Water-Data Report 2012

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN

Lower Cumberland Basin
Lower Cumberland-Sycamore Subbasin

LOCATION.--Lat 36°10′59″, long 86°49′56″ referenced to North American Datum of 1927, Davidson County, TN, Hydrologic Unit 05130202, on right pier of Nashville to Ashland City Railroad Bridge, 0.8 mi south of Bordeaux, 2.6 mi upstream of Whites Creek, and at mile 185.2.

DRAINAGE AREA.--12,862 mi^2.

SURFACE-WATER RECORDS

GAGE.--Data collection platform.

REMARKS.—Records fair, missing data from Aug 18 to 19 and Aug 31 to Sept 4 due to equipment malfunction.

EXTREMES FOR CURRENT YEAR.--2011 Water Year: Maximum gage height, 26.19 ft, March 1.

2012 Water Year: Maximum gage height, 25.49 ft, March 9.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 25.49 ft, Mar. 9; minimum gage height, 14.72 ft, June 24.

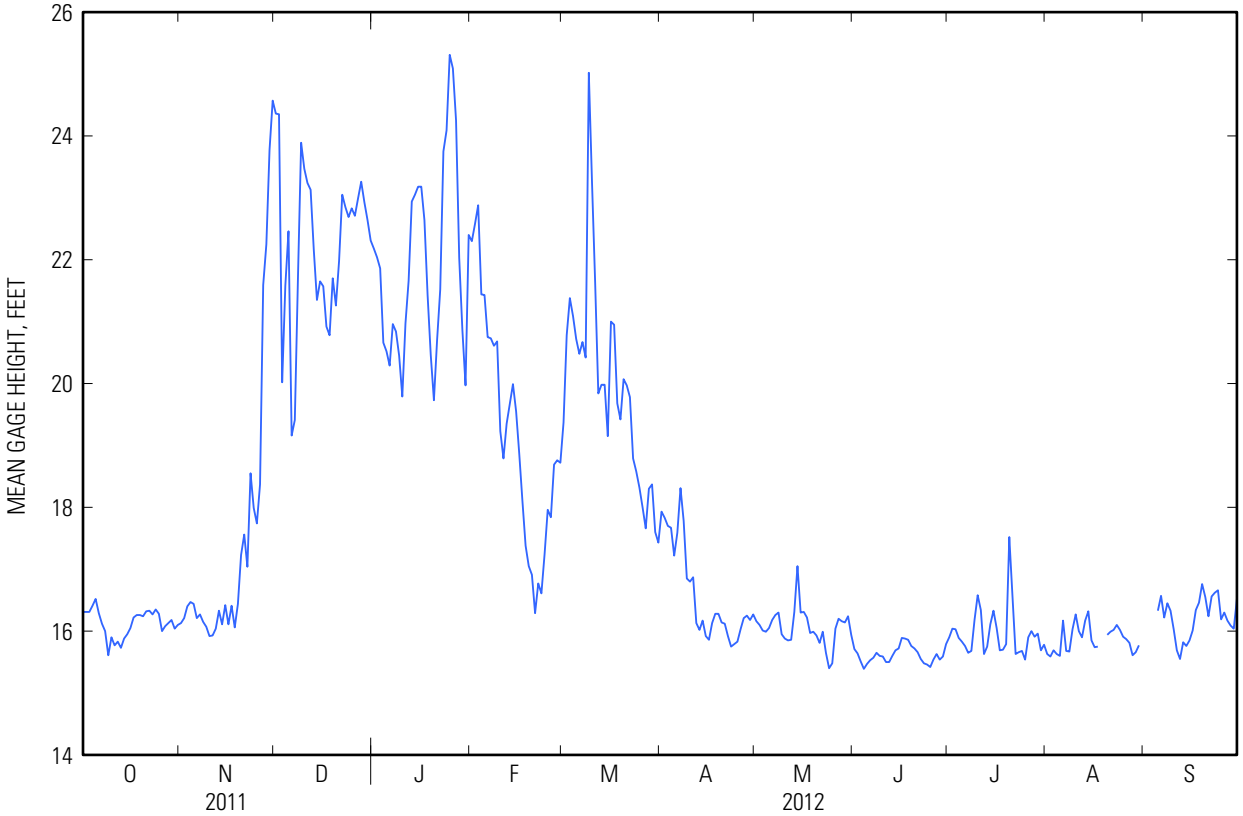
Suggested citation: U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 03431514, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/03431514.2012.pdf

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	16.31	16.13	24.36	22.18	22.30	19.37	17.93	16.16	15.71	15.90	15.63	---
2	16.31	16.21	24.35	22.04	22.58	20.78	17.83	16.10	15.64	16.04	15.59	---
3	16.31	16.40	20.02	21.86	22.88	21.38	17.70	16.01	15.51	16.03	15.69	---
4	16.41	16.47	21.58	20.66	21.44	21.09	17.67	15.99	15.39	15.89	15.63	---
5	16.52	16.44	22.46	20.52	21.43	20.72	17.22	16.05	15.47	15.83	15.60	16.33
6	16.29	16.21	19.16	20.29	20.75	20.48	17.59	16.18	15.53	15.76	16.17	16.57
7	16.12	16.27	19.41	20.96	20.73	20.67	18.31	16.26	15.57	15.65	15.68	16.22
8	16.00	16.15	21.72	20.84	20.61	20.42	17.78	16.30	15.65	15.68	15.67	16.45
9	15.61	16.07	23.89	20.45	20.68	25.02	16.85	15.95	15.60	16.18	16.03	16.33
10	15.90	15.92	23.47	19.79	19.23	23.26	16.80	15.88	15.59	16.58	16.27	16.03
11	15.77	15.93	23.24	20.97	18.79	21.63	16.87	15.85	15.50	16.34	16.00	15.69
12	15.83	16.04	23.13	21.66	19.35	19.84	16.13	15.86	15.50	15.63	15.90	15.55
13	15.73	16.33	22.16	22.94	19.67	19.98	16.02	16.31	15.60	15.75	16.17	15.82
14	15.88	16.11	21.35	23.05	19.99	19.98	16.17	17.05	15.69	16.11	16.32	15.76
15	15.95	16.42	21.65	23.18	19.55	19.15	15.92	16.30	15.72	16.33	15.85	15.85
16	16.05	16.11	21.57	23.18	18.86	21.00	15.86	16.31	15.89	16.05	15.74	16.01
17	16.22	16.41	20.92	22.64	18.10	20.95	16.13	16.22	15.88	15.69	15.75	16.34
18	16.26	16.06	20.78	21.43	17.38	19.68	16.28	15.97	15.86	15.70	---	16.46
19	16.26	16.44	21.70	20.46	17.05	19.42	16.28	15.99	15.76	15.79	---	16.76
20	16.24	17.23	21.26	19.73	16.91	20.07	16.14	15.93	15.72	17.52	15.94	16.55
21	16.32	17.56	21.98	20.70	16.29	19.97	16.12	15.81	15.66	16.57	15.99	16.24
22	16.33	17.04	23.05	21.52	16.77	19.78	15.92	15.99	15.55	15.63	16.02	16.56
23	16.27	18.55	22.85	23.75	16.61	18.79	15.75	15.65	15.48	15.66	16.10	16.62
24	16.35	17.99	22.69	24.09	17.24	18.58	15.79	15.40	15.46	15.68	16.02	16.66
25	16.28	17.74	22.83	25.31	17.96	18.32	15.83	15.48	15.42	15.54	15.91	16.19
26	16.00	18.37	22.71	25.09	17.84	18.00	16.03	16.04	15.54	15.90	15.87	16.30
27	16.08	21.59	22.99	24.25	18.69	17.66	16.21	16.20	15.63	16.00	15.81	16.17
28	16.13	22.25	23.26	22.03	18.76	18.30	16.25	16.16	15.54	15.91	15.61	16.09
29	16.18	23.77	22.93	20.87	18.72	18.37	16.18	16.14	15.59	15.96	15.66	16.04
30	16.04	24.57	22.64	19.97	---	17.60	16.27	16.24	15.79	15.69	15.77	16.52
31	16.10	---	22.31	22.40	---	17.43	---	15.94	---	15.78	---	---
Mean	16.13	17.49	22.21	21.90	19.21	19.93	16.59	16.06	15.61	15.96	---	---
Max	16.52	24.57	24.36	25.31	22.88	25.02	18.31	17.05	15.89	17.52	---	---
Min	15.61	15.92	19.16	19.73	16.29	17.43	15.75	15.40	15.39	15.54	---	---

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued



03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1996 to current year.
pH: November 1996 to current year.
WATER TEMPERATURE: November 1996 to current year.
DISSOLVED OXYGEN: November 1996 to current year.

INSTRUMENTATION.--Four parameter water-quality monitor.

REMARKS.--Flow regulated by Old Hickory Dam and J. Percy Priest Dam above station and by Cheatham Dam below the station. Periods of missing pH record were due to instrument malfunctions. Records for water temperature, specific conductance, and pH are good, and for dissolved oxygen are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 345 microsiemens, Oct. 27, 28, 2008; minimum,165 microsiemens, May 3, 2010.
pH: Maximum, 9.2 units, July 21, 2009, Apr. 29, 30, 2012; minimum, 6.6 units,Nov. 30, 1997, June 11, 1997.
WATER TEMPERATURE: Maximum, 31.4°C, Jul. 4, 2012; minimum, 3.4°C, Jan. 13, 2010.
DISSOLVED OXYGEN: Maximum, 18.0 mg/L, Mar. 3, 2006; minimum, 0.4 mg/L, July 31, 2006.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 322 microsiemens, Aug. 19; minimum,190 microsiemens, Feb.13,14, Mar.9, 17.
pH: Maximum, 9.2 units, Apr. 29, 30; minimum, 7.1 units, Jun. 3.
WATER TEMPERATURE: Maximum, 31.4°C, Jul. 4; minimum, 7.2°C, Feb. 14, 15.
DISSOLVED OXYGEN: Maximum, 16.0 mg/L, Jan. 30; minimum, 4.4 mg/L, Aug. 30.

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	239	228	233	225	217	220	242	238	241	231	217	226
2	231	227	229	227	220	224	241	239	240	227	211	219
3	229	223	226	232	224	228	247	239	244	225	221	223
4	228	223	225	229	225	227	239	225	230	224	207	219
5	228	221	224	229	225	226	232	221	224	223	208	216
6	228	223	224	229	224	226	241	229	237	225	207	213
7	224	222	223	229	223	226	241	222	232	222	202	209
8	225	221	223	228	225	226	228	222	226	218	200	204
9	231	221	224	231	224	227	238	227	234	216	198	203
10	229	222	224	230	222	226	245	238	242	217	196	201
11	225	222	223	229	221	225	239	237	238	205	193	198
12	238	223	226	228	222	225	238	235	237	213	196	202
13	241	224	228	228	225	226	236	234	234	214	196	211
14	232	224	227	227	223	225	238	227	235	214	210	213
15	231	223	226	228	222	225	238	227	234	217	209	212
16	231	222	225	231	224	228	236	224	232	217	213	215
17	230	219	225	249	228	233	235	220	225	220	213	215
18	227	218	221	249	219	231	232	218	223	219	212	214
19	231	214	221	249	214	231	229	217	220	218	197	211
20	227	218	223	236	227	232	231	217	222	219	199	214
21	226	216	221	233	218	227	228	218	220	220	199	207
22	226	212	218	---	---	---	232	218	224	220	195	205
23	218	211	215	230	221	226	234	219	226	216	209	212
24	217	208	212	237	220	231	231	219	227	214	210	212
25	209	205	207	244	237	241	234	230	232	219	211	216
26	210	205	208	243	239	240	235	234	234	217	214	216
27	213	206	208	248	236	239	237	234	236	222	217	218
28	212	205	209	255	243	250	235	232	233	221	218	219
29	216	209	212	243	234	237	232	230	231	225	220	222
30	219	212	215	245	235	242	233	231	232	225	205	218
31	220	214	217	---	---	---	232	221	230	219	202	213
Month	241	205	221	---	---	---	247	217	231	231	193	213

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	217	201	211	229	206	219	198	196	197	231	218	221
2	219	197	208	220	199	210	197	195	196	235	220	227
3	211	195	207	213	194	202	203	196	197	242	220	231
4	214	196	205	207	194	197	196	195	196	239	220	228
5	213	198	205	207	192	195	208	195	198	236	218	227
6	215	197	205	210	191	198	---	---	---	238	219	228
7	214	196	207	208	191	198	---	---	---	238	221	228
8	214	197	204	213	195	204	---	---	---	238	222	229
9	214	196	204	209	190	195	197	196	197	237	223	228
10	214	195	202	199	191	195	201	196	198	237	222	229
11	214	193	201	198	193	196	198	195	196	241	223	230
12	211	191	198	218	195	205	209	197	201	247	225	233
13	210	190	198	216	201	207	201	197	199	257	212	228
14	209	190	196	217	202	208	209	196	199	233	219	227
15	213	192	200	222	196	207	209	198	203	225	218	221
16	214	193	201	220	191	201	205	197	200	229	217	223
17	216	192	202	208	190	196	214	203	205	225	216	220
18	214	191	199	216	193	200	225	206	213	224	216	221
19	209	191	197	216	194	202	234	214	223	227	221	222
20	222	197	207	211	195	198	236	215	228	228	220	223
21	232	198	206	213	196	199	245	215	225	226	223	225
22	236	199	218	214	196	200	225	212	219	231	226	228
23	233	198	211	219	198	205	220	213	216	236	228	229
24	227	193	205	209	198	200	236	212	218	234	227	230
25	220	193	204	203	200	201	241	223	229	236	228	232
26	221	197	204	206	201	203	243	219	230	236	223	231
27	223	199	208	227	203	208	235	218	228	229	223	226
28	225	207	217	204	200	202	237	219	231	228	222	224
29	230	210	221	205	200	201	235	217	226	232	222	227
30	---	---	---	210	199	201	226	214	219	235	223	228
31	---	---	---	208	197	199	---	---	---	242	226	231
Month	236	190	205	229	190	202	---	---	---	257	212	227

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	246	223	230	238	208	228	247	232	239	253	242	246
2	239	225	231	242	223	232	247	233	240	252	240	244
3	238	224	230	248	228	236	245	233	237	251	240	243
4	236	225	229	253	232	239	244	231	235	253	240	246
5	237	227	233	247	235	240	246	231	238	254	245	248
6	245	231	236	244	229	238	234	223	227	265	247	253
7	244	231	237	243	232	238	231	223	226	259	250	254
8	244	230	236	246	228	236	235	227	230	265	252	257
9	246	231	235	241	216	231	237	228	232	265	251	258
10	239	229	234	247	217	232	243	231	235	271	258	264
11	241	226	235	245	232	239	241	231	236	274	258	265
12	244	230	236	246	236	242	245	234	239	273	260	264
13	245	233	239	261	240	249	250	232	239	273	260	264
14	246	235	240	254	227	245	244	233	238	271	257	262
15	250	238	243	242	221	230	248	235	239	272	256	260
16	261	236	246	237	225	232	248	235	243	269	257	262
17	249	229	237	248	232	236	255	238	245	274	256	264
18	237	228	231	250	236	243	257	244	249	272	258	263
19	245	228	233	261	232	246	322	257	302	290	262	276
20	247	236	241	246	214	233	310	286	297	292	290	291
21	251	231	240	244	218	230	304	281	291	292	288	289
22	242	233	238	246	236	241	290	260	274	290	280	284
23	242	232	237	251	240	244	280	258	267	283	277	280
24	237	229	234	250	236	242	268	251	257	283	274	277
25	244	226	232	252	237	245	265	248	256	277	266	270
26	240	228	234	252	245	248	264	242	251	267	261	265
27	241	225	234	258	238	249	258	243	249	262	257	259
28	241	222	234	253	235	243	259	244	251	261	256	258
29	238	213	229	252	236	244	261	247	252	259	254	258
30	239	212	225	253	235	242	257	247	250	256	248	251
31	---	---	---	250	234	242	254	242	248	---	---	---
Month	261	212	235	261	208	239	322	223	249	292	240	262

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	8.0	7.9	8.2	8.0	7.9	7.8	8.2	8.1	8.0	7.9	8.7	8.0
2	8.1	7.8	8.2	8.0	7.9	7.8	8.2	8.1	8.0	7.9	8.7	7.9
3	8.6	7.8	8.1	8.0	7.9	7.9	8.2	8.2	8.0	7.9	8.2	7.9
4	8.6	8.2	8.0	7.9	7.9	7.8	8.2	8.2	8.0	7.9	8.2	7.9
5	8.4	8.2	8.1	8.0	7.9	7.8	8.2	8.1	8.0	7.9	8.1	7.8
6	8.4	8.1	8.0	8.0	7.9	7.8	8.2	8.1	8.0	7.8	8.0	7.9
7	8.3	8.1	8.1	8.0	7.9	7.9	8.2	8.1	7.9	7.8	8.0	7.8
8	8.2	8.0	8.2	8.0	7.9	7.9	8.2	8.1	7.9	7.8	8.1	7.9
9	8.2	8.0	8.1	8.0	7.9	7.9	8.2	8.1	7.9	7.8	8.0	7.9
10	8.1	7.9	8.2	8.0	8.0	7.9	8.2	8.1	7.9	7.8	8.0	7.9
11	8.0	7.9	8.2	8.1	8.0	7.9	8.1	8.0	8.0	7.8	7.9	7.8
12	7.9	7.8	8.2	8.1	8.0	7.9	8.1	8.1	8.0	7.9	8.0	7.8
13	7.9	7.8	8.3	8.1	8.0	7.9	8.2	8.1	8.0	7.9	8.1	7.9
14	8.0	7.8	8.3	8.2	8.0	7.9	8.2	8.2	8.0	7.9	8.1	7.9
15	7.9	7.8	8.2	8.0	8.0	7.9	8.2	8.1	8.0	7.9	8.1	7.9
16	7.9	7.8	8.1	7.9	8.0	8.0	8.2	8.1	8.0	7.9	8.0	7.9
17	8.1	7.8	8.1	8.0	8.1	8.0	8.2	8.2	8.0	7.9	8.0	7.8
18	8.1	7.9	8.2	8.0	8.1	8.0	8.2	8.2	8.1	7.8	8.1	8.0
19	8.1	7.9	8.2	8.0	8.1	8.0	8.2	8.0	7.9	7.8	8.2	8.0
20	8.0	7.8	8.2	8.0	8.1	8.0	8.1	8.0	7.9	7.8	8.3	8.1
21	8.0	7.8	8.1	8.0	8.1	8.0	8.1	8.0	8.0	7.9	8.3	8.2
22	8.3	7.9	---	---	8.1	8.0	8.1	8.0	8.1	8.0	8.3	8.2
23	8.2	8.0	7.9	7.9	8.1	8.0	8.1	8.0	8.2	8.0	8.4	8.3
24	8.2	8.0	8.0	7.9	8.1	8.0	8.1	8.1	8.2	8.0	8.4	8.1
25	8.1	7.9	8.0	7.9	8.1	8.0	8.1	7.9	8.2	8.0	8.2	8.0
26	8.2	8.0	8.0	7.9	8.1	8.0	8.0	7.9	8.3	8.1	8.2	7.9
27	8.1	8.0	8.0	7.9	8.1	8.0	8.0	7.9	8.3	8.0	8.2	7.8
28	8.0	7.9	7.9	7.8	8.1	8.1	8.0	7.9	8.4	8.0	8.3	7.9
29	7.9	7.9	7.9	7.8	8.1	8.1	8.0	7.9	8.4	8.2	8.2	7.9
30	8.0	7.9	7.9	7.8	8.1	8.1	8.0	7.9	---	---	8.2	7.9
31	8.0	8.0	---	---	8.1	8.1	8.0	7.9	---	---	8.3	7.9
Month	8.6	7.8	---	---	8.1	7.8	8.2	7.9	8.4	7.8	8.7	7.8

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	April		May		June		July		August		September	
1	8.3	8.0	9.1	8.8	7.5	7.3	8.7	8.1	8.7	8.0	7.6	7.5
2	8.3	8.0	9.1	8.7	7.5	7.2	8.5	8.2	8.5	8.0	7.6	7.6
3	8.3	7.9	8.9	8.6	7.6	7.1	8.7	8.1	8.2	7.8	7.5	7.4
4	8.1	7.8	9.1	8.5	8.4	7.3	8.8	7.9	8.2	7.7	7.5	7.4
5	8.0	7.7	9.0	8.5	7.9	7.3	8.8	8.1	7.8	7.6	7.7	7.4
6	---	---	9.0	8.4	8.4	7.6	8.6	8.0	7.8	7.6	7.6	7.4
7	---	---	8.8	8.3	8.6	7.9	8.5	7.9	8.0	7.6	7.7	7.3
8	---	---	8.3	7.9	8.3	7.4	8.6	7.9	8.1	7.6	7.6	7.5
9	8.4	7.9	8.0	7.7	8.6	7.6	8.6	7.9	7.8	7.6	7.6	7.4
10	8.4	8.3	7.9	7.6	8.2	7.7	8.1	7.9	7.7	7.5	7.5	7.4
11	8.4	8.2	7.8	7.6	8.5	7.7	8.0	7.8	7.8	7.5	7.8	7.5
12	8.6	8.2	7.6	7.6	8.4	7.7	7.9	7.8	7.7	7.5	7.7	7.5
13	8.8	8.4	7.6	7.5	8.4	7.5	7.8	7.7	7.6	7.4	7.9	7.5
14	8.8	8.5	7.8	7.6	8.7	7.5	7.9	7.8	7.6	7.4	8.0	7.7
15	8.9	8.5	7.8	7.7	8.8	7.9	8.0	7.9	7.9	7.4	7.8	7.6
16	8.9	8.7	7.7	7.6	8.4	7.6	8.2	7.9	8.2	7.5	7.8	7.5
17	8.7	8.5	7.7	7.6	8.4	7.5	8.5	8.0	7.9	7.4	7.7	7.5
18	8.9	8.5	7.8	7.5	8.3	7.6	8.8	7.9	7.8	7.4	7.7	7.6
19	9.0	8.5	7.8	7.5	8.2	7.7	8.8	8.0	7.6	7.3	7.7	7.5
20	8.8	8.2	8.0	7.5	8.1	7.6	8.6	8.0	7.9	7.3	7.9	7.7
21	8.7	8.3	7.8	7.5	7.9	7.4	8.0	7.9	7.7	7.4	7.9	7.8
22	8.8	8.5	7.7	7.4	8.1	7.4	8.0	7.9	8.3	7.4	7.9	7.8
23	9.1	8.6	7.6	7.4	7.9	7.4	8.2	7.9	8.1	7.3	8.0	7.7
24	9.0	8.6	7.5	7.3	8.2	7.4	8.1	7.8	8.1	7.5	7.9	7.7
25	9.0	8.4	7.9	7.4	8.3	7.7	8.2	7.8	7.8	7.4	8.0	7.8
26	9.0	8.4	8.2	7.4	8.2	7.7	8.2	7.8	7.7	7.4	8.1	8.0
27	9.0	8.2	8.4	7.6	8.4	7.8	8.4	7.8	8.0	7.4	8.2	7.9
28	8.9	8.2	8.3	7.5	8.4	7.8	8.3	7.7	7.7	7.4	7.9	7.8
29	9.2	8.5	7.6	7.3	8.6	7.8	8.5	7.8	7.5	7.4	7.9	7.7
30	9.2	8.6	7.9	7.3	8.8	8.0	8.3	7.8	7.5	7.3	7.9	7.7
31	---	---	7.9	7.3	---	---	8.7	7.9	7.5	7.4	---	---
Month	---	---	9.1	7.3	8.8	7.1	8.8	7.7	8.7	7.3	8.2	7.3

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	22.3	21.5	22.0	16.0	15.6	15.8	12.6	12.4	12.5	10.2	9.9	10.0
2	21.5	20.9	21.2	15.8	15.4	15.7	12.5	12.3	12.4	9.9	9.3	9.7
3	21.5	20.5	20.9	15.7	15.4	15.5	12.5	12.3	12.4	9.3	8.6	8.9
4	21.7	20.4	20.8	15.4	15.0	15.1	12.3	12.2	12.2	8.6	8.4	8.5
5	21.5	20.6	20.9	15.1	14.8	15.0	12.2	12.1	12.2	8.8	8.4	8.6
6	21.5	20.7	21.0	15.0	14.7	14.9	12.2	12.0	12.1	9.0	8.7	8.8
7	21.9	20.9	21.2	15.0	14.8	14.9	12.0	11.4	11.7	9.2	9.0	9.1
8	21.9	21.0	21.3	15.2	14.9	15.1	11.4	11.1	11.2	9.1	8.9	9.0
9	21.6	20.9	21.2	15.4	15.1	15.2	11.5	11.2	11.3	9.1	9.0	9.0
10	21.5	20.8	21.2	15.1	14.6	14.9	11.5	11.1	11.3	9.2	9.0	9.1
11	21.3	21.0	21.2	14.6	14.1	14.3	11.1	10.8	11.0	9.6	9.2	9.5
12	21.3	21.0	21.2	14.1	13.6	13.8	10.8	10.7	10.8	9.7	9.2	9.5
13	21.2	21.0	21.1	14.1	13.6	13.9	10.8	10.7	10.8	9.2	8.4	8.7
14	21.1	20.7	20.9	14.6	14.1	14.3	11.1	10.8	11.0	8.4	8.1	8.2
15	20.9	20.5	20.7	14.8	14.6	14.7	11.5	11.1	11.3	8.4	8.1	8.3
16	20.5	20.2	20.4	14.9	14.5	14.8	11.4	11.2	11.3	8.3	8.2	8.2
17	20.9	20.2	20.5	14.5	13.7	14.1	11.2	11.0	11.1	8.6	8.2	8.4
18	20.5	20.3	20.4	13.7	13.1	13.4	11.1	10.8	11.0	8.4	8.1	8.3
19	20.4	19.4	19.8	13.5	13.0	13.3	11.3	10.9	11.1	8.1	7.9	8.0
20	19.4	18.4	18.8	13.7	13.4	13.6	11.3	11.0	11.2	8.0	7.9	8.0
21	18.4	17.9	18.2	13.9	13.7	13.7	11.6	11.3	11.5	8.2	8.0	8.1
22	18.4	17.7	18.0	---	---	---	11.5	11.2	11.4	8.4	8.1	8.2
23	18.2	17.6	17.9	13.9	13.8	13.9	11.2	10.9	11.1	9.0	8.4	8.7
24	17.9	17.3	17.7	13.9	13.7	13.8	11.0	10.8	10.9	9.2	8.8	9.0
25	17.9	17.4	17.6	13.7	13.4	13.6	10.9	10.7	10.8	9.1	8.8	8.9
26	17.9	17.4	17.6	13.7	13.4	13.6	10.8	10.6	10.7	9.2	9.0	9.1
27	17.8	17.3	17.7	13.9	13.7	13.8	10.6	10.3	10.5	9.3	9.2	9.3
28	17.3	16.6	17.1	13.9	13.3	13.6	10.3	10.0	10.2	9.2	9.0	9.1
29	16.6	16.2	16.4	13.3	13.0	13.1	10.0	9.8	9.9	9.0	8.8	8.9
30	16.3	15.9	16.1	13.0	12.6	12.9	10.0	9.9	9.9	9.1	8.7	8.9
31	16.0	15.8	15.9	---	---	---	10.0	9.8	9.9	9.2	9.0	9.1
Month	22.3	15.8	19.6	---	---	---	12.6	9.8	11.2	10.2	7.9	8.8

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	9.2	9.1	9.1	11.2	10.9	11.0	16.8	16.1	16.4	20.9	19.8	20.2
2	9.4	9.1	9.3	11.4	10.9	11.2	17.0	16.7	16.8	21.4	20.2	20.6
3	9.3	9.2	9.3	11.4	11.1	11.3	17.2	16.5	16.9	21.2	20.9	21.0
4	9.3	9.2	9.3	11.3	11.0	11.2	17.2	16.9	17.1	22.6	20.8	21.4
5	9.5	9.3	9.4	11.1	10.6	10.8	17.3	17.1	17.2	23.3	21.2	21.9
6	9.5	9.3	9.4	10.8	10.3	10.5	---	---	---	23.3	21.8	22.1
7	9.5	9.1	9.3	11.2	10.7	10.9	---	---	---	22.8	21.6	22.0
8	9.5	9.3	9.4	11.2	11.0	11.1	---	---	---	22.3	21.7	22.0
9	9.3	9.0	9.2	11.0	10.6	10.9	16.5	16.1	16.4	22.4	21.5	21.9
10	9.0	8.6	8.7	10.8	10.4	10.6	16.5	16.2	16.4	22.5	21.5	21.8
11	8.6	8.0	8.3	10.9	10.5	10.7	16.2	15.9	16.1	22.0	21.1	21.4
12	8.0	7.6	7.7	11.4	10.9	11.2	16.3	15.7	16.0	21.1	20.6	20.8
13	7.6	7.3	7.3	11.9	11.3	11.6	16.4	15.8	16.1	20.7	19.9	20.3
14	7.4	7.2	7.3	12.5	11.7	12.0	16.8	16.1	16.4	21.6	20.2	20.8
15	7.5	7.2	7.3	12.9	12.4	12.7	17.4	16.5	16.9	22.2	21.6	21.9
16	7.8	7.5	7.6	13.2	12.8	13.0	17.9	17.2	17.5	23.2	21.8	22.4
17	7.9	7.6	7.7	13.5	13.1	13.3	17.7	17.2	17.4	23.1	22.2	22.6
18	8.0	7.9	8.0	13.9	13.4	13.6	18.9	17.2	17.7	23.8	22.4	22.8
19	8.0	7.8	7.9	14.0	13.7	13.8	18.7	17.4	17.8	23.6	22.5	22.9
20	8.0	7.7	7.8	14.5	13.9	14.2	18.2	17.0	17.5	24.8	22.7	23.4
21	8.2	7.8	8.1	14.7	14.4	14.6	17.8	17.4	17.6	24.4	23.1	23.5
22	8.4	8.2	8.3	14.8	14.6	14.7	17.7	17.1	17.4	24.0	22.9	23.3
23	9.1	8.3	8.6	15.1	14.6	14.8	18.0	16.9	17.2	23.8	22.7	23.1
24	9.3	9.0	9.1	15.0	14.5	14.9	17.6	16.7	17.0	23.6	22.6	23.0
25	9.3	8.6	9.0	15.0	14.5	14.7	18.5	17.0	17.3	24.7	23.4	23.7
26	9.5	9.1	9.3	15.5	14.8	15.1	18.0	17.1	17.4	25.6	23.8	24.4
27	9.8	9.3	9.5	15.9	15.1	15.5	19.3	17.7	18.2	26.1	24.5	25.1
28	10.2	9.5	9.8	15.9	15.6	15.8	19.8	18.2	18.7	26.3	24.9	25.3
29	11.0	10.2	10.6	16.1	15.7	15.9	19.8	19.0	19.2	26.0	24.8	25.0
30	---	---	---	16.1	15.9	16.0	20.6	19.2	19.7	25.8	24.7	25.1
31	---	---	---	16.4	15.9	16.2	---	---	---	25.8	24.9	25.2
Month	11.0	7.2	8.7	16.4	10.3	13.0	---	---	---	26.3	19.8	22.6

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	25.5	24.6	24.9	30.5	28.8	29.4	29.6	27.9	28.6	27.8	27.4	27.6
2	24.7	23.7	24.2	30.0	28.8	29.2	30.0	28.6	29.1	27.8	27.0	27.7
3	25.1	23.8	24.4	29.5	28.5	29.0	29.3	28.9	29.1	27.5	27.0	27.7
4	26.6	24.4	24.9	31.4	28.7	29.1	29.1	28.6	28.9	28.1	27.0	27.4
5	25.7	24.6	25.0	30.0	28.4	28.8	28.7	28.4	28.5	28.1	27.2	27.4
6	26.0	24.8	25.3	30.2	28.2	28.6	28.8	28.4	28.5	28.1	27.2	27.5
7	26.3	25.2	25.6	30.0	28.4	28.9	29.5	28.5	29.0	28.1	27.0	27.5
8	27.2	25.2	25.8	30.3	28.6	29.1	29.7	28.8	29.3	27.4	26.4	27.0
9	26.2	25.2	25.5	29.6	28.5	28.9	29.4	28.7	29.1	27.1	26.1	26.4
10	25.6	25.4	25.5	28.9	28.1	28.5	29.0	28.2	28.6	26.3	25.6	25.9
11	26.2	25.4	25.7	28.2	27.7	28.0	28.8	28.0	28.4	26.6	25.6	26.0
12	26.4	25.7	25.9	27.7	27.3	27.4	28.7	27.7	28.2	26.3	25.8	26.0
13	27.0	25.6	26.0	27.4	27.0	27.2	27.9	27.3	27.7	26.5	25.6	26.0
14	28.2	25.7	26.4	27.7	27.0	27.2	27.8	27.2	27.4	26.7	25.7	26.1
15	27.9	26.1	26.8	27.4	26.4	27.0	28.2	27.1	27.6	26.9	26.0	26.2
16	26.7	26.4	26.5	29.2	27.0	27.8	28.7	27.5	28.0	26.7	25.9	26.1
17	26.8	26.3	26.5	29.3	28.1	28.5	28.1	27.3	27.6	25.9	25.2	25.6
18	27.5	26.5	26.9	29.7	28.4	28.9	27.5	27.0	27.3	25.2	24.9	25.0
19	28.0	26.8	27.2	29.9	28.6	29.0	27.3	26.8	27.0	24.9	24.0	24.2
20	28.0	27.0	27.3	29.3	26.9	27.8	27.7	26.7	27.1	24.2	23.8	24.0
21	28.1	27.0	27.4	27.9	25.7	27.1	27.4	26.7	27.0	24.0	23.8	23.9
22	28.6	27.1	27.7	28.4	27.3	27.8	28.0	26.5	26.9	24.0	23.7	23.9
23	28.6	27.2	27.7	29.0	28.0	28.3	28.0	26.6	27.0	23.8	22.6	23.3
24	29.2	27.2	27.9	29.2	28.3	28.6	28.3	26.8	27.2	22.8	22.4	22.6
25	29.2	27.4	28.0	29.6	28.5	28.9	27.7	27.1	27.3	22.8	22.4	22.6
26	28.0	27.2	27.6	29.2	28.3	28.7	27.6	26.7	27.2	22.8	22.4	22.6
27	28.9	27.0	27.8	29.4	28.4	28.7	28.3	26.9	27.3	22.8	22.5	22.7
28	28.5	27.1	27.7	29.6	28.3	28.7	28.0	27.2	27.5	22.6	22.2	22.5
29	30.2	27.0	28.0	29.4	27.7	28.4	28.0	27.2	27.5	22.4	22.0	22.2
30	30.6	28.2	29.0	28.6	27.6	27.9	27.7	27.2	27.3	22.3	21.7	22.1
31	---	---	---	29.9	27.8	28.3	27.8	27.4	27.6	---	---	---
Month	30.6	23.7	26.5	31.4	25.7	28.4	30.0	26.5	27.9	28.1	21.7	25.2

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	8.3	6.6	7.8	9.9	9.0	9.4	11.1	9.9	10.2	11.4	11.2	11.3
2	8.6	6.4	7.8	9.9	9.3	9.6	11.1	10.0	10.1	11.5	11.3	11.4
3	9.5	6.9	8.2	9.6	9.2	9.3	10.2	9.4	9.6	11.8	11.4	11.6
4	9.9	8.0	8.6	9.2	8.9	9.1	10.6	9.5	10.4	11.5	11.3	11.4
5	9.4	8.0	8.5	9.6	8.9	9.3	10.6	9.6	10.4	11.5	11.3	11.4
6	9.1	7.9	8.5	9.6	9.2	9.3	9.6	9.4	9.5	11.5	11.3	11.4
7	9.2	7.9	8.4	9.9	9.3	9.6	9.6	9.5	9.5	11.5	11.3	11.4
8	9.1	7.8	8.3	10.2	9.7	10	10.5	9.6	9.8	11.5	11.3	11.4
9	8.8	7.7	8.1	10.0	9.7	9.9	10.5	10.2	10.4	11.5	11.3	11.4
10	8.4	7.2	7.7	10.4	9.6	10.0	10.5	10.1	10.3	11.4	11.3	11.3
11	7.8	7.1	7.4	10.5	10.0	10.2	10.8	10.5	10.7	11.3	11.1	11.2
12	7.2	6.7	7.0	10.3	9.8	10.1	11.6	10.6	10.9	11.8	11.1	11.3
13	7.5	6.6	6.9	10.7	10.1	10.4	11.6	11.5	11.6	12.0	11.7	11.9
14	7.8	6.6	7.2	10.8	10.3	10.5	11.6	11.4	11.5	12.1	11.8	12.0
15	7.4	6.8	7.1	10.5	9.9	10.2	11.6	10.5	11.3	11.8	11.6	11.7
16	7.3	6.8	7.0	10.0	9.6	9.7	10.5	10.2	10.3	12.0	11.7	11.9
17	8.5	6.9	7.6	10.0	9.4	9.7	10.5	10.3	10.4	12.0	11.7	12.0
18	8.7	7.7	8.2	10.6	9.3	10	10.6	10.3	10.4	11.7	11.6	11.6
19	8.4	7.9	8.2	10.4	9.6	10.0	11.9	10.5	10.8	11.7	11.5	11.6
20	8.2	7.4	7.8	10.2	9.8	9.9	12.0	11.7	11.9	11.7	11.6	11.7
21	8.6	7.6	8.1	9.9	9.6	9.7	12.0	11.9	11.9	11.7	11.5	11.6
22	9.8	8.1	8.7	---	---	---	12.0	11.3	11.5	12.2	11.6	11.7
23	9.5	8.3	8.9	9.7	9.5	9.5	11.3	10.8	10.9	12.9	12.0	12.2
24	9.4	8.3	8.8	9.7	9.5	9.6	10.9	10.8	10.9	13.2	12.8	13.0
25	9.1	8.3	8.6	9.8	9.5	9.7	10.9	10.8	10.9	12.8	12.1	12.3
26	9.2	8.6	8.9	10.0	9.6	9.8	10.9	10.8	10.8	12.1	12.0	12.1
27	9.0	8.5	8.9	10.2	9.7	9.9	11.0	10.8	10.9	12.0	11.7	11.9
28	8.6	8.2	8.4	9.8	9.3	9.5	11.1	10.9	11.0	11.7	11.6	11.6
29	8.4	8.0	8.2	9.9	9.8	9.8	11.2	11.1	11.1	11.6	11.4	11.4
30	8.8	8.3	8.6	10.0	9.9	10	11.2	11.1	11.2	13.1	11.3	11.8
31	9.2	8.7	9.0	---	---	---	11.3	11.2	11.2	13.1	12.9	13.0
Month	9.9	6.4	8.1	---	---	---	12.0	9.4	10.7	13.2	11.1	11.7

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	13.0	12.0	12.2	13.0	12.4	12.7	11.7	11.1	11.4	14.0	11.2	12.4
2	12.1	12.0	12.1	13.0	12.2	12.4	11.6	11.2	11.4	13.7	11.1	12.1
3	12.2	12.0	12.0	---	---	---	11.4	11.0	11.3	12.4	9.5	11.3
4	12.1	11.7	11.8	---	---	---	11.4	10.9	11.2	13.3	9.8	11.2
5	11.8	11.6	11.7	11.8	11.5	11.7	11.2	10.6	10.8	13.1	9.9	11.3
6	11.7	11.5	11.6	12.0	11.6	11.8	---	---	---	13.5	9.9	11.2
7	11.8	11.6	11.7	11.8	11.4	11.6	---	---	---	12.0	9.3	10.4
8	11.7	11.6	11.6	11.7	11.4	11.5	---	---	---	9.5	7.7	8.6
9	11.7	11.6	11.6	12.2	11.4	11.9	11.0	10.0	10.9	8.4	6.4	7.5
10	11.9	11.7	11.8	12.3	11.7	12.2	11.0	10.8	10.9	7.8	6.2	6.8
11	12.1	11.8	11.9	11.7	11.2	11.5	11.2	10.7	10.9	7.3	5.7	6.5
12	12.4	12.1	12.2	11.4	11.1	11.2	11.6	10.6	11.1	6.4	5.8	6.1
13	12.5	12.3	12.3	11.6	11.2	11.4	12.2	11.0	11.6	6.7	5.8	6.2
14	12.4	12.3	12.3	12.2	11.4	11.6	12.3	11.2	11.7	6.9	6.5	6.7
15	12.5	12.3	12.4	12.2	11.8	11.9	12.4	11.4	11.9	6.8	6.2	6.5
16	12.6	12.4	12.4	11.8	10.7	11.0	12.3	11.3	11.8	6.7	6.0	6.4
17	12.6	12.4	12.5	10.8	10.6	10.7	11.6	11.0	11.2	6.9	6.2	6.6
18	12.7	12.5	12.6	11.0	10.6	10.8	12.7	10.3	11.5	7.5	6.5	6.8
19	12.6	12.4	12.5	11.9	10.9	11.1	13.6	10.9	11.9	8.0	6.5	7.0
20	12.8	12.4	12.6	12.1	11.7	11.9	13.0	10.7	11.6	8.5	6.6	7.2
21	12.9	12.6	12.8	12.1	11.7	11.9	12.1	11.0	11.4	7.6	6.1	6.7
22	13.1	12.8	12.9	11.9	11.6	11.7	12.2	11.0	11.5	7.2	5.7	6.1
23	13.0	12.7	12.9	11.8	11.4	11.6	13.6	11.0	12.0	6.9	5.2	6.0
24	13.0	12.7	12.9	11.6	11.3	11.5	13.2	10.5	11.9	7.1	5.3	6.1
25	12.9	12.5	12.7	11.8	11.3	11.5	12.9	10.9	11.7	8.6	6.1	6.9
26	13.1	12.5	12.8	11.8	11.2	11.5	13.2	10.6	11.3	9.6	6.3	7.8
27	13.2	12.5	12.7	11.8	10.9	11.4	12.7	9.3	10.9	10.0	7.2	8.3
28	13.5	13.1	13.3	12.0	11.4	11.7	12.4	8.9	10.6	9.6	6.7	7.8
29	13.4	12.7	12.9	11.9	11.2	11.6	14.2	10.3	11.6	7.6	6.0	6.6
30	---	---	---	11.8	11.3	11.6	14.0	10.9	12.2	8.8	5.6	6.9
31	---	---	---	11.7	11.2	11.5	---	---	---	8.7	5.8	7.1
Month	13.5	11.5	12.3	---	---	---	---	---	---	14.0	5.2	7.9

03431514 CUMBERLAND RIVER NEAR BORDEAUX, TN—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	7.7	6.3	6.8	13.4	8.3	10.5	10.0	6.5	8.0	6.5	4.5	5.5
2	7.9	5.8	6.7	11.6	8.6	10.1	9.5	6.4	7.8	6.2	5.3	5.6
3	8.2	5.6	6.7	12.7	8.1	9.8	8.7	6.7	7.6	5.4	5.1	5.2
4	9.5	6.4	7.6	14.2	8.2	10.0	8.2	6.2	7.2	6.3	4.6	5.3
5	9.4	6.4	7.7	13.1	8.0	9.5	6.8	4.9	5.7	6.5	4.6	5.2
6	10.4	7.3	8.6	11.5	7.7	9.1	6.6	4.8	5.6	6.9	5.3	5.9
7	11.0	8.0	9.0	11.6	8.0	9.1	6.9	4.8	6.0	7.7	4.9	6.1
8	11.2	7.9	9.1	12.0	7.6	9.5	7.7	5.2	6.4	6.7	5.8	6.1
9	11.7	8.2	9.4	10.5	7.1	8.4	6.4	4.9	5.6	6.7	5.1	5.8
10	9.6	8.7	9.1	7.7	5.8	6.6	6.2	4.7	5.4	6.3	5.1	5.7
11	10.1	8.4	9.0	7.7	5.6	6.4	6.2	4.6	5.4	7.8	5.9	6.8
12	10.1	7.9	8.6	6.0	5.2	5.7	6.9	5.4	5.9	7.4	6.4	6.8
13	9.8	7.5	8.3	6.2	4.7	5.4	6.4	5.3	5.8	8.5	5.9	7.1
14	11.6	7.3	9.0	6.4	5.0	5.6	6.3	5.2	5.6	8.7	6.2	7.2
15	13.2	7.9	9.8	6.5	5.4	6.0	7.5	5.0	6.1	7.5	6.3	6.7
16	10.6	8.2	9.4	9.3	6.2	6.9	9.0	5.3	7.0	7.6	5.9	6.5
17	10.7	7.8	9.2	10.0	6.1	7.3	7.5	5.9	6.7	5.9	4.9	5.6
18	12.3	8.6	10.3	12.1	6.4	8.3	7.9	5.5	6.8	6.0	5.3	5.7
19	11.5	8.6	9.8	11.5	7.3	8.9	7.7	6.0	6.8	6.4	5.8	6.0
20	11.3	7.7	9.2	9.4	6.2	7.1	9.1	6.3	7.4	7.2	6.4	6.9
21	9.2	6.9	8.2	6.2	4.9	5.3	8.9	6.5	7.5	7.3	6.9	7.1
22	10.2	6.3	7.5	6.2	5.0	5.5	10.7	6.8	7.7	7.6	6.9	7.2
23	9.3	5.9	7.3	7.3	5.3	6.0	10.1	7.2	8.0	8.0	7.0	7.5
24	12.2	6.2	8.6	7.2	5.7	6.3	10.0	7.2	8.0	7.6	6.9	7.3
25	13.8	8.6	10.4	8.0	5.2	6.2	8.8	6.6	7.4	8.2	7.6	7.9
26	12.1	9.0	10.1	8.4	4.8	6.3	8.1	5.8	6.7	8.3	7.8	8.1
27	13.6	8.6	10.5	10.3	6.0	7.3	9.1	5.4	6.5	8.6	7.8	8.2
28	13.7	8.9	10.6	8.9	6.6	7.7	6.9	5.4	6.1	7.8	7.3	7.5
29	15.6	8.6	11.3	9.9	6.1	7.5	6.2	4.8	5.4	8.0	6.8	7.4
30	16.0	8.8	11.3	8.6	5.9	7.0	5.6	4.4	4.8	8.0	6.8	7.5
31	---	---	---	10.3	5.9	7.8	6.0	4.8	5.4	---	---	---
Month	16.0	5.6	9.0	14.2	4.7	7.5	10.7	4.4	6.5	8.7	4.5	6.6