

UMTHETHO WEZAMANZI KAZWELONKE, 1998
(UMTHETHO NOMBOLO 36 KA-1998)

**IZIGABA ZEMITHOMBO YAMANZI KANYE NEZINJONGO ZEZINGA LEMITHOMBO YEZIZIBA
ZOMVOTI KUYA KUMZIMKULU**

Mina, Sfiso Mkhize, esikhundleni sami njengoMqondisi-Jikelele oyibamba kuMnyango Wezamanzi Nokuthuthwa Kwendle, futhi ngokugunyazwe ngokufanele ngokwesigaba 13 (1) nombolo 63 (1) (a) soMthetho Wezamanzi Kazwelonke, 1998 (uMthetho Nombolo 36 ka-1998, ngalokhu ngishicilela, isaziso sezigaba zemithombo yamanzi kanye nezinjongo zekhwalthi yemithombo yeziziba zoMvoti ukuya eMzimkulu.

Umqondisi: Ukuhlukaniswa Kwemithombo Yamanzi

Ukunakwa: UNkk Lebogang Matlala

Umnnyango Wezamanzi Nokuthuthwa Kwendle

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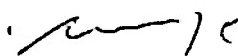
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UMQONDISI-JIKELELE OYIBAMBA KUMNYANGO WEZAMANZI NOKUTHUTHWA KWENDLE

USUKU: 08/11/2017

UHLELO**INCAZELO YOMTHOMBO WAMANZI**

Izigaba kanye nezinjongo zekhwalthi yemithombo zenzelwe wonke umuntu noma ingxenywe yayo yonke imithombo yamanzi ebalulekile ngaphakathi kweziziba zoMvoti ukuya eMzimkulu njengoba kuchazwe ngezansi:

Iziziba: UMvoti ukuya eMzimkulu

Izindawo zokugeleza kwamanzi: Izindawo ezigeleza amanzi eziphakeme i-T40 (Mtamvuna) ne-T52 (Umzimkulu)

Umfula (imi): Imifula emikhulu ihlanganisa uMvoti, uMngeni, uMkhomazi, uMzimkulu kanye nezimiso zomfula uMtamvuna

**A. IZIGABA ZEMITHOMBO YAMANZI NJENGOBA KUDINGEKA NGOKWESIGABA 13 (1)
(A) SOMTHETHO WAMANZI KAZWELONKE, 1998**

- i. Isifinyezo sezigaba zemithombo yamanzi ngamayunithi okuhlaziya adidiyelwe (IUA) (Umdwebo 1-3) kanye nezigaba zemvelo (EC) nge-*biophysical node* zibekwe kuThebula 1.
- ii. Ama-IUA ahlukaniwa ngokwezinga lawo lokusetshenziswa okuvumelekile nokuvikelwa njengendlela Yesigaba I: ekhombisa ukuvikelwa okuphezulu kwemvelo nokusetshenziswa okuncane; Isigaba II sibonisa ukuvikelwa okulinganisiwe nokusetshenziswa okulinganiselwe; kanye neSigaba III esikhombisa ukuvikelwa okuncane okungapheli nokusetshenziswa okuphezulu.
- iii. Ithebula 1 lihlinzeka i-IUA, izigaba zayo zokusebenza kwamanzi kanye nezigaba zayo zemithombo yamanzi nokucushwa kwesiziba sayo. Ukucushwa kwesiziba kuqukethe ama-*biophysical node* amaningi amele ukufinyelela komfula noma amayunithi emithombo (ama-RU). Impokophelo ye-EC ye-RM ngayinye iyahlinzekwa kwi-IUA.

**B. IZINJONGO ZEZINGA LOMTHOMBO ZEMITHOMBO YAMANZI NJENGOBA
KUDINGEKA NGOKWESIGABA 13(1)(b) SOMTHETHO WAMANZI KAZWELONKE,
1998**

- i. Izinjongo zekhwalthi yemithombo (i-RQO) zichazwa kwiyunithi ngayinye yezinsiza ezibekwe phambili (RU) yazo yonke i-IUA ngokwenani lamanzi, indawo yokuhlala nezinto eziphilayo zendawo, kanye nekhwalithi yamanzi.
- ii. Ithebula 2 kuya kuThebula 4 lihlinzeka ngama-RQO e-RU ngayinye emelwe yi-*biophysical node*.
- iii. Ithebula 5 limele i-RQO yekhwalthi yamanzi e-IUA ngayinye yamaYunithi Emithombo asemqoka KAKHULU amelwe yizindawo ze-EWR
- iv. Ithebula 6 limele ama-EC kanye nama-RQO ahlobene nezizalo zemifula yekhwalthi yamanzi, i-geomorphology, izimila, izilwane ezingenamgogodla, izinhlanzi kanye nezinyoni, ngokulandela ukufezekisa injongo eyi-EC ebalulwe kuThebula 1.
- v. Ithebula 7 limele ama-RQO ekhwalthi yamanzi ekhwalthi yamanzi e-RU ngayinye ESEMQOKA KAKHULU. Ama-RQO azosebenza kusukela ngosuku okusayinwe ngalo njengoba kunqunywe ngokweSigaba 13 (1) soMthetho waManzi kaZwelonke, 1998, Ngaphandle uma kuchazwe nguNgqongqoshe ngenye indlela.

1. IZIGABA ZEMITHOMBO YAMANZI KANYE NOKUCUSHWA KWEZIZIBA

Ithebula 1: Isifinyezo Sezigaba Zemithombo Yamanzi kanye Nezigaba Zezinto Eziphilayo

IUA	Isigaba Somthombo Wamanzi	Ama-Biophysical Node	Igama lomfula	Injongo EC
T4: UMTAMVUNA				
T4-1	II	T40A-05450	uMafadobo	B
		T40A-05487	iGoxe	B
		T40B-05337	iWeza	C
		T40C-05510	uMtamvuna	B
		T40C-05520	uMtamvuna	C
		T40C-05530	uMtamvuna	B
		T40C-05566	iLudeke	B
		T40C-05589	iKuNtlamvukazi	B
		T40C-05600	iLudeke	B
		T40D-05537	uMtamvuna	C
		T40D-05584	uMtamvuna	C
		T40D-05615	uTungwana	B
		T40D-05643	iGwala	B
		T40D-05683	iNtelekweni	B/C
		T40D-05707	uMtamvuna	C
		T40D-05719	iLondobezi	B
		Mt_R_EWR1	uMtamvuna	C
		T40E-05767	iHlolweni	B
T5: UMZIMKULU				
T5-1	I	T51A-04431	uMzimkhulu	B
		T51A-04522	uMzimude	B
		T51A-04608		B
		T51A-04551	uMzimude	B
		T51B-04421	uMzimkhulu	B
		T51D-04404	iPholela	B
		T51F-04566	iBoesmans	A
		T51F-04674		C
		T51G-04669	iNdawana	B
		T51G-04722	iNdawana	C
T5-2	II	T51C-04606		C
		MzEWR2i	uMzimkhulu	B
		T51D-04460	iPholelana	D/E
		T51E-04536		C
		MzEWR9r	iPholela	B/C
		T51F-04611	iNgwangwane	A
		MzEWR8r	iNgwangwane	C
		T51G-04751		B
	T51H-04828	iGungununu	A/B	

IUA	Isigaba Somthombo Wamanzi	Ama-Biophysical Node	Igama lomfula	Injongo EC
		T51H-04846	iLubhukwini	A
		T51H-04913	iNonginqa	B/C
		T51H-04923	uMalenge	B
		T51H-04808	iGungununu	B
		T51H-04884	iGungununu	B/C
		T51H-04908	iGungununu	B/C
		MzEWR3i	uMzimkhulu	B
		T52B-04947	iCabane	B
		T52C-04880		C
		T52C-04960	uMzimkhulu	B
		T52D-05024	iNcalu	B
		T52D-05061	uMgodi	B
		T52D-04948	uMzimkhulu	B
		T52D-05137	uMzimkhulu	B
		T52E-05053	i-Upper Bisi	B
		T52F-05104	i-Little Bisi	C
		T52F-05190	uMbumba	B/C
		T52F-05139	i-Little Bisi	B
		T52G-05226	uMbumbane	B/C
		T52G-05171	iBisi	B
		T52H-05244	uMahobe	B/C
		T52H-05178	iBisi	B
		T52K-05475	iNkondwana	B/C
		MzEWR17i	uMzimkhulwana	B
T5-3	I	T52H-05295	iMagogo	B
		MzEWR14r	iBisi	B/C
		T52H-05189	iBisi	B
		MzEWR6i	uMzimkhulu	A/B
YU1: UMKHOMAZI				
U1-1	I	U10A-04115	iLotheni	A/B
		U10A-04202	iNhlatimbe	B
		U10A-04301	iLotheni	B
		U10B-04239	uMkhomazi	B
		U10B-04251	uMkhomazi	A
		U10B-04274	iNhlangeni	A
		U10B-04337	uMkhomazi	B
		U10B-04343	uMqatsheni	B
		U10C-04347	uMkhomazana	B
		U10D-04199	iNzinga	A
		U10D-04222	i-Rooidraai	B
		U10D-04298	iNzinga	B
		U10D-04349	uMkhomazi	B

IUA	Isigaba Somthombo Wamanzi	Ama-Biophysical Node	Igama lomfula	Injongo EC
		U10D-04434	uMkhomazi	B
U1-2	II	U10E-04380	uMkhomazi	C
		U10F-04528	uMkhomazi	C
		Mk_I_EWR1	uMkhomazi	C
		U10G-04388	i-Elands	B
		U10G-04405		C
		U10G-04473	i-Elands	B
U1-3	I	U10H-04576	iTholeni	B
		U10H-04666	iNgudwini	B
		U10H-04708	iNgudwini	B
		U10H-04729	uMzalanyoni	C
		Mk_I_EWR2	uMkhomazi	B
		U10J-04721	i-Pateni	B
U1-4	II	U10J-04713	uMkobeni	B
		U10J-04820	iLufafa	B
		U10J-04837		A/B
		U10K-04842	iNhlabeni	B
		U10K-04899	iXobho	C/D
		U10K-04946	iNhlabeni	B/C
		Mk_I_EWR3	uMkhomazi	C
YU2: UMNGENI				
U2-1	II	Mg_R_EWR1	uMngeni	C/D
		U20B-04074	iNdiza	B
		U20B-04144	uMpofana	C
		U20B-04173	i-Lions	B
		U20B-04185	i-Lions	B/C
		U20C-04190	i-Lions	B
		U20C-04332	iGqishi	B
		U20C-04340	iNguklu	C
U2-2	III	U20D-04029	i-Yarrow	B
		U20D-04032	i-Karkloof	C
		U20D-04098	iKusane	D
		U20D-04151	i-Karkloof	B
		U20E-04136	iNculwane	C
		Mg_R_EWR3	i-Karkloof	B
		U20E-04221	uMngeni	B/C
		Mg_I_EWR 2	uMngeni	C
		U20E-04271	i-Doring Spruit	B/C
		U20F-04011	i-Sterkspruit	C/D
U2-3	III	U20F-04095	iMpolweni	C/D
		U20F-04131	uMhlalane	C/D
		U20F-04204	i-Sterkspruit	B/C

IUA	Isigaba Somthombo Wamanzi	Ama-Biophysical Node	Igama lomfula	Injongo EC
		U20F-04224	iMpolweni	B/C
		U20G-04194	uMkabela	C/D
		U20G-04215	i-Cramond Stream	B/C
		U20G-04240	uMngeni	B/C
		U20G-04259	uMngeni	B/C
		U20G-04385US	uMngeni	B/C
U2-4	II	U20H-04410	iNqabeni	C
		U20H-04449	uMnsunduze	C
		Mg_R_EWR4	uMnsunduze	D
		U20J-04391	uMnsunduze	C
		U20J-04401	uMnsunduze	D
		U20J-04452	iMpushini	B
		U20J-04459	uMnsunduze	C
		U20J-04461	i-Slang Spruit	C/D
		U20J-04488	uMshwati	B
U2-5	III	U20K-04181	uMqeku	C
		U20K-04296	iTholeni	B/C
		U20K-04411	uMqeku	B
		Mg_I_EWR 5	uMngeni	D
U2-6	III	U20M-04625		D
		U20M-04639	i-Palmiet	D
		U20M-04642	i-Palmiet	D
		U20M-04649	iMbongokazi	C
		U20M-04653	i-Palmiet	C/D
		U20M-04659	i-Palmiet	C
		U20M-04682		C/D
YU3: UMDLOTI KANYE NOTHONGATHI				
U3-1	III	U30A-04228	uMdloti	B
		U30A-04360	uMdloti	D
		U30A-04363	uMwangala	B
U3-2	II	U30B-04465	i-Black Mhlashini	B/C
U3-3	II	U30C-04227	uThongathi	B/C
		U30C-04272	i-Mona	B
YU4: UMOVOTI				
U4-1	II	U40A-03869	uMvoti	B
		U40B-03708	i-Intinda	C
		U40B-03740	uMvozana	C
		Mv_I_EWR_1	i-Heinespruit	C
		U40B-03832	uMvozana	C/D
		U40B-03896	uMvoti	C
		U40C-03982	iKhamanzi	B
		U40D-03867	uMvoti	B

IUA	Isigaba Somthombo Wamanzi	Ama-Biophysical Node	Igama lomfula	Injongo EC
U4-2	I	U40D-03908	uMtize	B
		U40D-03957	uMvoti	B
		U40E-03967	uMvoti	B/C
		U40E-03985	uMvoti	B
		U40E-04079	i-Faye	B
		U40E-04082	iSikoto	B
		U40E-04137	iSikoto	B
		U40F-03690	i-Potspruit	C
		U40F-03694	i-Hlimbitwa	C
		U40F-03730	iCubhu	C
		U40F-03769	iHlimbitwa	C
		U40F-03790	iNseleni	B/C
		U40F-03806	iHlimbitwa	B
		U40G-03843	iHlimbitwa	B
U4-3	II	Mv_I_EWR_2	uMvoti	C
		U40H-04091	iPambela	B
		U40H-04117	iNsuze	B
		U40H-04133	iNsuze	B
YU6: UMLAZI				
U6-1	III	U60A-04533	uMlazi	C
		U60B-04614	Mkuzane	C/D
		U60C-04555	uMlazi	C/D
		U60C-04556	i-Sterkspruit	D
		U60C-04613	iWekeweke	C
U6-2	III	U60D-04661	uMlazi	C/D
U6-3	I	U60E-04714	iMbokodweni	B
		U60E-04792	iMbokodweni	C
		U60E-04795	iBivane	B
YU7: ILOVU				
U7-1	III	U70A-04599	i-Serpentine	C
		U70A-04609	iLovu	B/C
		U70A-04618		C
		U70A-04685	iLovu	C
		U70B-04655	iLovu	C/D
		U70C-04710	uMgwahumbe	C
		U70C-04724		C
		U70C-04732		C
		Lo_R_EWR1	iLovu	B/C
		U70D-04800	iNungwane	B/C
YU8: UMTWALUME KANYE NOMZUMBE				
U8-1	I	U80B-05145	uMzumbe_Est	B
		U80B-05161	uMhlabatshane	B

IUA	Isigaba Somthombo Wamanzi	Ama-Biophysical Node	Igama lomfula	Injongo EC
U8-2	II	U80C-05231	uMzumbe	B
		U80C-05329	Kwa-Malukaka	B
		U80E-05028	uMtwalume	C
		U80E-05212	iQuha	B
		U80F-05258	uMtwalume	B
		U80F-05301	uMngeni	B
AMAQOQO ASENINGIZIMU 1				
Southern Cluster 1	I	T40F-05666	iMbizana	B
		T40G-05616	iVungu	B
		Isizalo	uMtamvuma	A/B
		Isizalo	iZolwane	B
		Isizalo	i-Sandhlunlu	C
		Isizalo	iKuboyoyi	B
		Isizalo	iTongazi	B/C
		Isizalo	iKandanhlovu	B
		Isizalo	uMpenjati	B
		Isizalo	Umhlangankulu	C
		Isizalo	iKaba	C
		Isizalo	uMbizana	B
		Isizalo	uMvuthsini	B/C
		Isizalo	iBilanhlo	C
		Isizalo	Umvazana	C
		Isizalo	iKongweni	EF
		Isizalo	iVungu	B
		Isizalo	uMhlangeni	C
		Isizalo	iZotsha	B
		Isizalo	iBoboyi	B/C
		Isizalo	uMbango	EF
		Isizalo	Umzimkulu	B
AMAQOQO ASENINGIZIMU 2				
Southern Cluster 2	II	U80G-05097	iFafa	B
		U80H-05109	uMzinto	C
		U80H-05120	uMzimayi	C
		U80H-05186	uMkhumbane	C
		U80H-05202	iSezela	C
		U80H-05229	uMdesingane	C
		U80J-04979	uMpambanyoni	B
		U80J-05043	iNdonyane	B/C
		U80K-04952	uMpambanyoni	C
		Isizalo	uMtentwini	C
		Isizalo	uMhlangamkulo	C
		Isizalo	iDomba	D

IUA	Isigaba Somthombo Wamanzi	Ama-Biophysical Node	Igama lomfula	Injongo EC
		Isizalo	iKoshwani	C
		Isizalo	i-Inhshambili	C
		Isizalo	uMzumbe	C/D
		Isizalo	uMhlabatshane	B
		Isizalo	uMhlungwa	C
		Isizalo	uMfazazana	C
		Isizalo	iKwaMakozi	B
		Isizalo	uMnamfu	C
		Isizalo	uMtwalume	C
		Isizalo	uMvuzi	C
		Isizalo	iFafa	C
		Isizalo	uMdesingane	D
		Isizalo	iSezela	C
		Isizalo	uMkumbane	C
		Isizalo	uMzinto	C/D
		Isizalo	iNkomba	C
		Isizalo	uMzimayi	C/D
		Isizalo	uMpambanyoni	C
		IQOQO ELIPHAKATHI		
Central Cluster	III	U80L-05020	aMahlongwa	B/C
		U70E-04942	Umsimbazi	C
		U70E-04974	uMgababa	C
		U70F-04845	aManzimtoti	C
		U70F-04893	i-Little amanzimtoti	C
		Isizalo	aMahlongwa	B
		Isizalo	uMahlangwana	B
		Isizalo	uMkhomazi	B/C
		Isizalo	iNgane	C
		Isizalo	Umgababa	B/C
		Isizalo	uMsimbazi	B
		Isizalo	iLovu	B/C
		Isizalo	i-Little aMmanzimtoti	EF
		Isizalo	aManzimtoti	D
		Isizalo	uMmbokotwini	EF
		Isizalo	iSipingo	EF
		Isizalo	i-Durban Bay	EF
		Isizalo	i-Durban Bay Shallow Zone	D
		Isizalo	uMngeni	D
		Isizalo	uMhlanga	B
		IQOQO LENYAKATHO		
Northern Cluster	III	U30E-04207	uMhlali	C
		U50A-04018	iZinkwazi	B/C

IUA	Isigaba Somthombo Wamanzi	Ama-Biophysical Node	Igama lomfula	Injongo EC
		U50A-04021	iNonoti	B/C
		U50A-04141	uMdlotane	B/C
		Isizalo	uMhlali	D
		Isizalo	iBobstream	B/C
		Isizalo	iSeteni	B/C
		Isizalo	uMvoti	C/D
		Isizalo	uMdlotane	A/B
		Isizalo	iNonoti	C
		Isizalo	iZinkwazi	B

IZINJONGO ZEKHWALITHI YEMITHOMBO

Izinjongo Zekhwalthi Yemithombo zeYunithi Yomthombo ngayinye (RU) zibekwe kumaThebula 2 kuya ku-7 ngezansi. WOonke ama-RQO ayasebenza kusukela ngosuku okusayinwe ngalo njengoba ngaphandle uma kuchazwe nguNgqongqoshe ngenye indlela.

Ithebula 2 linikeza inkomba yama-RQO amanzi emifula echazwe ngokugobhoza okusezingosini zokudingeka kwamanzi emvelo (EWR). Lezi zibalo ezifingqiwe zimelela uhlelo lokugeleza oludingekayo emfuleni lapho ukuhlukahluka kuncike ezimeni zezinkathi zonyaka kanye nezindlela zesikhashana zokugeleza kwemvelo. Ukugeleza okuyinkathazo kwezinyanga zonke kumele ukudingeka kokugeleza okuncane kwezinyanga zonke.

Ithebula 2 IMIFULA: Isifinyezo sama-RQO amanzi ayinhloko

i-RU	i-Biophysical node	Umfula	Injongo EC	i-nMAR ¹ (MCM)	Ukugeleza okuncane (%nMAR) ²	Ukugeleza okuphelele (%nMAR)	Izinyanga	i-RQO ³	
								(m³/s)	
								90%	60%
UMTAMVUNA (T4): IUA T4-1									
i-MRU	T40E-05601	UMtamvuna	C	233.15	19.1	32.1	Mfumf	0.50	0.69
i-MT B	Mt_R_EWR1						Lwez	0.79	0.96
							Zib	0.87	1.27
							Masing	0.95	1.53
							Nhlol	1.16	1.61
							Ndasa	1.53	1.76
							Mbasa	1.32	1.72
							Nhlaba	1.11	1.27
							Nhlang	0.59	0.84
							Ntul	0.43	0.61
							Ncwaba	0.44	0.55
							Mandu	0.33	0.52
UMKHOMAZI (YU1): IUA U1-2									
i-MRU	U10E-04380	uMkhomazi	C	683.17	25.1	35	Mfumfu	1.37	2.31
uMKHOMAZI	Mk_I_EWR1						Lwezi	2.01	3.38
B.3							Zibandl	2.73	5.22
							Masing	4.16	7.16

i-RU	i-Biophysical node	Umfula	Injong o EC	i-nMAR ¹ (MCM)	Ukugeleza okuncane (%nMAR) ²	Ukugeleza okuphelele (%nMAR)	Izinyanga	i-RQO ³	
								(m ³ /s)	
								90%	60%
							Nhlol	5.09	8.60
							Ndasa	6.90	9.31
							Mbasa	5.08	7.59
							Nhlaba	3.23	5.13
							Nhlang	1.82	3.06
							Ntul	1.23	2.28
							Ncwaba	1.07	1.91
							Mandu	1.01	1.77
UMKHOMAZI (YU1): IUA U1-3									
i-MRU	U10J-04679	uMkhoma zi	B	890.91	24.8	35.4	Mfumfu	1.97	3.27
uMKHOMAZI C	Mk_I_EWR2						Lwezi	2.85	4.58
							Zibandl	3.54	6.67
							Masing	5.12	8.94
							Nhlol	5.99	10.48
							Ndasa	8.86	12.03
							Mbasa	6.50	9.55
							Nhlaba	4.27	7.04
							Nhlang	2.67	4.38
							Ntul	1.65	3.29
							Ncwaba	1.52	2.57
							Mand	1.55	2.87
UMKHOMAZI (U1): IUA U1-4									
i-MRU	U10M-04746	uMkhoma zi	C	1068.6	21.2	31.1	Mfumfu	2.25	3.32
uMKHOMAZI D	Mk_I_EWR3						Lwezi	3.20	4.59
							Zibandl	3.91	6.95
							Masing	5.56	9.05
							Nhlol	6.61	10.95
							Ndasa	7.80	11.42
							Mbasa	6.65	10.07
							Nhlaba	4.74	7.24
							Nhlang	3.01	4.50
							Ntul	1.66	3.39
							Ncwaba	1.42	2.67
							Mand	1.65	3.04
UMNGENI (YU2): IUA U2-1									
i-MRU uMnA	U20A-04253	uMngeni	C/D	79.22	10.1	21.7	Mfumfu	0.05	0.11
	Mg_R_EWR1						Lwezi	0.13	0.15
							Zibandl	0.13	0.19
							Masing	0.19	0.23
							Nhlol	0.23	0.33
							Ndasa	0.27	0.31
							Mbasa	0.26	0.31
							Nhlaba	0.21	0.23
							Nhlol	0.14	0.16
							Ntul	0.04	0.12
							Ncwaba	0.02	0.11
							Mand	0.02	0.10
UMNGENI (YU2): IUA U2-2									
i-M KAR C	U20E-04170	i-Karkloof	B	70.11	27.3	43.5	Mfumfu	0.04	0.26
	Mg_R_EWR3						Lwezi	0.07	0.32
							Zibandl	0.10	0.43
							Masing	0.11	0.60
							Nhlol	0.20	0.76
							Ndasa	0.33	0.90
							Mbasa	0.25	0.83

i-RU	i-Biophysical node	Umfula	Injong o EC	i-nMAR ¹ (MCM)	Ukugeleza okuncane (%nMAR) ²	Ukugeleza okuphelele (%nMAR)	Izinyanga	i-RQO ³	
								(m³/s)	
								90%	60%
							Nhlaba	0.19	0.73
							Nhlang	0.12	0.52
							Ntul	0.06	0.34
							Ncwaba	0.05	0.28
							Mand	0.03	0.24
i-MRU uMnB	U20E-04243 Mg_I_EWR2	UMngeni	C	228.19	14.7	20	Mfumfu	0.52	0.82
							Lwezi	0.61	0.88
							Zibandl	0.66	1.03
							Masing	0.56	1.06
							Nhlol	0.45	0.99
							Ndasa	0.96	1.64
							Mbasa	0.84	1.39
							Nhlaba	0.58	1.02
							Nhlang	0.54	0.88
							Ntul	0.51	0.85
							Ncwaba	0.41	0.83
							Mand	0.46	0.81
UMNGENI (YU2): IUA U2-5									
i-MRU uMnD	U20L-04435 Mg_I_EWR5	uMngeni	D	583.66	22.9	25.8	Mfumfu	1.12	1.83
							Lwezi	1.33	2.53
							Zibandl	1.45	2.83
							Masing	1.59	3.02
							Nhlol	1.86	2.76
							Ndasa	2.49	3.94
							Mbasa	2.13	3.18
							Nhlaba	1.77	3.01
							Nhlang	1.48	2.79
							Ntul	1.27	2.52
							Ncwaba	1.08	2.25
							Lwezi	1.01	2.22
UMVOTI (YU4): IUA U4-1									
i-MRU i-HEYNS A	U40B-03770 Mv_I_EWR1	Heinesspruit	C	17.36	18.2	27.9	Mfumfu	0.03	0.04
							Lwezi	0.04	0.04
							Zibandl	0.04	0.06
							Masing	0.05	0.07
							Nhlol	0.07	0.09
							Ndasa	0.08	0.12
							Mbasa	0.08	0.11
							Nhlaba	0.08	0.10
							Nhlang	0.06	0.08
							Ntul	0.05	0.05
							Ncwaba	0.04	0.04
							Mand	0.03	0.04
UMVOTI (YU4): IUA YU4-3									
i-MRU uMVOTI C	U40H-04064 Mv_I_EWR2	Mvoti	C	273.96	17.6	24.7	Mfumfu	0.31	0.64
							Lwezi	0.39	0.84
							Zinandl	0.49	1.03
							Masing	0.64	1.34
							Nhlol	0.83	1.65
							Ndasa	1.01	2.03
							Mbasa	0.90	1.89
							Nhlaba	0.87	1.56
							Nhlang	0.59	1.02
							Ntul	0.36	0.69
							Ncwaba	0.29	0.58
							Mand	0.27	0.55

i-RU	i-Biophysical node	Umfula	Injong o EC	i-nMAR ¹ (MCM)	Ukugeleza okuncane (%nMAR) ²	Ukugeleza okuphelele (%nMAR)	Izinyanga	i-RQO ³	
								(m ³ /s)	
								90%	60%
ILOVU (YU7): IUA YU7-12									
i-MRU i-OVU D	U40H-04064	Lovu	B/C	87.76	22.8	37.9	Mfumfu	0.18	0.22
	Lo_R_EWR1						Lwezi	0.21	0.29
	Zibandl						0.24	0.35	
	Masing						0.30	0.45	
	Nhlol						0.36	0.53	
	Ndasa						0.40	0.67	
	Mbasa						0.36	0.64	
	Nhlaba						0.33	0.58	
	Nhlang						0.26	0.41	
	Ntul						0.19	0.29	
	Ncwaba						0.16	0.23	
	Mand						0.14	0.19	

1 i-nMAR iyiSenzakalo semvelo Sokugeleza Sonyaka Wonke kuma-cubic meters onyakeni ngamunye.

2 i-% nMAR ingukugeleza okudingeka kuma-node aboniswe njengephesenti Lesenzakalo semvelo Sokugeleza Sonyaka Wonke, Ukugeleza okuncane Kanye nokugeleza okuphelele.

3 Amaphesenti akhomba ukuvama kokughubeka kokusakazeka kokugeleza okuncane kwanyanga zonke kuma-node, okuvezwe njengephesenti lezinyanga (90% no-60%) ukuthi ukugeleza kufanele kulingane noma kudlulele amanani amancane abonisiwe. Qaphela ukuthi ama-RQO aningiliziwe anikeziwe kumqulu wezobuchwepheshe.

Ama-RQO endawo kanye nezinto zendawo eziphilayo anikezwa Njengezigaba Zemvelo. Kukhona ama-RQO ofuzo alandisayo nawenani, ahambisana Nezigaba Zemvelo futhi iThebula 3 lichaza lezi zigaba ngasinye seZemvelo eziqondene nemifula. IThebula 4 linikeza ama-RQO endawo kanye nezinto zendawo eziphilayo ze-IUA ngayinye yamaYunithi Emithombo ebekelwe phambili KAKHULU emifuleni. Ithebula 5 linikeza ama-RQO ekhwalithi yamanzi e-IUA ngayinye yamaYunithi Emithombo ebekelwe phambili KAKHULU emelwe yizingosi ze-EWR.

IThebula 3 Ama-RQO ofuzo alandisayo nawenani, ahambisana Nezigaba Zemvelo

Isigaba Semvelo	i-RQO Yofuzo olulandisayo	I-RQO egelezela Emfuleni kanye nendawo yosebe lomfula elandisayo	i-RQO elandisayo yeNhlanzi, izilwane ezincane ezingenamgogodla kanye nezimila zosebe lomfula	i-RQO yenani
A	Ayishintshiwe, isondelelne nemvelo.	Ifana kakhulu nezimo zemvelo zokubhekisela.	Izimfanelo zokuhlanganiswa njengoba kuchaziwe	≥ A (≥ 92%)
A/B				≥ A/B (≥ 88%)
B	Iyimvelo kakhulu ngezinguquko ezimbalwa.	Iyimvelo kakhulu ngezinguquko ezimbalwa. Umbuso wokugeleza usushintshwe kancane, kuphela, futhi ukungcola sekulinganiselwe enzikeneni. Lungenzeka ushintsho oluncane ezindaweni zokuhlala zemvelo. Kodwa-ke imisebenzi yezinto eziphilayo ayishintshwa ngokubalulekile.	Izimfanelo zokuhlanganiswa njengoba kuchaziwe	≥ B (≥ 82%)

Isigaba Semvelo	i-RQO Yofuzo olulandisayo	I-RQO egelezela Emfuleni kanye nendawp yosebe lomfula elandisayo	i-RQO elandisayo yeNhlanzi, izilwane ezincane ezingenamgogodla kanye nezimila zosebe lomfula	i-RQO yenani
B/C				$\geq B/C$ ($\geq 78\%$)
C	Ishintshwe ngokulinganisiwe.	Ishintshwe ngokulinganisiwe. Ukulahlekelwa nokuguqulwa kwemvelo yendawo yokuhlala kanye nezinto zendawo eziphilayo kwenzekile, kodwa imisebenzi eyisisekele yezinto eziphilayo namanje ayikashintshwa.	Izimfanelo zokuhlanganiswa njengoba kuchaziwe	$\geq C$ ($\geq 62\%$)
C/D				$\geq C/D$ ($\geq 58\%$)
D	Ishintshwe kakhulu.	Ishintshwe kakhulu. Kwenzeke ukulahlekelwa okukhulu kwendawo yokuhlala yemvelo, izinto zendawo eziphilayo kanye nemisebenzi eyisisekelo yezinto eziphilayo.	Izimfanelo zokuhlanganiswa njengoba kuchaziwe	$\geq D$ ($\geq 42\%$)
D/E				$\geq D/E$ ($\geq 38\%$)
E	Ishintshwe ngokujulile.	Ishintshwe ngokujulile. Kuyakhula ukulahlekelwa kwendawo yokuhlala yemvelo, izinto zendawo eziphilayo kanye nemisebenzi eyisisekelo yezinto eziphilayo. Kuyakhula ukulahlekelwa kwendawo yokuhlala yemvelo, izinto zendawo eziphilayo kanye nemisebenzi eyisisekelo yezinto eziphilayo.	Izimfanelo zokuhlanganiswa njengoba kuchaziwe	20-39%
F	Ishintshwe Kabi/ Kakhulu	Ishintshwe Kabi/ Kakhulu Ukuguqulwa kufinyelele ezingeni elibucayi futhi uhlelo luguqulwe ngokugcwele cishe ngokulahlekelwa okuphelele kwendawo yokuhlala yemvelo kanye nezinto zendawo eziphilayo. Ezimeni ezimbi kakhulu, imisebenzi yemvelo eyisisekelo ibhujisiwe futhi izinguquko azinakuhlelwa.	Izimfanelo zokuhlanganiswa njengoba kuchaziwe	0-19%

I-Thebula 4 IMIFULA: ama-RQO obuqotho bendawo yokuhlala, izimila zosebe lomfula, izilwane ezingenamgogodla kanye nezinhlanzi ku-RU ebekelwe phambili

i-IUA	IYunithi Yomthombo	i-Biophysical node	Umfula	Ubuqotho Bendawo Egelezela emfuleni	Ubuqotho Bendawo Yosebe Lomfula	Inhlanzi	Macro-invertebrates	Riparian vegetation
IUA T4-1	MRU MT B	MT_R_EWR1	uMtamvuna	B/C	C	B/C	B	C/D
IUA U1-2	MRU uMkhomazi B.3	Mk_I_EWR1	uMkhomazi	B	C	B	B/C	C
IUA U1-3	MRU uMkhomazi C	Mk_I_EWR2	uMkhomazi	B	B/C	B	B	B
IUA U1-4	MRU uMkhomazi D	Mk_I_EWR3	uMkhomazi	C	C	B	B	D
IUA U2-1	MRU uMnA	Mg_R_EWR1	uMngeni	C	C	D	C	C/D
IUA U2-2	MRU iKar C	Mg_R_EWR3	i-Karkloof	C	B	B/C	B	B
IUA U2-2	MRU uMn B	Mg_I_EWR2	uMngeni	D	C	D	C	C
IUA U2-5	MRU uMnD	Mg_I_EWR5	uMngeni	D	D	D	C/D	D
IUA U4-1	MRU i-Heyns A	Mv_I_EWR1	i-Heinespruit	C	C	C	C	B/C
IUA U4-3	MRU uMvopi C	Mv_I_EWR2	uMvoti	C	C	B/C	B/C	C/D
IUA U7-1	MRU iLovu D	Lo_R_EWR1	iLovu	B/C	B/C	B/C	B/C	B/C

I-Thebula 5 ama-RQO EMIFULA yekhwalthi yamanzi (yemvelo kanye neyomsebenzisi) kuma-RU ebekelwe phambili KAKHULU

i-IUA	i-RU	i-EC eyiNjongo	Isakhana (Inkomba)	i-RQO elandisayo	i-RQO yenani
IUA T4-1: uMtamvuna	RU EWR MT_R_EWR1 (T40E-05601, T40C-05520, T40D-05537, T40D-05584, T40D-05707)	A/B (>88%)	Ukungcola/ukucaca noma amazinga e-TSS	Kuyamukeleka: Ukuguqulwa okulinganisiwe kusuka manje ngemithwalo emikhulu yenzika yesikhashana kanye nokugcola ngesikhathi sesenzakalo sokugeleza (izinto eziphila emanzini (izinto eziphila emanzini: umholi).	Akukho okutholakalayo
IUA U1-2: uMkhomazi ophakathi nendawo	RU MK_I_EWR 1 emfuleni (U10F-04528 emfuleni)	A/B (>88%)	Ukungcola/ukucaca noma amazinga e-TSS	Kuyamukeleka: Ukuguqulwa okulinganisiwe kusuka manje ngemithwalo emikhulu yenzika yesikhashana kanye nokugcola ngesikhathi sesenzakalo sokugeleza (izinto eziphila emanzini (izinto eziphila emanzini: umholi).	Akukho okutholakalayo
IUA U1-3: uMkhomazi Gorge	RU MK_I_EWR 2 (U10J-04679)	A/B (>88%)	Izakhi (i-orthophosphate)	Kuyamukeleka	I-percentile yama-50 yemininingwane kumele ibe

	U10H-04638, U10H-04675)				ngaphansi kwa- 0.015 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
			Ukuqhuba Kogesi (usawoti)	Kuhle	I-percentile yama- 95 yemininingwane kumele ibe ngaphansi noma ilingane no-30 mS/m (izinto eziphila emanzini: umholi).
IUA U1-4: uMkhomazi ongezansi	RU MK_I_EWR 3 (U10M-04746, U10J-04807, U10J-04799, U10J-04833, U10K-04838)	A/B (>88%)	Izakhi (i-phosphate)	Kuyamukeleka	I-percentile yama- 50 yemininingwane kumele ibe ngaphansi kwa- 0.015 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
			Ukuqhuba Kogesi (usawoti)	Kuyamukeleka	I-percentile yama-95 yemininingwane kumele ibe ngaphansi noma ilingane no-55 mS/m (izinto eziphila emanzini: umholi).
i-IUA U2-1: uMngeni Idamu elingenhla nomfula i-Midmar	RU Mg_R_EWR 1 (U20A-04253, U20C-04275)	B (>82%)	Izakhi (i-orthophosphate)	Kuyamukeleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kwa- 0.015 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
			Amagciwane endle kanye ne- <i>E.coli</i>	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxenywe)	Hlangabezana nezinhloso zokuzilibazisa / nezinye izinto zokusebenza *.

i-IUA	i-RU	i-EC eyiNjongo	Isakhana (Inkomba)	i-RQO elandisayo	i-RQO yenani
i-IUA U4- 1 kanye ne-U4-2: Mvoti	i-RU MV_I- EWR 1 (U40B- 03770: i- Heinesspruit)	C (>62%)	Izakhi (i- orthophosphate kanye ne-TIN)	Kuyabekezeleleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kuka-0.125 mg/L PO ₄ - P kanye no-2.5 mg/L TIN-N (izinto eziphila emanzini: umholi).
			Ukuqhuba Kogesi (usawoti)	Kuhle	I-percentile yama-95 yemininingwane kumele ibe ngaphansi noma ilingane no-30 mS/m (izinto eziphila emanzini: umholi).
			Okunobuthi (i- ammonia)	Kuyabekezeleleka	I-percentile yama-95 yemininingwane kumele ibe phakathi kwesigaba D ku-DWAF (2008).
			Okunye okunobuthi	Kuhle	I-percentile yama-95 yemininingwane kumele ibe phakathi kwezilinganiselo ezinhle noma izigaba A (i-DWAF, 2008) noma i-TWQR yezinto ezinobuthi ku-DWAF (1996a).
			Amagciwane endle kanye ne- <i>E.coli</i>	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxenywe)	Ihlangabezana nezinhloso zokuzilibazisa / nezinye izinto zokusebenza*.

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i-IUA U4-3: uMvoti ongezansi	i-RU MV_L_EWR 2 (U40H-04064)	C (>62%)	Izakhi (i-orthophosphate)	Kuyabekezeleleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kuka-0.125 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
i-IUA U7-1: i-Lovu	i-RU LO_R_EWR 1 (U70C-04859)	B/C (>78%)	Ukungcola/ukucaca noma amazinga e-TSS	Kuyamukeleka: Ukuguqulwa okulinganisiwe kusuka manje ngemithwalo emikhulu yenzika yesikhashana kanye nokugcola ngesikhathi sesenzakalo sokugeleza (izinto eziphila emanzini (izinto eziphila emanzini: umholi).	Akukho okutholakalayo

i-TWQR = Ikhwalithi Yamanzi Ehluahlukene Ehlosiwe (i-DWAF, 1996a).

i-DWAF (1996a): Izinqondiso Zekhwalithi Yamanzi zeNingizimu Afrika: iVolumu 7: Izinto Eziphilayo Zasemanzini.

i-DWAF (2008): Izindlela zokunquma izimfanelo zezinga lamanzi Ezinqolobane Zemvelo zemifula.

Qaphela ukuthi zonke izinjongo zokuxhumana ngokugcwele nangokwengxenywe zamagciwane endle kanye ne-*E. coli* zibekiwe ngokwezinqondiso ze-SA NMMP kanye nezingozi zempilo ngokwezibalo / 100 mL, njengokulandelayo:

Low	Medium	High
< 600	600 - 2 000	> 2 000

Phansi	Phakathi	Phezulu
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Imihlahlandlela iyanikezwa mayingekho imininingwane noma ulwazi lwemisebenzi yokuzilibazisa endaweni.

Ithebula 6 linikeza imidwebo Yezigaba Zemvelo kanye nama-RQO ahlobene eziziba zemifula zekhwalithi yamanzi, i-*geomorphology*, izimila, izilwane ezingenamgogodla, izinhlanzi kanye nezinyoni, ngokulandela ukufezekisa inhloso Yesigaba Semvelo ebalulwe kuThebula 1. Izinhlelo zenhloso i-EC, kanye nokulinganiselwa kwama-RQO ziqondene nolwazi olutholakala kakhulu ngesikhathi sokushicilelwa.

I-Thebula 6 IZIZALO ZEMIFULA EZIBEKELWE PHAMBILI KAKHULU: Ama-RQO e-hydrology, i-hydrodynamics, ikhwalithi yamanzi, ubudlelwane beziziba, i-microalgae, ama-macrophyte, izilwane ezingenamgogodla, izinhlanzi kanye nezinyoni ZEZIZALO ezibekelwe phambili KAKHULU

Isakhi	Inhloso i-EC	Ama-RQO
Isiziba somfula uMKHOMAZI		
i-Hydrology	C/D	- Ukugcina Inhloso i- EC (>57%). - Ukuthuthleka komfula kwanyanga zonke > 1.0 m³/s - Ukuthuthleka komfula kwanyanga zonke > 2.0 m³/s kuphikelela isikhathi esingaphezu kwezinyanga ezintathu ngokulandelayana. - Ukuthuthleka komfula kwanyanga zonke > 5.0 m³/s ngaphezu kuka-30% kwesikhathi.
i-Hydrodynamics	A	- Ukugcina Inhloso i-EC (>93%). - Ukuvalwa komlomo kwenzeka ngaphansi kwamasonto amabili kuya kwamathathu onyakeni. - Ukuvalwa komlomo kwenzeka ngaphansi kweminyaka emibili kweyishumi. - Ukuvalwa komlomo akubi khona phakathi kukaMandulo noMbasa.
Ikhwalithi Yamanzi	C	Ukugcina inhloso i-EC (>63%). Ama-RQO ekhwalithi yamanzi athuthleka emifuleni ukuvikela ikhwalithi yemvelo yezizalo zemifula: pH: 7.5 - 8.5. - DO > 6 mg/L. - Ukungcola (ukugeleza okuncane < 5m³/s): < 15 NTU. - Ukungcola (ukugeleza okuncane > 5m³/s): Kungcole ngokwemvelo. - Izakhi ezincibilikile (ukugeleza okuncane < 5m³/s): NO_x-N <150 µg/L; NH₃-N < 20 µg/L; PO₄-P < 10 µg/L. - Izakhi ezincibilikile (ukugeleza okukhulu > 5m³/s): NO_x-N <200 µg/L; NH₃-N < 20 µg/L; PO₄-P < 20 µg/L. Imfuneko encane yokusetshenziswa kokuzilibazisa (DEA, 2012): <i>i-Enterococci</i>: I-percentile yamashumi ayisishiyagalolunye (90%ile) ngaphezu kwesikhathi sezinyanga ezingu-12 ≤ izibalo ezingama-185 ngo-100 ml ngamunye. <i>E. coli</i>: I-percentile yamashumi (90%ile) ngaphezu kwesikhathi sezinyanga ezingu-12 < izibalo ezingama-500 ngo-100 ml ngamunye
		Ama-RQO ekhwalithi yamanzi esizalweni ukuvikela ikhwalithi yemvelo yezizalo zemifula: - Izinga likasawoti: alukho (0) ekufinyeleleni okuphezulu; > izifinyelelo ezingama-20 ngesikhathi senkathi yokugeleza okuncane; amanzi ahlanzekile abamaningi ngesikhathi esingama-70%. - Ukungcola (ukugeleza okuncane < 5m³/s): Isilinganiso < 10 NTU kunoma yikuphi ukuhlolwa kwesampula. - pH: Isilinganiso 7.0 - 8.5 kunoma yikuphi ukuhlolwa kwesampula. - I-oxygen encibilikile: Isilinganiso >6 mg/L kunoma yikuphi ukuhlolwa kwesampula. - Izakhi ezincibilikile (ukugeleza okuncane < 5m³/s): Average NO_x-N < 150 µg/L, NH₃-N < 20 µg/L and PO₄-P < 10 µg/L kunoma yikuphi ukuhlolwa kwesampula. - Izakhi ezincibilikile (ukugeleza okukhulu > 5m³/s): Isilinganiso NO_x-N < 300 µg/L, NH₃-N < 20 µg/L and PO₄-P < 20 µg/L kunoma yikuphi ukuhlolwa kwesampula. - Inqikithi yokufakwa kwezinsimbi emanzini okungadluli amanani okubhekiswe kuwo njengeZiqondiso Zekhwalithi Yamanzi zeNingizimu Afrika zamanzi olwandle olusogwini (i-DWAF, 1995).
		Inqikithi yokufakwa kwensimbi esizibeni okungadluli amanani abhekisiwe njengeZiqondiso Zomkhandlu i-WIO (UNEP/i-Nairobi Convention Secretariat kanye ne-CSIR, 2009).
Ubudlelwane bezinzika	B	Ukugcina inhloso i-EC (>78%)
i-Microalgae	B	Ukugcina inhloso i-EC (>78%).
i-Macrophytes	D	Ukugcina inhloso i-EC (>43%).
Izilwane ezingenamgogodla	B	Ukugcina inhloso i-EC (>78%).
Izinhlanzi	D	Ukugcina inhloso i-EC (>43%).

Isakhi	Inhloso i-EC	Ama-RQO
Izinyoni	C	Ukugcina inhloso i-EC (>63%).
ISIZIBA SOMFULA UMVOTI		
i-Hydrology	C/D	Ukugcina inhloso i-EC (>57%). • Ukuthuthuleka komfula kwanyanga zonke > 1.0 m³/s. • Ukuthuthuleka komfula kwanyanga zonke > 2.0 m³/s kuphikelela isikhathi esingaphezu kwezinyanga ezintathu ngokulandelayo. • Ukuthuthuleka komfula kwanyanga zonke > 2.0 m³/s ngaphezu kwesikhatha sama-50%.
i-Hydrodynamics	A	Ukugcina inhloso i-EC (>93%). • Ukuvaleka komlomo kwenzeka ngaphansi kwamaviki amabili kuya kwamathathu onyakeni. • Ukuvaleka komlomo kwenzeka ngaphansi kweminyaka emibili kweyishumi. • Ukuvaleka komlomo akwenzeki phakathi kukaLwezi noNhlangulana.
Ikhwalithi Yamanzi	C/D	Ukugcina inhloso i-EC (>57%). Ama-RQO okuthuthuleka komfula ukuvikela ikhwalithi yezizalo zemvelo: • pH: 7.0 - 8.5. • DO > 4 mg/L. • Ukungcola (ukugeleza okuncane): <15 NTU. • Izakhi ezincibilikile: NO_x-N < 400 µg/L; NH₃-N < 30 µg/L; PO₄-P < 25 µg/L. Ama-RQO ekhwalithi yamanzi esizalweni ukuvikela ikhwalithi yemvelo yezizalo zemifula:: • Izinga likasawoti: Isilinganiso sezinga likasawoti emanzini angaphezulu nomfula ka-1 km ukusuka emlonyeni <20 PSU ; Isilinganiso sezinga likasawoti esizalweni sonke <1 PSU okungenani isikhathi esingama-50%. • Ukungcola (ukugeleza okuncane): Isilinganiso <10 NTU kunoma yikuphi ukuhlolwa kwesampula. • pH: Isilinganiso 7.0 - 8.5 kunoma yikuphi ukuhlolwa kwesampula. • I-oxygen encibilikile: Isilinganiso > 4 mg/L kunoma yikuphi ukuhlolwa kwesampula. • Izakhi ezincibilikile: Isilinganiso NO_x-N < 400 µg/L, NH₃-N < 30 µg/L and PO₄-P < 25 µg/L kunoma yikuphi ukuhlolwa kwesampula. • Ingqikithi yokufakwa kwezinsimbi emanzini okungadluli amanani okubhekisiwe kuwo njengeZiqondiso Zekhwalithi Yamanzi zeNingizimu Afrika zamanzi olwandle olusogwini (i-DWAF, 1995). • Ingqikithi yokufakwa kwensimbi esizibeni okungadluli amanani abhekisiwe njengeZiqondiso Zomkhandlu i-WIO (UNEP/i-Nairobi Convention Secretariat kanye ne-CSIR, 2009).
Ubudlelwane bezinzika	B/C	Ukugcina inhloso i-EC (>72%).
i-Microalgae	B	Ukugcina inhloso i-EC (>78%).
i-Macrophytes	D	Ukugcina inhloso i-EC (>43%).
Izitwane ezingenamgogodla	E	Ukugcina inhloso i-EC (>23%).
Izinhlanzi	D	Ukugcina inhloso i-EC (>43%).
Izinyoni	E	Ukugcina inhloso i-EC (>23%).

Ithebula 7 liNIKEZA ama-RQO emifula lapho izinkinga zekhwalithi yamanzi ziza kuqala. Okwamanje, imifula eminingi kanye nezici ziyafakwa ohlelweni lokuqapha futhi ama-RQO asheshe asetshenziswe. Ukutusa ukufaka izici ezengeziwe noma izinhlalo kuzokwenziwa embikweni ofanele wocwaningo.

IThebula 7 IMIFULA: Isifinyezo sama-RQO ayinhloko Ekhwalthi Yamanzi ku-WQ ebekelwe phezulu KAKHULU yendawo yocwaningo

i-IUA	i-RU	Isakhana (Inkomba)	i-RQO elandisayo	i-RQO yenani
IUA T4-SC: UMTamvuna	RU SC1: T40G-05616	Izakhi (i-orthophosphate)	Kuyabekezeleleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kwa-0.015 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
		Ukuqhuba Kogesi (usawoti)	Kuyamukeleka	I-percentile yama-95 yemininingwane kumele ibe ngaphansi noma ilingane no-55 mS/m ((izinto eziphila emanzini: umholi).
		Amagciwane endle kanye ne- <i>E.coli</i>	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxenywe)	Ihlangabezane nezinhloso zokuzilibazisa / nezinye izinto zokusebenza*.
IUA T5-2: Umzimkulu	MRU MzA: MzEWR2i, T51C-04760	Izakhi (i-phosphate)	Kuyamukeleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kwa-0.015 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
		Ukuqhuba Kogesi (usawoti)	Kuhle	I-percentile yama-95 yemininingwane kumele ibe ngaphansi noma ilingane no-30 mS/m (izinto eziphila emanzini: umholi).
	MRU MzB: MzEWR3i, T52C-04960, T52D-04948, T52D-05137	Izakhi (i-orthophosphate)	Kuyamukeleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kwa-0.025 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
		Ukuqhuba Kogesi (usawoti)	Kuhle	I-percentile yama-95 yemininingwane kumele ibe ngaphansi noma ilingane no-30 mS/m (izinto eziphila emanzini: umholi).

i-IUA	i-RU	Isakhana	i-RQO elandisayo	i-RQO yenani
IUA U2-3: uMngeni	RU uMn7: U20F-04131, U20F-04204, U20F-04224, U20G-04194, U20G-04215	Izakhi (i-orthophosphate)	Kuyamukeleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kwa-0.025 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
		Amagciwane endle ne- <i>E.coli</i>	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxenywe)	Ihlangabezane nezinhloso zokuzilibazisa / nezinye izinto zokusebenza*.
		Ukungcola/ukucaca noma amazinga e-TSS	Kuyamukeleka: Ukuguqulwa okulinganisiwe kusuka manje ngemithwalo emikhulu yenzika yesikhashana kanye nokugcola ngesikhathi sesenzakalo sokugeleza (izinto eziphila emanzini (izinto eziphila emanzini: umholi).	Akukho okutholakalayo
	MRU uMnC: U20G-04240, U20G-04259,	Izakhi (i-orthophosphate)	Kuyabekezeleleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kwa-0.075 mg/L

	U20G-04385			PO4-P (izinto eziphila emanzini; umholi).
		Ukungcola/ukucaca noma amazinga e-TSS	Kuyamukeleka: Ukuguqulwa okulinganisiwe kusuka manje ngemithwalo emikhulu yenzika yesikhashana kanye nokugcola ngesikhathi sesenzakalo sokugeleza (izinto eziphila emanzini (izinto eziphila emanzini: umholi).	Akukho okutholakalayo
		Amagciwane endle ne-E.coli	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxenywe)	Ihlangabezane nezinhloso zokuzilibazisa / nezinye izinto zokusebenza *.
		Okunobuth (i-ammonia, i-iron, i-manganese)	Kuhle noma izigaba A	I-percentile yama-95 yemininingwane kumele ibe phakathi kwe-TWQR yezinto ezinobuthi (DWAf, 1996a) noma kwezilinganiselo eziphakeme zesigaba A ku-DWAf (2008).
IUA U2-4: uMnsunduze	RU uMn8: U20J-04461, U20J-04488	Ukungcola/ukucaca noma amazinga e-TSS	Kuyamukeleka: Ukuguqulwa okulinganisiwe kusuka manje ngemithwalo emikhulu yenzika yesikhashana kanye nokugcola ngesikhathi sesenzakalo sokugeleza (izinto eziphila emanzini (izinto eziphila emanzini: umholi).	Akukho okutholakalayo
		Amagciwane endle ne-E.coli	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxenywe)	Ihlangabezane nezinhloso zokuzilibazisa / nezinye izinto zokusebenza *.
	MRU Duze D: U20J-04459	Ukungcola/ukucaca noma amazinga e-TSS	Kuyamukeleka: Ukuguqulwa okulinganisiwe kusuka manje ngemithwalo emikhulu yenzika yesikhashana kanye nokugcola ngesikhathi sesenzakalo sokugeleza (izinto eziphila emanzini (izinto eziphila emanzini: umholi).	Akukho okutholakalayo
		Amagciwane endle ne-E.coli	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxenywe)	Ihlangabezane nezinhloso zokuzilibazisa / nezinye izinto zokusebenza *.

i-IUA	i-RU	Isakhana	i-RQO elandisayo	i-RQO yenani
IUA U2-6: uMngeni	RU uMn10: U20M-04625, U20M-04639, U20M-04642, U20M-04649, U20M-04653, U20M-04659, U20M-04682	Izakhi (i-orthophosphate)	Kuyabekezeleleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kwa-0.075 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
		Amagciwane endle ne-E.coli	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxenywe)	Ihlangabezane nezinhloso zokuzilibazisa / nezinye izinto zokusebenza *.
		Okunobuthi (i-ammonia)	Kuyabekezeleleka	I-percentile yama-95 yemininingwane kumele ibe phakathi kwesigaba D ku-DWAF (2008).
IUA U3-1: uMdloti	RU U3.1: U30A-04228, U30A-04363, U30A-04360	Izakhi (i-orthophosphate)	Kuyamukeleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kwa-0.025 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
		Ukungcola/ukucaca noma amazinga e-TSS	Kuyamukeleka: Ukuguqulwa okulinganisiwe kusuka manje ngemithwalo emikhulu yenzika yesikhashana kanye nokugcola ngesikhathi sesenzakalo sokugeleza (izinto eziphila emanzini (izinto eziphila emanzini: umholi).	Akukho okutholakalayo
		Amagciwane endle ne-E.coli	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxenywe)	Ihlangabezane nezinhloso zokuzilibazisa / nezinye izinto zokusebenza *.
IUA U4-1 and U4-2: Mvoti	RU Mv1: U40B-03708, U40B-03740, U40B-03832	Izakhi (i-orthophosphate)	Kuyamukeleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kwa-0.025 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).
		Ukuqhuba Kogesi (usawoti)	Kuhle	I-percentile yama-95 yemininingwane kumele ibe ngaphansi noma ilingane no-30 mS/m (izinto eziphila emanzini: umholi).
IUA U6-1: Upper uMlazi	RU U6.1: U60A-04533, U60B-04614,	Izakhi (i-orthophosphate)	Kuyabekezeleleka	I-percentile yama-50 yemininingwane kumele ibe ngaphansi kuka-0.075 mg/L PO ₄ -P (izinto eziphila emanzini: umholi).

U60C-04555	Ukuqhuba Kogesi (usawoti)	Kuyabekezeleleka	I-percentile yama-95 yemininingwane kumele ibe ngaphansi noma ilingane no-85 mS/m (izinto eziphila emanzini: umholi).
	Ukungcola/ukucaca noma amazinga e-TSS	Kuyamukeleka: Ukuguqulwa okulinganisiwe kusuka manje ngemithwalo emikhulu yenzika yesikhashana kanye nokugcola ngesikhathi sesenzakalo sokugeleza (izinto eziphila emanzini (izinto eziphila emanzini: umholi).	Akukho okutholakalayo
	Okunobuthi (i-ammonia)	Kuyabekezeleleka	I-percentile yama-95 yemininingwane kumele ibe phakathi kwesigaba D ku-DWAF (2008).
	Amagciwane endle ne-E.coli	Ukuzilibazisa (Uxhumano olugcwele noma oluyingxeny)	Ihlangabezane nezinhloso zokuzilibazisa / nezinye izinto zokusebenza *.

TWQR = = Ikhwalithi Yamanzi Ehlukahlukene Ehlosiwe (i-DWAF, 1996a).

DWAF (1996a): Iziqondiso Zekhwalthi Yamanzi zeNingizimu Afrika: iVolumu 7: Izinto Eziphilayo Zasemanzini.

DWAF (1996b): Iziqondiso Zekhwalthi Yamanzi zeNingizimu Afrika: iVolumu 3: Ukusetshenziswa kwemboni.

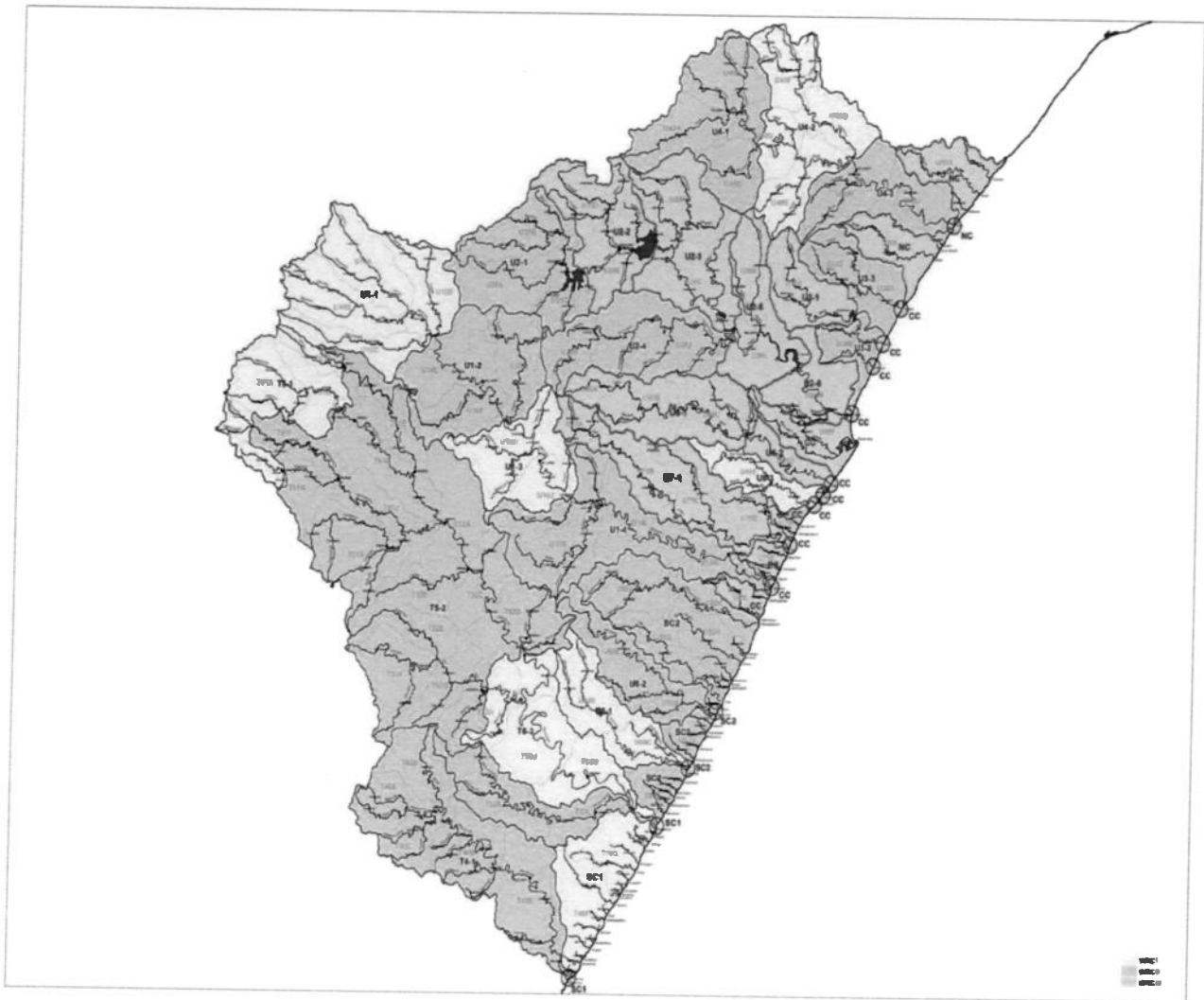
DWAF (2008): Izindlela zokunquma izimfanelo zezinga lamanzi Ezinqolobane Zemvelo zemifula.

Qaphela ukuthi zonke izinjongo zokuxhumana ngokugcwele nangokwengxeny zamagciwane endle kanye ne-E. coli zibekiwe ngokweziqondiso ze-SA NMMP kanye nezingozi zempilo ngokwezibalo / 100 mL, njengokulandelayo:

Low	Medium	High
< 600	600 - 2 000	> 2 000

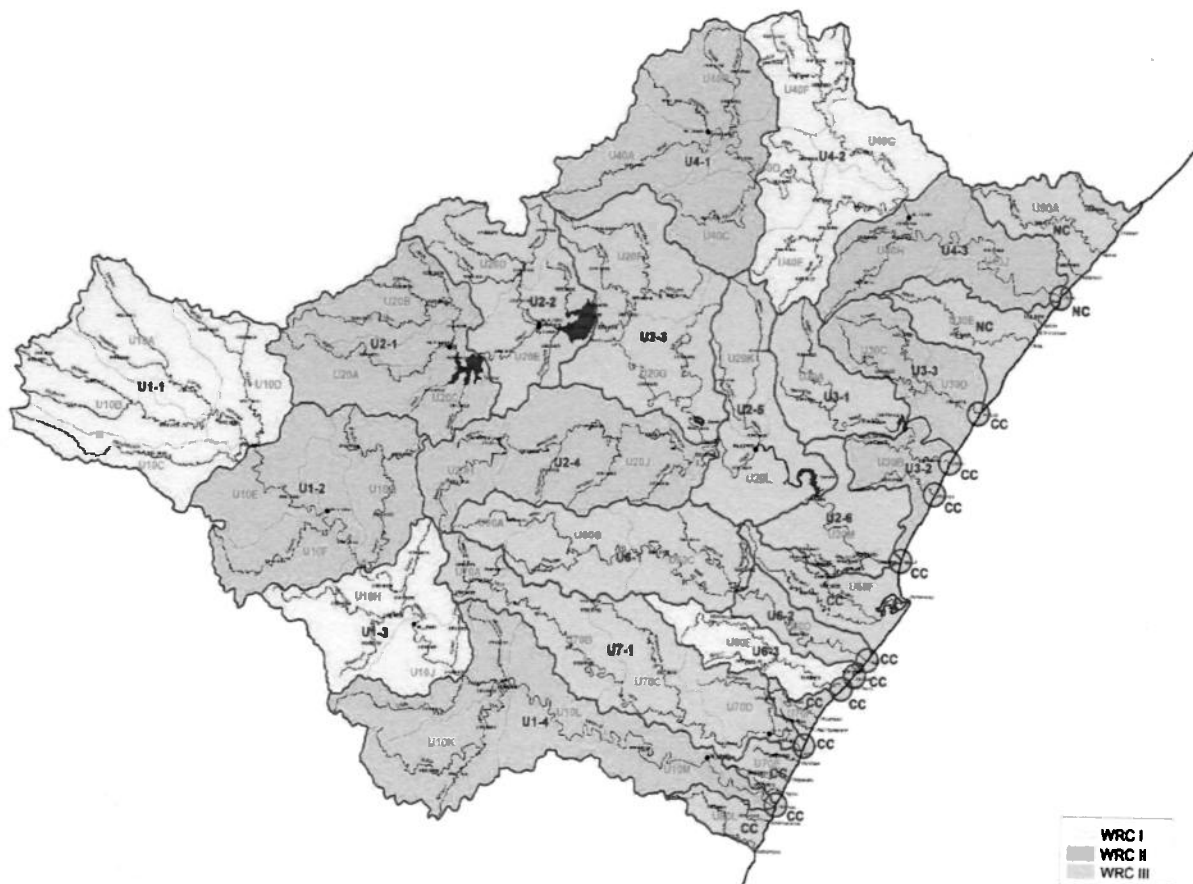
Phansi	Phakathi	Phezulu
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Imihlahlandlela iyanikezwa mayingekho imininingwane noma ulwazi lwemisebenzi yokuzilibazisa endaweni.



Umdwebo 1 Izigaba Zemithombo Yamanzi yama-IUA oMvoti ukuya ku-Umzimkulu WMA





Umdwebo 3 Izigaba Zemithombo Yamanzi yama-IUA Eziziba eziphakeme ku-U1 ukuya ku-U7.