%**

Performance Area	*Systems*	KwaHlongwa	Phungashe & Ndwebu	Mehlomnyama & Oshabeni	Vulamehlo & Jolvet
Water Safety Planning Process & Incident Response Management		98	98	98	98
Process Control, Maintenance & Management Skills		50	50	60	60
Monitoring Programme		93	93	93	93
Credibility of Sample Analyses		89	89	89	89
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		93	93	20	93
Performance Publication		100	100	100	100
Asset Management		94	94	94	96
Bonus Scores		*1.8*	*1.8*	*5.7*	*1.9*
Penalties		*0.1*	*0.1*	*0.1*	*0.1*
Blue Drop Score (2011)		**92.05%** (↑)	**92.05%** (↑)	**75.19%** (↓)	**93.43%** (↑)
Blue Drop Score (2010)		61.50%	87.00%	83.00%	71.50%
System Design Supply Capacity (Ml/d)		0.5	0.3	1.8	1.5
System Operational Capacity		40%	67%	13%	120%
Population Served by System		**13 727**	**26 698**	**7 070**	**19 124**
Ave. Daily Consumption per Capita (l)		<50	<50	<50	94
Microbiological Compliance(12 months)		**97.50%**	**97.44%**	**93.10%**	**100.00%**
Chemical Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**	**100.00%**

Performance Area	*Systems*	Kwalembe to Dududu	Kwandelu to Morrisons	Mathulini[a]	Umzinto*[a]
Water Safety Planning Process & Incident Response Management		98	98	90	90
Process Control, Maintenance & Management Skills		60	60	90	90
Monitoring Programme		93	93	93	93
Credibility of Sample Analyses		89	89	89	89
Submission of Results		100	50	100	100
Drinking Water Quality Compliance		93	93	100	100
Performance Publication		100	100	100	100
Asset Management		96	94	84	84
Bonus Scores		*1.9*	*2.1*	*1.5*	*0.8*
Penalties		*0.1*	*0.1*	*0*	*0*
Blue Drop Score (2011)		**93.43%** (↑)	**90.83%** (↑)	**95.16%** (↑)	**96.61%** (↑)
Blue Drop Score (2010)		84.00%	56.00%	86.00%	87.50%
System Design Supply Capacity (Ml/d)		0.75	1.4	7.5	12
System Operational Capacity		100%	43%	129%	75%
Population Served by System		**10 000**	**24 000**	**46 386**	**1 000**
Ave. Daily Consumption per Capita (l)		75	<50	208	>500
Microbiological Compliance(12 months)		**97.53%**	**100% (11 months)**	**99.67%**	**98.67%**
Chemical Compliance(12 months)		**100% (11 months)**	**100% (11 months)**	**100.00%**	**100.00%**

* Umzinto to Pennington to Scottburg

Systems not assessed: Hlokozi (intermittently used) and Boreholes

Regulatory Impression:

The regulator is most optimistic regarding the continued improvement of the drinking water quality (DWQ) management performance of the municipality. Apart from 1 system, UguDistrictMunicipality showed a marked improvement in Blue Drop scores for all 16 systems when compared to the 2010 results. The improved performance allows DWA to award 4 water supply systems with Blue Drop certification status. DWA acknowledges the contribution of Umgeni Water as bulk services provider in 2 of the supply systems receiving Blue Drop status.

DWA encourages the municipality to maintain the performance and strive for excellence, with some effort, Ugu can achieve Blue Drop status in all their supply systems. DWA furthermore reminds the municipality in particular that a full SANS 241 analyses (South African standard for drinking water) needs to be conducted per supply system to confirm that risk based monitoring thereafter maintained by the municipality covers all potential hazards.

Water Services Authority:	**Umgungunlovu District Municipality**
Water Services Providers:	**Umgungunlovu DM; Umgeni Water[a]**

Municipal Blue Drop Score 2011: **56.22%**

Performance Area	*Systems*	**Mpofana**	**Umgeni Bulk Supply*** [a]	**Mtulwa**	**Appelbosch**
Water Safety Planning Process & Incident Response Management		**63**	**76**	**62**	**50**
Process Control, Maintenance & Management Skills		**72**	**98**	**69**	**59**
Monitoring Programme		**56**	**81**	**41**	**58**
Credibility of Sample Analyses		**99**	**100**	**100**	**100**
Submission of Results		**50**	**100**	**0**	**100**
Drinking Water Quality Compliance		**45**	**100**	**45**	**20**
Performance Publication		**40**	**50**	**40**	**40**
Asset Management		**0**	**96**	**40**	**48**
Bonus Scores		*7.8*	*2.5*	*4.3*	*7.8*
Penalties		*0.3*	*0*	*0.6*	*0*
Blue Drop Score (2011)		**54.99% (↑)**	**91.12% (↑)**	**53.31% (↑)**	**54.11% (↑)**
Blue Drop Score (2010)		NA	69.63%	NA	NA
System Design Supply Capacity (Ml/d)		6.5	120	NI	1.2
System Operational Capacity		99%	100%	NI	78%
Population Served by System		**18 000**	-	**1 319**	**3 790**
Ave. Daily Consumption per Capita (l)		357	-	-	246
Microbiological Compliance(12 months)		**95.77% (11 months)**	**99.78**	**100% (4 months)**	**90.91%**
Chemical Compliance(12 months)		**100% (4 months)**	**100.00%**	**No data**	**88.89% (2 months)**

Performance Area	*Systems*	**Makeni**	**Lidgetton West**	**Rosetta**	**Endaleni**
Water Safety Planning Process & Incident Response Management		**62**	**62**	**62**	**62**
Process Control, Maintenance & Management Skills		**59**	**59**	**59**	**59**
Monitoring Programme		**52**	**54**	**57**	**43**
Credibility of Sample Analyses		**100**	**100**	**100**	**98**
Submission of Results		**0**	**20**	**50**	**100**
Drinking Water Quality Compliance		**20**	**85**	**70**	**85**
Performance Publication		**40**	**40**	**40**	**40**
Asset Management		**40**	**48**	**40**	**40**
Bonus Scores		*4.5*	*3.3*	*9.6*	*3.1*
Penalties		*0*	*0.3*	*0.5*	*0.3*
Blue Drop Score (2011)		**45.86% (→)**	**66.55% (↓)**	**68.51% (↑)**	**68.06% (↑)**
Blue Drop Score (2010)		NA	69.63%	NA	NA
System Design Supply Capacity (Ml/d)		NI	NI	0.6	0.36
System Operational Capacity		NI	NI	58%	NI
Population Served by System		**6 200**	**2 672**	**350**	**2 709**
Ave. Daily Consumption per Capita (l)		-	-	>500	-
Microbiological Compliance(12 months)		**35.71% (9 months)**	**100% (10 months)**	**100% (11 months)**	**97.30%**
Chemical Compliance(12 months)		**100% (1 month)**	**100% (1 month)**	**94.29% (2 months)**	**100% (1 month)**

* Howic Town, Umphokomeni, Hilton, Camperdown village, Wartburg, Hannover, Dalton, uMshwathi area

Performance Area	Systems	Richmond	Nzinga	Impendle Spring
Water Safety Planning Process & Incident Response Management		62	62	62
Process Control, Maintenance & Management Skills		59	29	69
Monitoring Programme		58	58	49
Credibility of Sample Analyses		100	100	100
Submission of Results		100	100	50
Drinking Water Quality Compliance		20	20	20
Performance Publication		40	40	40
Asset Management		48	40	40
Bonus Scores		*7.8*	*7.8*	*7.8*
Penalties		*0*	*0*	*0*
Blue Drop Score (2011)		**55.99% (↓)**	**51.86% (↑)**	**52.49% (↓)**
Blue Drop Score (2010)		69.93%	NA	69.63%
System Design Supply Capacity (Ml/d)		1.5	1	NI
System Operational Capacity		0.001%	NI	NI
Population Served by System		**4 449**	**1 347**	**671**
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		**93.94%**	**91.67%**	**90.91% (11 months)**
Chemical Compliance(12 months)		**100.00% (1 month)**	**94.44% (2 months)**	**100.00% (1 month)**

Performance Area	Systems	Ntanzi	Gomane Boreholes
Water Safety Planning Process & Incident Response Management		62	62
Process Control, Maintenance & Management Skills		49	19
Monitoring Programme		52	51
Credibility of Sample Analyses		100	100
Submission of Results		0	100
Drinking Water Quality Compliance		55	85
Performance Publication		40	40
Asset Management		40	0
Bonus Scores		*4.2*	*7.8*
Penalties		*0.6*	*0.3*
Blue Drop Score (2011)		**55.28% (↑)**	**62.71% (↑)**
Blue Drop Score (2010)		NA	NA
System Design Supply Capacity (Ml/d)		0.025	NI
System Operational Capacity		NI	NI
Population Served by System		**2 400**	**5 037**
Ave. Daily Consumption per Capita (l)		-	-
Microbiological Compliance(12 months)		**100.00% (9 months)**	**97.62%**
Chemical Compliance(12 months)		**No data**	**100.00% (2 months)**

Systems not assessed: Untreated Springs and Boreholes

Regulatory Impression:

Although ample room still exists for improvement, DWA is encouraged to note that Umgungunlovu presented another 9 water supply systems for evaluation in an attempt to ensure that the municipality monitors their entire area of responsibility. Efforts to monitor drinking water quality (DWQ) in all the supply systems are further promise of improved DWQ management.

While the municipality continue efforts to improve the frequency of comprehensive monitoring, risk based chemical monitoring also needs to commence in the Mtulwa and Ntanzi supply systems. DWA noted that some confusion existed between the municipality and Umgeni Water over point of use sampling, the WSA should ensure that the service agreement with Umgeni Water clearly stipulates the requirements for monitoring. Management should furthermore show support by availing funds for Umgeni to maintain the agreed monitoring. Together the WSA and WSP should also confirm adequate monitoring coverage (especially in all the areas now combined under the Umgeni Bulk Supply system), while credible data submission ensues.

DWQ in Appelbosch, Makeni, Richmond and Nzinga was evaluated of unacceptable microbiological quality, the water exposed consumers to a risk of infection. This risk to public health was also confirmed by chemical non-compliances with the South African standard for drinking water (SANS 241). DWA needs to be furnished with information within 60 days confirming how the municipality intends on ensuring supplies of water safe for human consumption.

Other areas requiring improvement includes performance publication to the public, while the WSA provides DWA with information detailing asset management within the municipality.

Water Services Authority:	uMhlathuze Local Municipality
Water Services Providers:	uMhlathuze LM; Water and Sanitation SA (WSSA)[a]

Municipal Blue Drop Score 2011: **89.26%**

Performance Area	*Systems*	Nsezi	Ngwelezana	Mzingazi[a]	eSikhawini/ eSikhaleni[a]
Water Safety Planning Process & Incident Response Management		70	68	70	70
Process Control, Maintenance & Management Skills		70	82	52	62
Monitoring Programme		86	93	93	93
Credibility of Sample Analyses		93	100	100	100
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		100	100	100	100
Performance Publication		100	100	100	100
Asset Management		82	76	76	76
Bonus Scores		*0.9*	*2.3*	*2.8*	*2.6*
Penalties		*0*	*0*	*0*	*0*
Blue Drop Score (2011)		**88.90%** (↑)	**91.35%** (↑)	**89.28%** (↑)	**90.07%** (↑)
Blue Drop Score (2010)		NA	79.75%	NA	79.75%
System Design Supply Capacity (Ml/d)		132	8	65	36
System Operational Capacity		89%	98%	78%	89%
Population Served by System		**25 119**	**61 658**	**108 121**	**143 080**
Ave. Daily Consumption per Capita (l)		>500	121	468	223
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**99.43%**	**100.00%**
Chemical Compliance(12 months)		**100% (6 months)**	**100.00%**	**100.00%**	**100.00%**

Regulatory Impression

The improvement since the previous Blue Drop assessment is remarkable, indicating the commitment of uMhlathuze LocalMunicipality and WSSA to ensure the effective management of drinking water quality according to the rigorous criteria set by this regulatory approach. This performance edges ever closer to the excellence target; indicating that Blue Drop certification is imminent.

The Lead Inspector noted: "*The WSA was well prepared for the assessment. Many of the issues raised in the BD certification system have received attention from the WSA but have not yet fully been implemented or adopted. The Water Safety Planning processes and water quality monitoring being the most important.*"

Findings:

1. Management is yet to sign their commitment towards the water safety planning process. This is essential to ensure the implementation of identified control measures as part of a proactive approach to drinking water quality management.

2. Sampling must be amended to the risk assessment process. Both determinands (according to risks) and sampling points (critical control points) need to be addressed.

3. It is noted that peak flows (4 times in 2010) exceeded design capacity of the works. This need to be addressed since treatment efficacy could be compromised. In addition to this it was reported that water losses is in the excess of 25% which could be contributing to this challenging situation.

Water Services Authority:	uMkhanyakude District Municipality
Water Services Providers:	uMkhanyakude DM; Water and Sanitation SA (WSSA)[a]

Municipal Blue Drop Score 2011: **32.45%**

Performance Area	*Systems*	Hlabisa[a]	Nkolokotho[a]	Mtubatuba[a]	Hluhluwe 1[a]
Water Safety Planning Process & Incident Response Management		8	8	8	8
Process Control, Maintenance & Management Skills		25	25	25	25
Monitoring Programme		30	38	38	32
Credibility of Sample Analyses		63	74	62	52
Submission of Results		50	0	50	50
Drinking Water Quality Compliance		20	20	78	20
Performance Publication		25	25	25	25
Asset Management		22	22	18	18
Bonus Scores		*4.5*	*4.5*	*4.5*	*4.5*
Penalties		*0*	*0*	*0.4*	*0*
Blue Drop Score (2011)		**28.49%** (↑)	**27.36%** (→)	**45.82%** (↑)	**27.53%** (→)
Blue Drop Score (2010)		16.44%	NA	27.75%	NA
System Design Supply Capacity (Ml/d)		3	5	12	5
System Operational Capacity		90%	110%	106%	80%
Population Served by System		**120 000**	**200 000**	**280 000**	**150 000**
Ave. Daily Consumption per Capita (l)		<50	<50	<50	<50
Microbiological Compliance(12 months)		**63.16%** (11 months)	**93.33%** (8 months)	**100%** (11 months)	**72.73%** (11 months)
Chemical Compliance(12 months)		**69.23%** (7 months)	**100%** (5 months)	**100%** (9 months)	**100%** (9 months)

Performance Area	*Systems*	Hluhluwe 2[a]	Mkuze[a]	Jozini (old)[a]	Jozini (new)[a]
Water Safety Planning Process & Incident Response Management		8	8	8	8
Process Control, Maintenance & Management Skills		25	25	25	25
Monitoring Programme		29	34	29	27
Credibility of Sample Analyses		62	62	60	75
Submission of Results		50	50	100	0
Drinking Water Quality Compliance		20	20	78	78
Performance Publication		25	25	25	25
Asset Management		18	18	18	18
Bonus Scores		*4.5*	*4.5*	*4.5*	*4.5*
Penalties		*0*	*0*	*0.4*	*0.4*
Blue Drop Score (2011)		**27.75%** (→)	**28.25%** (↑)	**47.36%** (→)	**42.95%** (→)
Blue Drop Score (2010)		NA	16.44%	NA	NA
System Design Supply Capacity (Ml/d)		3	3	4	5
System Operational Capacity		67%	67%	95%	90%
Population Served by System		**120 000**	**40 000**	**120 000**	**200 000**
Ave. Daily Consumption per Capita (l)		<50	50	<50	<50
Microbiological Compliance(12 months)		**86.89%** (11 months)	**62.50%** (11 months)	**100.00%**	**100%** (7 months)
Chemical Compliance(12 months)		**100%** (9 months)	**100%** (7 months)	**100%** (10 months)	**100%** (5 months)

Performance Area	Systems	Malobeni [a]	Makhonyeni [a]	Block 6 [a]	Mjindi [a]
Water Safety Planning Process & Incident Response Management		8	8	8	8
Process Control, Maintenance & Management Skills		25	25	25	25
Monitoring Programme		41	32	36	39
Credibility of Sample Analyses		74	74	75	73
Submission of Results		0	0	0	0
Drinking Water Quality Compliance		78	20	20	20
Performance Publication		25	25	25	25
Asset Management		18	18	18	18
Bonus Scores		*4.5*	*4.5*	*4.5*	*4.5*
Penalties		*0.4*	*0*	*0*	*0*
Blue Drop Score (2011)		**44.31% (↑)**	**26.16% (↑)**	**26.60% (↓)**	**26.81% (↑)**
Blue Drop Score (2010)		24.75%	24.75%	26.75%	24.75%
System Design Supply Capacity (Ml/d)		1	1	1	1
System Operational Capacity		50%	90%	20%	50%
Population Served by System		**12 000**	**40 000**	**20 000**	**20 000**
Ave. Daily Consumption per Capita (l)		<50	<50	<50	<50
Microbiological Compliance(12 months)		**100% (8 months)**	**78.57% (8 months)**	**80.00% (6 months)**	**92.31% (8 months)**
Chemical Compliance(12 months)		**100% (5 months)**	**100% (5 months)**	**100% (4 months)**	**100% (5 months)**

Performance Area	Systems	Mseleni [a]	Mbazwana [a]	Shemula [a]	Phophopho [a]
Water Safety Planning Process & Incident Response Management		8	8	4	4
Process Control, Maintenance & Management Skills		25	25	25	25
Monitoring Programme		42	29	22	36
Credibility of Sample Analyses		65	65	44	63
Submission of Results		50	50	100	100
Drinking Water Quality Compliance		29	20	20	20
Performance Publication		25	25	0	0
Asset Management		18	18	22	22
Bonus Scores		*4.5*	*4.5*	*4.5*	*4.5*
Penalties		*0.3*	*0*	*0*	*0*
Blue Drop Score (2011)		**31.93% (↑)**	**27.91% (↑)**	**26.32% (↑)**	**24.59% (→)**
Blue Drop Score (2010)		26.75%	24.75%	17.44%	NA
System Design Supply Capacity (Ml/d)		1	2	7	1
System Operational Capacity		80%	150%	93%	40%
Population Served by System		**20 000**	**100 000**	**280 000**	**20 000**
Ave. Daily Consumption per Capita (l)		<50	<50	<50	<50
Microbiological Compliance(12 months)		**94.12% (11 months)**	**94.44% (11 months)**	**90.24%**	**82.35% (8 months)**
Chemical Compliance(12 months)		**100% (8 months)**	**100% (8 months)**	**100% (10 months)**	**100% (10 months)**

Performance Area	Systems	Manguzi [a]	Enkanyezini [a]	Nondabuya [a]	Othobothini [a]
Water Safety Planning Process & Incident Response Management		4	4	4	4
Process Control, Maintenance & Management Skills		25	25	25	25
Monitoring Programme		42	40	26	31
Credibility of Sample Analyses		58	58	75	75
Submission of Results		100	50	0	0
Drinking Water Quality Compliance		20	20	20	78
Performance Publication		0	0	0	0
Asset Management		22	22	22	22
Bonus Scores		*4.5*	*4.5*	*4.5*	*4.5*
Penalties		*0*	*0*	*0*	*0.4*
Blue Drop Score (2011)		**29.02% (↑)**	**26.34% (↑)**	**23.28% (→)**	**40.95% (→)**
Blue Drop Score (2010)		16.44%	16.44%	NA	NA
System Design Supply Capacity (Ml/d)		1	1	1	1
System Operational Capacity		35%	25%	40%	50%
Population Served by System		**12 000**	**12 000**	**12 000**	**20 000**
Ave. Daily Consumption per Capita (l)		<50	<50	<50	<50
Microbiological Compliance(12 months)		**76.19%**	**69.57% (11 months)**	**75.00% (4 months)**	**100 % (7 months)**
Chemical Compliance(12 months)		**100% (9 months)**	**100% (9 months)**	**100% (4 months)**	**100 % (5 months)**

A report card was not prepared for the zero Blue Drop score calculated for the Mkuze River supply system

Systems not assessed: Small borehole systems (none receiving treatment) and Mkuze River WTW (not in use for last 2 years)

Regulatory Impression:

Regrettably, uMkhanyakudeDistrictMunicipality again performed poorly during the Blue Drop assessment, indicating that drinking water quality (DWQ) are not being managed effectively and that the expectations of the regulatory programme are largely not being met. Water in 15 of the assessed 20 supply systems were evaluated to pose a risk of infection due to microbiological non-compliances with the South African standard for drinking water (SANS 241). Water in 1 supply system was furthermore evaluated of unacceptable chemical quality.

uMkhanyakude should urgently improve disinfection procedures at all the treatment plants (including the boreholes). Free available chlorine monitoring within the distribution networks should thereafter be maintained at a much higher frequency to confirm continuous treatment efficacy. The municipality has to provide the Department with information within 60 days to confirm that the microbiological water quality non-compliances had been addressed, municipal management should take accountability for turn-around of the situation. Failure to do so could result in serious health effects and even loss of human life.

DWA noted the recent appointment of WSSA. Staff from WSSA was seen eager to ensure processes are put in place to improve drinking water services delivery within the municipality. uMkhanyakude municipal management should ensure that funds and resources are available to allow the service provider to implement and maintain improved DWQ management procedures. With limited staff, uMkhanyakude are currently not seen in a position to improve DWQ without the support from a service provider. Acknowledging the enormity of the task to improve the quality of service delivery within uMkhanyakude, WSSA is furthermore advised to ensure that staff delegated to this WSA has the required support and experience to address the situation.

Water Services Authority:	Umzinyathi District Municipality
Water Services Providers:	uThukela Water [a]

Municipal Blue Drop Score 2011: **70.01%**

Performance Area	*Systems*	Biggarsberg [a] Endumeni LM	Fabeni [a] Msinga LM	Keats Drift [a] Msinga LM	Pomeroy [a] Msinga LM
Water Safety Planning Process & Incident Response Management		58	58	58	58
Process Control, Maintenance & Management Skills		60	30	60	25
Monitoring Programme		78	48	70	48
Credibility of Sample Analyses		93	93	93	92
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		85	85	85	85
Performance Publication		20	20	20	20
Asset Management		24	54	47	32
Bonus Scores		*3.3*	*3.4*	*3.1*	*3.8*
Penalties		*0.2*	*0.2*	*0.2*	*0.2*
Blue Drop Score (2011)		**71.40% (↓)**	**65.06% (↑)**	**68.81% (↑)**	**61.51% (↑)**
Blue Drop Score (2010)		77.50%	47.50%	64.25%	53.00%
System Design Supply Capacity (Ml/d)		15	0.05 (yield)	0.3	NI
System Operational Capacity		94%	88%	95%	NI
Population Served by System		**353 000**	**5 000**	**11 848**	**2 000**
Ave. Daily Consumption per Capita (l)		<50	<50	<50	-
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**	**99.02%**
Chemical Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**	**100.00%**

Performance Area	*Systems*	Sampofu [a] Msinga LM	Isandlwana [a] Nqutu LM	Nondweni [a] Nqutu LM	Nqutu [a] (Vans Drift) Nqutu LM
Water Safety Planning Process & Incident Response Management		58	58	58	58
Process Control, Maintenance & Management Skills		50	60	40	40
Monitoring Programme		78	78	78	78
Credibility of Sample Analyses		92	92	92	92
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		85	45	85	85
Performance Publication		20	20	20	20
Asset Management		32	24	54	24
Bonus Scores		*3.3*	*11.0*	*7.7*	*8.7*
Penalties		*0.2*	*0.2*	*0.2*	*0.2*
Blue Drop Score (2011)		**66.51% (↑)**	**62.09% (↑)**	**73.32% (↓)**	**69.84% (↑)**
Blue Drop Score (2010)		NA	NA	77.00%	NA
System Design Supply Capacity (Ml/d)		3	0.2	2	6
System Operational Capacity		102%	112%	83%	101%
Population Served by System		**15 907**	**2 000**	**2 916**	**38 500**
Ave. Daily Consumption per Capita (l)		192	112	569	157
Microbiological Compliance(12 months)		**100.00%**	**95.18%**	**99.03%**	**99.51%**
Chemical Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**	**100.00%**

Performance Area	*Systems*	Amakhabaleni [a] Umvoti LM	Greytown [a] Umvoti LM	Muden [a] Umvoti LM	Kranskop [a] Umvoti LM
Water Safety Planning Process & Incident Response Management		58	58	58	58
Process Control, Maintenance & Management Skills		40	90	70	50
Monitoring Programme		34	56	29	70
Credibility of Sample Analyses		92	92	91	92
Submission of Results		0	100	100	100
Drinking Water Quality Compliance		87	65	85	85
Performance Publication		20	20	20	20
Asset Management		54	54	54	24
Bonus Scores		*3.9*	*8.5*	*3.3*	*3.4*
Penalties		*0.2*	*0.2*	*0.2*	*0.5*
Blue Drop Score (2011)		**60.53% (→)**	**70.86% (↑)**	**66.95% (→)**	**64.79% (↓)**
Blue Drop Score (2010)		NA	67.00%	65.75%	67.00%
System Design Supply Capacity (Ml/d)		0.43	7	3	0.75
System Operational Capacity		49%	61%	28%	73%
Population Served by System		**15 000**	**70 345**	**37 000**	**4 000**
Ave. Daily Consumption per Capita (l)		<50	60	227	136
Microbiological Compliance(12 months)		**100% (8 months)**	**96.32%**	**98.11%**	**99.09%**
Chemical Compliance(12 months)		**100% (7 months)**	**100.00%**	**100.00%**	**100.00%**

A report card was not prepared for the zero Blue Drop score calculated for the Rudimentary supply system

Regulatory Impression:

DWA is encouraged to note that Umzinyathi (and uThukela Water) not only showed a general increase in drinking water quality (DWQ) management performance as indicated by the 2011 Blue Drop scores, but also presented more supply systems for evaluation in an attempt to ensure monitoring of the entire area of supply under jurisdiction of the municipality. While performance publication to the public clearly needs improvement, the Department is more concerned to note that a number of treatment systems currently operate above design capacity. The situation requires urgent attention. Municipal management in collaboration with DWA should ensure that planning provides for upgrade of all the affected systems before the excellent quality of drinking water, distributed in many of the supply systems, is compromised.

Considering that DWA evaluated the current complement of process control staff to not comply with the requirements of Regulation 2834, the WSA and WSP is urged to speedily address the lack of staff. More importantly, staff must be evaluated competent to maintain optimal treatment efficacy of the treatment facilities operating at full design capacities.

Another area of concern is the lack of data (full SANS 241 analyses) to confirm that all risks per supply system had been identified and included in the routine monitoring programme of the municipality. Until such time that the municipality and service provider submits sufficient evidence to confirm monitoring of all risks, DWA affected a marginal penalty against the excellent DWQ compliance reported in a number of the supply systems. DWA however noted that the municipality was to commence aluminium and iron monitoring this financial year as part of the process to continuously review efficacy of their water safety plan.

Water Services Authority:	**uThukela District Municipality**
Water Services Providers:	**uThukela District Municipality**

Municipal Blue Drop Score 2011: **55.29%**

Performance Area	*Systems*	Colenso	Ezakheni	Ladysmith	Loskop
Water Safety Planning Process & Incident Response Management		0	0	0	0
Process Control, Maintenance & Management Skills		52	58	48	18
Monitoring Programme		60	63	50	35
Credibility of Sample Analyses		57	57	57	57
Submission of Results		20	100	100	100
Drinking Water Quality Compliance		20	29	78	20
Performance Publication		80	80	80	80
Asset Management		70	70	70	70
Bonus Scores		*4.5*	*3.6*	*3.6*	*4.0*
Penalties		*0*	*0.3*	*0.4*	*0.4*
Blue Drop Score (2011)		**44.00% (↑)**	**51.55% (→)**	**63.01% (↑)**	**42.10% (↑)**
Blue Drop Score (2010)		45.75%	52.75%	67.75%	37.75%
System Design Supply Capacity (Ml/d)		2.0- 5.0	>25.0	15.0- 50	5- 15
System Operational Capacity		NI	NI	NI	NI
Population Served by System		**4 476**	**54 325**	**47 043**	**10 238**
Ave. Daily Consumption per Capita (l)		-	-	-	-
Microbiological Compliance(12 months)		**86.42% (7 months)**	**94.34% (8 months)**	**100% (8 months)**	**89.41% (7 months)**
Chemical Compliance(12 months)		**100% (10 months)**	**100.00%**	**100.00%**	**100.00%**

Performance Area	*Systems*	EkuvukeniTownship	Tugela Estates	Bergville
Water Safety Planning Process & Incident Response Management		0	0	0
Process Control, Maintenance & Management Skills		58	18	18
Monitoring Programme		43	33	35
Credibility of Sample Analyses		57	57	57
Submission of Results		0	0	50
Drinking Water Quality Compliance		78	38	78
Performance Publication		80	80	80
Asset Management		70	70	70
Bonus Scores		*4.0*	*4.5*	*4.5*
Penalties		*0.4*	*0.4*	*0.4*
Blue Drop Score (2011)		**58.69% (↑)**	**42.10% (↑)**	**56.64% (↓)**
Blue Drop Score (2010)		37.25%	39.75%	61.75%
System Design Supply Capacity (Ml/d)		15-50	NI	2.5- 7.5
System Operational Capacity		NI	NI	NI
Population Served by System		**36 785**	**6 796**	**17 061**
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		**100.00% (2 months)**	**95.45% (5 months)**	**100.00% (7 months)**
Chemical Compliance(12 months)		**100.00% (6 months)**	**100.00% (6 months)**	**100.00% (11 months)**

Performance Area	*Systems*	Langkloof	Zwelisha	Winterton
Water Safety Planning Process & Incident Response Management		0	0	0
Process Control, Maintenance & Management Skills		18	58	38
Monitoring Programme		35	63	38
Credibility of Sample Analyses		55	55	55
Submission of Results		100	100	100
Drinking Water Quality Compliance		78	58	58
Performance Publication		80	80	80
Asset Management		70	70	70
Bonus Scores		*4.0*	*3.4*	*4.4*
Penalties		*0.4*	*0.4*	*0.4*
Blue Drop Score (2011)		**58.81% (↑)**	**59.49% (↓)**	**55.40% (↑)**
Blue Drop Score (2010)		37.75%	63.75%	39.75%
System Design Supply Capacity (Ml/d)		NI	15- 50	1- 2.5
System Operational Capacity		NI	NI	NI
Population Served by System		**1 545**	**20 803**	**2 186**
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		**100.00% (6 months)**	**96.72% (8 months)**	**96.43% (7 months)**
Chemical Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**

Performance Area	*Systems*	Archie Rodel	George Cross	WeenenTown
Water Safety Planning Process & Incident Response Management		0	0	0
Process Control, Maintenance & Management Skills		18	48	48
Monitoring Programme		56	51	50
Credibility of Sample Analyses		50	50	53
Submission of Results		100	100	0
Drinking Water Quality Compliance		78	78	78
Performance Publication		80	80	80
Asset Management		70	78	70
Bonus Scores		*3.9*	*3.5*	*3.6*
Penalties		*0.4*	*0.4*	*0.4*
Blue Drop Score (2011)		**60.54% (↑)**	**63.84% (↑)**	**58.25% (↑)**
Blue Drop Score (2010)		NA	NA	57.75%
System Design Supply Capacity (Ml/d)		NI	7.5-25	0.5- 2.5
System Operational Capacity		NI	NI	NI
Population Served by System		**4 847**	**26 608**	**4 233**
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		**100.00% (9 months)**	**100.00% (7 months)**	**100.00% (6 months)**
Chemical Compliance(12 months)		**100.00%**	**100.00%**	**100.00% (10 months)**

A report card was not prepared for the zero Blue Drop score calculated for the Loskop Rural system

Regulatory Impression:

uThukela DistrictMunicipality, as Water Services Authority, is responsible for 14 water supply systems. The 2011 Blue Drop performance however instils no confidence that this responsibility is executed with a level of efficiency to ensure protection of consumer health within all the supply systems. This observation is confirmed by the microbiological quality of water in 5 supply systems exceeding the requirements of the South African standard for drinking water (SANS 241). While the municipality must still improve monitoring to ensure submission of 12 months of microbiological data, water in 2 other supply systems are at risk of also being evaluated of unacceptable microbiological quality.

The prevalence of the recorded microbial non-compliances could be due to ineffective disinfection. The municipality is required to give attention to improve this component of water treatment since it significantly affects the ability of the municipality to provide safe water. Consumers are at risk.

Apart from improving the quality of the drinking water supplies, DWA identified water safety planning as another area requiring immediate attention. DWA noted that the municipality appointed a service provider to develop a water safety plan, the WSA and service provider should prioritise the process. The municipality must however remain accountable for the process, ensuring identification and address of all potential risks. Chemical compliance monitoring will be evaluated insufficient until such time that the municipality provides credible data and information to confirm the absence of risks not included in the routine monitoring programme.

DWA in conclusion again refers uThukela to findings of the 2010 Blue Drop assessment. DWA notes with concern that areas previously highlighted for improvement showed little signs of being addressed. DWA now requires municipal management to ensure turnaround without further delay in the areas of poor performance.

Water Services Authority:	**uThungulu District Municipality**
Water Services Providers:	**uThungulu DM; uMhlatuze LM [a]**

Municipal Blue Drop Score 2011: **71.31%**

Performance Area	*Systems*	**Eshowe** Umlalazi LM	**Gingindlovu** Umlalazi LM	**Mpungose** Umlalazi LM
Water Safety Planning Process & Incident Response Management		**56**	**56**	**56**
Process Control, Maintenance & Management Skills		**80**	**60**	**60**
Monitoring Programme		**70**	**53**	**64**
Credibility of Sample Analyses		**100**	**78**	**78**
Submission of Results		**100**	**100**	**100**
Drinking Water Quality Compliance		**40**	**60**	**60**
Performance Publication		**100**	**100**	**100**
Asset Management		**60**	**60**	**60**
Bonus Scores		*10.8*	*10.4*	*10.0*
Penalties		*0.5*	*0.5*	*0.5*
Blue Drop Score (2011)		**74.98% (↑)**	**75.80% (↑)**	**76.59% (↑)**
Blue Drop Score (2010)		46.50%	44.00%	NA
System Design Supply Capacity (Ml/d)		7.49	1.5	2.5
System Operational Capacity		107%	40%	7.56%
Population Served by System		**30 000**	**20 000**	**10 000**
Ave. Daily Consumption per Capita (l)		267	<50	175
Microbiological Compliance(12 months)		**96.25%**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**No data**	**No data**	**No data**

Performance Area	*Systems*	**Mtunzini [a]** Umlalazi LM	**Umlazi** Umlalazi LM	**Kwambonambi / Umfolozi [a]**
Water Safety Planning Process & Incident Response Management		**28**	**40**	**28**
Process Control, Maintenance & Management Skills		**50**	**13**	**50**
Monitoring Programme		**67**	**42**	**67**
Credibility of Sample Analyses		**78**	**78**	**78**
Submission of Results		**100**	**100**	**100**
Drinking Water Quality Compliance		**78**	**40**	**78**
Performance Publication		**75**	**100**	**75**
Asset Management		**39**	**33**	**40**
Bonus Scores		*9.0*	*8.2*	*6.4*
Penalties		*0.5*	*0.5*	*0.5*
Blue Drop Score (2011)		**70.21% (↑)**	**55.35% (↑)**	**67.78% (↑)**
Blue Drop Score (2010)		40.44%	NA	NA
System Design Supply Capacity (Ml/d)		NI	NI	NI
System Operational Capacity		NI	NI	NI
Population Served by System		**1 000**	**28 000**	**25 000**
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		**100.00%**	**96.05%**	**99.32%**
Chemical Compliance(12 months)		**100.00%**	**No data**	**100.00%**

Performance Area	*Systems*	Melmoth / Mthojaneni	Nkandla	Ntambanana [a]
Water Safety Planning Process & Incident Response Management		**56**	**56**	**28**
Process Control, Maintenance & Management Skills		**70**	**40**	**45**
Monitoring Programme		**58**	**55**	**66**
Credibility of Sample Analyses		**100**	**80**	**78**
Submission of Results		**100**	**100**	**100**
Drinking Water Quality Compliance		**60**	**31**	**70**
Performance Publication		**100**	**100**	**75**
Asset Management		**60**	**10**	**40**
Bonus Scores		*9.6*	*9.9*	*12.4*
Penalties		*0.5*	*0.3*	*0.5*
Blue Drop Score (2011)		**77.60% (↑)**	**57.63% (↑)**	**71.06% (↑)**
Blue Drop Score (2010)		NA	41.56%	40.94%
System Design Supply Capacity (Ml/d)		3.2	NI	NI
System Operational Capacity		NI	NI	NI
Population Served by System		**25 000**	**NI**	**NI**
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		**97.87%**	**95.70%**	**98.35%**
Chemical Compliance(12 months)		**No data**	**No data**	**100.00%**

Regulatory Impression:

The Department commends the performance of uThungulu District Municipality during this Blue Drop assessment period. All systems showed improvement as indicated by the increased 2011 Blue Drop scores. The definitive laudable feat would be that the municipality addressed the requests of the Department in 2010 to develop and implement a water safety plan, while also commencing chemical compliance monitoring. Although ample room still exists for improvement, the Department wish to encourage the Municipality to not rest on its laurels but to ensure that all is done to further improve drinking water quality (DWQ) management within its area of supply.

It has to be noted that the Lead Inspector noted that the water supply systems registered by uThungulu on the Blue Drop System (BDS) needs further refinement. It was found that a number of water treatment works were created as sample monitoring points and not registered on the BDS. Furthermore, the role of the City of uMhlathuze, as a bulk water supplier, needs to be clearly defined. It is thus recommended that the WSA (assisted by the WSP's) ensure correct definition and registration of all supply systems in preparation for the 2012 Blue Drop Cycle.

Findings

1. DWA is encouraged to note microbiological water quality monitoring in all the supply systems for the required 12 months. While the municipality improved the water quality in some of the systems previously reported with failures, uThungulu now has to improve disinfection in the Eshowe, Umlazi, Melmoth / Mthojaneni and Nkandla water supply systems. Risk-based chemical compliance monitoring should ensue as informed by a full SANS 241 analyses, the WSA / WSP's should also commence chemical monitoring in all the supply systems. Alternatively, sufficient information should explain chemical monitoring in only certain water supply systems.

2. The water safety plan presented during the 2011 evaluation was found to adequately detail the catchment to points of use. Deficiencies identified by the lead inspector however include the lack of information used to categorise risks (no reference is made to analyses to confirm / exclude risks in the raw to final water).

3. DWA commends uThungulu for an Incident Management Protocol and register complying with the requirements of good practice.

4. On a final note, the WSA and WSP's should improve process control and general asset management.

Water Services Authority:	Zululand District Municipality
Water Services Providers:	Abaqulusi LM [a]; Water and Sanitation SA (WSSA) [b]

Municipal Blue Drop Score 2011: **72.13%**

Performance Area	*Systems*	Vryheid [a]	Coronation [a]	eMondlo [a]	Hlobane [a]
Water Safety Planning Process & Incident Response Management		9	9	9	9
Process Control, Maintenance & Management Skills		50	30	50	50
Monitoring Programme		63	58	43	55
Credibility of Sample Analyses		75	75	75	75
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		70	20	30	70
Performance Publication		100	100	100	100
Asset Management		78	78	78	78
Bonus Scores		*3.5*	*4.8*	*4.9*	*3.6*
Penalties		*0.3*	*0*	*0.3*	*2*
Blue Drop Score (2011)		**67.45% (↑)**	**51.31% (↑)**	**54.81% (↑)**	**66.78% (↑)**
Blue Drop Score (2010)		30.36%	34.55%	29.38%	36.63%
System Design Supply Capacity (Ml/d)		17.5 (combined)	8	7.5	3.6
System Operational Capacity		NI	12.5%	107%	56%
Population Served by System		**50 893**	**12 116**	**64 259**	**2 906**
Ave. Daily Consumption per Capita (l)		-	79	124	>500
Microbiological Compliance(12 months)		**100.00%**	**93.33%**	**95.24%**	**100.00%**
Chemical Compliance(12 months)		**No data**	**No data**	**No data**	**No data**

Performance Area	*Systems*	Louwsberg [a]	Babanango [b]	Belgrade [b]	Ceza Rudimentary [b]
Water Safety Planning Process & Incident Response Management		9	56	56	56
Process Control, Maintenance & Management Skills		50	40	40	40
Monitoring Programme		55	78	78	78
Credibility of Sample Analyses		75	75	75	75
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		70	93	93	93
Performance Publication		100	100	100	100
Asset Management		55	63	63	63
Bonus Scores		*3.9*	*3.9*	*3.9*	*3.9*
Penalties		*0.3*	*0.1*	*0.1*	*0.1*
Blue Drop Score (2011)		**63.73% (↑)**	**80.07% (↓)**	**80.07% (↑)**	**80.07% (↓)**
Blue Drop Score (2010)		39.80%	93.00%	69.00%	91.00%
System Design Supply Capacity (Ml/d)		0.6	0.3	1.1	0.4
System Operational Capacity		100%	NI	100%	NI
Population Served by System		**10 000**	**4 000**	**20 000**	**20 000**
Ave. Daily Consumption per Capita (l)		60	-	55	-
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**No data**	**100.00%**	**100.00%**	**100.00%**

Performance Area	*Systems*	eDumbe [b]	EnyokeniPalace [b]	Frishcge-waagd [b]	Itshelejuba hospital [b]
Water Safety Planning Process & Incident Response Management		56	56	56	56
Process Control, Maintenance & Management Skills		40	30	40	40
Monitoring Programme		78	97	76	81
Credibility of Sample Analyses		75	75	75	75
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		93	55	93	100
Performance Publication		100	100	100	100
Asset Management		55	63	55	78
Bonus Scores		*4.1*	*5.6*	*4.2*	*3.1*
Penalties		*0.1*	*0.6*	*0.1*	*0*
Blue Drop Score (2011)		**79.07% (↓)**	**71.41% (↓)**	**78.93% (↓)**	**84.08% (→)**
Blue Drop Score (2010)		89.00%	86.00%	88.00%	84.00%
System Design Supply Capacity (Ml/d)		2.4	0.02	1.5	NI(yield)
System Operational Capacity		125%	100%	133%	0.16
Population Served by System		**25 334**	**325**	**76 137**	**9 300**
Ave. Daily Consumption per Capita (l)		118	61	<50	-
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**100.00%**	**83.33%**	**100.00%**	**100% (11 months)**

Performance Area	*Systems*	KhangelaPalace [b]	Mandlakazi [b]	Mpumgam-hlope [b]	Nkonjeni hospital [b]
Water Safety Planning Process & Incident Response Management		56	56	56	56
Process Control, Maintenance & Management Skills		40	40	40	30
Monitoring Programme		81	81	81	93
Credibility of Sample Analyses		75	75	75	75
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		93	93	93	97
Performance Publication		100	100	100	100
Asset Management		63	63	78	63
Bonus Scores		*3.9*	*3.9*	*3.5*	*3.7*
Penalties		*0.1*	*0.1*	*0.1*	*0*
Blue Drop Score (2011)		**80.33% (↓)**	**80.33% (↓)**	**82.20% (↓)**	**81.56% (↓)**
Blue Drop Score (2010)		91.00%	91.00%	91.00%	87.00%
System Design Supply Capacity (Ml/d)		0.01	0.75	0.8	0.1
System Operational Capacity		100%	100%	79%	100%
Population Served by System		**241**	**1 781**	**5 636**	**10 000**
Ave. Daily Consumption per Capita (l)		<50	421	112	<50
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**100% (11 months)**	**100% (11 months)**	**100.00%**	**100.00%**

Performance Area	*Systems*	Pongola [b]	Rud Khambi [b]	Rudimentary Khiphunyawo [b]	Rudimentary Kombuzi [b]
Water Safety Planning Process & Incident Response Management		56	52	53	53
Process Control, Maintenance & Management Skills		40	40	40	40
Monitoring Programme		81	92	70	93
Credibility of Sample Analyses		75	75	75	75
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		93	97	20	93
Performance Publication		100	100	100	100
Asset Management		63	78	63	63
Bonus Scores		*3.9*	*3.2*	*7.8*	*3.7*
Penalties		*0.1*	*0*	*0*	*0.1*
Blue Drop Score (2011)		**80.33% (↓)**	**83.76% (↑)**	**60.76% (↑)**	**80.80% (↓)**
Blue Drop Score (2010)		86.00%	78.50%	58.43%	81.43%
System Design Supply Capacity (Ml/d)		6.3	0.72	0.37	0.2
System Operational Capacity		100%	28%	100%	100%
Population Served by System		**93 817**	**10 879**	**4 375**	**3 257**
Ave. Daily Consumption per Capita (l)		67	<50	84	61
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**91.67%**	**100.00%**
Chemical Compliance(12 months)		**100% (11 months)**	**No data**	**No data**	**No data**

Performance Area	*Systems*	Rudimentary Makhosini [b]	Rudimentary Masokaneni [b]	Rudimentary Mountain View [b]	Rudimentary Msibi [b]
Water Safety Planning Process & Incident Response Management		53	53	53	53
Process Control, Maintenance & Management Skills		40	40	40	40
Monitoring Programme		67	81	70	70
Credibility of Sample Analyses		75	75	75	75
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		50	100	70	70
Performance Publication		100	100	100	100
Asset Management		78	78	78	63
Bonus Scores		*5.9*	*3.2*	*4.9*	*5.3*
Penalties		*0.3*	*0*	*0.3*	*0.3*
Blue Drop Score (2011)		**69.88% (↓)**	**83.61% (↑)**	**75.16% (↑)**	**73.28% (↓)**
Blue Drop Score (2010)		76.38%	76.38%	66.50%	81.43%
System Design Supply Capacity (Ml/d)		NI (yield)	0.1 (yield)	0.2	0.03
System Operational Capacity		0.38	NI	25%	100%
Population Served by System		**20 000**	**592**	**52**	**8 418**
Ave. Daily Consumption per Capita (l)		-	-	>500	<50
Microbiological Compliance(12 months)		**96.00%**	**100% (7 months)**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**100% (1 month)**	**100% (7 months)**	**No data**	**No data**

Performance Area	*Systems*	Rudimentary Mvuzini [b]	Rudimentary Nkosentsha [b]	Rudimentary Ophuzane [b]	Rudimentary Osingisingini [b]
Water Safety Planning Process & Incident Response Management		53	53	53	53
Process Control, Maintenance & Management Skills		40	40	40	40
Monitoring Programme		70	68	68	70
Credibility of Sample Analyses		75	75	75	75
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		70	20	50	70
Performance Publication		100	100	100	100
Asset Management		78	63	63	78
Bonus Scores		*4.9*	*7.8*	*6.3*	*4.9*
Penalties		*0.3*	*0*	*0.3*	*0.3*
Blue Drop Score (2011)		**75.16% (↓)**	**60.59% (↓)**	**68.06% (↓)**	**75.12% (↓)**
Blue Drop Score (2010)		83.43%	78.43%	78.50%	83.43%
System Design Supply Capacity (Ml/d)		0.80	0.13	0.5 (yield)	0.06
System Operational Capacity		63%	100%	100%	67%
Population Served by System		**7 644**	**13 946**	**16 169**	**10 983**
Ave. Daily Consumption per Capita (l)		65	<50	<50	<50
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**No data**	**No data**	**No data**	**No data**

Performance Area	*Systems*	Rudimentary Purim [b]	Rudimentary Sidinsi [b]	Rudimentary Spekboom [b]	Rudimentary Tholakele [b]
Water Safety Planning Process & Incident Response Management		53	53	53	53
Process Control, Maintenance & Management Skills		40	40	40	40
Monitoring Programme		78	70	68	67
Credibility of Sample Analyses		75	75	75	75
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		82	50	70	50
Performance Publication		100	100	100	100
Asset Management		63	63	55	63
Bonus Scores		*4.6*	*6.3*	*5.5*	*6.3*
Penalties		*0.4*	*0.3*	*0.3*	*0.3*
Blue Drop Score (2011)		**76.91% (↓)**	**68.23% (↑)**	**72.13% (→)**	**68.02% (↓)**
Blue Drop Score (2010)		78.00%	77.43%	73.00%	78.50%
System Design Supply Capacity (Ml/d)		0.24	0.28	1.2	0.5
System Operational Capacity		100%	100%	150%	100%
Population Served by System		**20 588**	**10 798**	**13 765**	**20 000**
Ave. Daily Consumption per Capita (l)		<50	<50	130	<50
Microbiological Compliance(12 months)		**100.00%**	**96.00%**	**100.00%**	**96.00%**
Chemical Compliance(12 months)		**No data**	**No data**	**No data**	**No data**

Performance Area	*Systems*	Thulasizwe hospital [b]	Ulundi Nkonjeni [b]	Vuna (Nongoma) [b]
Water Safety Planning Process & Incident Response Management		**53**	**53**	**53**
Process Control, Maintenance & Management Skills		**40**	**40**	**40**
Monitoring Programme		**78**	**76**	**76**
Credibility of Sample Analyses		**75**	**75**	**75**
Submission of Results		**100**	**100**	**100**
Drinking Water Quality Compliance		**93**	**93**	**93**
Performance Publication		**100**	**100**	**100**
Asset Management		**63**	**78**	**78**
Bonus Scores		*4.0*	*3.8*	*3.7*
Penalties		*0.1*	*0.1*	*0.1*
Blue Drop Score (2011)		**79.61% (↓)**	**81.25% (↓)**	**81.32% (↓)**
Blue Drop Score (2010)		86.50%	85.00%	91.00%
System Design Supply Capacity (Ml/d)		0.2	26.5	4.8
System Operational Capacity		100%	75%	88%
Population Served by System		**20 000**	**94 149**	**44 310**
Ave. Daily Consumption per Capita (l)		<50	211	95
Microbiological Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**
Chemical Compliance(12 months)		**100.00%**	**100.00%**	**100.00%**

Systems not assessed: Enyathi town

Regulatory Impression:

Zululand District Municipality, as Water Services Authority, takes responsibility for drinking water quality (DWQ) management services in 35 water supply systems. Acknowledging that the criteria for Blue Drop certification becomes more stringent every year, DWA congratulates the municipality for maintaining satisfactory performance in all supply systems. Of particular note is the improvement seen in systems co-managed by Abaqulusi LM. DWA noted that the municipality expressed concern that their performance was not reflected correctly by the 2010 Blue Drop scores, the municipality is consequently encouraged to contact the DWA if they again dispute the performance noted per supply system.

DWA in general commends the availability of data to evaluate drinking water quality per supply system, the municipality is however required to address the prevalence of microbiological non-compliances in the Coronation and eMondlo supply systems. Disinfection also needs to improve to address the risk posed by water in the Khiphunyawo, Makhosini, Sidinsi and Tholakele Rudimentary systems. To confirm adequacy of disinfection, Zululand should commence free available chlorine monitoring in all their supply systems. Turbidity failures in some of the systems furthermore need attention since it negatively affects the effectiveness of disinfection.

While the municipality and Abaqulusi prioritise implementation of water safety plans for systems under their control, all risks should be shown identified through chemical monitoring of the water supplies. DWA furthermore noted that not all rudimentary systems under control of WSSA presented with data to access the chemical quality of the supplies. The WSA and WSP are encouraged to provide information at future assessments to confirm that the quality of the drinking water supplies is free from chemical determinand risks. Part of this process also requires the WSA and WSP's to submit all information required to verify credibility of DWQ data.

Process control were evaluated another area requiring improvement. Zululand should ensure classification of all treatment systems on the Blue Drop System (BDS), while also linking process control staff to each treatment system. Staff must be shown competent to maintain optimum operation, currently most process control staff were noted Class 0. DWA furthermore highlight that many treatment systems were found to operate above design capacity. Zululand, in collaboration with the Regional DWA office, should prepare actions plans to address the issue before the quality of drinking water is compromised.