

# IOWA'S WATER

## Ambient Monitoring Program

### Water Quality Summary 2000-2005\*

Water Quality Parameter	Units	Number of Samples	Min Value	Percentiles					Max Value
				10th	25th	50th	75th	90th	
Acetochlor	µg/L	6,136	<0.1	<0.1	<0.1	<0.1	<0.1	0.17	21
Alachlor	µg/L	6,136	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	8.6
Ammonia (as N)	mg/L	6,305	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	5.7
Atrazine	µg/L	6,144	<0.1	<0.1	<0.1	<0.1	0.26	0.82	53
Butylate	µg/L	6,055	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbonaceous BOD (5 day)	mg/L	5,820	<2	<2	<2	<2	3	5	35
Chloride	mg/L	5,071	2.2	12	16	23	31	42	170
Chlorophyll a <sup>†</sup>	µg/L	5,049	<1	2	5	13	43	120	640
Chlorophyll b <sup>†</sup>	µg/L	5,049	<1	<1	<1	<1	<1	2	70
Chlorophyll c <sup>†</sup>	µg/L	5,049	<1	<1	<1	<1	2	8	66
Chlorophyll free of pheophytin	µg/L	845	<1	3	6	16	40	100	770
Corrected Chlorophyll a <sup>†</sup>	µg/L	5,046	<1	<1	3	10	36	110	620
Cyanazine	µg/L	6,055	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.3
Deethylatrazine	µg/L	6,055	<0.1	<0.1	<0.1	<0.1	<0.1	0.18	2.6
Deisopropylatrazine	µg/L	6,055	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.57
Dimethenamid	µg/L	5,283	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	4.4
Diss. Orthophosphate (as P)	mg/L	6,192	<0.1	<0.1	<0.1	<0.1	0.16	0.30	5.1
Dissolved Oxygen	mg/L	6,223	0.7	7.7	8.7	10.4	12.8	14.4	21
<i>E. coli</i> Bacteria	CFU/100 ml	6,363	<10	<10	20	100	380	2,100	960,000
Field pH	pH units	5,891	5.0	7.8	8.0	8.3	8.4	8.6	10.4
Field Temperature	Celsius	6,268	0.0	0.1	2.5	13.0	20.7	24.3	34.3
Flow**	CFS	5,207	<0.1	14	64	260	1,000	2,900	78,500
Metolachlor	µg/L	6,136	<0.1	<0.1	<0.1	<0.1	0.10	0.32	36
Metribuzin	µg/L	6,055	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.5
Nitrate+Nitrite (as N)	mg/L	6,306	<0.1	0.7	2.7	5.3	8.3	11	35
Pheophytin <sup>†</sup>	µg/L	5,049	<1	<1	1	3	9	19	204
Silica	mg/L	5,890	<1	4.4	8.1	12	16	20	190
Simazine	µg/L	5,777	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20
Specific Conductance	µmhos/cm	6,032	120	420	510	620	720	840	1,700
Sulfate	mg/L	4,833	2.8	21	27	39	63	99	400
Total Dissolved Solids	mg/L	5,911	25	250	300	360	440	510	1,640
Total Hardness (as CaCO <sub>3</sub> )	mg/L	5,784	18	200	240	300	360	410	820
Total Kjeldahl Nitrogen	mg/L	5,944	<0.1	0.3	0.5	0.8	1.3	2.1	28
Total Phosphorus	mg/L	6,303	<0.1	<0.1	0.10	0.20	0.37	0.64	26
Total Suspended Solids	mg/L	6,614	<1	3	7	25	73	170	17,000
Trifluralin	µg/L	6,055	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.35
Turbidity	NTU	6,269	<1	2.7	5.5	17	43	110	8,500

µg/L – micrograms per liter (parts per billion)

mg/L – milligrams per liter (parts per million)

CFU/100 ml – Colony Forming Units per 100 milliliters of water

CFS – Cubic Feet per Second (ft<sup>3</sup>/sec)

µmhos/cm – micromhos per centimeter

NTU – Nephelometric Turbidity Units

< – less than detection limit shown

\* Includes monthly and event samples for all stream sites.

\*\* Provisional data from the U.S. Geological Survey

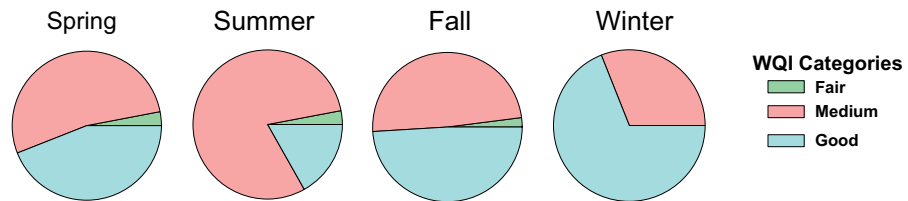
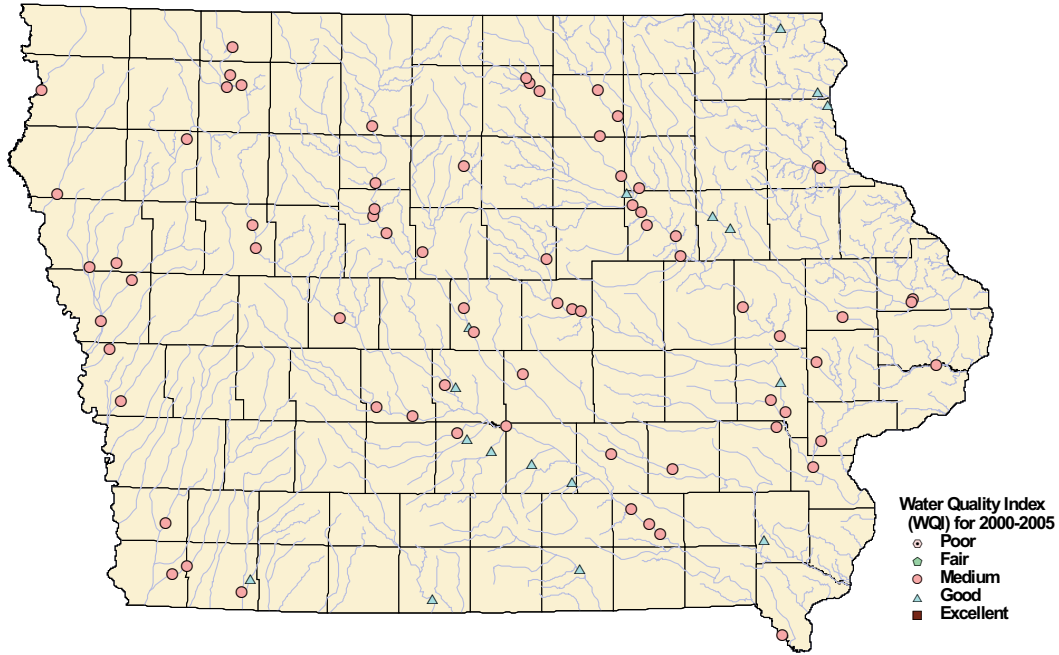
† Sampling discontinued in March 2005

A total of 80 stream sites were sampled monthly from 2000-2002. A total of 84 stream sites were sampled monthly from 2003-2005.

Raw data are available through STORET at [wqm.igsb.uiowa.edu/iastoret](http://wqm.igsb.uiowa.edu/iastoret)

## Water Quality Index for 2000-2005

In 1970, the National Sanitation Foundation developed the Water Quality Index (WQI), a standardized method for comparing the water quality of various water bodies. In Iowa, the WQI is calculated by using eight common water quality parameters (dissolved oxygen, fecal coliform bacteria, pH, 5-day BOD, total phosphorus, nitrate-nitrogen, turbidity, and total dissolved solids). Values range from 0 – 100 and streams are classified as **poor** (0-25), **fair** (25-50), **medium** (50-70), **good** (70-90), or **excellent** (90-100). WQIs were calculated on the streams monitored monthly as part of Iowa’s Ambient Water Monitoring Program. For 2000-2005, 81% of the streams had a WQI in the **medium** category while the remaining 19% were in the **good** category. (See map below.)



Streams in Iowa show seasonal WQI patterns. For the majority of streams, water quality is **medium** during the spring, followed by a decline in water quality during the summer months when even more streams fall from the **good** category into the **medium** and **fair** categories. During the fall, nearly half the streams exhibit medium water quality while the rest have **good** water quality. Water quality is at its best during the winter months, with nearly 69% of the streams classified as **good**. (See pie charts above.)



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