Iowa Department of Natural Resources

Leading Iowans in caring for our natural resources

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Stream Water Quality Summary 2013

Water Quality Parameter	Units	Number of Samples	Min Value	Percentiles					Max Value
				10th	25th	50th	75th	90th	
Acetochlor	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	3.8
Alachlor	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia (as N)	mg/L	900	<0.05	<0.05	<0.05	<0.05	0.06	0.35	1.9
Atrazine	µg/L	900	<0.1	<0.1	<0.1	<0.1	0.2	0.5	7.2
Butylate	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbonaceous BOD (5 day)	mg/L	900	<2	<2	<2	<2	2	5	16
Chloride	mg/L	900	<1	11	16	22	34	59	180
Chlorophyll free of pheophytin	µg/L	900	<1	2	4	10	29	76	550
Cyanazine	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Deethylatrazine	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5
Deisopropylatrazine	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Dimethenamid	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9
Diss. Orthophosphate (as P)	mg/L	899	<0.02	<0.02	0.03	0.09	0.19	0.45	9.5
Dissolved Oxygen	mg/L	900	3.4	7.9	8.8	10.7	12.6	14.2	20.3
E.coli Bacteria	MPN/100 ml	898	<10	10	20	97	370	1,330	61,000
Field pH	pH units	900	7.1	7.6	7.8	8.1	8.3	8.5	9.3
Field Temperature	Celsius	900	0	0.2	1.6	10.5	18.9	23.9	29.7
Flow*	CFS	729	0.2	12	51	240	1,000	3,920	45,000
Metolachlor	µg/L	900	<0.1	<0.1	<0.1	<0.1	0.1	0.4	5.1
Metribuzin	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Nitrate+Nitrite (as N)	mg/L	900	<0.1	0.36	1.8	3.7	7.6	14	39
Simazine	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Sulfate	mg/L	900	6.8	19	27	42	78	120	410
Total Dissolved Solids	mg/L	900	120	250	300	355	430	530	1,200
Total Hardness (as $CaCO_3$)	mg/L	900	81	180	230	280	330	380	670
Total Kjeldahl Nitrogen	mg/L	900	<0.1	0.2	0.4	0.7	1.1	1.8	5.3
Total Phosphorus	mg/L	900	<0.02	0.05	0.1	0.19	0.36	0.64	9.5
Total Suspended Solids	mg/L	900	<1	3	7	22	64	150	7,880
Trifluralin	µg/L	900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Turbidity	NTU	900	<1	2	4.2	12	33	77	720

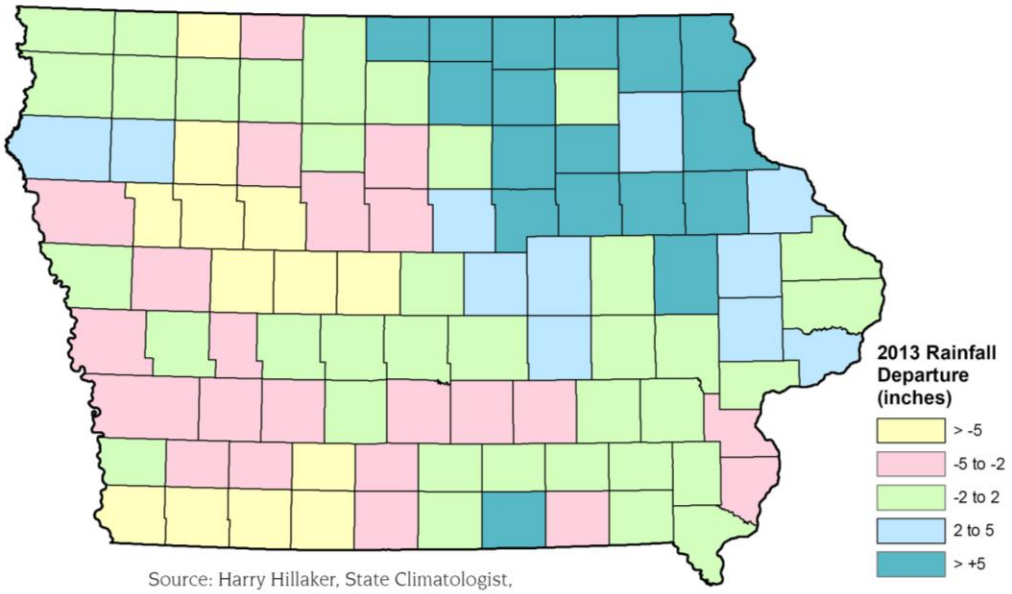
µg/L – micrograms per liter (parts per billion)
mg/L – milligrams per liter (parts per million)
MPN/100 ml – Most Probable Number/100 milliliters of water
CFS – Cubic Feet per Second (ft^3/sec)
µmhos/cm – micromhos per centimeter
NTU – Nephelometric Turbidity Units
< – less than detection limit shown
BOD – Biological Oxygen Demand
Diss. – Dissolved

* Includes monthly samples for partial stream sites for January, February, and March. Provisional data from the U.S. Geological Survey

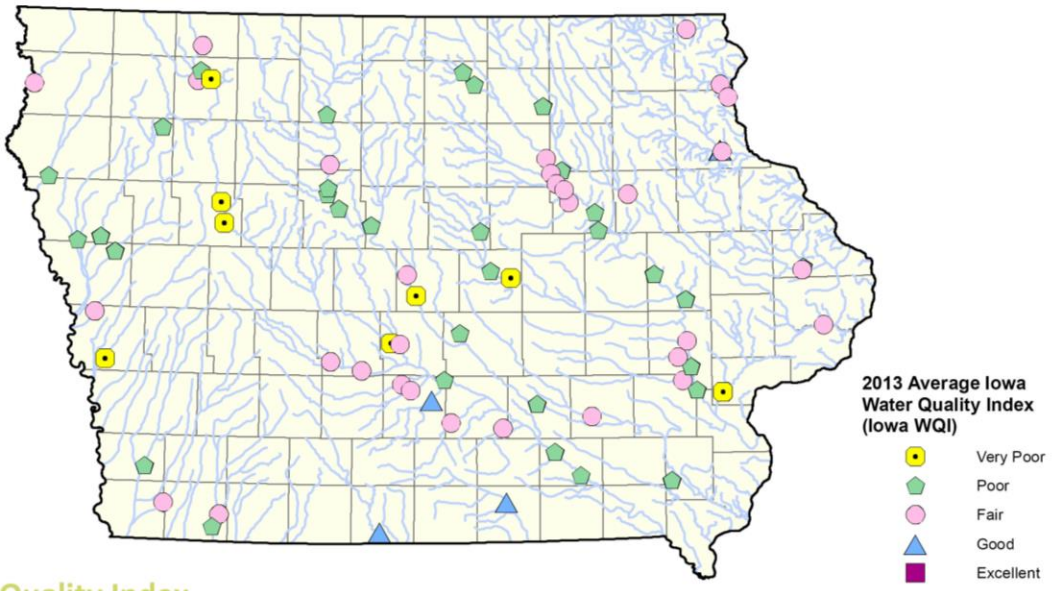
A total of 75 stream sites were sampled monthly.

Raw data are available through IASTORET at https://programs.iowadnr.gov/iastoret/

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 Iowa WQI 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 2013, 3% of the monthly stream WQI values were in the **excellent** category, 23% were **good**, 20% were **fair**, 33% were **poor**, and 21% were **very poor**. (See map above for average WQI rank for each site.) Water quality is affected by rainfall. For 2013, on average, rainfall was **0.1** inches above normal per county (see map above).