



2005 Water Year
MONONGAHELA RIVER BASIN
03075070 Monongahela River at Elizabeth, PA

Latitude: 40° 15 ' 44"

Longitude: 079° 54 ' 05"

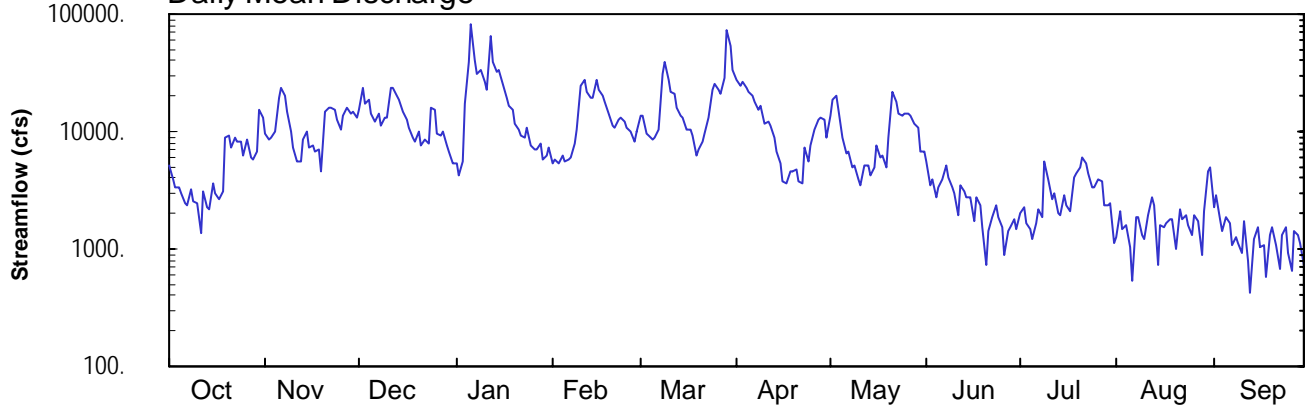
Hydrologic Unit Code: 05020005

Allegheny County

Datum: 717.90 feet

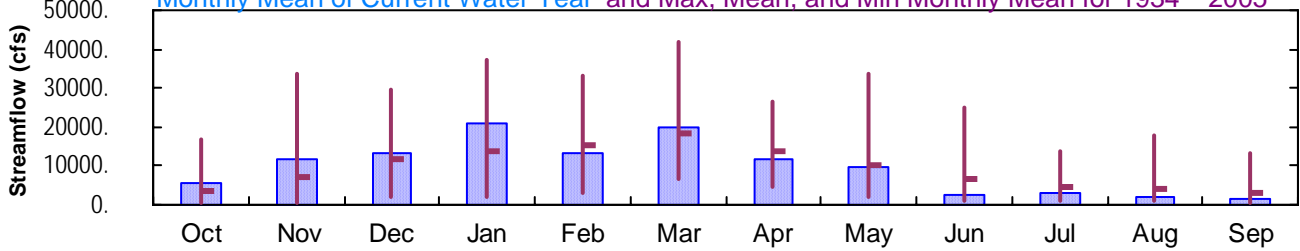
Drainage Area: 5340. mi²

Daily Mean Discharge

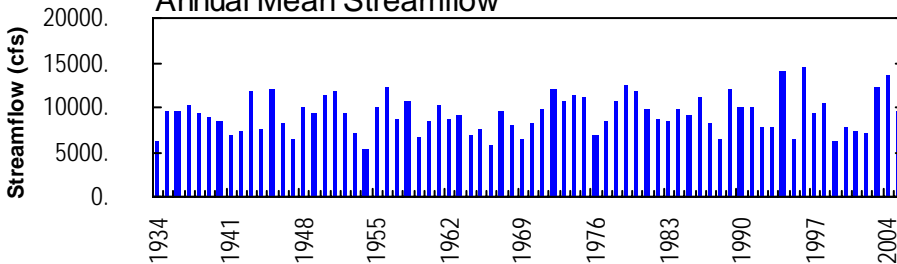


Monthly Statistics

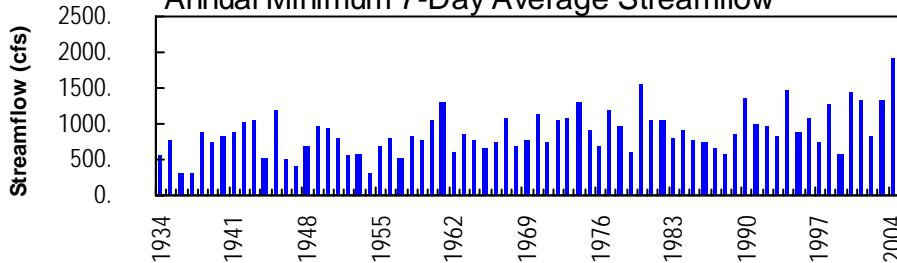
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1934 – 2005



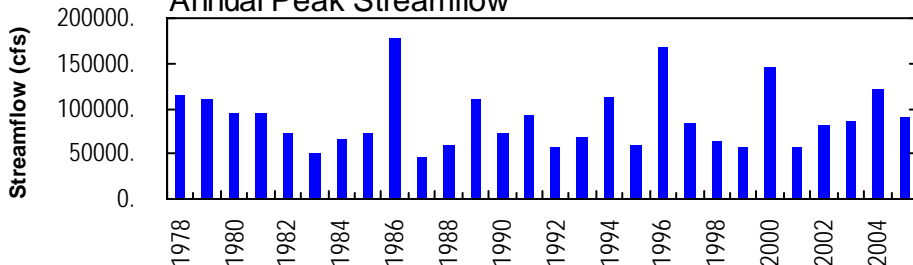
Annual Mean Streamflow



Annual Minimum 7-Day Average Streamflow



Annual Peak Streamflow



MONONGAHELA RIVER BASIN

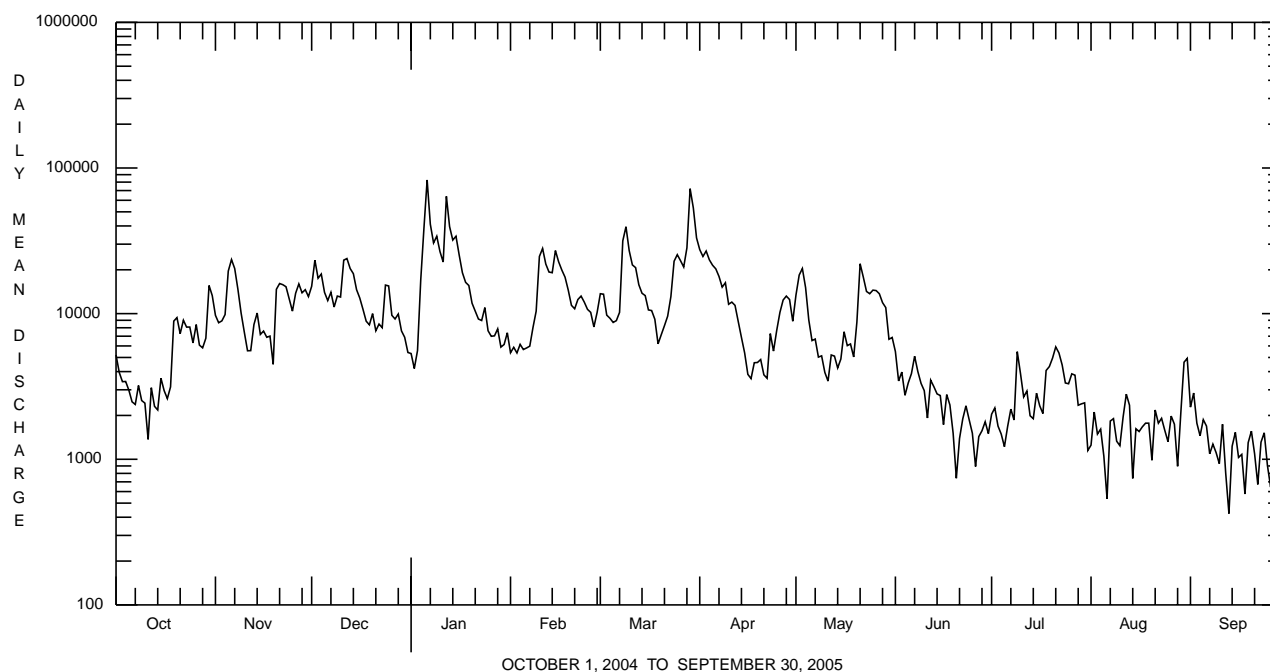
03075070 MONONGAHELA RIVER AT ELIZABETH, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1934 - 2005	
ANNUAL TOTAL	4419380		3493019			
ANNUAL MEAN	12070	† -18	9570	† -43	9259	14400
HIGHEST ANNUAL MEAN					5282	1996
LOWEST ANNUAL MEAN					158000	1954
HIGHEST DAILY MEAN	86400	Feb 7	82800	Jan 6	206	Jan 20 1996
LOWEST DAILY MEAN	1200	Sep 6	424	Sep 13	301	Jun 29 1936
ANNUAL SEVEN-DAY MINIMUM	1920	Jul 20	953	Sep 12	ab178000	Oct 1 1936
MAXIMUM PEAK FLOW			91100	Jan 6	30.39	Nov 6 1985
MAXIMUM PEAK STAGE			21.23	Jan 6		Jan 20 1996
10 PERCENT EXCEEDS	25500		21700		22400	
50 PERCENT EXCEEDS	8500		6690		5280	
90 PERCENT EXCEEDS	2420		1440		1170	

† Change in contents, equivalent in cubic feet per second, in Tygart Lake, Stonewall Jackson Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Energy Supply. Records of contents in Tygart Lake and Stonewall Jackson Lake furnished by U.S. Army Corps of Engineers.

a From rating curve extended above 110,000 ft³/s.

b Gage height 23.60 ft, datum then in use.



MONONGAHELA RIVER BASIN

03075070 MONONGAHELA RIVER AT ELIZABETH, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 2005 to current year.

pH: June 2005 to current year.

WATER TEMPERATURE: June 2005 to current year.

DISSOLVED OXYGEN: June 2005 to current year.

INSTRUMENTATION.--Automated sampler interfaced with a data collection platform with 60-minute recording interval. Satellite telemetry at station.

REMARKS.--Specific conductance, pH, and water temperature records rated fair except for periods June 1 and Sept. 30, which are poor. Dissolved oxygen record rated poor. Other interruptions in the record were due to malfunctions of the equipment.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

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

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd, std units (00400)	pH, water, unfltrd, std units (00403)	Specif. conductance, wat unfltrd, µS/cm 25 degC (90095)	Specif. conductance, wat unfltrd, µS/cm 25 degC (00095)	Temperature, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, unfltrd recover, mg/L (00916)	Magnesium, water, unfltrd recover, mg/L (00927)
NOV 2004	02...	1028	9813	7150	9.6	7.4	7.3	245	246	15.0	82	23.1	6.0
JAN 2005	04...	1030	9813	13400	13.0	8.0	7.3	305	313	4.5	100	28.3	7.6
MAR 2005	03...	1030	9813	9940	13.3	8.0	7.6	295	306	2.6	95	27.1	6.7
MAY 2005	03...	1045	9813	19700	10.8	7.2	7.5	217	219	10.5	72	20.4	5.0
JUL 2005	19...	0945	9813	3260	8.3	8.0	7.6	591	717	24.3	200	55.1	16.4
SEP 2005	14...	1015	9813	1110	7.9	7.2	7.6	458	475	25.0	140	38.1	11.2

Date	ANC, wat unfltrd, end pt, lab, mg/L as CaCO3 (00417)	Fluoride, water, unfltrd, mg/L (00951)	Sulfate, water, fltrd, mg/L (00945)	Residue on evap. at 105degC, wat fltrd, mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia, water, unfltrd, mg/L as N (00610)	Nitrate, water, unfltrd, mg/L as N (00620)	Nitrite, water, unfltrd, mg/L as N (00615)	Ortho-phosphate, water, unfltrd, mg/L as P (70507)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L (00600)	Organic carbon, water, unfltrd, mg/L (00680)	Aluminum, water, unfltrd recover, µg/L (01105)
NOV 2004	39	<.2	63.3	176	10	.070	.49	<.040	.03	.032	.72	2.7	790
JAN 2005	47	<.2	80.9	182	2	.070	.60	<.040	.02	.028	.97	1.5	480
MAR 2005	36	<.2	77.7	236	12	.100	.60	<.040	<.01	.011	.78	1.1	260
MAY 2005	27	<.2	63.1	134	12	.130	.50	<.040	<.01	.021	.74	--	860
JUL 2005	44	.2	236	444	28	.040	.66	<.040	<.01	.036	.82	--	220
SEP 2005	39	<.2	155	328	<2	.030	.77	<.040	<.01	<.010	.97	--	<200

MONONGAHELA RIVER BASIN

03075070 MONONGAHELA RIVER AT ELIZABETH, PA--Continued

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

Date	Copper, water, unfltrd recover- able, µg/L (01042)	Cyanide amen- able to chlor- ination wat un- f mg/L (00722)	Iron, water, unfltrd recover- able, µg/L (01045)	Lead, water, unfltrd recover- able, µg/L (01051)	Mangan- ese, water, unfltrd recover- able, µg/L (01055)	Nickel, water, unfltrd recover- able, µg/L (01067)	Zinc, water, unfltrd recover- able, µg/L (01092)	Phen- olic com- pounds, water, unfltrd µg/L (32730)
NOV 2004 02...	<10	<1.00	960	<1.0	120	<50	<10	<5
JAN 2005 04...	<10	<1.00	830	<1.0	150	<50	20	<5
MAR 03...	<10	<1.00	510	<1.0	150	<50	10	<5
MAY 03...	40	<1.00	1070	<1.0	160	<50	30	<5
JUL 19...	<10	<1.00	390	<1.0	130	<50	<10	<5
SEP 14...	<10	<1.00	90	<1.0	30	<50	<10	<5

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a multiplate sampler that was deployed for 5 weeks. Samples represent counts per 100 animal (approximate) subsamples.

Date	11/10/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Hydrobiidae	
Amnicola	5
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	6
Tubificidae	1
Arthropoda	
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
Gammarus	7
Insecta	
Diptera (TRUE FLIES)	
Ceratopogonidae (BITING MIDGES)	1
Chironomidae (MIDGES)	15
Total Organisms	36
Total Taxa	7

MONONGAHELA RIVER BASIN

03075070 MONONGAHELA RIVER AT ELIZABETH, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	522	507	514	477	459	468	454	429	437
2	275	262	268	514	504	508	491	476	483	509	451	483
3	291	270	280	537	510	523	527	491	513	508	486	497
4	293	288	291	535	495	518	545	514	527	488	473	481
5	301	290	295	495	482	488	525	508	515	478	449	463
6	299	275	287	494	479	485	532	513	520	449	428	441
7	298	268	277	480	471	475	528	512	523	430	410	418
8	331	298	315	489	470	478	558	506	531	411	405	409
9	313	293	304	516	482	496	593	558	576	409	403	406
10	318	312	314	484	458	468	594	577	586	433	406	418
11	317	311	315	472	444	464	577	556	566	440	424	430
12	332	311	319	506	467	491	558	553	555	458	438	447
13	334	325	330	545	502	526	571	555	565	457	448	453
14	348	324	328	548	530	544	573	557	566	466	450	457
15	363	326	347	550	534	544	575	557	563	481	457	469
16	378	361	369	586	547	571	595	574	584	482	473	479
17	379	368	372	593	579	584	609	591	601	489	480	484
18	399	370	390	615	589	600	607	595	602	504	485	494
19	395	385	390	625	608	616	596	574	578	503	490	498
20	404	395	400	650	621	639	576	567	573	500	492	495
21	412	402	406	644	609	636	577	552	568	501	485	494
22	420	409	415	609	409	494	564	546	556	514	492	505
23	432	418	424	424	395	410	578	560	564	521	511	516
24	432	416	424	468	420	454	602	567	585	526	516	522
25	427	415	420	505	468	488	616	602	608	529	521	524
26	429	421	424	540	505	528	627	613	622	524	517	521
27	439	428	433	535	521	528	630	627	629	527	505	518
28	469	439	450	527	503	514	632	620	626	506	494	500
29	498	465	483	508	479	496	624	587	612	503	486	498
30	521	495	510	484	449	463	588	504	559	511	501	506
31	---	---	---	460	450	455	504	427	443	---	---	---
MONTH	521	262	365	650	395	516	632	427	560	529	403	475

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	7.2	7.1	7.2	7.2	7.1	7.2	7.3	7.2	7.2
2	7.5	7.2	7.3	7.3	7.1	7.2	7.2	7.0	7.1	7.4	7.2	7.3
3	7.6	7.3	7.4	7.3	7.1	7.2	7.2	7.0	7.1	7.6	7.3	7.4
4	7.6	7.4	7.4	7.4	7.2	7.2	7.2	7.1	7.1	7.4	7.3	7.4
5	7.6	7.4	7.5	7.3	7.2	7.2	7.2	7.0	7.2	7.4	7.2	7.3
6	7.6	7.3	7.4	7.3	7.1	7.2	7.3	7.2	7.2	7.3	7.2	7.2
7	7.6	7.3	7.4	7.3	7.0	7.2	7.4	7.1	7.2	7.3	7.2	7.2
8	7.6	7.4	7.5	7.4	7.2	7.3	7.4	7.2	7.3	7.3	7.2	7.2
9	7.6	7.4	7.5	7.3	7.2	7.3	7.6	7.2	7.4	7.2	7.2	7.2
10	7.6	7.4	7.4	7.5	7.2	7.3	7.5	7.2	7.4	7.3	7.1	7.2
11	7.4	7.2	7.3	7.5	7.3	7.4	7.4	7.2	7.3	7.3	7.1	7.2
12	7.3	7.2	7.2	7.5	7.3	7.3	7.5	7.1	7.3	7.3	7.2	7.2
13	7.3	7.2	7.2	7.5	7.3	7.4	7.4	7.3	7.4	7.3	7.1	7.2
14	7.3	7.1	7.2	7.5	7.3	7.4	7.4	7.3	7.3	7.3	7.2	7.2
15	7.4	7.2	7.3	7.4	7.3	7.4	7.4	7.3	7.3	7.3	7.1	7.2
16	7.4	7.3	7.4	7.5	7.3	7.4	7.4	7.3	7.3	7.2	7.1	7.2
17	7.4	7.3	7.3	7.5	7.3	7.3	7.3	7.1	7.2	7.3	7.1	7.2
18	7.4	7.3	7.4	7.4	7.2	7.3	7.2	7.1	7.1	7.3	7.2	7.2
19	7.4	7.3	7.3	7.4	7.2	7.3	7.2	7.0	7.1	7.4	7.2	7.3
20	7.6	7.4	7.4	7.4	7.2	7.2	7.2	7.0	7.1	7.4	7.2	7.2
21	7.4	7.3	7.3	7.2	7.1	7.1	7.1	7.0	7.0	7.5	7.2	7.3
22	7.5	7.3	7.3	7.1	7.0	7.0	7.0	6.9	7.0	7.5	7.3	7.3
23	7.5	7.2	7.3	7.1	6.9	7.0	7.1	6.9	7.0	7.4	7.3	7.3
24	7.4	7.2	7.3	7.1	7.0	7.0	7.5	7.0	7.1	7.4	7.3	7.4
25	7.4	7.2	7.3	7.1	7.0	7.0	7.4	7.3	7.3	7.4	7.3	7.3
26	7.4	7.2	7.3	7.1	7.0	7.0	7.3	7.3	7.3	7.3	7.2	7.2
27	7.3	7.2	7.2	7.1	7.0	7.1	7.3	7.3	7.3	7.3	7.2	7.2
28	7.4	7.2	7.3	7.3	7.0	7.1	7.4	7.3	7.3	7.4	7.2	7.2
29	7.3	7.1	7.2	7.3	7.1	7.2	7.3	7.3	7.3	7.5	7.2	7.3
30	7.3	7.1	7.2	7.2	7.1	7.2	7.3	7.3	7.3	---	---	---
31	---	---	---	7.3	7.1	7.2	7.3	7.2	7.2	---	---	---
MAX	7.6	7.4	7.5	7.5	7.3	7.4	7.6	7.3	7.4	7.6	7.3	7.4
MIN	7.3	7.1	7.2	7.1	6.9	7.0	7.0	6.9	7.0	7.2	7.1	7.2

MONONGAHELA RIVER BASIN

03075070 MONONGAHELA RIVER AT ELIZABETH, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	20.8	17.8	18.8	32.6	30.5	31.4	34.5	31.9	33.0	28.5	27.1	27.8
2	21.5	18.7	19.9	32.6	30.9	31.6	33.7	31.2	32.6	28.8	27.1	28.1
3	22.4	19.2	20.6	31.3	29.9	30.5	35.2	32.4	33.6	29.0	27.2	28.1
4	22.0	19.4	20.4	32.6	30.0	31.1	34.6	33.1	33.6	28.3	27.1	27.8
5	23.3	20.0	21.2	32.8	31.4	32.0	33.4	32.4	32.9	28.3	27.4	27.7
6	23.6	20.8	22.1	33.0	31.3	32.0	34.0	32.3	32.9	30.2	27.7	28.7
7	24.7	21.1	22.9	32.0	30.1	30.8	33.9	32.7	33.2	31.4	28.0	29.5
8	25.9	21.6	23.1	32.6	29.5	30.7	32.8	32.0	32.5	31.8	29.7	30.7
9	25.8	22.5	23.9	31.3	28.1	29.4	34.9	32.0	33.3	31.3	29.0	29.8
10	27.7	24.7	25.8	30.0	27.3	28.6	34.8	33.4	33.9	30.2	28.4	29.2
11	28.3	25.4	26.7	31.8	27.8	29.6	34.2	32.3	33.4	30.3	29.1	29.6
12	29.4	25.5	27.2	32.5	28.9	30.6	32.8	29.6	31.1	32.1	29.5	30.6
13	28.0	25.1	26.9	33.3	29.9	31.5	32.0	30.5	31.3	33.5	31.1	32.1
14	28.5	26.5	27.8	33.2	31.4	32.3	33.7	31.8	32.5	33.0	31.0	31.9
15	27.4	26.0	26.4	33.8	30.8	32.3	34.0	32.2	33.1	32.9	30.4	31.3
16	26.7	25.7	26.1	32.7	30.8	31.8	33.4	31.4	32.3	31.6	30.3	30.7
17	26.5	24.9	25.5	33.1	31.6	32.4	33.6	31.6	32.6	31.1	30.1	30.6
18	25.7	24.2	24.8	32.5	30.2	31.3	33.3	31.9	32.6	31.9	30.0	30.6
19	24.6	24.1	24.3	31.6	29.3	30.3	33.3	31.7	32.6	31.5	30.6	31.1
20	28.6	24.2	25.8	32.6	29.5	30.8	34.0	32.7	33.2	30.9	28.4	29.6
21	28.6	26.1	27.3	31.7	29.3	30.3	34.5	30.2	32.7	28.5	27.0	27.6
22	29.3	27.9	28.5	31.1	29.2	30.1	30.3	29.7	30.0	30.0	26.9	28.1
23	30.1	27.6	28.7	31.9	28.6	30.0	29.7	28.6	29.1	30.2	28.4	29.4
24	30.8	27.7	28.9	29.3	28.1	28.7	29.8	28.1	28.7	28.4	27.6	27.8
25	30.7	28.7	29.7	30.5	28.7	29.4	31.7	29.4	30.2	29.1	27.6	28.3
26	33.2	29.8	31.1	30.9	29.1	30.0	31.0	30.0	30.5	30.1	28.4	29.0
27	33.1	31.1	32.0	30.5	29.1	29.9	31.4	30.0	30.5	29.6	28.0	28.7
28	34.6	31.9	32.8	31.3	29.1	30.0	32.1	30.5	31.3	28.4	27.5	28.0
29	33.3	31.6	32.4	31.1	28.8	29.9	31.9	29.3	30.7	28.4	25.6	26.9
30	35.3	32.0	33.2	31.5	28.6	30.1	29.5	26.4	28.4	25.9	24.8	25.2
31	---	---	---	33.4	30.1	31.6	27.4	25.8	26.5	---	---	---
MONTH	35.3	17.8	26.2	33.8	27.3	30.7	35.2	25.8	31.8	33.5	24.8	29.1

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	7.4	6.5	7.0	6.7	6.2	6.4	7.6	6.7	7.2
2	9.8	7.4	8.5	7.4	6.5	6.9	7.0	5.8	6.2	8.1	7.2	7.6
3	---	---	---	7.2	6.1	6.7	6.0	5.2	5.6	8.6	7.4	7.9
4	---	---	---	7.2	6.0	6.5	6.2	5.0	5.7	8.2	7.5	7.9
5	---	---	---	7.8	5.8	6.5	6.3	5.5	5.9	8.1	7.2	7.5
6	---	---	---	6.7	5.3	6.0	6.0	5.2	5.7	7.8	7.1	7.5
7	---	---	---	6.8	5.3	6.1	6.6	5.4	6.0	7.8	6.9	7.4
8	---	---	---	7.6	6.0	6.8	6.9	6.2	6.5	7.5	6.8	7.2
9	---	---	---	7.5	5.6	6.9	7.4	6.6	6.9	7.6	6.7	7.2
10	---	---	---	8.8	6.5	7.6	7.3	6.5	6.9	7.7	6.5	7.2
11	---	---	---	7.7	6.5	7.2	7.1	6.2	6.7	8.1	6.6	7.3
12	---	---	---	8.2	6.5	7.4	7.5	6.2	7.1	7.8	6.6	7.3
13	---	---	---	8.1	6.6	7.7	7.5	6.6	7.1	7.1	6.5	6.8
14	---	---	---	7.5	6.6	7.0	7.0	6.0	6.7	6.9	6.4	6.6
15	---	---	---	7.3	6.4	6.8	6.8	5.3	6.3	7.2	6.2	6.6
16	9.8	9.0	9.5	7.6	6.3	7.0	6.7	5.9	6.4	6.6	6.0	6.3
17	9.8	8.7	9.3	7.3	6.6	6.9	6.7	5.0	6.2	6.3	5.9	6.1
18	9.7	8.8	9.3	7.6	6.7	7.1	6.6	5.9	6.2	6.4	5.7	6.0
19	9.2	8.3	8.8	7.6	6.6	7.1	6.6	5.7	6.3	6.5	5.6	5.9
20	9.1	8.0	8.6	9.7	6.6	7.8	6.6	5.6	6.1	6.3	5.5	5.8
21	8.6	7.7	8.1	9.3	7.5	8.3	6.5	5.6	6.1	6.9	5.6	6.0
22	8.5	7.5	8.0	8.9	7.4	8.3	6.6	6.0	6.3	6.2	5.6	5.9
23	8.6	7.4	8.1	8.1	6.6	7.3	7.0	6.0	6.5	5.9	5.3	5.6
24	8.8	7.6	8.3	7.9	6.5	7.2	7.9	6.5	6.9	6.0	5.4	5.6
25	8.5	7.5	8.2	7.6	6.0	6.7	6.8	6.3	6.5	5.7	5.0	5.3
26	8.0	6.8	7.5	6.8	5.7	6.5	6.6	6.2	6.4	---	---	---
27	7.6	6.6	7.3	7.0	5.9	6.4	6.5	6.2	6.4	---	---	---
28	7.4	6.6	7.1	7.3	5.2	6.5	6.8	6.0	6.4	---	---	---
29	7.5	6.6	7.1	7.2	6.0	6.6	6.5	5.7	6.2	---	---	---
30	7.5	6.3	7.0	7.2	6.2	6.8	6.5	6.0	6.3	---	---	---
31	---	---	---	7.0	6.3	6.6	7.0	6.2	6.7	---	---	---
MONTH	9.8	6.3	8.2	9.7	5.2	7.0	7.9	5.0	6.4	8.6	5.0	6.7