01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ

DELAWARE RIVER BASIN

LOCATION.--Lat 39°53′06″, long 74°30′19″ referenced to North American Datum of 1983, Woodland Township, Burlington County, NJ, Hydrologic Unit 02040202, on right bank, 25 ft upstream from culvert on Butterworth Road in Brendan T. Byrne State Forest, 3.4 mi upstream from confluence with Cooper Branch, and 7.0 mi southeast of Browns Mills.

DRAINAGE AREA.--2.35 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1962, published as "McDonald Branch in Lebanon State Forest". October 1962 through September 2003, published as "McDonalds Branch in Lebanon State Forest".

REVISED RECORDS.--WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 117.73 ft above NGVD of 1929 (levels from New Jersey Geological Survey benchmark).

REMARKS.--Records fair. Gage-height record is collected upstream of concrete control, and discharge record, which includes leakage around control, is measured at site 785 ft downstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7.0 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 27	1600	7.2	1.71
Jun 19	0200	*21	*2.11
Jun 30	1700	9.7	1.79

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.6	3.7	1.8	3.1	3.0	3.3	2.8	2.1	1.6	8.4	3.5	2.1
2	1.6	3.0	1.8	2.9	2.8	3.0	2.6	2.1	1.6	6.0	3.6	2.3
3	1.5	2.7	1.8	2.7	2.7	2.9	2.6	2.1	1.6	4.7	3.2	2.7
4	1.5	2.5	1.8	2.6	2.6	2.8	2.5	2.1	1.6	4.3	3.0	2.4
5	1.5	2.3	1.8	2.6	2.5	2.8	2.5	2.1	1.6	4.3	2.8	2.2
6	1.5	2.3	1.8	2.6	2.5	2.7	2.5	2.1	1.5	4.1	2.7	2.1
7	1.5	2.2	1.7	2.5	2.5	2.6	2.5	2.1	1.8	3.8	2.6	2.1
8	1.5	2.2	1.9	2.5	2.7	2.7	2.4	2.4	2.5	3.7	2.6	2.1
9	1.5	2.4	2.0	2.4	3.0	2.7	2.4	2.4	2.0	3.7	2.6	2.1
10	1.6	2.3	2.0	2.4	3.1	2.6	2.3	2.2	2.6	3.6	2.6	2.1
11	1.6	2.2	2.0	2.4	3.2	2.6	2.3	2.3	3.3	3.6	2.6	2.1
12	1.5	2.2	2.0	2.8	3.4	2.9	2.8	2.2	2.9	3.6	2.4	2.1
13	1.5	2.2	2.0	2.8	3.3	3.2	3.7	2.1	2.6	3.6	3.7	2.1
14	1.5	2.2	2.0	2.8	3.2	3.2	3.4	2.1	2.5	3.5	3.5	2.0
15	1.5	2.2	2.0	3.1	3.1	3.0	3.1	2.0	2.4	3.2	2.9	2.0
16	1.5	2.2	2.0	3.8	3.0	2.8	2.9	2.0	2.2	3.1	2.6	2.0
17	1.5	2.1	1.9	4.1	2.8	2.8	2.7	2.0	2.0	3.0	2.4	2.0
18	1.5	2.1	2.0	3.6	2.8	2.7	2.5	1.9	5.4	2.8	2.3	2.0
19	1.5	2.1	1.9	3.3	2.7	3.5	2.5	1.9	14	2.8	2.3	2.0
20	1.5	2.1	1.9	3.1	2.7	3.6	2.5	1.9	6.8	2.8	2.2	1.9
21	1.5	2.1	2.1	2.8	2.7	3.3	2.5	1.9	4.9	3.4	2.2	1.9
22	1.5	2.0	2.1	2.7	2.6	3.1	2.4	1.9	4.1	4.8	2.3	2.0
23	1.5	1.9	2.1	e2.6	2.6	3.0	2.3	1.8	4.0	6.1	2.4	1.9
24	1.5	1.9	2.1	e2.6	2.6	2.9	2.3	1.8	5.3	5.4	2.3	1.9
25	1.5	1.9	2.0	e2.7	2.6	3.0	2.3	1.8	5.2	4.2	2.2	1.9
26	1.5	1.9	2.3	e2.6	2.6	3.2	2.3	1.8	4.5	3.6	2.1	1.9
27	1.5	1.8	5.6	e2.5	3.3	3.2	2.3	1.7	4.5	3.3	2.1	1.9
28	1.5	1.8	5.3	e2.5	3.5	3.1	2.2	1.7	4.6	3.5	2.1	1.9
29	2.1	1.8	4.0	e2.6	---	2.8	2.1	1.7	5.9	5.7	2.2	1.9
30	3.7	1.8	3.5	e2.7	---	2.7	2.1	1.7	7.0	4.5	2.1	1.9
31	4.1	---	3.2	3.1	---	2.7	---	1.6	---	3.6	2.1	---
Total	52.3	66.1	72.4	87.5	80.1	91.4	76.3	61.5	112.5	126.7	80.2	61.5
Mean	1.69	2.20	2.34	2.82	2.86	2.95	2.54	1.98	3.75	4.09	2.59	2.05
Max	4.1	3.7	5.6	4.1	3.5	3.6	3.7	2.4	14	8.4	3.7	2.7
Min	1.5	1.8	1.7	2.4	2.5	2.6	2.1	1.6	1.5	2.8	2.1	1.9
Cfsm	0.72	0.94	0.99	1.20	1.22	1.25	1.08	0.84	1.60	1.74	1.10	0.87
In.	0.83	1.05	1.15	1.39	1.27	1.45	1.21	0.97	1.78	2.01	1.27	0.97

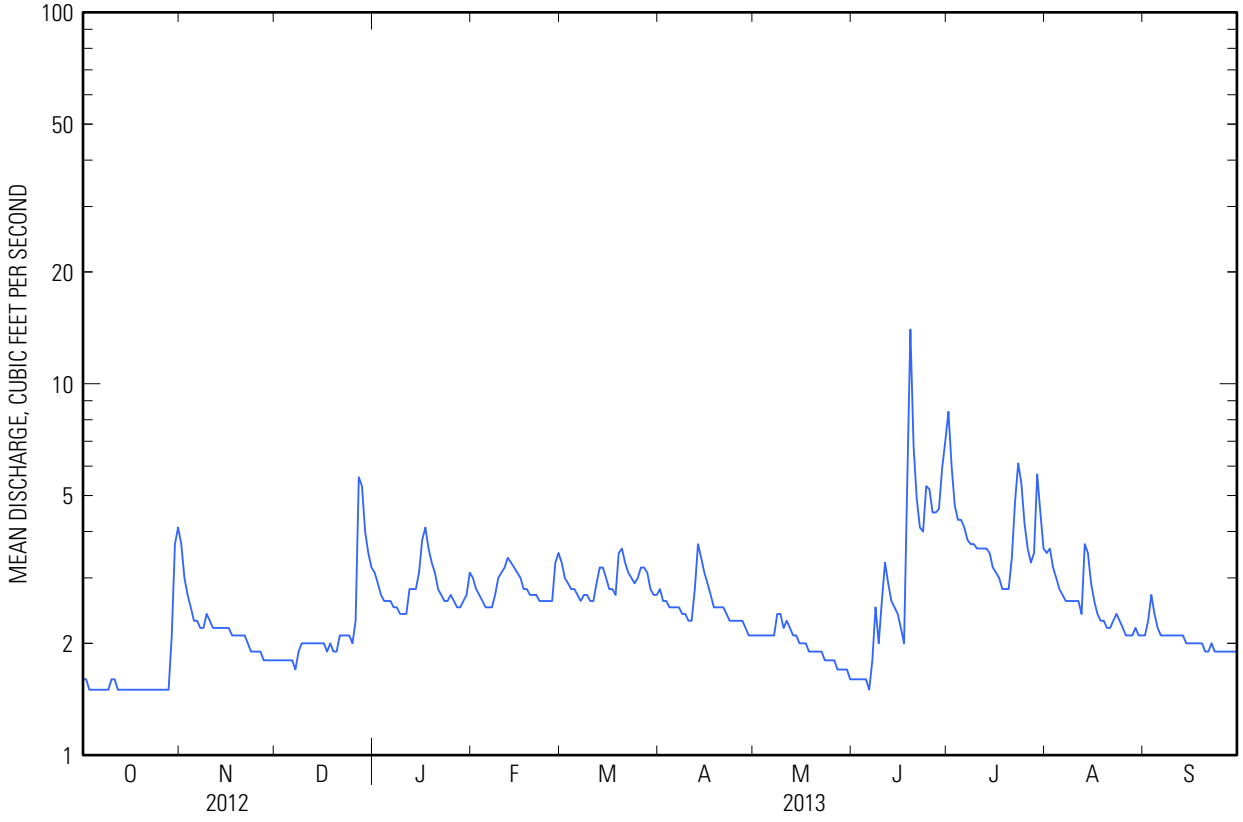
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1.52	1.69	2.05	2.28	2.38	2.86	2.87	2.54	2.11	1.83	1.75	1.61
Max	4.45	4.82	5.75	4.78	5.69	7.18	5.74	6.86	5.35	4.15	5.65	4.31
(WY)	(1959)	(1973)	(1973)	(1973)	(1973)	(2010)	(1984)	(1998)	(1979)	(1958)	(1958)	(1958)
Min	0.80	0.85	0.87	0.85	0.83	0.94	1.10	1.17	1.05	0.90	0.80	0.71
(WY)	(1996)	(2008)	(2002)	(2002)	(2002)	(2002)	(2002)	(1995)	(1995)	(2002)	(2002)	(1995)

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1954 - 2013	
Annual total	680.6		968.5			
Annual mean	1.86		2.65		2.12	
Highest annual mean					3.85	1973
Lowest annual mean					0.95	2002
Highest daily mean	5.6	Dec 27	14	Jun 19	31	Aug 28, 2011
Lowest daily mean	1.2	Jul 23	1.5	Many days	0.50	Oct 13, 1995
Annual seven-day minimum	1.2	Aug 19	1.5	Oct 3	0.58	Oct 8, 1995
Maximum peak flow			21	Jun 19	61	Aug 28, 2011
Maximum peak stage			2.11	Jun 19	2.54	Aug 28, 2011
Instantaneous low flow			1.5	Many days	0.49	Oct 13, 1995
Annual runoff (cfsm)	0.791		1.13		0.903	
Annual runoff (inches)	10.77		15.33		12.27	
10 percent exceeds	2.4		3.7		3.5	
50 percent exceeds	1.7		2.4		1.8	
90 percent exceeds	1.3		1.7		1.1	



01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-96, 1998 to current year.

PERIOD OF DAILY RECORD.--
DISSOLVED OXYGEN: August 1984 to September 1992, September 2000.
pH: October 1981 to March 1982, May 1984 to September 1992, September 2000.
SPECIFIC CONDUCTANCE: December 1968 to September 1992, September 2000.
WATER TEMPERATURE: October 1960 to September 1992, September 2000, February 2012 to current year.

INSTRUMENTATION.--Electronic data logger with integral water temperature probe since February 2012. Water temperature measurements, in degrees Celsius, recorded at 15-minute intervals.

REMARKS.--The accuracy of continuous water-quality data is routinely verified through inspections for fouling and calibration drift. The New Jersey Water Science Center requires that either constant or prorated adjustments be made to the continuous water-quality record when the difference between a sensor's response and a known value exceeds the following criteria: Water Temperature, 0.2 degrees Celsius (+ or -). Data from the following period(s) were adjusted - none.

COOPERATION.--Continuous records collected in cooperation with the USGS New York Water Science Center Laboratory in Troy, New York.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 23.3°C, Jul 23, 2013; minimum, 1.9°C, Feb 10, 2013.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 23.3°C, Jul 23; minimum, 1.9°C, Feb 10.

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—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			November			December			January	
1	15.3	13.8	14.3	11.7	11.1	11.3	7.9	7.4	7.7	4.1	3.6	3.9
2	14.5	14.2	14.4	11.1	10.8	11.0	8.3	7.9	8.1	4.0	3.6	3.8
3	14.9	14.5	14.7	10.8	10.6	10.7	8.7	8.3	8.5	3.6	3.4	3.5
4	15.1	14.7	14.9	10.6	10.3	10.4	9.1	8.6	8.9	3.6	3.4	3.5
5	15.7	14.7	15.0	10.3	9.8	10.1	9.4	9.1	9.3	3.8	3.5	3.6
6	15.8	14.6	15.0	9.8	9.4	9.6	9.1	8.5	8.8	3.9	3.6	3.8
7	14.6	13.8	14.1	9.5	8.9	9.3	8.7	8.4	8.5	4.2	3.8	3.9
8	13.9	13.3	13.6	9.0	8.5	8.7	8.7	8.2	8.4	4.2	3.8	4.0
9	13.8	13.4	13.6	8.5	8.2	8.4	8.7	8.6	8.7	4.6	4.1	4.4
10	14.5	13.6	13.8	8.3	8.0	8.2	9.3	8.7	9.0	5.0	4.6	4.8
11	14.1	12.7	13.4	8.7	8.2	8.5	9.4	9.2	9.3	5.2	4.8	5.0
12	13.6	12.4	12.8	9.3	8.7	9.0	9.2	8.7	8.9	5.7	5.0	5.4
13	13.2	11.6	12.2	9.5	9.2	9.4	8.7	8.1	8.4	6.3	5.6	6.0
14	13.4	12.0	12.5	9.2	8.7	9.0	8.1	7.6	7.8	7.1	6.3	6.8
15	13.2	12.6	12.9	8.8	8.5	8.6	7.7	7.4	7.6	7.0	6.4	6.7
16	13.6	12.1	12.8	8.7	8.2	8.5	8.0	7.6	7.8	6.4	5.5	5.8
17	12.8	11.6	12.2	8.5	8.0	8.3	8.3	8.0	8.1	5.5	5.3	5.4
18	13.3	11.6	12.3	8.4	8.0	8.2	8.6	8.2	8.4	5.3	4.2	4.8
19	13.1	12.5	12.8	8.7	8.3	8.5	8.4	7.9	8.1	4.3	4.0	4.2
20	13.7	12.5	13.0	8.9	8.6	8.7	8.1	7.5	7.8	4.9	4.3	4.6
21	13.6	12.2	12.6	8.9	8.4	8.6	8.5	7.5	8.0	4.8	4.3	4.6
22	13.4	12.1	12.5	8.7	8.2	8.5	7.6	6.9	7.4	4.3	3.4	3.8
23	12.9	11.9	12.4	8.7	8.2	8.5	7.0	6.3	6.7	3.4	2.8	3.1
24	13.0	12.5	12.7	8.7	8.4	8.6	6.3	5.7	6.1	3.1	2.7	2.9
25	12.9	12.7	12.8	8.4	8.0	8.3	6.5	6.1	6.3	3.1	2.8	2.9
26	13.2	12.8	13.0	8.2	7.8	8.0	6.3	5.9	6.1	3.0	2.7	2.9
27	13.3	12.9	13.0	7.9	7.8	7.8	6.3	4.5	5.6	3.1	2.7	2.9
28	13.0	12.9	13.0	7.9	7.5	7.7	4.5	3.7	4.1	3.3	2.9	3.1
29	13.6	12.8	13.1	7.6	7.2	7.4	3.8	3.5	3.7	3.6	3.3	3.4
30	13.4	12.6	13.1	7.6	7.1	7.4	3.8	3.4	3.5	4.2	3.5	3.8
31	12.6	11.7	12.1	---	---	---	3.6	3.2	3.4	4.5	3.5	4.0
Month	15.8	11.6	13.2	11.7	7.1	8.8	9.4	3.2	7.4	7.1	2.7	4.2

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—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			May	
1	3.5	2.9	3.2	4.6	4.3	4.5	7.4	6.2	6.6	12.2	9.9	10.7
2	2.9	2.7	2.8	4.6	4.5	4.6	7.3	5.7	6.4	12.2	9.8	10.7
3	3.0	2.7	2.8	4.5	4.3	4.4	7.1	5.4	6.0	11.8	10.2	10.7
4	3.0	2.8	2.9	4.5	4.1	4.2	7.0	4.9	5.7	11.8	9.8	10.7
5	3.2	2.9	3.1	4.7	4.1	4.4	7.3	5.5	6.2	12.1	9.8	10.6
6	3.5	3.2	3.3	4.6	4.3	4.5	7.8	5.6	6.4	11.8	10.2	10.7
7	3.4	3.2	3.3	4.8	4.5	4.6	7.8	5.7	6.5	11.6	10.7	11.0
8	3.6	2.8	3.3	4.7	4.4	4.5	8.6	6.6	7.4	12.4	11.1	11.6
9	2.8	2.2	2.5	4.9	4.3	4.5	10.0	7.7	8.6	13.1	11.7	12.1
10	2.3	1.9	2.2	5.0	4.3	4.6	11.2	9.0	9.8	13.7	11.9	12.5
11	2.5	2.3	2.4	5.2	4.6	4.9	10.7	9.8	10.2	13.9	12.6	13.0
12	2.8	2.5	2.6	6.2	5.2	5.7	10.3	9.1	9.7	14.4	12.5	13.3
13	2.7	2.4	2.6	6.3	5.9	6.1	10.1	8.8	9.3	13.1	11.6	12.3
14	2.9	2.6	2.7	6.0	5.3	5.6	10.2	8.9	9.4	13.1	10.8	11.7
15	3.4	2.8	3.1	5.3	5.0	5.2	10.1	9.1	9.5	12.8	11.2	11.8
16	3.6	3.4	3.5	5.2	5.0	5.1	10.9	9.4	10.0	13.2	12.0	12.3
17	3.5	2.9	3.3	5.2	4.9	5.0	11.4	10.3	10.7	14.0	12.1	12.7
18	3.1	2.8	2.9	4.9	4.7	4.8	11.2	10.4	10.8	12.8	12.3	12.6
19	3.2	2.9	3.1	4.9	4.6	4.7	12.1	10.9	11.5	12.7	12.5	12.6
20	3.4	3.0	3.1	4.8	4.4	4.6	12.2	11.1	11.7	13.3	12.6	12.9
21	3.2	2.9	3.0	4.7	4.4	4.6	11.8	10.0	10.8	15.1	13.0	13.5
22	3.2	2.9	3.1	4.4	4.1	4.3	10.2	9.3	9.8	15.0	13.6	13.9
23	3.5	3.2	3.4	4.8	4.1	4.4	9.7	9.3	9.6	15.6	14.0	14.4
24	3.9	3.4	3.6	4.8	4.3	4.6	10.9	8.9	9.7	14.6	13.6	14.2
25	3.9	3.5	3.7	4.7	4.2	4.5	11.3	9.8	10.2	13.8	13.0	13.5
26	3.9	3.6	3.8	4.7	4.1	4.4	11.3	9.3	10.1	15.0	12.7	13.3
27	4.3	3.8	4.0	5.1	4.5	4.8	11.5	9.3	10.1	14.7	12.2	13.0
28	4.6	4.3	4.4	5.2	4.8	5.0	11.4	9.4	10.2	13.1	12.6	12.9
29	---	---	---	6.0	5.1	5.4	10.5	10.3	10.4	14.9	13.0	13.4
30	---	---	---	6.4	5.2	5.7	12.1	10.4	10.8	14.8	13.5	13.9
31	---	---	---	6.3	5.3	5.9	---	---	---	15.4	14.0	14.4
Month	4.6	1.9	3.1	6.4	4.1	4.8	12.2	4.9	9.1	15.6	9.8	12.5

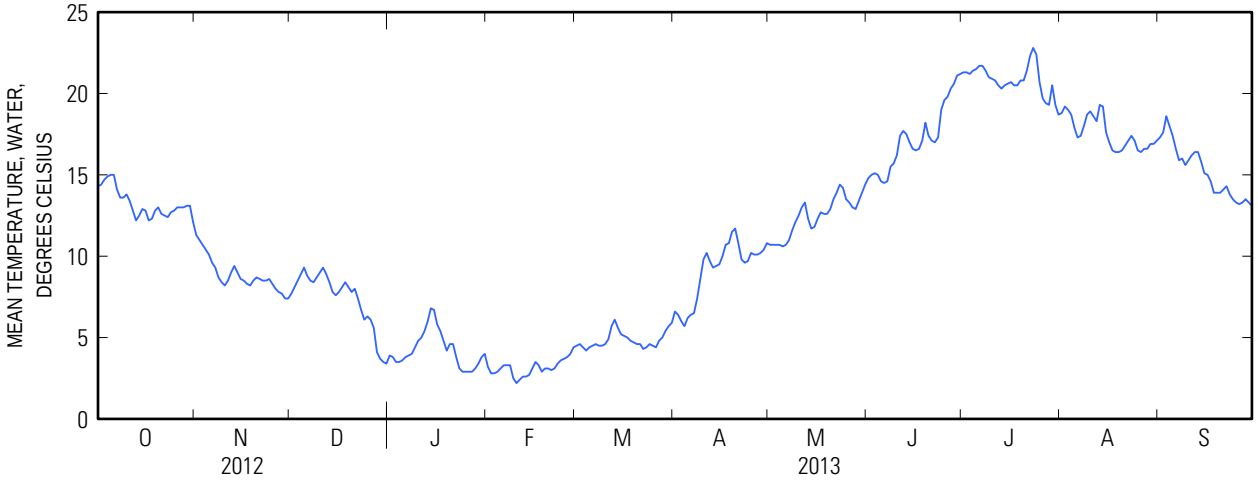
01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	15.8	14.4	14.8	21.5	21.1	21.3	19.0	18.6	18.8	18.0	17.0	17.3
2	15.7	14.7	15.0	21.5	21.0	21.3	19.6	18.9	19.2	18.3	17.3	17.6
3	15.3	15.0	15.1	21.6	20.9	21.2	19.2	18.9	19.0	19.0	18.3	18.6
4	15.8	14.6	15.0	21.8	21.1	21.4	19.1	18.3	18.7	18.6	17.6	18.0
5	15.5	14.1	14.6	21.9	21.2	21.5	18.5	17.6	17.9	17.8	16.8	17.4
6	14.9	14.4	14.5	22.0	21.4	21.7	17.6	17.0	17.3	17.4	16.0	16.6
7	15.2	14.4	14.6	22.0	21.4	21.7	17.6	17.2	17.4	16.9	15.3	15.9
8	15.8	15.2	15.5	21.7	21.2	21.4	18.5	17.5	18.0	16.6	15.7	16.0
9	16.0	15.5	15.7	21.3	20.8	21.0	19.0	18.4	18.7	16.3	15.2	15.6
10	17.0	15.5	16.2	21.1	20.7	20.9	19.2	18.7	18.9	16.6	15.5	15.9
11	17.8	17.0	17.4	20.9	20.7	20.8	19.1	18.3	18.6	17.1	15.8	16.2
12	18.0	17.5	17.7	20.7	20.2	20.5	18.5	18.1	18.3	17.2	16.1	16.4
13	17.7	17.3	17.5	20.7	20.0	20.3	20.4	18.2	19.3	17.2	16.1	16.4
14	17.4	16.7	17.0	20.9	20.3	20.5	20.1	18.3	19.2	16.5	15.2	15.8
15	16.9	16.3	16.6	21.2	20.3	20.6	18.3	17.2	17.6	16.0	14.5	15.1
16	17.3	16.3	16.5	21.4	20.4	20.7	17.3	16.6	17.0	15.2	14.8	15.0
17	17.6	16.4	16.6	21.0	20.3	20.5	17.0	16.2	16.5	15.4	13.8	14.6
18	18.4	16.4	17.1	21.2	20.2	20.5	16.6	16.3	16.4	15.2	13.2	13.9
19	18.8	17.6	18.2	21.6	20.4	20.8	16.5	16.2	16.4	15.0	13.2	13.9
20	18.0	16.7	17.4	21.6	20.6	20.8	17.4	16.2	16.5	15.0	13.2	13.9
21	17.5	16.6	17.1	22.5	20.6	21.4	17.6	16.5	16.8	15.0	13.5	14.1
22	17.3	16.5	17.0	22.5	22.0	22.3	17.6	16.9	17.1	15.0	13.9	14.3
23	18.3	16.8	17.3	23.3	22.0	22.8	17.7	17.2	17.4	14.8	13.2	13.8
24	19.9	18.2	19.0	22.9	21.9	22.4	18.1	16.7	17.1	14.6	12.9	13.5
25	20.1	19.0	19.6	21.9	19.8	20.7	17.2	16.2	16.5	14.4	12.7	13.3
26	20.2	19.4	19.8	20.1	19.3	19.7	17.0	16.2	16.4	13.6	12.8	13.2
27	20.6	20.0	20.3	19.8	19.1	19.4	17.2	16.4	16.6	13.6	12.9	13.3
28	21.1	20.4	20.6	20.4	18.9	19.3	16.8	16.5	16.6	14.6	13.1	13.5
29	21.7	20.5	21.1	21.2	19.9	20.5	17.5	16.7	16.9	14.6	12.7	13.3
30	21.6	20.9	21.2	20.2	18.7	19.3	17.3	16.7	16.9	14.4	12.5	13.1
31	---	---	---	19.1	18.2	18.7	17.6	16.8	17.1	---	---	---
Month	21.7	14.1	17.2	23.3	18.2	20.8	20.4	16.2	17.6	19.0	12.5	15.2

	Max	Min	Mean
Year	23.3	1.9	11.2

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued



01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 1 of 6

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Tempera-ture, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per cm (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per cm (61726)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conduc-tance, water, unfiltered, µS/cm at 25°C (00095)
10-24-2012	1130	--	16.4	--	--	2.7	26	4.2	37
10-31-2012	1005	--	--	--	--	--	--	--	--
11-27-2012	0830	--	2.5	--	--	5.5	46	4.9	53
12-05-2012	1000	764	15.7	.267	.202	3.6	32	4.0	--
12-26-2012	1345	--	--	--	--	6.7	55	2.2	68
01-30-2013	1145	753	17.0	--	--	8.0	61	3.7	57
02-28-2013	1300	747	9.0	--	--	8.8	68	4.1	57
03-06-2013	1020	755	5.2	.513	.385	6.7	53	3.9	31
03-27-2013	1045	752	8.0	--	--	8.0	62	3.5	58
04-22-2013	1115	--	8.5	--	--	4.1	36	3.7	52
05-23-2013	1045	752	27.0	--	--	3.1	30	3.9	44
05-23-2013	1300	--	--	--	--	--	--	--	--
05-30-2013	0930	766	23.0	.353	.265	2.7	25	4.3	43
06-25-2013	1200	757	30.0	--	--	4.2	45	3.3	49
06-30-2013	1655	--	--	--	--	--	--	--	--
07-23-2013	0540	--	--	--	--	--	--	--	--
07-24-2013	1120	752	25.2	--	--	2.8	32	4.1	57
07-28-2013	2035	--	--	--	--	--	--	--	--
07-28-2013	2100	--	--	--	--	--	--	--	--
08-13-2013	1015	--	--	--	--	--	--	--	--
08-13-2013	1210	--	--	--	--	--	--	--	--
08-14-2013	0035	--	--	--	--	--	--	--	--
08-26-2013	1345	758	28.3	--	--	2.7	28	3.4	44
08-29-2013	0930	761	18.3	.887	.696	5.9	61	4.5	43
09-26-2013	1215	--	16.2	--	--	--	--	3.8	34

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

WATER-QUALITY DATA
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[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Tempera-ture, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, sum of constit-uents, mg/L (70301)	Hardness, water, mg/L as $CaCO_3$ (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)	Magne-sium, water, filtered, mg/L (00925)
10-24-2012	**1130**	12.5	--	--	--	--	--	--	--
10-31-2012	**1005**	--	--	--	--	4.89	--	1.01	.579
11-27-2012	**0830**	8.0	--	--	--	3.71	--	.618	.527
12-05-2012	**1000**	10.3	.5	22	< 20	3.33	9.0	.509	.501
12-26-2012	**1345**	6.1	--	--	--	4.26	--	.751	.578
01-30-2013	**1145**	3.8	--	--	--	3.30	--	.563	.461
02-28-2013	**1300**	4.8	--	--	--	3.23	--	.617	.410
03-06-2013	**1020**	5.4	3.2	33	< 15	3.28	6.0	.575	.447
03-27-2013	**1045**	4.5	.0	--	--	3.06	--	.594	.384
04-22-2013	**1115**	10.0	2.5	--	--	2.83	--	.519	.372
05-23-2013	**1045**	14.5	--	--	--	--	--	--	--
05-23-2013	**1300**	--	--	--	--	2.78	--	.473	.389
05-30-2013	**0930**	13.5	.6	25	< 13	2.54	< 1	.411	.367
06-25-2013	**1200**	18.4	--	--	--	3.99	--	1.15	.272
06-30-2013	**1655**	--	--	--	--	2.66	--	.680	.234
07-23-2013	**0540**	--	--	--	--	3.58	--	.863	.347
07-24-2013	**1120**	21.2	--	--	--	3.64	--	.821	.386
07-28-2013	**2035**	--	--	--	--	3.14	--	.700	.337
07-28-2013	**2100**	--	--	--	--	3.05	--	.702	.314
08-13-2013	**1015**	--	--	--	--	3.19	--	.686	.359
08-13-2013	**1210**	--	--	--	--	3.27	--	.742	.344
08-14-2013	**0035**	--	--	--	--	2.95	--	.643	.327
08-26-2013	**1345**	16.5	--	--	--	3.44	--	.629	.455
08-29-2013	**0930**	17.1	.7	77	< 15	3.04	< 1	.587	.382
09-26-2013	**1215**	13.0	--	--	--	2.59	--	.450	.357

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
Part 3 of 6

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as $CaCO_3$ (90410)	Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO_2 (00955)	Sulfate, water, filtered, mg/L (00945)
10-24-2012	1130	--	--	--	--	--	--	--	--	--
10-31-2012	1005	.321	1.93	--	--	3.62	--	--	3.14	3.27
11-27-2012	0830	.232	2.00	--	--	3.86	--	--	4.55	4.25
12-05-2012	1000	.24	2.05	< 1.74	.39	3.76	< .04	< .03	4.46	7.09
12-26-2012	1345	.219	2.12	--	.21	4.45	--	--	4.08	4.71
01-30-2013	1145	.187	2.00	--	.18	3.94	--	--	4.04	4.27
02-28-2013	1300	.198	1.93	--	.22	3.69	--	--	3.22	4.37
03-06-2013	1020	.20	2.02	< 1.74	1.18	3.34	< .04	< .03	3.29	3.69
03-27-2013	1045	.176	2.13	--	.20	3.63	--	--	2.82	4.19
04-22-2013	1115	.151	1.88	--	.12	3.57	--	--	2.54	3.59
05-23-2013	1045	--	--	--	--	--	--	--	--	--
05-23-2013	1300	.281	1.97	--	.18	3.66	--	--	3.18	2.93
05-30-2013	0930	.18	1.86	< 1.74	.40	3.48	.01	.07	3.29	2.36
06-25-2013	1200	.134	1.77	--	.27	3.17	--	--	2.22	1.47
06-30-2013	1655	.249	1.58	--	--	2.43	--	--	2.24	1.08
07-23-2013	0540	.536	1.78	--	--	3.18	--	--	3.60	.92
07-24-2013	1120	.563	1.92	--	.40	3.68	--	--	4.25	.75
07-28-2013	2035	.405	1.75	--	--	3.22	--	--	3.94	1.06
07-28-2013	2100	.390	1.74	--	--	3.20	--	--	3.85	.76
08-13-2013	1015	.397	1.80	--	--	3.20	--	--	4.22	1.30
08-13-2013	1210	.374	1.80	--	--	3.22	--	--	4.12	.76
08-14-2013	0035	.434	1.87	--	--	3.36	--	--	4.48	.87
08-26-2013	1345	.364	1.81	--	.16	3.62	--	--	4.84	2.11
08-29-2013	0930	.41	2.07	< 1.74	.41	3.70	.01	< .03	5.39	1.41
09-26-2013	1215	.305	1.80	--	--	3.52	--	--	4.70	2.29

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

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[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Particulate nitrogen, suspended in water, mg/L (49570)	Phos-phorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, filtered, mg/L (00602)	Total nitrogen, water, unfiltered, mg/L (00600)	Barium, water, unfiltered, recover-able, µg/L (01007)
10-24-2012	1130	--	--	--	--	--	--	--	--	--
10-31-2012	1005	--	--	.05	--	--	1.01	--	--	--
11-27-2012	0830	--	--	.01	--	--	< .004	--	--	--
12-05-2012	1000	.18	.013	< .040	.075	< .004	< .004	< .22	< .30	--
12-26-2012	1345	--	--	< .01	.017	--	< .004	--	.24	--
01-30-2013	1145	--	--	.02	< .017	--	< .004	--	< .24	--
02-28-2013	1300	--	--	< .01	.020	--	< .004	--	.31	--
03-06-2013	1020	.25	.021	< .040	.065	< .004	.008	< .29	< .36	11.0
03-27-2013	1045	--	--	< .01	< .017	--	< .004	--	< .27	--
04-22-2013	1115	--	--	< .01	< .017	--	< .004	--	< .21	--
05-23-2013	1045	--	--	--	--	--	--	--	--	--
05-23-2013	1300	--	--	< .01	< .017	--	< .004	--	< .19	--
05-30-2013	0930	.27	.023	< .040	.120	< .004	.005	< .31	< .43	--
06-25-2013	1200	--	--	< .01	.022	--	< .004	--	.52	--
06-30-2013	1655	--	--	.01	--	--	.089	--	--	--
07-23-2013	0540	--	--	.01	--	--	.056	--	--	--
07-24-2013	1120	--	--	< .01	.032	--	.015	--	1.2	--
07-28-2013	2035	--	--	.03	--	--	.033	--	--	--
07-28-2013	2100	--	--	.03	--	--	.033	--	--	--
08-13-2013	1015	--	--	.02	--	--	.019	--	--	--
08-13-2013	1210	--	--	.02	--	--	.042	--	--	--
08-14-2013	0035	--	--	.01	--	--	.037	--	--	--
08-26-2013	1345	--	--	< .01	< .017	--	.009	--	< .52	--
08-29-2013	0930	.84	.088	< .040	.028	.010	.011	< .88	< .90	--
09-26-2013	1215	--	--	< .01	--	--	< .004	--	--	--

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

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[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Beryllium, water, unfiltered, recoverable, µg/L (01012)	Cadmium, water, unfiltered, µg/L (01027)	Chromium, water, unfiltered, recoverable, µg/L (01034)	Copper, water, unfiltered, recoverable, µg/L (01042)	Iron, water, unfiltered, recoverable, µg/L (01045)	Lead, water, unfiltered, recoverable, µg/L (01051)	Manganese, water, unfiltered, recoverable, µg/L (01055)	Mercury, water, unfiltered, recoverable, µg/L (71900)	Nickel, water, unfiltered, recoverable, µg/L (01067)
10-24-2012	1130	--	--	--	--	--	--	--	--	--
10-31-2012	1005	--	--	--	--	--	--	--	--	--
11-27-2012	0830	--	--	--	--	--	--	--	--	--
12-05-2012	1000	--	--	--	--	--	--	--	--	--
12-26-2012	1345	--	--	--	--	--	--	--	--	--
01-30-2013	1145	--	--	--	--	--	--	--	--	--
02-28-2013	1300	--	--	--	--	--	--	--	--	--
03-06-2013	1020	.05	.034	.45	< .70	270	1.50	10.1	.006	.57
03-27-2013	1045	--	--	--	--	--	--	--	--	--
04-22-2013	1115	--	--	--	--	--	--	--	--	--
05-23-2013	1045	--	--	--	--	--	--	--	--	--
05-23-2013	1300	--	--	--	--	--	--	--	--	--
05-30-2013	0930	--	--	--	--	--	--	--	--	--
06-25-2013	1200	--	--	--	--	--	--	--	--	--
06-30-2013	1655	--	--	--	--	--	--	--	--	--
07-23-2013	0540	--	--	--	--	--	--	--	--	--
07-24-2013	1120	--	--	--	--	--	--	--	--	--
07-28-2013	2035	--	--	--	--	--	--	--	--	--
07-28-2013	2100	--	--	--	--	--	--	--	--	--
08-13-2013	1015	--	--	--	--	--	--	--	--	--
08-13-2013	1210	--	--	--	--	--	--	--	--	--
08-14-2013	0035	--	--	--	--	--	--	--	--	--
08-26-2013	1345	--	--	--	--	--	--	--	--	--
08-29-2013	0930	--	--	--	--	--	--	--	--	--
09-26-2013	1215	--	--	--	--	--	--	--	--	--

01466500 MCDONALDS BRANCH IN BYRNE STATE FOREST, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
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[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Silver, water, unfiltered, recover-able, µg/L (01077)	Zinc, water, unfiltered, recover-able, µg/L (01092)	Arsenic, water, filtered, µg/L (01000)	Arsenic, water, unfiltered, µg/L (01002)	Boron, water, unfiltered, recoverable, micrograms per liter (01022)	Selenium, water, unfiltered, µg/L (01147)	Organic carbon, suspended sediment, total, mg/L (00689)	Organic carbon, water, filtered, mg/L (00681)
10-24-2012	1130	--	--	--	--	--	--	--	--
10-31-2012	1005	--	--	--	--	--	--	--	21.5
11-27-2012	0830	--	--	--	--	--	--	--	6.41
12-05-2012	1000	--	--	--	--	--	--	.39	6.60
12-26-2012	1345	--	--	--	--	--	--	--	9.78
01-30-2013	1145	--	--	--	--	--	--	--	10.1
02-28-2013	1300	--	--	--	--	--	--	--	11.9
03-06-2013	1020	< .015	8.8	.37	.36	7	.119	1.18	11.3
03-27-2013	1045	--	--	--	--	--	--	--	12.5
04-22-2013	1115	--	--	--	--	--	--	--	11.0
05-23-2013	1045	--	--	--	--	--	--	--	--
05-23-2013	1300	--	--	--	--	--	--	--	8.71
05-30-2013	0930	--	--	--	--	--	--	.34	7.22
06-25-2013	1200	--	--	--	--	--	--	--	29.0
06-30-2013	1655	--	--	--	--	--	--	--	29.3
07-23-2013	0540	--	--	--	--	--	--	--	43.6
07-24-2013	1120	--	--	--	--	--	--	--	48.8
07-28-2013	2035	--	--	--	--	--	--	--	32.0
07-28-2013	2100	--	--	--	--	--	--	--	36.6
08-13-2013	1015	--	--	--	--	--	--	--	30.5
08-13-2013	1210	--	--	--	--	--	--	--	44.7
08-14-2013	0035	--	--	--	--	--	--	--	39.8
08-26-2013	1345	--	--	--	--	--	--	--	21.3
08-29-2013	0930	--	--	1.9	--	--	--	.40	33.4
09-26-2013	1215	--	--	--	--	--	--	--	6.66