

# Water Quality Study Van Wert County

Results from samples collected January – December 2006

## Town Creek Nutrient Data

Nitrogen and Phosphorus concentrations at four locations in Town Creek

## Town Creek Pesticide Data

Pesticide concentrations for samples collected in June and November at three locations in Town Creek.

## Municipal and Township Well Pesticide Samples

Pesticide concentrations for June samples of six area municipalities and twelve rural wells.

## Van Wert County Ecoli Results

Ecoli Levels from streams leaving Van Wert County and Township wells.

## Rainfall Data

Amount of rainfall recorded prior to sampling day, and monthly totals for each year.

**A Grant from The Van Wert County Foundation**

Municipal Pesticide Samples – 2006

Location	Atrazine	Alachlor	Metolachlor	Metribuzin	Propachlor	Propazine	Simazine	Nitrates (ppm)
Convoy	*	*	*	N/T	*	*	*	.07
Delphos	*	*	*	N/T	*	*	*	*
Middle Point	*	*	*	N/T	*	*	*	*
Ohio City	*	*	*	N/T	*	*	*	*
Van Wert	2.24	*	*	N/T	*	*	*	2.86
Willshire	*	*	*	N/T	*	*	*	*

Results in ppm

Similar to other years, the 2006 samples had detectable levels of atrazine and nitrates in the Van Wert sample. However the concentration of nitrates present did not exceed the EPA's HAL of 10ppm.

Township Wells Pesticide Samples – 2006

Location	Alachlor	Atrazine	Metolachlor	Metribuzin	Propachlor	Propazine	Simazine	Nitrates (ppm)
Union	*	*	*	N/T	*	*	*	*
Pleasant	*	3.32	*	N/T	*	*	*	*
Tully	*	*	*	N/T	*	*	*	*
Harrison	*	*	*	N/T	*	*	*	0.06
Willshire	*	*	*	N/T	*	*	*	*
Liberty	*	*	*	N/T	*	*	*	*
York	*	*	*	N/T	*	*	*	0.07
Jennings	*	*	*	N/T	*	*	*	*
Ridge	*	*	*	N/T	*	*	*	*
Washington	*	*	*	N/T	*	*	*	*
Jackson	*	*	*	N/T	*	*	*	*
Hoaglin	*	*	*	N/T	*	*	*	*

Results in ppm

The samples collected in June 2006, contained some detectable levels of pesticides in the water. The pleasant Township reading might be in regards to the hydrant being sampled is the same one that is used for filling the sprayer.

Town Creek Pesticide Data 2006

Location	Date	Alachlor	Acetochlor	Atrazine	Carbofuran	Cyanazine	Fluchloralin	Metolachlor	Metribuzin	Pendimethalin	Propachlor	Simazine	Trifluralin
TC-1	Jun-06	*	*	3.5	*	*	*	0.8	*	*	*	*	*
TC-2	Jun-06	*	*	3.9	*	*	*	1.1	*	*	*	*	*
TC-3	Jun-06	*	*	2.1	*	*	*	0.5	*	*	0.8	*	*
TC-1	Nov-06	*	*	*	*	*	*	*	*	*	*	*	*
TC-2	Nov-06	*	*	*	*	*	*	*	*	*	*	*	*
TC-3	Nov-06	*	*	*	*	*	*	*	0.6	*	0.5	*	*

Only pesticides detected throughout the study are included

- \* = Sample was below the detection limit  
Sample results are in parts per million (ppm)

Comments:

Town Creek Pesticide samples for 2006 followed a similar pattern as previous years, with some pesticides present in the June samples, small traces in November. The concentrations found in the June 2006 samples are slightly above average with amounts of Atrazine, Metolachlor, and Propachlor were present. The November Samples however showed small concentrations of Metribuzin, and Propachlor. These concentrations might be the result of lower than normal levels of precipitation during the summer.

Total Nitrogen and Phosphorus 2006

Month	Nitrate (ppm)					Phosphate (ppm)				
	TC-1	TC-2	TC-3	TC-4	AVG.	TC-1	TC-2	TC-3	TC-4	AVG.
January	N/S	7.56	5.98	6.28	6.61	N/S	0.41	0.38	0.37	0.38
February	N/S	9.45	7.7	6.69	7.95	N/S	*	0.19	0.18	0.12
March	N/S	6.42	8.42	6.29	7.04	N/S	0.15	0.24	0.62	0.34
April	N/S	4.51	4.65	5.97	5.04	N/S	1.26	1.32	1.12	1.23
May	N/S	4.62	5.21	6.13	5.32	N/S	0.18	*	0.27	0.15
June	7.29	8.49	8.02	6.58	7.6	*	0.1	0.28	0.16	0.18
July	N/S	0.8	3.95	4.36	3.04	N/S	*	0.44	0.45	0.30
August	N/S	*	7.03	1.15	4.09	N/S	0.12	0.38	0.23	0.24
September	N/S	0.14	5.34	2.36	2.61	N/S	0.13	0.21	0.22	0.19
October	N/S	*	4.1	4.39	2.8	N/S	*	0.38	0.35	0.24
November	5.26	8.44	7.14	6.88	3.5	0.10	0.13	0.20	0.14	0.12
December	N/S	6.73	5.56	5.63	5.97	N/S	0.25	0.25	0.23	0.24

Nitrogen = nitrates + nitrites

Phosphorus=Total Phosphorus

N/S=Not sampled

Shaded boxes indicate values that exceed EPA's HAL of 10ppm Nitrogen.

Comments:

Nitrogen concentrations were average comparing to other years of the study. 2006 levels did not exceed the EPA's HAL.

Phosphorus concentrations throughout 2006 were about average compared to the last couple of years.

<b>2006</b>	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>
<b>24 Hours</b>	0.00	0.00	0.00	0.04	0.08	0.00	0.00	0.00	0.21	0.22	0.00	0.05
<b>48 Hours</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.08	0.00	0.00	0.00
<b>72 Hours</b>	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.27	0.00	0.00
<b>96 Hours</b>	0.00	0.00	0.00	0.17	0.00	0.00	0.00	1.85	0.02	0.00	0.68	0.00
<b>Totals</b>	0.00	0.45	0.00	0.21	0.08	0.00	0.15	1.85	0.99	0.49	0.68	0.05

Comments:

Rainfall data is reported because it may help explain pesticide and nutrient levels in Town Creek. High levels of precipitation can increase run-off and the amount of nitrogen, phosphorus and pesticides entering the stream.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Average
<b>January</b>	3.82	1.81	1.89	2.75	1.98	2.97	2.70	2.29	1.71	3.82	1.65	0.65	1.63	1.45	2.54	6.01	2.53	2.48
<b>February</b>	6.40	0.94	1.20	1.60	0.70	0.75	0.36	3.70	1.53	1.94	1.45	2.18	2.51	2.42	0.41	1.07	2.24	1.85
<b>March</b>	1.87	2.38	2.24	1.34	0.72	1.86	1.97	2.50	3.15	1.26	1.53	0.61	3.42	1.76	1.95	1.14	1.22	1.82
<b>April</b>	1.89	3.87	4.09	5.21	4.43	4.70	4.37	0.78	5.03	5.11	1.51	3.43	3.71	2.07	0.64	3.26	2.62	3.34
<b>May</b>	5.28	3.94	2.53	3.04	1.77	4.24	5.21	4.58	3.23	2.13	4.98	5.78	5.56	8.18	5.69	1.31	4.2	4.22
<b>June</b>	3.47	0.12	2.09	8.68	5.27	4.95	4.65	3.79	7.56	3.64	9.23	2.61	2.4	4.55	5.54	2.91	2.81	4.37
<b>July</b>	8.95	2.87	6.79	5.65	4.39	2.19	8.30	8.33	4.28	3.19	1.86	3.65	3.03	8.81	9.45	3.04	5.95	5.34
<b>August</b>	5.21	3.89	2.22	1.25	2.31	3.50	1.77	3.01	4.31	2.71	3.04	1.71	2.23	6.51	5.85	3.21	2.79	3.27
<b>September</b>	3.28	1.66	1.66	4.11	0.62	0.43	2.42	5.53	0.80	1.59	5.32	6.29	2.77	4.79	2.31	5.06	2.46	3.01
<b>October</b>	3.37	2.21	2.61	1.82	0.80	4.08	2.40	1.61	2.70	2.08	2.3	7.79	1.45	1.73	3.25	1.28	5.19	2.75
<b>November</b>	2.31	1.05	5.51	4.13	3.56	2.63	5.56	2.74	1.89	1.25	1.9	7.76	2.91	2.99	3.66	3.19	1.65	3.22
<b>December</b>	7.10	1.10	1.33	1.56	2.59	1.10	0.00	1.73	0.93	2.51	3.2	0.37	2.198	2.86	2.16	2.99	4.71	2.26
<b>total for year</b>	52.95	25.84	34.16	41.14	29.14	33.40	39.71	40.59	37.12	31.23	37.97	42.83	33.82	48.12	43.45	34.47	34.17	36.53