

Rand Water
Quarterly Water Quality Status of the Blesbokspruit Catchment

01 Oct 2019 - 30 Sep 2020



Sample Points	Sample Point Description	Quarter	Aluminium	Ammonium	Chemical Oxygen Demand	Chloride	Conductivity	Daphnia Toxicity	Dissolved Oxygen	E.coli	Fluoride	Iron	Magnesium	Manganese	Nitrate	pH	Phosphate	Sodium	Sulphate	Suspended Solids	
B1	Outflow from New Kleinfontein Dam 26° 10.979'S 28° 20.051'E	1	0.06	0.09		62	45		5.9		1.12	0.07	18	0.10	1.17	7.5	0.25	59	210		
		2	0.03	0.10		20	26		2.4		0.34	0.04	7	0.01	0.50	7.5	0.25	18	27		
		3																			
		4	0.03	0.03		48	44		4.2		0.28	0.02	12	0.003	0.67	7.6	0.25	33	60		
B2	Outflow from Van Ryn Dam 26° 09.961'S 28° 22.264'E	1	0.09	6.48		68	72		5.6		1.15	0.62	12	0.34	0.93	7.9	1.95	64	61		
		2	0.17	8.50		48	55		2.6		0.36	0.37	9	0.18	0.56	7.7	0.97	38	44		
		3																			
		4	0.03	8.70		71	66		4.9		0.23	0.01	48	0.32	0.50	7.4	1.80	66	49		
B3	Stream from Brakpan Lake 26° 12.876'S 28° 22.756'E	1	0.07	11.65		88	77		0.5		1.28	0.48	15	0.67	0.57	7.4	3.85	65	29		
		2	0.06	1.16		41	42		1.8		0.40	0.29	11	0.30	0.50	7.3	0.80	42	37		
		3																			
		4	0.03	3.10		78	72		0.5		0.27	0.09	10	0.003	0.50	7.4	3.30	69	22		
B4	Causeway @ Alexander Dam 26° 12.673'S 28° 24.879'E	1	0.06	3.60		67	59		5.6		0.76	0.04	10	0.04	0.67	7.7	2.38	66	91		
		2	0.04	1.36		37	42		3.3		0.42	0.08	12	0.60	1.07	7.8	0.76	39	37		
		3																			
		4	0.03	0.58		69	63		3.2		0.27	0.02	14	0.06	0.50	7.9	0.47	68	55		
B13	Stream from Daveyton below Welgedacht WWTW 26° 11.941'S 28° 28.779'E	1	0.06	2.72		65	67		1.5	25,151	0.84	0.18	16	0.23	1.66	7.3	0.61	80	91		
		2	0.03	0.16		38	60		1.9	554	0.37	0.09	13	0.08	1.43	7.8	0.46	51	40		
		3																			
		4	0.03	0.51		60	61		1.2	203	0.49	0.16	13	0.06	7.23	7.4	0.39	61	53		
B5	Blesbokspruit @ Welgedacht 26° 12.871'S 28° 28.803'E	1	0.09	2.41		59	83		1.1		0.83	0.21	16	0.37	1.30	7.4	0.34	66	142		
		2	0.05	0.89		41	61		1.2		0.43	0.12	15	0.39	1.05	7.9	0.34	53	86		
		3																			
		4	0.03	0.57		77	76		3.2		0.22	0.05	16	0.05	1.50	7.4	0.66	80	88		
B16	Blesbokspruit @ Grootvlei Mine Train Bridge 26° 15.332'S 28° 29.896'E	1	0.10	0.59		91	152		4.4		1.83	0.04	41	0.43	1.01	7.5	0.59	80	610		
		2	0.03	0.11		55	87		1.7		0.42	0.07	25	0.30	0.58	7.9	1.03	67	211		
		3																			
		4	0.03	0.25		74	88		1.8		0.27	0.07	24	0.24	0.50	7.7	0.48	85	115		
B6	Klein Blesbokspruit @ Selection Park 26° 16.979'S 28° 26.640'E	1	0.09	0.45		31	41		3.6		1.04	0.41	18	1.54	0.90	7.3	0.25	43	172		
		2	0.09	0.59		37	46		3.3		0.36	0.21	13	0.45	1.73	7.8	0.25	35	55		
		3																			
		4	0.03	1.80		34	43		3.4		0.23	0.06	12	0.01	3.00	7.2	0.25	33	31		
B15	Blesbokspruit on N17 Toll Road @ Springs 26° 16.287'S 28° 30.231'E	1	0.10	0.33		94	147		2.6		1.73	0.04	42	0.34	0.53	7.4	0.55	294	540		
		2	0.03	0.15		58	90		2.0		0.44	0.06	24	0.31	0.50	7.8	1.05	68	213		
		3																			
		4	0.03	0.12		83	93		3.0		0.28	0.01	42	0.003	0.50	8.0	0.30	98	155		
B17	Blesbokspruit @ Marievale Bird Sanctuary 26° 21.536'S 28° 30.467'E	1	0.16	1.63		110	173		2.5		2.20	0.16	38	1.02	0.50	7.6	0.90	124	667		
		2	0.16	2.46		63	92		2.8		0.57	0.16	21	0.44	0.50	7.9	0.78	63	207		
		3																			
		4	0.03	0.09		95	145		5.2		0.31	0.02	21	0.003	0.50	8.2	0.25	85	435		
B11	Blesbokspruit on R42 bridge @ Nigel 26° 23.433'S 28° 29.838'E	1	0.25	3.74		115	172		4.0		1.97	0.31	36	0.85	0.50	7.7	0.67	119	637		
		2	0.03	1.45		63	94		2.7		0.60	0.02	25	0.26	0.50	8.0	0.82	73	222		
		3																			
		4	0.03	0.12		82	150		3.9		0.32	0.08	23	0.20	0.50	8.1	0.25	78	395		
B7	Stormwater drain from Nigel Dam 26° 24.933'S 28° 27.958'E	1	0.09	0.23		70	96		4.0		1.70	0.06	34	1.94	0.50	7.4	0.28	84	422		
		2	0.03	0.05		31	55		4.1		0.58	0.09	16	0.15	0.50	7.8	0.37	52	115		
		3																			
		4	0.03	0.06		44	70		2.8		0.38	0.09	17	0.17	0.50	8.0	0.25	55	165		
B8	Blesbokspruit @ Nigel 26° 26.313'S 28° 27.361'E	1	0.17	1.50		99	170		3.8	655	1.88	0.04	43	0.57	0.70	7.8	0.62	114	589		
		2	0.05	0.67		62	92		4.0	6,608	0.62	0.04	23	0.18	0.50	8.2	0.61	66	219		
		3																			
		4	0.03	0.16		119	137		2.1	2,732	0.81	0.02	43	0.28	0.80	8.0	0.26	84	301		
B14	Blesbokspruit @ Jameson Park 26° 28.717'S 28° 25.531'E	1	0.14	0.31		102	155		2.8		1.90	0.04	44	0.68	1.63	7.5	0.48	90	550		
		2	0.04	0.11		60	87		3.2		0.56	0.06	23	0.09	0.56	8.1	0.89	70	198		
		3																			
		4	0.03	0.14		92	135		4.6		0.28	0.06	13	0.003	1.70	7.6	0.35	69	405		

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B12	Stream from Kaydale Station 26° 28.627'S 28° 24.266'E	1	0.11	2.75		34	47		2.3		0.66	0.15	10	0.09	3.50	7.4	0.94	47	57		
		2	0.08	3.28		35	49		2.1		0.38	0.19	12	0.09	1.43	7.6	1.08	43	44		
		3																			
		4	0.03	8.90		42	59		4.9		0.20	0.01	50	0.18	1.80	7.2	1.10	50	45		
B10	Blesbokspruit Weir @ Heidelberg 26° 30.641'S 28° 21.049'E	1	0.16	0.96	28	88	127	100	3.0	5,702	1.72	0.03	37	0.52	2.35	7.6	0.56	116	436	83	
		2	0.05	0.23	28	54	78	93	1.8	1,348	0.52	0.06	22	0.10	1.21	7.9	0.69	64	172	64	
		3	0.04	0.47	25	58	91	100	2.6	4,535	0.85	0.09	25	0.04	1.74	7.9	0.37	61	256	36	
		4	0.03	0.47	25	74	113	99	3.0	2,055	0.44	0.05	35	0.12	1.93	7.8	0.42	86	271	17	
S1	Suikerbosrant River below Balfour 26° 37.793'S 28° 17.797'E	1	0.10	0.15		62	61		0.9	3,602	0.57	0.09	21	0.14	0.50	7.6	0.25	56	17		
		2	0.07	0.09		16	27		2.6	975	0.35	0.14	13	0.04	0.74	7.7	0.54	27	21		
		3																			
		4	0.05	0.43		37	42		2.2	72	0.26	0.10	15	0.04	0.53	7.8	0.27	33	16		
S2	Suikerbosrant River Weir @ Three Rivers 26° 40.253'S 28° 01.828'E	1	0.23	0.09	30	96	119	100	3.1	603	1.75	0.11	29	0.06	1.38	7.8	0.35	169	451	26	
		2	0.08	0.43	33	50	76	100	2.4	393	0.48	0.07	20	0.05	1.33	8.0	0.40	58	147	47	
		3	0.06	0.38	30	55	88	100	3.6	537	0.78	0.08	25	0.03	2.04	8.0	0.27	61	225	26	
		4	0.06	0.08	29	71	108	100	3.1	125	0.39	0.06	34	0.04	2.53	8.1	0.32	83	236	15	

Key

B12	Stream from Kaydale Station 26° 28.627'S 28° 24.266'E	1	0.11	2.75	- 1 Oct to 31 Dec 2019
		2	0.08	3.28	- 1 Jan to 31 Mar 2020
		3			- 1 Apr to 30 Jun 2020
		4	0.03	8.90	- 1 Jul to 30 Sep 2020

Water Quality Guidelines

	- Ideal
	- Acceptable
	- Tolerable
	- Unacceptable
	- Not analysed

Variables	Measured as	Ideal Catchment Background	Acceptable Management Target	Tolerable Interim Target	Unacceptable
Physical					
Conductivity	mS/m	< 45	45 - 70	70 - 120	> 120
Dissolved Oxygen (O ₂)	mg/l O ₂		> 6.0	5.0 - 6.0	< 5.0
pH	pH units	6.5 - 8.5			< 6.5; > 8.5
Suspended Solids	mg/l	< 20	20 - 30	30 - 55	> 55
Organic					
Chemical Oxygen Demand (COD)	mg/l	< 20	20 - 35	35 - 55	> 55
Macro Elements					
Aluminium (Al)	mg/l		< 0.3	0.3 - 0.5	> 0.5
Ammonium (NH ₄)	mg/l	< 0.1	0.1 - 1.5	1.5 - 5.0	> 5.0
Chloride (Cl)	mg/l	< 80	80 - 150	150 - 200	> 200
Fluoride (F)	mg/l	< 0.19	0.19 - 0.70	0.70 - 1.00	> 1.00
Iron (Fe)	mg/l	< 0.1	0.1 - 0.5	0.5 - 1.0	> 1.0
Magnesium (Mg)	mg/l	< 8	8 - 30	30 - 70	> 70
Manganese (Mn)	mg/l	< 0.2	0.2 - 0.5	0.5 - 1.0	> 1.0
Nitrate (NO ₃)	mg/l	< 0.5	0.5 - 3.0	3.0 - 6.0	> 6.0
Phosphate (PO ₄)	mg/l	< 0.2	0.2 - 0.4	0.4 - 0.6	> 0.6
Sodium (Na)	mg/l	< 70	70 - 100	100 - 150	> 150
Sulphate (SO ₄)	mg/l	< 150	150 - 300	300 - 500	> 500
Bacteriological					
<i>E.coli</i>	counts/100ml	< 130	130 - 200	200 - 400	> 400
Faecal coliforms	counts/100ml		< 126	126 - 1,000	> 1,000
Biological					
<i>Daphnia</i>	% survival	100	90 - 100	80 - 90	< 80