ISIHLOMELELO

4. IBAKALA LOMTHAMO WAMANZI ANGAPHANTSI KOMHLABA

(1) Umsele wamanzi angaphantsi komhlaba, oquka igalelo lamanzi angaphantsi komhlaba kwi- EWR ne- BHN nge-GRU nganye kwindawo yoboniselo ngamanzi i-Berg, ixelwe ngokwemiqathango yesiqendu 16(1) soMthetho. Le ndawo yoboniselo ngamanzi ifumana amanzi ovuselelo ayi- 620.78 Mm^3/a ewonke, apho i- 69.98 Mm^3/a imele igalelo lamanzi angaphantsi komhlaba kwi-EWR, kwaye i- 2.35 Mm^3/a imele igalelo lamanzi angaphantsi komhlaba kwi- BHN. Ibakala lomthamo wamanzi angaphantsi komhlaba kulo msele ukwindawo yoboniselo lwamanzi i- Berg ngu- 72.33 Mm^3/a, enempendulelo nge- 11.7% kuwo ewonke amanzi ovuselelo.

(2) Indawo yoboniselo i- Berg iquka iindawo zoboniselo ngamanzi ezahlulwe ngezine ezingama- 30 zizonke, ezide ziboniswe ngee-GRUs ezingama-25 njengoko zibonisiwe **kuMzobo 5.1**. Kubalulekile ukuqaphela ukuba imisele yamanzi angaphantsi komhlaba ayinakusoloko ihambelana ngqo neendawo zoboniselo ngamanzi angaphezu komhlaba (i.e., ii-GRUs zingaquka indawo enye okanye iindawo ezingaphezu kwesinye zoboniselo ngamanzi ezahlulwe ngezine, okanye ke isiqephu nje sendawana, oko kuxhomekeka kwiimpawo zazo zobume bomhlaba nezobumanzi bomhlaba. Ngoko ke, imida yee- GRUs iye yaqingqwa kungqalwe nezo mpawu zifana nobume obubonakalayo bomhlaba bemisele ezii-akhwifa (eziphenjelelwa ligada langaphezulu nelangaphantsi komhlaba ubukhulu becala), imimandla yovuselelo yamanzi angaphantsi komhlaba, neemeko eziliqela zomda wee-akhwifa.

(3) Ibakala lomthamo wamanzi angaphantsi komhlaba libalwe kungqalwe nalo lilonke igalelo lamanzi angaphantsi komhlaba kuyo yomibini imisele ye- EWR ne-BHN **(**yiya **kuTafile UTafile 5**.1**).**

(a) **Igalelo lamanzi angaphantsi komhlaba kwiimfuno ezisisiseko zomntu (kwi-BHN)**
Ibakala lamanzi angaphantsi komhlaba ayi- BHN aqwalasela eloo qaqobana labantu lingekawafumani ngokusesikweni amanzi nelihlala ngaphaya komgama oyi- 500 meters ukusuka kumlambo wexesha elide (nelaziwa ngokuba ngabemi abafanele kufumana iinkonzo zamanzi). Abantu abafanele kufumana iinkonzo babalwe njengabangama- 257,331 inani labo kwindawo yoboniselo ngamanzi i- Berg, apho imfuno yemihla ngemihla yamanzi isekwe njengexabiso elisisigxina elingu- 25 ℓ/p/d. Ngoko ke, ibakala lamanzi angaphantsi komhlaba lomsele we- BHN liqingqwe langu- 2.35 Mm^3/a **(yiya UTafile 5.1).**

(b) **Igalelo lamanzi angaphantsi komhlaba kwiimfuno zamanzi kwiindawo zokuphilisana**
Ubalo lwebakala lamanzi angaphantsi komhlaba lwe- EWR luquke ukusetyenziswa kweqhinga lokwahlulwa kwamanzi ahamba kancinci, apho umthamo wamanzi akhutshwa ngaphantsi komhlaba ubalwe kusetyenziswa iinkcukacha zamanzi ahamba ngenyanga ametelwe ukuze ahlangabezane namabakala angqaliweyo eendawo zokuphilisana (i- Target Ecological Categories (iiTECs) zazo zonke iindibano zemilambo nemiwonyo yongxamiseko. Kubandakanywe nesixhobo soxhathiso nesingumkhomba-ndlela, nto leyo yenze kwabalula ukubala iinguqu zokuhamba kwamanzi nee- TECs. Ngoko ke, ngethuba kuvavanya igalelo lamanzi angaphantsi komhlaba kwi-EWR, uhlalutyo oluneenkcukacha lwendawo yoboniselo ngamanzi nobelungqiyame nge-GIS luphonononge ngokutsha iindawo zoboniselo ngamanzi ezandayo ngokweempawu zazo eziliqela, apho emva koko umyinge wovuselelo uye wasetyenziswa kulo lilonke igalelo lamanzi angaphantsi komhlaba kumanzi amancinci ngokwe- GRU nangokweendidi zee-akhwifa ezinxulumene noku. Ibakala lomsele

wamanzi angaphantsi komhlaba we-EWR libalwe langu- 69.98 Mm^3/a **(yiya kuTafile 5.1).**

UTafile 5.1: Ibakala loMthamo woMsele waManzi angaphantsi komhlaba kwindawo yoboniselo ngamanzi i- Berg

GRU	Iindawo ezahlulwe ngezine zoboniselo n gamanzi ezibandakanyekayo[a]	Ummandla (Km^2)	Uvuselelo oluncinane lonyaka (Mm^3/a) [b]	Abemi abafanele kufumana iinkonzo	Amanzi angaphantsi komhlaba aligalelo kumanzi amancinci (Mm^3/a)	Usetyenziso lwamanzi (Mm^3/a)	Igalelo lamanzi angaphantsi komhlaba kumsele we-EWR (Mm^3/a)	Igalelo lamanzi angaphantsi komhlaba kumsele we-BHN (Mm^3/a)	Umsele wamanzi angaphantsi komhlaba (Mm^3/a)	Umsele wamanzi angaphantsi komhlaba (i-% yovuselelo oluncinci lonyaka)
Adamboerskraal	G10K, G10L, G10M, G30A	612.30	21.61	889	6.00	2.13	6.00	0.01	6.01	28%
Atlantis	G21A, G21B, G21D	255.68	22.74[c]	2801	0.08	1.70[d]	0.08	0.03	0.11	0%
Cape Flats	G22C, G22D, G22E, G22H	421.94	41.25[e]	76862	0.51	12.00[f]	0.51	0.70	1.21	3%
Cape Peninsula	G22A, G22B, G22C, G22D	292.53	10.99	9346	5.43	0.07	5.43	0.09	5.52	50%
Cape Town Rim	G21E, G21F, G22A, G22B, G22C, G22D, G22E, G22G, G22H	814.62	18.60	21348	0.87	6.21	0.87	0.20	1.07	6%

[a] *Imisele yamanzi angaphantsi komhlaba ayisayi kusoloko ihambelana neendawo zoboniselo lwamanzi zangaphezu komhlaba. Iindawo zoboniselo ngamanzi ezahlulwe ngezine ezidweliswe apha ziquka zonke ezo ziphakathi kwi -GRU.*

[b] *Ngaphandle kwezinye iimeko, ixabiso lovuselelo ngamanzi emvula libalwe ngala ndlela yomthetho wokuqala wolinganiso olungqala imephu ecacisiweyo kwiingxelo ezikhethekileyo zeeprojekhthi.*

[c] *Ixabiso lovuselelo ngamanzi emvula lifunyenwe ngoqikelelo lovuselelo olumetiweyo olungqiyame ngesibonelo (emva ko- CoCT, 2018).*

[d] *Ixabiso losetyenziso lwamanzi liquka utsalo lukamasipala olubhaliswe ngu-CCT we- Mm^3/a ngokwesiqendu 21 (a) sika- NWA noVuselelo lwee-Akwifa eziphantsi kolawulo (ngokwesiqendu 21(e) sika-NWA malunga nogunyaziso losetyenziso lwamanzi) kangange- 4.2 Mm^3/a (njengosetyenziso olunxaxhileyo). Utsalo kangange- 1 M m^3/a luka- Eskom alubhaliswanga kwiqonga leenkcukacha lika- WARMS, ngoko ke lukhutshelwe ngaphandle kusetyenziso lwamanzi.*

[e] *Ixabiso lovuselelo ngamanzi emvula lifumaneke kuqikelelo oluthathelwe imiyinge engqiyame ngesibonelo (after CoCT, 2020).*

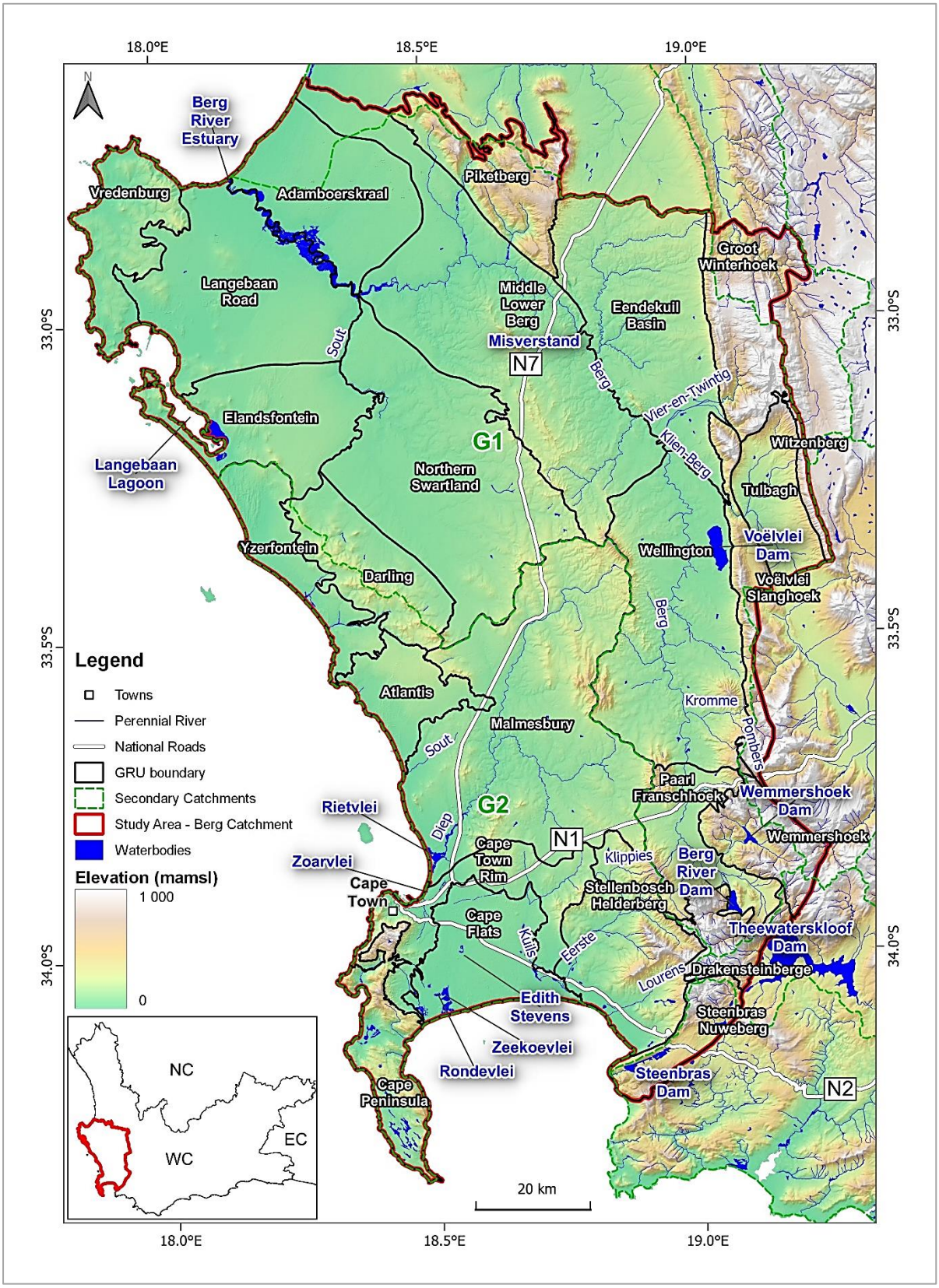
[f] *Ixabiso losetyenziso lwamanzi liquka utsalo olugunyazisiweyo lukamasipala oluyi- 20 Mm^3/a olwenziwe yi- CCT ngethuba lophuhliso ngokwesiqendu 21(a) sikaNWA nangoVuselelo lwe-Akhwifa ephantsi koLawulo (ngokwesiqendu 21(e) sikaNWA esithetha ngogunyaziso losetyenziso lwamanzi) olumalunga no- 14.6 Mm^3/a (njengosetyenziso olunxaxhileyo).*

GRU	Iindawo ezahlulwe ngezine zoboniselo n gamanzi ezibandakanyekayo[a]	Ummandla (Km^2)	Uvuselelo oluncinane lonyaka (Mm^3/a) [b]	Abemi abafanele kufumana iinkonzo	Amanzi angaphantsi komhlaba aligalelo kumanzi amancinci (Mm^3/a)	Usetyenziso lwamanzi (Mm^3/a)	Igalelo lamanzi angaphantsi komhlaba kumsele we-EWR (Mm^3/a)	Igalelo lamanzi angaphantsi komhlaba kumsele we-BHN (Mm^3/a)	Umsele wamanzi angaphantsi komhlaba (Mm^3/a)	Umsele wamanzi angaphantsi komhlaba (i-% yovuselelo oluncinci lonyaka)
Darling	G10L, G21A, G21B, G21D	408.82	9.95	1640	0.03	0.76	0.03	0.02	0.05	0%
Drakensteinberge	G10A, G10C, G22F, G22J, H60A, H60B	164.95	27.60	372	2.88	0.05	2.88	0.00	2.88	10%
Eendekuil Basin	G10F, G10H, G10J, G10K	936.94	21.88	9968	6.95	4.85	6.95	0.09	7.04	32%
Elandsfontein	G10L, G10M, G21A	532.57	15.47	545	6.39	1.09	6.39	0.01	6.40	41%
Groot Winterhoek	E10B, E10C, G10E, G10G, G10H, G10J	379.26	22.50	1861	0.77	1.39	0.77	0.02	0.79	3%
Langebaan Road	G10L, G10M	903.71	23.28	1891	5.52	8.59	5.52	0.02	5.54	24%
Malmesbury	G10D, G10F, G10L, G21B, G21C, G21D, G21E, G21F, G22C, G22E, G22G	1600.36	52.65	37580	1.18	14.75	1.18	0.34	1.52	3%
Middle-Lower Berg	G10F, G10J, G10K, G10L, G10M, G30A	1485.40	42.49	9355	11.15	2.23	11.15	0.09	11.24	26%

GRU	Iindawo ezahlulwe ngezine zoboniselo n gamanzi ezibandakanyekayo[a]	Ummandla (Km^2)	Uvuselelo oluncinane lonyaka (Mm^3/a) [b]	Abemi abafanele kufumana iinkonzo	Amanzi angaphantsi komhlaba aligalelo kumanzi amancinci (Mm^3/a)	Usetyenziso lwamanzi (Mm^3/a)	Igalelo lamanzi angaphantsi komhlaba kumsele we-EWR (Mm^3/a)	Igalelo lamanzi angaphantsi komhlaba kumsele we-BHN (Mm^3/a)	Umsele wamanzi angaphantsi komhlaba (Mm^3/a)	Umsele wamanzi angaphantsi komhlaba (i-% yovuselelo oluncinci lonyaka)
Northern Swartland	G10J, G10K, G10L, G21A, G21C, G21D	1257.65	31.85	5149	0.20	1.79	0.20	0.05	0.25	1%
Paarl-Franschhoek	G10A, G10B, G10C, G10D, G21E, G22F, H10J, H60B	368.50	26.61	13875	3.01	9.82	3.01	0.13	3.14	12%
Piketberg	G10H, G10K, G10M, G30A, G30D	298.29	20.33	3965	2.07	5.58	2.07	0.04	2.11	10%
Steenbras-Nuweberg	G22J, G22K, G40A, G40B, G40C, G40D, H60A	150.24	58.76[g]	1709	1.16	8.00[h]	1.16	0.02	1.18	2%
Stellenbosch-Helderberg	G10C, G21E, G22E, G22F, G22G, G22H, G22J, G22K, H60A	570.58	41.52	26508	2.34	8.81	2.34	0.24	2.58	6%
Tulbagh	G10E, G10G, H10F	291.38	10.87	2568	1.28	3.78	1.28	0.02	1.30	12%
Voëlvlei-Slanghoek	G10D, G10E, G10F, G10J, H10E, H10F, H10J	184.26	14.10	739	1.62	0.13	1.62	0.01	1.63	12%

[g] Ixabiso lovuselelo ngemvula lifunyenwe ngosasazo lwamabala lomthetho wokuqala we- GRAII (olugugulwe emva ko- CoCT, 2022).
[h] Luquka utsalo olugunyazisiweyo lukamasipala olungange- 8 Mm^3/a ngenqanaba eliphantsi kophuhliso lwe- CCT under development (inqanaba 1) ngokwesiqendu 21(a) sika-NWA

GRU	Iindawo ezahlulwe ngezine zoboniselo n gamanzi ezibandakanyekayo[a]	Ummandla (Km^2)	Uvuselelo oluncinane lonyaka (Mm^3/a) [b]	Abemi abafanele kufumana iinkonzo	Amanzi angaphantsi komhlaba aligalelo kumanzi amancinci (Mm^3/a)	Usetyenziso lwamanzi (Mm^3/a)	Igalelo lamanzi angaphantsi komhlaba kumsele we-EWR (Mm^3/a)	Igalelo lamanzi angaphantsi komhlaba kumsele we-BHN (Mm^3/a)	Umsele wamanzi angaphantsi komhlaba (Mm^3/a)	Umsele wamanzi angaphantsi komhlaba (i-% yovuselelo oluncinci lonyaka)
Vredenburg	G10M	376.18	7.43	1227	0.00	1.16	0.00	0.01	0.01	0%
Wellington	G10D, G10F, G10J, G21E	1068.81	39.49	25733	6.75	4.48	6.75	0.24	6.99	18%
Wemmershoek	G10A, G10B, G10C, H10J, H10K, H60B	229.13	26.83	187	3.59	0.81	3.59	0.00	3.59	13%
Witzenberg	G10E, G10G, H10C, H10D, H10F	39.95	2.78	243	0.18	0.08	0.18	0.00	0.18	7%
Yzerfontein	G10L, G10M, G21A	320.33	9.20	970	0.02	0.26	0.02	0.01	0.03	0%



Umzobo 5.1: Ummandla woboniselo ngamanzi i-Berg neeyunithi zamanzi angaphantsi komhlaba ezibandakanyekayo (groundwater resource units (GRUs).

5. IBAKALA LEKWALITI YAMANZI ANGAPHANTSI KOMHLABA

(1) Ibakala lomsele wamanzi angaphantsi komhlaba kwindawo yoboniselo ngamanzi i-Berg lichazwa ngokwamabakalana amabini: 1) ngomsele wekwaliti yamanzi (the Groundwater Quality Reserve), ongqiyame ngohlalutyo lobalo lwenqanaba lokuqala nobundawo (median) + 10% wobukho bemida yeekhemikhali phakathi kwii-akhwifa ezithile kwii- GRUs; 2) ngemfuno yekwaliti yamanzi ayi- BHN, engumda ophezulu weKwaliti yaManzi yeHlelo I (amanzi okusela) njengoko kubonisiwe kuTafile **6.2.**

(1) Ibakala lekwaliti yamanzi omsele ibonisiwe kwiitafile ezingqala i-GRU (yiya kuTafile **Table 6.2** apha ngezantsi). Ibakala lekwaliti yamanzi omsele liqingqwe ngovavanyo lwamabakala amabini asisiseko, angala -

(a) **UMsele weKwaliti yaManzi**
Uqingqwe ngokungqala uhlalutyo lobalo lwenqanaba lokuqala nendawo (median) + 10% yobukho bemida ethile yeekhemikhali phakathi kwii-akhwifa ezithile kwii- GRUs;

(b) **Imfuno yeKwaliti yaManzi angaphantsi komhlaba ye- BHN**
Umda ophezulu weKwaliti yaManzi yeHlelo I [okusela] **(yiya kuTafile 6.2)**

(2) Ii-GRUs ezineenkcukacha ezingephi malunga nekwaliti yamanzi, ezifana neDrakensteinberge, Voëlvlei-Slanghoek, Witzenberg, Groot Winterhoek, Piketberg, Tulbagh, ne-Vredenberg, ziye zakhutshelwa ngaphandle kuhlalutyo, kwaye akukho bakala lekwaliti yamanzi liqingqiweyo. Yiya ku**UTafile 6.2** apha ngezantsi.

IKHEMISTRI GABALALA

UTafile 6.1: Ikhemistri gabalala yamanzi (emva koxwebhu lwemigangatho yekwaliti yamanzi asetyenziswa emakhaya yoMzantsi Afrika (i-South African Water Quality Guidelines, Volume 1: Domestic Water Use, 2nd Ed. 1996. Department of Water Affairs, Pretoria, South Africa).

Umda weekhemikhali	Uluhlu lwekwaliti yamanzi engqaliweyo				
	Iiyuthi	Ihlelo 0	Ihlelo I	Ihlelo II	Ihlelo III
pH	pH units	6 - 9	5 - 6 & 9 - 9.5	4 – 5 &> 9.5 - 10	< 4 or > 10
Ukutsala umbane	mS/m	0 - 70	70 - 150	150 - 300	> 370
Calcium as Ca	mg/l	0 - 80	80 - 150	150 - 300	> 300
Magnesium as Mg	mg/l	0 - 30	30 - 70	70 - 100	> 100
Sodium as Na	mg/l	0 - 100	100 - 200	200 - 400	> 400
Chloride as Cl	mg/l	0 - 100	100 - 200	200 - 600	> 600
Sulphate as SO_4	mg/l	0 - 200	200 - 400	400 - 600	> 600
Nitrate as NO_{x-} N	mg/l	0 - 6	6 - 10	10 - 20	> 20
Fluoride as F	mg/l	0 - 1	1 - 1.5	1.5 - 3.5	> 3.5

Ihlelo 0: Amanzi ahlelwa njengamanzi okusela anqwenelekayo, nafanelwe kusetyenziswa kuse ephakadeni. Amaxabiso manye neengcebiso zamanzi ezingqaliweyo ngamanzi asetyenziswa emakhayeni .

Ihlelo I: Amanzi asakulungele ukusetyenziswa unaphakade; kodwa ke, linokubakho ifuthe eliphakathi empilweni yomntu (manqapha-nqapha). La ngamanzi anokusetyenziswa ngamaxesha olonwabo.

Ihlelo II: Amanzi avumeleke okwexeshana okanye ngamaxesha kaXakeka. Ifuthe lawo empilweni yomntu lingathanda ukuxhaphaka, xa uwathelekisa nalawo wehlelo I, ngakumbi kwabo bawasebenzisa ixesha elide. Eli lelona hlelo lezi ngcebiso lingacacisiyo malunga nelona thuba anokusetyenziswa ngalo amanzi. Liyatsho phofu ukuthi amanzi makasetyenziswe okwethutyana kodwa libe lingatsho ukuba lithetha ukuthini na ngo- “ithutyana”.

Class III: Amanzi ehlelo III aza kubangela ifuthe elibi empilweni yomntu, ngakumbi eantwaneni nakubantu abasele bekhulile. La manzi akamelanga kuselwa konke konke.

UTafile 6.2: Ibakala lekwaliti yamanzi omsele kwindawo yoboniselo i- Berg.

GRU	Iyunithi ye-akhwifa	Uphawu	Iyunithi	No. BHs	No. yeesampulu	Inqanaba lokuqala Conc.[i]	Min Conc.	Max Conc.	Median Conc.	Umsele wekwaliti yamanzi angaphantsi komhlaba[j]	Umda we-BHN[k]
Adamboerskraal	I-akhwifa esisiseko / equkanisa iinkozwana	pH		2	3	7	6.5	7	6.6	7	5 – 9
		Ukutsala umbane Conductivity	mS/m	2	3	499.1	499.1	823.2	752	823.2	150
		Sodium as Na	mg/l	2	3	874.9	874.9	1374.9	1367.8	1374.9	200
		Calcium as Ca	mg/l	2	3	42	42	67.4	58	63.8	150
		Magnesium as Mg	mg/l	2	3	73.8	73.8	145.1	140.7	145.1	70
		Chloride as Cl	mg/l	2	3	1540	1540	2513.3	2442.1	2513.3	200
		Sulphate as SO4	mg/l	2	3	52.2	52.2	164	143.3	157.63	400
		Nitrate + Nitrite	mg/l	2	3	0.1	0.02	0.1	0.02	0.1	10
		Fluoride as F	mg/l	2	3	0.31	0.3	0.5	0.31	0.341	1.5
		Ammonia as NH3	mg/l	2	3	0.19	0.18	0.62	0.19	0.209	-
		Orthophosphate as PO4	mg/l	2	3	0.24	0.036	0.243	0.051	0.24	-
		Potassium as K	mg/l	2	3	11.28	9.34	11.28	10.95	11.28	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**No. yeesampulu**	**Inqanaba lokuqala Conc.[l]**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi angaphantsi komhlaba[m]**	**Umda we-BHN[n]**
Atlantis	I-akhwifa esisiseko / equkanisa iinkozwana	pH		27	42	7.73	2.60	8.35	7.60	8.35	5 – 9
		Ukutsala umbane	mS/m	27	42	99.74	38.10	156.70	85.55	99.74	150
		Sodium as Na	mg/l	27	42	116.14	22.60	219.40	95.35	116.14	200
		Calcium as Ca	mg/l	27	42	46.05	4.80	183.50	59.55	65.51	150

[i] *Kwindawo yoboniselo ngamanzi i-Berg, ukuqingqa iimeko zokuqala ezingangxengwanga nezingekabhoxwa yimisebenzi yabantu, ibingumsebenzi onzima kakhulu ngenxa yeempembelelo ezahlukeneyo zabantu. Ngoko ke ukuqikelela inqanaba lokuqala lezinto kwenziwe ngokusetyenziswa kwezikhundla zohlolo kwimimandla apho abantu bengafikeleli kakhulu khona. Ukuze ke kunciphe imiyinge yeziphoso, (indlela yamanani engu-95th percentile kwakhethwa yona endaweni yezo meko zongameleyo, kwakhethwa iinkcukacha ezininzi ezikhuphela amaxabiso abaxekileyo.*

[j] *Ibakala lomsele wekwaliti yamanzi laqingqwa ngokuthi kuthatyathwe imeko yobundawo idityaniswe no- 10%. Ukuba ngaba ixabiso belingaphantsi kwelo lemeko yokuqala, bekukhethwa elo xabiso lenqanaba lokuqala.*

[k] *Umda we- BHN wakhethwa kujongwe kumda ophezulu wekwaliti yamanzi yehlelo I [okusela] (WRC et al. 2nd Edition, 1998, Volume 1: Assessment Guide).*

[l] *Kwindawo yoboniselo ngamanzi i- Berg, ukuqingqa imeko yokuqala ezingangxengwanga nezingekabhoxwa yimisebenzi yamantu ibingumsebenzi onzima kakhulu ngenxa yeempembelelo ezahlukeneyo zabantu. Ngoko ke ukuqikelela inqanaba lokuqala lezinto kwenziwe ngokusetyenziswa kwezikhundla zohlolo kwimimandla apho abantu bengafikeleli kakhulu khona. Ukuze ke kunciphe imiyinge yeziphoso, (indlela yamanani engu-95th percentile kwakhethwa yona endaweni yezo meko zongameleyo, kwakhethwa iinkcukacha ezininzi ezikhuphela amaxabiso abaxekileyo.*

[m] *The Ibakala lomsele wekwaliti yamanzi laqingqwa ngokuthi kuthatyathwe imeko yobundawo idityaniswe no- 10%. Ukuba ngaba ixabiso belingaphantsi kwelo lemeko yokuqala, bekukhethwa elo xabiso lenqanaba lokuqala.*

[n] *Umda we- BHN wakhethwa kujongwe kumda ophezulu wekwaliti yamanzi yehlelo I [okusela]] (WRC et al. 2nd Edition, 1998, Volume 1: Assessment Guide).*

		Magnesium as Mg	mg/l	27	42	17.28	4.90	35.80	9.90	17.28	70
		Chloride as Cl	mg/l	27	42	240.93	37.10	435.40	145.85	240.93	200
		Sulphate as SO4	mg/l	27	42	24.70	2.00	355.70	19.80	24.70	400
		Nitrate + Nitrite	mg/l	27	42	0.05	0.02	2.19	0.02	0.05	10
		Fluoride as F	mg/l	27	42	1.16	0.05	1.33	0.15	1.16	1.5
		Ammonia as NH3	mg/l	27	42	1.16	0.02	1.22	0.06	1.16	-
		Orthophosphate as PO4	mg/l	27	42	0.10	0.00	1.30	0.03	0.10	-
		Potassium as K	mg/l	27	42	5.57	0.35	6.86	2.87	5.57	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**No. yeesampulu**	**Inqanaba lokuqala Conc.[o]**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi angaphantsi komhlaba[p]**	**Umda we-BHN[q]**
Cape Flats	I-akhwifa esisiseko / equkanisa iinkozwana	pH		37	581	8.30	5.07	8.55	7.84	8.55	5 – 9
		Ukutsala umbane	mS/m	37	581	113.72	13.00	578.00	88.85	113.72	150
		Sodium as Na	mg/l	37	581	111.36	3.30	784.00	58.90	111.36	200
		Calcium as Ca	mg/l	37	581	112.16	3.81	266.50	101.50	112.16	150
		Magnesium as Mg	mg/l	37	581	14.62	1.00	124.70	11.60	14.62	70
		Chloride as Cl	mg/l	37	581	209.22	5.00	1993.00	100.00	209.22	200
		Nitrate + Nitrite	mg/l	37	581	8.35	0.02	23.20	1.12	8.35	400
		Fluoride as F	mg/l	37	581	0.26	0.05	3.05	0.15	0.26	10
		Ammonia as NH3	mg/l	37	581	0.08	0.02	31.89	0.06	0.08	1.5
		Orthophosphate as PO4	mg/l	37	581	0.03	0.00	1.35	0.01	0.03	-
		Potassium as K	mg/l	37	581	2.95	0.15	53.66	1.90	2.95	-
		Sulphate as SO4 as SO4	mg/l	37	581	44.40	2.00	326.00	45.40	49.94	-
I-GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi angaphantsi komhlaba[r]**	**Umda we-BHN**
Cape Peninsula	I-akhwifa eqhezukileyo yeqela	pH		11	11	6.96	6.54	7.57	7.10	7.57	5 – 9
		Ukutsala umbane	mS/m	11	11	25.80	25.80	119.00	89.80	98.78	150
		Sodium as Na	mg/l	11	11	31.30	31.30	115.40	89.10	98.01	200

[o] Kwindawo yoboniselo ngamanzi i- Berg, ukuqingqa imeko yokuqala ezingangxengwanga nezingekabhoxwa yimisebenzi yamantu ibingumsebenzi onzima kakhulu ngenxa yeempembelelo ezahlukeneyo zabantu. Ngoko ke ukuqikelela inqanaba lokuqala lezinto kwenziwe ngokusetyenziswa kwezikhundla zohlolo kwimimandla apho abantu bengafikeleli kakhulu khona. Ukuze ke kunciphe imiyinge yeziphoso, (indlela yamanani engu-95th percentile kwakhethwa yona endaweni yezo meko zongameleyo, kwakhethwa iinkcukacha ezininzi ezikhuphela amaxabiso abaxekileyo.

[p] Ibakala lomsele wekwaliti yamanzi laqingqwa ngokuthi kuthatyathwe imeko yobundawo idityaniswe no- 10%. Ukuba ngaba ixabiso belingaphantsi kwelo lemeko yokuqala, bekukhethwa elo xabiso lenqanaba lokuqala.

[q] Umda we- BHN wakhethwa kujongwe kumda ophezulu wekwaliti yamanzi yehlelo I [okusela]] (WRC et al. 2nd Edition, 1998, Volume 1: Assessment Guide).

[r] The Ibakala lomsele wekwaliti yamanzi laqingqwa ngokuthi kuthatyathwe imeko yobundawo idityaniswe no- 10%. Ukuba ngaba ixabiso belingaphantsi kwelo lemeko yokuqala, bekukhethwa elo xabiso lenqanaba lokuqala.

	IeNtaba yeTafile	Calcium as Ca	mg/l	11	11	3.60	3.60	109.60	30.70	33.77	150
		Magnesium as Mg	mg/l	11	11	3.50	3.50	31.40	16.70	18.37	70
		Chloride as Cl	mg/l	11	11	54.70	54.70	207.10	147.20	161.92	200
		Sulphate as SO4	mg/l	11	11	12.20	12.20	107.40	72.20	79.42	400
		Nitrate + Nitrite	mg/l	11	11	0.07	0.02	10.89	0.32	0.35	10
		Fluoride as F	mg/l	11	11	0.26	0.05	0.33	0.15	0.26	1.5
		Ammonia as NH3	mg/l	11	11	0.02	0.02	2.51	0.02	0.02	-
		Orthophosphate as PO4	mg/l	11	11	1.02	0.01	1.08	0.02	1.02	-
		Potassium as K	mg/l	11	11	1.79	0.83	46.71	5.95	6.55	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Cape Town Rim GRU	I-akhwifa yegumbi elingezantsi eqhezukileyo nequkanisa iinkozwana (Tygerberg)	pH		21	21	7.78	7.00	8.62	7.47	8.22	5 – 9
		Ukutsala umbane	mS/m	21	21	105.10	21.00	659.00	92.00	105.10	150
		Sodium as Na	mg/l	21	21	142.60	28.20	1048.00	128.40	142.60	200
		Calcium as Ca	mg/l	21	21	45.50	2.30	259.80	15.80	45.50	150
		Magnesium as Mg	mg/l	21	21	19.10	1.70	119.10	20.60	22.66	70
		Chloride as Cl	mg/l	21	21	240.60	44.00	2100.00	220.00	242.00	200
		Sulphate as SO4	mg/l	21	21	8.50	5.50	350.00	34.10	37.51	400
		Nitrate + Nitrite	mg/l	21	21	0.28	0.02	6.57	0.13	0.28	10
		Fluoride as F	mg/l	21	21	0.14	0.12	2.60	0.27	0.30	1.5
		Ammonia as NH3	mg/l	21	21	0.02	0.02	0.75	0.02	0.02	-
		Orthophosphate as PO4	mg/l	21	21	0.01	0.00	0.13	0.01	0.01	-
		Potassium as K	mg/l	21	21	3.05	0.87	13.20	3.02	3.32	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Darling	I-akhwifa yegumbi elingezantsi eqhezukileyo nequkanisa iinkozwana (CGS)	pH		9	9	6.80	6.70	7.86	7.20	7.86	5 – 9
		Ukutsala umbane	mS/m	9	9	192.00	108.60	1100.00	281.60	309.76	150
		Sodium as Na	mg/l	9	9	299.20	151.90	1907.00	416.30	457.93	200
		Calcium as Ca	mg/l	9	9	16.90	9.30	251.00	46.60	51.26	150
		Magnesium as Mg	mg/l	9	9	38.80	11.50	236.10	57.60	63.36	70
		Chloride as Cl	mg/l	9	9	499.10	332.70	3413.80	766.10	842.71	200
		Sulphate as SO4	mg/l	9	9	96.10	10.70	542.20	96.10	105.71	400
		Nitrate + Nitrite	mg/l	9	9	0.83	0.02	4.16	0.83	0.91	10
		Fluoride as F	mg/l	9	9	0.15	0.10	1.50	0.56	0.62	1.5
		Ammonia as NH3	mg/l	9	9	0.02	0.02	0.08	0.02	0.02	-
		Orthophosphate as PO4	mg/l	9	9	0.01	0.00	0.02	0.00	0.01	-
		Potassium as K	mg/l	9	9	8.06	7.01	43.63	11.42	12.56	-

GRU	Iyunithi ye-akhwifa	Uphawu	Iyunithi	No. BHs	I-No. yeesampulu	Inqanaba lokuqala Conc.	Min Conc.	Max Conc.	Median Conc.	Umsele wekwaliti yamanzi	Umda we-BHN
Eendekuil	I-akhwifa yegumbi elingezantsi eqhezukileyo nequkanisa iinkozwana (Tygerberg)	pH		10	10	8.20	7.86	8.45	8.14	8.45	5 – 9
		Ukutsala umbane	mS/m	10	10	205.00	42.10	583.00	233.00	256.30	150
		Sodium as Na	mg/l	10	10	323.20	41.70	967.10	444.10	488.51	200
		Calcium as Ca	mg/l	10	10	25.50	10.60	151.00	20.85	25.50	150
		Magnesium as Mg	mg/l	10	10	58.20	18.40	342.00	55.05	60.56	70
		Chloride as Cl	mg/l	10	10	543.60	92.80	1873.40	664.90	731.39	200
		Sulphate as SO4	mg/l	10	10	52.60	7.30	219.00	79.55	87.51	400
		Nitrate + Nitrite	mg/l	10	10	0.84	0.04	5.39	0.85	0.94	10
		Fluoride as F	mg/l	10	10	0.94	0.20	1.87	1.01	1.11	1.5
		Ammonia as NH3	mg/l	10	10	0.02	0.02	0.05	0.02	0.02	-
		Orthophosphate as PO4	mg/l	10	10	0.01	0.01	0.02	0.01	0.01	-
		Potassium as K	mg/l	10	10	11.27	1.28	44.80	4.22	11.27	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Elandsfontein	I-akhwifa esisiseko / equkanisa iinkozwana	pH		3	5	7.49	7.17	7.60	7.35	7.60	5 – 9
		Ukutsala umbane	mS/m	3	5	49.10	45.50	101.90	49.10	54.01	150
		Sodium as Na	mg/l	3	5	55.93	50.90	109.70	54.40	59.84	200
		Calcium as Ca	mg/l	3	5	37.26	26.50	83.40	34.20	37.62	150
		Magnesium as Mg	mg/l	3	5	3.50	3.50	12.60	3.50	3.85	70
		Chloride as Cl	mg/l	3	5	100.82	97.50	195.10	101.00	111.10	200
		Sulphate as SO4	mg/l	3	5	12.90	12.10	29.20	12.10	13.31	400
		Nitrate + Nitrite	mg/l	3	5	4.62	0.15	4.62	1.51	4.62	10
		Fluoride as F	mg/l	3	5	0.24	0.17	0.82	0.19	0.24	1.5
		Ammonia as NH3	mg/l	3	5	0.14	0.04	0.14	0.12	0.14	-
		Orthophosphate as PO4	mg/l	3	5	0.19	0.01	0.30	0.19	0.21	-
		Potassium as K	mg/l	3	5	1.99	0.48	2.03	1.02	1.99	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Langebaan Road	I-akhwifa esisiseko / equkanisa iinkozwana	pH		8	92	8.41	6.77	8.71	8.11	8.71	5 – 9
		Ukutsala umbane	mS/m	8	92	59.50	59.50	289.50	152.00	167.20	150
		Sodium as Na	mg/l	8	81	202.80	61.00	445.30	198.52	218.37	200
		Calcium as Ca	mg/l	8	84	72.80	27.00	175.00	68.89	75.78	150
		Magnesium as Mg	mg/l	8	86	17.90	5.30	97.92	17.71	19.48	70
		Chloride as Cl	mg/l	8	88	385.60	110.00	780.80	334.69	385.60	200
		Sulphate as SO4	mg/l	8	89	25.18	0.60	467.60	25.50	28.05	400
		Nitrate + Nitrite	mg/l	8	87	0.25	0.02	9.81	0.06	0.25	10

		Fluoride as F	mg/l	8	82	0.70	0.22	2.11	0.61	0.70	1.5
		Ammonia as NH3	mg/l	8	90	0.14	0.00	0.55	0.03	0.14	-
		Orthophosphate as PO4	mg/l	8	90	0.04	0.00	0.24	0.03	0.04	-
		Potassium as K	mg/l	8	83	4.81	1.00	27.75	4.80	5.28	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Malmesbury	I-akhwifa yegumbi elingezantsi eqhezukileyo nequkanisa iinkozwana (Tygerberg)	pH		66	197	7.15	1.00	8.60	7.64	8.40	5 – 9
		Ukutsala umbane	mS/m	66	197	1549.90	29.66	2110.00	107.90	1549.90	150
		Sodium as Na	mg/l	66	191	282.03	25.00	1726.90	156.40	282.03	200
		Calcium as Ca	mg/l	66	194	178.18	3.50	219.30	16.98	178.18	150
		Magnesium as Mg	mg/l	66	193	66.07	4.30	205.00	18.68	66.07	70
		Chloride as Cl	mg/l	66	197	655.78	50.00	2879.60	257.01	655.78	200
		Sulphate as SO4	mg/l	66	196	172.57	1.50	360.70	33.30	172.57	400
		Nitrate + Nitrite	mg/l	66	194	503.08	0.02	589.68	0.56	503.08	10
		Fluoride as F	mg/l	66	191	0.26	0.03	2.94	0.38	0.42	1.5
		Ammonia as NH3	mg/l	66	195	0.10	0.00	1.27	0.03	0.10	-
		Orthophosphate as PO4	mg/l	66	195	0.10	0.00	14.00	0.02	0.10	-
		Potassium as K	mg/l	66	192	18.77	1.10	50.31	3.67	18.77	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Middle-Lower Berg	I-akhwifa yegumbi elingezantsi eqhezukileyo nequkanisa iinkozwana (Tygerberg)	pH		46	60	7.63	3.11	8.71	7.70	8.47	5 – 9
		Ukutsala umbane	mS/m	46	60	841.00	20.68	1212.00	636.00	841.00	150
		Sodium as Na	mg/l	46	57	1345.50	75.00	2376.10	930.60	1345.50	200
		Calcium as Ca	mg/l	46	58	166.30	4.70	218.40	63.36	166.30	150
		Magnesium as Mg	mg/l	46	58	204.00	2.85	353.00	135.16	204.00	70
		Chloride as Cl	mg/l	46	58	2627.50	25.52	4393.30	1972.70	2627.50	200
		Sulphate as SO4	mg/l	46	58	342.80	3.52	799.60	196.90	342.80	400
		Nitrate + Nitrite	mg/l	46	58	6.16	0.02	24.96	1.24	6.16	10
		Fluoride as F	mg/l	46	58	0.57	0.17	2.22	0.67	0.74	1.5
		Ammonia as NH3	mg/l	46	58	0.02	0.02	1.37	0.04	0.04	-
		Orthophosphate as PO4	mg/l	46	58	0.01	0.00	0.13	0.01	0.01	-
		Potassium as K	mg/l	46	57	22.53	1.73	79.19	24.37	26.81	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Northern Swartland	I-akhwifa yegumbi elingezantsi eqhezukileyo	pH		31	31	7.59	5.55	8.13	7.70	8.13	5 – 9
		Ukutsala umbane	mS/m	31	31	532.00	49.70	1175.50	400.00	532.00	150
		Sodium as Na	mg/l	31	31	984.70	65.50	2133.50	614.00	984.70	200
		Calcium as Ca	mg/l	31	31	35.70	3.80	286.50	52.40	57.64	150

	nequkanisa iinkozwana (Tygerberg)	Magnesium as Mg	mg/l	31	31	81.00	9.90	437.30	76.50	84.15	70
		Chloride as Cl	mg/l	31	31	1643.10	135.10	4123.90	1121.80	1643.10	200
		Sulphate as SO4	mg/l	31	31	114.70	7.90	484.70	114.70	126.17	400
		Nitrate + Nitrite	mg/l	31	31	0.87	0.02	21.53	0.96	1.06	10
		Fluoride as F	mg/l	31	31	0.72	0.15	1.25	0.70	0.77	1.5
		Ammonia as NH3	mg/l	31	31	0.02	0.02	0.52	0.02	0.02	-
		Orthophosphate as PO4	mg/l	31	31	0.01	0.00	0.11	0.01	0.01	-
		Potassium as K	mg/l	31	31	23.46	1.48	116.34	14.00	23.46	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Paarl-Franschoek	Iakhwifa yegumbi elingezantsi eqhezukileyo nequkanisa iinkozwana (CGS)	pH		1	1	7.04	7.04	7.04	7.04	7.04	5 – 9
		Ukutsala umbane	mS/m	1	1	14.40	14.40	14.40	14.40	14.40	150
		Sodium as Na	mg/l	1	1	18.20	18.20	18.20	18.20	18.20	200
		Calcium as Ca	mg/l	1	1	2.80	2.80	2.80	2.80	2.80	150
		Magnesium as Mg	mg/l	1	1	1.70	1.70	1.70	1.70	1.70	70
		Chloride as Cl	mg/l	1	1	27.50	27.50	27.50	27.50	27.50	200
		Sulphate as SO4	mg/l	1	1	2.00	2.00	2.00	2.00	2.00	400
		Nitrate + Nitrite	mg/l	1	1	0.76	0.76	0.76	0.76	0.76	10
		Fluoride as F	mg/l	1	1	0.25	0.25	0.25	0.25	0.25	1.5
		Ammonia as NH3	mg/l	1	1	0.06	0.06	0.06	0.06	0.06	-
		Orthophosphate as PO4	mg/l	1	1	0.10	0.10	0.10	0.10	0.10	-
		Potassium as K	mg/l	1	1	1.75	1.75	1.75	1.75	1.75	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Steenbras-Nuweberg	Iakhwifa eqhezukileyo yeqela leNtaba yeTafile (Peninsula)	pH		16	54	7.18	4.87	9.35	6.80	7.48	5 – 9
		Electrical Conductivity	mS/m	16	58	14.00	2.47	38.00	13.00	14.30	150
		Sodium as Na	mg/l	16	27	6.60	3.70	79.20	8.15	8.97	200
		Calcium as Ca	mg/l	16	57	2.78	0.50	50.10	5.20	5.72	150
		Magnesium as Mg	mg/l	16	38	1.83	0.20	7.60	1.30	1.83	70
		Chloride as Cl	mg/l	16	27	18.01	1.40	31.00	13.25	18.01	200
		Sulphate as SO4	mg/l	16	53	1.49	0.20	61.00	4.20	4.62	400
		Nitrate + Nitrite	mg/l	16	38	1.05	0.00	1.20	0.10	1.05	10
		Fluoride as F	mg/l	16	54	0.28	0.10	0.76	0.50	0.55	1.5
		Ammonia as NH3	mg/l	16	58	0.12	0.00	12.00	0.10	0.12	-
		Orthophosphate as PO4	mg/l	16	27	0.32	0.00	0.97	0.10	0.32	-
		Potassium as K	mg/l	16	34	0.64	0.20	15.30	2.50	2.75	-
	Iakhwifa eqhezukileyo	pH		16	27	5.91	4.63	8.61	5.57	6.13	5 – 9
		Electrical Conductivity	mS/m	16	38	10.00	2.00	24.20	9.00	10.00	150

	yeqela leNtaba yeTafile (Nardouw)	Sodium as Na	mg/l	16	38	11.13	2.10	21.90	9.30	11.13	200
		Calcium as Ca	mg/l	16	38	5.10	0.32	7.41	1.00	5.10	150
		Magnesium as Mg	mg/l	16	27	5.35	0.20	6.60	1.10	5.35	70
		Chloride as Cl	mg/l	16	34	19.95	1.00	37.80	17.00	19.95	200
		Sulphate as SO4	mg/l	16	54	6.50	0.40	17.70	3.35	6.50	400
		Nitrate + Nitrite	mg/l	16	61	0.20	0.00	3.66	0.20	0.22	10
		Fluoride as F	mg/l	16	54	0.50	0.05	0.50	0.10	0.50	1.5
		Ammonia as NH3	mg/l	16	56	2.88	0.01	12.22	0.10	2.88	-
		Orthophosphate as PO4	mg/l	16	56	0.20	0.00	0.20	0.10	0.20	-
		Potassium as K	mg/l	16	27	1.00	0.09	14.10	0.93	1.02	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Stellenbosch-Helderberg	I-akhwifa yegumbi elingezantsi eqhezukileyo nequkanisa iinkozwana (Tygerberg)	pH		15	15	7.08	6.72	7.18	6.98	7.18	5 – 9
		Electrical Conductivity	mS/m	15	15	197.00	32.70	885.00	203.00	223.30	150
		Sodium as Na	mg/l	15	15	297.30	54.10	1510.20	307.85	338.64	200
		Calcium as Ca	mg/l	15	15	54.50	4.30	200.80	43.40	54.50	150
		Magnesium as Mg	mg/l	15	15	28.90	5.90	376.90	56.85	62.54	70
		Chloride as Cl	mg/l	15	15	610.60	86.50	3495.00	586.65	645.32	200
		Sulphate as SO4	mg/l	15	15	10.20	7.70	338.40	73.05	80.36	400
		Nitrate + Nitrite	mg/l	15	15	0.02	0.02	5.61	0.21	0.23	10
		Fluoride as F	mg/l	15	15	2.35	0.05	2.61	0.67	2.35	1.5
		Ammonia as NH3	mg/l	15	15	0.04	0.02	0.09	0.05	0.06	-
		Orthophosphate as PO4	mg/l	15	15	0.01	0.01	0.06	0.01	0.01	-
		Potassium as K	mg/l	15	15	6.38	2.98	8.80	3.78	6.38	-
	I-akhwifa yegumbi elingezantsi eqhezukileyo nequkanisa iinkozwana (CGS)	pH		6	6	7.00	6.41	7.48	7.00	7.48	5 – 9
		Electrical Conductivity	mS/m	6	6	68.40	17.60	197.00	48.90	68.40	150
		Sodium as Na	mg/l	6	6	95.60	22.40	297.30	66.70	95.60	200
		Calcium as Ca	mg/l	6	6	9.60	1.60	99.10	9.60	10.56	150
		Magnesium as Mg	mg/l	6	6	13.80	2.90	35.80	9.00	13.80	70
		Chloride as Cl	mg/l	6	6	167.20	34.50	610.60	115.90	167.20	200
		Sulphate as SO4	mg/l	6	6	14.80	2.00	289.80	5.90	14.80	400
		Nitrate + Nitrite	mg/l	6	6	0.24	0.02	8.34	0.94	1.03	10
		Fluoride as F	mg/l	6	6	1.25	0.16	2.46	0.41	1.25	1.5
		Ammonia as NH3	mg/l	6	6	0.04	0.04	0.11	0.05	0.06	-
		Orthophosphate as PO4	mg/l	6	6	0.01	0.01	0.08	0.01	0.01	-
		Potassium as K	mg/l	6	6	7.07	0.96	7.07	3.15	7.07	-

GRU	Iyunithi ye-akhwifa	Uphawu	Iyunithi	No. BHs	I-No. yeesampulu	Inqanaba lokuqala Conc.	Min Conc.	Max Conc.	Median Conc.	Umsele wekwaliti yamanzi	Umda we-BHN
Wellington	I-akhwifa yegumbi elingezantsi eqhezukileyo nequkanisa iinkozwana (Tygerberg)	pH		3	3	7.56	7.03	7.56	7.40	7.56	5 – 9
		Electrical Conductivity	mS/m	3	3	202.00	25.60	202.00	29.70	202.00	150
		Sodium as Na	mg/l	3	3	290.80	33.90	290.80	36.50	290.80	200
		Calcium as Ca	mg/l	3	3	42.30	1.90	42.30	9.70	42.30	150
		Magnesium as Mg	mg/l	3	3	78.10	4.20	78.10	7.30	78.10	70
		Chloride as Cl	mg/l	3	3	551.60	51.90	551.60	64.50	551.60	200
		Sulphate as SO4	mg/l	3	3	118.00	4.30	118.00	4.30	118.00	400
		Nitrate + Nitrite	mg/l	3	3	1.39	1.26	1.39	1.28	1.39	10
		Fluoride as F	mg/l	3	3	1.09	0.22	1.09	0.26	1.09	1.5
		Ammonia as NH3	mg/l	3	3	0.14	0.05	0.21	0.14	0.15	-
		Orthophosphate as PO4	mg/l	3	3	0.01	0.01	0.14	0.01	0.01	-
		Potassium as K	mg/l	3	3	4.09	1.39	4.09	2.68	4.09	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Wemmershoek	I-akhwifa eqhezukileyo yeqela leNtaba yeTafile (Peninsula)	pH		4	31	8.26	6.40	10.01	7.30	8.26	5 – 9
		Ukutsala umbane	mS/m	4	31	9.27	4.66	16.00	8.10	9.27	150
		Sodium as Na	mg/l	4	26	10.44	2.20	11.00	5.75	10.44	200
		Calcium as Ca	mg/l	4	28	4.39	0.20	10.83	3.15	4.39	150
		Magnesium as Mg	mg/l	4	28	0.46	0.20	7.00	0.60	0.66	70
		Chloride as Cl	mg/l	4	28	13.77	6.00	17.62	8.05	13.77	200
		Sulphate as SO4	mg/l	4	19	3.45	0.20	20.90	0.72	3.45	400
		Nitrate + Nitrite	mg/l	4	24	0.53	0.00	1.27	0.02	0.53	10
		Fluoride as F	mg/l	4	4	0.16	0.05	0.39	0.11	0.16	1.5
		Ammonia as NH3	mg/l	4	28	0.45	0.01	0.66	0.05	0.45	-
		Orthophosphate as PO4	mg/l	4	22	0.05	0.00	0.43	0.02	0.05	-
		Potassium as K	mg/l	4	20	8.20	0.10	8.43	0.75	8.20	-
GRU	**Iyunithi ye-akhwifa**	**Uphawu**	**Iyunithi**	**No. BHs**	**I-No. yeesampulu**	**Inqanaba lokuqala Conc.**	**Min Conc.**	**Max Conc.**	**Median Conc.**	**Umsele wekwaliti yamanzi**	**Umda we-BHN**
Yzerfontein	I-akhwifa esisiseko / nequkanisa iinkozwana	pH		49	142	7.97	1.00	8.76	7.24	7.97	5 – 9
		Ukutsala umbane	mS/m	49	142	111.70	35.20	588.00	104.10	114.51	150
		Sodium as Na	mg/l	49	138	146.72	41.80	864.80	141.65	155.82	200
		Calcium as Ca	mg/l	49	140	24.06	6.20	221.70	19.20	24.06	150
		Magnesium as Mg	mg/l	49	139	34.34	7.00	152.80	22.30	34.34	70
		Chloride as Cl	mg/l	49	140	284.61	55.60	1646.00	263.25	289.58	200
		Sulphate as SO4	mg/l	49	140	109.04	2.00	277.90	40.13	109.04	400
		Nitrate + Nitrite	mg/l	49	139	0.51	0.01	4.18	0.09	0.51	10
		Fluoride as F	mg/l	49	136	0.44	0.03	0.88	0.20	0.44	1.5

		Ammonia as NH3	mg/l	49	139	0.11	0.02	1.16	0.04	0.11	-
		Orthophosphate as PO4	mg/l	49	139	0.05	0.00	0.81	0.06	0.07	-
		Potassium as K	mg/l	49	138	4.22	1.17	49.00	4.52	4.97	-

7. AMABAKALA OMTHAMO WEMILAMBO

Iziphumo eziphakanyisiweyo zoqingqo lwamahlelo emisele nokuhlelwa kweendawo zokuphilisana kwindawo yoboniselo ngamanzi i-Berg (G10, G21, G22), apho amanani okuhlelwa kwemisele exelwa ngokwepesenteji ye- MAR ngokweendawana zoboniselo ngamanzi (ezandayo) ngokwemiqathango yesiqendu (16)(1).

UTafile 7.1: Isishwankathelo sebakala lomthamo wamanzi kwimilambo siquka i-EWR & BHN.

lindawo zoboniselo ngamanzi ngezine	Isikhundla seNdibano / se-EWR	Umsele wamanzi	PES	EIS	REC	NMAR (MCM)[1]	Umsele oyindawo yokuphilisana [3] (MCM)	Umsele we-BHN[4] (MCM)	Iyonke imisele [2] (% NMAR)
G10A	**Bviii1/EWR 1**	**Berg**	**D**	**Phezulu**	**C**	**141.683**	**44.062**	0.244	**31.272**
G10A	Biv5	Franschoek	D	Phezulu	C	34.851	8.234		24.330
G10B	Biii2	Wemmershoek	D	Phezulu	C/D	85.567	19.200	0	22.440
G10C	Bvii14	Dwars	C	Phezulu kakhulu	B	43.650	14.782	1.671	37.688
G10C	Biii3	Berg	D	Phantsi	D	418.079	92.242		22.460
G10D	Bvii3	Krom/Kromme	D	Phakathi	D	18.195	2.582	0.511	16.998
G10D	Bvii10	Berg	D	Phakathi	C/D	461.597	153.247		33.310
G10D	Bvii15	Doring	D	Phezulu	C	3.841	0.849		33.311
G10D	**Bviii2/EWR 6**	**Krom/Kromme**	**D**	**Phakathi**	**D**	**3.557**	**0.505**		**28.556**
G10D	Bvii4	Kompanjies	D	Phakathi	D	24.814	3.450		15.960
G10D	**Bvii5/EWR 3**	**Berg**	**D**	**Phakathi**	**C/D**	**534.333**	**177.395**		**33.294**
G10E	Biii4	Klein Berg	D	Phakathi	D	84.212	12.161	0.107	14.567
G10F	Bvii11	Berg	D	Phakathi	D	557.017	115.094	0.243	20.703
G10J	Biv4	Vier-en-Twintig	D	Phakathi	D	165.478	24.139	0.225	14.726
G10J	**Bvii6/EWR 4**	**Berg**	**D**	**Phakathi**	**D**	**860.679**	**177.839**		**20.686**
G10J	Bvii8	Berg	D	Phakathi	D	896.408	185.221		20.685
G10J	Biv1	Berg	D	Phakati	D	678.963	140.291		20.693
G10J	Bvii17	Sandspruit	C	Phakathi	C	9.248	1.927		20.840

lindawo zoboniselo ngamanzi ngezine	Isikhundla seNdibano / se-EWR	Umsele wamanzi	PES	EIS	REC	NMAR (MCM)[1]	Umsele oyindawo yokuphilisana [3] (MCM)	Umsele we-BHN[4] (MCM)	Iyonke imisele [2] (% NMAR)
G10J	Biii5	Matjies	D	Phakathi	D	32.930	4.237		13.553
G10J	Bvii8	Berg	D	Phakathi	C	896.405	185.221		20.685
G10J	Bvii18	Moreesburgspruit	E	Phakathi	D	3.269	0.456		20.833
G10K	**Bvii12/EWR 5**	**Berg**	**D**	**Phezulu**	**D**	**901.794**	**377.955**	**0.084**	**41.919**
G10L	Bii1	Sout	D	Phantsi	D	13.169	1.664	0.160	13.844
G10L	Biv2	Berg	D	Phantsi	D	924.535	222.974		24.137
G21A	Bviii3	-	D	Phezulu	D	0.959	0.140	0.094	24.442
G21B	Bvii10	Sout	E	Phezulu	D	6.211	1.018	0.810	29.431
G21D	**Bv1/ EWR Die1**	**Diep**	**D**	**Phakathi**	**D**	**13.716**	**1.911**	0.360	**16.555**
G21D	Bvii4	Swart	D	Phezulu	D	2.325	0.332		29.744
G21D	Biv6	Diep	D	Phezulu	D	9.300	2.033		28.634
G21E	Biv7	Mosselbank	D	Phezulu	D	30.262	2.033	7.400	38.513
G22B	Bviii6	Hout Bay	D	Phezulu	D	17.221	3.905	0.361	24.766
G22D	Bvii7	Keysers	D	Phezulu	D	4.495	0.672	0	71.00
G22F	**Biii6 / EWR Eer 1**	**Eerste (Jonkershoek)**	**C**	**Phezulu**	**C**	**36.585**	**8.582**	**0.156**	**23.046**
G22G	Biv9	Klippies		Phezulu	D	18.225	2.641	0.484	5.297
G22J	**Bvii21/ Lou 1**	**Lourens**	**D**	**Phakathi**	**D**	**57.634**	**8.452**	**0.240**	**15.086**
G22K	Bviii9	Sir Lowry's Pass*	C	Phezulu	C	48.636	11.738	0.960	26.104
G40A	**Bvii22/ EWR 8**	**Steenbras**	**C**	**Phezulu kakhulu**	**B/C**	**34.807**	**4.696**	**0**	**13.49**

[1] NMAR yimvulana yendalo ngonyaka.
[2] Ewonke amanani abhekisa kumsele wendawo yokuphilisana noMsele weeMfuno ezisisiseko zomntu Reserve amount (i-Basic Human Needs Reserve (BHN).
[3] Eli nani limele ubuncikane bexesha elide ngokuxhomekeke kwi-NMAR. Ukuba i- NMAR iyatshintsha, lo mthamo nawo uyatshintsha. changes.
[4] Umele iimfuno ezisisiseko zomntu (i-Basic Human Needs (BHN).

8. IBAKALA LEKWALITI YEMILAMBO

8.1 linqobo zokugweba ngekwaliti yamanzi kwiindawo zokuphilisana

lindawo zoboniselo ngamanzi ngezine/izikhundla ze-EWR	Imilambo	Amabakalana	Isalathisi	linqobo zokugweba zeendawo zokuphilisana
G10A	Berg	Izondlo	I-Phosphate as P (PO4-P)	≤ 0.025milligrams nge-Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 0.70 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 30 milligrams nge- Litre (mg/L) (95th percentile)
		Ugugugugugu lwemisele	Uluhlu lwe-pH	4.5 ≤ pH ≤ 7.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	DO ≥ 8 milligrams nge- litre (mg/L)
		Ii-Pathogens	*Escherichia coli*	≤ 130 izihlandlo/100ml (95th percentile)
G10C	Berg	Izondlo	Phosphate as P (PO4-P)	≤ 0.075milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 1.75 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Ugugugugugu lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne-95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	DO ≥ 6 milligrams nge-itre (mg/L)
		Iityhefu	Ammonia	≤ 0.073 izihlandlo/100ml (95th percentile)
			Altrazine	≤ 0.079 izihlandlo100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)
		ii-Pathogens	*Escherichia coli*	≤ 2500 izihlandlo/100ml (95th percentile)
G10D	Berg	Izondlo	Phosphate as P (PO4-P)	≤ 0.125milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 3.00 milligrams nge-Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Ugugugugugu lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne-95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Iityhefu	Ammonia	≤ 0.073 izihlandlo/100ml (95th percentile)
			Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)

lindawo zoboniselo ngamanzi ngezine/izikhundla ze-EWR	Imilambo	Amabakalana	Isalathisi	linqobo zokugweba zeendawo zokuphilisana
		Ii-Pathogens	*Escherichia coli*	≤ 2500 cfu/100ml (95th percentile)
G10E	Klein Berg	Izondlo	Phosphate as P (PO4-P)	≤ 0.1075milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 1.75 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Uguquguquko lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Iityhefu	Ammonia	≤ 0.073 izihlandlo/100ml (95th percentile)
			Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 2500 cfu/100ml (95th percentile)
G10J	Berg	Izondlo	Phosphate as P (PO4-P)	≤ 0.075milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 1.75 milligrams nge-Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Uguquguquko lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Ii-tyhefu	Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 1065 izihlandlo/100ml (95th percentile)
G10K	Berg	Izondlo	Phosphate as P (PO4-P)	≤ 0.075milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 1.75 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Uguquguquko lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Iityhefu	Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)

lindawo zoboniselo ngamanzi ngezine/izikhundla ze-EWR	Imilambo	Amabakalana	Isalathisi	linqobo zokugweba zeendawo zokuphilisana
		Ii-Pathogens	*Escherichia coli*	≤ 2500 izihlandlo/100ml (95th percentile)
G21D	Diep	Izondlo	Phosphate as P (PO4-P)	≤ 0.075milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 1.75 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 450 milli Siemens/metre (95th percentile)
		Uguquguquko lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Iityhefu	Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 2500 izihlandlo/100ml (95th percentile)
G21D	Diep	Izondlo	Phosphate as P (PO4-P)	≤ 0.125milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 3.0 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 350 milli Siemens/metre (95th percentile)
		Uguquguquko lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Iityhefu	Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 2500 izihlandlo/100ml (95th percentile)
G22B	Hout Bay	Izondlo	Phosphate as P (PO4-P)	≤ 0.125milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 3.0 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Uguquguquko lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 1065 izihlandlo/100ml (95th percentile)
G22D	Keysers	Izondlo	Phosphate as P (PO4-P)	≤ 0.125milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 3.0 milligrams nge- Litre (mg/L) (50th percentile)

Iindawo zoboniselo ngamanzi ngezine/izikhundla ze-EWR	**Imilambo**	**Amabakalana**	**Isalathisi**	**Iinqobo zokugweba zeendawo zokuphilisana**
		Iityuwa	Ukutsala umbane (EC)	≤ 85 milli Siemens/metre (95th percentile)
		Ugugugugukolwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge-litre (mg/L)(5th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 4000 izihlandlo/100ml (95th percentile)
G22F	Jonkershoek	Izondlo	Phosphate as P (PO4-P)	≤ 0.075milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 1.75 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Ugugugugukolwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Iityhefu	Ammonia	≤ 0.073 izihlandlo/100ml (95th percentile)
			Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 2500 izihlandlo/100ml (95th percentile)
G22G	Klippeis	Izondlo	Phosphate as P (PO4-P)	≤ 0.125milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 3.0 milligrams nge-Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Ugugugugukolwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge-litre (mg/L)(5th percentile)
		Iityhefu	Ammonia	≤ 0.073 izihlandlo/100ml (95th percentile)
			Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 4000 izihlandlo/100ml (95th percentile)
G22J	Lourens	Izondlo	Phosphate as P (PO4-P)	≤ 0.075milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 1.75 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)

lindawo zoboniselo ngamanzi ngezine/izikhundla ze-EWR	**Imilambo**	**Amabakalana**	**Isalathisi**	**linqobo zokugweba zeendawo zokuphilisana**
		Uguquguquko lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Iityhefu	Ammonia	≤ 0.073 izihlandlo/100ml (95th percentile)
			Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 2500 izihlandlo/100ml (95th percentile)
G22J	Sir Lowry's Pass	Izondlo	Phosphate as P (PO4-P)	≤ 0.075milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 1.75 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Uguquguquko lwemisele	Uluhlu lwe-pH	6.5 ≤ pH ≤ 8.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Iityhefu	Ammonia	≤ 0.073 izihlandlo/100ml (95th percentile)
			Altrazine	≤ 0.079 izihlandlo/100ml (95th percentile)
			Endusulfan	≤ 0.0013 izihlandlo/100ml (95th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 2500 izihlandlo/100ml (95th percentile)
G40A	Klippeis	Izondlo	Phosphate as P (PO4-P)	≤ 0.025milligrams nge- Litre (mg/L) (50th percentile)
			Iyonke iNitrogen engeyoyendal	≤ 0.70 milligrams nge- Litre (mg/L) (50th percentile)
		Iityuwa	Ukutsala umbane (EC)	≤ 55 milli Siemens/metre (95th percentile)
		Uguquguquko lwemisele	Uluhlu lwe-pH	5.0 ≤ pH ≤ 7.5 (5th ne- 95th percentile)
			Ubushushu bamanzi	2°C umahluko kubushushu bamanzi obuzolisayo
			I-oksijini enyibilikisiweyo	≥ 6 milligrams nge- litre (mg/L)(5th percentile)
		Iityhefu	Iron	≤ 0.1 milligrams nge- litre (mg/L) (95th percentile)
			Manganese	≤ 0.18 milligrams nge- litre (mg/L) (95th percentile)
		Ii-Pathogens	*Escherichia coli*	≤ 1065 izihlandlo/100ml (95th percentile)

9. IBAKALA LEMIFULA

UTafile 9.1: Iimfuno zamanzi kwiindawo zokuphilisana eziyimifula.

Quat	Imiwonyo	PES	EIS	REC
G10M	**Berg**	**D**	**Phezulu**	**C**
G10M	**Langebaan**	**B**	**Phezulu kakhulu**	**A**
G21A	Modder	C	Phakathi	C
G21F	**Rietvlei/ Diep**	**D**	**Phezulu**	**D**
G22B	Hout Bay	E	Ayichazwanga	D
G22A	**Wildevoëlvlei**	**D**	**Phakathi**	**C**
G22A	Bokramspruit	C	Ayichazwanga	C
G22A	Schuster	A	Ayichazwanga	A
G22A	Krom	A	Ayichazwanga	A
G22A	Silvermine	D	Ayichazwanga	D
G22A	Elsies	E	Ayichazwanga	D
G22A	Buffels Wes	F	Ayichazwanga	D
G22K	**Sand/ Zandvlei**	**D**	**Phezulu**	**C**
G22D	**Zeekoei**	**E**	**Ayichazwanga**	**D**
G22H	**Eerste**	**E**	**Phakathi**	**D**
G22J	**Lourens**	**D**	**Ayichazwanga**	**D**
G22K	Sir Lowry's Pass	E	Ayichazwanga	D
G40A	Steenbras	B	Ayichazwanga	B

Nge- Quat = indawo yoboniselo ngamanzi ngezine; PES = Ibakala langoku lendawo yokuphilisana; REC = Ibakala elindululwayo lendawo yokuphilisana.

Qaphela: Imiwonyo yongxamiseko iqatywe ngqindilili-mnyama.
Imiwonyo yongxamiseko iqingqelwe indlela ahamba ngayo amanzi kwaye le ndlela ichaziwe kwizihlomelelo E-K zobalo lweemfuno zamanzi kwiindawo zokuphilisana, ndawonye neenguqu kwimpahla zemimandla yokuphilisana, iinkonzo neNgxelo yeempawu.

UTafile 9.2: Iimfuno zamanzi kwiiindawo zokuphilisana eziyimifula yongxamiseko.

Quat	Imiwonyo	Udidi lomfula	PES	REC	i-MAR yendalo (MCM)	i- MAR yangoku (MCM)
G10M	Berg River Estuary	Ovuleke maxesha onke	D	C	963.76	520.38
G10M	Langebaan Estuary	Ummandla womfula	B	A	4.94	N/A
G21F	Rietvlei/Diep Estuary	Ovuleke okwexeshana	D	D	60.804	57.957
G22K	Zandvlei Estuary	Ovuleke okwexeshana	D	C	31.68	29.59
G22D	Zeekoe Estuary	Ovuleke maxesha onke	E	D	18.36	17.14
G22A	Wildvoelvlei Estuary	Ovuleke okwexeshana	D	C	6.299	9.269
G22H	Eerste Estuary	Ovuleke okwexeshana	E	D	114.81	176.45
G22J	Lourens Estuary	Ovuleke okwexeshana	D	D	70.027	59.221

10. IINQOBO ZEENDAWO ZOKUPHILISANA EZIYIMIFULA

Imida yeenkathazo ezinokuvela (iiTPCs) ichazwa njengamaqondo okugqibela ametekayo, angqamene nezalathisi ze- abiotic okanye i-biotic, apho xa athe afikeleleka (okanye xa izibonelo ziqikelela ukuba loo maqondo aza kufikeleleka) athundeza ukuba kubekho iindlela zolawulo. Ke ngoko, iiTPCs zimele kukhupha iimpawu ezilumkisa kwangethuba xa ikho into ethi zisenokungathotyelwa iinqobo zendawo yokuphilisana (umzekelo, ingabiloqondo elingenakulungiseka). Oku kuthetha ukuthi izalathisi (okanye imisebenzi yohlolo) ezikhethelwe ukuba zibe yinxalenye yenkqubo yohlolo maziquke amabakala e- biotic ne-abiotic akwaziyo ukuzijoja iinguqu kumanzi angena emilanjeni. Ii-TPCs ezingqamene neenqobo ngazinye zeendawo zokuphilisana nazo zibonisiwe phaya **kooTafile 10.1 – 10.8**.

UTafile 10.1: Iinqobo zeendawo zokuphilisana nee- TPCs zomfula i- Berg.

Ibakala	Inqobo yendawo yokuphilisana	Umda weenkathazo ezinokuvela
Iintaka	• Gcina ubuncikane obuyi- 90% bokuchuma kweendidi zenqanaba lokuqala, ubuninzi nokwahluka kwemigqeku yeentaka .	• Inani leendidi zeentaka-manzi ezi- non-passerine ezibhaliswe ngokwezihlandlo lincipha ngaphezu kwe- 15% ngokwamathuba ophicotho amahlanu ngonyaka • Ewonke amanani awo namaphi na amaqela achaziweyo anciphisa inxalenye iye kwi-avareji yenqanaba lokuqala ngaphezu kuka- 15% kwisithuba seminyaka emihlanu, emva kokulungisa iinguqu zabemi beengingqi/bamazwe aphesheya • Amanani azo naziphi na iindidi ancipha aye kutsho kwi- average yenqanaba lokuqala ngaphezu kuka- 15% kwisithuba seminyaka emihlanu, emva kokulungisa iinguqu zabemi beengingqi/bamazwe aphesheya.
Iintlanzi	• Gcina imigqeku epheleleyo yeentlanzi ezingabahlali kulo mwonyo (iindidi ezisi-7) nezo zingqamene nomfula (iindidi ezi-5 zikhoyo emwonyweni nezibukhulu baneleyo obuya kuqinisekisa ukuba ziyaqhuba zisanda kulo mmandla. • Qinisekisa ukuba iindidi zangaphandle zamanzi ahlaziyekileyo azandeli kumanqanaba apho ziya kuzibukula ezo zomthonyama ngokuthi zizitye okanye zikhuphisane nazo.	• Uphononongo oluneenkcukacha lweentlanzi emwonyweni (40 + izikhundla ezithathelwe iisampulo kuwo uwonke ummandla womfula) ehlotyeni luyasilela ukuqinisekisa ubukho bemigqeku edlamkileyo yazo zoyi- 15 iindidi. • Ubuninzi beendidi zangaphandle zamanzi ahlaziyekileyo banda ngaphezu kwe- 50% kumanqanaba angoku.
	• Gcina iintlanzi ezindala nezincinci ezimenyiweyo zikumanqanaba angoku. Oku kudinga ubukho ngokwaneleyo bamanzi ahlaziyekileyo (ngokobshushu, ngokobukho beetyuwa, nangokwenza kube lula ukujoja) angena elwandle. Oku kuthetha ukuba malibekho inani elivisayo leentlanzi eziminyaka buyi- 0 -1-ubudala, kungabikho mahlelo aminyaka ishiyelelweyo.	• Lukho ke nodidi olungakhange lubonakale kangangonyaka wonke kudidi ngalunye.

Ibakala	Inqobo yendawo yokuphilisana	Umda weenkathazo ezinokuvela
Ezingenamathambo	• Gcina ukuchuma, ukuthi saa nokuxubana kwangoku kweendidi ezingenamathambo (ubuninzi beendidi eziphantsi, nokuchuma kwazo) kuMda A ukuya esiphakathinni soMda C. Udidi oluthile okanye ezo ndidi zimbini ziya kusoloko zikho ngobuninzi bazo xa uzithelekisa nezinye (umzekelo, i-*Pseudodiaptomushessei, Grandidierella*sp.) kule mida (A - C).	• Ukuchuma kweendidi kwanda ngaphezu kwe-25% kuwo naphi na ke amahlelo ezingenamathambo (zooplankton, I-Subtidal zoobenthos okanye i-Intertidal benthos) ikwimida A - C xa uthelekisa nesimo sangoku.
Ezingenamathambo	• Iindidi ezalathisayo ezifana ne- Capitella capitata, mazingabikho ngaphaya kwenani leendidi ze- benthic kuso nasiphi na isikhundla.	• I-Capitella capitata ibetha ngaphaya ko- 50% ubuninzi ngeendidi ze- benthic kuso nasiphi na isikhundla.
	• *Izimbo zosasazo lwe-Callianassakraussi* ne-*Upogebiaafricana* zihlala zifana nesimo sangoku .	• Imimandla yosasazo yandela kumantla onxweme okanye kumazantsi onxweme ngaphezu kwe- 4-5 km.
	• Gcina usasazo lwangoku (2003-2005) nobuninzi beendidi ngeendidi zezityalo neendawo zokuphila emifuleni (intertidal mudflats with *Zostera capensis* 206 ha, intertidal salt marsh 499 ha, open pan 1159 ha, halophytic floodplain 1521 ha, xeric floodplain 919.1 ha, iingcongolo nezityalo ezikhula emgxobhozweni 586.6 ha nesitya sengcongolo 292.5 ha).	• Ngaphezu kwe- 10% yenguqu kulo mmandla igqunywe yimigqeku eyahlukeneyo yezityalo.
Macrophytes	• Thintela ukwanda kwemandlalo ye-macroalgae kwimimandla yokudibana kwamaza.	• Ukwegquma kwepesenteji makungabethi phaya ko- 100% kwii-quadrats ezingaphezu ko- 50% .
	• Nciphisa ummandla owogqunywe lukhula lwasemanzini (i-hyacinth) (*Eicchornia crassipes*) kwimimandla engasemantla ngo- 50% xa uthelekisa nesimo sangoku (2003-2005).	• Imimandla engasentla yomfula enomjelo wamanzi igqunywe kangange-50% lukhula lwasemanzini i- hyacinth.
	• Thintela ukwanda ngokobukhulu bemimandla eyomileyo yesitya esivulekileyo sengcongolo (1159 ha in 2003-2005)	• Kukho ukwanda kwazo nge- 10 % kulo mmandla.
	• Thintela ukuncipha ngokobukhulu bemimandla eyomileyo yesitya sengcongolo (u-293 ha ngo-2003-2005). *Juncus maritimus, neentyatyambo zasemanzini (ii-Aponogetondistachyos*are zikho.	• Kukho ukuncipha kwazo nge- 10 % kulo mmandla. I-*Juncus maritimus,* iintyatyambo zasemanzini *nee-Aponogetondistachyos azikho*.
Macrophytes	• Lawula ukwanda kwezityalo ezitshaalalisayo zangaphandle kumda wonxweme (e.g. *Acacia mearnsii* ne-*Eucalyptus camaldulensis*)	• Kukho ukwanda ngaphezu ko- 10 % kummandla owogqunywe zizityalo ezitshabalalisayo.
	• Gcina iingcongolo nezityalo zomgxobhozo kwisimo esihle phaya ngaselunxwemeni lomfula ngokuthi uqinisekise ukuba iityuwa ezisemanzini azikho ngaphezu kuka- 20 ppt ngeenyanga ezintathu kumgama oyi-20 km ukusuka kwinyanga yasehlotyeni	• Kukho ukubuna kweengcongolo nezinye izityalo zomgxobhozo kumgama we- 20 km naphaya kumantla onxweme ukusuka emlonyeni womwonyo.
	• Thintela ukwanda kummandla ongenanto kwiindawo zokuphilisana ezikwithafa leempuphuma le- halophytic ne-xeric ngokuthi ugcine izimbo zangoku zeempuphuma	• Kukho ukwanda kwazo ngaphezu kwe - 20% kumhlaba ongenanto kwiindawo zokuphila ezikwithafa leempuphuma le-halophytic ne-xeric

Ibakala	Inqobo yendawo yokuphilisana	Umda weenkathazo ezinokuvela
	• Gcina i- phytoplankton biomass isezantsi ikunye ne- REI eninane (i.e. 10 pp ukuya kumda womlambo +1 ppt)	• I-Phytoplankton biomass ibetha ngaphaya kwe- 15 µg/l chlorophyll ehlotyeni, nange- 10 ug/l chlorophyll ebusika • I- algae eluhlaza neluhlaza yaka ibetha ngaphaya ko- 10% wezihlandlo zendlwana ye- phytoplankton
Microalgae	• Gcina ukwahluka kweqela le- microalgal ngale ndlela limetwe ngayo phantsi kwesimo sangoku (2004)	• Ii-Flagellates ziyayeka ukuba liqela elixhaphakileyo kwaye zona ii- diatoms ziyayeka ukwahluka kangako (<10 taxa ngesikhundla ngasinye)
Microalgae	• Gcina i- intertidal ne-subtidal microphytobenthic biomass ngale ndlela limetwe ngayo phantsi kwesimo sangoku (2004).	• I-Benthic microphytobenthic biomass ibetha ngaphaya ko- 40 mg/m2 chlorophyll
	• Gcina uxhaphako lwe – dinoflagellates lusezantsi	• Ukuxhaphaka kwe- dinoflagellates kubetha ngaphaya ko- 5% yazo zizonke izihlandlo ze- phytoplankton
Ikwaliti yamanzi	Ukunyubeleza kweetyuwa makungabangeli ukwanda lwee- TPCs ngeentlanzi, ezingenamathambo, ii- macrophytes nee-microalgae (yiya ngasentla)	• Ubukho beetyuwa emanzini bungaphezu 20 ppt ithuba elide nakwiinyanga ezi- 3 months kumgama oyi- 20 km ukuya kumphezulu wonxweme ukususka emlonyeni (umgxobhozo weetyuwa obumuncwana, iingcongolo nezinye izityalo zomgxobhozo, ndawonye nezingenamathambo.) – zihlolwa ngendlela eqhubayo njenge- 25 ppt emetwe kumgama oyi- 11 km Kliphoek (G1H024) • Ukuba netyuwa kwamanzi angaphantsi komhlaba kuyanda ukuya ku- 45 ppt, ze kube nzulu ukuya kwitafile yamanzi kangange -1 m. (umgxobhozo weetyuwa omi kwithafa leempuphuma le- Xeric). • Zizonke izinto eziqinileyo ezinyibilikisiweyo (ngokomyinge wobukho beetyuwa') zamanzi angena emlanjeni zibetha ngaphaya kwe- 3500 mg/l (phytoplankton). • Ubukho beetyuwa emanzini omla bubetha ngaphaya ko- 35 ppt (thintela ubukho beetyuwa obubaxekileyo) (phytoplankton) • Iitywa ezisemanzini ezingaphezulu kuka- 0 ppt zikho ngaphezu kwe- 40 km ukuya emantla omlomo (iintlanzi)
	• Uguquguquko lwemisele (ngokwe- pH, i-oksijini enyibilikisiweyo, nokucaca) malungabethi ngaphaya kwee- TPCs ze- biota (yiya ngasentla)	• Amanzi angena emlanjeni: 7 < pH > 8.5 DO <4 mg/l • Estuary: Ubunzulu be-disc yeSecchi kwimida A - B <1.0 m ngethuba lamanzi amancinci (< 1m^3s^{-1}) 7 < pH > 8.5 DO <4 mg/l
	• Ubukho bezondlo ezingezizo ezendalo mabungabangeli zibethe ngaphaya ii- TPCs ngee- macrophytes nee- microalgae (yiya ngasentla)	• Amanzi angena emlanjeni (< 1 m^3s^{-1} – ehlotyeni): DIN >80 µg/l; DRP > 20 µg/l • Amanzi angena emlanjeni (>5 m^3**s**$^{-1}$ – ebusika): DIN >800 µg/l; DRP >60 µg/l • Umfula (amanzi amancinci< 1 m^3**s**$^{-1}$, ehlotyeni): DIN >300 µg/l; DRP >100 µg/l kwimida A & B DIN >80 µg/l ; DRP >30 µg/l kwimida C &D • Umfula (amanzi amaninzi > 5 m^3s^{-1}, ebusika): DIN >800 µg/l; DRP >60 µg/l kwimida A-D

Ibakala	Inqobo yendawo yokuphilisana	Umda weenkathazo ezinokuvela
	• Ubukho bezinto eziyityhefu mabungabangeli ii- TPCs ze- biota ukuba zibethe ngaphaya (yiya kumabakala e-biotic apha ngasentla)	• Trace metals: Ubukho bazo emfuleni bubetha ngaphaya kwamaxabiso angqaliweyo ngokwemigangatho ye- *SA Water Quality Guidelines for coastal marine waters* (DWAF 1995). Ii-TPCs zee-trace metals kwiintlenge zisadinga ukuphuhliswa. • Ii-Pesticides/herbicides: uphando malunga nenqanaba lokuqala malwenziwe phambi kokuba kusekwe ii- ii- TPCs.
Hydrodynamics	• Gcina isimo sokuhamba kwamanzi khonukuze indawo yokuhlala ifanele ukuphila kweentaka, iintlazi, ii-, macrophytes, ii-microalgae nekwaliti yamanzi	• Izimbo zosasazo lwamanzi angena emlanjeni zahluka ngaphezu ko- 10% kwezo zoMboniso 1 (i.e. zanamhlanje zingena- BRD) • Amanzi angena emlanjeni ancipha abe ngaphantsi ko- 0.5 m3s-1 nangaliphi na ixesha. • Amanzi angena emlanjeni angaphantsi ko- 1 m3s-1 ayaqhuba enjalo kangangeenyanga ezi-4. • Iinguqu ngokobukhulu bamaza zingange- 2 km, 11 km, ~40 km ne- 51 km engaphezu ko- 10% ukusuka kwisimo sangoku (2004)
Uguquguquko lweentlenge nokwakheka kwazo	• Isimo seempuphuma masigcine izimbo zosasazo lweentlenge neendawo zokuphila zasemanzini (phakathi emlanjeni, kwindawo yokuphila ebonakalayo) khonukuze zingabethi ngaphaya kwee- TPCs ze- biota (yiya ngasentla)	• Izimbo zosasazo lwamanzi angena emlanjeni zexesha elide (amabakala eempuphuma) zahluka ngaphezu ko- 10% (ngokungqamene nobukhulu, ixesha nokwahluka) kwezo zesimo sangoku (2004) • Ubukho beentlenge ezirhoxisiweyo kumanzi angena emlanjeni buphambuka ngaphezu ko- 10% wobudlelwane bokhutsho lomthwalo weentlenge obuza kuqingqwa njengenxalenye yezifundo zenqanaba lokuqala (isimo sangoku 2004), i.e. ukusuka kwezesimo sangoku ngaphandle kwe- Berg.
	• Utshintsho ngokwezimbo zosasazo lobukhulu bokhozo lweentlenge malungabangeli ii- TPCs kwi-benthic invertebrates zibethe ngaphaya (yiya ngasentla).	• I-diameter yomandlalo osembindini weentlenge ibetha ngaphaya okanye nganeno ngaphezu ko- 10%, uluhlu (lokwegqunywa) luza kuqingqwa njengenxalenye yezifundo zenqanaba lokuqala (isimo sangoku). • Usasazo lwentlabathi/ nodaka kuyo yonke imimandla lutshintshatshintsha ngaphezu ko- 10% ukusuka kuluhlu lwesimo sangoku (lokwegqunywa) (2004) • Iinguqu kwi- bathymetry yomjelo (apho kukho unxweme lwemijelo (ukuthi imizobo-zobo ye- ML) nomgca ongezantsi owakhe wanzulu) kuyo yonke imida zitshintshatshintsha ngaphezu ko- 10% ukusuka kwisimo sangoku (2004) sokwegqunywa.

UTafile 10.2: Iinqobo zeendawo zokuphilisana nee- TPC zomfula i- Langebaan.

Ibakala	Inqobo yendawo yokuphilisana	Umda weengxaki ezinokuvela
Microalgae	• Gcina i-phytoplankton biomass isezantsi (chlorophyll- a < 20 µg/ℓ) ndawonye nokwahluka kwamaqela e-phytoplankton.	• I-phytoplankton biomass ephezulu emileyo (chlorophyll- a >20 µg/ℓ) ngenxa yegalelo lezondlo nenguqu ngokubuninzi bamaqela e-phytoplankton.

Macrophytes	• Gcina usasazo nengubo yommandla weendawo zokuphila ii- macrophytes, ngakumbi umgxobhozo weetyuwa nengca yolwandle. Gcina indawo yokuphila enkulu neyondliwa ngamanzi angaphantsi komhlaba.	• Ngaphezu ko-10 % wenguqu kulo mmandla wogqunywe ziindawo zokuphila ezahlukeneyo ze- macrophyte ngenxa yeziphazamiso, ukwenyuka kwezondlo nobukho bodaka. Kodwa ke, ingca yolwandle i- *Zostera capensis* iyakwazi ukwahluka ngendalo. Iingcongolo nezinye izityalo zomgxobhozo ezixhomekeke kumanzi angaphantsi komhlaba ziyabuna.
Ezingenamathambo	• Ngokuphathelele kwezingenamathambo, Umfula i- Langebaan ukwibakala A okwangoku. Imigqeku yezingenamathambo isempilweni, apho iindidi zichumile, zininzi futhi ukwakheka komfula wazo kukumanqanaba aphezulu.	• Ukulahleka kwenye kweziya ndidi zintathu zichongwe emfuleni (*Afrochiltonia capensis*, *Exosphaeromahylecoetes, Tomichiaventricosa*;Day 1959) zixhomekeke kumanzi ahlaziyekileyo okanye amuncwana. Ukuchuma okanye ubuninzi beendidi kuguquka ngaphezu kwe- 10%.
Iintaka	• Umfula mawube nayo imigqeku ye-avifaunal equka abameli bamaqela okuqala. Amanani avisayo amangabangaba makabekho- imigqeku yoophezukomkhono mayibesempilweni, ze abo bangafudukiyo bahlale besempilweni. Lo mfula mawunike inkxaso kwizigidi ngezigidi zeentaka ehlotyeni namawaka ngamawaka ebusika.	
Iintlanzi	• Umgqeku weentlanzi mawuquke ezo ndidi zeentlanzi zixhatshazwayo zisempilweni, ngakumbi ii- harders, ii-white stumpnose, ii-blacktail, ii-elf nee-smoothhound shark juveniles – zonke ezi ndidi mazibekho kwimimandla yeminatha yobanjiso nophononongo lwazo (ubuncikane i- 10 hauls kwizikhundla ezi-3 ezahlukileyo) kwimimandla ekufuphi nonxweme. Ezo zikhulileyo kwezi ndidi mazihlale zingawona mabakala makhulu kwimimandla yobanjiso nophononongo apha emfuleni, futhi ke imiyinge yobanjiso lwazo mayizinze okanye yande.	• Iindidi zeentlanzi ezixhatshazwayo ziyanqaba (i-mullet average ye <100/haul, i-white stumpnose <20 haul, ezinye iindidi ezikhoyo kwezinye ii- hauls) okanye ziduke kwindawo eziyiminatha yobhajiso nophononongo lwazo

Table 10.3: Iinqobo zeendawo zokuphilisana nee- TPC zomfula i- Diep.

Ibakala	Inqobo yendawo yokuphilisana	Umda wenkathazo enokuvela
Ufundo ngamanzi	• Igalelo ngamanzi ahlaziyekileyo asuka kwindawo yoboniselo ngamanzi ancitshisiwe aba linani eliqikelelekayo elingu -61% lobhekiso, ikakhulu ngenxa yosetyenziso lwamanzi kwimisebenzi yonkcenkceshelo. Amanzi asuka kumlambo i- Salt River, nabefudula esabelana ngomlomo omnye nomlambo i-Diep River ngokwembali, atsalelwe kumlomo ongomnye. Amanzi avisayo ongezwa ngamanzi amdaka asele esebenzile asuka kwi-Potsdam WWTW, nasebenza njengesixhobo sokugcina umlomo usoloko uvulekile okwangoku. Akukho okunye ukuncipha kwamanzi ahlaziyekileyo asuka kwindawo yoboniselo ngamanzi njengegalelo ekufuneka kuqwalaselwe ukususka kumanqanaba angoku. Akukho okunye ukwanda kwamanzi amdaka asele esebenzile	• Naluphi na ke unciphiso olongezelelweyo lwegalelo lamanzi ahlaziyekileyo ukususka kumanqanaba anamhlanje. Nakuphi na ke ukwanda okongezelelweyo kumazi amdaka nokuncipha kwekwaliti yamanzi amdaka akhutshelwa umsele.

	ekufuneka kuqwalaselwe, ngaphandle kokuba ikwaliti yala manzi iphuculwe ngokukodwa (ukufikelela kwimigangatho ekhethekileyo kaDWS okanye ke ibe ngcono).	
Microalgae	• Gcina i- phytoplankton biomass iphantsi (chlorophyll- a <20 µg/ℓ) nokwahluka kwamaqela e- phytoplankton. • Beka udubulo lwe- algal olunobungozi phantsi kolawulo, umzekelo ii*Microcystis* kwii-Flamingovlei ngokuthi unciphise igalelo lezondlo	I-phytoplankton biomass ephezulu ngendlela emileyo (chlorophyll- a >20 µg/ℓ) kuwo uwonke umfula, nakwindlela yobuchule i-vlei
Ezingenamathambo	• IBakala D. Umfula mawube nomgqeku ovisayo we-*Callichiruskraussi*in Milnerton lagoon (30/m^2). Isi- 5 ubuncikane bezinye iindidi zemiwonyo mazibekho kumfula i- Milnerton. Zintathu ubuncikane indidi ezingenamathambo ezixhomekeke elwandle ezikhoyo kufuphi nomlomo.	• Ukho umgqeku wee-*Callichiruskraussi*in othe rhwelele emfuleni waseMilnerton (<10/m^2). Inani leendidi zomfula liyehla liye kutsho ngaphantsi ko- 5 kumfula iMilnerton nengingqi yoMjelo. Iindidi ezingaphantsi ko-3 ezingemamathambo zikho phaya kufuphi.
Macrophytes	• Gcina umahluko weendawo zokuphila ngakumbi imimandla eseleyo yemigxobozo yeetyuwa ngobukho beetyuwa emanzini nangoguquguquko lwamanqanaba amanzi. • Beka ukukhula kokhula lwasemanzini olutshabalalisayo phantsi kolawulo ngokuthi uphucule ikwaliti yamanzi (igalelo lezondlo elisuka kwimibhobho yamanzi kanogumbe ndawonye negalelo lee- WWTW). • Beka ukwanda kwezityalo zangaphandle ezitshabalalisayo phantsi kolawulo kwiindawo zokuphila eziselunxwemeni nakwithafa leempuphuma. Alusayi kubakho olunye uphazamiseko oludalwa luphuhliso nayilahleko yendawo yokuphila engumfula.	• Inguqu engaphezu ko- 10% kummandla owogqinywe ziindawo zokuphila ezihlukeneyo ze-macrophyte. Zikho iindidi ezikwaziyo ukuzinyamezela iityuwa, ezifana ne- *Sarcocornia* kunye ne*Limonium* • Izityalo ezitshabalalisayo zoomandla othile nezasemanzini zogqume ngaphezu ko- 10% zawo uwonke ummandla womwonyo. Kukho ukwanda okuthile kwemimandla engenanto nephazamisekileyo.
Iintlanzi	• Umgqeku weentlanzi mawuquke (ubuncikane) iindidi ezizalayo kulo mfula (Ibakala I) neendidi ezi-5 ezixhomekeke emfuleni okanye iindidi zolwandle ezibandakanyekayo (Ibakala II). Abahlali bomfula, iindidi zaselwandle ezixhomekeke emfuleni nezibhadubhadu zolwandle (Ihlelo III) mazibekho zonke kwimigqeku yeentlanzi ekhoyo ndawonye nobuninzi obubandakanyekayo babahlali bomfula, futhi ke iindidi zaselwandle ezinxulumaniswa nomfula zingabonisa inguqu kodwa loo nguqu mayingabi ngaphantsi ko- 10% nakweliphi na ibakala.	• Isiqephu esithile sabahlali bomwonyo okanye seendidi zolwandle ezixhomekeke kumwonyo sehle ngo- 10 % ngokobalo. Kukho ukuncipha nokwe- average yokwahluka kweendidi zeentlanzi zomthonyama ukuya kutsho kwiindidi ezi- < 10.

UTafile 10.4: linqobo zeendawo zokuphilisana nee- TPC kunxweme i- Zandvlei.

Ibakala	Inqobo yendawo yokuphilisana	Umda wenkathazo enokuvela
Ezingenamathambo	• U-A okanye u- BAS = D, ibakala langoku. Umfula mawugcine umgqeku wee- *Callichiruskraussi*in ukwimimandla esemazantsi, ze agcine unxweme olukhulu lukwimeko yangoku. Ukongeza apho, inani leendidi zezingenamathambo ezinxulumene nentlenge ethambileyo malingehli ngaphantsi kweendidi ezi-10. Ubuncikane beendidi ezintathu zezingenamathambo zolwandle zikho phaya kufuphi nomlomo.	• Ikho ilahleko yemigqeku yee- *Callichiruskraussi* ukusuka kwimimandla esemazantsi ukuya kunxweme olukhulu. • Zingaphantsi ko-8 iindidi zezingenamathambo zomfula ezifunyenwe zisebenzisa iintlenge ezithambileyo kunxweme olukhulu. Zingaphantsi iindidi ezixhomekeke elwandle ezikhoyp phaya emlonyeni
Iintlanzi	• Umgqeku weentlanzi mawuquke ubuncikane beendidi ezizalayo zomfula ezi- 5(Ibakala I) neendidi ezili-10 zolwandle ezixhomekeke emfuleni okanye ezinxulumene nolwandle (Ibakala II) Abahlali bomfula, iindidi zolwandle ezixhomekeke emfuleni nezibhadubhadu zolwandle (Ibakala III) mazibekho zizonke kwimigqeku yeentlanzi, futhi ke ubuninzi babahlali bomfula nobeendidi zolwandle ezixhomekeke emfuleni bungaguquguquka kodwa bungaweli ngaphantsi ko- 10% ngalo naliphi na ibakala.	• Isiqephu esithile sabahlali bomfula okanye seendidi zolwandle ezixhomekeke emfuleni sehle ngo- 10 % ngokobalo. Kukho ukuncipha ngokwe- average yokwahluka kweendidi zeentlanzi zomthonyama ukuya kutsho kwiindidi ezi- < 15. • Kukho ukwanda okuthile ngokwesiqephu kwiindindi zamanzi ahlaziyekileyo emfuleni (ii-catfish ezimazinyo abukhali ezisuka ngaphandle ziyanda ngokobuninzi).
Iintaka	• Umfula mawuqulathe umgqeku we- avifaunal oquka abameli bawo ewonke amaqela okuqala. Umgqeku osempilweni wezibhadubhadu ezifudukayo, umgqeku osempilweni wezibhadubhadu ezingabahlali ezizalayo, umgqeku osempilweni nowahlukayo weentaka ezibhadulayo neentaka-manzi mazibekho. Umfula mawuxhase izigidi ngezigidi zeentaka ehlotyeni nasebusika.	• Amanani eendidi zeentaka ayahla aye kutsho ngaphantsi ko -20 k ngeenyanga ezintathu ezilandelelanayo.
Microalgae	• Nciphisa udubulo lwee- phytoplankton nobukho bee-cyanobacteria eziyityhefu ngolawulo olugqibeleleyo lwemicimbi yekwaliti yamanzi. Gcina ukwahluka kwamaqela e- phytoplankton.	• I-Phytoplankton biomass / i-water column chlorophyll- ingaphezu ko- 100 µg/ℓ ngange- 50% yonyaka. • Ubukho bee-Microcystin bungaphezulu be- 1 µg/ℓ ngange-r 50% yonyaka
Macrophytes	• Makungaphinde kubekho ilahleko yotyani lonxweme edalwa luphuhliso. • Thintela ukunabela kweengcongolo, nezinye izityalo zomgxobhozo kumjelo omkhulu • Beka ukukhula kwezityalo ezishabalalisayo zasemanzini phantsi kolawulo ngokuthi uphucule ikwaliti yamanzi. • Thintela ukunabela kwezityalo ezitshabalalisayo zommandla othile kwiindawo zokuphila eziselunxwemeni nakwithafa leempuphuma.	• Kukho imimandla engenatyani phaya ngaselunxwemeni. • Ii-macrophytes ezivelayo zandela kummandla wamanzi ovulekileyo ngenxa yokudibeka komfula nokuchuma kwezondlo ezitshabalalisayo. • Izityalo zasemanzini ezitshabalalisayo zogqume i- > 10% yommandla wamanzi avulekileyo, ze zona izityalo zommandla ezitshabalalisayo zogqume i-> 20%.

UTafile 10.5: Iinqobo zeendawo zokuphilisana nee- TPC kumfula i- Zeekoe.

Ibakala	Inqobo yendawo yokuphilisana	Umda wenkathazo enokuvela
Ezingenamathambo	• A okanye BAS = E, ibakala langoku. Umfula mawube nomgqeku we-*Callichiruskraussi*at ubuncikane emlonyeni, okanye ukuba olu didi alukho makubekho olunye udidi olukhoyo kwimimandla esemazantsi yomfula.	• Azikho ii-*Callichiruskraussi*, okanye ke zingaphantsi ko-2 iindidi zomfula. Azikho iindidi zolwandle ezisemlonyeni.
Iintlanzi	• Nciphisa amanzi amdaka abaleka nje ukuze kuvuseleleke imigqeku yeentlanzi kwijelo lomfula (ukusuka kudonga olunqamlezileyo i-Zeekoevlei ukuya emlonyeni) eliquka iindidi ezi-3 ezizalayo zomfula (Ibakala I) neendidi ezi-3 ezixhomekeke emfuleni okanye iindidi ezinxulumene nolwandle (Ibakala II). Abahlali bomfula, iindidi zolwandle ezixhomekeke emfuleni nezibhadubhadu zolwandle (Ibakala III) mazibekho zonke kumjelo womfula. Ubuninzi obubalaseleyo babahlali bomfula neendidi zolwandle ezinxulumene nomfula ezikumjelo womfula bungaguquguquka kodwa hayi ngaphantsi ko- 5% ngokobalo ngalo naliphi na ibakala. Susa izithinteli ngeekhemikhali (amanzi amtyuba, idreyini ecandekileyo) wandule ususe izithinteli ezibangelwa ngabantu abadlulayo, ufuduse iintlanzi ziye e- Zeekoevlei uvumele ukumenywa kwalo nokuba lunye udidi lwe- mullet ngayo yonke iminyaka emi- 3-5.	• Abahlali bomfula neendidi zolwandle ezixhomekeke emfuleni azikho kumazantsi omfula. I-Average yokwahluka kweendidi zeentlanzi zomthonyama kumjelo 5, nangaphantsi ko- 3 e-Zeekoevlei (okwangoku i-1 ngodidi ngalunye).
Iintaka	• Umfula mawuqulathe umgqeku wee- avifaunal oquka abameli bawo onke amaqela okuqala. Umgqeku osempilweni wezibhadubhadu ezifudukayo, iintaka-manzi nomgqeku ozalayo osempilweni wezibhadubhadu zokuhlala mazibekho. Umfula ne- vleis mazixhase malunga nezigidi ngezigidi zeentaka ehlotyeni namawakawaka ebusika	• Amanani eendidi zentaka ehlela ngaphantsi ko-25 kangangeenyanga ezintathu ezilandelelanayo.

UTafile 10.6: Iinqobo zeendawo zokuphilisana nee**-** TPCs kumfula i- Wildevoelvlei

Ibakala	Inqobo yendawo ykuphilisana	Umda wenkathazo enokuvela
Microalgae	• Ikho inkqubela ebonakala kwii-hypereutrophic zangoku, apho ii- cyanobacteria zixhaphakile, z eke ngoku ziwelele elwandle.	• I-Phytoplankton biomass / water column chlorophyll- ingaphezulu ko- 100 µg/ℓ kangange- 50% yonyaka apha kwi- vleis. Ubukho be-Microcystin bungaphaya ko- 1 µg/ℓ for 50% kangange- 50% yonyaka apha kwi- vleis.
Macrophytes	• Gcina iindawo zokuphilisana zee-macrophyte nokuchuma kweendidi. • Gcina utyani olungenelela kwii- vleis njengoko oku kubalulekile ekulungiseni unxweme nasekusebenziseni izondlo. • Phucula uqhagamshelwano phakathi kolwandle, umjelo ne-vlei. • Beka phantsi kolawulo ukunaba kweendidi zasemanzini ezidadayo nezitshabalalisayo zee-macrophyte ezikhoyo apha kwei-vleis, umzekelo i-fern yamanzi.	• Ikho ilahleko yeendidi ze-macrophyte ezikwaziyo ukunyamezela iityuwa kwimimandla esemazantsi (e.g. ii-succulents, ingca efana ne-Sarcocornia ne-Sporobolus). • Ngaphezu kwe- 10 % yenguqu ekulo mmandla yogqunywe lutyani lonxweme emazantsi nasemantla e-vlei. • Umjelo wotyani ukhuliswe ngendlela ebaxekileyo, Akukho manzi abonakalayo kumjelo ophakathi kwemimandla esemazantsi komfula ne-vlei esemazantsi. • Izityalo zasemanzini ezitshabalalisayo zigqume ngaphaya ko- 10% wawo uwonke ummandla wamanzi.

Ibakala	Inqobo yendawo yokuphilisana	Umda wenkathazo enokuvela
Ezingenamathambo	• Zisuse kwibakala D uzise kwibakala C. Umfula mawubenomgqeku ovisayo we- Callichiruskraussi kumfula wamanzi angasemva 10/m^2). Ukongeza apho, umgqeku wezingenamathambo mawuquke ezinye iindidi zomfula embhobheni. Ubuncikane bomgqeku weendidi zezingenamathambo maziquke ezinye iindidi ezimbini zomfula embhobheni Ubuncikane beendidi ezintathu zezingenamathambo zikho phaya emlonyeni .	• Ikho ilahleko yemigqeku ye- Callichiruskraussi ukususka kwingingqi yomlomo (imigqeku yangoku zinokushinyana okusezantsi). Inani leendidi zomfula lehle laya kutsho ngaphantsi ko- 2 embhobheni wamanzi (imeko yangoku eqikelelekayo). Zingaphantsi kwesithathu iindindi ezixhomekeke elwandle kumfula wamanzi angasemva.
Iintlanzi	• Gcina umgqeku weentlanzi oquka iindidi ezimbini ze- mullet ubuncikane, Uguquguquko olubalaseleyo nolulindelekileyo kweli xesha lomnyaka luquka iindidi ze- mullet, kodwa ii- mullet mazihlale zininzi kuneendidi zamanzi ahlaziyekileyo ezitshabalalisayo ezibuyisela umva i- vleis.	• Iindidi zeMullet azikho kwi- vleis. Imigqeku yeentlanzi yonganyelwe ziindidi zamanzi ahlaziyekileyo ezitshabalalisayo, okanye ke azikho iintlanzi emseleni .

UTafile10.7: Iinqobo zeendawo zokuphilisana nee- TPCs kumfula i- Eerste.

Ibakala	Inqobo yendawo yokuphilisana	Umda wenkathazo enokuvela
Microalgae	• Gcina i-phytoplankton biomass isezantsi (chlorophyll- a < 20 µg/ℓ) nokwahluka kwamaqela e- phytoplankton .	• Kukho udubulo oluxhaphakileyo nezintlwa kulo mfula. I- phytoplankton biomass isoloko iphezulu (chlorophyll- a >20 µg/ℓ), ngenxa yegalelo eliphezulu lezondlo ezitshabalalisayo ezisuka kwindawo yoboniselo nakwii- WWTW. Kukwakho nogcino lwamanzi olwandayo.
Macrophytes	• Thintela ukunabela kweengcongolo nezinye izityalo zomgxobhozo emjelweni omkhulu. • Gcina imfezeko yomda wonxweme. Maintain. • Thintela ukunabela kwezityalo ezitshabalalisayo kwiindawo zokuphilisana eziselunxwemeni nakwithafa leempuphuma.	• Ngaphezu kwe- 20 % yommandla igqunywe zezi- macrophytes. • Uphuhliso olwenziweyo luphazamise umda wonxweme ngaphezu ko- 50%. • Izityalo ezitshabalalisayo (e.g ii-*Acacia cyclops* nee-*Myoporum tenuifolium*) zigqume ngaphezu ko- 20% weendawo zokuphilisana eziselunxwemeni nakwithafa leempuphuma.
Ezingenamathambo	• Zisuse kwibakala E uzise kwibakala D. Umfula mawube nomgqeku ovisayo wee- *Callichiruskraussi* emlonyeni/ kumazantsi oomandla (ubuncikane i-10/m^2). Ukongeza apho, umgqeku wezingenamathambo mawuquke iindidi ezi- 3 zezinye iindidi zomfula. Makube nokuba lunye- 1 udidii lwezingenamathambo kufuphi nomlomo.	• *Imigqeku yee-Callichiruskraussi iyanyamalala kwingingqi yomlomo* (imeko yangoku). Amanani eendidi zomfula ehlela ngaphantsi ko- 3 (imeko yangoku eqikelelekayo estimated). Ngaphantsi kwesinye seendidi ezixhomekeke elwandle sikho.
Iintlanzi	• Nciphisa ukuhamba kwamanzi amdaka ukuze kuvuseleleke umgqeku weentlanzi oquka ubuncikane beendidi ezi- 3 ezizalayo nezixhomekeke elunxwemeni (Ibakala I) neendidi ezi- 4 ezixhomekeke emfuleni okanye iindidi ezibandakanyekayo zolwandle (Ibakala II). Abahlali bomfula, iindidi zolwandle ezixhomekeke emfuleni nezibhadubhadu zolwandle (Ibakala III) zonke ezi ndidi mazibekho kwimigqeku yeentlanzi, kwaye ubuninzi obubandakanyekayo kubahlali bomfula neendidi zolwandle ezingqamene	• Isiqephu sabahlali bomfula okanye seendidi zolwandle ezixhomekeke kulo mfula sehle saya ngaphanysi - 10 % ngokobalo. Ukuncipha ngokwe- average yokwahluka kweendidi zeentlanzi zomthonyama kufikelele ku- < 7 (1 okwangoku). • Isiqephu seendidi zeentlanzi zangaphandle zamanzi ahlaziyekileyo senyukile kulo mfula (ii-catfish zangaphandle ezinamazinyo abukhali ziyanda ngokobuninzi ngoku).

	nonxweme bungaguquguquka kodwa bungade buwele ngaphantsi ko- 10% ngalo naliphi na ibakala.	
Iintaka	• Umfula mawungaqulathi umgqeku wee-avifaunal ezichumileyo eziquka abameli bamaqela okuqala. Amanani avisayo ee-terns, umgqeku osempilweni weentakamanzi nezibhadubhadu ezifudukayo, kunye nomgqeku osempilweni wezibhadubhadu ezingabahlali ezizalayo. Lo mfula mawuxhase iintaka ezingamawakawaka ehlotyeni, namakhulukhulu azo ebusika..	• Amanani ee-terns ezibhalisiweyo kumbini wehlobo ambalwa kuno- 500. • Amanani eendidi zentaka ehlele ezantsi ko- 20 kangangeenyanga ezintathi ezilandelelanayo

UTafile 10.8: Iinqobo zeendawo zokuphilisana nee- cological nee-TPCs kumfula i- Lourens.

Component	Ecological specification	Threshold of potential concern
Microalgae	• Gcina i- phytoplankton biomass isezantsi (chlorophyll- a < 20 µg/ℓ) nokwahluka kwamaqela e- phytoplankton.	Kukho udubulo oluxhaphakileyo nezintlwa kulo mfula. I- phytoplankton biomass isoloko iphezulu (chlorophyll- a >20 µg/ℓ), ngenxa yegalelo eliphezulu lezondlo ezitshabalalisayo. Kukwakho nogcino lwamanzi olwandayo
Macrophytes	• Thintela ukunabela kweengcongolo nezinye izityalo zomgxobhozo emjelweni omkhulu. • Gcina imfezeko yomda wonxweme. Maintain. .	• Ngaphezu kwe- 20 % yommandla igqunywe ziingcongolo nezinye izityalo zomgxobhozo ezibangelwa ngamanzi anciphileyo, iintlenge negalelo lezondlo ezitshabalalisayo. • Izityalo ezitshabalalisayo (e.g ii-*Acacia cyclops* nee-*Myoporum tenuifolium*) zigqume ngaphezu ko- 20% weendawo zokuphilisana eziselunxwemeni nakwithafa leempuphuma.
Ezingenamathambo	• Zisuse kwibakala D uzise kwibakala C. Umfula mawube nomgqeku ovisayo wee-*Callichiruskraussi* emlonyeni/ kumazantsi oommandla (i-20/m^2). Ukongeza apho, umgqeku wezingenamathambo mawuquke iindidi ezi- 3 zezinye iindidi zomfula. Makube nokuba lunye- 1 udidii lwezingenamathambo kufuphi nomlomo	• Ikho ilahleko yemigqeku ye-Callichiruskraussi ukusuka kwingingqi yomlomo (imigqeku yangoku zinokushinyana okusezantsi). Inani leendidi zomfula lehle laya kutsho ngaphantsi ko- 3 embhobheni wamanzi (imeko yangoku eqikelelekayo). Zingaphantsi kwesibini zikho phaya emlonyeni.
Iintlanzi	• Gcina umgqeku weentlanzi oquka iindidi ezi-2 ezizalayo zomfula (IbakalaI I) neendidi ezi-4 ezixhomekeke kulo mfula okanye iindidi ezibandakanyekayo zolwandle (ibakala II). Abahlali bomfula, iindidi zolwandle ezixhomekeke kulo mfula nezibhadubhadu zolwandle (Ibakala III) mazibekho zonke kule migqeku. Ubuninzi obubalulekayo babahlali bomfula neendidi zolwandle ezibandakanyeka kulo mfula zingaguquguquka, kodwa hayi ngaphantsi - 10% ngalo naliphi na inqanaba.	• Isiqephu sabahlali bomfula okanye seendidi zolwandle ezixhomekeke kulo mfula sehle saya ngaphanysi - 10 % ngokobalo. Ukuncipha ngokwe- average yokwahluka kweendidi zeentlanzi zomthonyama kufikelele ku- < 6. Kukho ukwanda kwesiqephu seendidi zangaphandle zamanzi ahlaziyekileyo kulo mfula (okwangoku azikabikho iisampulu.
Iintaka	• Umfula mawuqulathe umgqeku wee-avifaunal ezichumileyo eziquka abameli bawo onke amaqela okuqala. Amanani avisayo ee- terns, umgqeku osempilweni weentakamanzi nezibhadubhadu ezifudukayo, kunye nomgqeku osempilweni wezibhadubhadu ezingabahlali ezizalayo. Lo mfula mawuxhase iintaka ezingamawakawaka ehlotyeni, namakhulukhulu azo ebusika..	• Amanani ee-terns ezibhalisiweyo kumbindi wehlobo zimbalwa kwi- 1000. • Amanani eendidi zeentaka ehlele ngaphantsi ko- 12 kwiinyanga ezintathu ezilandelelanayo

11. IBAKALA LOMWONYO

UTafile 11.1: Isishwankathelo se- PES ne- REC kwimiwonyo echongiweyo.

Indibano	Quat	Inkcazo	Imiwonyo ebandakanyekayo	HGM	PES	REC
Bvii10	G10D	D/s ekudibaneni ne- Kromme, kudonga olunqamlezileyo lokuthatha imiyinge G1H015		IThafa leeMpuphuma	C	C
Bvii15	G10D	Igophe	Klein-Sand River vlei*	IThafa leeMpuphuma	C	C
Bvii5	G10D	kudonga olunqamlezileyo u-G1H036 no-u/s of EWR 3 - C/D		IThafa leeMpuphuma	C	C
Bvii11	**G10F**	**U/s of Voëlvlei canal**		**IThafa leeMpuphuma**	**C**	**C**
Biii4	G10E	kudonga olunqamlezileyo lokuthatha imiyinge G1H008		Ummandla otyeneneziweyo Amazantsi	C	C
				Mthabazi	C	C
Biv1	G10J	U/s ekudibaneni ne -Klein-Berg, d/s nombhobho wamanzi i-Voëlvlei canal	Berg River	IThafa leeMpuphuma	C	C
				Yofunxo	C	C
Bvii17	G10J	Gauge	Berg River	IThafa leeMpuphuma	C	C
				Mthabazi	C	C
Bvii6	G10J	D/s of EWR 4, phezu kwedama i-Misverstand G1H013 - D	Berg River	IThafa leeMpuphuma	C	C
Bvii8	**G10J**	**U/s kwidama elinguvimba wamanzi i-Misverstand, d/s ekudibaneni ne- Matjies**	**Berg River**	**IThafa leeMpuphuma**	**C**	**C**
Bvii12	G10K	3.5 km d/s yedama elinguvimba i- Misverstand, at EWR 5 - D		IThafa leeMpuphuma	C	C
Bii1	G10L	U/s ekudibaneni ne- Berg		IThafa leeMpuphuma	C	C
				Mthabazi	C	C
				Ummandla otyeneneziweyo Amazantsi	A/B	A/B
				Ummandla ongatyenenezwanga Amazantsi	A/B	A/B
Biv2	G10L	U/s ekudibaneni ne-of confluence with Sout, kwintloko yomfula		IThafa leeMpuphuma	C	C
				IThafa leeMpuphuma (phakathi ku- G10K)	A/B	A/B
				Mthabazi (phakathi ku-G10K)	A/B	A/B
				Ummandla otyeneneziweyo Amazantsi (phakathi ku- G10K)	C	C
				Ufunxo kwithambeka lenduli	C	C
Bviii3	G21A	Angena kwi- Yzerfontein salt pan		Unchannelled Valley Amazantsi	A/B	A/B
Bviii4	G21D	U/s ekudibaneni ne- Diep		Ummandla ongatyenenezwanga Amazantsi	C	C
Bxi7	**G21F**	**Umfula i-Rietvlei/Diep**	**Rietvlei#**	**IThafa leeMpuphuma**	**C**	**C**
Biv9	G22H	U/s ekudibaneni ne- Eerste	Cape Corps*	IThafa leeMpuphuma	-	-
			Khayelitsha pool*	IThafa leeMpuphuma	C/D	C/D
			Nooiensfontein#	IThafa leeMpuphuma	E	D
Bviii3	G21A	Angena kwi- Yzerfontein salt pan	Yzerontein Salt Pan	Uxinzelelo	A/B	A/B
Bvii5			Blouvlei#	Uxinzelelo	B	B
Bvii7	G22D	Kwisikhundla se- EWR	Princessvlei*	Uxinzelelo	C	C
Bxi20	**G22D**	**Umfula i-Zeekoe**	**Zeekoevlei***	**Uxinzelelo**	**E**	**D**

Indibano	Quat	Inkcazo	Imiwonyo ebandakanyekayo	HGM	PES	REC
			Rondevlei*	**Uxinzelelo**	**B**	**B**
Bxi14	**G22A**	**Umfula i-Wildvoelvlei**	**Noordhoek Salt Pan***	**Uxenzelelo**	-	**-**
			Pick n Pay Reedbeds#	**Uxinzelelo**	**B**	**B**
Bxi4	**G22J**	**Umfula i-Lourens**	**Paardevlei***	**Funxo**	**-**	-

Isuka: EGI, Malan and CCT.EGI = Electrical Grid Infrastructure Data. * Western Cape Wetlands Directory