

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES  
PRESQUE ISLE BACTERIA PROJECT**

The following table contains water-quality data from two sites at Presque Isle Beach 2 in Erie, Pennsylvania sampled as part of a water-quality monitoring and modeling study to forecast fecal-indicator bacteria in recreational waters. The project is a cooperative study conducted by the U.S. Geological Survey in cooperation with the Erie County Health Department. The results were based on 52 samples collected at each of two recreational sites (referred to as east and west) at Presque Isle Beach 2. Samples were analyzed for *Escherichia coli* bacteria. The objective is to develop a surrogate for the rapid assessment of the recreational water-quality of Presque Isle Beach 2 using factors such as wave height, number of birds on the beach, lake-current direction, rainfall, turbidity, and wind direction. For additional information, contact Tammy Zimmerman at the USGS Pennsylvania Water Science Center, 215 Limekiln Road, New Cumberland, PA 17070: 717-730-6974 (email: tmzimmer@usgs.gov).

**REMARKS**--Explanation of column headings--**FNMU**: formazin nephelometric units; **mg/L**: milligrams per liter; **µS/cm**: microsiemens per centimeter at 25 degrees Celsius; **deg C**: degrees Celsius; **col/100 mL**: colonies per 100 milliliters.

**420752080084601 -- 28b Presque Isle Beach 2 West**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency col- lecting sample, code (00027)	Agency ana- lyzing sample, code (00028)	Turb- idity, IR LED light, mult. detect, FNMU (63684)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	<i>E coli</i> , modif. m-TEC, water, col/ 100 mL (90902)
MAY 2005									
30...	0830	84218	84218	8.6	8.3	8.1	303	14.9	32
31...	0950	84218	84218	3.1	8.8	8.2	297	16.2	<4
JUN									
01...	1030	84218	84218	1.9	9.8	8.2	293	16.8	<4
05...	0840	84218	84218	3.3	9.1	8.1	292	15.9	4k
06...	0930	84218	84218	13	8.9	8.1	294	16.5	12k
07...	0800	84218	84218	50	8.4	7.9	296	17.7	16k
10...	0900	84218	84218	1.0	8.8	8.1	297	19.9	<4
12...	0840	84218	84218	1.1	8.1	8.1	298	22.6	<4
13...	0840	84218	84218	2.1	9.2	8.1	294	20.9	12k
14...	1010	84218	84218	27	8.6	7.8	298	21.9	60
19...	0850	84218	84218	6.5	8.2	7.7	301	19.9	<4
20...	0840	84218	84218	4.8	9.5	8.1	297	19.4	<4
21...	1000	84218	84218	9.2	9.2	8.0	298	20.7	160
22...	1000	84218	84218	83	9.9	8.0	300	21.0	20
26...	0850	84218	84218	4.2	9.3	8.4	285	22.9	<4
27...	0800	84218	84218	2.0	8.8	8.1	290	22.1	8k
29...	1030	84218	84218	14	8.5	8.0	292	24.2	12k
JUL									
03...	0640	84218	84218	6.2	7.1	7.9	287	22.2	8k
04...	0840	84218	84218	8.3	8.1	7.9	288	22.8	12k
05...	0920	84218	84218	4.1	8.7	8.0	288	24.3	40
06...	0910	84218	84218	4.0	6.7	7.7	297	23.6	16k
10...	0840	84218	84218	14	8.1	7.9	285	23.4	52
12...	1010	84218	84218	2.6	8.8	8.2	278	26.0	<4
13...	0920	84218	84218	2.5	9.6	8.2	275	24.6	<4
17...	0830	84218	84218	8.9	7.8	7.8	275	23.7	270
18...	0850	84218	84218	34	7.7	7.7	279	24.6	60
19...	0900	84218	84218	82	8.1	7.8	279	25.1	140
20...	0920	84218	84218	8.7	8.7	7.8	282	25.9	4k
21...	0910	84218	84218	35	7.9	8.0	280	25.8	68
24...	0830	84218	84218	3.3	7.4	8.2	276	24.7	6k
25...	0850	84218	84218	43	8.0	8.0	278	24.8	64
26...	0840	84218	84218	17	7.4	7.9	282	25.4	18k
27...	1250	84218	84218	60	8.0	8.0	278	24.4	110
28...	0950	84218	84218	20	8.0	7.9	280	24.0	34
31...	0740	84218	84218	5.2	7.4	8.0	279	23.8	6k
AUG									
01...	0850	84218	84218	4.7	7.1	8.0	283	24.1	9k
02...	0830	84218	84218	29	7.3	7.9	286	25.9	60
03...	1110	84218	84218	18	7.7	8.1	287	27.2	17k
07...	0840	84218	84218	2.8	7.4	8.2	281	24.6	3k
08...	0840	84218	84218	3.9	7.6	8.2	279	24.9	<4
09...	0920	84218	84218	12	7.7	8.1	283	24.9	160
10...	1140	84218	84218	11	7.4	8.0	285	27.0	6k
14...	0800	84218	84218	3.6	7.3	8.2	279	25.8	<4
15...	0750	84218	84218	9.2	7.6	8.3	283	24.1	23
16...	0750	84218	84218	7.3	7.6	8.3	283	24.5	6k
17...	0910	84218	84218	4.0	7.8	8.2	282	24.9	11k
21...	0740	84218	84218	48	7.9	8.2	284	25.1	120
22...	0740	84218	84218	50	7.9	8.2	288	24.1	620
24...	0910	84218	84218	14	7.9	8.3	284	23.6	<4
29...	0740	84218	84218	5.8	7.8	8.4	283	23.2	<4
30...	0730	84218	84218	5.2	8.0	8.5	285	22.6	17k
SEP									
04...	0750	84218	84218	15	8.3	8.1	284	21.5	9k

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES  
PRESQUE ISLE BACTERIA PROJECT**

**420755080084501 -- 29b Presque Isle Beach 2 East**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency col- lecting sample, code (00027)	Agency ana- lyzing sample, code (00028)	Turb- idity, IR LED light, mult. detect, FNMU (63684)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	E coli, modif. m-TEC, water, col/ 100 mL (90902)
MAY 2005									
30...	0840	84218	84218	8.4	8.3	8.1	302	14.9	20
31...	1000	84218	84218	3.0	8.5	8.2	296	16.1	<4
JUN									
01...	1040	84218	84218	4.6	10.8	8.2	293	16.9	4k
05...	0850	84218	84218	2.4	8.9	8.0	292	15.7	<4
06...	0940	84218	84218	7.9	8.6	8.0	294	16.4	16k
07...	0810	84218	84218	60	8.0	7.9	295	17.7	12k
10...	0910	84218	84218	2.0	8.6	8.1	298	20.0	4k
12...	0850	84218	84218	1.2	8.0	8.1	299	22.6	<4
13...	0850	84218	84218	2.6	9.2	8.1	294	21.1	<4
14...	1020	84218	84218	18	8.3	7.8	298	21.9	68
19...	0900	84218	84218	7.2	8.2	7.8	302	19.9	4k
20...	0850	84218	84218	4.8	8.4	7.9	295	19.7	4k
21...	1010	84218	84218	3.9	9.0	8.0	297	20.6	36
22...	1010	84218	84218	6.3	9.1	8.0	298	21.0	1k
26...	0900	84218	84218	3.0	9.5	8.4	286	23.1	8k
27...	0810	84218	84218	2.5	8.6	8.1	290	22.4	4k
29...	1040	84218	84218	7.9	8.2	8.0	293	24.1	8k
JUL									
03...	0650	84218	84218	5.9	7.2	7.9	288	22.0	24
04...	0850	84218	84218	21	7.9	7.8	292	22.8	<4
05...	0930	84218	84218	4.1	8.1	8.0	288	24.2	28
06...	0920	84218	84218	4.0	7.9	7.9	289	23.7	80
10...	0850	84218	84218	8.0	7.7	7.8	284	23.3	40
12...	1020	84218	84218	2.4	8.5	8.2	278	25.9	4k
13...	0930	84218	84218	2.5	8.2	8.1	277	24.7	8k
17...	0840	84218	84218	7.7	7.7	7.8	276	23.7	430
18...	0900	84218	84218	18	7.6	7.7	280	24.6	40
19...	0910	84218	84218	120	8.1	7.8	280	25.1	110
20...	0930	84218	84218	10	7.1	7.8	281	25.9	32
21...	0920	84218	84218	21	7.5	8.0	279	25.8	16k
24...	0840	84218	84218	2.8	7.3	8.1	276	24.7	9k
25...	0900	84218	84218	50	7.8	7.9	279	24.8	54
26...	0850	84218	84218	8.0	6.9	7.8	281	25.8	18k
27...	1300	84218	84218	68	7.8	8.0	278	24.6	110
28...	1000	84218	84218	45	7.9	7.9	279	24.0	23
31...	0750	84218	84218	3.8	7.2	8.0	279	24.2	15k
AUG									
01...	0900	84218	84218	4.1	7.2	8.0	278	24.7	6k
02...	0840	84218	84218	15	7.1	7.9	284	26.0	66
03...	1120	84218	84218	34	7.5	8.1	289	27.4	25
07...	0850	84218	84218	4.4	7.6	8.2	280	25.4	3k
08...	0850	84218	84218	3.2	7.7	8.2	280	25.1	<4
09...	0930	84218	84218	9.4	7.4	8.1	282	25.0	75
10...	1150	84218	84218	13	7.5	8.0	285	27.0	6k
14...	0810	84218	84218	2.8	7.4	8.2	280	25.8	9k
15...	0800	84218	84218	7.1	7.6	8.4	282	24.4	15k
16...	0800	84218	84218	4.4	7.1	8.3	282	24.9	20
17...	0920	84218	84218	7.2	7.5	8.3	281	25.1	3k
21...	0750	84218	84218	63	8.0	8.2	284	25.0	98
22...	0750	84218	84218	36	7.7	8.2	288	24.4	46
24...	0920	84218	84218	3.9	7.8	8.4	284	23.6	4k
29...	0750	84218	84218	5.7	7.8	8.5	284	22.9	9k
30...	0740	84218	84218	4.9	7.9	8.5	287	22.1	6k
SEP									
04...	0800	84218	84218	13	8.1	8.1	284	21.7	20