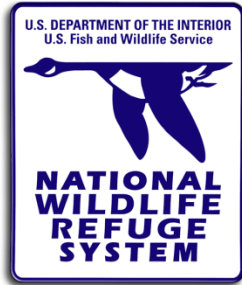


Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR



Division of Biological Resources
Water Resources Branch

Water-Data Report 2012

413723083123801 Crane Creek at Ottawa NWR

LOCATION: Lat. 41°37'21.347"N, long 83°12'40.758"W, near Oak Harbor, OH. Ottawa County, OH on Ottawa National Wildlife Refuge

DRAINAGE AREA: 36,096 acres

PERIOD OF RECORD: Datalogger installed June 2009. Regional Office data analysis starts 2009.

GAGE SITE: Design Analysis 522+ in communication with Esterline pressure transducer and YSI water quality probe in a square metal gage house. GOES antenna in communication with DA 522+ DCP transmits every hour in a 10 second window at a baud rate of 300. Instruments are powered by a 1.2 ampere solar panel run to a deep cycle marine battery through a Sunsaver power regulator. Solar panel, GPS and GOES antennas are attached to a mast connected to the gage house. Stage is collected at 15-minute intervals. Weekly gage height data available online, NWS Id is CRR01.

COOPERATION: USGS Great Lakes Science Center and Ottawa NWR

Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

SURFACE WATER RECORDS

REMARKS: Stage records coded FAIR to POOR for 2012 calendar year. Gage maintained by Regional USFWS and Refuge staff.

GAGE HEIGHT, FEET
CALENDAR YEAR 2012
DAILY MEAN VALUES

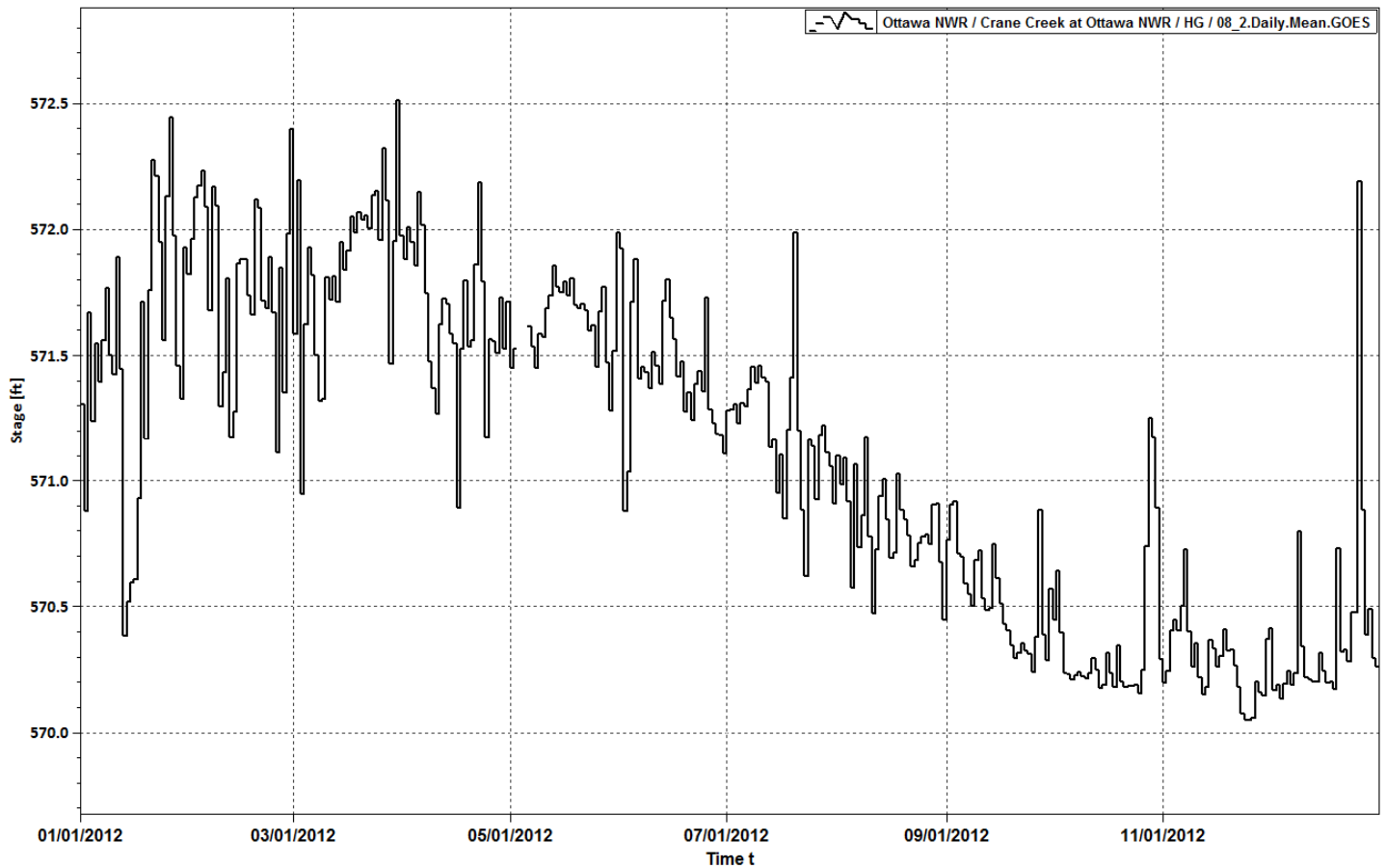
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	571.31	571.96	571.58	571.88	571.45	571.92	571.28	571.10	570.76	570.44	570.19	570.17
2	570.88	572.13	572.19	572.01	571.52	570.88	571.29	570.98	570.90	570.64	570.25	570.17
3	571.67	572.17	570.95	571.95	---	571.03	571.31	571.09	570.92	570.40	570.40	570.19
4	571.24	572.23	571.62	571.85	---	571.71	571.23	570.92	570.71	570.23	570.45	570.13
5	571.55	572.09	571.93	572.15	---	571.88	571.31	570.57	570.70	570.23	570.41	570.19
6	571.40	571.68	571.82	572.02	571.61	571.41	571.30	571.07	570.59	570.21	570.50	570.24
7	571.56	572.17	571.50	571.75	571.54	571.46	571.37	570.73	570.55	570.23	570.73	570.19
8	571.76	572.09	571.32	571.48	571.45	571.43	571.45	570.86	570.50	570.24	570.40	570.24
9	571.50	571.30	571.33	571.37	571.58	571.37	571.39	571.18	570.68	570.22	570.26	570.80
10	571.42	571.43	571.81	571.27	571.57	571.51	571.46	570.77	570.72	570.21	570.35	570.34
11	571.89	571.80	571.72	571.62	571.69	571.46	571.41	570.47	570.53	570.23	570.22	570.22
12	571.44	571.17	571.81	571.73	571.74	571.38	571.40	570.73	570.49	570.29	570.15	570.21
13	570.39	571.28	571.71	571.70	571.86	571.72	571.13	570.94	570.49	570.25	570.18	570.20
14	570.52	571.87	571.95	571.59	571.77	571.80	571.16	571.01	570.75	570.17	570.36	570.20
15	570.59	571.88	571.84	571.55	571.75	571.65	570.95	570.84	570.61	570.19	570.33	570.32
16	570.61	571.88	571.91	570.89	571.79	571.56	571.10	570.69	570.51	570.32	570.26	570.24
17	570.93	571.74	572.05	571.52	571.74	571.42	570.85	570.71	570.43	570.23	570.30	570.20
18	571.71	571.66	571.99	571.80	571.81	571.47	571.20	571.02	570.40	570.18	570.41	570.20
19	571.17	572.12	572.07	571.53	571.70	571.28	571.41	570.88	570.35	570.35	570.32	570.17
20	571.76	572.08	572.04	571.56	571.69	571.35	571.98	570.84	570.29	570.20	570.33	570.73
21	572.28	571.71	572.05	571.86	571.70	571.24	571.20	570.78	570.32	570.18	570.26	570.32
22	572.21	571.68	572.00	572.19	571.68	571.39	570.88	570.66	570.35	570.18	570.18	570.33
23	571.95	571.89	572.13	571.79	571.60	571.44	570.62	570.68	570.32	570.19	570.08	570.28
24	571.56	571.67	572.15	571.18	571.62	571.35	571.16	570.75	570.31	570.19	570.05	570.48
25	572.13	571.11	571.96	571.56	571.45	571.73	571.14	570.78	570.24	570.16	570.05	570.48
26	572.44	571.85	572.32	571.56	571.67	571.28	570.92	570.78	570.38	570.25	570.06	572.19
27	571.97	571.35	572.11	571.51	571.77	571.23	571.18	570.75	570.88	570.74	570.20	570.88
28	571.46	571.98	571.47	571.73	571.47	571.19	571.22	570.90	570.39	571.25	570.16	570.39
29	571.33	572.40	571.95	571.52	571.28	571.18	571.11	570.91	570.28	571.18	570.15	570.49
30	571.93	---	572.51	571.71	571.52	571.11	571.06	570.68	570.57	570.89	570.37	570.29
31	571.82	---	571.98	---	571.99	---	570.91	570.45	---	570.29	---	570.26
Mean	571.50	571.81	571.86	571.66	571.64	571.43	571.21	570.82	570.53	570.35	570.28	570.38
Max	572.44	572.40	572.51	572.19	571.99	571.92	571.98	571.18	570.92	571.25	570.73	572.19
Min	570.39	571.11	570.95	570.89	571.28	570.88	570.62	570.45	570.24	570.16	570.05	570.13

Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

Summary Statistics

	Calendar Year 2012	Period of Record (2009 – 2012)
Annual Mean	571.12	571.26
Maximum Peak Stage	573.54 (Mar 30)	574.17 (Oct 19, 2011)
Minimum Stage	570.02 (Nov 23)	569.46 (Oct 28, 2010)
Maximum Daily Value	572.51 (Mar 30)	573.05 (Jun 10, 2011)
Minimum Daily Value	570.05 (Nov 24, 25)	569.59 (Oct 28, 2010)

**Gage Height
Daily Mean**



Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

WATER QUALITY RECORDS

PERIOD OF RECORD: Record began in 2009. Data collection is continuous throughout the open-water period.

SPECIFIC CONDUCTANCE: March – November 2012

WATER TEMPERATURE: March – November 2012

DISSOLVED OXYGEN: March – November 2012

pH: March – November 2012

TURBIDITY: March – November 2012

INSTRUMENTATION: Design Analysis 522+ in communication with YSI (Model 6920) water quality probe. Water quality data is collected at 30-minute intervals.

REMARKS:

SPECIFIC CONDUCTANCE: The record for this time period is considered good.

WATER TEMPERATURE: The record for this time period is considered good

DISSOLVED OXYGEN: The record for this time period is considered good

pH: The record for this time period is considered good

TURBIDITY: The record for this time period is considered good

Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

SPECIFIC CONDUCTANCE [$\mu\text{S}/\text{cm}$]

Day	January			February			March			April			May			June		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	---	---	---	---	---	---	---	---	---	298	406	357	380	483	436	276	553	359
2	---	---	---	---	---	---	---	---	---	300	420	356	377	487	425	280	598	413
3	---	---	---	---	---	---	---	---	---	335	422	367	391	532	438	288	456	360
4	---	---	---	---	---	---	---	---	---	316	417	380	359	445	407	279	325	293
5	---	---	---	---	---	---	---	---	---	304	396	345	347	696	436	278	332	302
6	---	---	---	---	---	---	---	---	---	309	436	362	421	687	592	306	357	332
7	---	---	---	---	---	---	---	---	---	357	453	397	505	650	578	308	360	335
8	---	---	---	---	---	---	---	---	---	374	526	465	393	575	444	317	366	342
9	---	---	---	---	---	---	---	---	---	319	571	419	442	484	468	318	411	356
10	---	---	---	---	---	---	---	---	---	373	534	433	427	522	496	312	372	343
11	---	---	---	---	---	---	---	---	---	388	548	401	483	549	514	323	408	362
12	---	---	---	---	---	---	---	---	---	389	407	400	426	555	490	324	401	368
13	---	---	---	---	---	---	---	---	---	398	426	408	391	558	475	325	394	356
14	---	---	---	---	---	---	---	---	---	389	486	416	460	577	504	306	376	345
15	---	---	---	---	---	---	335	377	352	383	504	431	470	534	507	287	429	362
16	---	---	---	---	---	---	233	431	309	399	699	539	398	546	482	302	407	367
17	---	---	---	---	---	---	235	289	258	388	449	434	434	551	501	356	419	379
18	---	---	---	---	---	---	291	351	310	426	446	436	406	544	489	339	407	372
19	---	---	---	---	---	---	300	376	323	421	465	445	451	609	519	358	588	459
20	---	---	---	---	---	---	308	363	330	416	474	435	449	587	513	333	633	520
21	---	---	---	---	---	---	351	417	373	417	437	427	373	546	511	406	536	484
22	---	---	---	---	---	---	388	426	406	420	431	424	361	506	455	350	475	429
23	---	---	---	---	---	---	324	454	400	414	446	434	416	518	470	367	461	409
24	---	---	---	---	---	---	337	531	434	437	679	496	418	504	462	381	450	415
25	---	---	---	---	---	---	334	421	370	454	471	460	395	557	489	288	385	328
26	---	---	---	---	---	---	272	378	335	446	490	460	356	498	440	357	433	398
27	---	---	---	---	---	---	288	382	351	436	488	459	340	519	423	337	438	386
28	---	---	---	---	---	---	287	488	388	424	450	436	423	568	483	323	420	382
29	---	---	---	---	---	---	287	360	306	439	489	458	364	581	492	364	424	391
30	---	---	---	---	---	---	281	351	314	401	455	428	302	466	391	375	438	404
31	---	---	---	---	---	---	325	414	363	---	---	---	280	379	312	---	---	---
Monthly Average	---	---	---	---	---	---	304	401	348	386	477	424	401	542	472	325	435	378

Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

SPECIFIC CONDUCTANCE [$\mu\text{S}/\text{cm}$]

Day	July			August			September			October			November			December		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	323	426	369	252	318	280	235	262	244	255	337	311	507	556	532	---	---	---
2	330	413	373	276	347	312	235	260	244	251	273	261	461	565	534	---	---	---
3	310	418	379	214	329	265	242	263	253	256	320	288	411	532	461	---	---	---
4	322	452	394	239	335	293	249	277	267	320	338	330	381	551	434	---	---	---
5	340	416	386	274	389	345	248	272	259	335	339	337	397	562	473	---	---	---
6	346	432	393	252	276	265	247	278	263	332	338	335	314	564	423	---	---	---
7	309	457	378	271	316	298	258	271	265	332	434	363	316	372	343	---	---	---
8	308	395	353	264	298	282	249	267	259	438	654	567	378	590	497	---	---	---
9	310	394	355	263	272	267	252	269	260	625	725	676	468	648	592	---	---	---
10	291	413	345	265	341	297	252	261	257	680	748	716	375	578	468	---	---	---
11	287	397	334	329	391	359	249	284	265	467	732	619	526	687	587	---	---	---
12	304	396	341	293	327	307	256	284	271	360	586	480	557	666	629	---	---	---
13	294	451	367	265	319	287	260	279	269	434	538	477	439	657	604	---	---	---
14	300	405	350	259	286	272	221	283	248	448	603	543	345	654	492	---	---	---
15	323	489	400	272	317	294	254	277	265	421	585	547	343	847	647	---	---	---
16	302	412	352	288	511	380	265	303	282	357	558	450	695	883	828	---	---	---
17	322	479	397	246	531	349	270	299	287	371	488	443	417	904	690	---	---	---
18	287	375	323	241	287	259	263	285	276	398	459	432	379	579	496	---	---	---
19	251	366	295	242	332	282	244	283	258	268	344	312	472	686	592	---	---	---
20	250	294	263	239	341	291	280	538	431	335	374	349	524	666	610	---	---	---
21	281	335	305	275	338	303	309	540	434	352	385	368	---	---	---	---	---	---
22	297	369	347	285	313	298	272	381	322	377	397	382	---	---	---	---	---	---
23	292	437	377	237	289	260	304	403	374	406	466	439	---	---	---	---	---	---
24	262	329	275	193	252	231	377	596	488	449	479	470	---	---	---	---	---	---
25	268	314	292	212	239	224	495	602	566	420	490	467	---	---	---	---	---	---
26	256	313	282	202	239	226	235	550	423	227	477	423	---	---	---	---	---	---
27	263	298	276	174	235	216	235	277	248	229	262	243	---	---	---	---	---	---
28	269	305	284	198	241	224	279	335	309	258	350	329	---	---	---	---	---	---
29	279	320	295	221	246	236	322	350	338	307	336	322	---	---	---	---	---	---
30	285	325	305	231	264	253	262	349	288	318	382	345	---	---	---	---	---	---
31	268	343	314	231	269	247				361	503	441				---	---	---
Monthly Average	294	386	339	248	316	281	271	339	307	367	461	421	435	637	547	---	---	---

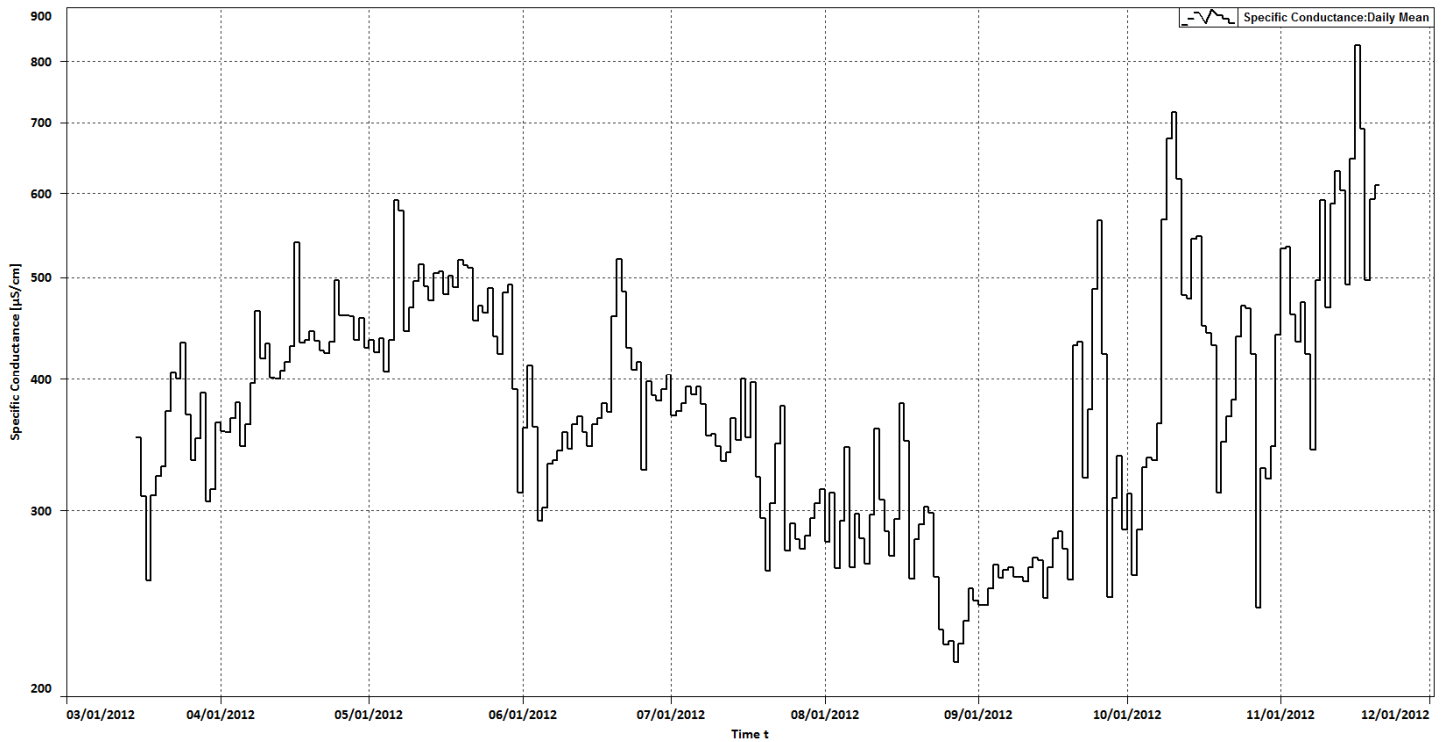
Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

**SPECIFIC CONDUCTANCE
SUMMARY STATISTICS**

	Calendar Year 2012*	Period of Record (2009 - 2012)*
Minimum Unit Value [$\mu\text{S}/\text{cm}$]	174 (Aug 27)	10 (Sep 6, 2011)
Maximum Unit Value [$\mu\text{S}/\text{cm}$]	904 (Nov 17)	1069 (Dec 6, 7, 2009)
Median of Daily Mean [$\mu\text{S}/\text{cm}$]	372	397

**Open water period only*

**SPECIFIC CONDUCTANCE
DAILY MEAN**



Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

WATER TEMPERATURE [°C]

Day	January			February			March			April			May			June		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	---	---	---	---	---	---	---	---	---	6.7	10.4	8.5	13.3	17.0	15.1	14.4	19.2	17.6
2	---	---	---	---	---	---	---	---	---	7.3	12.3	9.7	13.2	22.6	18.3	12.7	21.1	17.0
3	---	---	---	---	---	---	---	---	---	8.8	12.9	10.7	15.2	26.4	21.8	14.2	24.0	18.9
4	---	---	---	---	---	---	---	---	---	10.3	16.2	12.8	18.2	22.9	20.9	17.8	24.4	20.4
5	---	---	---	---	---	---	---	---	---	8.5	12.2	10.7	16.1	20.6	18.6	17.2	22.3	19.9
6	---	---	---	---	---	---	---	---	---	6.9	12.7	10.0	15.3	19.2	17.3	17.5	27.6	21.9
7	---	---	---	---	---	---	---	---	---	9.8	15.8	12.6	14.4	18.9	16.5	20.7	28.2	24.7
8	---	---	---	---	---	---	---	---	---	11.1	16.7	13.5	15.7	21.9	18.0	22.1	29.0	25.9
9	---	---	---	---	---	---	---	---	---	8.8	14.3	11.7	15.0	19.4	17.4	21.3	29.7	25.7
10	---	---	---	---	---	---	---	---	---	4.5	10.4	7.6	13.9	21.3	17.8	23.1	29.3	26.5
11	---	---	---	---	---	---	---	---	---	4.5	11.5	8.6	15.5	23.4	19.7	23.7	26.4	25.2
12	---	---	---	---	---	---	---	---	---	8.0	14.8	11.3	17.7	22.3	19.7	21.2	29.5	25.2
13	---	---	---	---	---	---	---	---	---	10.7	16.2	13.6	17.1	21.9	19.7	18.6	25.9	22.3
14	---	---	---	---	---	---	---	---	---	11.9	13.5	12.7	18.6	24.6	21.4	19.9	25.4	22.4
15	---	---	---	---	---	---	15.2	17.5	16.8	12.5	20.1	15.6	18.8	26.3	22.5	21.0	28.0	24.6
16	---	---	---	---	---	---	13.6	16.8	15.4	13.7	20.1	16.8	18.6	23.0	20.8	22.8	27.5	25.3
17	---	---	---	---	---	---	13.6	18.3	15.8	10.7	17.8	14.2	16.7	23.0	20.3	23.5	26.3	25.2
18	---	---	---	---	---	---	14.9	18.3	16.4	11.7	17.3	14.5	17.2	23.6	20.5	22.8	28.5	25.2
19	---	---	---	---	---	---	14.7	18.7	16.6	12.7	18.6	15.9	19.1	26.1	22.3	22.1	31.8	26.7
20	---	---	---	---	---	---	15.6	20.8	18.2	12.8	18.8	16.1	20.4	27.2	23.9	24.1	31.3	27.9
21	---	---	---	---	---	---	17.5	21.2	19.2	10.5	13.5	12.0	20.6	28.3	24.4	24.3	31.8	27.5
22	---	---	---	---	---	---	17.5	22.4	19.7	7.8	11.3	10.0	18.9	24.3	21.5	24.7	30.3	27.1
23	---	---	---	---	---	---	14.7	20.0	17.7	6.3	13.4	9.3	19.9	26.1	22.9	24.1	29.4	26.6
24	---	---	---	---	---	---	14.3	16.7	15.5	5.7	15.6	9.9	21.3	26.3	23.9	23.3	30.4	26.5
25	---	---	---	---	---	---	13.0	16.7	14.6	9.9	14.7	12.3	21.5	28.7	25.0	21.7	26.0	23.6
26	---	---	---	---	---	---	8.7	14.7	11.4	9.4	14.7	13.0	22.0	24.7	23.5	19.1	29.5	23.6
27	---	---	---	---	---	---	6.7	11.7	9.2	7.0	15.2	11.3	21.2	26.3	23.7	21.8	30.8	25.5
28	---	---	---	---	---	---	10.4	17.8	12.7	8.2	12.4	10.4	22.8	29.2	25.7	21.9	32.0	27.4
29	---	---	---	---	---	---	8.4	11.0	9.5	7.0	14.5	10.7	22.4	27.7	25.0	25.9	32.0	28.4
30	---	---	---	---	---	---	7.3	9.6	8.4	10.6	14.8	12.7	20.6	27.0	23.9	22.9	33.0	27.3
31	---	---	---	---	---	---	7.1	8.8	7.9	---	---	---	18.5	21.2	19.9	---	---	---
Monthly Average	---	---	---	---	---	---	12.5	16.5	14.4	9.1	14.8	11.9	18.1	23.9	21.0	21.0	28.0	24.4

Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

WATER TEMPERATURE [°C]

Day	July			August			September			October			November			December		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	24.5	30.4	27.3	24.5	31.7	27.5	21.5	25.3	23.8	13.9	17.9	16.1	5.1	6.2	5.7	---	---	---
2	24.0	32.0	28.1	23.1	31.9	27.5	23.2	26.7	24.7	14.7	16.8	16.1	5.1	6.0	5.5	---	---	---
3	25.8	31.0	27.7	24.7	32.1	28.6	22.4	31.5	26.3	16.3	18.4	17.4	2.4	7.6	4.9	---	---	---
4	25.6	33.8	29.2	25.2	31.8	28.4	24.5	27.5	25.7	16.6	18.6	17.6	3.1	6.2	4.9	---	---	---
5	25.7	31.3	28.5	22.3	29.4	25.8	22.4	29.4	25.5	14.5	17.6	16.2	4.1	5.8	5.1	---	---	---
6	26.3	34.3	30.1	22.0	28.6	25.2	23.8	32.0	26.6	11.4	14.5	12.4	3.7	8.2	5.4	---	---	---
7	27.8	36.2	30.9	21.2	30.3	25.6	22.1	27.1	24.8	10.0	11.4	10.7	2.7	8.9	5.6	---	---	---
8	25.0	31.7	27.4	23.7	32.2	27.0	20.3	24.5	22.8	9.1	11.5	10.3	2.9	6.8	4.9	---	---	---
9	23.5	30.3	26.9	22.7	24.9	24.1	16.1	26.3	19.6	9.6	12.4	11.0	5.9	8.3	6.8	---	---	---
10	24.2	29.2	26.3	20.5	22.8	21.8	16.6	25.4	20.1	9.9	11.7	10.8	7.6	13.7	9.8	---	---	---
11	22.5	29.8	26.2	18.2	20.9	19.3	17.5	23.0	19.9	6.8	11.1	9.7	9.8	11.6	10.8	---	---	---
12	23.3	29.7	26.6	19.4	26.8	22.2	18.6	27.2	22.2	6.4	12.8	10.1	6.1	11.0	9.7	---	---	---
13	23.7	31.5	27.8	20.8	24.4	22.4	22.1	27.5	23.7	9.5	11.6	10.2	3.9	6.1	5.1	---	---	---
14	23.0	30.5	26.9	21.3	26.2	23.3	17.4	23.1	19.6	11.6	15.6	13.9	2.7	5.4	4.3	---	---	---
15	24.9	33.5	28.1	20.6	25.7	22.8	15.8	23.8	19.8	12.2	14.7	13.1	4.0	5.5	4.8	---	---	---
16	25.4	33.0	28.9	20.6	25.5	23.5	16.1	22.3	19.4	9.6	15.0	12.2	4.7	6.4	5.4	---	---	---
17	25.6	35.7	29.8	19.5	26.4	23.9	18.5	22.8	20.5	12.3	15.5	13.8	4.1	8.7	6.4	---	---	---
18	26.3	32.6	29.1	18.1	28.5	22.3	17.9	20.9	19.8	11.5	14.8	14.0	5.1	10.3	6.8	---	---	---
19	26.1	29.7	27.5	18.7	26.8	22.3	15.4	17.9	16.9	9.8	12.0	11.1	5.9	7.7	6.7	---	---	---
20	22.5	26.1	23.9	19.8	27.3	23.9	13.8	17.0	15.2	10.3	11.2	10.8	5.9	7.0	6.4	---	---	---
21	20.9	30.0	25.1	20.6	26.5	22.8	15.0	17.9	16.4	10.0	12.9	11.4	---	---	---	---	---	---
22	23.4	30.9	26.8	20.9	23.9	22.8	14.2	15.7	15.1	11.6	14.3	12.8	---	---	---	---	---	---
23	24.2	30.1	27.1	21.4	30.0	25.9	13.0	15.1	13.8	14.1	15.3	14.7	---	---	---	---	---	---
24	23.5	31.9	27.1	22.2	30.8	25.5	10.8	14.8	12.8	15.2	18.7	16.9	---	---	---	---	---	---
25	21.6	30.8	26.0	23.8	31.7	26.8	12.6	15.1	14.1	16.9	18.9	17.9	---	---	---	---	---	---
26	25.0	28.9	27.0	24.2	32.4	27.2	15.0	17.7	16.1	9.7	17.7	14.8	---	---	---	---	---	---
27	24.8	31.9	26.6	23.9	27.9	25.7	14.7	20.1	16.8	7.3	10.8	9.2	---	---	---	---	---	---
28	22.9	28.5	25.5	21.5	29.2	24.5	14.4	18.0	16.2	6.0	9.7	8.1	---	---	---	---	---	---
29	23.3	31.4	26.5	20.9	28.3	24.1	15.8	18.8	17.5	4.2	6.0	5.3	---	---	---	---	---	---
30	22.7	33.7	26.7	20.1	27.4	23.5	13.8	20.7	17.4	2.7	6.0	4.3	---	---	---	---	---	---
31	24.6	30.9	27.4	21.4	26.3	23.9				3.8	5.2	4.4				---	---	---
Monthly Average	24.3	31.3	27.4	21.5	28.0	24.5	17.5	22.5	19.8	10.6	13.6	12.2	4.7	7.9	6.2	---	---	---

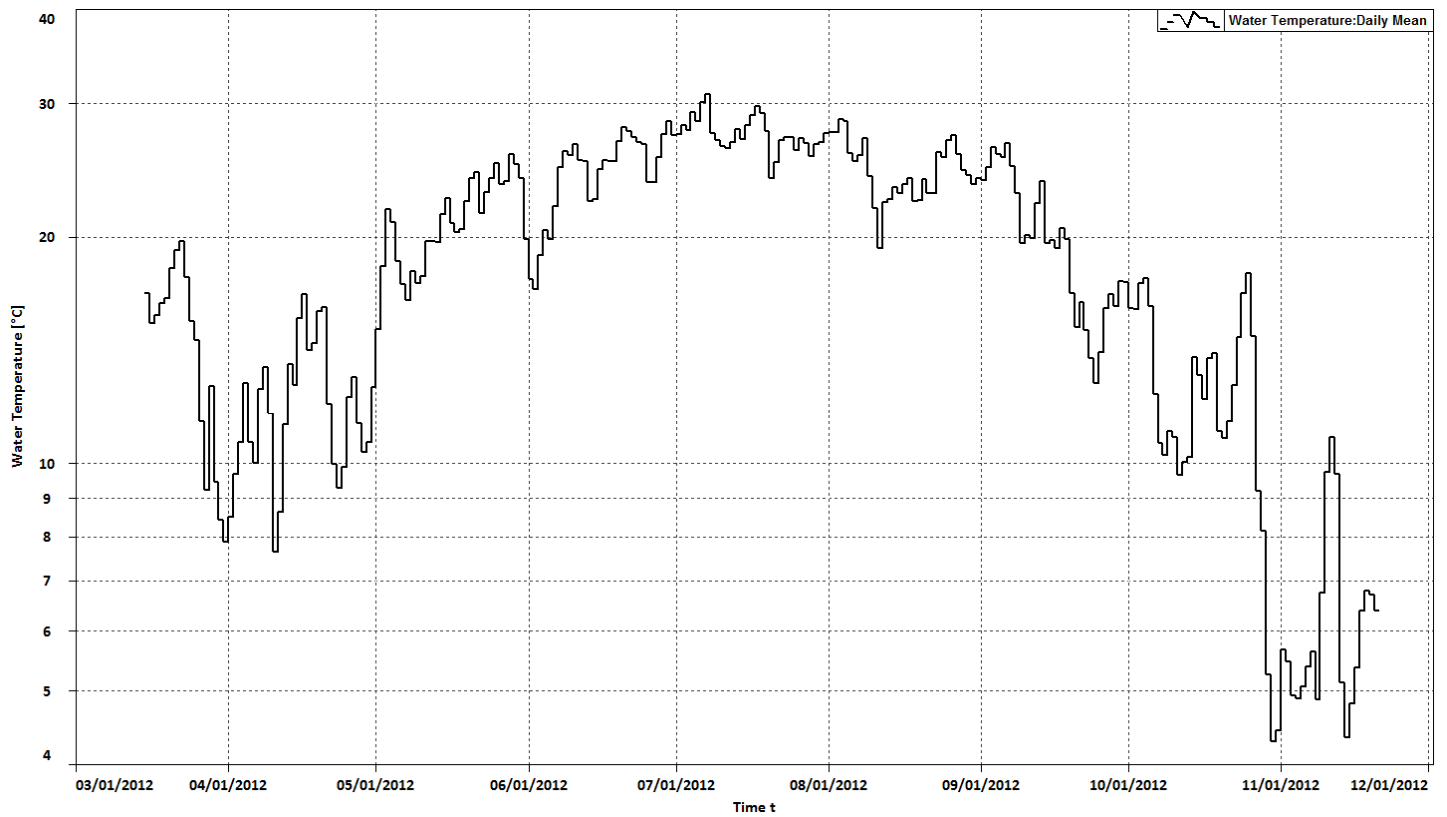
Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

**WATER TEMPERATURE
SUMMARY STATISTICS**

	Calendar Year 2012*	Period of Record (2009 – 2012)*
Minimum Unit Value [°C]	2.4 (Nov 3)	0.1 (Dec 8, 2009)
Maximum Unit Value [°C]	36.2 (Jul 7)	36.2 (Jul 7, 2012)
Median of Daily Mean [°C]	19.7	19.5

**Open water period only*

**WATER TEMPERATURE
DAILY MEAN**



Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

DISSOLVED OXYGEN [mg/L]

Day	January			February			March			April			May			June		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	---	---	---	---	---	---	---	---	---	10.80	11.90	11.36	8.00	14.00	11.37	6.30	8.40	7.21
2	---	---	---	---	---	---	---	---	---	10.70	12.00	11.57	6.80	13.10	10.23	4.80	8.40	7.52
3	---	---	---	---	---	---	---	---	---	10.30	12.00	11.06	5.60	12.50	9.00	7.00	8.50	7.73
4	---	---	---	---	---	---	---	---	---	9.30	13.00	11.21	5.80	11.40	8.88	6.10	8.50	7.48
5	---	---	---	---	---	---	---	---	---	10.10	12.50	11.35	6.60	11.30	9.17	6.60	8.90	8.04
6	---	---	---	---	---	---	---	---	---	11.50	14.30	12.70	5.30	10.20	8.15	5.00	13.60	8.84
7	---	---	---	---	---	---	---	---	---	12.00	15.20	13.60	5.70	8.80	7.62	5.30	12.60	9.54
8	---	---	---	---	---	---	---	---	---	9.00	12.40	10.51	5.30	6.40	5.72	2.60	9.20	7.01
9	---	---	---	---	---	---	---	---	---	9.00	11.70	10.35	4.90	8.10	6.26	3.10	8.70	6.06
10	---	---	---	---	---	---	---	---	---	10.20	12.60	11.42	5.80	8.10	6.82	3.20	9.60	6.24
11	---	---	---	---	---	---	---	---	---	11.60	12.60	12.09	4.90	8.30	6.57	3.10	7.80	5.35
12	---	---	---	---	---	---	---	---	---	10.80	12.50	11.53	5.00	9.90	7.77	3.60	8.40	5.98
13	---	---	---	---	---	---	---	---	---	9.70	12.70	11.19	6.40	11.20	9.35	6.00	10.10	7.89
14	---	---	---	---	---	---	---	---	---	8.40	11.70	10.35	6.70	13.00	10.42	6.00	10.50	7.94
15	---	---	---	---	---	---	---	---	---	8.30	10.80	10.11	7.60	13.40	10.02	3.40	10.10	6.96
16	---	---	---	---	---	---	---	---	---	7.50	10.50	8.56	6.00	9.60	8.02	1.00	8.70	5.26
17	---	---	---	---	---	---	---	---	---	8.50	10.90	10.29	4.10	10.50	7.25	1.60	6.50	4.43
18	---	---	---	---	---	---	---	---	---	8.60	11.80	10.14	5.70	10.90	7.95	2.80	7.00	5.13
19	---	---	---	---	---	---	5.20	6.50	5.85	7.20	11.80	9.84	3.60	11.00	7.83	3.30	8.90	6.19
20	---	---	---	---	---	---	5.20	6.50	5.91	8.50	10.80	9.76	3.60	10.40	7.47	0.90	9.80	6.18
21	---	---	---	---	---	---	4.30	6.20	5.42	9.30	12.10	10.80	4.80	11.00	7.94	3.10	9.90	6.09
22	---	---	---	---	---	---	4.80	7.00	5.81	10.80	12.00	11.38	4.80	12.70	8.16	3.20	13.40	8.38
23	---	---	---	---	---	---	5.80	9.20	7.07	11.00	13.60	12.14	3.90	12.30	8.73	4.60	13.10	8.53
24	---	---	---	---	---	---	6.80	8.50	7.35	10.80	12.90	11.62	3.80	11.50	6.48	3.30	12.30	6.92
25	---	---	---	---	---	---	5.80	8.50	6.83	9.50	14.50	12.23	2.40	9.10	5.64	5.80	8.80	7.38
26	---	---	---	---	---	---	7.70	11.40	10.37	8.70	11.90	10.73	1.40	8.60	5.62	3.10	13.60	7.68
27	---	---	---	---	---	---	9.40	11.50	10.62	11.10	16.00	13.24	2.30	10.00	6.30	4.20	11.70	7.85
28	---	---	---	---	---	---	8.60	11.00	9.76	11.20	13.70	12.17	0.90	7.40	4.71	3.50	11.40	6.72
29	---	---	---	---	---	---	10.70	11.20	10.99	11.30	14.80	12.92	1.40	7.60	4.40	3.00	8.60	4.99
30	---	---	---	---	---	---	10.90	11.80	11.36	10.50	13.60	12.08	2.50	8.00	5.61	2.30	8.70	4.89
31	---	---	---	---	---	---	10.80	11.90	11.21	---	---	---	6.80	8.90	7.72	---	---	---
Monthly Average	---	---	---	---	---	---	7.38	9.32	8.35	9.87	12.63	11.28	4.79	10.30	7.65	3.93	9.86	6.88

Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

DISSOLVED OXYGEN [mg/L]

Day	July			August			September			October			November			December		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	2.10	7.10	5.06	4.60	8.60	6.35	4.30	9.00	6.74	5.20	9.00	7.01	10.40	11.10	10.83	---	---	---
2	1.60	9.40	5.75	3.40	9.10	6.27	3.10	9.40	6.57	4.50	8.90	6.68	9.80	11.40	10.57	---	---	---
3	1.80	7.70	4.91	3.30	8.00	6.08	3.90	8.60	5.92	4.80	7.90	6.64	10.50	11.90	11.20	---	---	---
4	2.10	8.20	5.42	2.90	5.50	3.94	2.30	7.20	5.23	6.40	8.80	7.45	10.80	12.00	11.38	---	---	---
5	2.30	8.50	5.06	---	---	---	3.70	10.50	6.56	6.90	7.90	7.44	10.90	12.00	11.46	---	---	---
6	1.70	8.40	5.07	---	---	---	2.10	11.50	6.03	7.50	9.70	8.73	10.40	11.80	11.10	---	---	---
7	1.30	8.60	5.17	---	---	---	3.10	8.70	5.61	8.40	9.90	9.22	10.60	12.30	11.35	---	---	---
8	0.20	7.30	4.15	---	---	---	5.50	8.80	6.86	9.10	9.90	9.48	10.20	11.30	10.66	---	---	---
9	---	---	---	---	---	---	5.50	11.60	7.53	8.80	9.50	9.13	9.80	11.30	10.62	---	---	---
10	7.00	8.60	7.89	---	---	---	5.40	10.40	7.66	8.60	9.80	9.31	8.20	10.60	9.62	---	---	---
11	5.00	9.10	6.97	---	---	---	5.60	9.20	6.88	9.10	11.00	10.01	8.30	9.60	8.84	---	---	---
12	3.30	6.90	5.55	---	---	---	5.20	9.50	6.93	10.10	11.90	10.71	8.20	10.10	9.03	---	---	---
13	1.90	8.80	5.54	---	---	---	4.30	10.20	6.42	8.90	10.60	9.91	9.10	12.00	9.93	---	---	---
14	1.50	7.50	4.83	---	---	---	5.70	9.50	7.72	8.80	9.80	9.27	8.90	11.50	10.38	---	---	---
15	2.30	9.10	4.91	---	---	---	5.90	10.50	7.82	8.50	10.20	9.15	9.20	11.40	10.51	---	---	---
16	2.60	7.70	5.13	3.80	8.10	6.46	6.00	8.90	7.35	8.40	10.10	9.26	9.10	11.50	10.32	---	---	---
17	2.60	8.90	4.67	3.70	9.60	7.08	5.80	9.30	7.14	8.40	10.00	9.07	8.90	12.20	10.40	---	---	---
18	3.20	7.80	5.86	6.00	11.30	8.50	5.70	9.30	6.82	8.00	9.60	8.86	9.80	12.40	10.62	---	---	---
19	1.60	8.50	5.81	5.00	10.80	7.12	5.90	8.70	7.10	8.80	9.90	9.41	9.80	12.30	10.57	---	---	---
20	4.70	8.50	6.87	4.00	9.80	6.71	6.40	8.30	7.32	9.00	10.10	9.50	8.30	10.30	9.44	---	---	---
21	4.40	10.60	6.63	2.50	10.50	5.50	6.00	9.50	7.77	8.90	9.90	9.45	---	---	---	---	---	---
22	3.20	8.80	5.68	4.30	5.70	5.05	6.90	8.30	7.61	7.70	9.40	8.62	---	---	---	---	---	---
23	2.40	7.50	5.14	3.20	11.60	7.71	7.10	9.20	8.08	7.90	9.30	8.45	---	---	---	---	---	---
24	4.40	8.90	6.80	4.90	14.80	7.91	7.70	9.30	8.42	7.00	9.30	8.08	---	---	---	---	---	---
25	4.60	8.80	6.71	4.40	13.90	8.05	7.40	9.10	8.28	6.90	9.10	8.13	---	---	---	---	---	---
26	3.10	8.50	6.05	2.50	15.10	7.38	5.40	9.00	7.42	7.10	9.90	8.11	---	---	---	---	---	---
27	4.60	7.90	6.31	2.20	9.90	5.92	6.90	9.60	8.60	9.70	10.90	10.39	---	---	---	---	---	---
28	4.00	8.60	7.06	2.80	8.50	5.59	5.60	7.80	6.64	10.30	11.20	10.64	---	---	---	---	---	---
29	3.20	9.30	6.65	3.30	12.40	6.09	4.80	7.70	6.09	11.20	11.70	11.47	---	---	---	---	---	---
30	2.90	8.80	6.09	2.40	9.50	5.12	5.50	9.70	7.96	11.20	12.00	11.59	---	---	---	---	---	---
31	2.90	8.40	5.55	4.30	7.50	5.89				11.10	11.70	11.43				---	---	---
Monthly Average	2.95	8.42	5.78	3.68	10.01	6.44	5.29	9.28	7.10	8.30	9.96	9.12	9.56	11.45	10.44	---	---	---

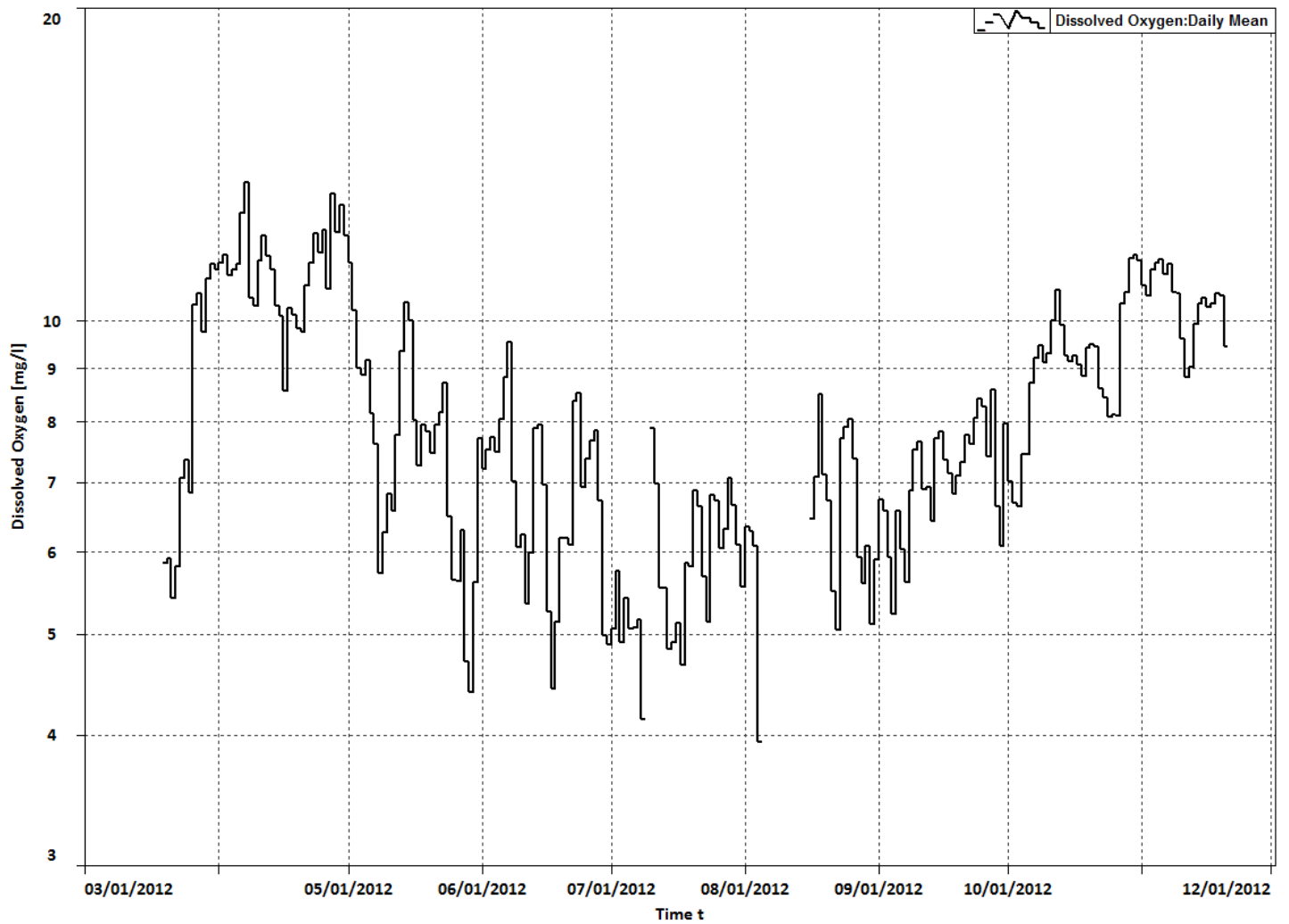
Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

**DISSOLVED OXYGEN
SUMMARY STATISTICS**

	Calendar Year 2012*	Period of Record (2009 – 2012)*
Minimum Unit Value [mg/L]	0.20 (Jul 8)	0.05 (Jul 24, 2010)
Maximum Unit Value [mg/L]	16.00 (Apr 27)	19.58 (Jun 25, 2010)
Median of Daily Mean [mg/L]	7.73	7.45

**Open water period only*

**DISSOLVED OXYGEN
DAILY MEAN**



Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

pH

Day	January			February			March			April			May			June		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	---	---	---	---	---	---	---	---	---	8.08	8.31	8.18	7.95	8.74	8.52	7.56	8.15	7.83
2	---	---	---	---	---	---	---	---	---	8.21	8.37	8.27	8.15	8.82	8.50	7.57	8.15	7.93
3	---	---	---	---	---	---	---	---	---	8.18	8.42	8.28	7.86	8.63	8.32	7.75	8.27	8.00
4	---	---	---	---	---	---	---	---	---	8.06	8.60	8.33	7.85	8.79	8.34	7.76	8.10	7.96
5	---	---	---	---	---	---	---	---	---	8.26	8.58	8.40	7.66	8.83	8.34	7.76	8.19	8.00
6	---	---	---	---	---	---	---	---	---	8.32	8.71	8.49	7.53	8.49	7.93	7.63	8.73	8.15
7	---	---	---	---	---	---	---	---	---	8.46	8.90	8.68	7.41	7.96	7.65	7.72	8.72	8.33
8	---	---	---	---	---	---	---	---	---	8.35	8.73	8.49	7.19	7.41	7.30	7.52	8.44	8.09
9	---	---	---	---	---	---	---	---	---	8.24	8.52	8.39	7.23	7.74	7.40	7.58	8.33	7.91
10	---	---	---	---	---	---	---	---	---	8.28	8.58	8.40	7.41	7.81	7.52	7.53	8.45	7.92
11	---	---	---	---	---	---	---	---	---	8.33	8.51	8.38	7.45	7.80	7.59	7.51	8.11	7.82
12	---	---	---	---	---	---	---	---	---	8.23	8.47	8.35	7.54	8.16	7.88	7.46	8.40	7.89
13	---	---	---	---	---	---	---	---	---	8.25	8.62	8.41	7.64	8.43	8.17	7.72	8.40	7.98
14	---	---	---	---	---	---	---	---	---	8.11	8.46	8.32	7.85	8.67	8.31	7.73	8.58	8.10
15	---	---	---	---	---	---	7.68	8.14	7.91	8.22	8.55	8.38	8.10	8.68	8.38	7.52	8.49	8.05
16	---	---	---	---	---	---	7.49	7.82	7.61	8.11	8.31	8.19	7.89	8.36	8.11	7.47	8.34	7.81
17	---	---	---	---	---	---	7.46	7.54	7.50	8.08	8.40	8.29	7.64	8.39	7.97	7.37	7.77	7.59
18	---	---	---	---	---	---	7.49	7.67	7.55	8.05	8.56	8.26	7.76	8.56	8.10	7.45	7.80	7.58
19	---	---	---	---	---	---	7.39	7.57	7.49	7.85	8.54	8.24	7.55	8.55	8.10	7.42	8.30	7.82
20	---	---	---	---	---	---	7.45	7.60	7.52	8.17	8.53	8.36	7.73	8.48	8.09	7.34	8.07	7.76
21	---	---	---	---	---	---	7.44	7.65	7.56	8.23	8.66	8.39	7.66	8.51	8.10	7.40	8.56	7.84
22	---	---	---	---	---	---	7.58	7.79	7.67	8.39	8.51	8.45	7.65	8.54	8.00	7.66	8.53	8.10
23	---	---	---	---	---	---	7.66	8.01	7.79	8.36	8.69	8.49	7.54	8.60	8.15	7.57	8.50	7.99
24	---	---	---	---	---	---	7.61	7.91	7.79	8.43	8.73	8.56	7.64	8.52	7.99	7.39	8.71	7.84
25	---	---	---	---	---	---	7.53	7.84	7.61	8.40	8.85	8.65	7.45	8.20	7.80	7.65	8.63	8.04
26	---	---	---	---	---	---	7.71	8.27	8.08	8.10	8.71	8.48	7.44	7.99	7.75	7.35	8.77	7.88
27	---	---	---	---	---	---	7.82	8.27	8.06	8.39	8.83	8.59	7.39	8.29	7.76	7.51	8.48	7.93
28	---	---	---	---	---	---	7.78	8.25	8.07	8.36	8.82	8.60	7.35	7.74	7.49	7.42	8.45	7.81
29	---	---	---	---	---	---	8.10	8.30	8.18	8.57	8.83	8.70	7.34	7.63	7.42	7.40	8.11	7.61
30	---	---	---	---	---	---	8.13	8.32	8.23	8.38	8.86	8.65	7.34	8.13	7.76	7.40	8.41	7.66
31	---	---	---	---	---	---	8.05	8.21	8.13	---	---	---	7.77	8.39	8.01	---	---	---
Monthly Average	---	---	---	---	---	---	7.67	7.95	7.81	8.25	8.61	8.42	7.61	8.32	7.96	7.54	8.36	7.91

Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

pH

Day	July			August			September			October			November			December		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	7.48	8.05	7.66	7.56	8.41	7.95	7.77	8.51	8.17	7.60	8.08	7.88	8.05	8.13	8.09	---	---	---
2	7.41	8.35	7.71	7.58	8.44	7.97	7.43	8.65	8.15	7.70	8.11	7.92	8.02	8.12	8.08	---	---	---
3	7.41	8.07	7.58	7.56	8.33	7.98	7.48	8.57	7.94	7.59	7.88	7.73	7.96	8.08	8.01	---	---	---
4	7.41	8.27	7.63	7.51	8.22	7.87	7.32	8.37	7.82	7.62	7.91	7.77	7.96	8.18	8.04	---	---	---
5	7.41	8.11	7.66	7.43	8.22	7.78	7.66	8.70	8.20	7.70	7.80	7.75	8.03	8.18	8.07	---	---	---
6	7.42	8.15	7.62	7.41	8.28	7.79	7.39	8.85	8.03	7.70	7.91	7.81	7.93	8.16	8.04	---	---	---
7	7.45	8.15	7.70	7.31	8.16	7.71	7.49	8.44	7.98	7.78	8.02	7.89	7.98	8.10	8.04	---	---	---
8	7.39	8.25	7.61	7.34	8.17	7.68	7.60	8.43	8.05	7.86	8.09	7.98	7.97	8.12	8.03	---	---	---
9	7.42	8.45	7.66	7.31	7.78	7.49	7.50	8.71	8.06	7.88	7.99	7.92	7.95	8.13	8.05	---	---	---
10	8.27	8.55	8.45	---	---	---	7.78	8.61	8.17	7.87	8.01	7.96	7.77	8.12	7.94	---	---	---
11	7.79	8.67	8.27	---	---	---	7.94	8.40	8.14	7.93	8.15	8.05	7.85	7.99	7.93	---	---	---
12	7.65	8.26	8.00	---	---	---	7.89	8.57	8.17	7.89	8.14	8.04	7.88	8.02	7.95	---	---	---
13	7.55	8.59	8.04	---	---	---	7.64	8.62	8.02	7.83	8.08	7.97	7.86	8.08	7.97	---	---	---
14	7.50	8.68	8.01	---	---	---	7.63	7.99	7.81	7.89	8.02	7.95	7.81	8.13	7.96	---	---	---
15	7.65	8.56	7.97	---	---	---	7.58	8.45	7.88	7.86	8.12	7.97	7.89	8.09	8.00	---	---	---
16	7.54	8.48	7.93	7.62	8.28	8.03	7.67	8.39	7.97	7.70	8.03	7.92	7.89	8.12	7.99	---	---	---
17	7.63	8.44	7.85	7.69	8.51	8.14	7.80	8.30	8.03	7.83	8.06	7.93	7.89	8.22	8.00	---	---	---
18	7.65	8.44	8.03	7.85	8.83	8.43	7.70	8.34	7.93	7.78	7.99	7.88	7.86	8.31	8.02	---	---	---
19	7.54	8.38	7.93	7.82	8.72	8.18	7.56	8.32	7.81	7.81	7.97	7.89	7.82	8.23	8.00	---	---	---
20	7.38	8.12	7.78	7.68	8.71	8.12	7.75	8.28	8.08	7.78	7.91	7.85	7.80	8.01	7.91	---	---	---
21	7.38	8.37	7.72	7.44	8.57	7.95	7.62	8.19	7.91	7.79	7.88	7.84	---	---	---	---	---	---
22	7.41	8.35	7.82	7.66	8.19	7.91	7.69	7.89	7.77	7.62	7.82	7.72	---	---	---	---	---	---
23	7.36	8.14	7.79	7.67	8.90	8.35	7.71	7.97	7.84	7.71	7.83	7.76	---	---	---	---	---	---
24	7.60	8.43	7.99	7.77	9.24	8.43	7.77	8.08	7.91	7.58	8.14	7.84	---	---	---	---	---	---
25	7.55	8.37	7.95	8.03	9.28	8.52	7.85	8.06	7.97	7.81	8.20	8.01	---	---	---	---	---	---
26	7.42	8.20	7.84	7.72	9.19	8.42	7.56	7.87	7.74	7.92	8.05	7.98	---	---	---	---	---	---
27	7.52	8.31	7.79	7.53	8.73	8.22	7.77	8.24	7.98	7.95	8.12	8.02	---	---	---	---	---	---
28	7.54	8.17	7.84	7.49	8.76	7.93	7.56	7.99	7.74	7.93	8.12	8.03	---	---	---	---	---	---
29	7.39	8.44	7.86	7.61	8.85	8.12	7.50	7.77	7.63	8.00	8.08	8.04	---	---	---	---	---	---
30	7.31	8.32	7.82	7.50	8.74	7.96	7.56	8.21	7.94	7.99	8.08	8.03	---	---	---	---	---	---
31	7.45	8.28	7.83	7.66	8.50	8.28				7.98	8.11	8.04				---	---	---
Monthly Average	7.51	8.34	7.85	7.59	8.56	8.05	7.64	8.33	7.96	7.80	8.02	7.92	7.91	8.13	8.01	---	---	---

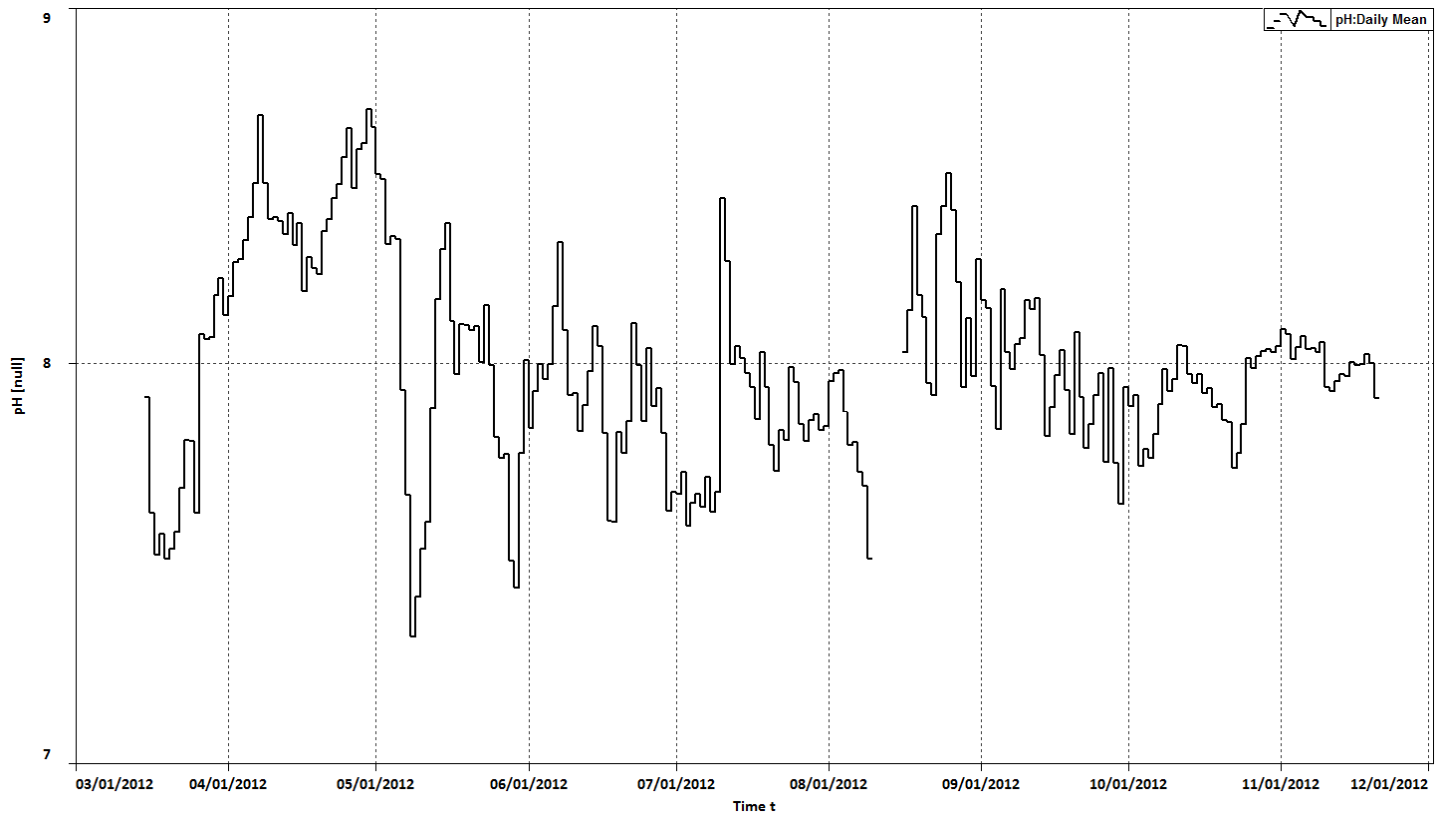
Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

pH
SUMMARY STATISTICS

	Calendar Year 2012*	Period of Record (2009 – 2012)*
Minimum Unit Value	7.19 (May 8)	6.82 (May 26, 27, 2010)
Maximum Unit Value	9.28 (Aug 25)	9.57 (Aug 11, 2011)
Median of Daily Mean	7.97	8.0

*Open water period only

pH
DAILY MEAN



Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

TURBIDITY [NTU]

Day	January			February			March			April			May			June		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	---	---	---	---	---	---	---	---	---	52.3	154.0	88.1	53.8	125.2	87.6	51.2	198.5	114.7
2	---	---	---	---	---	---	---	---	---	62.2	138.8	97.3	42.1	101.8	77.8	58.5	147.0	99.1
3	---	---	---	---	---	---	---	---	---	59.4	167.3	108.2	27.1	170.7	96.8	51.9	163.9	108.9
4	---	---	---	---	---	---	---	---	---	52.6	155.3	106.5	49.4	217.0	106.1	23.5	187.4	75.4
5	---	---	---	---	---	---	---	---	---	57.0	225.6	111.3	34.7	524.8	107.8	56.9	109.7	81.4
6	---	---	---	---	---	---	---	---	---	44.5	226.3	95.6	62.4	524.8	136.0	35.2	120.6	72.1
7	---	---	---	---	---	---	---	---	---	54.9	152.3	88.0	108.4	182.1	148.1	41.6	128.1	71.0
8	---	---	---	---	---	---	---	---	---	98.3	310.5	140.3	170.8	388.2	266.1	59.0	198.0	101.4
9	---	---	---	---	---	---	---	---	---	107.0	284.6	176.0	157.0	226.6	193.2	46.9	211.5	101.7
10	---	---	---	---	---	---	---	---	---	89.5	198.9	130.8	114.6	236.7	167.5	56.9	169.5	98.0
11	---	---	---	---	---	---	---	---	---	85.8	284.6	132.7	100.0	158.4	120.7	58.6	124.5	85.7
12	---	---	---	---	---	---	---	---	---	77.8	136.5	110.5	81.5	201.9	136.2	54.1	274.6	108.2
13	---	---	---	---	---	---	---	---	---	98.6	197.0	122.4	33.0	231.2	121.6	59.2	142.1	95.7
14	---	---	---	---	---	---	---	---	---	60.5	162.1	110.0	91.8	216.8	130.7	36.3	133.0	71.3
15	---	---	---	---	---	---	---	---	---	45.0	690.3	116.5	76.1	179.9	126.4	38.7	174.0	78.9
16	---	---	---	---	---	---	---	---	---	32.9	571.8	253.9	60.5	270.8	150.5	45.9	219.7	102.4
17	---	---	---	---	---	---	---	---	---	31.3	207.1	109.6	91.0	212.9	129.4	62.1	185.7	102.1
18	---	---	---	---	---	---	---	---	---	57.3	159.4	107.7	44.2	190.5	93.8	81.0	216.1	125.4
19	---	---	---	---	---	---	356.5	527.4	441.0	84.9	177.6	130.1	57.7	134.7	93.1	54.4	192.6	108.6
20	---	---	---	---	---	---	293.0	427.7	354.7	82.6	285.5	133.3	67.2	147.0	101.0	51.5	226.1	102.5
21	---	---	---	---	---	---	203.2	404.3	282.6	113.5	269.8	171.1	83.2	236.3	130.6	46.7	324.6	128.4
22	---	---	---	---	---	---	137.9	299.0	197.7	111.7	195.6	144.6	76.2	234.5	147.0	56.3	194.3	118.5
23	---	---	---	---	---	---	109.2	243.6	173.1	70.1	312.7	142.7	54.6	192.7	126.2	62.5	186.5	109.1
24	---	---	---	---	---	---	127.9	270.5	184.7	66.2	224.0	131.6	65.9	224.7	120.9	64.5	273.4	123.3
25	---	---	---	---	---	---	193.3	289.8	244.5	67.2	247.1	101.0	72.5	213.4	139.2	62.5	221.1	126.8
26	---	---	---	---	---	---	109.4	370.5	216.3	72.2	324.1	145.4	72.5	192.1	130.6	65.3	196.1	131.0
27	---	---	---	---	---	---	93.7	209.3	160.8	50.2	222.3	110.2	125.4	292.7	159.9	44.4	172.4	113.9
28	---	---	---	---	---	---	94.4	422.3	217.5	46.5	113.7	70.8	165.1	247.3	194.7	55.0	167.0	92.0
29	---	---	---	---	---	---	127.5	184.3	154.6	42.7	100.7	60.7	197.2	439.5	293.5	65.4	156.8	102.7
30	---	---	---	---	---	---	99.3	158.6	120.7	44.8	118.0	68.9	85.5	321.3	168.0	54.7	212.1	104.8
31	---	---	---	---	---	---	56.4	125.3	102.0	---	---	---	51.2	146.8	92.0	---	---	---
Monthly Average	---	---	---	---	---	---	---	---	---	67.3	233.8	120.5	83.0	238.2	138.5	53.4	187.6	101.8

Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

TURBIDITY [NTU]

Day	July			August			September			October			November			December		
	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean
1	72.8	245.7	129.5	42.6	218.9	74.0	18.2	106.3	42.7	42.4	105.5	69.2	33.9	89.4	52.9	---	---	---
2	48.0	198.7	119.8	44.3	508.0	102.6	25.3	115.6	56.2	55.9	149.9	86.1	25.7	121.0	43.6	---	---	---
3	88.6	291.6	130.4	38.1	188.9	96.1	39.3	160.4	79.3	22.8	115.6	58.9	33.1	78.6	55.1	---	---	---
4	77.0	350.6	155.6	103.1	390.0	179.8	35.6	221.6	64.8	21.1	104.7	36.2	13.6	49.6	31.5	---	---	---
5	93.4	255.1	143.0	---	---	---	27.0	109.5	55.3	34.0	96.0	50.2	18.5	43.1	26.1	---	---	---
6	69.0	182.0	119.8	---	---	---	25.4	96.0	50.6	36.8	118.2	67.1	6.0	67.7	24.3	---	---	---
7	86.3	285.7	153.9	---	---	---	22.3	124.5	52.7	53.9	96.9	67.0	10.2	58.5	30.8	---	---	---
8	190.1	516.5	350.8	---	---	---	37.1	125.9	65.8	37.8	76.6	52.2	7.6	37.5	17.2	---	---	---
9	258.6	723.2	536.1	---	---	---	45.8	142.0	69.2	41.1	136.9	59.8	10.1	52.2	26.2	---	---	---
10	48.3	107.0	81.3	---	---	---	35.0	112.2	55.7	43.0	272.1	86.0	11.1	69.2	33.3	---	---	---
11	48.7	124.7	80.0	---	---	---	36.4	207.3	69.1	37.3	129.9	58.7	16.7	71.8	40.1	---	---	---
12	42.1	214.9	80.3	---	---	---	39.2	357.8	73.0	36.5	148.4	62.2	27.7	135.6	53.8	---	---	---
13	38.6	384.0	96.8	---	---	---	34.5	95.3	59.7	25.0	111.6	53.4	7.5	195.2	39.2	---	---	---
14	51.8	139.7	75.5	---	---	---	41.5	147.9	90.8	34.1	148.1	58.7	5.5	53.0	18.2	---	---	---
15	54.4	194.8	102.5	---	---	---	41.5	139.9	67.2	43.2	342.3	89.3	4.8	122.0	18.2	---	---	---
16	49.0	148.7	79.0	47.4	126.5	64.7	64.3	162.4	88.5	22.9	99.1	48.6	5.7	47.6	19.2	---	---	---
17	50.1	171.3	80.9	35.4	127.7	59.7	21.1	175.6	71.2	14.2	61.9	32.8	5.5	60.8	24.7	---	---	---
18	38.4	113.2	80.3	42.0	116.0	67.4	36.1	95.1	57.0	19.9	54.9	34.0	4.7	119.6	28.8	---	---	---
19	60.0	144.2	97.8	30.2	101.6	54.3	48.7	146.9	95.6	15.1	50.9	30.9	8.2	51.6	29.2	---	---	---
20	45.8	164.4	92.5	34.7	159.9	60.3	45.1	98.2	68.3	24.0	54.2	39.4	3.9	40.0	24.5	---	---	---
21	47.0	160.6	86.7	23.5	117.4	52.9	28.5	70.9	44.7	19.1	52.0	32.5	---	---	---	---	---	---
22	45.7	161.9	76.1	29.3	94.8	55.6	42.5	84.9	54.3	10.8	37.4	24.3	---	---	---	---	---	---
23	38.8	214.2	91.5	35.8	166.1	72.2	20.1	72.1	50.0	16.2	52.6	27.3	---	---	---	---	---	---
24	45.0	313.9	86.6	36.5	224.9	68.6	32.0	70.0	48.2	4.9	44.7	19.4	---	---	---	---	---	---
25	62.9	132.1	91.3	42.8	149.2	76.5	32.7	106.8	53.3	7.1	49.8	17.2	---	---	---	---	---	---
26	51.5	943.8	171.7	52.0	192.2	93.8	27.7	84.3	44.8	16.2	74.1	31.9	---	---	---	---	---	---
27	63.1	291.1	107.8	103.7	784.5	160.4	29.1	84.3	50.8	38.8	113.7	56.5	---	---	---	---	---	---
28	93.1	341.9	150.0	84.0	957.0	236.4	27.0	100.5	54.0	94.5	283.8	164.2	---	---	---	---	---	---
29	---	---	---	42.7	682.2	157.0	23.2	101.7	55.6	67.5	321.5	144.7	---	---	---	---	---	---
30	---	---	---	54.8	500.4	107.8	37.1	128.2	74.9	61.5	657.7	170.6	---	---	---	---	---	---
31	41.5	150.2	80.5	33.5	184.4	70.5				31.7	71.3	43.7				---	---	---
Monthly Average	69.0	264.3	128.5	47.8	299.5	95.5	34.0	128.1	62.1	33.2	136.5	60.4	13.0	78.2	31.9	---	---	---

Water-Data Report 2012
413723083123801 Crane Creek at Ottawa NWR

TURBIDITY
SUMMARY STATISTICS

	Calendar Year 2012*	Period of Record (2009 – 2012)*
Minimum Unit Value [NTU]	3.9 (Nov 20)	-8.2 (May 18, 2010)
Maximum Unit Value [NTU]	957.0 (Aug 28)	1073.9 (Sep 4, 2011)
Median of Daily Mean [NTU]	92.0	80.09

**Open water period only*

TURBIDITY
DAILY MEAN

