

**Rand Water**  
**Quarterly Water Quality Status of the Blesbokspruit Catchment**

01 Apr 2018 - 31 Mar 2019



Sample Points	Sample Point Description	Quarter	Aluminium	Ammonia	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	0.03	0.13		24	28		2.8		0.23	0.11	7	0.06	0.44	7.5	0.17	18	31	
		2	0.06	0.15		40	74		1.7		0.29	0.05	9	0.01	0.57	7.8	0.13	29	54	
		3	0.04	4.05		55	51		3.4		0.47	0.09	18	0.08	0.60	7.7	0.90	42	65	
		4	0.03	2.23		39	40		1.1		0.51	0.18	13	0.20	4.67	7.7	0.83	47	55	
B2	Outflow from Van Ryn Dam 26° 09.961'S 28° 22.264'E	1	0.03	9.07		57	52		3.3		0.19	0.57	11	0.16	0.69	7.5	1.60	50	46	
		2	0.03	5.63		66	63		2.3		0.19	0.44	10	0.14	0.81	7.8	2.27	65	50	
		3	0.03	5.51		64	57		3.8		0.56	0.37	10	0.06	0.73	7.5	2.22	53	55	
		4	0.03	3.71		49	40		0.8		0.53	0.22	8	0.05	0.50	7.5	1.10	27	49	
B3	Stream from Brakpan Lake 26° 12.876'S 28° 22.756'E	1	0.09	0.15		44	45		3.3		0.25	0.20	10	0.05	0.44	7.6	0.21	41	70	
		2	0.06	0.17		100	59		1.6		0.25	0.08	13	0.04	3.42	7.3	0.33	64	80	
		3	0.03	1.30		101	74		2.0		0.55	0.48	18	0.39	0.50	7.5	2.19	74	34	
		4	0.03	0.23		60	47		0.9		0.47	0.31	10	0.15	0.50	7.0	0.33	49	32	
B4	Causeway @ Alexander Dam 26° 12.673'S 28° 24.879'E	1	0.13	0.11		45	44		1.3		0.24	0.16	11	0.18	0.76	7.4	0.18	42	83	
		2	0.09	0.15		59	56		3.4		0.24	0.03	12	0.02	0.46	8.6	0.15	62	95	
		3	0.05	0.06		75	64		2.9		0.42	0.07	14	0.04	0.50	7.9	0.25	68	81	
		4	0.03	0.05		42	42		1.4		0.51	0.07	9	0.06	0.50	7.8	0.32	34	64	
B9	Outflow from Cowles Dam 26° 12.523'S 28° 28.039'E	1	0.05	0.69		63	79		1.6	96	0.23	0.19	21	0.23	1.49	7.4	0.23	53	167	
		2	0.10	0.53		125	125		0.7	1,653	0.21	0.15	28	0.32	0.90	7.7	0.18	102	215	
		3	0.07	2.82		108	111		0.7	1,151	0.84	0.14	22	0.23	1.32	7.6	2.11	103	163	
		4	0.03	0.34		46	61		0.8	144	0.62	0.04	13	0.02	1.21	7.8	0.83	46	87	
B13	Stream from Daveyton below Welgedacht WWTW 26° 11.941'S 28° 28.779'E	1	0.05	0.88		59	64		1.2	800	0.23	0.15	15	0.19	1.71	7.4	0.96	64	81	
		2	0.05	0.59		62	74		1.2	2,134	0.20	0.13	17	0.07	2.07	7.4	0.81	74	62	
		3	0.06	0.41		81	97		1.0	539	0.70	0.20	25	0.13	3.40	7.5	0.54	84	164	
		4	0.05	0.12		46	48		1.0	2,680	0.49	0.16	10	0.07	1.95	7.6	0.53	47	47	
B5	Blesbokspruit @ Welgedacht 26° 12.871'S 28° 28.803'E	1	0.03	0.34		59	66		1.2		0.22	0.09	19	0.10	1.80	7.5	0.62	60	117	
		2	0.05	0.90		97	79		1.1		0.21	0.13	17	0.50	1.01	7.6	0.86	82	122	
		3	0.07	3.80		90	81		1.0		0.85	0.22	26	0.23	1.04	7.6	3.25	89	259	
		4	0.03	1.18		60	69		0.5		0.61	0.16	14	0.42	1.14	7.8	0.52	58	95	
B16	Blesbokspruit @ Grootvlei Mine Train Bridge 26° 15.332'S 28° 29.896'E	1	0.03	0.11		78	124		1.7		0.21	0.06	38	0.11	1.01	7.5	0.56	86	517	
		2	0.03	0.15		110	182		0.9		0.21	0.03	48	0.15	1.77	7.6	0.42	132	857	
		3	0.03	0.35		82	88		4.1		0.66	0.05	20	0.24	0.60	8.0	0.94	88	129	
		4	0.03	0.56		65	92		0.7		0.82	0.05	21	0.18	0.90	7.6	0.61	71	217	
B6	Klein Blesbokspruit @ Selection Park 26° 16.979'S 28° 26.640'E	1	0.01	0.20		54	51		1.8		0.24	0.01	16	0.02	1.07	7.8	0.19	38	78	
		2	0.03	0.21		47	46		1.4		0.22	0.13	13	0.24	0.98	7.9	0.13	33	35	
		3	0.03	0.67		58	45		2.6		0.42	0.19	9	0.33	0.97	7.5	0.25	21	37	
		4	0.05	0.27		35	41		0.9		0.54	0.30	10	0.50	0.84	7.6	0.25	27	78	
B15	Blesbokspruit on N17 Toll Road @ Springs 26° 16.287'S 28° 30.231'E	1	0.03	0.18		89	122		1.9		0.21	0.05	38	0.15	0.75	7.5	0.53	89	528	
		2	0.03	0.15		96	167		0.8		0.23	0.03	44	0.13	0.91	7.6	0.47	557	703	
		3	0.03	0.05		87	98		1.2		0.46	0.11	22	0.35	0.50	7.8	0.91	93	152	
		4	0.03	0.40		56	101		0.6		0.67	0.04	20	0.60	0.56	7.6	0.73	75	170	
B17	Blesbokspruit @ Marievale Bird Sanctuary 26° 21.536'S 28° 30.467'E	1	0.03	0.10		65	102		1.4		0.24	0.02	31	0.14	0.44	7.6	0.62	71	345	
		2	0.03	0.15		99	165		1.3		0.24	0.01	47	0.12	0.46	7.7	0.42	372	697	
		3	0.03	0.06		122	178		0.7		0.85	0.06	51	0.38	0.50	7.6	0.52	90	723	
		4	0.03	0.05		87	112		0.7		0.91	0.03	25	0.25	0.50	7.8	0.76	94	265	
B11	Blesbokspruit on R42 bridge @ Nigel 26° 23.433'S 28° 29.838'E	1	0.03	0.11		67	67		2.2		0.25	0.01	31	0.07	0.44	7.6	0.60	74	305	
		2	0.08	0.15		98	126		1.8		0.25	0.15	34	0.21	0.46	7.8	0.42	291	670	
		3	0.03	0.04		117	173		1.1		0.84	0.01	51	0.44	0.50	7.9	0.52	111	670	
		4	0.03	0.07		85	113		0.8		1.02	0.05	26	0.29	0.50	7.9	0.77	88	298	
B7	Stormwater drain from Nigel Dam 26° 24.933'S 28° 27.958'E	1	0.04	0.11		43	64		2.2		0.41	0.42	17	0.41	0.44	7.5	0.17	61	160	
		2	0.06	0.18		45	84		1.0		0.39	0.19	15	0.52	0.46	7.4	0.13	73	257	
		3	0.03	0.67		54	135		2.1		1.13	0.54	34	0.79	0.55	6.8	0.25	65	600	
		4	0.05	0.11		53	83		1.5		1.05	0.21	18	0.42	0.50	6.7	0.60	71	202	
B8	Blesbokspruit @ Nigel 26° 26.313'S 28° 27.361'E	1	0.06	0.08		72	103		2.7	4,422	0.26	0.09	31	0.03	0.44	8.0	0.52	60	365	
		2	0.04	0.25		106	135		2.5	3,108	0.24	0.05	45	0.11	0.46	7.9	0.33	75	682	
		3	0.09	0.60		102	165		1.9	7,127	1.72	0.27	38	0.50	0.73	7.8	0.53	107	490	
		4	0.05	0.36		78	111		0.8	9,175	0.93	0.05	26	0.07	0.50	8.0	0.62	86	271	
B14	Blesbokspruit @ Jameson Park 26° 28.717'S 28° 25.531'E	1	0.07	0.18		62	95		3.1		0.25	0.22	30	0.05	0.44	7.8	0.55	69	265	
		2	0.04	0.38		117	152		1.9		0.24	0.06	44	0.09	0.50	7.7	0.39	372	617	
		3	0.03	4.72		84	110		1.7		0.57	0.10	29	0.08	1.66	7.7	7.17	68	333	
		4	0.13	1.82		41	61		0.5		0.65	0.34	14	0.26	2.50	7.5	0.57	46	129	

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**01 Apr 2018 - 31 Mar 2019**



Sample Points	Sample Point Description	Quarter	Aluminium	Ammonia	Chemical Oxygen Demand	Chloride	Conductivity	Daphnia Toxicity	Dissolved Oxygen	E.coli	Fluoride	Iron	Magnesium	Manganese	Nitrate	pH	Phosphate	Sodium	Sulphate	Suspended Solids
B12	Stream from Kaydale Station 26° 28.627'S 28° 24.266'E	1	0.27	2.03		33	45		1.2		0.20	0.58	13	0.21	1.97	7.5	0.47	34	49	
		2	0.14	4.40		39	50		1.4		0.20	0.31	12	0.36	1.80	7.4	1.33	55	42	
		3	0.08	3.37		59	80		1.7		0.50	0.14	18	0.22	2.73	7.4	1.40	28	144	
		4	0.03	0.23		76	96		0.5		0.88	0.08	22	0.14	1.28	7.7	0.46	82	220	
B10	Blesbokspruit Weir @ Heidelberg 26° 30.641'S 28° 21.049'E	1	0.09	0.39	14	63	84	100	3.2	8,466	0.23	0.17	26	0.09	0.83	7.7	0.46	67	287	16
		2	0.08	0.30	16	100	127	100	2.8	2,639	0.26	0.11	37	0.24	1.34	7.7	0.67	264	615	15
		3	0.03	1.10	26	70	112	91	1.4	1,437	1.05	0.08	28	0.22	2.26	7.7	0.90	91	296	26
		4	0.06	1.11	29	67	96	100	2.1	5,509	0.87	0.16	20	0.12	1.18	7.9	0.63	66	214	85
S1	Suikerbosrant River below Balfour 26° 37.793'S 28° 17.797'E	1	0.12	0.08		58	40		2.5	177	0.29	0.35	11	0.03	1.12	7.4	0.18	19	48	
		2	0.06	0.45		41	50		2.4	28	0.21	0.12	18	0.12	2.04	7.8	0.18	33	18	
		3	0.04	0.18		60	57		0.9	334	0.43	0.13	21	0.23	0.57	7.8	0.25	51	72	
		4	0.05	0.10		44	44		0.6	1,958	0.49	0.14	11	0.05	0.54	7.6	0.41	32	12	
S2	Suikerbosrant River Weir @ Three Rivers 26° 40.253'S 28° 01.828'E	1	0.19	0.07	18	61	80	100	3.9	343	0.21	0.24	23	0.15	1.23	7.7	0.33	55	238	27
		2	0.06	0.09	16	92	124	92	2.8	91	0.23	0.09	36	0.08	1.70	7.9	0.28	96	497	17
		3	0.04	0.04	20	88	121	98	2.3	144	0.68	0.08	29	0.07	3.61	8.0	0.41	90	391	16
		4	0.04	0.12	22	73	88	100	1.7	407	0.86	0.08	20	0.03	1.28	8.1	0.42	65	217	30

**Key**

B12	Stream from Kaydale Station 26° 28.627'S 28° 24.266'E	1	0.27	2.03	- 1 Apr to 30 Jun 2018
		2	0.14	4.40	- 1 Jul to 30 Sep 2018
		3	0.08	3.37	- 1 Oct to 31 Dec 2018
		4	0.03	0.23	- 1 Jan to 31 Mar 2019

**Water Quality Guidelines**

	- Ideal
	- Acceptable
	- Tolerable
	- Unacceptable
	- Not analysed

Variables	Measured as	Ideal Catchment Background	Acceptable Management Target	Tolerable Interim Target	Unacceptable
<b>Physical</b>					
Conductivity	mS/m	< 45	45 - 70	70 - 120	> 120
Dissolved Oxygen (O <sub>2</sub> )	mg/l O <sub>2</sub>		> 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
<b>Organic</b>					
Chemical Oxygen Demand (COD)	mg/l	< 20	20 - 35	35 - 55	> 55
<b>Macro Elements</b>					
Aluminium (Al)	mg/l		< 0.3	0.3 - 0.5	> 0.5
Ammonia (NH <sub>4</sub> )	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 <sub>3</sub> )	mg/l	< 0.5	0.5 - 3.0	3.0 - 6.0	> 6.0
Phosphate (PO <sub>4</sub> )	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 <sub>4</sub> )	mg/l	< 150	150 - 300	300 - 500	> 500
<b>Bacteriological</b>					
<i>E. coli</i>	counts/100ml	< 130	130 - 200	200 - 400	> 400
Faecal coliforms	counts/100ml		< 126	126 - 1,000	> 1,000
<b>Biological</b>					
<i>Daphnia</i>	% survival	100	90 - 100	80 - 90	< 80