1. INTRODUCTION

Drinking water is supplied by 14 municipalities (WSAs) in the Province, made up of 1 metro (Category A), 10 district municipalities (Category C2) and 3 local municipalities (Category B1). Data sets were received for 8 municipalities representing a total population of 7 828 932 and 1 851 577 households. These households are supplied via a total mains network of 31 200 km via 885 699 connections, with an average of 28 connections per km pipeline. A total of 882 167 (99.6%) of all connections are metered and 3 532 (0.4%) are unmetered. The average system pressure is 52 m, ranging between 34 m to 71 m reported by the various municipalities.

Municipality Name	Munic	No. of	No. of	Рор	ulation and Nu	mber	of Mur	icipal	Catego	ories
[WSA]	[WSA] Category Systems dat		data sets	Α	B1	B2	B3	B4	C1	C2
Ethekwini Metro	А	3	v	3 586 777						
uMhlathuze LM	B1	4	v		342 978					
Newcastle LM	B1	2	х		х					
Msunduzi LM	B1	1	v		456 383					
Amajuba DM	C2	6	x							х
Harry Gwala DM	C2	15	x							х
llembe DM	C2	39	v							573 142
Ugu DM	C2	17	v							792 322
Umgungundlovu DM	C2	14	v							226 686
Umkhanyakude DM	C2	15	v							841 000
Umzinyathi DM	C2	13	x							x
Uthukela DM	C2	14	x							х
uThungulu DM	C2	13	v							1 009 644
Zululand DM	C2	40	х							х
Totals				3 586 777	799 361	0	0	0	0	3 442 794
		106	0	7 828 932						
		190	8	1	3	0	0	0	0	10
						14	Ļ			

*Figures based on verified information only.

2. NO DROP RESULTS FOR 2012/13

The No Drop results show that 196 water supply systems have been assessed in 14 WSAs. In some cases, DWS was necessitated to collapse some of the supply systems into one integrated system for the purposes of this No Drop Report.



A total of 4 WSAs opted to provide evidence for 'one integrated system' instead of regarding each individual supply systems separately. This accounted for 55 systems being integrated into 4 systems. The remaining 141 systems were assessed as stand-alone water supply systems. (Note: the 55 systems were allocated with individual No Drop scores to ensure counting of No Drops >90%).

2013 KZN NO DROP COMPARATIVE ANALYSIS					
Performance Category	Performance indicators				
Number of WSAs assessed	14 (100%)				
Number of systems assessed	196 (100%)				
Number of integrated systems*	4 (29%)				
Average No Drop score	48,2%				
Number of No Drop scores ≥50%	83 (42%)				
Number of No Drop scores <50%	113 (58%)				
Number of No Drop awards ≥90%	71 (36.2%)				
PROVINCIAL (weighted) NO DROP SCORE	75,6%				

* Per original scorecard data



The first order No Drop assessment showed that 42% of the water supply systems obtained >50% No Drop score, with the balance of 58% scoring <50%.

The Provincial (weighted) No Drop Score of 75.6% fall within the No Drop category of 'Average Performance', which is a significant score, as it shows a good start for KZN to the No Drop programme considering that this is the first No Drop assessment for the KZN municipalities. Uthungulu DM, Ugu DM, Msunduzi LM and Ilembe DM achieved excellence in their water efficiency management practice knowledge, as indicated by the No Drop scores >90%. Ethekwini Metro followed closely with 88.6% with good (very close to excellent) water efficiency management practice knowledge. It is reminded that the 1st order No Drop score of >90% as 'excellent' in terms of municipalities who 'KNOW' their systems.

Contrary to the reasonably good provincial weighted average, the Average No Drop score of 48.2% points to a lower performance across all municipalities. This provincial average is weighed down by a number of municipalities who could not provide evidence for assessment. These municipalities are not to be discouraged, as this is the first year of No Drop assessments, and the No Drop introduction has been a learning curve and awareness raising for all stakeholders to better prepare for the next (stand-alone) No Drop assessment.

Seventy one (71) of the 196 systems achieved No Drop status and earned scores of >90%. Eight WSAs achieved No Drop scores of >50% and four WSAs are in the critical state performance category with No Drop scores <31%. The gaps between the first 10 WSAs and the remaining four WSAs are significant, measured at about 30%.

Position	WSA Name	2014 No Drop Score	No. of systems with <31% No Drop score
1	Uthungulu DM	96,5%	
2	Ugu DM	94,4%	
3	Msundusi LM	95,0%	
4	Illembe DM	94,9%	
5	Ethekwini LM	88,6%	1 of 3
6	Newcastle LM	78,0%	
7	uMhlathuze LM	73,9%	
8	Umgungundlovu DM	69,6%	
9	uMkhanyakude DM	49,0%	1 of 15
10	Harry Gwala (Sisonke) DM	48,2%	10 of 15
11	Amajuba DM	18,2%	5 of 6
12	Zululand DM	9,8%	40 of 40
13	uMzinyathi DM	7,5%	13 of 13
14	uThukela DM	0,0%	14 of 14



The Provincial Barometer for the Province with a weighted average No Drop score of 75.6% is shown in the figure below.

The following municipalities and water supply systems attained No Drop scores of >90%. The Regulator considers these municipalities to be knowledgeable on the status of their water use and having the necessary strategies and plans in place to address non-conformance:



- Ugu DM: Bhobhoyi, Umtamvuna, Harding, Weza, KwaFodo, KwaMbotho, KwaNyuswa 1 & 2, KwaHlongwa, Phungashe, Assissi, Vulamehlo, KwaLembe, KwaNdelu, Umtwalume, Umzinto and Hlokozi (17 systems)
- Uthungulu DM: eShowe, Gingindlovu, Mbonambi/Umfolozi, Melmoth, Middeldrift, Greater Mtonjaneni, Mtunzini, Nkandla, Nkandla Boreholes, Ntambanana, Mtonjaneni Boreholes, Ntambanana Boreholes and Umlalazi Boreholes (13 systems)
- Ilembe DM: Dolphin Coast, Groutville, Ndwedwe, Montobello Hospital, eMayelisweni, Ntabaskop, Isiminya, Esidumbini, Isithundu, Glendale Mill, Kwasathane, Waterfall, Masimbambisane, Ngcebo, Kwadukuza/Mvoti, Zinkwazi Beach, Blythedale Beach, Driefontein, Madundube, Mphumulo Hospital, Ntunjambili, Vukile High School, Maqumbi, Maphumulo, Sundumbili/Mathonsi, Mandeni, Uthukela, Makwanini, Ifalethu, Ohwebede, Hlanganani, Lambothi, Ethembeni, Uthukela Mouth, Mazitapele, Sansouci, Gogovuma, Mushane and Amatigulu (39 systems)
- uMhlathuze LM: Ngwelezane (1 system)
- Msunduzi LM: Msunduzi (1 system)

3. THE QUALITY OF EVIDENCE PROVIDED (KPA 1 AND 2)

Municipalities were required to present evidence to satisfy 3 sub-criteria of the 2014 Blue Drop Audit:

- Sub-criteria 6.1 of the audit measures the consistency and credibility of the MONTHLY and ANNUAL composite IWA water balance data and diagram based on actual meter readings per system as per Regulation 509 of 2001 Clause 10 of the Water Supply Regulations.
- Sub-criteria 6.2 reviews the Municipality's strategies and business plans (and its inclusion in the IDP) to reduce the system input volume, water losses and NRW and evaluates the progress made with the implementation of these strategies and business plans.
- Sub-criteria 6.3 measures the performance of the WSI against international best practice benchmarks and the water demand management regulations, and is focussed on knowing and improving the KPI status within the WSI.

In order to derive maximum benefit from the available data, the Department has collapsed the various supply systems into one integrated system for each municipality. The results are reported accordingly:

Data Status	6.1 - Wate	r Balance	6.2 - WC Pla	WDM Strategy and n and Implementat	6.3 - Compliance and Performance	
Data Status	Monthly Water Balance	Annual Water Balance	WCWDM S & BP	WCWDM Implementation	Inclusion in IDP	Verified Credible Data Sets
No data	4 (29%)	4 (29%)	1 (7%)	4 (29%)	3 (21%)	6 (43%)
Partial data	2 (14%)	2 (14%)	5 (36%)	2 (14%)	1 (7%)	
Full data	8 (57%)	8 (57%)	8 (57%)	8 (57%)	10 (71%)	8 (57%)
No. of WSAs	14	14	14	14	14	14

The results shows that 4 of the 14 municipalities (29%) do not have monthly and annual Water Balances in place, and 14% has partial balances in place. The following planning profile is observed:

- 57% of the municipalities have WCWDM strategies and plans in place, with 7% not having any plans in place;
- 57% of municpalities implement WCWDM projects and have budgets and capacity to support implementation;
- 29% of municipalities do not implement any water demand measures, whilst 14% implement some form of demand management;
- ♦ 71% of municipalities have their WCWDM plans included in the IDP in detail, 7% are mentioned in the IDP only, and 21% do not have WCWDM projects included in the IDP;
- The No Drop auditors found the credibility of data and information satisfactory at 57% of the municipalities, and not satisfactory for 43% of the auditees.

The following figure shows the submissions made for No Drop assessment as pertaining to WCWDM planning:



4. THE PROVINCIAL WATER BALANCE (KPA 1 AND 2)

A summary of the results from the 8 (of 14) credible data sets is reflected in the following table:

201	3 Provincial No Drop Score	75.6%
Кеу	Performance Area	Status and Performance
WATI	ER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	2.27%
No I	Drop Score (2013)	75.6% Average
	Population	7 828 932
	Households	1 851 577
	Metered Connections	882 167
	Unmetered Connections	3 532
∡	Length of mains (km)	31 200
DAT	Average System Pressure (m)	52.35
LT I	2014 Water Use Targets (Water Balance Targets)	392.90 million
INP	System Input Volume (kl/annum)	542.31 million
	Billed Metered Authorised Use (kl/annum)	318.82 million
	Billed Unmetered Authorised Use (kl/annum)	6.56 million
	Unbilled Authorised Use (kl/annum)	19.07 million
	Assumed Commercial Losses (%)	18.4%
ΓA	Authorised Use – billed & unbilled (kl/annum)	344.45 million
DA'	Water Losses (kl/annum)	197.86 million
ANCI	Apparent losses (kl/annum)	36.31 million
BAL	Real Losses (kl/annum)	161.55 million
ATER	Revenue Water (kl/annum)	325.38 million
1M	Non-Revenue Water (kl/annum)	216.93 million
ls	Infrastructure Leakage Index (ILI)	6.66 Poor
KP	Apparent/ Commercial Losses (%)	6.7%

2013 Provincial No Drop Score

Key	Performance Area	Status and Performance
WATE	R USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	2.27%
No [Drop Score (2013)	75.6% Average
	Non-Revenue Water (%)	40% Poor
	Water Use Efficiency (I/cap/day)	189.8 Good
R	Authorised Use (I/cap/day)	120.54
THEI	Real Losses (I/cap/day)	56.54
0	% Water Losses	36.5%

2012/13 IWA Water Balance (million m³/annum)

The Provincial Water Balance for the 2012/13 audit year shows a total SIV 542.31 million kl/annum of which 344.45 million kl/a (63.5%) is Authorised Consumption and 197.86 million kl/a (36.5%) is Water Losses. The Water Losses is made up of 36.31 million kl/a (18.3%) Apparent Losses and 161.55 million kl/a (82.7%) Real Losses, which result in a **NRW of 216.93 million kl/annum (40%).**



5. COMPLIANCE AND PERFORMANCE (KPA 3)

Audit Methodology

No Drop data was extracted from sub-criteria 6.3 of the Blue/No Drop assessment scorecards and the associated 2012/13 evidence/data. A secondary moderation processes ensured that the results contained in the scorecards were verified against the Water Balance historical trends. Where inconsistency and/or credibility concerns were detected, the ensuing data and results were

corrected, supplemented or negated (in cases with limited data sets). Only the verified results are used in this report, and considered under the following Key Performance Indicator (KPI) headings.

5.1 System input volume (kl/a)

The System Input Volume represents the potable volume input to the water supply system from the water utility's own sources, as measured at the water treatment works (WTW) outlet, as well as any water imported from other sources.

A total consumption of 542.31 million kl/a is recorded for Kwa-Zulu Natal, the one Category A metro accounts for the majority of the total consumption in the Kwa-Zulu Natal, namely eThekwini Metro for 60% (324.37 million kl/a). The water consumption for the other 7 municipalities are individually and collectively less than that of the eThekwini metro, and collectively account for the other 40% of the Province's consumption.



5.2 Authorised consumption (I/c/d)

Authorised consumption includes metered/unmetered and billed/unbilled consumption and provides an indication of the actual water used by the consumer.



The per capital total authorised water used by the collective consumer in Kwa-Zulu Natal is 967 litres/capita/day, with a weighted average per capita consumption rate of 121 $\ell/c/d$. Msunduzi LM has the highest per capita authorised consumption at 261 $\ell/c/d$, followed by uMhlathuze LM (170 $\ell/c/d$) and eThekwini Metro (159 $\ell/c/d$). Authorised consumption is the lowest in Umkhanyekude DM (7 $\ell/c/d$). With the exception of Msunduzi and uMhlathuze, the other 6 municipalities have authorised consumption figures below the benchmark of $\leq 200 \ell/c/d$.



A high authorised unit consumption could be an indication of inefficient water use, often as a result of high internal plumbing leakage or paying consumers who do not value the scarcity of water or effective metering and billing systems. A low authorised unit consumption could be an indication of unmetered consumption not included in the water balance or a large number of unauthorised consumption or theft.

5.3 Non-revenue water (%)

NRW is the volume of water supplied by the water utility but for which it receives no income. It should be noted that all billed water is considered revenue water, irrespective whether it is paid for or not.



Six of the 8 municipalities (75%) have NRW in excess of 33%. The weighted average NRW is 40%. The highest NRW is seen for Umkhanyekude DM at 94% followed by Uthungulu DM and Umgungundlovu both at 57% and Ilembe DM at 54%. The above graph exhibits predominantly poor non-revenue water management, with the exception of Ugu DM.

A total volume of 216.93 million kl/annum is lost as NRW which, calculated at a unit cost of R6/kl, amounts to R 1,302 million per annum for the province as a whole. The financial and potential saving,

at a fixed unit cost of R6/kl is considered in the following table. By implementing Water Conservation and Demand Management projects, a potential saving of 8.78 million kl can be achieved per annum, which translate to R 498.3 million per year. For a province concerning itself with water conservation and economic growth based on water security, a potential **saving of R 500 million** is worth investing in. This potential saving is calculated from the 8 (57%) usable datasheets, which passed the No Drop quality assurance (credibility) checks. **Savings in excess of R800 million** can be projected if all KZN municipalities' water balances are considered and extrapolated.

Municipality Name	Munic UARL		Current		Target			Rand value (million) @ R6.00/kl			
[WSA]	Category	kl/annum	CARL kl/annum	ILI	TARL kl/annum	ILI	Savings kl/annum	UARL R million	CARL R million	Savings R million	
Ethekwini Metro	А	11 153 498	99 284 082	8.90	49 642 041	4.45	49 642 041	66.92	595.70	297.85	
uMhlathuze LM	B1	1 156 432	11 459 968	9.91	5 729 984	4.95	5 729 984	6.94	68.76	34.38	
Msunduzi LM	B1	2 423 448	16 974 862	7.00	8 487 431	3.50	8 487 431	14.54	101.85	50.92	
llembe DM	C2	1 334 190	10 683 834	8.01	5 341 917	4.00	5 341 917	8.01	64.10	32.05	
Ugu DM	C2	3 598 490	5 486 674	1.52	2 743 337	0.76	2 743 337	21.59	32.92	16.46	
Umgungundlovu DM	C2	972 418	9 365 276	9.63	4 682 638	4.82	4 682 638	5.83	56.19	28.10	
Umkhanyakude DM	C2	382 744	2 180 146	5.70	1 090 073	2.85	1 090 073	2.30	13.08	6.54	
uThungulu DM	C2	3 449 515	10 663 010	3.09	5 331 505	1.55	5 331 505	20.70	63.98	31.99	
Provincial Tot	als	24 269 957	161 553 612	6.66	80 776 806	3.33	80 776 806	145.62	969.32	484.66	



The acceptable minimum level of leakage or UARL for the available datasets is 24.3 million m³/annum which is valued at R 145.6 million/annum based on R 6.00/kl. The current level of physical leakage or CARL, however, is 161.6 million m³/annum or 6.7 times higher than the acceptable minimum level of leakage. The current level of physical leakage is valued at R 969 million/a based on R 6.00/kl. If the CARL could be halved to an ILI 3.33, which is an acceptable level of leakage for developed countries, a saving of 80.8 million m³/annum or R 500 million/annum could be realised.

The R 6.00/kl is considered a realistic bulk water supply tariff for 2013/14, based on the Water Services Tariffs Report for 2012/13 (DWA, 2013). Any escalation in water unit prices above the

assumed average cost of water (R6/kl) would result in higher savings potential in future (i.e. >R800 million).



High %NRW could result due to customers not paying for water services, not being connected and billed by the municipality, households connected to the system through illegal connections, customers not receiving bills, incorrect billing based on estimates and difficult to understand for the average customer, the general lack of co-operation between the finance and technical departments of the municipality all impacting on the poor revenue management and overall financial sustainability.

The most common causes for high physical water losses are

- leakage on transmission and/or distribution mains,
- leakage on service connections up to point of customer metering,
- leakage and overflows at utility's storage tanks, and

The most common causes for commercial losses are:

- unbilled unmetered consumption,
- unauthorised consumption,
- customer metering inaccuracies
- high internal plumbing leakage on private properties, and
- inefficient garden watering and household water use.

5.4 Commercial loss (%)

The commercial loss, as % of the SIV, is made up from the unauthorised consumption (theft or illegal use), plus all technical and administrative inaccuracies associated with customer metering.



The average commercial loss for the Province, as % of the SIV, is 6.7%. The graphs above show commercial losses in the order of 4-11%. Most WSA's find it difficult to calculate commercial losses, as its input parameters is not easy to measure illegal connections, meter accuracy and transfer

errors. As result, most WSAs accept industry default values for commercial losses and there is almost no quantification of the actual percentage. A default value of 20% is used as the norm, unless a municipality can motivate a different value. The reported commercial losses are not considered accurate and seem unusually low. The commercial losses are expected to increase once these parameters are better quantified.



High commercial losses can be a result of high unbilled and unmetered consumption, high unauthorised consumption, and customer metering inaccuracies.

5.5 Physical water loss (ILI unit)

The Infrastructure Leakage Index (ILI) is the preferred real water loss indicator of the IWA and used in the scorecard to assess real losses. The ILI provides an indication of the current physical losses versus the expected physical losses. For example, an ILI of 3 means that the current leakage in the system is 3 times the expected minimum leakage.



The weighted average ILI for KZN is 6.66. The Ugu DM has the lowest ILI of 1.52, followed by uThungulu DM (3.09) and Umkhanyekude DM (5.7). The highest ILI can be seen for uMhlathuze LM at 9.91, Umgungundlovu DM at 9.63 and eThekwini Metro at 8.9, which all exhibit extremely inefficient water use.

When considering that the length of mains and number of connections influences the ILI calculation, the following comparison can be made:



Connection density per length of pipeline is not a performance parameter, it does provide insight into the set-up of connections and meters on the existing water supply pipeline.

The density of connections per km mains varies from 52 connections per km in Msunduzi LM to 9 connections per km mains in uThungulu DM, with an average of 31 connections per km. The high density of connections in Ilembe DM, Ugu DM and uThungulu DM increases the unavoidable real losses (UARL) and reduces the ILI.

Some of the metros have raised the validity of the ILI as an indicator and the Department will investigate this further.

Other real water loss indicators include litres/connection/day (1st graph) and m³ or kl/km mains/day (2nd graph).





The 1st graph shows that uMhlathuze LM, Ilembe DM, uThungulu DM and Umgungundlovu DM have the highest losses per connection per day (777 to 563 ℓ/connection/d), whereas Ugu DM and Umkhanyekude DM shows very low losses per connection. The 2nd graph also shows that much higher real loss per km main for Msunduzi LM, Umgungundlovu DM, eThekwini Metro and uMhlathuze LM.



High physical losses could indicate leakages on the transmission and/or distribution mains, leakage on service connections up to point of customer metering, leakage and overflows at utility's storage tanks.

5.6 Water Use Efficiency (I/c/d)

Litres per capita per day provide an indication of the gross volume of water used per capita (person) per day. Although the calculation is based on the total system input volume (m^3 /year) and not just the domestic component, it does provide a useful indicator.



Water use efficiency is typically one of the key performance indicators and reported against at national and provincial level. The weighted average WUE is 190 $\ell/c/d$. The average consumption is above the international benchmark of 180 $\ell/c/d$ but is below the desired target of 200 $\ell/c/d$.

The results indicate that Msunduzi LM and uMhlathuze LM have the highest WUE of 388 and 361 $\ell/c/d$. Four of the municipalities are above the benchmark of 180 $\ell/c/d$. Ilembe DM, Ugu DM, Umkhanyekude DM and uThungulu DM reports WUE below the international benchmark values with excellent per capita water use management.



A high use of water per capita could be an indication of inefficient water use due to high internal plumbing leakages or paying consumers who do not value the scarcity of water. Unmetered as well as unauthorised consumption needs to be addressed to improve this status.

Amajuba District Municipality

2013 Municipal No Drop Score	18.21%
Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.55%
No Drop Score (2013)	18.21% Critical

Regulatory Impression

Limited evidence was provided during the No Drop assessment. Also, credibility of data could not be confirmed during the audit process. No 2012/13 IWA water balance diagram reflected. The Regulator impresses on the municipality that the first and most important step to ensure water security is to <u>know your status</u>. Amajuba is urged to establish its Water Balance as a matter of priority.

Some evidence of WCWDM implementation were presented, supported by a project progress report (August 2013) showing that WCWDM interventions are 67% complete and expenditure is 70%. The report included an expenditure breakdown for the project to date. Amajuba is encouraged to expedite WCWDM in the municipality and measure progress via the use of Water Balancing as tool.

No Drop findings

- > No monthly and annual water balances in place
- > WCWDM Strategy and BP in place but with key info still outstanding
- Progress reports should not be limited to actual expenditure reporting, but should include progress against the various targets. Progress reports provided budgets but lacked dates and timelines
- > Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus

Sustainability Pathway

Ethekwini Metro

201	3 Municipal No Drop Score	88.56%		
Key	Performance Area	Status and Performance		
WATE	R USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	2.66%		
No [Drop Score (2013)	88.56% Good		
	Population	3 586 777		
	Households	984 579		
	Metered Connections	476 436		
	Unmetered Connections	0		
A	Length of mains (km)	11 472		
DAT	Average System Pressure (m)	52		
PUT	2014 Water Use Targets (Water Balance Targets)	273.27 million		
Z	System Input Volume (kl/annum)	324.37 million		
	Billed Metered Authorised Use (kl/annum)	204.30 million		
	Billed Unmetered Authorised Use (kl/annum)	0		
	Unbilled Authorised Use (kl/annum)	4.62 million		
	Assumed Commercial Losses (%)	14%		
ΓA	Authorised Use – billed & unbilled (kl/annum)	208.92 million		
E DA'	Water Losses (kl/annum)	115.45 million		
ANCI	Apparent losses (kl/annum)	16.16 Million		
BAL	Real Losses (kl/annum)	99.28 million		
ATER	Revenue Water (kl/annum)	204.30 million		
Ń	Non-Revenue Water (kl/annum)	120.07 million		
	Infrastructure Leakage Index (ILI)	8.90 Extremely poor		
sl	Apparent/ Commercial Losses (%)	4.98%		
KP	Non-Revenue Water (%)	37% Poor		
	Water Use Efficiency (I/cap/day)	247.8 Poor		
В	Authorised Use (I/cap/day)	159.58		
THE	Real Losses (I/cap/day)	75.84		
Ö	% Water Losses	35.6%		





The No Drop score of 88.5% indicates that the municipality is achieving good performance and very close to achieving excellent status. It is clear that the team now their status and engage proactively in WCWDM. Monthly and annual water balance submitted was linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly.

A comprehensive WCWDM Strategy is in place. Components listed under the WCWDM Strategy and Business Plan is included in the IDP. WCWDM implementation was indicated via quarterly reports provided for review. The reports contain indicated a "17 point plan" which tracks progress against plan. Information on budgets was made available with linkage to the work undertaken.

The Regulator commend the effort and resources applied to water demand management, but wish to see this work translate to improved performance on NRW, water losses, ILI and water use efficiency – all which are not on par with the Department's expectations.

No Drop Findings

- > The ILI of 8.90 is demonstrating poor water loss management.
- > The water use efficiency performance is sub-optimal at 247.8 l/c/d.
- > The NRW (37%) is demonstrating poor non-revenue management.

Sustainability Pathway

Harry Gwala District Municipality (Sisonke)

2013 Municipal No Drop Score	48.23%
Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	1.45%
No Drop Score (2013)	48.23% Very poor

Regulatory Impression

Limited evidence was provided during the No Drop assessment. Also, credibility of data could not be confirmed during the audit process. No 2012/13 IWA water balance diagram reflected. The Regulator impresses on the municipality that the first and most important step to ensure water security is to <u>know your status</u>. Harry Gwala DM is urged to establish its Water Balance as a matter of priority.

A Council approved Strategy is in place and the municipality is commended for taking this first step. Some evidence of WCWDM implementation were recorded during the audit, i.e. domestic meters installed in Underberg and Himeville, supported by meter installation progress reports.

The municipality is urged to elevate decision making related to WCWDM and to expedite implementation of the Strategy.

No Drop findings

- > No monthly and annual water balances in place except for Ixopo
- WCWDMS and BP in place and Council approved but found lacking in key data sets (e.g., allocation of responsibilities, budget and multi-year implementation timeline)
- Compliance and performance evidence data not considered credible for consideration
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality is encouraged to address the No Drop Findings as a first course of action on the road to No Drop conformance, improved performance and sustainable water loss management.

Ilembe District Municipality

201	3 Municipal No Drop Score		94.93%	
Key	Performance Area	Status and P	erformance	
WAT	ER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	2.85%		
No I	Drop Score (2013)	94.93% E	xcellent	
	Population	573	142	
	Households	129	338	
	Metered Connections	36 9	995	
	Unmetered Connections	C		
∢	Length of mains (km)	2 6	31	
DAT	Average System Pressure (m)	48	3	
5	2014 Water Use Targets (Water Balance Targets)	0 mil	lion	
Z	System Input Volume (kl/annum)	27.23 r	nillion	
	Billed Metered Authorised Use (kl/annum)	12.61 million		
	Billed Unmetered Authorised Use (kl/annum)	0		
	Unbilled Authorised Use (kl/annum)	2.37 million		
	Assumed Commercial Losses (%)	12.8	3%	
ΓA	Authorised Use – billed & unbilled (kl/annum)	14.98 million		
E DA	Water Losses (kl/annum)	12.25 million		
ANCI	Apparent losses (kl/annum)	1.57 million		
BAL	Real Losses (kl/annum)	10.68 million		
ATER	Revenue Water (kl/annum)	12.61 r	nillion	
1M	Non-Revenue Water (kl/annum)	14.62 r	nillion	
	Infrastructure Leakage Index (ILI)	8.01 Extre	mely poor	
sl	Apparent/ Commercial Losses (%)	5.70	5%	
KP	Non-Revenue Water (%)	54% Extre	mely poor	
	Water Use Efficiency (I/cap/day)	130.2 E	kcellent	
æ	Authorised Use (I/cap/day)	71.	59	
THEI	Real Losses (I/cap/day)	51.07		
Ö	% Water Losses	45.0)%	





The No Drop score of 95% indicates that the municipality is achieving excellent performance and that the status quo should be maintained. Processes and systems are in place and the municipality knows its status and manage it towards compliance.

Monthly and annual water balance submitted was linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly. A WCWDM Strategy is in place and components listed under the WCWDM Strategy and Business Plan is included in the IDP.

WCWDM implementation was showed via progress reports compiled from 2009/10 to 2011/12 which listed the interventions completed during each financial year against deliverables. Progress has been made with regard to NRW, water losses, inefficiency of use and water balances provided per month for the four operational areas. Planned activities for next year also defined based on progress and the budgets and expenditure are included in the progress reports.

The municipality is urged to prioritise projects that would result in improvement of the ILI and high NRW of 54% and water losses of 45%. Ilembe is commended for achieving good results on water use efficiency.

No Drop Findings

- > The ILI of 8.01 is demonstrating poor water loss management.
- The water use efficiency performance is excellent at 130.2 l/c/d.
- > The NRW (54%) is demonstrating extremely poor non-revenue management.

Sustainability Pathway

Msunduzi Local Municipality

201	3 Municipal No Drop Score	95%
Key	Performance Area	Status and Performance
WAT	ER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	2.85%
Nol	Drop Score (2013)	95% Excellent
	Population	456 383
	Households	115 096
	Metered Connections	79 032
	Unmetered Connections	3 532
⊲	Length of mains (km)	1 600
DAT	Average System Pressure (m)	70
Ľ,	2014 Water Use Targets (Water Balance Targets)	44.28 million
N.	System Input Volume (kl/annum)	64.68 million
	Billed Metered Authorised Use (kl/annum)	34.57 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	8.90 million
	Assumed Commercial Losses (%)	20%
ΓA	Authorised Use – billed & unbilled (kl/annum)	43.46 million
DA'	Water Losses (kl/annum)	21.22 million
ANCI	Apparent losses (kl/annum)	4.24 million
BAL	Real Losses (kl/annum)	16.97 million
ATER	Revenue Water (kl/annum)	34.57 million
1M	Non-Revenue Water (kl/annum)	30.11 million
	Infrastructure Leakage Index (ILI)	7.00 Poor
s	Apparent/ Commercial Losses (%)	6.56%
KP	Non-Revenue Water (%)	47% Extremely poor
	Water Use Efficiency (I/cap/day)	388.3 Extremely poor
æ	Authorised Use (I/cap/day)	260.91
THEI	Real Losses (I/cap/day)	101.90
ò	% Water Losses	32.8%





Msunduzi's No Drop score of 95% indicates that the municipality is achieving excellent performance and that the status quo should be maintained. Processes and systems are in place and the municipality knows its status and manage it towards compliance.

Monthly and annual water balance submitted was linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly. A WCWDM Strategy is in place and components listed under the WCWDM Strategy and Business Plan is included in the IDP.

WCWDM implementation takes place and evidence was provided of interventions and associated budgets in the Business Plan. Close-out reports indicated phase implementation per financial year with budgets and timeframes supplied for each intervention. Budgets were also supplied for financial years 2013-14 to 2016-17 with associated costs linked to each of the planned interventions.

Regrettably, the good work has not yet translated to NRW and water losses at expected levels. High NRW of 47% and water losses of 32.8% need to be addressed as a matter of urgency.

No Drop Findings

- > The ILI of 7.00 is demonstrating poor water loss management.
- > The water use efficiency performance is extremely poor at 388.3 l/c/d.
- > The NRW (47%) is demonstrating extremely poor non-revenue management.

Sustainability Pathway

Newcastle Local Municipality

2013 Municipal No Drop Score		78%
Key Performance Area	Status and	d Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	2.34%	
No Drop Score (2013)	78%	Average

Regulatory Impression

Evidence were provided during the audit, but not considered as credibility for consideration in this report. The No Drop score cannot be considered as the water balance information could not be verified and confirm to an accurate indicator of the status at the municipality. Newcastle is encouraged to review their Water Balance processes and data input, to ensure that the very baseline from where performance are rated, is verified and accurate.

A WCWDM Strategy and Business Plan is in place. WCWDM implementation was confirmed based on a projects summary report section indicating the progress made to date. These include listing the project name and scope, the project number, name of the implementer (consultant), the payment vote number, budget, funding source, payment date and % completion of the project. However, there was no progress provided since 2011 with no evidence provided to indicate otherwise. The budget and timelines were indicated for the period 2010-11 to 2014-15.

No Drop findings

- Monthly and annual water balances in place but the data was considered as flawed and not credible as key data missing
- Project progress need to show measured results and timeframes against targets
- > Compliance and performance evidence was provided for but not considered as credible
- Insufficient evidence to award a bonus.

Sustainability Pathway

Ugu District Municipality

2013 Municipal No Drop Score		95.38%	
Кеу	Performance Area	Status and Performance	
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		2.86%	
No Drop Score (2013)		95.38% Excellent	
	Population	792 322	
	Households	131 789	
	Metered Connections	131 789	
	Unmetered Connections	0	
A	Length of mains (km)	7 047	
DAT	Average System Pressure (m)	42	
PUT	2014 Water Use Targets (Water Balance Targets)	0 million	
Z	System Input Volume (kl/annum)	31.74 million	
	Billed Metered Authorised Use (kl/annum)	21.77 million	
	Billed Unmetered Authorised Use (kl/annum)	2.58 million	
	Unbilled Authorised Use (kl/annum)	0.54 million	
	Assumed Commercial Losses (%)	20%	
ТА	Authorised Use – billed & unbilled (kl/annum)	24.88 million	
E DA	Water Losses (kl/annum)	6.86 million	
ANC	Apparent losses (kl/annum)	1.37 million	
BAL	Real Losses (kl/annum)	5.49 million	
ATER	Revenue Water (kl/annum)	24.35 million	
Ň	Non-Revenue Water (kl/annum)	7.39 million	
	Infrastructure Leakage Index (ILI)	1.52 Excellent	
slo	Apparent/ Commercial Losses (%)	4.32%	
ЯX	Non-Revenue Water (%)	23% Average	
	Water Use Efficiency (I/cap/day)	109.8 Excellent	
¥	Authorised Use (I/cap/day)	86.04	
THE	Real Losses (I/cap/day)	18.97	
Ō	% Water Losses	21.6%	





The No Drop score of 95% indicates that the municipality is achieving excellent performance and confirmed that process and systems are in place to KNOW the status of water losses in Ugu DM. Monthly and annual water balance submitted was linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly.

WCWDM Strategy is in place and components listed under the WCWDM Strategy and Business Plan is partially included in the IDP. WCWDM implementation includes pressure measurement, leak detection, pipe replacements, and meter replacements. The pressure management has been completed, 50% of the leak detection, the pipe replacement as 20% completed, and the meter replacement as 40% complete.

Ugu DM is congratulated for this good performance in the first round No Drop assessment.

No Drop Findings

- > No budgets were provided in plans and progress reports.
- > The ILI of 1.52 is demonstrating excellent water loss management.
- The water use efficiency performance is excellent at 109.8 l/c/d.
- > The NRW (23%) is demonstrating average performance with potential for marked improvement.

Sustainability Pathway

Umgungundlovu District Municipality

201	3 Municipal No Drop Score	69.57%		
Key	Key Performance Area Status and Performance			
WAT	ER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	2.09%		
No Drop Score (2013)		69.57% Average		
	Population	226 686		
	Households	65 227		
	Metered Connections	44 014		
	Unmetered Connections	0		
∢	Length of mains (km)	1 004		
DAT	Average System Pressure (m)	50		
L,	2014 Water Use Targets (Water Balance Targets)	44.28 million		
Ľ	System Input Volume (kl/annum)	20.63 million		
	Billed Metered Authorised Use (kl/annum)	8.73 million		
	Billed Unmetered Authorised Use (kl/annum)	0.10 million		
	Unbilled Authorised Use (kl/annum)	0.10 million		
	Assumed Commercial Losses (%)	20%		
ТА	Authorised Use – billed & unbilled (kl/annum)	8.93 million		
E DA	Water Losses (kl/annum)	11.71 million		
ANC	Apparent losses (kl/annum)	2.34 million		
BAL	Real Losses (kl/annum)	9.37 million		
ATER	Revenue Water (kl/annum)	8.83 million		
Ň	Non-Revenue Water (kl/annum)	11.81 million		
	Infrastructure Leakage Index (ILI)	9.63 Extremely poor		
sl	Apparent/ Commercial Losses (%)	11.35%		
KP	Non-Revenue Water (%)	57% Extremely poor		
	Water Use Efficiency (I/cap/day)	249.3 Average		
R	Authorised Use (l/cap/day)	107.85		
THE	Real Losses (I/cap/day)	113.19		
0	% Water Losses	56.7%		





The No Drop score of 70% indicates that the municipality has a reasonable knowledge of its status and that some process and systems are in place to report against target pertaining to water loss management in Umgungunglovu. Monthly and annual water balance submitted was linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly.

A WCWDM Strategy is in place and components thereof are contained in the IDP, although not with good clarity and specification. WCWDM implementation includes strategic plans aimed to establish a new division focussing only on Water Demand Management and Council approval was pending at the time of the audit. A 5-Year Plan has been prepared which covered all key WCWDM aspects. However, details of document could not be verified and was not made available.

Despite the commendable effort of the municipality, the work has not translated to good performance. High NRW of 57% high ILI and water losses of up to 57% are reported. The municipality is urged to address these as a matter of priority.

No Drop Findings

- > The ILI of 9.63 is demonstrating extremely poor water loss management.
- > The water use efficiency performance is average at 249.3 l/c/d with potential for marked improvement.
- > The NRW (57%) is demonstrating extremely poor non-revenue management.

Sustainability Pathway

uMhlathuze Local Municipality

2013 Municipal No Drop Score		73.93%
Key	Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		2.22%
No I	Drop Score (2013)	73.93% Average
	Population	342 978
	Households	86 608
	Metered Connections	404 10
	Unmetered Connections	0
4	Length of mains (km)	1 589
DAT	Average System Pressure (m)	52
5	2014 Water Use Targets (Water Balance Targets)	41.36 million
IN	System Input Volume (kl/annum)	45.19 million
	Billed Metered Authorised Use (kl/annum)	30.21 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	0.66 million
	Assumed Commercial Losses (%)	20%
ΓA	Authorised Use – billed & unbilled (kl/annum)	30.87 million
E DA'	Water Losses (kl/annum)	14.32 million
ANC	Apparent losses (kl/annum)	2.86 million
BAL	Real Losses (kl/annum)	11.46 million
ATER	Revenue Water (kl/annum)	30.21 million
Ň	Non-Revenue Water (kl/annum)	14.98 million
	Infrastructure Leakage Index (ILI)	9.91 Extremely poor
sl	Apparent/ Commercial Losses (%)	6.34%
КР	Non-Revenue Water (%)	33% Poor
	Water Use Efficiency (I/cap/day)	361 Extremely poor
æ	Authorised Use (I/cap/day)	246.59
THEI	Real Losses (I/cap/day)	91.54
б	% Water Losses	31.7%





The No Drop score of 74% indicates that the municipality has a reasonable knowledge of its status and that some process and systems are in place to report against target pertaining to water loss management in Umhlathuze. Monthly and annual water balance submitted was linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly.

A WCWDM Strategy is in place and components thereof are contained in the IDP. Some WCWDM implementation is evident, e.g. a project that commenced at Esikhaleni with a Pressure Optimization Project (Phase 1). A project has been commissioned to "Design, Supply, Deliver, Install and commission pressure reducing valves and pressure management".

Despite the commendable effort of the municipality, the work has not translated to good performance. High NRW of 33% and a high ILI of 9.9 are reported. The municipality is urged to address these as a matter of priority.

No Drop Findings

- > The ILI of 9.91 is demonstrating extremely poor water loss management.
- > The water use efficiency performance is extremely poor at 361 l/c/d.
- > The NRW (33%) is demonstrating poor non-revenue management.

Sustainability Pathway

Umkhanyekude District Municipality

2013 Municipal No Drop Score			49%
Key Performance Area Status and Per			erformance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		1.47%	
No Drop Score (2013)		49% Very poor	
	Population	841	000
	Households	172	336
	Metered Connections	250 52	
	Unmetered Connections	0	
٩	Length of mains (km)	60	0
DAT	Average System Pressure (m)	34	1
PUT	2014 Water Use Targets (Water Balance Targets)	0 mil	lion
Z	System Input Volume (kl/annum)	4.83 m	nillion
	Billed Metered Authorised Use (kl/annum)	0.30 million	
	Billed Unmetered Authorised Use (kl/annum)	0	
	Unbilled Authorised Use (kl/annum)	1.80 million	
	Assumed Commercial Losses (%)	20%	
ТА	Authorised Use – billed & unbilled (kl/annum)	2.10 million	
EDA	Water Losses (kl/annum)	2.73 million	
ANCI	Apparent losses (kl/annum)	0.55 m	nillion
BAL	Real Losses (kl/annum)	2.18 m	nillion
ATER	Revenue Water (kl/annum)	0.30 million	
Ń	Non-Revenue Water (kl/annum)	4.53 million	
	Infrastructure Leakage Index (ILI)	5.70 Av	verage
sl	Apparent/ Commercial Losses (%)	11.2	9%
KP	Non-Revenue Water (%)	94% Extre	mely poor
	Water Use Efficiency (I/cap/day)	15.7 Excellent	
R	Authorised Use (I/cap/day)	6.84	
THE	Real Losses (I/cap/day)	7.10	
Ю	% Water Losses	56.5	5%





The No Drop score of 49% indicates that the municipality does not have a solid knowledge base of its status and that most process and systems are not in place to report against target pertaining to water loss management. Monthly and annual water balance submitted was linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly.

A WCWDM Strategy is in place and components thereof are contained in the IDP. Some minor WCWDM implementation has started to take place such as replacing the reticulation pipelines, an indigent register developed, installation of PRVs around identified areas, e.g. Mtubatuba, and has started with installing proper metering.

Despite the commendable effort of the municipality, the work has not translated to good performance. Extremely high NRW of 94% is reported, which implies that most of the municipality's water are NRW. This contrasts sharply with the good water use efficiency value. The municipality is urged to review the processes and input into the Water Balance.

No Drop Findings

- > The ILI of 5.7 is demonstrating average water loss management with potential for marked improvement.
- The water use efficiency performance is excellent at 15.7 l/c/d.
- > The NRW (94%) is demonstrating extremely poor non-revenue management.

Sustainability Pathway

Umzinyathi District Municipality

2013 Municipal No Drop Score		7.51%
Key Performance Area	Status and Performance	
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.	23%
No Drop Score (2013)	7.51%	Critical

Regulatory Impression

The No Drop score of 7.5% indicates that the municipality does not have knowledge of its status and that process and systems are not in place to report against target pertaining to water loss management. Umzinyathi is urged to prioritise the establishment of Water Balances in the municipality, to have a baseline from where WCWDM can proceed.

No Drop findings

- No proper monthly and annual water balances in place. Some data from Process Audits in 2010-11 was presented, outdated.
- No WCWDMS and BP in place
- Other evidence has been evaluated and scored for the audit, including a letter with UTW letterhead signed by Executive Director of Operations, UTW and the Municipal Manager and the DM dated 12 December 2013 committing to service delivery of Process audits, WSDP, O&M budget and DWQ programme
- Some evidence of WCWDM implementation were provided regarding progress made, listing the project name and scope, the project number, name of the implementer (consultant), the payment vote number, budget, funding source, payment date and % completion of the project.
- > No progress could be showed in terms of evidence since 2011.
- Compliance and performance evidence are lacking.
- Insufficient evidence to award a bonus.

Sustainability Pathway

Uthukela District Municipality

2013 Municipal No Drop Score	0%	
Key Performance Area	Status and Performar	nce
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%	
No Drop Score (2013)	0% Critical	

Regulatory Impression

The No Drop score indicates that the municipality does not have knowledge of its status and that process and systems are not in place to report against target pertaining to water loss management. Uthukela is urged to prioritise the establishment of Water Balances in the municipality, to have a baseline from where WCWDM can proceed.

No Drop findings

- > No monthly and annual water balances in place
- > No WCWDMS and BP in place, no evidence of WCWDM implementation
- > Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

uThungulu District Municipality

201	3 Municipal No Drop Score		96.49%
Key Performance Area Status and Performan			
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		2.89%	
No Drop Score (2013)		96.49% Excellent	
	Population	1 009	644
	Households	166	504
	Metered Connections	48 439	
	Unmetered Connections	0	
∢	Length of mains (km)	5 2	57
DAT	Average System Pressure (m)	7:	L
DT	2014 Water Use Targets (Water Balance Targets)	41.36 r	nillion
Z	System Input Volume (kl/annum)	23.64 r	nillion
	Billed Metered Authorised Use (kl/annum)	6.34 million	
	Billed Unmetered Authorised Use (kl/annum)	3.88 million	
	Unbilled Authorised Use (kl/annum)	0.09 million	
	Assumed Commercial Losses (%)	20%	
ТА	Authorised Use – billed & unbilled (kl/annum)	10.31 million	
E DA	Water Losses (kl/annum)	13.33 million	
ANCI	Apparent losses (kl/annum)	2.67 million	
BAL	Real Losses (kl/annum)	10.66 million	
ATER	Revenue Water (kl/annum)	10.22 million	
Ň	Non-Revenue Water (kl/annum)	13.42 million	
	Infrastructure Leakage Index (ILI)	3.09	Good
sl	Apparent/ Commercial Losses (%)	11.2	8%
KF	Non-Revenue Water (%)	57% Extre	mely poor
	Water Use Efficiency (I/cap/day)	64.2 Excellent	
ж	Authorised Use (I/cap/day)	27.99	
THE	Real Losses (I/cap/day)	28.93	
Б	% Water Losses	56.4	1%





The No Drop score of 97% indicates that the municipality is achieving excellent performance and is encouraged to maintain the status quo. The score means that uThungula has a solid knowledge of its status, and have processes and systems in place to manage continued progress and high end performance. Monthly and annual water balance submitted was linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly.

A WCWDM Strategy is in place. Components listed under the WCWDM Strategy and Business Plan is included in the IDP. WCWDM implementation commenced with Flow Logging Profiles in specific areas. The scope includes: design of pressure zones, district metered areas, bulk meter audit, Leak detection and Repair. The 2013-14 implementation plan reflected the logging results as evidence. The May 2014 progress report indicated progress made with PRV installations. The MWIG BP was submitted to DWS for funding to implement WC/WCWDM interventions from 2014-17 and included all the WCWDM interventions with NRW targets, budgets and with a multi-year timeline.

Despite the remarkable effort and good results achieved for ILI and water use efficiency, the NRW is high and need to be addressed as a matter of urgency.

No Drop Findings

- > The ILI of 3.09 is demonstrating good water loss management, but some improvement may be possible.
- The water use efficiency performance is excellent at 64.0 l/c/d.
- > The NRW (57%) is demonstrating extremely poor non-revenue management.

Sustainability Pathway

Zululand District Municipality

2013 Municipal No Drop Score	9.84%	
Key Performance Area	Status and Performance	
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.30%	
No Drop Score (2013)	9.84% Critical	

Regulatory Impression

Limited evidence was provided during the No Drop assessment by Zululand DM, resulting in a score of 10% Credibility of data could not be confirmed during the audit process, and no 2012/13 IWA water balance diagram were presented for assessment. Zululand is urged to establish Water Balances for its water supply zones to ensure that a baseline is present from where to plan, budget and monitor progress. The purpose of the 1st order No Drop assessment was not evaluate if a municipality KNOWS its status – Zululand has not been able to convince the Regulator that this is the case.

No Drop findings

- > No monthly and annual water balances in place
- > WCWDMS and BP in place with partial compliance
- No evidence of WCWDM implementation but have started to implement two case studies at Ulundi on improved metering and telemetry
- > Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus

Sustainability Pathway