

IOWA'S WATER

Ambient Monitoring Program

Water Quality Summary 2007*

Water Quality Parameter	Units	Number of Samples	Min Value	Percentiles					Max Value
				10th	25th	50th	75th	90th	
Ammonia (as N)	mg/L	912	<0.05	<0.05	<0.05	<0.05	<0.05	0.18	1.6
Carbonaceous BOD (5 day)	mg/L	900	<2	<2	<2	<2	<2	4	14
Chloride	mg/L	911	6	12	17	21	26	32	79
Chlorophyll free of pheophytin	µg/L	900	<1	2	4	8	25	64	420
Diss. Orthophosphate (as P)	mg/L	911	<0.02	0.03	0.06	0.10	0.15	0.24	3.1
Dissolved Oxygen	mg/L	876	4.0	7.9	8.7	10.6	13.2	14.2	19.8
<i>E. coli</i> Bacteria	CFU/100 ml	908	<10	10	43	170	600	3,600	390,000
Field pH	pH units	900	6.4	7.8	8.0	8.2	8.4	8.5	9.1
Field Temperature	Celsius	900	0.0	0.1	1.5	12.6	20.7	25.4	29.6
Flow**	CFS	788	4	82	250	625	2,150	6,100	45,000
Nitrate+Nitrite (as N)	mg/L	912	<0.05	2.0	4.9	7.4	9.7	13	20
Silica	mg/L	900	<1	10	12	16	20	23	32
Specific Conductance	µmhos/cm	900	190	430	510	610	710	800	1,200
Sulfate	mg/L	899	6.5	19	24	30	48	83	330
Total Dissolved Solids	mg/L	910	110	260	300	360	430	490	780
Total Hardness (as CaCO ₃)	mg/L	900	81	190	250	305	370	420	690
Total Kjeldahl Nitrogen	mg/L	912	<0.1	0.4	0.5	0.8	1.2	1.8	7.7
Total Phosphorus	mg/L	912	<0.05	0.09	0.13	0.20	0.33	0.54	5.4
Total Suspended Solids	mg/L	913	<1	6	17	45	110	290	6,300
Turbidity	NTU	900	<1.0	3.4	8.8	23	53	130	2,600

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 (ft³/sec)

µmhos/cm – micromhos per centimeter

NTU – Nephelometric Turbidity Units

< – less than detection limit shown

BOD – Biological Oxygen Demand; Diss. – Dissolved

* Includes monthly samples for all stream sites.

** Provisional data from the U.S. Geological Survey and University of Iowa Hygienic Laboratory

A total of 75 stream sites were sampled monthly.

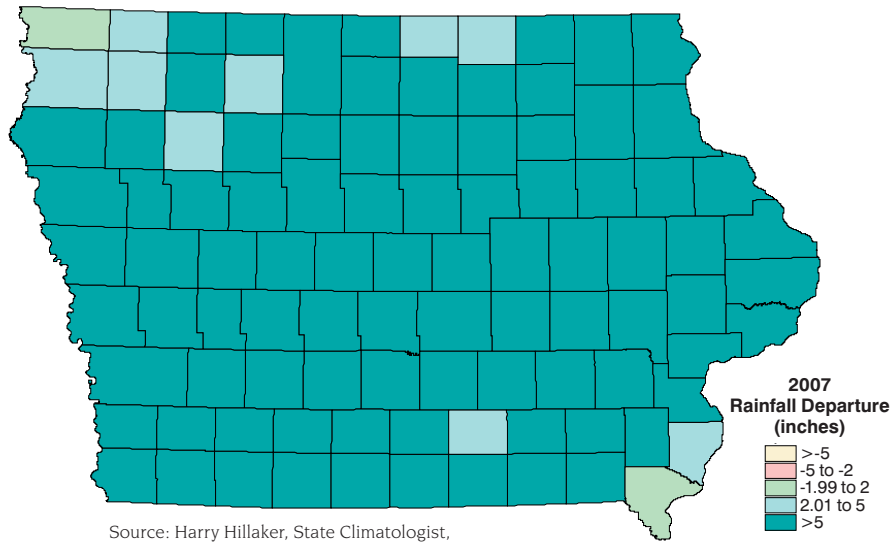
Raw data are available through STORET at wqm.igsb.uiowa.edu/iastoret

Because of budgetary constraints, sampling for the pesticides acetochlor, alachlor, atrazine, butylate, cyanazine, deethylatrazine, deisopropylatrazine, dimethenamid, metolachlor, metribuzin, simazine, and trifluralin was discontinued in December 2006.

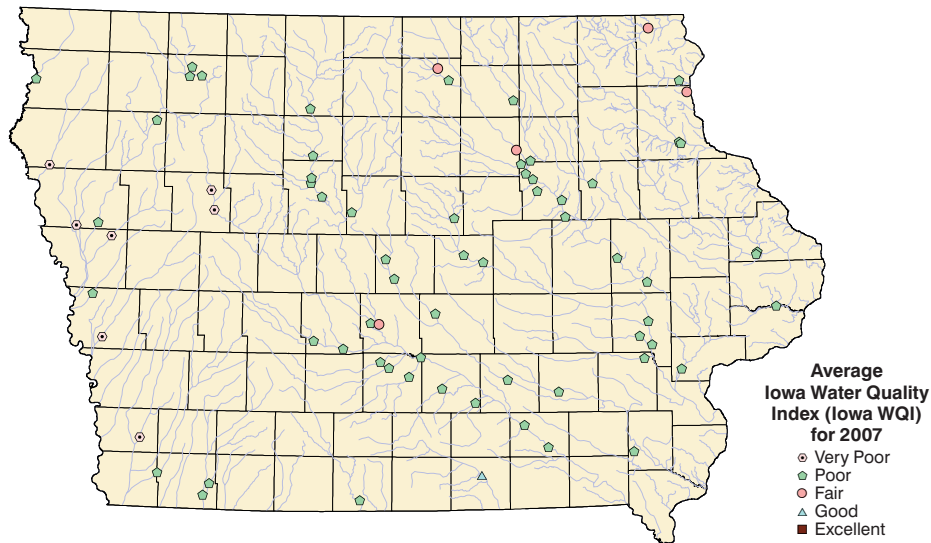
Several sites monitored in 2006 were not monitored in 2007 for various reasons. Sites not sampled in 2007 include the Wapsipinicon River downstream of Independence, Cedar River upstream of Charles City, East Nishnabotna River downstream of Shenandoah, North Raccoon River near Jefferson, Wapsipinicon River near Olin, Des Moines River near Keokuk, Iowa River near Rowan, Cedar River at Cedar Bluff, and Iowa River at Columbus Junction.

Note: This summary only includes stream sites monitored as part of the fixed monthly network. Additional stream sites throughout Iowa are also monitored, but are not included in this summary, since their sampling frequency and parameters vary from the fixed network.

Departure from Long-Term Average Annual Rainfall



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



Iowa Water Quality Index

In 2005, the Iowa Department of Natural Resources developed the Iowa Water Quality Index (WQI), a standardized method for comparing the water quality of various water bodies across the state. The Iowa WQI rates water quality using the following nine parameters: biological oxygen demand, dissolved oxygen, *E. coli* bacteria, nitrate+nitrite as nitrogen, total detected pesticides, pH, total phosphorus, total dissolved solids, and total suspended solids. If a result is missing for any of these parameters, the IWQI assigns a default value for the missing parameters. Values range from 0 – 100 and streams are classified as **very poor** (0 – 25), **poor** (25.1 – 50), **fair** (50.1 – 70), **good** (70.1 – 90), and **excellent** (90.1 – 100). For 2007, 0% of the monthly stream WQI values were in the **excellent** category, 3% were **good**, 30% were **fair**, 45% were **poor**, and 22% were **very poor**. (See map above for average WQI value for each site.) Water quality is affected by rainfall. For 2007, rainfall was 5 inches or more above normal for most of Iowa (see map above).



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