

ACWA/BCWA Temperature Logger Data Summary

2021

 = exceeds the Use Class Water Quality Temp Criteria

Antietam Tributary Sites	HAM5.7	HAM4.5	HAM0.2	MAR0.0							
Site Description	Hamilton Run at Fountaindale ES	Hamilton Run at the Terrace	Hamilton Run below House of Kobe	LAL North - abover 491 culvert	LAL_North at Gardenour Rd	LAL_North Mouth	Grove Creek	Marsh Run Mouth*	UT to LAC South at Crystal Grottos	Little Antietam South - Keedysville	Landis Spring Branch-mouth
MD Stream Use Class	IV	IV	IV	III	III	III	III	III	IV	IV	IV
Logger	4136	0332	8018	1013	334	4135	2869	2866	3640	2872	1016
Total # Readings	6625	6625	6625	6625	6625	6625	6625	6625	6625	6625	6625
Average Temp oC	17.76	17.90	19.17	19.99	16.81	20.12	19.83	18.07	21.73	17.72	17.88
Median Temp oC	17.11	17.72	19.30	20.16	16.77	20.50	20.03	18.27	21.79	17.72	17.84
Max Temp oC	27.50	26.47	26.68	25.69	21.70	23.59	24.02	20.80	29.51	22.82	22.69
Min Temp oC	12.57	13.04	13.73	11.62	11.88	14.07	13.85	13.30	13.73	13.81	12.48
Var	7.96	3.83	3.18	5.88	3.18	3.39	3.17	1.84	6.97	1.51	3.25
StDev	2.82	1.96	1.78	2.42	1.78	1.84	1.78	1.35	2.64	1.23	1.80
StError	0.035	0.024	0.022	0.030	0.022	0.023	0.022	0.017	0.032	0.015	0.022
90th Percentile (oC)	22.05	20.63	21.32	23.03	19.22	22.22	22.01	19.65	25.14	19.17	20.33
# of readings											
>20C	1524	1060	2127	3541	248	4044	3338	299	4925	261	923
% time >=20C	23.0%	16.0%	32.1%	53.4%	3.7%	61.0%	50.4%	4.5%	74.3%	3.9%	13.9%
<= 20C	5101	5565	4498	3084	6377	2581	3287	6326	1700	6364	5702
>=23.9C	166	27	61	416	0	0	170	8	1333	0	0
% time >=23.9C	2.5%	0.4%	0.9%	6.3%	0.0%	0.0%	2.6%	0.1%	20.0%	0.0%	0.0%
>32C	0	0	0	0	0	0	0	0	0	0	0

*logger frequently covered in silt; temp readings "muted"

Antietam Crk Mainstem	ANT40	ANT28	ANT24	ANT14	ANT5.7	ANT0.3	
Site Description	at Millers Church*	at Kiwanis Park	at Funkstown	at Devilsbackbone above dam	at Route 34, upstream of bridge	near mouth at Iron Furnace Bridge	All Loggers combined for Antietam Mainstem*
MD Stream Use Class	IV	IV	IV	IV	IV	IV	IV
Logger	2868 *	4138	335	1017	9900	1014	All 6
Total # Readings	6120 *	6624	6624	6624	6624	6624	39240
Average Temp oC	20.60 *	20.93	22.00	23.23	22.48	22.87	22.04
Median Temp oC	20.8 *	21.28	22.43	23.51	22.89	23.29	22.26
Max Temp oC	25.01 *	24.62	25.69	28.61	26.12	27.24	28.61
Min Temp oC	14.33 *	14.58	14.75	15.14	16	15.7	14.33
Var	3.631 *	2.683	3.503	4.924	3.576	4.123	4.661
StDev	1.905 *	1.638	1.872	2.219	1.891	2.031	2.159
StError	0.024 *	0.020	0.023	0.027	0.023	0.025	0.011
90th Percentile (oC)	22.91 *	22.73	24.06	25.87	24.66	25.14	24.6
# of readings							
>20C	4030	4937	5562	5970	5806	5860	32165
% time >=20C	65.8%	74.5%	84.0%	90.1%	87.7%	88.5%	82.0%
<= 20C	2090	1687	1062	654	818	764	7075
>=23.9C	342	211	780	2719	1509	2295	7495
% time >=23.9C	5.6%	3.2%	12%	41%	23%	35%	19%
>32C	0	0	0	0	0	0	0

*dewatered part time; datat for 7/12-7/18 were removed from the analysis logger was repositioned 7/17/21

*Miller's Church site data edited as per logger info

Beaver Creek Sites

Site Description	Pondsville Run at Clagget Farm	Pondsville Run	Beaver Crk at Mount Aetna Rd	Beaver Creek below Mt Aetna Crk	Beaver Creek upstream of Black Rock	Black Rock Creek	Mt Aetna Crk above Crystal F Rd
MD Stream Use Class	III	III	III	III	III	III	III
Logger	1011	1012	4349	4137	2995	9930	2867
Total # Readings	6625	6625	6625	6625	6625	6625	6625
Average Temp oC	20.21	16.34	17.02	18.02	15.48	16.08	18.48
Median Temp oC	20.63	16.51	16.9	17.84	15.31	16.08	18.79
Max Temp oC	24.41	19.09	22.05	24.11	19.04	22.05	22.18
Min Temp oC	12.65	12.01	12.31	12.35	12.7	11.92	12.82
Var	4.70	1.88	2.71	4.05	1.48	2.47	3.30
StDev	2.17	1.37	1.65	2.01	1.22	1.57	1.82
StError	0.027	0.017	0.020	0.025	0.015	0.019	0.022
90th Percentile (oC)	22.78	17.97	19.374	20.89	17.24	18.14	20.55
# of readings							
>20C	4043	0	340	1115	0	12	1526
% time >=20C	61%	0%	5%	17%	0%	0%	23%
<= 20C	2582	6625	6285	5510	6625	6613	5099
>=23.9C	58	0	101	7	0	0	0
% time >=23.9C	0.9%	0.0%	1.5%	0.1%	0.0%	0.0%	0.0%
>32C	0	0	0	0	0	0	0

Site Description	Little Beaver Crk - Swope Rd (GSP)	Little Beaver Creek at MakiNaw Prop	Little Beaver Creek at Toms Road	Little Beaver Creek Mouth
MD Stream Use Class	III	III	III	III
Logger	1015	336	337	2870
Total # Readings	6625	6625	6625	6625
Average Temp oC	17.147	16.745	19.9091	20.84
Median Temp oC	17.29	16.56	19.6	21.1
Max Temp oC	21.88	20.85	26.68	25.18
Min Temp oC	12.82	12.91	13	13.55
Var	1.9770	1.8361	5.9821	3.9026
StDev	1.4061	1.3550	2.4458	1.9755
StError	0.0173	0.0166	0.0300	0.0243
90th Percentile (oC)	18.87	18.7	23.38	23.08
# of readings				
>20C	48	37	2903	4718
% time >=20C	4.7%	0.6%	43.8%	71.2%
<= 20C	6577	6588	3722	1907
>=23.9C	0	0	439	202
% time >=23.9C	0.0%	0.0%	6.6%	3.0%
>32C	0	0	0	0