

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA

Eastern Lake Erie Basin Chautauqua-Conneaut Subbasin

LOCATION.--Lat 42°04′26″, long 80°14′05″ referenced to North American Datum of 1983, Erie County, PA, Hydrologic Unit 04120101, on right bank, about 150 ft downstream of the Manchester Road bridge along the Pennsylvania Fish and Boat Commission access road, approximately 0.35 mi upstream from mouth, and 0.67 mi north of SR 5.

DRAINAGE AREA.--37.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 2008 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 600 ft above National Geodetic Vertical Datum of 1929, from topographic map. Satellite telemetry at station.

COOPERATION.--Station established and maintained by the U.S. Geological Survey in cooperation with the Pennsylvania Department of Environmental Protection.

REMARKS.--Records fair except those for estimated daily discharges, those for discharges greater than 6,810 ft³/s and those for the period May 2-20, which are poor. Several measurements of water temperature were made during the year.

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013 DAILY MEAN VALUES

[e, estimated]

						[e, estimate	d]					
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8.5	958	21	55	e57	103	301	35	109	88	28	53
2	55	482	218	52	e47	77	102	31	775	64	20	37
3	32	171	184	49	e47	59	75	29	84	45	23	18
4	15	85	129	47	e45	49	62	27	51	524	25	14
5	12	57	194	45	e42	49	63	26	39	126	16	12
6	228	46	61	46	e38	49	60	22	970	62	14	11
7	78	40	47	51	e36	48	58	18	290	51	14	11
8	69	36	64	48	e60	61	58	22	86	39	20	12
9	31	33	62	69	62	70	56	43	54	107	31	12
10	45	30	275	91	47	174	151	52	56	80	17	24
11	99	28	123	322	174	238	219	128	340	92	14	13
12	44	57	64	333	95	489	177	51	84	41	14	32
13	31	119	48	156	57	e98	104	36	459	33	186	21
14	36	53	41	138	51	e67	86	33	123	29	30	13
15	35	42	37	70	51	63	66	40	60	26	19	11
16	35	35	35	56	42	60	179	32	44	24	15	11
17	24	31	44	48	e28	61	94	24	39	21	14	11
18	19	29	359	e48	e36	60	62	22	43	26	12	10
19	20	27	133	38	66	83	75	21	31	21	12	9.6
20	32	26	69	39	48	66	83	20	26	110	11	9.5
21	122	25	206	e37	e42	61	61	18	23	37	11	467
22	36	24	121	e37	e32	58	49	26	21	26	11	107
23	28	24	78	e35	e30	61	46	69	20	119	9.4	35
24	37	29	64	e35	e28	62	79	84	18	300	8.5	25
25	26	25	61	e33	e21	62	104	36	18	43	8.2	21
26	21	24	54	e33	101	69	56	26	28	29	12	18
27	288	24	e55	e30	646	95	44	22	117	49	26	16
28	314	23	56	e393	279	111	42	252	237	86	29	16
29	902	21	56	e1,160		140	51	959	1,260	30	17	15
30	1,740	21	56	553		199	43	94	116	23	12	15
31	274		54	205		208		68		20	37	
Total	4,736.5	2,625	3,069	4,352	2,308	3,150	2,706	2,366	5,621	2,371	716.1	1,080.1
Mean	153	87.5	99.0	140	82.4	102	90.2	76.3	187	76.5	23.1	36.0
Max	1,740	958	359	1,160	646	489	301	959	1,260	524	186	467
Min	8.5	21	21	30	21	48	42	18	18	20	8.2	9.5
Cfsm	4.10	2.35	2.65	3.76	2.21	2.72	2.42	2.05	5.02	2.05	0.62	0.97
ln.	4.72	2.62	3.06	4.34	2.30	3.14	2.70	2.36	5.61	2.36	0.71	1.08
ln.	4.72	2.62	3.06	4.34	2.30	3.14	2.70	2.36	5.61	2.36	0.71	1.08

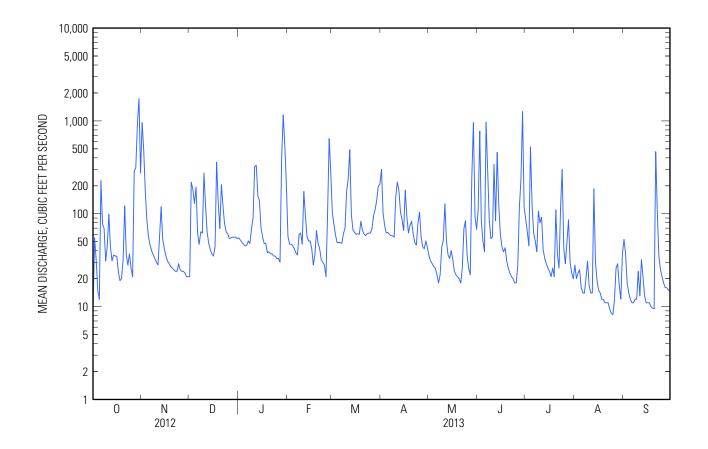
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2008 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	97.5	89.9	152	105	185	137	94.1	77.5	90.6	49.2	23.8	26.5
Max	153	119	242	166	352	222	226	213	194	138	52.4	37.2
(WY)	(2013)	(2012)	(2009)	(2012)	(2009)	(2011)	(2011)	(2011)	(2009)	(2009)	(2009)	(2009)
Min	67.6	38.0	99.0	51.9	57.3	78.7	38.6	25.2	22.9	11.4	8.70	13.1
(WY)	(2009)	(2010)	(2013)	(2011)	(2010)	(2012)	(2012)	(2009)	(2012)	(2012)	(2012)	(2008)

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

SUMMARY STATISTICS

	Calendar Ye	ar 2012	Water Year	r 2013	Water Years	2008 - 2013
Annual total	25,401.1		35,100.7			
Annual mean	69.4		96.2		95.9	
Highest annual mean					121	2009
Lowest annual mean					67.0	2010
Highest daily mean	1,740	Oct 30	1,740	Oct 30	4,820	Jun 30, 2009
Lowest daily mean	3.6	Aug 26	8.2	Aug 25	1.7	Sep 27, 2010
Annual seven-day minimum	4.1	Aug 20	10	Aug 19	4.0	Sep 21, 2010
Maximum peak flow			3,340	Oct 30	^a 21,	900Jun 30, 2009
Maximum peak stage			8.09	Oct 30	12.99	Jun 30, 2009
Instantaneous low flow			7.6	Oct 1 ^b	1.7	Sep 26, 2010 ^c
Annual runoff (cfsm)	1.86		2.58		2.57	•
Annual runoff (inches)	25.33		35.01		34.93	
10 percent exceeds	147		205		207	
50 percent exceeds	32		47		44	
90 percent exceeds	6.0		16		9.3	



a Estimated based on straight-line rating extension above 6,810 ft³/s.
b Also Oct 2 at gage height 3.33 ft, and Aug 25, 26, at gage height 3.28 ft.
c Also Sep 27, 28, 2010.

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA-Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 2008 to current year.

PERIOD OF DAILY RECORD.--October 2010 to current year (seasonal operation).

INSTRUMENTATION.--Water-quality monitor equipped with water temperature, specific conductance, pH, dissolved oxygen and turbidity sensors at 15-minute recording interval.

COOPERATION.--Station established and maintained by the U.S. Geological Survey in cooperation with the Pennsylvania Department of Environmental Protection.

REMARKS.--Water temperature records good. Specific conductance records good, except those for periods June 26-27, July 4-7, and July 30 to August 3, which are fair, and those for periods May 29-30, July 8-11, August 4-22, and September 21-26 which are poor. pH records good, except those for period September 27-30, which are fair, and those for period September 21-25, which are poor. Dissolved oxygen records good except those for period June 8-12, which are fair, and those for the period June 13-16, which are poor. Turbidity records are rated fair, except those for values greater than 1,000 FNU, those for values less than 5 FNU and those for periods June 7-9, and June 14 to July 18, which are poor. The reporting precision of the turbidity probe in low turbidity water is +/-0.3 FNU. The lowest reportable value, 0 FNU, does not necessarily indicate a condition of zero turbidity. Turbidity values greater than 1,000 FNU exceed the accuracy specifications of the manufacturer.

Other interruptions in the record are due to excessive fouling and/or equipment malfunctions. Data collection is suspended in winter months (approximately from November through March, but this period can vary form year to year. Location of the water-quality monitor was moved about 40 ft upstream May 31, 2012 to reduce fouling problems.

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			Novembe	r		Decembe	r		January	
1	14.8	10.4	12.4	8.7	8.0	8.3	5.7	3.0	4.3			
2	14.7	12.5	13.6	8.0	7.0	7.5	8.3	5.7	7.3			
3	16.9	14.4	15.5	7.4	6.4	6.9	9.9	8.1	8.9			
4	17.7	14.5	15.8	6.7	5.9	6.2	11.2	9.6	10.4			
5	16.2	14.3	15.3	5.9	5.2	5.5	9.6	5.0	7.0			
6	14.3	11.2	12.4	6.1	4.2	5.1	5.0	3.2	4.1			
7	11.2	9.6	10.4	4.8	2.9	3.9						
8	10.7	8.8	9.7	4.7	2.5	3.7						
9	10.3	7.0	8.7	6.2	3.9	5.1						
10	9.6	8.3	8.8	8.7	5.6	7.3						
11	9.8	7.5	8.6	10.6	8.0	9.2						
12	9.7	7.3	8.7	11.8	9.0	10.3						
13	9.2	5.2	7.0	9.0	5.2	6.4						
14	14.8	9.2	12.4	5.5	4.1	5.0						
15	14.2	11.1	12.6	4.8	2.8	3.9						
16	11.3	9.4	10.5	4.7	2.4	3.6						
17	12.4	8.4	10.2	4.8	2.2	3.5						
18	13.1	10.8	11.7	5.4	2.4	3.9						
19	12.3	9.6	11.1	5.7	3.2	4.4						
20	11.5	10.0	10.6	6.2	4.0	5.1						
21	11.8	9.9	10.7	5.6	3.1	4.3						
22	12.1	8.2	10.2	6.0	3.0	4.5						
23	13.3	12.1	12.7	7.7	4.0	5.8						
24	15.7	12.9	14.1	4.0	2.3	2.9						
25	16.4	13.4	14.8	2.5	1.8	2.2						
26	15.2	12.5	14.1	3.3	2.3	2.8						
27	12.5	10.4	11.1	3.3	2.5	3.0						
28	10.4	8.9	9.5	2.5	1.8	2.2						
29	8.9	7.6	8.5	3.4	1.4	2.2						
30	9.6	7.4	8.6	3.8	1.5	2.7						
31	9.2	8.4	8.8									
onth	17.7	5.2	11.3	11.8	1.4	4.9	11.2	3.0	7.0			

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February	/		March			April			Мау	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10										18.5	14.7	16.4
11										16.0	11.6	13.2
12										13.7	9.3	11.2
13										12.7	7.9	9.8
14										9.3	7.3	8.4
15										19.3	8.7	13.6
16										20.7	13.2	16.6
17										19.2	12.9	15.7
18										20.0	14.2	16.5
19										22.0	15.3	18.5
20										24.6	17.5	20.7
21										25.6	19.8	22.0
22												
23										22.1	15.6	19.4
24										15.6	10.7	12.6
25										17.1	9.4	12.7
26										18.1	10.5	14.0
27										17.5	10.9	14.1
28										17.4	13.8	15.2
29										19.2	16.2	17.5
30										20.5	16.8	18.6
31										24.2	17.6	20.4
Month										25.6	7.3	15.6
										23.0	1.3	13.0

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	<u> </u>	June		<u> </u>	July		<u> </u>	August			Septembe	
	24.0		20.0	10.6	_	10.0	22.2	_	20.0		-	
1	24.0	18.8	20.9	19.6	18.3	18.8	23.3	19.3	20.8	23.3	20.1	21.5
2	20.9	18.4	19.6	21.6	17.5	19.3	23.2	18.5	20.5	22.9	20.5	21.6
3	19.1	15.1	17.0	24.4	18.7	21.3	24.7	19.6	21.4	20.5	17.8	18.9
4	19.1	12.6	15.5	22.2	20.3	21.2	23.2	18.2	20.2	22.1	16.4	18.8
5	19.5	13.0	16.1	22.4	20.0	21.1	20.3	16.5	18.6	21.4	17.3	18.8
6	16.6	15.1	15.8	24.5	19.7	21.8	23.4	17.0	19.7	19.6	14.4	16.7
7	15.5	14.5	14.9	23.3	20.6	21.8	23.0	18.8	20.8	18.7	14.9	16.8
8	17.0	14.1	15.2	25.1	19.9	22.3	24.6	20.4	22.1	21.3	17.0	18.6
9	18.8	13.2	16.0	23.4	20.4	21.9	24.7	20.4	22.0	18.9	14.9	17.1
10	18.2	16.6	17.3	25.3	21.0	22.3	23.5	18.5	20.5	24.1	18.3	21.1
11	17.5	16.7	17.1	24.2	19.4	21.4	23.5	17.5	20.1	25.9	21.6	23.4
12	19.5	15.8	17.5	24.7	18.3	21.1	19.9	18.5	19.3	22.7	19.4	21.3
13	18.1	16.1	17.2	23.5	18.7	21.2	19.5	17.2	18.6	19.4	15.3	17.5
14	18.8	14.9	16.6	25.4	20.0	22.5	20.7	15.7	17.7	17.9	13.7	15.3
15	20.4	14.4	17.2	27.5	21.7	24.2	19.9	15.3	17.4	16.4	12.8	14.6
16	19.9	16.8	18.1	28.5	22.5	25.2	21.3	15.1	17.9	15.7	13.5	15.0
17	23.1	16.7	19.6	29.3	23.1	25.8	21.2	15.8	18.4	16.2	11.1	13.4
18	22.0	17.7	19.4	30.3	23.8	26.4	22.9	16.9	19.6	17.2	11.6	14.1
19	21.3	14.9	17.9	29.9	24.0	26.4	23.4	19.0	20.4	19.4	14.1	16.3
20	21.6	14.6	17.9	25.9	21.9	23.1	24.3	17.6	20.4	20.3	16.4	18.1
21	22.4	15.3	18.8	26.5	20.4	22.9	24.9	18.6	21.2	19.4	16.9	18.1
22	24.2	18.3	21.2	22.8	20.3	21.6	24.9	20.0	21.9	16.9	14.7	15.8
23	26.6	20.4	23.1	23.8	20.1	21.6	25.5	20.2	22.0	15.4	13.0	14.2
24	27.4	21.1	23.8	20.9	18.0	19.5	23.6	17.5	20.0	15.6	11.4	13.3
25	24.8	21.8	23.0	22.4	15.8	18.7	23.8	17.1	20.0	15.0	11.7	13.3
26	25.5	20.4	22.5	23.6	16.6	19.7	24.8	19.2	21.4			
27	22.5	20.0	20.8	20.2	18.4	19.2	23.6	20.4	22.0	16.6	12.1	14.0
28	20.8	19.2	19.8	20.9	18.3	19.2	22.8	21.5	22.0	17.6	12.8	14.8
29	19.8	18.5	19.1	20.4	16.8	18.1	25.6	20.4	22.5	17.0	13.4	15.3
30	21.5	18.1	19.5	22.5	16.2	19.0	24.5	20.5	22.4	17.4	15.6	16.3
31				22.6	17.2	19.6	22.9	21.0	21.9			
/lonth	27.4	12.6	18.6	30.3	15.8	21.6	25.6	15.1	20.4	25.9	11.1	17.0

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean									
		October			Novembe	r		Decembe	r		January	
1	655	622	641	232	165	182	619	606	612			
2	650	340	527	286	165	228	611	255	495			
3	508	366	461	349	286	312	347	254	292			
4	563	508	540	408	349	381	397	280	371			
5	584	553	574	448	408	430	331	247	279			
6	566	272	370	478	448	463	407	331	374			
7	444	372	414	502	478	491						
8	487	387	439	521	502	512						
9	545	487	518	535	521	528						
10	564	449	540	544	535	539						
11	449	347	393	555	544	549						
12	495	423	461	559	414	529						
13	520	495	505	414	298	323						
14	539	500	525	431	357	398						
15	531	502	520	469	431	452						
16	534	509	520	493	469	479						
17	546	521	530	514	493	504						
18	573	546	562	528	514	521						
19	603	573	590	541	528	535						
20	614	422	577	549	541	545						
21	535	330	391	556	549	553						
22	500	418	462	561	556	559						
23	536	497	520	562	537	557						
24	545	516	528	605	551	576						
25	548	524	538	770	584	668						
26	571	548	562	726	639	664						
27	576	244	430	746	636	686						
28	340	252	294	733	662	688						
29	258	135	231	662	637	647						
30	223	114	148	637	617	625						
31	311	223	276									
onth	655	114	471	770	165	504	619	247	404			

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10										701	511	664
11										591	388	442
12										560	475	519
13										596	560	578
14										615	594	609
15										669	613	639
16										670	647	654
17										666	658	660
18										672	663	667
19										683	672	675
20										709	683	693
21										713	577	698
22												
23										758	463	608
24										577	458	546
25										616	564	586
26										657	616	638
27										672	657	663
28										746	210	598
29										353	173	254
30										495	353	419
31										517	414	449
lonth										758	173	584

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			Septembe	r
1	496	294	444	435	344	380	519	461	500	575	286	512
2	312	176	228	493	380	449	535	513	524	514	313	407
3	458	312	394	539	444	516	551	516	531	564	511	538
4	526	458	493	551	169	248	551	491	514	593	564	578
5	577	526	553	340	242	290	525	510	518	617	591	602
6	585	109	377	453	331	395	549	524	537	645	617	629
7	268	126	207	516	420	482	567	549	559	652	593	638
8	340	268	308	575	516	550	607	567	576	675	641	652
9	383	340	362	560	369	450	658	479	543	686	608	667
10	404	372	390	478	357	439	536	493	518	735	530	608
11	404	179	263	445	342	404	558	536	548	586	397	559
12	348	243	304	520	445	485	570	553	562	623	408	528
13	356	184	240	559	520	542	566	222	315	558	471	522
14	321	215	270	589	559	574	434	325	383	579	558	568
15	379	319	350	604	589	596	507	434	471	597	579	586
16	417	379	399	620	604	612	553	507	530	609	589	596
17	451	417	436	632	618	624	587	553	570	628	608	616
18	473	433	449	635	561	607	596	576	583	639	625	631
19	477	468	473	643	604	633	614	596	603	639	616	629
20	505	476	492	631	352	451	626	614	618	636	591	617
21	514	505	510	541	446	503	640	625	631	616	157	349
22	523	514	519	575	541	563	647	619	636	430	253	355
23	535	523	528	585	309	382	652	630	642	511	430	475
24	545	534	538	357	149	208	654	632	646	560	511	538
25	549	525	540	389	276	335	654	631	645	594	560	576
26	569	510	531	449	389	420	656	368	611			
27	588	366	501	471	251	447	675	450	581	659	642	649
28	484	194	364	380	251	311	572	408	501	674	656	662
29	245	100	149	446	380	418	589	500	564	681	656	670
30	344	189	266	491	446	469	599	580	590	682	655	672
31				514	491	502	599	278	459			
Month	588	100	396	643	149	461	675	222	549	735	157	573

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
		Octobe	r		Novembe	er		Decembe	er		January	1
1	8.6	8.0	8.2	7.9	7.8	7.8	8.6	8.3	8.4			
2	8.4	7.8	8.0	8.0	7.8	7.9	8.4	8.0	8.3			
3	8.6	7.8	8.0	8.1	8.0	8.1	8.2	8.0	8.1			
4	8.6	7.9	8.1	8.2	8.1	8.2	8.4	8.0	8.2			
5	8.5	8.0	8.0	8.2	8.2	8.2	8.1	8.0	8.1			
6	8.0	7.7	7.8	8.3	8.2	8.2	8.3	8.1	8.2			
7	8.1	7.9	7.9	8.3	8.2	8.2						
8	8.3	7.9	8.0	8.3	8.2	8.3						
9	8.3	8.0	8.1	8.3	8.3	8.3						
10	8.3	7.9	8.0	8.3	8.3	8.3						
11	8.1	7.8	7.9	8.4	8.3	8.3						
12	8.3	7.9	8.0	8.4	8.2	8.3						
13	8.4	7.9	8.1	8.2	8.0	8.1						
14	8.5	7.9	8.1	8.2	8.1	8.2						
15	8.3	7.9	8.0	8.3	8.2	8.2						
16	8.5	8.0	8.1	8.3	8.2	8.2						
17	8.9	8.0	8.3	8.3	8.2	8.3						
18	8.9	8.3	8.4	8.4	8.2	8.3						
19	8.8	8.3	8.4	8.4	8.3	8.3						
20	8.7	8.2	8.3	8.4	8.3	8.3						
21	8.4	8.1	8.2	8.4	8.3	8.3						
22	8.6	8.2	8.3	8.4	8.3	8.3						
23	8.5	8.2	8.3	8.5	8.3	8.3						
24	8.8	8.2	8.3	8.4	8.3	8.3						
25	8.7	8.2	8.3	8.4	8.3	8.3						
26	8.7	8.2	8.3	8.5	8.3	8.3						
27	8.3	8.0	8.1	8.5	8.3	8.3						
28	8.1	8.0	8.0	8.5	8.3	8.3						
29	8.0	7.6	8.0	8.5	8.3	8.4						
30	7.9	7.5	7.6	8.6	8.3	8.4						
31	8.0	7.9	8.0									
lax	8.9	8.3	8.4	8.6	8.3	8.4	8.6	8.3	8.4			
lin	7.9	7.5	7.6	7.9	7.8	7.8	8.1	8.0	8.1			

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
		Februar	у		March			April			May	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10										8.4	8.0	8.1
11										8.2	7.9	8.0
12										8.4	8.0	8.2
13										8.4	8.1	8.2
14										8.3	8.2	8.2
15										8.5	8.1	8.3
16										8.5	8.1	8.2
17										8.5	8.1	8.3
18										8.5	8.1	8.3
19										8.5	8.1	8.3
20										8.5	8.1	8.2
21										8.5	8.0	8.3
22										o. <i>5</i>		0.3
23										8.1	7.9	8.0
23 24										8.2	7.9 7.9	8.0
2 4 25										8.3	8.0	8.1
26										8.4	8.0	8.1
27										8.4	8.0	8.1
28										8.1	7.2	8.0
29										7.7	7.2	7.5
30										8.0	7.7	7.9
31										8.2	7.9	8.0
Max										8.5	8.2	8.3
Viin										7.7	7.2	7.5

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
		June			July			August		;	Septemb	er
1	8.2	7.8	8.0	8.2	8.1	8.1	8.7	8.2	8.4	8.6	8.0	8.2
2	7.9	7.6	7.7	8.3	8.1	8.2	8.7	8.3	8.4	8.6	8.0	8.2
3	8.1	7.9	8.0	8.4	8.1	8.2	8.7	8.3	8.4	8.6	8.1	8.3
4	8.2	8.0	8.1	8.2	7.7	7.8	8.7	8.3	8.4	8.6	8.2	8.3
5	8.3	8.1	8.2	8.1	7.9	8.0	8.7	8.3	8.4	8.7	8.2	8.4
6	8.2	7.4	8.1	8.3	8.0	8.2	8.6	8.3	8.4	8.7	8.3	8.4
7	8.0	7.6	7.9	8.4	8.1	8.2	8.7	8.2	8.4	8.7	8.3	8.4
8	8.1	8.0	8.0	8.5	8.2	8.3	8.6	8.2	8.4	8.7	8.2	8.4
9	8.2	8.0	8.1	8.2	8.0	8.1	8.7	8.2	8.3	8.7	8.3	8.4
10	8.2	8.1	8.1	8.4	8.0	8.2	8.7	8.2	8.4	8.7	8.2	8.3
11	8.1	7.6	7.9	8.5	8.0	8.2	8.6	8.2	8.4	8.7	8.0	8.3
12	8.2	7.9	8.0	8.6	8.1	8.3	8.6	8.2	8.4	8.6	8.0	8.3
13	8.0	7.7	7.8	8.6	8.2	8.3	8.3	8.0	8.2	8.7	8.2	8.4
14	8.1	7.9	8.0	8.6	8.2	8.3	8.6	8.2	8.3	8.6	8.2	8.4
15	8.3	8.0	8.1	8.6	8.1	8.3	8.7	8.2	8.4	8.7	8.3	8.4
16	8.3	8.0	8.2	8.6	8.1	8.3	8.6	8.2	8.4	8.6	8.2	8.4
17	8.4	8.1	8.2	8.6	8.2	8.3	8.7	8.2	8.4	8.6	8.3	8.4
18	8.4	8.1	8.2	8.6	8.0	8.3	8.7	8.2	8.4	8.6	8.3	8.4
19	8.4	8.1	8.2	8.7	8.3	8.4	8.7	8.2	8.3	8.7	8.3	8.4
20	8.5	8.1	8.2	8.5	8.2	8.3	8.7	8.3	8.4	8.7	8.2	8.4
21	8.5	8.1	8.2	8.7	8.2	8.4	8.7	8.2	8.4	8.3	8.1	8.2
22	8.6	8.1	8.3	8.7	8.2	8.4	8.7	8.2	8.4	8.5	8.3	8.4
23	8.6	8.1	8.3	8.6	8.1	8.3	8.6	8.2	8.3	8.5	8.3	8.4
24	8.6	8.1	8.3	8.3	8.0	8.2	8.6	8.2	8.4	8.4	8.2	8.3
25	8.6	8.1	8.2	8.6	8.2	8.3	8.6	8.2	8.4	8.5	8.3	8.4
26	8.5	8.0	8.2	8.6	8.3	8.4	8.7	8.2	8.3			
27	8.2	8.0	8.1	8.6	8.2	8.4	8.7	8.1	8.3	8.4	8.1	8.2
28	8.4	7.8	8.0	8.5	8.1	8.3	8.4	8.1	8.2	8.4	8.1	8.2
29	7.9	7.4	7.6	8.6	8.3	8.4	8.6	8.2	8.3	8.5	8.1	8.2
30	8.2	7.8	8.1	8.7	8.4	8.5	8.6	8.2	8.3	8.5	8.1	8.2
31				8.7	8.3	8.5	8.6	8.0	8.2			
Max	8.6	8.1	8.3	8.7	8.4	8.5	8.7	8.3	8.4	8.7	8.3	8.4
Min	7.9	7.4	7.6	8.1	7.7	7.8	8.3	8.0	8.2	8.3	8.0	8.2

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October		November			December			January			
1	12.3	10.0	11.0	11.8	11.5	11.6	13.9	12.4	13.2			
2	11.4	10.0	10.3	12.0	11.8	11.8	12.4	11.9	12.1			
3	10.9	9.5	10.1	12.2	12.0	12.1	11.9	11.2	11.6			
4	11.2	9.3	10.1	12.4	12.1	12.3	11.4	10.8	11.1			
5	11.2	9.4	9.9	12.6	12.4	12.5	12.8	11.4	12.2			
6	11.0	9.7	10.6	12.9	12.4	12.6	13.6	12.8	13.1			
7	11.5	11.0	11.3	13.4	12.7	13.0						
8	12.0	11.2	11.6	13.6	12.8	13.1						
9	12.6	11.2	11.8	13.1	12.3	12.7						
10	12.4	11.4	11.7	12.5	11.5	12.0						
11	12.4	11.5	11.9	11.8	11.2	11.5						
12	12.5	11.6	12.0	11.6	10.7	11.1						
13	13.6	11.4	12.5	12.8	11.6	12.4						
14	11.7	9.8	10.9	13.1	12.7	12.9						
15	11.5	9.8	10.5	13.6	12.9	13.2						
16	12.1	10.8	11.3	13.8	13.0	13.4						
17	12.6	10.3	11.5	14.0	13.0	13.5						
18	12.0	10.3	10.8	13.8	12.8	13.3						
19	12.2	10.3	11.0	13.5	12.7	13.1						
20	12.2	10.4	11.0	13.2	12.4	12.8						
21	11.4	10.8	11.1	13.5	12.7	13.0						
22	12.1	10.6	11.4	13.6	12.4	13.0						
23	11.1	10.3	10.6	12.8	12.0	12.4						
24	11.2	9.8	10.4	13.6	12.8	13.4						
25	11.2	9.6	10.2	14.0	13.4	13.7						
26	11.3	9.8	10.3	13.9	13.4	13.6						
27	11.3	10.4	10.9	13.9	13.4	13.6						
28	11.7	11.3	11.5	14.2	13.6	13.8						
29	11.8	9.9	11.7	14.4	13.5	13.9						
30	11.8	11.1	11.4	14.3	13.2	13.7						
31	11.5	11.2	11.3									
lonth	13.6	9.3	11.1	14.4	10.7	12.8	13.9	10.8	12.2			

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February				March			April			May	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10										10.5	9.0	9.8
11										10.9	9.7	10.5
12										11.7	10.7	11.2
13										12.3	11.1	11.6
14										12.5	11.5	11.9
15										11.7	9.3	10.7
16										10.9	9.2	10
17										11.3	9.6	10.3
18										11.1	9.3	10.1
19										10.7	8.7	9.7
20										10.1	8.2	9.1
21										9.7	8.1	8.8
22												
23										9.9	8.2	9.1
24										11.2	9.9	10.9
25										11.8	10.1	11.0
26										11.6	9.9	10.7
27										11.8	9.8	10.8
28										10.7	9.7	10.1
29										10.0	9.3	9.7
30										9.8	9.2	9.5
31										9.8	8.6	9.3
Month										12.5	8.1	10.2

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July		August			September		
1	9.6	8.7	9.2	9.3	8.9	9.2	10.2	8.6	9.2	10.2	8.2	8.8
2	9.8	9.3	9.5	9.6	8.7	9.2	10.6	8.6	9.4	9.5	8.4	8.8
3	10.7	9.8	10.2	9.5	8.2	8.9	10.0	8.5	9.1	10.2	8.6	9.3
4	11.5	10.1	10.8	9.0	8.4	8.8	10.4	8.7	9.4	10.6	8.6	9.5
5	11.5	10.2	10.8	9.0	8.6	8.8	11.1	9.0	9.9	11.0	8.8	9.6
6	11.0	10.4	10.8	9.2	8.2	8.8	10.7	8.5	9.6	11.5	9.3	10.1
7	11.4	10.9	11.2	9.2	8.3	8.8	10.6	8.4	9.3	11.7	9.1	10.0
8	11.6	10.9	11.3	9.4	8.1	8.7	10.3	8.2	9.1	11.0	9.0	9.6
9	12.0	10.6	11.3	8.9	8.3	8.6	10.0	8.5	9.0	11.5	8.9	10.0
10	11.2	10.7	10.9	9.2	8.0	8.6	10.5	8.6	9.4	10.1	8.0	9.1
11	11.2	10.1	10.6	9.3	8.5	8.8	10.6	8.5	9.4	10.3	7.6	8.7
12	10.6	9.5	10.1	9.7	8.3	9.0	10.5	8.7	9.5	9.8	8.0	8.8
13	10.9	9.7	10.3	9.9	8.2	9.0	9.7	9.0	9.4	10.8	8.8	9.7
14	10.9	9.6	10.3	9.8	8.0	8.8	10.5	9.2	9.8	11.2	9.6	10.2
15	11.0	9.1	10.1	9.8	7.7	8.6	11.0	9.2	10.1	11.8	9.5	10.5
16	10.1	9.3	9.7	9.6	7.6	8.4	11.0	8.9	9.9	11.2	9.5	10.2
17				9.2	7.5	8.2	11.4	8.8	10.0	11.9	9.8	10.7
18				9.2	7.5	8.2	11.3	8.4	9.8	11.8	9.5	10.5
19				9.3	7.5	8.3	11.3	8.5	9.4	11.5	9.0	10.0
20				9.0	7.7	8.6	11.5	8.2	9.5	11.2	8.4	9.6
21				9.9	8.2	9.1	11.0	8.0	9.3	9.7	8.4	9.2
22				10.1	8.3	9.1	11.1	8.1	9.2	10.2	9.7	10
23				9.5	8.5	9.0	10.6	8.1	9.0	10.9	10.2	10.4
24				9.7	9.1	9.4	11.2	8.5	9.5	11.2	10.0	10.6
25				10.3	9.0	9.7	11.5	8.4	9.6	11.2	9.8	10.6
26				10.2	8.6	9.5	11.2	8.0	9.4			
27				10.1	8.9	9.5	9.8	8.0	8.9			
28	9.4	8.7	8.9	9.8	9.2	9.5	9.2	8.0	8.5	11.0	9.2	10
29	9.3	8.9	9.1	10.7	9.3	9.8	10.0	7.9	8.8	11.1	9.1	10
30	9.3	8.8	9.1	10.8	8.9	9.8	10.4	7.8	8.8	11.0	9.0	9.7
31				10.8	8.7	9.6	9.3	7.8	8.6			
/lonth	12.0	8.7	10.2	10.8	7.5	9.0	11.5	7.8	9.3	11.9	7.6	9.8

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	
	October			November			December			January			
1	2.6	1.2	1.6				5.1	3.2	3.7				
2	170	1.4	26				100	3.2	35				
3	34	3.4	12				65	4.4	20				
4	10	2.5	4.6				62	0.6	9.5				
5	10	2.0	3.8				63	4.5	24				
6	480	4.4	99										
7	29	9.0	17										
8	19	4.7	8.5										
9													
10													
11													
12													
13													
14													
15													
16													
17													
18	3.6	0.8	1.0										
19	0.9	0.8	0.9										
20	92	0.8	9.3										
21	55	5.5	22										
22	18	1.0	3.3										
23	11	0.8	1.6										
24	4.6	0.9	2.0										
25	27	0.8	2.4										
26	1.3	0.8	1.0										
27	280	0.8	88										
28	83	24	48										
29	1,190	38	230	5.6	4.6	4.9							
30	1,240	63	520	5.1	4.4	4.8							
31													
onth	1,240	0.8	52	5.6	4.4	4.8	100	0.6	18				

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	
	February			March			April				May		
1													
2													
3													
4													
5													
6													
7													
8													
9													
10										110	0.9	8.0	
11										140	4.8	58	
12										4.8	0.8	1.3	
13										1.0	1.0	1.0	
14										2.7	0.8	1.0	
15										1.0	1.0	1.0	
16										3.2	1.0	1.0	
17										1.0	1.0	1.0	
18										1.1	1.0	1.0	
19										1.1	0.8	1.0	
20													
21										28	0.8	3.3	
22										32	0.8	2.2	
23										120	0.8	27	
24										25	3.2	11	
25										3.2	0.8	1.1	
26										1.0	0.9	1.0	
27										1.0	1.0	1.0	
28										1,300	0.8	130	
29										1,300	47	510	
30										47	0.9	17	
31										26	0.8	4.8	
onth										1,300	0.8	37	

04213152 WALNUT CREEK UPSTREAM POOL, NEAR ERIE, PA—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July		August			September		
1				34	0.8	6.7	37	2.4	5.4	370	0.8	47
2				2.0	0.8	1.4	4.6	3.0	3.6	92	0.8	15
3				110	0.9	5.4	4.9	3.4	4.0	0.9	0.8	0.9
4				520	1.1	180	16	4.2	5.7	0.9	0.9	0.9
5				63	0.8	14	6.7	3.5	4.2	6.9	0.9	1.0
6				2.1	0.9	1.5	5.7	3.2	4.0	1.0	0.9	1.0
7	530	11	99	26	1.0	2.0	5.4	4.0	4.3	1.3	0.8	0.9
8	12	0.8	3.1	2.2	1.0	1.7	21	4.2	5.4	0.9	0.9	0.9
9	1.9	0.8	1.3	150	0.8	30	9.8	5.9	7.4	29	0.8	1.3
10				130	0.8	20	7.3	4.8	5.7	18	0.8	1.7
11				90	0.8	9.2	7.9	5.6	6.7	93	0.9	3.4
12				2.2	1.2	1.6	9.9	6.1	7.1	67	0.9	11
13				2.2	1.3	1.7	400	8.9	72	9.2	0.8	1.5
14	35	0.8	5.8	2.2	1.3	1.9	16	5.6	9.1	0.9	0.8	0.9
15	2.1	1.1	1.6	2.2	1.3	1.9	7.4	3.8	5.8	0.9	0.9	0.9
16	2.2	1.3	1.8	2.2	1.3	1.8	6.9	3.1	4.9	0.9	0.9	0.9
17	2.2	1.3	1.7	2.2	1.3	1.8	4.6	2.0	3.1	0.9	0.9	0.9
18	2.2	1.1	1.7	1.9	0.8	1.2	4.2	0.8	1.9	0.9	0.9	0.9
19	2.2	1.2	1.7	1.0	0.9	1.0	2.4	0.8	1.0	0.9	0.8	0.9
20	2.2	1.3	1.9	71	0.9	18	1.5	0.8	0.9	0.9	0.8	0.9
21	2.2	1.3	1.8	2.5	0.8	1.0	1.6	0.8	1.1	1,100	0.8	180
22	2.2	1.3	1.6	0.9	0.8	0.9	1.3	0.8	1.0	58	4.6	18
23	2.3	1.4	1.9	210	0.8	33	1.0	1.0	1.0	4.7	0.8	1.9
24	2.3	1.4	1.8	600	17	160	1.0	1.0	1.0	0.9	0.8	0.9
25	2.3	1.3	1.8	19	5.0	10	1.0	1.0	1.0	0.9	0.8	0.9
26	2.2	1.2	1.8	7.4	2.5	3.9	100	1.0	9.7			
27	120	0.8	20	150	2.0	16	45	0.8	6.4			
28	770	0.8	180	130	3.9	21	46	0.8	7.2	0.9	0.9	0.9
29	1,270	46	540	6.3	3.3	3.9	4.8	0.8	1.0	0.9	0.9	0.9
30	46	0.8	10	4.4	2.9	3.5	1.7	0.8	0.9	0.9	0.8	0.9
31				5.0	2.4	3.3	120	0.8	26			
Month	1,270	0.8	44	600	0.8	18	400	0.8	7.0	1,100	0.8	11