

## Water-Data Report 2011

393619093074801 Yellow Creek nr Mendon MO, Hwy CC on Swan Lake NWR



### Division of Biological Resources Water Resources Branch

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## Water-Data Report 2011

393556093132501 Yellow Creek nr Mendon MO, Hwy CC on Swan Lake NWR

**LOCATION:** Lat. 39°36'19"N, long. 93°07'48"W near Swan Lake NWR, 23.5 miles southeast of Chillicothe, MO, in Charlton County. Gage is mounted 9 feet off the ground on a tree in the woods downstream of the bridge on the left bank.

**DRAINAGE AREA:** 414 square miles

### SURFACE WATER RECORDS

**PERIOD OF RECORD:** June 24, 2010 to present.

**GAGE SITE JUN 2010 – DEC 2011:** Sutron Monitor 1 in metal gage housing in communication with a KPSI submersible pressure transducer mounted on a fencepost in the streambed near old railroad bridge. Instruments are powered by a solar panel run to a battery inside the gage housing. Stage data are collected at 15 minute intervals. Datum of gage is in North American Vertical Datum of 1988.

**GAGE SITE DEC 2011:** New logger installed December 1, 2011. Design Analysis 522+ in communication with Esterline pressure transducer 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 solar panel run to a battery through a Sun saver 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 MDOM7.

**NATIONAL WILDLIFE REFUGE:** Swan Lake NWR

**REMARKS:** Records coded fair for 2011 calendar year.

**EXTREMES FOR PERIOD OF RECORD:** Maximum gage height, 676.81 ft, June 28, 2010; minimum gage height, 660.40 ft, October 4, 2011.

**EXTREMES FOR CURRENT YEAR:** Maximum gage height, 676.45 ft, April 23; minimum gage height, 660.40 ft Oct 4.

U.S. Department of Interior  
U.S. Fish and Wildlife Service

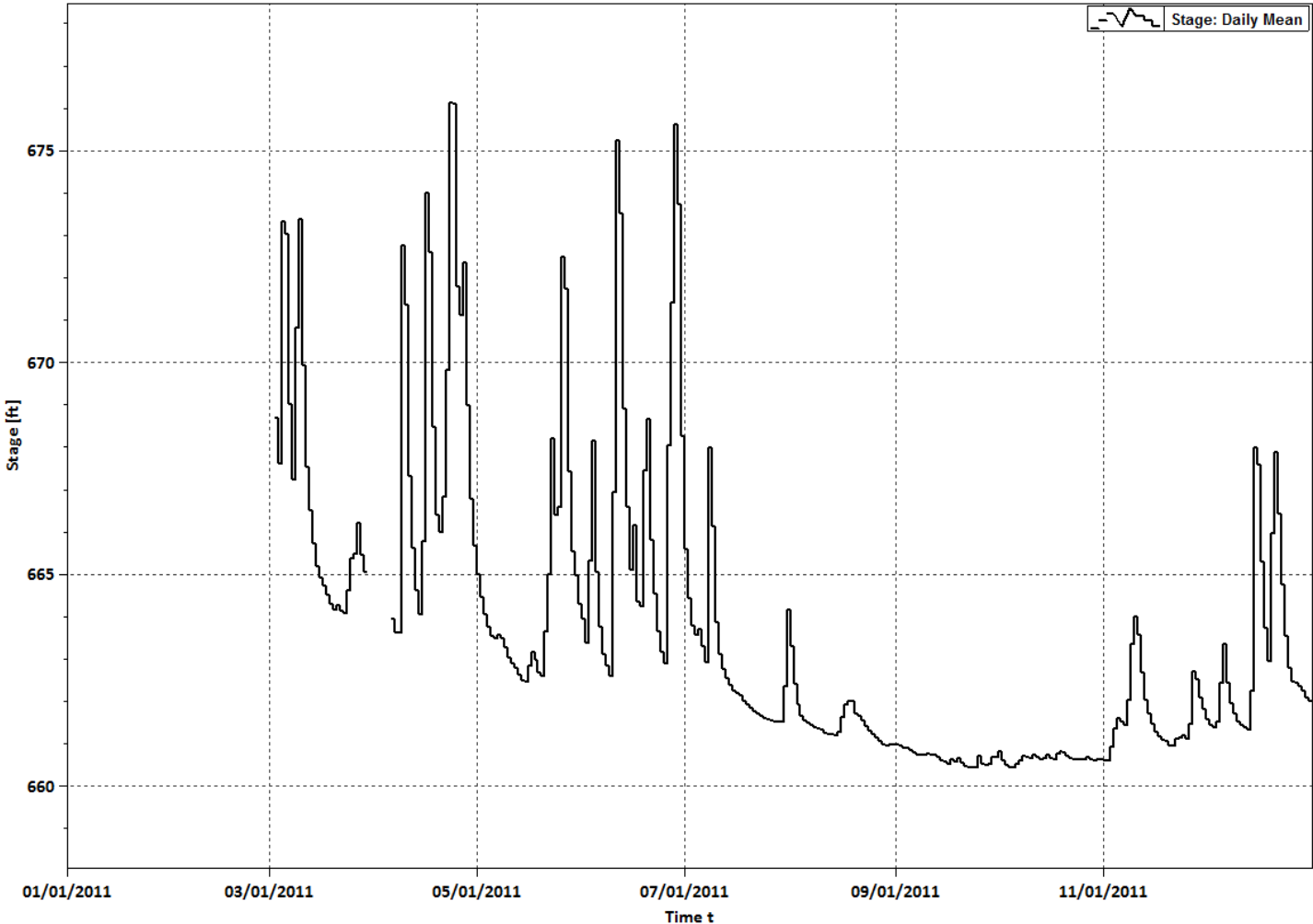
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GAGE HEIGHT, FEET  
CALENDAR YEAR 2011  
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	---	---	---	---	665.01	663.95	665.58	663.31	660.99	660.81	660.61	661.58
2	---	---	---	---	664.45	663.38	664.43	662.41	660.94	660.61	660.61	661.45
3	---	---	668.68	---	664.05	665.33	663.78	661.92	660.91	660.50	660.92	661.38
4	---	---	667.60	---	663.75	668.14	663.57	661.66	660.89	660.43	661.34	661.51
5	---	---	673.31	---	663.53	665.05	663.71	661.54	660.85	660.44	661.60	662.43
6	---	---	673.03	663.95	663.49	663.76	663.29	661.50	660.79	660.51	661.53	663.34
7	---	---	669.02	663.61	663.56	663.12	662.91	661.43	660.75	660.61	661.43	662.43
8	---	---	667.22	663.61	663.48	662.85	667.99	661.38	660.74	660.70	662.02	661.95
9	---	---	670.82	672.76	663.26	662.59	666.11	661.35	660.73	660.67	663.35	661.71
10	---	---	673.37	671.36	663.04	666.93	663.85	661.32	660.76	660.66	664.00	661.51
11	---	---	669.93	667.30	662.90	675.25	663.11	661.26	660.75	660.74	663.55	661.43
12	---	---	667.53	665.63	662.78	673.52	662.77	661.21	660.73	660.68	662.68	661.38
13	---	---	666.50	664.60	662.63	668.90	662.54	661.21	660.68	660.64	662.04	661.34
14	---	---	665.71	664.05	662.48	666.59	662.38	661.20	660.61	660.67	661.70	662.24
15	---	---	665.19	665.78	662.45	665.10	662.25	661.26	660.57	660.74	661.47	667.99
16	---	---	664.93	674.00	662.83	666.16	662.20	661.64	660.51	660.66	661.28	667.58
17	---	---	664.74	672.60	663.16	664.36	662.13	661.93	660.64	660.63	661.18	665.28
18	---	---	664.51	668.47	662.97	664.24	662.02	662.01	660.58	660.76	661.09	663.72
19	---	---	664.28	666.41	662.69	667.45	661.93	662.00	660.65	660.83	661.06	662.96
20	---	---	664.17	666.00	662.61	668.67	661.85	661.71	660.54	660.80	660.95	665.97
21	---	---	664.26	666.83	663.65	665.80	661.77	661.65	660.46	660.72	660.95	667.88
22	---	---	664.14	669.82	664.98	664.54	661.70	661.54	660.44	660.65	661.11	666.43
23	---	---	664.07	676.12	668.19	663.65	661.64	661.40	660.44	660.62	661.15	664.77
24	---	---	664.63	676.09	666.39	663.15	661.60	661.30	660.45	660.62	661.18	663.54
25	---	---	665.37	671.79	666.57	662.90	661.58	661.21	660.70	660.63	661.12	662.79
26	---	---	665.48	671.10	672.50	668.04	661.55	661.13	660.53	660.63	661.46	662.46
27	---	---	666.21	672.34	671.74	671.42	661.52	661.07	660.51	660.67	662.71	662.44
28	---	---	665.46	668.97	667.43	675.61	661.52	660.99	660.53	660.63	662.53	662.36
29	---	---	665.06	666.76	665.53	673.73	661.51	660.96	660.68	660.60	662.09	662.25
30	---	---	---	665.67	664.96	668.24	662.35	660.97	660.69	660.63	661.81	662.09
31	---	---	---	---	664.30	---	664.16	660.99	---	660.63	---	662.01
Mean	---	---	---	---	664.56	666.75	662.88	661.50	660.67	660.65	661.68	663.17
Max	---	---	---	---	672.50	675.61	667.99	663.31	660.99	660.83	664.00	667.99
Min	---	---	---	---	662.45	662.59	661.51	660.96	660.44	660.43	660.61	661.34

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**WATER TEMPERATURE RECORDS**

**PERIOD OF RECORD:** June 24, 2010 to present.

**INSTRUMENTATION:** Sutron Monitor 1 in metal gage housing in communication with a KPSI submersible pressure transducer mounted on a fencepost. Water temperature data are collected at hourly intervals.

**REMARKS:** Records coded FAIR for 2011 calendar year.

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**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	---	---	---	---	---	---	---	---	---	---	---	---	14.00	16.00	15.00	22.10	24.40	23.14	
2	---	---	---	---	---	---	---	---	---	---	---	---	12.70	14.00	13.33	23.30	24.60	23.89	
3	---	---	---	---	---	---	4.20	5.00	4.52	---	---	---	12.60	14.50	13.43	23.60	25.70	24.44	
4	---	---	---	---	---	---	5.00	6.80	5.99	---	---	---	13.00	14.50	13.77	23.30	25.20	24.22	
5	---	---	---	---	---	---	5.10	7.10	6.22	---	---	---	13.60	14.20	13.87	25.00	27.00	25.85	
6	---	---	---	---	---	---	3.90	5.10	4.36	12.10	14.10	13.40	12.90	15.30	13.97	26.10	28.20	26.98	
7	---	---	---	---	---	---	3.80	4.30	3.98	12.30	13.80	13.23	14.80	17.90	16.17	26.80	28.50	27.56	
8	---	---	---	---	---	---	4.30	4.60	4.50	11.60	12.50	12.03	17.20	19.80	18.35	26.70	28.40	27.47	
9	---	---	---	---	---	---	4.50	4.80	4.66	12.30	16.10	13.56	19.20	22.40	20.54	26.50	28.20	27.27	
10	---	---	---	---	---	---	4.00	4.50	4.18	16.10	18.60	17.33	21.80	24.70	22.99	20.60	27.20	24.04	
11	---	---	---	---	---	---	4.30	5.60	4.65	17.80	18.80	18.39	23.60	25.50	24.38	20.80	22.40	21.21	
12	---	---	---	---	---	---	5.60	7.00	6.36	16.70	18.00	17.38	23.40	25.50	24.45	20.80	21.80	21.26	
13	---	---	---	---	---	---	6.60	7.40	7.10	16.40	18.20	17.31	21.10	24.70	22.92	19.70	21.50	20.74	
14	---	---	---	---	---	---	5.60	6.60	6.06	17.50	18.90	18.02	17.10	21.10	18.82	19.90	22.50	21.18	
15	---	---	---	---	---	---	5.00	6.80	5.80	12.40	18.20	16.08	14.50	17.10	15.74	22.20	24.50	23.15	
16	---	---	---	---	---	---	6.50	9.10	7.44	10.90	12.40	11.59	13.40	15.90	14.54	22.40	24.20	23.12	
17	---	---	---	---	---	---	9.10	11.00	9.91	10.60	11.60	11.00	14.10	16.90	15.36	21.60	23.00	22.27	
18	---	---	---	---	---	---	11.00	12.10	11.48	11.60	12.70	12.24	15.30	16.90	16.07	22.70	24.30	23.28	
19	---	---	---	---	---	---	10.20	11.40	10.72	11.20	12.70	12.22	16.10	16.80	16.41	23.40	24.60	23.87	
20	---	---	---	---	---	---	9.90	12.50	10.79	10.20	11.20	10.58	16.20	16.90	16.50	23.80	25.50	24.41	
21	---	---	---	---	---	---	12.40	15.50	13.70	10.00	10.50	10.27	16.80	19.20	17.74	24.00	25.10	24.49	
22	---	---	---	---	---	---	15.40	16.00	15.66	10.00	10.50	10.28	18.90	20.80	19.54	22.40	24.00	23.15	
23	---	---	---	---	---	---	13.20	15.80	14.77	10.20	12.60	11.08	18.90	20.50	19.37	21.40	22.40	21.77	
24	---	---	---	---	---	---	10.30	13.20	11.63	11.70	13.10	12.23	19.60	20.50	20.05	20.60	21.70	21.11	
25	---	---	---	---	---	---	7.70	10.30	9.16	12.90	13.20	13.04	19.40	20.20	19.74	21.30	21.80	21.53	
26	---	---	---	---	---	---	5.80	7.70	6.70	12.70	13.10	13.00	16.80	19.60	18.12	20.30	21.80	20.94	
27	---	---	---	---	---	---	4.90	6.00	5.43	12.30	12.70	12.46	16.50	16.80	16.58	20.30	21.50	21.13	
28	---	---	---	---	---	---	5.30	7.00	6.07	12.10	13.30	12.50	16.30	16.50	16.45	19.90	20.90	20.23	
29	---	---	---	---	---	---	6.60	6.63	6.61	13.10	14.90	13.91	16.50	19.90	17.91	20.90	22.10	21.36	
30	---	---	---	---	---	---	---	---	---	14.80	16.40	15.57	19.90	22.60	21.19	22.10	24.90	23.49	
31	---	---	---	---	---	---	---	---	---	---	---	---	22.00	24.20	22.88	---	---	---	
Monthl y Average	---	---	---	---	---	---	---	---	---	---	---	---	---	17.04	19.08	17.94	22.48	24.26	23.29

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**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	24.40	26.10	25.08	26.50	27.40	26.80	23.60	25.10	24.07	15.00	16.20	15.42	9.10	10.90	9.70	3.89	4.10	3.98
2	25.70	27.00	26.09	27.00	28.10	27.37	24.60	25.80	25.04	14.10	15.30	14.54	10.50	11.20	10.95	3.71	4.09	3.85
3	25.40	26.70	26.12	27.60	28.30	27.96	25.10	25.80	25.44	13.50	14.60	13.90	9.30	10.50	9.67	4.02	5.28	4.39
4	24.50	25.60	25.06	27.50	28.30	27.85	23.90	25.50	24.47	13.40	14.40	13.81	8.60	9.50	9.03	5.28	5.85	5.66
5	24.70	25.70	25.05	26.70	27.60	27.12	22.00	23.90	22.48	14.00	15.10	14.34	8.90	9.50	9.13	4.26	5.79	4.95
6	25.00	26.00	25.42	26.20	26.70	26.29	20.40	22.10	20.83	14.60	15.80	15.05	9.20	10.30	9.72	3.22	4.26	3.55
7	25.00	25.70	25.31	25.60	26.20	25.88	19.20	20.60	19.74	15.60	17.00	16.13	10.30	11.30	10.88	2.13	3.31	2.63
8	23.10	25.20	23.84	25.70	26.10	25.87	18.80	19.90	19.30	16.60	17.50	17.01	11.00	11.30	11.24	1.80	2.32	2.10
9	23.00	23.80	23.27	25.30	26.20	25.69	19.10	20.00	19.48	16.70	17.40	17.13	9.50	11.00	10.27	2.09	2.34	2.21
10	23.80	25.20	24.22	25.20	26.10	25.53	19.40	20.10	19.76	16.60	17.40	16.99	7.90	9.50	8.60	1.19	2.24	1.56
11	25.20	26.70	25.67	24.20	25.40	24.66	19.40	20.50	19.77	16.90	17.80	17.17	7.20	7.90	7.45	0.94	1.54	1.20
12	26.40	27.80	26.88	24.00	24.90	24.30	19.90	21.10	20.36	17.40	18.40	17.84	7.20	8.00	7.49	1.39	2.14	1.66
13	26.50	27.50	26.83	23.40	24.50	23.88	20.40	21.10	20.81	16.90	18.30	17.44	7.90	8.90	8.27	2.14	3.04	2.49
14	25.50	26.50	25.92	23.40	24.50	23.91	19.00	21.00	20.01	15.40	17.00	15.98	8.80	9.40	9.07	3.04	5.58	3.72
15	25.60	26.70	26.00	23.50	24.40	23.75	17.20	19.00	17.69	14.10	15.40	14.52	8.90	9.30	9.14	5.58	7.82	6.79
16	26.30	26.80	26.53	22.60	23.70	22.94	16.10	17.20	16.51	14.10	14.60	14.36	7.90	9.00	8.42	4.79	6.42	5.61
17	26.30	27.40	26.71	22.50	23.70	22.88	15.50	16.10	15.77	13.00	14.40	13.58	6.60	7.90	7.06	3.77	4.79	4.16
18	26.90	28.00	27.36	23.40	24.90	23.85	15.80	16.40	15.97	12.00	13.00	12.58	5.90	6.60	6.30	3.03	3.87	3.40
19	27.50	28.40	27.88	24.20	25.20	24.63	16.40	17.60	16.79	11.10	12.00	11.47	6.50	7.90	6.96	3.31	4.10	3.66
20	27.70	28.50	28.15	24.50	25.30	24.77	16.90	17.90	17.34	10.10	11.10	10.60	6.80	7.80	7.22	3.93	4.10	4.04
21	28.00	28.60	28.30	23.70	24.60	24.15	17.20	18.40	17.76	9.70	10.70	10.12	6.80	7.30	6.97	4.01	4.21	4.08
22	28.20	28.90	28.55	24.00	24.60	24.32	16.60	18.20	17.17	9.90	10.70	10.18	7.10	7.40	7.21	3.59	4.15	3.91
23	28.40	29.00	28.72	24.40	25.40	24.71	16.20	17.20	16.53	10.70	11.80	11.09	7.40	7.90	7.55	2.56	3.59	3.00
24	28.50	28.90	28.72	25.30	26.30	25.64	15.30	16.50	15.73	11.40	12.20	11.72	7.10	7.80	7.44	1.61	2.56	1.97
25	28.00	28.60	28.22	25.10	26.10	25.45	14.50	15.60	14.91	12.20	14.30	12.95	7.40	8.10	7.67	1.30	1.77	1.55
26	27.70	28.60	28.07	24.10	25.30	24.63	14.30	15.90	14.96	13.00	14.30	13.51	8.10	8.50	8.35	1.06	1.73	1.35
27	28.10	28.50	28.27	24.00	25.30	24.51	15.50	16.40	15.84	12.00	13.00	12.53	7.10	8.30	7.75	1.32	1.80	1.50
28	27.80	28.40	27.98	23.60	25.10	24.10	16.10	17.20	16.45	10.30	12.00	10.86	5.90	7.10	6.50	1.63	2.08	1.84
29	27.20	28.10	27.60	22.90	24.00	23.31	16.60	17.30	16.94	9.10	10.60	9.67	4.90	5.90	5.27	1.84	2.49	2.06
30	26.30	27.20	26.66	22.80	23.70	23.13	15.60	16.80	16.18	9.60	10.50	9.92	3.90	4.90	4.27	2.49	3.84	3.08
31	25.90	26.70	26.22	22.50	24.00	22.97				9.10	10.30	9.54				3.68	4.24	3.92
Monthly Average	26.21	27.19	26.60	24.56	25.55	24.93	18.35	19.54	18.80	13.16	14.29	13.61	7.79	8.70	8.19	2.86	3.72	3.22

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**SUMMARY STATISTICS**

	Calendar Year 2011	Period of Record (2010-2011)#
<b>Minimum Unit Value [°C]</b>	0.94 (Dec 11)	-1.40 (Nov 8, 2010)
<b>Maximum Unit Value [°C]</b>	29.0 (Jul 23)	32.9 (Aug 13, 2010)
<b>Median of Daily Mean [°C]</b>	16.1	17.8

#See Period of Record; partial year used in monthly and annual statistics

