

Water-Data Report 2010
413723083123801 Crane Creek at Ottawa NWR



Division of Biological Resources
Water Resources Branch

Water-Data Report 2010

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 2010: Sutron Monitor in communication with Esterline pressure transducer and YSI water quality probe (6920). Instruments are powered by a 1.2 ampere solar panel run to a deep cycle marine battery through a Sunsaver power regulator. Stage is collected at 15-minute intervals and water quality is collected at 30-minute intervals.

COOPERATION: USGS Great Lakes Science Center and Ottawa NWR

Water-Data Report 2010
413723083123801 Crane Creek at Ottawa NWR

SURFACE WATER RECORDS

REMARKS: Stage records coded **FAIR** for 2010 calendar year. Gage maintained by USFWS and Refuge staff.

GAGE HEIGHT, FEET
CALENDAR YEAR 2010
DAILY MEAN VALUES

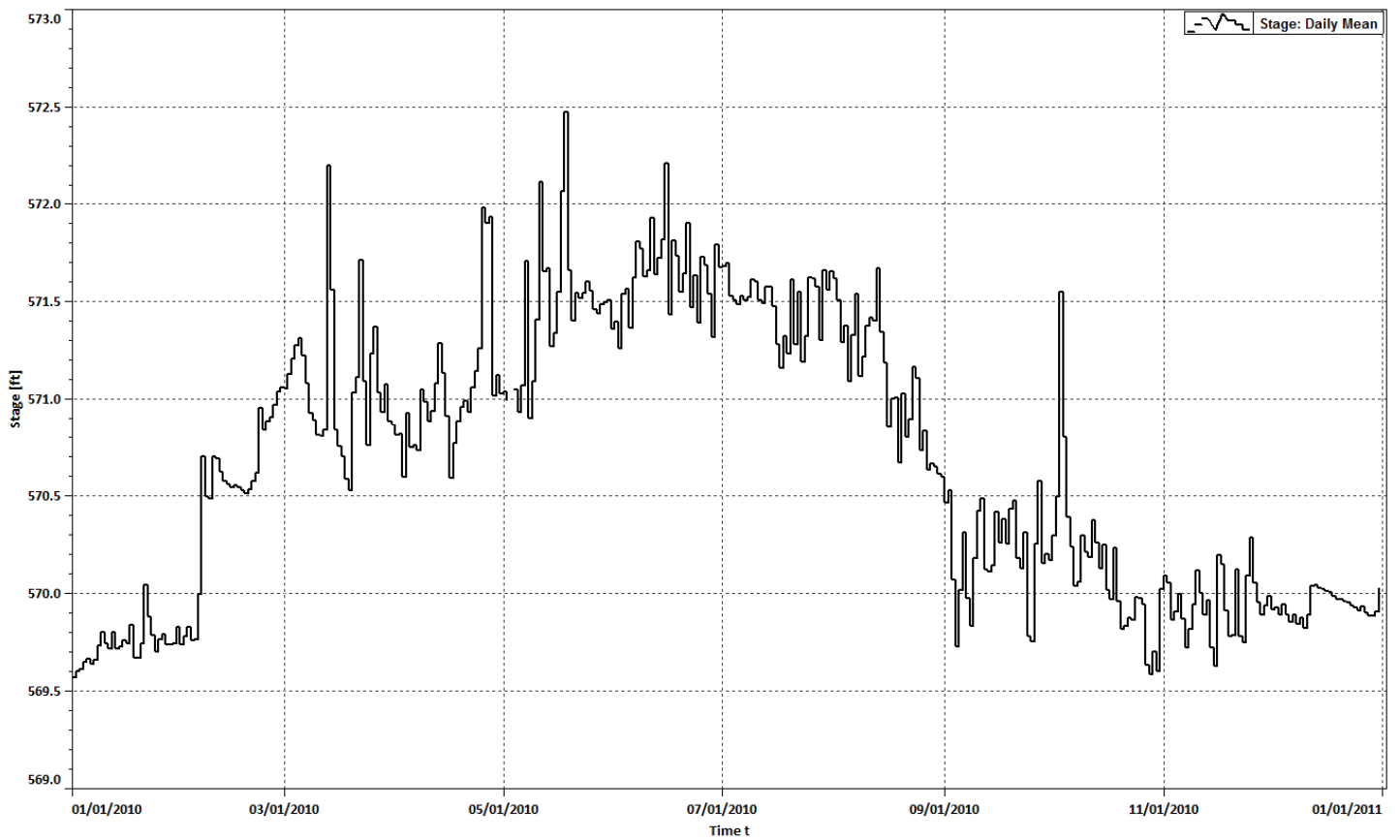
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	569.57	569.78	571.05	570.81	571.04	571.40	571.68	571.62	570.46	570.29	570.09	569.91
2	569.60	569.82	571.13	570.82	570.99	571.26	571.70	571.51	570.53	570.49	570.05	569.93
3	569.61	569.76	571.21	570.60	---	571.54	571.53	571.29	570.07	571.55	569.86	569.89
4	569.65	569.76	571.28	570.93	571.05	571.57	571.51	571.37	569.73	570.80	569.91	569.94
5	569.66	570.00	571.31	570.75	570.93	571.36	571.49	571.09	570.01	570.39	569.99	569.89
6	569.64	570.70	571.22	570.76	571.07	571.62	571.53	571.33	570.31	570.24	569.87	569.85
7	569.66	570.50	571.08	570.73	571.71	571.81	571.51	571.54	569.97	570.04	569.72	569.89
8	569.73	570.48	570.93	571.05	570.90	571.77	571.52	571.12	569.83	570.06	569.82	569.84
9	569.80	570.70	570.89	570.99	571.09	571.63	571.61	571.22	570.18	570.30	569.94	569.87
10	569.74	570.69	570.81	570.89	571.41	571.66	571.60	571.37	570.42	570.21	570.12	569.82
11	569.71	570.62	570.80	570.94	572.11	571.93	571.51	571.42	570.49	570.19	570.00	569.89
12	569.80	570.57	570.84	571.08	571.66	571.64	571.49	571.40	570.12	570.37	569.89	570.04
13	569.71	570.56	572.20	571.28	571.67	571.72	571.57	571.67	570.11	570.26	569.96	570.04
14	569.73	570.54	571.56	571.13	571.27	571.82	571.58	571.34	570.14	570.13	569.72	570.03
15	569.76	570.55	570.84	570.91	571.34	572.21	571.47	571.19	570.41	570.25	569.63	570.02
16	569.74	570.54	570.76	570.59	571.55	571.43	571.28	570.86	570.26	570.02	570.20	570.01
17	569.84	570.53	570.70	570.77	572.06	571.81	571.16	571.00	570.38	569.97	570.15	570.00
18	569.67	570.51	570.59	570.89	572.47	571.73	571.32	571.01	570.25	570.23	569.91	569.98
19	569.67	570.53	570.53	570.96	571.66	571.55	571.23	570.67	570.43	569.96	569.78	569.97
20	569.74	570.57	571.03	570.99	571.40	571.64	571.61	571.03	570.47	569.81	569.79	569.97
21	570.04	570.62	571.11	570.93	571.55	571.90	571.28	570.80	570.18	569.83	570.12	569.96
22	569.88	570.96	571.71	571.06	571.52	571.47	571.55	570.90	570.13	569.88	569.78	569.95
23	569.78	570.84	571.09	571.14	571.54	571.63	571.19	571.16	570.31	569.86	569.75	569.94
24	569.70	570.89	570.76	571.26	571.60	571.39	571.32	571.11	569.78	569.98	570.09	569.93
25	569.76	570.91	571.23	571.98	571.56	571.73	571.62	570.73	569.75	569.97	570.28	569.91
26	569.79	570.97	571.37	571.90	571.46	571.69	571.62	570.83	570.25	569.94	570.05	569.93
27	569.73	571.04	571.03	571.93	571.44	571.54	571.57	570.63	570.57	569.63	569.95	569.90
28	569.74	571.06	570.93	571.02	571.49	571.32	571.30	570.66	570.15	569.59	569.89	569.89
29	569.74	---	571.07	571.12	571.50	571.79	571.66	570.65	570.20	569.70	569.94	569.88
30	569.82	---	570.89	571.03	571.51	571.67	571.56	570.61	570.17	569.60	569.98	569.90
31	569.73	---	570.86	---	571.36	---	571.66	570.59	---	570.02	---	570.03
Mean	569.73	570.54	571.06	571.04	571.46	571.64	571.49	571.09	570.20	570.11	569.94	569.94
Max	570.04	571.06	572.20	571.98	572.47	572.21	571.70	571.67	570.57	571.55	570.28	570.04
Min	569.57	569.76	570.53	570.59	570.90	571.26	571.16	570.59	569.73	569.59	569.63	569.82

Water-Data Report 2010
413723083123801 Crane Creek at Ottawa NWR

Summary Statistics

	Calendar Year 2010	Period of Record (2009 – 2010)
Annual Mean	570.69	571.10
Maximum Peak Stage	573.35 (Mar 13)	573.35 (Mar 13, 2010)
Minimum Stage	569.45 (Oct 28)	569.45 (Oct 28, 2010)
Maximum Daily Value	572.47 (May 18)	572.71 (Oct 15, 2009)
Minimum Daily Value	569.57 (Oct 28)	569.57 (Oct 28, 2010)

**Gage Height
Daily Mean**



Water-Data Report 2010
413723083123801 Crane Creek at Ottawa NWR

WATER QUALITY RECORDS

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

SPECIFIC CONDUCTANCE: March – November 2010

WATER TEMPERATURE: March – November 2010

DISSOLVED OXYGEN: April – November 2010

pH: March – November 2010

TURBIDITY: April – November 2010

INSTRUMENTATION: Sutron Monitor in communication with YSI (Model 6920) water quality probe. Water quality data is collected at 30-minute intervals.

REMARKS:

SPECIFIC CONDUCTANCE: This record is considered poor for May to September. During this time period, there were multiple periods where data was removed for sonde clogging and considered poor due to partial clogging. March-April and September to November are considered good.

WATER TEMPERATURE: This record is considered good for March to November, except for 4/22/2010-5/04/2010, which was removed, due to equipment malfunction.

DISSOLVED OXYGEN: The record is considered good August to November. The record is considered poor for April to August. During this time period, there were multiple periods where data was removed for sonde clogging and considered poor due to partial clogging. Additionally, when the sonde was initially deployed, it was reading in %saturation.

pH: This record is considered poor for May to August. Due to intermittent clogging there were multiple periods of poor data. March-April and September to November are considered good.

TURBIDITY: This record is considered good. However, for April to August 6, 2010 there were multiple time periods of removed data. The record is still considered good, because the remaining data values were considered good.

Water-Data Report 2010
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	---	---	---	---	---	---	---	---	---	383	616	557	303	545	433	---	---	---
2	---	---	---	---	---	---	---	---	---	374	677	563	353	659	474	---	---	---
3	---	---	---	---	---	---	---	---	---	474	697	639	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	383	695	457	421	635	547	---	---	---
5	---	---	---	---	---	---	---	---	---	400	679	543	442	667	583	---	---	---
6	---	---	---	---	---	---	---	---	---	398	710	535	413	674	523	---	---	---
7	---	---	---	---	---	---	---	---	---	346	753	520	407	518	433	---	---	---
8	---	---	---	---	---	---	---	---	---	266	493	329	414	577	476	---	---	---
9	---	---	---	---	---	---	---	---	---	283	350	311	412	547	483	345	389	362
10	---	---	---	---	---	---	---	---	---	350	460	403	486	563	538	338	427	391
11	---	---	---	---	---	---	---	---	---	383	514	468	514	583	529	378	432	396
12	---	---	---	---	---	---	---	---	---	439	560	517	367	598	421	378	480	423
13	---	---	---	---	---	---	---	---	---	332	561	491	389	443	411	382	466	421
14	---	---	---	---	---	---	---	---	---	448	609	537	403	475	440	363	450	423
15	---	---	---	---	---	---	---	---	---	399	656	586	443	532	488	357	440	387
16	---	---	---	---	---	---	---	---	---	487	711	649	448	573	521	383	564	448
17	---	---	---	---	---	---	---	---	---	388	708	549	400	526	475	373	424	398
18	---	---	---	---	---	---	---	---	---	458	592	510	352	492	415	381	458	418
19	---	---	---	---	---	---	---	---	---	472	632	530	354	417	378	386	489	432
20	---	---	---	---	---	---	---	---	---	440	622	535	408	490	441	384	482	421
21	---	---	---	---	---	---	---	---	---	552	657	598	389	512	471	360	437	404
22	---	---	---	---	---	---	---	---	---	453	703	542	520	586	552	388	565	462
23	---	---	---	---	---	---	472	629	565	395	658	556	509	630	593	359	528	429
24	---	---	---	---	---	---	457	651	564	397	597	519	554	736	664	383	654	513
25	---	---	---	---	---	---	447	692	555	365	479	423	731	778	762	389	511	445
26	---	---	---	---	---	---	451	700	533	298	507	379	---	---	---	411	519	444
27	---	---	---	---	---	---	438	743	673	288	314	300	---	---	---	408	468	439
28	---	---	---	---	---	---	556	798	730	426	459	445	---	---	---	392	521	432
29	---	---	---	---	---	---	455	688	534	291	515	423	---	---	---	406	427	419
30	---	---	---	---	---	---	444	513	472	306	589	487	---	---	---	395	421	414
31	---	---	---	---	---	---	391	561	520	---	---	---	---	---	---	---	---	---
Monthly Average	---	---	---	---	---	---	457	664	572	389	592	497	435	573	502	379	480	424

Water-Data Report 2010
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	368	411	398	791	970	915	390	556	469	325	519	412	278	305	292	---	---	---
2	382	404	391	488	971	748	364	487	427	341	539	430	262	304	290	---	---	---
3	386	407	395	451	551	518	390	667	557	342	368	351	267	286	275	---	---	---
4	387	422	402	387	514	468	668	694	682	347	545	429	263	309	287	---	---	---
5	398	440	414	421	583	513	326	691	503	274	557	453	266	338	322	---	---	---
6	397	442	415	320	572	403	301	381	325	297	460	401	330	349	340	---	---	---
7	409	449	431	265	444	308	307	568	459	308	531	466	337	345	341	---	---	---
8	430	494	455	279	456	375	398	570	532	304	525	425	303	348	335	---	---	---
9	412	483	453	275	405	348	334	396	347	241	359	301	321	344	333	---	---	---
10	456	569	506	---	---	---	348	411	393	269	337	293	291	318	306	---	---	---
11	420	610	512	---	---	---	346	403	375	249	295	283	302	354	331	---	---	---
12	404	590	510	---	---	---	369	456	438	240	283	256	337	354	347	---	---	---
13	400	575	487	---	---	---	372	455	410	250	286	271	336	352	344	---	---	---
14	428	547	497	---	---	---	371	393	381	254	281	269	340	381	364	---	---	---
15	408	577	486	---	---	---	304	388	342	243	350	295	369	384	380	---	---	---
16	439	571	522	---	---	---	320	388	353	328	379	356	258	384	326	---	---	---
17	459	634	526	---	---	---	322	363	337	323	389	366	264	363	313	---	---	---
18	380	541	445	384	418	408	334	482	390	298	370	332	317	647	452	---	---	---
19	386	625	480	393	490	430	311	471	371	361	417	394	638	886	769	---	---	---
20	372	450	399	306	415	351	298	446	358	387	453	419	806	895	864	---	---	---
21	390	499	433	330	506	408	358	446	406	404	452	437	272	655	399	---	---	---
22	364	438	389	325	492	388	358	411	389	367	447	395	653	880	789	---	---	---
23	366	641	459	327	396	349	350	403	378	314	395	374	723	878	820	---	---	---
24	422	548	498	340	445	379	395	441	422	300	392	350	---	---	---	---	---	---
25	387	456	433	446	528	476	437	456	445	298	385	347	---	---	---	---	---	---
26	397	644	518	356	499	419	340	439	369	288	344	323	---	---	---	---	---	---
27	437	699	554	381	510	461	322	371	350	330	371	344	---	---	---	---	---	---
28	496	883	727	403	521	464	375	423	397	292	375	354	---	---	---	---	---	---
29	422	765	576	405	491	464	349	443	394	330	359	346	---	---	---	---	---	---
30	393	611	463	468	514	487	394	535	470	329	378	356	---	---	---	---	---	---
31	626	890	767	464	506	483				263	389	295				---	---	---
Monthly Average	414	559	482	392	530	459	362	468	416	306	404	359	371	463	418	---	---	---

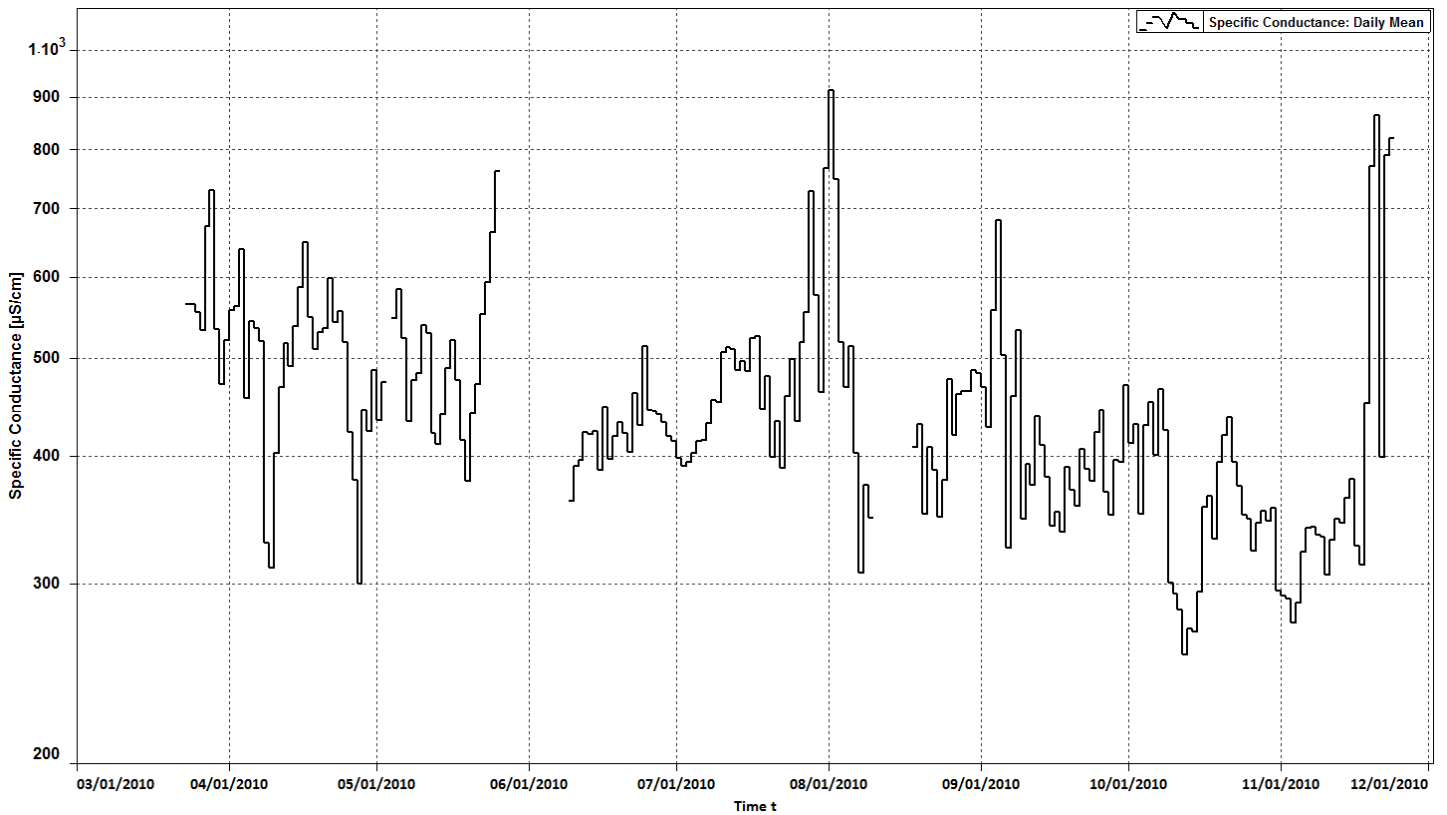
Water-Data Report 2010
413723083123801 Crane Creek at Ottawa NWR

**SPECIFIC CONDUCTANCE
SUMMARY STATISTICS**

	Calendar Year 2010*	Period of Record (2009 - 2010)*
Minimum Unit Value [$\mu\text{S}/\text{cm}$]	240 (Oct 12)	55 (Sep 29, 2009)
Maximum Unit Value [$\mu\text{S}/\text{cm}$]	971 (Aug 2)	1069 (Dec 6, 7, 2009)
Median of Daily Mean [$\mu\text{S}/\text{cm}$]	430	402

**Open water period only*

**SPECIFIC CONDUCTANCE
DAILY MEAN**



Water-Data Report 2010
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	---	---	---	---	---	---	---	---	---	9.8	22.0	15.0	---	---	---	22.3	28.4	25.4
2	---	---	---	---	---	---	---	---	---	12.0	20.8	16.2	---	---	---	21.4	26.4	24.0
3	---	---	---	---	---	---	---	---	---	13.6	17.8	15.4	---	---	---	22.3	25.9	24.0
4	---	---	---	---	---	---	---	---	---	9.2	18.1	12.9	17.8	24.1	21.8	22.0	27.1	24.6
5	---	---	---	---	---	---	---	---	---	13.2	24.1	17.0	15.0	24.6	19.5	22.4	25.7	24.5
6	---	---	---	---	---	---	---	---	---	12.9	23.3	17.9	14.9	25.5	18.9	20.4	24.4	22.1
7	---	---	---	---	---	---	---	---	---	14.2	17.5	15.7	15.2	19.2	17.3	18.7	24.0	21.2
8	---	---	---	---	---	---	---	---	---	9.1	15.3	12.4	10.6	17.2	13.5	18.9	23.9	21.2
9	---	---	---	---	---	---	---	---	---	7.2	10.2	8.6	6.7	17.0	12.6	18.8	24.0	20.9
10	---	---	---	---	---	---	---	---	---	5.5	16.6	10.6	10.3	18.0	13.4	20.3	26.5	23.6
11	---	---	---	---	---	---	---	---	---	9.5	16.4	12.4	10.5	13.5	11.3	22.8	26.2	24.3
12	---	---	---	---	---	---	---	---	---	8.6	17.0	13.0	10.6	12.0	11.2	23.9	28.5	25.8
13	---	---	---	---	---	---	---	---	---	10.0	13.6	11.7	9.9	16.8	12.4	24.8	28.4	26.5
14	---	---	---	---	---	---	---	---	---	8.9	17.2	13.0	14.5	21.4	17.2	24.6	27.7	26.0
15	---	---	---	---	---	---	---	---	---	12.6	23.1	17.2	13.4	20.9	17.4	23.7	25.4	24.5
16	---	---	---	---	---	---	---	---	---	9.2	19.1	15.9	14.8	19.0	17.0	22.6	27.3	24.8
17	---	---	---	---	---	---	---	---	---	5.1	10.4	8.2	13.5	15.8	14.4	21.8	25.9	23.7
18	---	---	---	---	---	---	---	---	---	4.5	16.8	10.4	12.3	13.5	13.0	22.1	28.8	25.1
19	---	---	---	---	---	---	---	---	---	10.0	20.6	14.6	12.0	19.6	15.2	23.4	29.3	26.4
20	---	---	---	---	---	---	---	---	---	11.8	17.4	14.7	13.7	23.4	18.6	23.9	30.1	26.9
21	---	---	---	---	---	---	---	---	---	12.5	16.3	13.9	18.1	21.9	20.0	25.1	28.4	26.7
22	---	---	---	---	---	---	---	---	---	---	---	---	19.5	23.2	21.1	24.1	30.1	27.0
23	---	---	---	---	---	---	7.7	11.9	10.2	---	---	---	20.1	27.4	23.7	25.6	28.5	26.9
24	---	---	---	---	---	---	5.5	14.2	9.2	---	---	---	22.6	28.0	25.0	23.4	29.0	25.8
25	---	---	---	---	---	---	3.2	11.0	7.7	---	---	---	23.0	28.1	25.1	23.9	29.2	26.4
26	---	---	---	---	---	---	0.6	9.0	4.2	---	---	---	23.6	29.9	26.4	24.0	28.3	26.1
27	---	---	---	---	---	---	2.5	9.8	5.5	---	---	---	26.1	30.6	28.3	25.4	29.4	27.1
28	---	---	---	---	---	---	5.6	7.2	6.4	---	---	---	24.2	30.2	27.2	23.9	28.7	26.2
29	---	---	---	---	---	---	5.3	8.3	6.7	---	---	---	23.4	30.3	26.6	21.9	26.8	24.5
30	---	---	---	---	---	---	4.4	14.6	8.5	---	---	---	24.3	30.1	26.9	19.1	26.6	22.6
31	---	---	---	---	---	---	5.6	19.0	10.8	---	---	---	24.0	27.8	26.3	---	---	---
Monthly Average	---	---	---	---	---	---	4.5	11.7	7.7	10.0	17.8	13.6	16.6	22.5	19.3	22.6	27.3	24.8

Water-Data Report 2010
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	20.0	26.8	23.5	24.4	29.3	26.5	23.2	29.8	26.7	12.2	23.2	16.5	9.7	11.6	10.8	---	---	---
2	21.7	27.3	24.6	25.0	31.2	28.2	24.5	29.8	27.2	13.1	16.3	14.3	9.5	11.9	10.3	---	---	---
3	22.5	28.5	24.9	25.9	29.1	27.1	22.4	26.8	24.3	10.2	14.2	12.0	8.9	10.7	9.9	---	---	---
4	22.5	30.1	26.9	25.6	29.0	27.4	17.8	22.4	19.3	9.4	16.3	12.3	8.2	11.2	9.4	---	---	---
5	25.9	31.3	28.6	24.6	30.0	26.8	13.7	20.4	17.9	11.1	16.6	13.5	11.2	12.4	11.9	---	---	---
6	26.3	30.9	28.8	23.5	28.3	25.7	16.8	23.0	19.3	11.6	19.1	14.9	11.5	13.2	12.3	---	---	---
7	26.6	33.5	30.4	24.2	27.8	25.8	16.7	24.7	20.7	12.8	16.8	15.1	10.4	11.8	11.3	---	---	---
8	28.1	33.3	30.3	23.1	28.3	25.5	16.9	22.8	20.2	11.7	17.9	14.6	10.2	12.1	11.0	---	---	---
9	26.7	28.2	27.7	22.9	27.9	25.6	14.0	23.4	18.1	13.9	20.1	16.4	9.2	11.4	10.1	---	---	---
10	25.1	31.8	28.1	25.6	30.7	27.7	15.5	24.4	19.7	15.2	21.1	17.7	8.9	11.4	9.9	---	---	---
11	25.6	31.0	28.6	27.1	29.8	28.1	16.6	21.4	18.4	16.3	20.2	18.2	7.8	9.9	9.2	---	---	---
12	26.5	31.6	28.4	25.5	30.3	27.3	16.0	21.8	19.0	13.9	19.0	16.2	7.8	10.4	8.8	---	---	---
13	26.4	29.2	27.7	26.4	31.4	28.7	16.8	25.6	20.3	12.5	19.4	15.0	7.2	10.7	8.6	---	---	---
14	24.6	30.8	27.6	26.3	29.3	28.2	15.2	23.3	19.3	12.7	19.2	15.2	8.4	10.4	9.4	---	---	---
15	25.5	31.3	28.1	25.8	31.8	28.6	16.9	24.6	19.4	5.7	15.1	10.9	9.1	11.2	9.7	---	---	---
16	25.9	31.9	28.6	22.9	28.5	26.1	16.8	22.3	19.5	4.6	8.3	6.8	8.4	11.3	10.3	---	---	---
17	24.7	31.4	27.9	21.0	27.8	24.6	15.6	20.6	18.1	3.0	10.4	6.5	9.8	11.5	10.9	---	---	---
18	25.5	30.6	27.5	22.8	27.5	25.1	14.8	22.3	18.8	5.1	9.9	8.2	8.4	11.8	10.1	---	---	---
19	23.4	29.9	26.8	22.2	29.5	26.3	17.8	21.6	19.6	5.0	7.5	6.2	8.1	10.9	9.3	---	---	---
20	25.7	28.5	27.3	24.6	30.4	27.1	17.1	21.9	19.0	4.1	8.9	6.7	9.0	12.0	10.5	---	---	---
21	24.6	30.9	27.7	23.6	27.2	25.3	16.4	24.3	19.9	6.3	9.5	8.0	10.3	12.4	11.3	---	---	---
22	24.5	29.0	26.8	22.3	28.7	24.4	20.0	24.8	22.3	6.3	8.7	7.8	7.7	10.3	8.8	---	---	---
23	25.5	32.2	28.3	22.0	25.7	23.6	19.7	26.0	22.7	5.6	8.2	6.9	8.1	8.7	8.5	---	---	---
24	25.3	31.3	28.3	22.3	25.1	23.6	20.7	23.7	22.1	5.6	8.5	7.1	---	---	---	---	---	---
25	24.9	29.0	27.3	22.5	27.8	24.4	15.2	20.7	18.8	4.9	7.9	6.3	---	---	---	---	---	---
26	25.7	29.7	27.4	19.0	26.7	22.4	13.9	23.2	17.1	5.4	9.1	7.0	---	---	---	---	---	---
27	25.1	30.6	28.0	19.1	27.6	22.9	14.6	17.3	15.8	5.5	8.8	7.3	---	---	---	---	---	---
28	24.9	30.2	27.7	18.7	27.9	24.0	13.3	15.5	14.3	8.4	10.5	9.8	---	---	---	---	---	---
29	24.7	29.7	27.0	20.6	30.0	25.7	12.7	23.7	16.6	8.5	10.0	9.6	---	---	---	---	---	---
30	24.3	29.7	27.3	23.4	30.8	27.6	14.5	21.1	17.6	7.7	10.5	9.2	---	---	---	---	---	---
31	24.5	28.0	26.0	24.6	32.2	28.4				9.1	11.2	10.6				---	---	---
Monthly Average	24.9	30.3	27.5	23.5	29.0	26.1	16.9	23.1	19.7	8.9	13.6	11.2	9.0	11.3	10.1	---	---	---

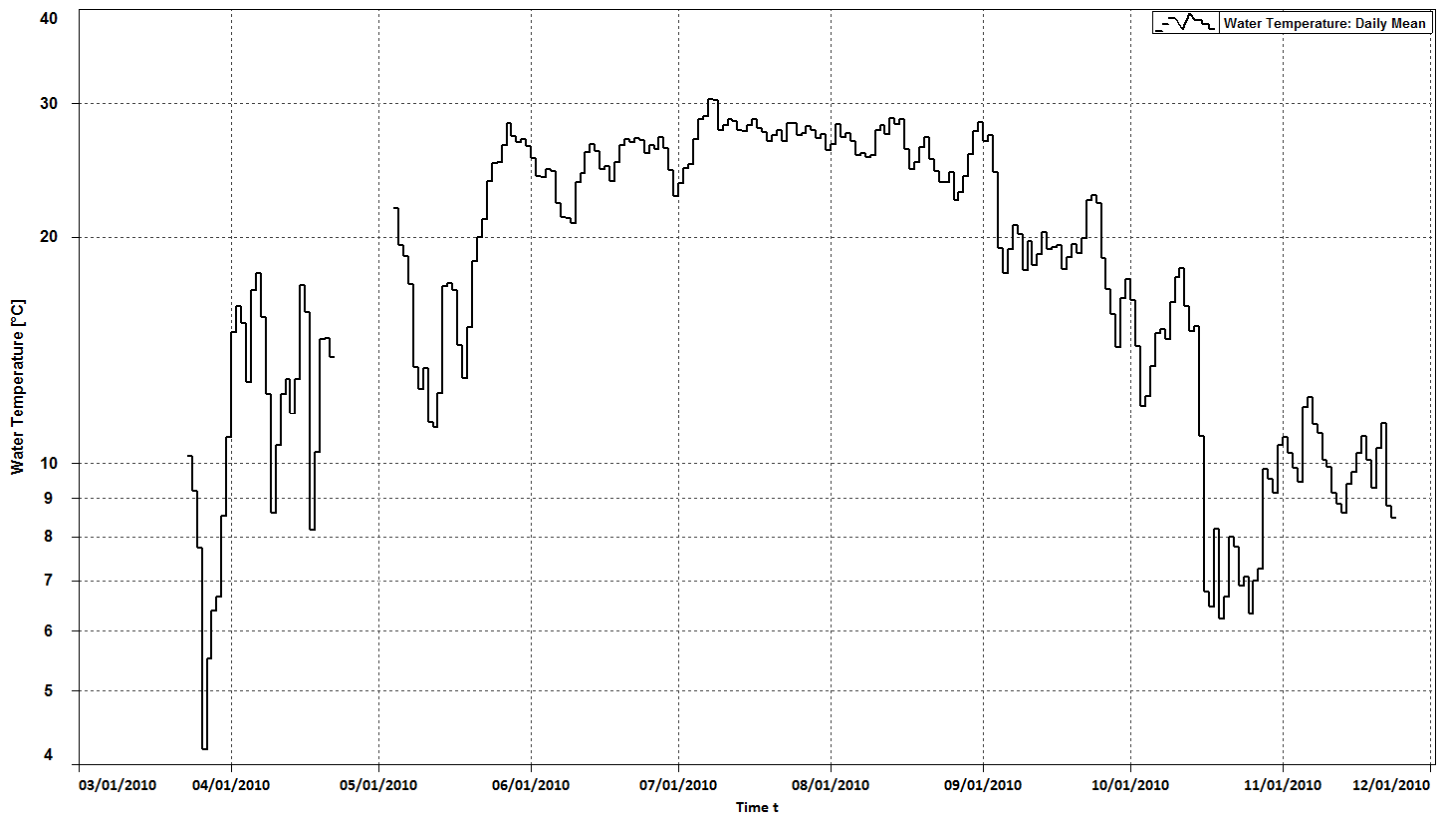
Water-Data Report 2010
413723083123801 Crane Creek at Ottawa NWR

**WATER TEMPERATURE
SUMMARY STATISTICS**

	Calendar Year 2010*	Period of Record (2009 – 2010)*
Minimum Unit Value [°C]	0.6 (Mar 26)	0.10 (Dec 8, 2009)
Maximum Unit Value [°C]	33.5 (Jul 7)	33.5 (Jul 7, 2010)
Median of Daily Mean [°C]	19.5	20.1

**Open water period only*

**WATER TEMPERATURE
DAILY MEAN**



Water-Data Report 2010
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	---	---	---	---	---	---	---	---	---	---	---	---	3.01	8.00	5.34	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---	2.04	6.41	4.19	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---	4.24	7.20	6.13	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---	3.89	7.24	5.43	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---	4.45	8.53	6.74	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---	4.39	8.23	6.98	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---	6.36	8.59	7.16	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---	5.03	9.17	8.07	5.64	7.06	6.31
10	---	---	---	---	---	---	---	---	---	---	---	---	5.03	8.99	8.43	4.04	8.13	6.05
11	---	---	---	---	---	---	---	---	---	---	---	---	7.33	9.22	8.30	3.75	12.63	7.37
12	---	---	---	---	---	---	---	---	---	---	---	---	6.09	7.51	6.86	3.52	12.32	6.80
13	---	---	---	---	---	---	---	---	---	---	---	---	6.58	8.12	7.43	5.52	13.90	9.22
14	---	---	---	---	---	---	---	---	---	---	---	---	5.25	7.23	6.34	5.59	13.30	9.01
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.41	9.88	8.38
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4.23	9.15	6.87
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.95	9.64	7.10
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4.42	8.56	6.40
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.59	8.22	5.64
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.89	9.27	6.38
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4.33	9.66	6.47
22	---	---	---	---	---	---	---	---	---	7.83	11.72	10.00	---	---	---	3.04	10.23	6.05
23	---	---	---	---	---	---	---	---	---	7.08	13.49	9.52	---	---	---	3.62	9.03	6.57
24	---	---	---	---	---	---	---	---	---	6.44	10.98	8.53	---	---	---	3.31	13.49	7.86
25	---	---	---	---	---	---	---	---	---	7.01	9.53	8.37	---	---	---	2.21	19.58	10.02
26	---	---	---	---	---	---	---	---	---	6.64	8.83	8.06	---	---	---	5.72	15.62	9.17
27	---	---	---	---	---	---	---	---	---	6.47	8.34	7.68	---	---	---	1.86	11.22	5.23
28	---	---	---	---	---	---	---	---	---	4.81	6.86	5.76	---	---	---	1.64	11.58	6.61
29	---	---	---	---	---	---	---	---	---	4.65	8.83	6.64	---	---	---	6.40	11.87	8.38
30	---	---	---	---	---	---	---	---	---	2.71	8.27	5.59	---	---	---	6.57	15.25	9.74
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Monthly Average	---	---	---	---	---	---	---	---	---	5.96	9.65	7.79	4.90	8.03	6.72	4.28	11.35	7.35

Water-Data Report 2010
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	5.31	18.92	10.51	---	---	---	1.75	8.04	4.81	4.40	10.12	7.48	9.74	11.62	10.83	---	---	---
2	7.03	14.11	9.85	---	---	---	1.83	9.82	5.79	1.66	9.65	6.08	9.54	11.88	10.34	---	---	---
3	0.18	8.80	4.11	---	---	---	4.22	8.58	6.32	9.60	10.48	10.08	8.94	10.67	9.88	---	---	---
4	4.34	5.69	4.79	---	---	---	2.71	8.72	7.03	8.22	10.96	10.03	8.21	11.20	9.44	---	---	---
5	---	---	---	---	---	---	2.09	9.16	6.56	6.70	11.16	8.69	11.23	12.35	11.90	---	---	---
6	---	---	---	---	---	---	4.46	11.18	7.40	5.46	10.34	7.64	11.45	13.23	12.27	---	---	---
7	---	---	---	6.15	8.44	7.41	5.72	10.12	7.95	4.62	7.64	6.12	10.71	11.81	11.27	---	---	---
8	1.14	14.39	6.20	0.84	7.91	4.97	3.83	11.13	7.37	3.21	7.79	5.68	10.19	12.10	10.99	---	---	---
9	0.93	8.28	4.41	1.50	6.67	5.10	3.75	9.92	7.91	1.69	10.63	6.76	9.24	11.40	10.11	---	---	---
10	0.79	11.53	4.87	0.46	8.05	4.41	2.71	18.08	9.42	5.01	8.91	6.26	8.88	11.40	9.90	---	---	---
11	0.32	9.27	4.57	1.23	5.67	3.80	6.06	12.90	8.87	1.45	9.46	5.92	7.81	9.92	9.15	---	---	---
12	0.45	11.11	4.86	0.64	4.59	2.80	1.73	9.60	6.22	7.24	10.19	8.54	7.83	10.36	8.83	---	---	---
13	2.03	7.48	5.11	1.89	8.49	5.13	1.54	9.78	6.08	2.95	9.94	6.73	7.20	10.74	8.61	---	---	---
14	0.17	9.53	4.75	0.74	7.03	4.21	2.53	9.96	6.26	4.41	9.86	7.85	8.44	10.40	9.39	---	---	---
15	0.09	8.14	4.32	0.44	8.42	4.16	5.55	11.76	8.76	5.94	10.22	8.52	9.13	11.24	9.74	---	---	---
16	0.28	9.77	4.34	2.86	9.39	5.35	4.71	9.13	6.87	4.55	8.30	6.76	8.41	11.29	10.31	---	---	---
17	0.06	4.31	1.89	3.46	9.15	6.30	5.06	12.96	8.77	3.01	10.37	6.46	9.77	11.50	10.88	---	---	---
18	0.06	4.30	1.74	4.13	9.16	6.53	4.62	9.54	7.09	5.11	9.90	8.18	8.40	11.82	10.10	---	---	---
19	0.33	8.01	4.37	3.85	7.78	6.12	5.00	15.47	8.70	5.08	7.52	6.23	8.11	10.94	9.29	---	---	---
20	0.33	5.75	3.40	5.44	8.44	6.75	2.63	12.75	6.93	4.07	8.86	6.66	8.99	11.96	10.48	---	---	---
21	0.15	8.12	3.56	2.44	6.46	4.82	1.38	7.24	4.78	6.61	9.50	7.99	10.43	12.41	11.30	---	---	---
22	0.08	8.99	3.91	4.20	8.86	6.34	0.67	6.41	3.66	6.27	8.67	7.76	7.68	10.32	8.79	---	---	---
23	2.58	8.93	5.86	5.66	8.38	7.31	1.01	7.32	3.62	5.57	8.24	6.89	8.06	8.72	8.48	---	---	---
24	0.05	6.74	2.47	5.16	8.68	7.19	0.36	6.46	3.13	5.59	8.48	7.08	---	---	---	---	---	---
25	0.14	7.32	2.84	4.65	9.38	6.45	1.48	6.62	3.27	4.94	7.87	6.32	---	---	---	---	---	---
26	---	---	---	5.34	10.01	8.14	3.42	8.34	6.02	5.37	9.14	6.99	---	---	---	---	---	---
27	---	---	---	2.91	9.53	6.05	2.58	9.91	6.97	5.53	8.78	7.25	---	---	---	---	---	---
28	---	---	---	1.78	8.79	6.03	0.77	8.38	6.19	8.41	10.53	9.82	---	---	---	---	---	---
29	---	---	---	1.65	8.74	5.56	0.53	5.93	3.28	8.55	9.99	9.55	---	---	---	---	---	---
30	---	---	---	0.97	8.33	5.33	0.32	10.20	3.62	7.68	10.45	9.15	---	---	---	---	---	---
31	---	---	---	0.79	9.23	4.59				9.11	11.23	10.59				---	---	---
Monthly Average	1.22	9.07	4.67	2.77	8.22	5.63	2.83	9.85	6.32	5.42	9.52	7.61	9.06	11.27	10.10	---	---	---

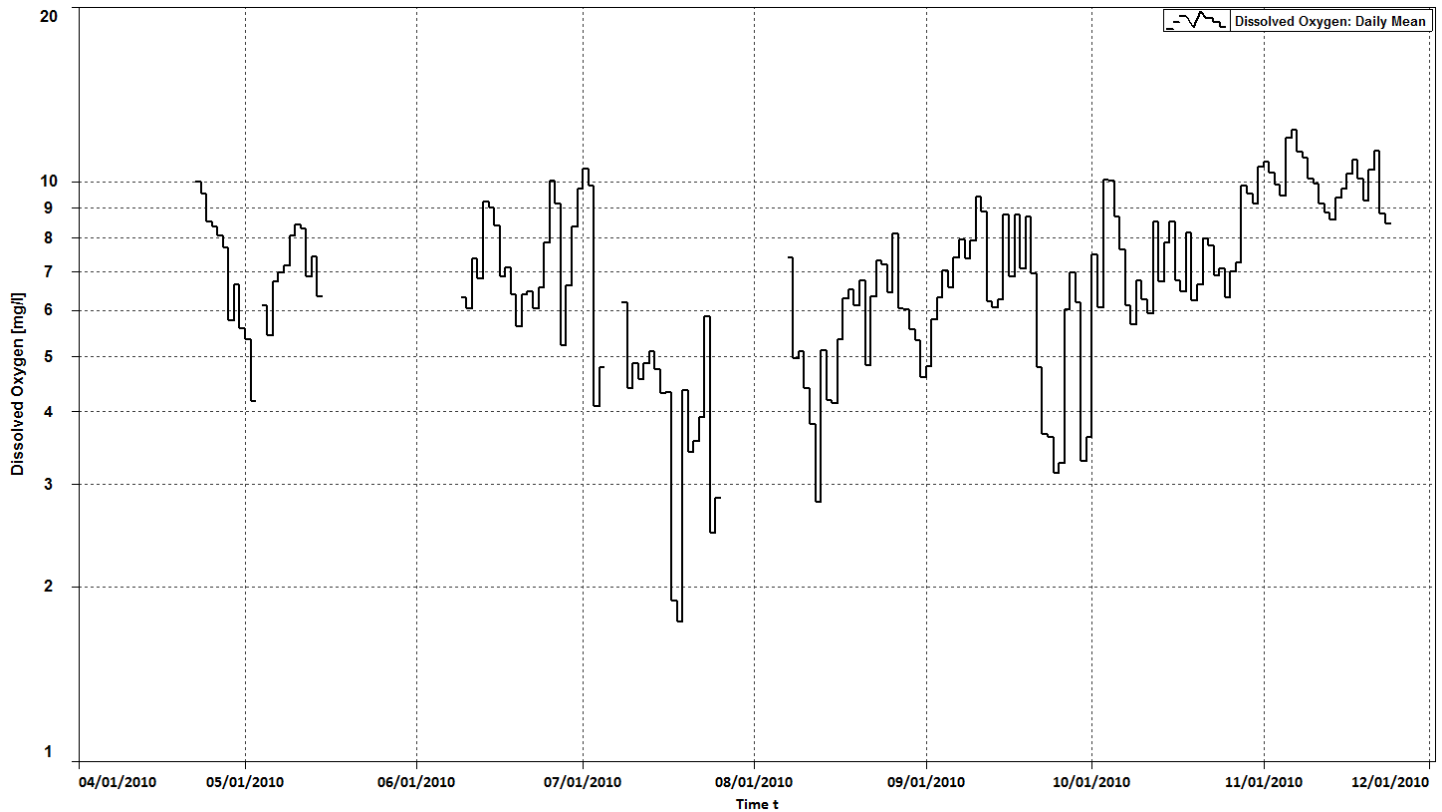
Water-Data Report 2010
413723083123801 Crane Creek at Ottawa NWR

**DISSOLVED OXYGEN
SUMMARY STATISTICS**

	Calendar Year 2010*	Period of Record (2009 – 2010)*
Minimum Unit Value [mg/L]	0.05 (Jul 24)	0.05 (Jul 24, 2010)
Maximum Unit Value [mg/L]	19.58 (Jun 25)	19.58 (Jun 25, 2010)
Median of Daily Mean [mg/L]	6.76	7.76

**Open water period only*

**DISSOLVED OXYGEN
DAILY MEAN**



Water-Data Report 2010
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	---	---	---	---	---	---	---	---	---	7.77	9.02	8.39	7.58	7.93	7.71	7.39	7.55	7.47
2	---	---	---	---	---	---	---	---	---	7.94	8.76	8.18	7.55	8.10	7.77	7.46	7.61	7.54
3	---	---	---	---	---	---	---	---	---	7.74	8.56	8.13	---	---	---	7.40	7.58	7.50
4	---	---	---	---	---	---	---	---	---	7.77	8.57	8.24	7.71	7.99	7.88	7.21	7.61	7.45
5	---	---	---	---	---	---	---	---	---	7.85	8.65	8.22	7.58	8.21	7.83	7.21	7.37	7.28
6	---	---	---	---	---	---	---	---	---	7.85	8.51	8.12	7.70	8.23	7.97	7.22	7.40	7.32
7	---	---	---	---	---	---	---	---	---	7.73	8.46	8.07	7.72	8.34	8.01	7.30	7.75	7.42
8	---	---	---	---	---	---	---	---	---	7.54	7.94	7.64	7.60	8.10	7.78	7.36	8.09	7.44
9	---	---	---	---	---	---	---	---	---	7.52	7.60	7.56	7.64	8.23	7.94	7.36	7.92	7.49
10	---	---	---	---	---	---	---	---	---	7.54	8.00	7.71	7.67	8.25	8.10	7.44	8.16	7.75
11	---	---	---	---	---	---	---	---	---	7.70	7.99	7.85	7.88	8.26	8.14	7.53	8.78	8.07
12	---	---	---	---	---	---	---	---	---	7.79	8.25	7.98	7.44	7.82	7.53	7.51	8.66	7.99
13	---	---	---	---	---	---	---	---	---	7.91	8.15	8.05	7.49	7.67	7.59	7.79	8.76	8.34
14	---	---	---	---	---	---	---	---	---	7.81	8.34	8.07	7.45	7.99	7.65	7.90	8.67	8.36
15	---	---	---	---	---	---	---	---	---	7.79	8.41	8.09	7.48	7.84	7.61	8.00	8.72	8.47
16	---	---	---	---	---	---	---	---	---	7.76	8.38	8.04	7.60	8.09	7.85	7.58	8.46	8.09
17	---	---	---	---	---	---	---	---	---	8.19	8.48	8.34	7.93	8.30	8.08	7.96	8.47	8.18
18	---	---	---	---	---	---	---	---	---	8.29	8.51	8.36	7.52	8.15	7.75	7.84	8.43	8.15
19	---	---	---	---	---	---	---	---	---	8.05	8.60	8.32	7.38	7.60	7.47	7.62	8.44	8.06
20	---	---	---	---	---	---	---	---	---	8.01	8.54	8.25	7.36	7.51	7.44	7.74	8.44	8.08
21	---	---	---	---	---	---	---	---	---	7.81	8.32	8.07	7.43	7.76	7.54	7.84	8.71	8.17
22	---	---	---	---	---	---	---	---	---	8.06	8.61	8.33	7.44	7.65	7.57	7.68	8.45	8.02
23	---	---	---	---	---	---	8.48	8.80	8.67	7.95	8.85	8.45	7.38	7.82	7.58	7.74	8.49	8.10
24	---	---	---	---	---	---	8.05	8.79	8.44	8.20	8.70	8.47	7.09	7.60	7.40	7.61	8.74	8.27
25	---	---	---	---	---	---	8.23	8.50	8.34	7.92	8.56	8.20	7.03	7.32	7.19	7.81	8.86	8.36
26	---	---	---	---	---	---	8.25	8.44	8.35	7.48	8.04	7.67	6.82	7.03	6.95	7.73	8.87	8.27
27	---	---	---	---	---	---	8.16	8.56	8.32	7.46	7.58	7.53	6.82	6.91	6.85	7.48	8.76	7.91
28	---	---	---	---	---	---	8.26	8.72	8.46	7.32	7.47	7.41	6.91	7.09	6.99	7.44	8.88	8.23
29	---	---	---	---	---	---	7.72	8.51	7.95	7.41	7.81	7.58	7.29	8.13	7.55	8.33	8.86	8.55
30	---	---	---	---	---	---	7.69	8.50	7.98	7.45	8.01	7.69	7.28	7.92	7.44	8.27	8.99	8.61
31	---	---	---	---	---	---	7.75	9.03	8.30	---	---	---	7.07	7.49	7.30	---	---	---
Monthly Average	---	---	---	---	---	---	8.07	8.65	8.31	7.79	8.32	8.03	7.43	7.84	7.62	7.63	8.35	7.96

Water-Data Report 2010
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	8.08	8.91	8.51	---	---	---	7.43	8.36	7.82	7.08	7.20	7.12	7.81	8.14	7.94	---	---	---
2	7.97	8.92	8.42	---	---	---	7.36	8.38	7.93	7.15	7.71	7.33	7.78	8.30	7.93	---	---	---
3	7.29	8.54	7.86	---	---	---	7.59	8.19	7.88	7.53	7.86	7.72	7.70	7.98	7.83	---	---	---
4	7.46	8.70	8.00	---	---	---	7.51	8.02	7.90	7.42	7.82	7.64	7.62	8.00	7.78	---	---	---
5	7.34	8.62	7.75	---	---	---	7.45	7.94	7.69	7.32	8.37	7.75	7.87	7.98	7.92	---	---	---
6	7.34	8.35	7.66	7.79	8.56	8.29	7.30	8.26	7.65	7.56	8.39	7.95	7.80	7.90	7.85	---	---	---
7	7.30	8.34	7.55	7.74	8.62	8.28	7.38	8.51	7.93	7.57	7.81	7.71	7.74	7.89	7.82	---	---	---
8	7.06	8.56	7.57	7.46	8.32	7.92	7.77	8.21	8.01	7.45	7.86	7.65	7.71	8.08	7.86	---	---	---
9	7.10	8.02	7.40	7.55	8.26	7.93	7.37	7.91	7.60	7.38	8.17	7.76	7.68	8.11	7.84	---	---	---
10	7.06	7.89	7.33	7.45	8.36	7.85	7.23	8.46	7.70	7.57	8.12	7.76	7.76	8.19	7.93	---	---	---
11	7.00	8.01	7.36	7.46	7.98	7.65	7.40	8.17	7.67	7.36	8.17	7.71	7.72	8.08	7.88	---	---	---
12	7.07	8.17	7.46	7.40	7.67	7.55	7.21	7.71	7.31	7.67	8.26	7.95	7.62	8.10	7.80	---	---	---
13	7.13	7.83	7.46	7.35	8.65	7.92	7.25	8.13	7.48	7.45	8.39	7.81	7.52	8.29	7.83	---	---	---
14	7.06	7.87	7.41	7.38	8.00	7.68	7.26	7.74	7.37	7.56	8.25	7.82	7.78	8.01	7.89	---	---	---
15	6.99	7.96	7.29	7.35	8.34	7.70	7.34	8.34	7.72	7.59	8.47	8.03	7.82	8.16	7.92	---	---	---
16	7.05	8.20	7.45	7.55	8.58	7.92	7.31	8.30	7.73	7.61	8.20	7.90	7.73	8.03	7.90	---	---	---
17	6.98	8.16	7.38	7.60	8.49	7.99	7.32	8.11	7.69	7.44	8.43	7.82	7.85	8.14	7.95	---	---	---
18	7.15	8.03	7.50	7.57	8.46	8.10	7.18	7.49	7.33	7.66	8.18	7.87	7.76	8.22	7.96	---	---	---
19	7.15	8.18	7.62	7.80	8.30	8.03	7.28	8.60	7.77	7.59	7.87	7.73	7.84	8.21	7.97	---	---	---
20	7.18	7.99	7.68	7.79	8.52	8.09	6.96	7.97	7.39	7.48	7.95	7.73	7.86	8.12	8.00	---	---	---
21	7.12	8.54	7.71	7.47	8.11	7.73	6.92	7.32	7.12	7.62	7.96	7.78	7.82	8.15	7.97	---	---	---
22	7.10	8.24	7.65	7.44	8.29	7.78	7.21	7.51	7.28	7.53	7.80	7.69	7.82	8.03	7.93	---	---	---
23	7.12	7.68	7.33	7.69	8.23	7.91	7.16	7.48	7.25	7.45	7.88	7.64	7.90	7.99	7.94	---	---	---
24	---	---	---	7.57	8.17	7.91	7.16	7.41	7.25	7.52	7.82	7.69	---	---	---	---	---	---
25	---	---	---	7.62	8.20	7.86	7.20	7.27	7.22	7.49	7.87	7.68	---	---	---	---	---	---
26	---	---	---	7.66	8.28	7.93	7.15	7.32	7.23	7.60	8.10	7.76	---	---	---	---	---	---
27	---	---	---	7.33	8.21	7.71	7.16	7.50	7.28	7.51	7.93	7.71	---	---	---	---	---	---
28	---	---	---	7.45	8.27	7.90	7.10	7.22	7.14	7.80	8.06	7.94	---	---	---	---	---	---
29	---	---	---	7.44	8.15	7.78	7.13	7.23	7.18	7.74	7.97	7.88	---	---	---	---	---	---
30	---	---	---	7.38	8.06	7.79	7.13	7.30	7.20	7.66	7.98	7.83	---	---	---	---	---	---
31	---	---	---	7.43	8.39	7.80				7.78	8.06	7.93				---	---	---
Monthly Average	7.22	8.25	7.62	7.53	8.29	7.88	7.27	7.88	7.52	7.52	8.03	7.75	7.76	8.09	7.90	---	---	---

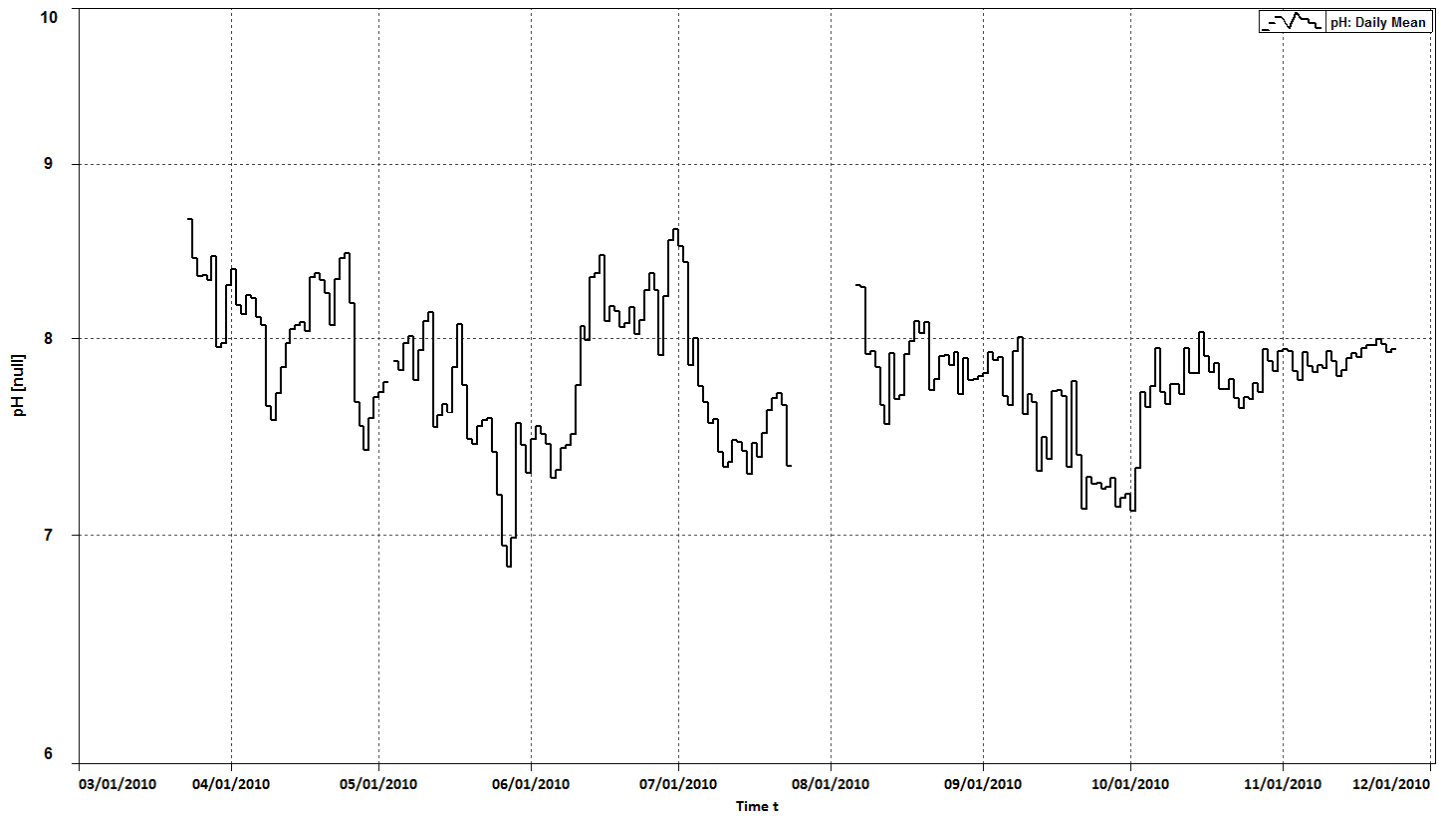
Water-Data Report 2010
413723083123801 Crane Creek at Ottawa NWR

pH
SUMMARY STATISTICS

	Calendar Year 2010*	Period of Record (2009 – 2010)*
Minimum Unit Value	6.82 (May 26, 27)	6.82 (May 26, 27, 2010)
Maximum Unit Value	9.03 (Mar 31)	9.13 (Jul 20, 2009)
Median of Daily Mean	7.82	8.06

**Open water period only*

pH
DAILY MEAN



Water-Data Report 2010
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	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---	46.8	361.4	174.1	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---	69.9	296.6	183.3	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---	43.1	403.9	178.0	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---	82.8	688.8	174.5	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---	96.6	298.2	195.1	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	113.1	146.5	130.7
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	78.9	321.5	125.4
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	61.0	169.7	117.0
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	48.6	136.5	98.2
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	75.3	130.7	99.4
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	56.6	121.9	88.9
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	48.7	151.0	90.1
16	---	---	---	---	---	---	---	---	---	---	---	---	7.6	108.8	42.9	55.4	248.4	120.0
17	---	---	---	---	---	---	---	---	---	---	---	---	0.3	65.2	34.7	39.2	111.1	61.1
18	---	---	---	---	---	---	---	---	---	---	---	---	-8.2	41.2	13.9	50.5	218.6	84.3
19	---	---	---	---	---	---	---	---	---	---	---	---	9.7	73.8	47.6	52.1	143.4	96.0
20	---	---	---	---	---	---	---	---	---	---	---	---	28.2	101.5	63.3	71.1	146.8	103.4
21	---	---	---	---	---	---	---	---	---	---	---	---	42.0	129.9	91.1	---	---	---
22	---	---	---	---	---	---	---	---	---	58.0	215.1	105.6	63.6	139.0	100.1	---	---	---
23	---	---	---	---	---	---	---	---	---	32.5	442.7	92.7	41.2	150.9	84.8	---	---	---
24	---	---	---	---	---	---	---	---	---	26.5	163.4	85.2	-5.8	79.1	40.8	---	---	---
25	---	---	---	---	---	---	---	---	---	40.4	718.0	103.4	-6.8	37.2	8.1	---	---	---
26	---	---	---	---	---	---	---	---	---	139.0	370.6	301.2	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	298.8	656.1	386.4	---	---	---	43.6	111.3	67.8
28	---	---	---	---	---	---	---	---	---	135.1	256.1	184.8	---	---	---	51.6	130.7	74.7
29	---	---	---	---	---	---	---	---	---	100.0	275.8	175.2	---	---	---	56.4	246.0	95.9
30	---	---	---	---	---	---	---	---	---	166.3	653.8	394.7	---	---	---	73.7	283.6	119.7
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Monthly Average	---	---	---	---	---	---	---	---	---	110.7	416.8	203.2	34.1	198.4	95.5	61.0	176.1	98.3

Water-Data Report 2010
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	49.8	148.0	95.8	---	---	---	36.4	163.0	80.2	34.5	180.4	84.3	56.6	100.1	80.2	---	---	---
2	73.1	369.4	121.9	---	---	---	48.2	125.2	81.8	37.2	311.2	126.8	49.7	114.0	68.2	---	---	---
3	102.2	326.8	172.9	---	---	---	58.8	154.3	97.2	122.2	476.8	231.4	47.8	74.3	59.8	---	---	---
4	198.8	199.8	199.3	---	---	---	50.8	143.4	113.5	51.4	300.8	112.6	46.1	128.8	77.9	---	---	---
5	---	---	---	---	---	---	36.9	101.7	71.1	33.2	145.8	74.3	68.2	160.2	96.1	---	---	---
6	---	---	---	33.0	173.0	112.3	29.5	88.7	59.1	26.1	73.5	47.5	58.5	112.4	76.7	---	---	---
7	---	---	---	55.6	146.7	96.7	45.7	91.6	69.7	18.4	66.3	46.8	50.9	71.5	59.2	---	---	---
8	30.9	461.1	118.9	8.6	197.2	101.5	35.9	89.4	65.1	18.0	71.4	49.4	23.9	84.2	48.4	---	---	---
9	52.7	225.2	106.6	23.8	121.0	77.3	40.0	127.0	76.5	19.0	76.5	51.1	32.8	115.1	61.4	---	---	---
10	61.3	216.0	109.8	41.1	221.2	94.8	59.3	161.7	97.7	37.1	84.2	64.1	20.4	60.8	42.1	---	---	---
11	50.5	311.8	99.8	31.8	520.9	114.3	41.1	196.4	80.3	44.7	145.8	74.7	33.4	78.6	46.8	---	---	---
12	62.9	252.1	124.0	19.3	328.3	95.5	23.0	89.5	50.7	52.6	179.0	93.5	25.7	52.9	38.1	---	---	---
13	71.7	218.5	139.3	38.9	295.6	100.4	35.5	109.6	61.9	45.8	156.9	78.8	25.9	60.0	42.9	---	---	---
14	133.3	309.4	216.6	65.8	256.6	138.3	21.2	105.6	55.3	36.4	161.3	79.4	35.5	88.9	60.0	---	---	---
15	263.4	486.1	358.5	56.9	321.4	144.9	90.5	280.4	139.7	29.0	109.5	74.5	30.2	45.3	38.6	---	---	---
16	---	---	---	60.5	285.6	119.2	59.3	260.4	136.7	14.9	83.5	50.3	16.0	206.6	57.9	---	---	---
17	---	---	---	60.9	140.6	95.0	105.7	219.4	142.6	18.4	118.8	44.8	32.1	130.3	62.5	---	---	---
18	---	---	---	67.6	279.0	91.2	56.0	127.4	96.3	41.6	92.3	66.8	13.1	60.4	33.0	---	---	---
19	---	---	---	46.6	100.8	77.7	63.4	217.3	129.2	21.1	81.7	48.3	11.1	24.3	15.8	---	---	---
20	---	---	---	62.4	124.9	89.2	89.4	366.1	198.2	25.0	98.1	57.1	11.2	29.7	20.2	---	---	---
21	---	---	---	91.2	238.3	128.1	33.0	174.2	95.3	48.8	329.9	89.8	21.8	53.2	36.0	---	---	---
22	---	---	---	76.9	289.0	141.7	55.0	167.8	82.4	32.7	127.2	63.5	26.4	41.9	34.4	---	---	---
23	---	---	---	79.1	197.6	128.4	68.6	139.2	98.0	34.2	96.8	54.4	35.1	78.4	54.2	---	---	---
24	---	---	---	82.2	162.8	116.2	55.9	145.9	91.5	21.6	62.5	38.5	---	---	---	---	---	---
25	---	---	---	60.4	153.4	106.5	43.9	132.1	80.0	21.4	69.4	49.7	---	---	---	---	---	---
26	---	---	---	66.0	221.3	133.5	52.1	231.9	104.1	32.5	95.1	59.9	---	---	---	---	---	---
27	---	---	---	43.1	106.6	80.0	111.1	225.0	156.1	61.8	170.7	92.5	---	---	---	---	---	---
28	---	---	---	43.1	180.0	89.8	29.8	136.7	81.4	81.4	166.4	127.6	---	---	---	---	---	---
29	---	---	---	31.2	110.3	72.7	29.3	129.8	63.0	70.6	117.9	92.9	---	---	---	---	---	---
30	---	---	---	36.0	122.1	79.2	19.7	132.9	52.5	54.1	128.4	83.8	---	---	---	---	---	---
31	---	---	---	35.8	108.7	74.7				52.2	101.0	67.2				---	---	---
Monthly Average	95.9	293.7	155.3	50.7	207.8	103.8	50.8	161.1	93.6	39.9	144.5	76.7	33.6	85.7	52.6	---	---	---

Water-Data Report 2010
413723083123801 Crane Creek at Ottawa NWR

**TURBIDITY
SUMMARY STATISTICS**

	Calendar Year 2010*	Period of Record (2009 – 2010)*
Minimum Unit Value [NTU]	-8.2 (May 18)	-8.2 (May 18, 2010)
Maximum Unit Value [NTU]	718.0 (Apr 25)	718.0 (Apr 25, 2010)
Median of Daily Mean [NTU]	89.1	68.4

**Open water period only*

**TURBIDITY
DAILY MEAN**

