

2023 ACWA/BCWA Temperature Logger Data Summary

summarized for temperatures measured June 1 - Aug 31, 2023 (State Spring Index Period)

= exceeds the State Use Class Criteria

STATE REGULATORY CRITERIA

Class III: -90th Percentile temp. <20C
 -max temp not to exceed 23.8C(75F)
 -# readings not to exceed 10% of 20C

Class IV: 90th Percentile Temp. <23.9C

ANTIETAM USE CLASS IV TRIBUTARIES

Stream + miles from mouth:	Hamiton Run			Landis Spring Branch		Little Antietam Creek - South		
	HAM0.8	HAM0.4	HAM0.2	LSB1.1	LSB0.01	DOG2.0	UT LAC-S	LAC-South
Site Description	Hamilton Run, above the Golf Course above Jefferson St Bridge	Hamilton Run, below the golf course, upstream of SR40 bridge	Hamilton Run below House of Kobe	Landis Spring Branch farmer's field	Landis Spring Branch-mouth	Dog Creek at Mt Caramel Church Road	UT to LAC South at Crystal Grottos	Little Antietam South - Keedysville
MD Stream Use Class	IV	IV	IV	IV	IV	IV	IV	IV
Logger SN#	21671432	20890337	21671444	21002866	21002867	21011016	21364550	21011012
Total # Readings	6624	6624	6624	6624	6624	6624	6624	6624
Average Temp oC	20.88	20.53	20.05	16.00	17.95	19.71	21.00	17.29
Median Temp oC	21.10	20.85	20.37	15.4	17.97	20.42	21.19	17.37
Max Temp oC	27.32	27.15	26.85	23.21	22.82	23.55	28.01	20.80
Min Temp oC	14.45	14.37	14.37	11.24	11.11	12.91	13.60	13.68
Var	5.13	4.47	3.97	5.82	4.56	4.91	7.48	1.51
StDev	2.26	2.11	1.99	2.412	2.135	2.217	2.73	1.230
StError	0.03	0.03	0.02	0.030	0.026	0.027	0.03	0.015
90th Percentile (oC)	23.63	23.08	22.39	19.69	20.76	21.96	24.58	18.83
# of readings								
>20C	4492	4317	3786	544	1226	3821	4463	12
% time >=20C	68%	65%	57%	8%	19%	58%	67%	0%
<= 20C	2132	2307	2838	6080	5398	2803	2161	6612
>=23.9C	491	132	63	0	0	0	984	0
% time >=23.9C	7.4%	2.0%	1.0%	0.0%	0.0%	0.0%	14.9%	0.0%
>32C	0	0	0	0	0	0	0	0

ANTIETAM USE CLASS III TRIBUTARIES

Stream + miles from mouth:	Little Antietam Creek -North					Grove Creek		Marsh Run	
	LAC-N	LAC-N 8.0	LAC-N 5.0	LAC-N 3.0	LAC-N 0.7	GRO0.15	GRO1.1	MAR4.2	MAR0.1
Site Description	LAC North - abover 491 culvert	LACNorth near Fruit Tree Lane	LAC_North at Gardenour Rd	LAC_North at Shank Farm	LAC_North Mouth	Grove Creek near mouth at Brooklane	Grove Creek dwnstream of Unger Rd bridge	Marsh Run at Blue Heron Rd.	Marsh Run, near mouth upstream of Security bridge
MD Stream Use Class	///	///	///	///	///	///	///	///	///
Logger SN#	20890332	21671438	21671437	21671441	21671443	20890335	20622995	21011013	21011014
Total # Readings		6624	6624	6624	6624	6624	6624	6624	6624
Average Temp oC	LOGGER	18.86	17.25	20.36	20.59	20.23	18.08159	18.31	18.15
Median Temp oC	DID NOT	19.52	17.37	20.63	20.93	20.55	17.97	18.62	18.40
Max Temp oC	RUN	23.85	22.99	26.55	25.22	26.42	24.11	22.86	22.31
Min Temp oC		12.91	11.54	13.38	14.24	13.43	12.05	12.61	13.30
Var		5.20	4.49	5.89	4.53	5.88	5.873282	3.33	2.66
StDev		2.28	2.12	2.43	2.13	2.42	2.423479	1.83	1.63
StError		0.03	0.03	0.03	0.03	0.03	0.029777	0.02	0.02
90th Percentile (oC) # of readings		21.31	19.95	23.34	23.08	23.12	21.52	20.33	20.06
>20C		2554	633	4027	4393	3965	1453	1051	707
% time >=20C		39%	10%	61%	66%	60%	22%	16%	11%
<= 20C		4070	5991	2597	2231	2659	5171	5573	5917
>=23.9C		0	0	333	109	302	11	0	0
% time >=23.9C		0%	0.0%	5.0%	1.6%	4.6%	0.2%	0%	0.0%
>32C		0	0	0	0	0	0	0	0

ANTIETAM CREEK MAINSTEM

Stream + miles from mouth:	ANT40	ANT28.5	ANT24.5	ANT24	ANT20.5	ANT8.2	ANT4.5	ANT0.3, ANT5.7, ANT14		
Site Description	at Millers Church	at Kiwanis Park	at former mobile home park	at Funkstown	Below bridge at Garis Shop Rd	downstream of Hitt Bridge	at USGS gauging station/Burnside	Three loggers were deployed at these sites, but documentation is not available on proper pairing. Grouped to show stream temperatures at and below Devil's Backbone Park		
MD Stream Use Class	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV
Logger SN#	21011017	20890336	21002869	21002872	20609930	20614137	21671431	20609942	21002870	20614135
Total # Readings		6624	6624	6624	6624	6624	6624	6624	6624	6624
Average Temp oC	LOGGER	21.32	22.12	22.09	22.35	22.77	22.67	22.77	23.01	22.46
Median Temp oC	LOST	21.66	22.48	22.43	22.65	23.12	23.03	23.16	23.25	22.82
Max Temp oC		25.57	26.34	26.17	26.94	27.50	27.24	27.84	28.14	27.02
Min Temp oC		15.87	16.69	16.73	16.56	16.34	16.39	16.43	16.30	16.08
Var		3.91	3.79	3.79	4.26	5.22	4.93	5.22	5.57	5.01
StDev		1.98	1.95	1.95	2.06	2.28	2.22	2.28	2.36	2.24
StError		0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
90th Percentile (oC)		23.64	24.36	24.35	24.84	25.52	25.31	25.48	25.95	25.09
# of readings										
>20C		5005	5448	5406	5523	5649	5651	5662	5780	5573
% time >=20C		76%	82.2%	82%	83%	85%	85%	85%	87%	84%
<= 20C		1619	1176	1218	1101	975	973	962	844	1051
>=23.9C		409	1159	1154	1602	2477	2221	2357	2489	1980
% time >=23.9C		6.2%	17%	17%	24%	37%	34%	36%	38%	30%
>32C		0	0	0	0	0	0	0	0	0
NOTES			heavily silted	heavily silted						

BEAVER CREEK & TRIBUTARIES USE CLASS III

Stream + miles from mouth:	Pondsville Run		Mt Aetna Creek		Beaver Ck BEA	Little Beaver Creek			
	PON1.3	PON0.1	MAC_UT0.75	MAC0.02		LBC4.5	LBC2.0	LBC1.1	LBC0.1
Site Description	Pondsville Run at 22423 ColdSpring Rd	Pondsville Run at 11310 Mapleville Rd, across from Poolsville Rd	South Trib of Mt Aetna Crk, above Retreat Property at Crystal F Rd	Mt Aetna Creek, at SR 66, 40' upstream of Mapleville Road Bridge	Beaver Creek at the Hatchery	Little Beaver Crk - Swope Rd (Roderick property)	Little Beaver Creek at 20612 Benevola Church Rd./Makinaw Prop	Little Beaver Creek at Toms Road	Little Beaver Creek Mouth
MD Stream Use Class	///	///	///	///	///	///	///	///	///
Logger SN#	21671440	21671439	20394349		21671434	21671435	20890334	21002868	21011015
Total # Readings	6624	6624	6624		6624	6624	6624	6624	6624
Average Temp oC	16.2252	19.73	17.82	LOGGER	21.40	17.26	16.80	20.54	20.88
Median Temp oC	16.81	20.2	18.44	DID NOT	21.7	17.54	16.73	20.42	21.19
Max Temp oC	19.04	25.05	21.75	RUN	27.71	20.93	20.85	26.98	25.69
Min Temp oC	12.48	13.12	12.74		11.58	12.78	12.22	13.77	14.24
Var	2.259125	5.83	4.43		6.53	2.680	2.374	6.951	4.848
StDev	1.50294	2.42	2.10		2.56	1.637	1.541	2.636	2.202
StError	0.018466	0.030	0.026		0.031	0.020	0.019	0.032	0.027
90th Percentile (oC)	17.76	22.48	20.12		24.54	19.13	18.87	24.19	23.46
# of readings									
>20C	0	3543	812		4729	84	69	3770	4599
% time >=20C	0%	53%	12%		71%	1.3%	1.0%	57%	69%
<= 20C	6624	3081	5812		1895	6540	6555	2854	2025
>=23.9C	0	52	0		1063	0	0.0%	789	363
% time >=23.9C	0%	0.8%	0.0%		16%	0.0%	0	11.9%	5.5%
>32C	0	0	0		0	0	0	0	0

NOTES

CONOCOCHEAGUE TRIBUTARY

Stream + miles from mouth:	Rush Run		
	RUS4.75	RUS3.7	RUS UT0.3
Site Description	Rush Run above bridge at SR	Rush Run dwnstream of bridge at Broadfording	UT at HAYSL
MD Stream Use Class	IV	IV	IV
Logger SN#	20893640	21671436	71433
Total # Readings	6624	6624	
Average Temp oC	21.16	19.49	<i>Dewatered</i>
Median Temp oC	21.36	19.47	
Max Temp oC	27.28	25.78	
Min Temp oC	13.34	12.35	
Var	8.11	6.38	
StDev	2.85	2.53	
StError	0.03	0.03	
90th Percentile (oC)	24.84	22.86	
# of readings			
>20C	4491	2774	
% time >=20C	0.0	0.4	
<= 20C	2133	3850	
>=23.9C	1220	172	
% time >=23.9C	0.00	0.03	
>32C	0	0	

NOTES

Trib full of sediment construction nearby