

PLEASE NOTE

Due to the Covid-19 pandemic, Rand Water undertook reduced sampling of sites during this time.

In this regard, some water quality data in the following report is not available for this quarter (Apr-Jun 2020).

Following the lifting of lockdown restrictions, the reinstating of normal sampling procedures will take place.

Sample Points	Sample Point Description	Quarter	Chemical Oxygen Demand												
			Ammonia	Chemical Oxygen Demand	Chloride	Conductivity	E.coli	Fluoride	M-Alkalinity	Nitrate	pH	Phosphate	Sulphate		
MR	Meul River downstream of Ribbokspruit 28° 1.591'S 29° 15.009'E	1													
		2	0.09	20	16	24		0.41	83	<0.5	7.3	<0.25	16		
		3	0.70	24	6	14		0.31	46	<0.5	7.5	0.28	15		
		4													
WM	Mollen River @ Letuka 28° 1.403'S 28° 59.691'E	1													
		2	0.11	12	13	24		0.44	79	<0.5	7.6	<0.25	20		
		3	0.08	13	7	15		0.30	46	<0.5	7.5	<0.25	13		
		4													
WMW	Wilge Meul @ Waaiwater 27° 54.204'S 28° 48.452'E	1	0.06	15	19	30		0.31	115	1.90	7.7	<0.25	11		
		2	0.19	20	17	28		0.38	110	<0.5	7.5	<0.25	12		
		3	0.04	18	4	10		0.29	27	<0.5	7.3	<0.25	8		
		4													
WC	Cornelis River below Warden 27° 50.555'S 28° 57.644'E	1													
		2	0.07	33	19	36		0.58	155	<0.5	7.8	<0.25	12		
		3	0.16	40	11	24		0.39	78	<0.5	7.8	<0.25	36		
		4													
WAF	Wilge above Frankfort 27° 18.607'S 28° 31.977'E	1	0.09	14	17	37		0.35	152	<0.5	8.0	0.28	24		
		2	0.06	33	18	37		0.37	162	<0.5	7.8	<0.25	23		
		3	0.05	28	6	15		0.36	48	0.62	7.6	<0.25	15		
		4													
WF	Wilge River @ Frankfort 27° 16.311'S 28° 29.489'E	1	0.30	11	3	14	597	0.21	53	<0.5	7.6	<0.25	7		
		2	0.11	22	9	21	537	0.24	91	<0.5	7.7	<0.25	14		
		3	0.08	21	4	15	593	0.29	48	0.79	7.5	<0.25	22		
		4	0.13	23	3	11	797	0.28	42	0.52	7.6	<0.25	7		

Key

WF	Wilge River @ Frankfort 27° 16.311'S 28° 29.489'E	1	0.05	- 1 Jul to 30 Sept 2019
		2	0.30	- 1 Oct to 31 Dec 2019
		3	0.11	- 1 Jan to 31 Mar 2020
		4	0.08	- 1 Apr to 30 Jun 2020

Water Quality Guidelines

	- Ideal
	- Acceptable
	- Tolerable
	- Unacceptable



Sewage Works Compliance (where applicable) to General Standard (GN 1191 Oct 1999)

Sample Points	Sample Point Description	Quarter	Ammonia	Chemical Oxygen Demand	Chloride	Conductivity	Faecal coliforms	Fluoride	M-Alkalinity	Nitrate	pH	Phosphate	Sulphate	
S-BETH	Bethlehem Sewage Works 28° 12.823'S 28° 18.656'E	1	16.03	215	42	62	2 386 967	0.65	225	<0.5	7.2	2.57	34	
		2												
		3	6.16	203	28	51	4 978 533	<0.2	180	<0.5	7.3	8.60	20	
		4												
S-HSW	Harrismith Sewage Works 28° 16.622'S 29° 5.363'E	1	17.67	288	61	91	1 901 867	1.65	348	<0.5	6.5	2.44	49	
		2												
		3	0.38	280	49	78	2 404 050	0.40	265	<0.5	7.1	3.60	24	
		4												
S-QWAQWA	Qwa-Qwa Sewage Works 28° 30.320'S 28° 49.472'E	1												
		2												
		3												
		4												
S-TSIAME	Tsiame Sewage Works 28° 16.780'S 28° 59.287'E	1	27.33	163	40	75	18 620	1.49	263	<0.5	7.4	4.30	48	
		2												
		3	6.84	152	26	42	24 803	0.47	137	13.00	7.6	3.10	33	
		4												

Key

S-TSIAME	Tsiame Sewage Works 28° 16.780'S 28° 59.287'E	1	27.33	- 1 Jul to 30 Sept 2019
		2		- 1 Oct to 31 Dec 2019
		3	6.84	- 1 Jan to 31 Mar 2020
		4		- 1 Apr to 30 Jun 2020

Water Quality Guidelines

	- Acceptable
	- Unacceptable

Sewage Works Compliance to General Standard (GN 1191 Oct 1999)

Variables	Measured as	Acceptable Management Target	Unacceptable
Physical			
Conductivity	mS/m	< 150	>= 150
pH	pH units	5.5 - 9.5	< 5.5; > 9.5
Organic			
Chemical Oxygen Demand (COD)*	mg/l	< 75	>= 75
Macro Elements			
Ammonia (NH ₄)	mg/l	< 3	>= 3
Fluoride (F)	mg/l	< 1	>= 1
Nitrate (NO ₃)	mg/l	< 15	>= 15
Phosphate (PO ₄)	mg/l	< 10	>= 10
Bacteriological			
<i>Faecal coliforms</i>	counts/100ml	< 1,000	>= 1,000

*After removal of algae

Visit Visit
<http://www.reservoir.co.za/> to
find the water quality status
report and forum dates

INSTREAM WATER QUALITY GUIDELINES FOR THE WILGE RIVER CATCHMENT

In-stream Water Quality Guidelines for the Wilge River Catchment					
MU		Jordanspruit (WJ, WJA)			
Variables	Measured as	Ideal Catchment Background	Acceptable Management Target	Tolerable Interim Target	Unacceptable
Physical					
Conductivity	mS/m	< 10	10 - 30	30 - 45	> 45
pH	pH units	6.4 - 8.5			< 6.4; > 8.5
Organic					
Chemical Oxygen Demand (COD)	mg/l	< 10	10 - 20	20 - 35	> 35
Macro Elements					
Ammonia (NH ₄)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Chloride (Cl)	mg/l	< 10	10 - 25	25 - 45	> 45
Fluoride (F)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Alkalinity	CaCO ₃ mg/l	< 30	30 - 80	80 - 120	> 120
Nitrate (NO ₃)	mg/l	< 0.25	0.25 - 0.50	0.50 - 0.75	> 0.75
Phosphate (PO ₄)	mg/l	< 0.05	0.05 - 0.15	0.15 - 0.30	> 0.30
Sulphate (SO ₄)	mg/l	< 10	10 - 20	20 - 30	> 30
Bacteriological					
Faecal coliforms	counts/100ml	< 10	10 - 60	60 - 120	> 120

In-stream Water Quality Guidelines for the Wilge River Catchment					
MU		Ash River (WLA, WLB, WLS)			
Variables	Measured as	Ideal Catchment Background	Acceptable Management Target	Tolerable Interim Target	Unacceptable
Physical					
Conductivity	mS/m	< 10	10 - 15	15 - 20	> 20
pH	pH units	6.4 - 8.5			< 6.4; > 8.5
Organic					
Chemical Oxygen Demand (COD)	mg/l	< 5	5 - 15	15 - 25	> 25
Macro Elements					
Ammonia (NH ₄)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Chloride (Cl)	mg/l	< 5	5 - 10	10 - 15	> 15
Fluoride (F)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Alkalinity	CaCO ₃ mg/l	< 20	20 - 40	40 - 60	> 60
Nitrate (NO ₃)	mg/l	< 0.1	0.1 - 0.2	0.2 - 0.3	> 0.3
Phosphate (PO ₄)	mg/l	< 0.05	0.05 - 0.15	0.15 - 0.30	> 0.30
Sulphate (SO ₄)	mg/l	< 5	5 - 10	10 - 15	> 15
Bacteriological					
Faecal coliforms	counts/100ml	< 10	10 - 60	60 - 120	> 120

In-stream Water Quality Guidelines for the Wilge River Catchment					
MU		Elands River (WE, EQQ)			
Variables	Measured as	Ideal Catchment Background	Acceptable Management Target	Tolerable Interim Target	Unacceptable
Physical					
Conductivity	mS/m	< 10	10 - 20	20 - 35	> 35
pH	pH units	6.4 - 8.5			< 6.4; > 8.5
Organic					
Chemical Oxygen Demand (COD)	mg/l	< 5	5 - 15	15 - 25	> 25
Macro Elements					
Ammonia (NH ₄)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Chloride (Cl)	mg/l	< 5	5 - 10	10 - 15	> 15
Fluoride (F)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Alkalinity	CaCO ₃ mg/l	< 30	30 - 80	80 - 120	> 120
Nitrate (NO ₃)	mg/l	< 0.25	0.25 - 0.50	0.5 - 1.0	> 1
Phosphate (PO ₄)	mg/l	< 0.05	0.05 - 0.25	0.25 - 0.50	> 0.50
Sulphate (SO ₄)	mg/l	< 5	5 - 10	10 - 15	> 15
Bacteriological					
Faecal coliforms	counts/100ml	< 10	10 - 60	60 - 120	> 120

In-stream Water Quality Guidelines for the Wilge River Catchment					
MU Upper Wilge		(WAH, WH, WM, MR, WN, STERK)			
Variables	Measured as	Ideal Catchment Background	Acceptable Management Target	Tolerable Interim Target	Unacceptable
Physical					
Conductivity	mS/m	< 10	10 - 20	20 - 35	> 35
pH	pH units	6.4 - 8.5			< 6.4; > 8.5
Organic					
Chemical Oxygen Demand (COD)	mg/l	< 5	5 - 15	15 - 25	> 25
Macro Elements					
Ammonia (NH ₄)	mg/l	< 0.05	0.05 - 0.10	0.1 - 0.2	> 0.2
Chloride (Cl)	mg/l	< 5	5 - 10	10 - 15	> 15
Fluoride (F)	mg/l	< 0.05	0.05 - 0.10	0.1 - 0.2	> 0.2
Alkalinity	CaCO ₃ mg/l	< 30	30 - 50	50 - 70	> 70
Nitrate (NO ₃)	mg/l	< 0.1	0.1 - 0.2	0.2 - 0.3	> 0.3
Phosphate (PO ₄)	mg/l	< 0.05	0.05 - 0.15	0.15 - 0.30	> 0.30
Sulphate (SO ₄)	mg/l	< 5	5 - 10	10 - 15	> 15
Bacteriological					
Faecal coliforms	counts/100ml	< 10	10 - 60	60 - 120	> 120

In-stream Water Quality Guidelines for the Wilge River Catchment					
MU		Middle Wilge (WMW, WC, WAF, WF)			
Variables	Measured as	Ideal Catchment Background	Acceptable Management Target	Tolerable Interim Target	Unacceptable
Physical					
Conductivity	mS/m	< 10	10 - 30	30 - 45	> 45
pH	pH units	6.4 - 8.5			< 6.4; > 8.5
Organic					
Chemical Oxygen Demand (COD)	mg/l	< 5	5 - 15	15 - 25	> 25
Macro Elements					
Ammonia (NH ₄)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Chloride (Cl)	mg/l	< 5	5 - 10	10 - 15	> 15
Fluoride (F)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Alkalinity	CaCO ₃ mg/l	< 30	30 - 80	80 - 120	> 120
Nitrate (NO ₃)	mg/l	< 0.1	0.1 - 0.2	0.2 - 0.3	> 0.3
Phosphate (PO ₄)	mg/l	< 0.05	0.05 - 0.15	0.15 - 0.30	> 0.30
Sulphate (SO ₄)	mg/l	< 5	5 - 10	10 - 15	> 15
Bacteriological					
Faecal coliforms	counts/100ml	< 10	10 - 60	60 - 120	> 120

In-stream Water Quality Guidelines for the Wilge River Catchment					
MU		Liebenbergsvlei (WL, WLBB, WLR)			
Variables	Measured as	Ideal Catchment Background	Acceptable Management Target	Tolerable Interim Target	Unacceptable
Physical					
Conductivity	mS/m	< 10	10 - 30	30 - 45	> 45
pH	pH units	6.4 - 8.5			< 6.4; > 8.5
Organic					
Chemical Oxygen Demand (COD)	mg/l	< 5	5 - 15	15 - 25	> 25
Macro Elements					
Ammonia (NH ₄)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Chloride (Cl)	mg/l	< 5	5 - 10	10 - 15	> 15
Fluoride (F)	mg/l	< 0.05	0.05 - 0.10	0.10 - 0.20	> 0.20
Alkalinity	CaCO ₃ mg/l	< 30	30 - 80	80 - 120	> 120
Nitrate (NO ₃)	mg/l	< 0.1	0.1 - 0.2	0.2 - 0.3	> 0.3
Phosphate (PO ₄)	mg/l	< 0.05	0.05 - 0.15	0.15 - 0.30	> 0.30
Sulphate (SO ₄)	mg/l	< 5	5 - 10	10 - 15	> 15
Bacteriological					
Faecal coliforms	counts/100ml	< 10	10 - 60	60 - 120	> 120