

New Hampshire Volunteer River Assessment Program
2019 Pemigewasset River Watershed Data



NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

	Measurements not meeting New Hampshire surface water quality standards
	Measurements not meeting NHDES quality assurance/quality control standards

^A Specific conductance > 835 µS/cm indicates exceedance of chronic chloride standard of 230 mg/L

^B Chronic water quality standard

^C Calculated using 1/2 of the 0.25 mg/L detection limit of Total Kjeldahl Nitrogen (0.125 mg/L) and/or 1/2 of the 0.050 mg/L detection limit of Nitrate+Nitrite (0.025 mg/L)

23-PMI, Pemigewasset River, Route 175 Bridge, Woodstock, NHDES Trend Station

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E. coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA	<406	<126	230 ^B
06/20/2019	09:40	10.55	104.4	5.81	0.10	58.5	14.9	20		10
07/16/2019	09:40	9.20	93.6	6.05	0.17	61.4	16.1	<10		11
08/13/2019	12:10	8.51	93.4	6.79	0.33	89.6	19.5	<10	8	15
10/15/2019	09:50	12.48	107.0	5.86	0.13	64.7	8.6			12

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO ₂) + Nitrate(NO ₃) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
06/20/2019	09:40	0.007	ND	0.12	0.25
07/16/2019	09:40	0.012	ND	0.13	0.26
08/13/2019	12:10	0.033	ND	0.26	0.39
10/15/2019	09:50	0.018	ND	0.10	0.23

21-PMI, Pemigewasset River, Memorial Bridge, Thornton

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E. coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA	<406	<126	230 ^B
07/30/2019	09:28	6.31	72.6	6.04	0.39	87.2	21.9			
08/27/2019	09:26	8.27	81.7	6.02	0.33	101.0	16.8			
05/14/2019	09:30	11.86	97.8	5.76		39.4	6.2			
05/28/2019	09:41	10.80	98.5	5.71	0.35	38.1	9.6			
07/09/2019	09:40	7.85	81.3	5.95	0.23	70.6	17.8			
07/16/2019	09:20	9.31	97.0	5.68	0.11	65.3	18.2			
07/30/2019	09:28							10		14
08/13/2019	09:10							41		17
08/27/2019	09:26							<10	13	19
09/10/2019	09:05	8.60	81.6	5.88	0.36	86.0	13.4			

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO ₂) + Nitrate(NO ₃) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
07/30/2019	09:28	0.014		0.21	
08/13/2019	09:10	0.009		0.19	
08/27/2019	09:26	0.013	ND	0.18	0.31

05G-MAD, Mad River, Upstream of WWTF, Waterville Valey, NHDES 2019 Synoptic Site

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (uS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E.coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA	<406	<126	230 ^B
06/27/2019	10:05	10.64	101.5	6.30	1.08	39.8	13.2	52		7
07/25/2019	10:45	10.02	96.2	6.03	0.17	51.5	13.5	<10		8
08/22/2019	11:45	8.84	90.4	6.34	1.03	44.8	16.4	148	34	7

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO2) + Nitrate(NO3) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
06/27/2019	10:05	0.010	0.40	0.06	0.46
07/25/2019	10:45	ND	ND	0.14	0.27
08/22/2019	11:45	0.010	ND	0.08	0.21

05C-MAD, Mad River, Waterville Valey, NHDES 2019 Synoptic Site

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (uS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E.coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA	<406	<126	230 ^B
06/27/2019	09:10	11.00	103.5	6.25	0.82	44.6	12.5	52		7
07/25/2019	10:10	10.13	96.7	6.28	0.17	86.1	13.3	20		15
08/22/2019	10:30	8.35	84.9	6.60	0.62	60.2	16.2	110	49	11

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO2) + Nitrate(NO3) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
06/27/2019	09:10	0.008	ND	0.08	0.20
07/25/2019	10:10	0.005	ND	0.22	0.35
08/22/2019	10:30	0.009	ND	0.15	0.28

03G-MAD, Mad River, Route 49 Bridge, Thornton

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA
05/14/2019	10:00	12.58	99.6	5.92		37.3	5.5
05/28/2019	10:11	11.20	99.1	5.98	0.10	37.5	9.3
07/09/2019	10:10	9.05	92.3	6.20	0.19	56.5	16.9
07/16/2019	09:50	9.61	95.4	5.88	0.16	46.1	16.2
07/30/2019	09:55	8.23	95.6	6.31	0.17	59.5	20.8
08/27/2019	09:45	8.91	98.5	6.16	0.06	62.9	14.8
09/10/2019	09:35	9.60	90.9	6.13	0.06	61.0	11.7

18-PMI, Pemigewasset River, Blair Bridge, Campton

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E. coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA	<406	<126	230 ^B
08/27/2019	08:56	7.61	78.8	6.06	0.70	112.0	16.8			
05/14/2019	09:05	11.24	93.5	5.77		44.0	6.6			
05/28/2019	08:55	10.60	96.6	5.90	0.42	42.7	10.9			
07/09/2019	08:49	7.40	78.6	6.03	0.31	78.9	18.5			
07/16/2019	08:50	8.52	88.7	5.92	0.50	64.6	18.6			
07/30/2019	08:45	7.07	87.7	5.89	0.51	101.1	22.3	20		17
08/13/2019	08:45							63		20
08/27/2019	08:56							20	36	22
09/10/2019	08:30	8.40	83.4	5.99	0.45	98.3	14.4			

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO2) + Nitrate(NO3) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
07/30/2019	08:45	0.009		0.19	
08/27/2019	08:56	0.012	ND	0.15	0.28
08/13/2019	08:45	0.017		0.17	

01-BGK, Bog Brook, Campton, NHDES 2019 Synoptic Site

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E. coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA	<406	<126	230 ^B
06/27/2019	11:10	9.07	97.5	6.65	1.71	23.7	18.9	171		<3
07/25/2019	11:45	9.13	97.3	6.25	0.40	44.8	18.4	20		7
08/22/2019	10:30	8.48	93.5	6.76	2.30	30.2	20.1	211	90	<3

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO2) + Nitrate(NO3) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
06/27/2019	11:10	0.026	0.32	ND	0.35
07/25/2019	11:45	0.012	ND	ND	
08/22/2019	10:30	0.023	0.42	ND	0.45

15-PMI, Pemigewasset River, Holderness Road Bridge, Plymouth

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA
05/14/2019	08:15	11.51	97.2	6.05		56.2	7.8
05/28/2019	08:10	10.20	95.9	6.11	0.59	48.9	12.6
07/09/2019	08:15	7.75	82.8	6.18	0.58	83.6	18.6
07/16/2019	08:15	7.51	82.5	6.01	16.80	71.0	19.4
07/30/2019	08:15	7.90	91.3	6.09	1.30	100.3	22.5
08/27/2019	08:07	7.17	75.5	6.25	0.99	115.2	16.6
09/10/2019	08:08	8.10	80.0	6.23	0.78	95.1	13.9

14X-PMI, Pemigewasset River, Upstream of Plymouth WWTP, Plymouth, NHDES 2019 Synoptic Site

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (uS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E. coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA	<406	<126	230 ^B
06/27/2019	11:45	8.84	93.6	6.48	3.72	46.9	18.1	624		8
07/25/2019	12:45	8.60	85.6	6.30	3.66	92.3	21.2	52		15
08/22/2019	09:30	8.86	94.8	6.48	5.26	69.0	18.6	1223	341	13

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO ₂) + Nitrate(NO ₃) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
06/27/2019	11:45	0.030	ND	ND	
07/25/2019	12:45	0.013	ND	0.16	0.29
08/22/2019	09:30	0.027	0.29	0.10	0.39

14T-PMI, Pemigewasset River, Downstream of Plymouth WWTF, NHDES 2019 Synoptic Site

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (uS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E. coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA	<406	<126	230 ^B
06/27/2019	12:20	9.40	99.5	6.53	8.00	48.6	18.1	495		8
07/25/2019	13:30	8.78	103.9	6.33	3.53	90.0	23.7	84		14
08/22/2019	10:00	8.38	89.9	6.69	5.64	71.3	18.7	1450	392	12

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO ₂) + Nitrate(NO ₃) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
06/27/2019	12:20	0.036	ND	0.06	0.19
07/25/2019	13:30	0.027	ND	0.20	0.33
08/22/2019	10:00	0.124	1.20	0.12	1.32

11A-PMI, Pemigewasset River, Sahegenet Falls, Bridgewater

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E. coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA	<406	<126	230 ^B
05/23/2019	11:25	10.34	97.0	5.86		50.7	12.6			
05/29/2019	10:50	10.60	92.5	6.10	2.01	42.5	9.7			
06/26/2019	10:50	10.01	102.5	6.14	1.33	63.4	16.8			
07/17/2019	10:40	8.30	91.1	5.90	10.06	85.8	19.9			
07/31/2019	10:25	6.59	78.5	6.22	1.44	121.6	24.1			
08/14/2019	11:15	8.78	99.0	6.16	1.19	130.8	21.3			
08/28/2019	11:25	8.88	98.4	6.19	0.86	134.2	20.3			
09/18/2019	11:45	9.76	97.7	6.37		128.3	15.4			
07/30/2019	10:40							10		20
08/13/2019	07:30							<10		24
08/27/2019	07:30							75	16	25

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO ₂) + Nitrate(NO ₃) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
07/30/2019	10:40	0.013		0.23	
08/13/2019	07:30	0.011		0.22	
08/27/2019	07:30	0.020	ND	0.23	0.36

01-NFD, Newfound River, Route 104 at Pleasant Street Bridge, Bristol

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm ^A	NA
05/23/2019	09:10	10.50	93.0	6.38		43.2	10.8
05/29/2019	08:45	10.70	98.7	6.24	0.62	43.2	11.8
06/26/2019	08:45	8.10	87.2	6.46	0.45	44.9	19.1
07/17/2019	09:13	7.87	92.1	6.35	0.72	53.0	23.2
07/31/2019	09:10	7.59	90.9	6.38	0.41	62.5	24.4
08/14/2019	09:00			5.91	0.33		20.6
08/28/2019	08:45	8.06	88.6	5.97	0.25	59.3	20.2
09/18/2019	08:40	8.62	88.4	6.37	0.28	49.0	16.5

09A-PMI, Pemigewasset River, Mooney-Clark, Bristol

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)	<i>E. coli</i> (cts/100ml)	<i>E. coli</i> Geometric Mean	Chloride (mg/L)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm^A	NA	<406	<126	230^B
05/23/2019	10:50	10.35	96.5	6.02		49.5	12.9			
05/29/2019	10:15	11.10	100.0	6.84	1.17	52.5	10.5			
06/26/2019	10:10	9.60	102.3	6.03	0.81	74.4	18.5			
07/17/2019	10:07	8.07	91.7	5.84	12.30	79.1	21.6			
07/30/2019	11:00							<10		18
07/31/2019	09:55	7.51	93.1	6.30	1.40	110.9	26.3	15		30
08/13/2019	07:00							10		22
08/14/2019	10:25	9.18	108.4	6.23	1.16	115.7	23.6	6	8	80
08/27/2019	07:00							<10		20
08/28/2019	10:50	9.25	107.3	6.32	1.21	111.7	22.7			
09/18/2019	10:30	9.23	93.9	6.21	0.91	122.4	16.2	12	8	100

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO ₂) + Nitrate(NO ₃) (mg/L)	Total Nitrogen (mg/L) ^C
Standard	NA	Narrative	Narrative	Narrative	Narrative
07/30/2019	11:00	0.021		0.16	
08/13/2019	07:00	0.013		0.15	
08/27/2019	07:00	0.015	ND	0.16	0.29

07-PMI, Pemigewasset River, Old Bristol Road Bridge off Central St, Bristol

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (µS/cm)	Water Temp. (°C)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm^A	NA
05/23/2019	09:50	9.04	84.1	6.10		41.6	12.2
05/29/2019	09:16	9.60	90.4	6.03	0.96	52.0	12.9
06/26/2019	09:08	8.30	90.3	6.32	1.12	55.2	19.1
07/17/2019	09:30	8.04	91.7	5.92	17.90	59.0	21.9
07/31/2019	09:30	7.25	86.5	6.34	1.83	101.6	24.2
08/14/2019	09:45	7.81	90.0	6.14	1.13	121.7	22.4
08/28/2019	09:30	8.06	90.9	6.03	1.39	107.3	21.3
09/18/2019	09:00	8.60	88.6	6.36	1.02	117.0	16.8

00M-SMT, Smith River, Bridge Downstream of Profile Falls, Bristol

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance (uS/cm)	Water Temp. (°C)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 µS/cm^A	NA
05/23/2019	08:20	8.94	85.7	6.54		57.3	13.3
05/29/2019	08:15	10.10	92.0	6.45	1.12	53.5	11.6
06/26/2019	08:15	8.42	86.2	6.69	1.51		17.2
07/17/2019	08:45	8.54	93.9	6.50	1.78	91.3	20.0
07/31/2019	08:45	8.02	93.6	6.79	1.07	109.9	23.0
08/14/2019	08:44			6.60	1.12		19.3
08/28/2019	08:20	9.23	97.2	6.80	0.65	103.5	17.9
09/18/2019	08:15	9.93	94.5	6.83	0.47	114.8	13.1



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