

# IOWA'S WATER

## Ambient Monitoring Program

### Water Quality Summary 2004\*

Water Quality Parameter	Units	Number of Samples	Min Value	Percentiles					Max Value
				10th	25th	50th	75th	90th	
Acetochlor	µg/L	1016	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	6.6
Alachlor	µg/L	1016	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22
Ammonia (as N)	mg/L	1038	<0.05	<0.05	<0.05	<0.05	0.05	0.24	1.6
Atrazine	µg/L	1000	<0.05	<0.05	<0.05	0.08	0.21	0.57	9.1
Butylate	µg/L	1001	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbonaceous BOD (5 day)	mg/L	1016	<2	<2	<2	<2	3	5	35
Chloride	mg/L	1001	2.2	11	16	23	30	40	120
Chlorophyll a	µg/L	1038	<1	2	5	12	36	110	420
Chlorophyll b	µg/L	1038	<1	<1	<1	<1	2	7	39
Chlorophyll c	µg/L	1038	<1	<1	<1	<1	<1	2	39
Corrected Chlorophyll a	µg/L	1038	<1	<1	3	9	30	92	400
Cyanazine	µg/L	1001	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13
Deethylatrazine	µg/L	1001	<0.05	<0.05	<0.05	<0.05	0.08	0.13	1.7
Deisopropylatrazine	µg/L	1001	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.42
Dimethenamid	µg/L	1016	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.57
Diss. Orthophosphate (as P)	mg/L	1043	<0.02	<0.02	0.04	0.09	0.17	0.32	5.1
Dissolved Oxygen	mg/L	1018	0.9	7.6	8.6	10.5	12.5	14.4	21
<i>E. coli</i> Bacteria	CFU/100 ml	1058	<10	10	30	140	560	2,200	180,000
Enterococci Bacteria <sup>†</sup>	CFU/100 ml	641	<10	<10	30	130	520	2,800	94,000
Fecal Coliform Bacteria <sup>†</sup>	CFU/100 ml	641	<10	<10	27	130	770	3,000	190,000
Field pH	pH units	1026	6.9	7.7	8.0	8.2	8.4	8.6	10.4
Field Temperature	Celsius	1032	0.0	0.1	3.4	12.1	19.2	22.9	30.4
Flow <sup>**</sup>	CFS	877	1	41	130	450	1,550	4,400	78,500
Metolachlor	µg/L	1016	<0.05	<0.05	<0.05	<0.05	0.10	0.25	2.5
Metribuzin	µg/L	1001	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11
Nitrate+Nitrite (as N)	mg/L	1038	<0.1	1.6	3.4	5.7	9.0	12.0	35.0
Pheophytin	µg/L	1038	<1	<1	2	3	7	16	97
Silica	mg/L	1036	<1	5.2	8.4	12.0	16.0	20.0	29.0
Simazine	µg/L	1001	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07
Specific Conductance	µmhos/cm	1036	150	400	500	600	700	820	1,500
Sulfate	mg/L	1001	2.8	20	27	38	62	100	280
Total Dissolved Solids	mg/L	1036	25	250	300	350	430	510	1,000
Total Hardness (as CaCO <sub>3</sub> )	mg/L	1001	70	200	240	300	350	410	820
Total Kjeldahl Nitrogen	mg/L	1037	<0.05	4.0	0.6	0.9	1.4	2.1	15
Total Phosphorus	mg/L	1038	<0.02	0.06	0.11	0.21	0.36	0.63	6.3
Total Suspended Solids	mg/L	1073	<1	4	10	37	95	230	5,500
Trifluralin	µg/L	1001	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09
Turbidity	NTU	1036	1	2.7	6.0	19.0	49.0	120	4,200

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

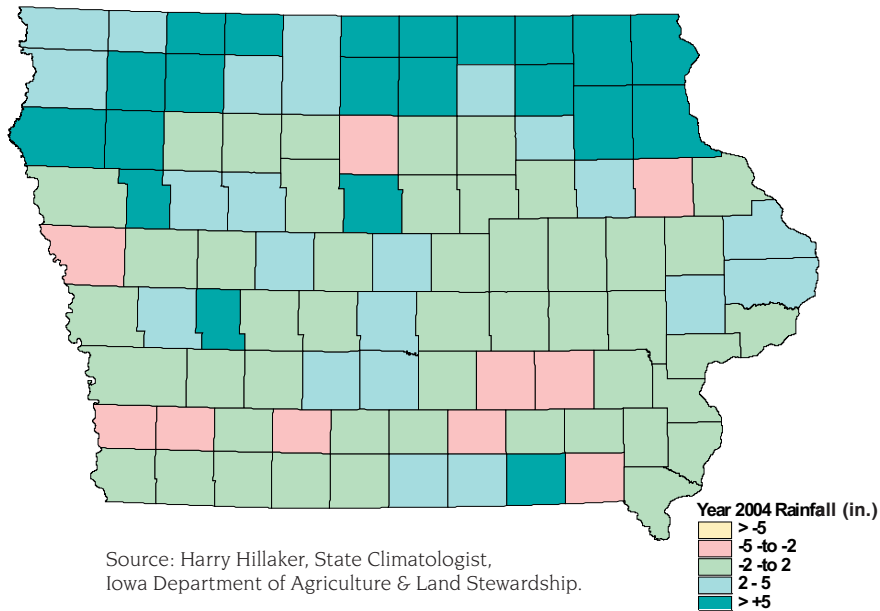
\* Includes monthly and event samples for all stream sites.

\*\* Provisional data from the USGS

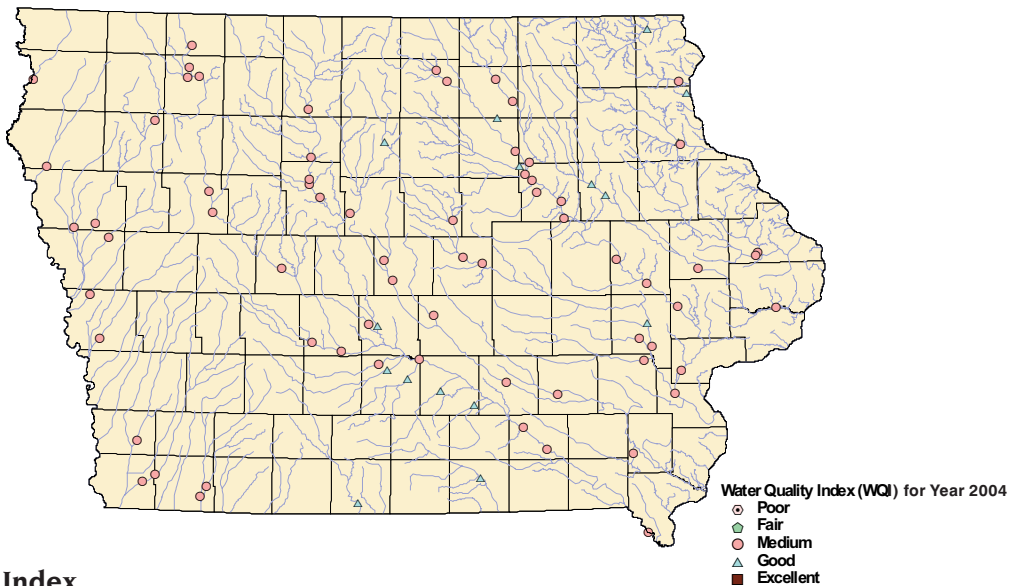
† Sampling discontinued in August 2004

A total of 85 stream sites were sampled monthly.

## Departure from Long-term Average Annual Rainfall



Source: Harry Hillaker, State Climatologist,  
Iowa Department of Agriculture & Land Stewardship.



## Water Quality Index

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 2004, 81% of the streams had a WQI in the **medium** category while the remaining 19% were in the **good** category.



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