Water Quality Summary 2007*

<table>
<thead>
<tr>
<th>Water Quality Parameter</th>
<th>Units</th>
<th>Number of Samples</th>
<th>Min Value</th>
<th>Percentiles</th>
<th>10th</th>
<th>25th</th>
<th>50th</th>
<th>75th</th>
<th>90th</th>
<th>Max Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia (as N)</td>
<td>mg/L</td>
<td>912</td>
<td>&lt;0.05</td>
<td>&lt;0.05</td>
<td>&lt;0.05</td>
<td>&lt;0.05</td>
<td>0.18</td>
<td>1.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbonaceous BOD (5 day)</td>
<td>mg/L</td>
<td>900</td>
<td>&lt;2</td>
<td>&lt;2</td>
<td>&lt;2</td>
<td>&lt;2</td>
<td>4</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td>mg/L</td>
<td>911</td>
<td>6</td>
<td>12</td>
<td>17</td>
<td>21</td>
<td>26</td>
<td>32</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Chlorophyll free of pheophytin</td>
<td>µg/L</td>
<td>900</td>
<td>&lt;1</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>25</td>
<td>64</td>
<td>420</td>
<td></td>
</tr>
<tr>
<td>Diss. Orthophosphate (as P)</td>
<td>mg/L</td>
<td>911</td>
<td>&lt;0.02</td>
<td>0.03</td>
<td>0.06</td>
<td>0.10</td>
<td>0.15</td>
<td>0.24</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>mg/L</td>
<td>876</td>
<td>4.0</td>
<td>7.9</td>
<td>8.7</td>
<td>10.6</td>
<td>13.2</td>
<td>14.2</td>
<td>19.8</td>
<td></td>
</tr>
<tr>
<td>E.coli/ Bacteria</td>
<td>CFU/100 ml</td>
<td>908</td>
<td>&lt;10</td>
<td>10</td>
<td>43</td>
<td>170</td>
<td>600</td>
<td>3,600</td>
<td>390,000</td>
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<tr>
<td>Field pH</td>
<td>pH units</td>
<td>900</td>
<td>6.4</td>
<td>7.8</td>
<td>8.0</td>
<td>8.2</td>
<td>8.4</td>
<td>8.5</td>
<td>9.1</td>
<td></td>
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<tr>
<td>Field Temperature</td>
<td>Celsius</td>
<td>900</td>
<td>0.0</td>
<td>0.1</td>
<td>1.5</td>
<td>12.6</td>
<td>20.7</td>
<td>25.4</td>
<td>29.6</td>
<td></td>
</tr>
<tr>
<td>Flow**</td>
<td>CFS</td>
<td>788</td>
<td>4</td>
<td>82</td>
<td>250</td>
<td>625</td>
<td>2,150</td>
<td>6,100</td>
<td>45,000</td>
<td></td>
</tr>
<tr>
<td>Nitrate+Nitrite (as N)</td>
<td>mg/L</td>
<td>912</td>
<td>&lt;0.05</td>
<td>2.0</td>
<td>4.9</td>
<td>7.4</td>
<td>9.7</td>
<td>13</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Silica</td>
<td>mg/L</td>
<td>900</td>
<td>&lt;1</td>
<td>10</td>
<td>12</td>
<td>16</td>
<td>20</td>
<td>23</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Specific Conductance</td>
<td>µmhos/cm</td>
<td>900</td>
<td>190</td>
<td>430</td>
<td>510</td>
<td>610</td>
<td>710</td>
<td>800</td>
<td>1,200</td>
<td></td>
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<tr>
<td>Sulfate</td>
<td>mg/L</td>
<td>899</td>
<td>6.5</td>
<td>19</td>
<td>24</td>
<td>30</td>
<td>48</td>
<td>83</td>
<td>330</td>
<td></td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>mg/L</td>
<td>910</td>
<td>110</td>
<td>260</td>
<td>300</td>
<td>360</td>
<td>430</td>
<td>490</td>
<td>780</td>
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</tr>
<tr>
<td>Total Hardness (as CaCO₃)</td>
<td>mg/L</td>
<td>900</td>
<td>81</td>
<td>190</td>
<td>250</td>
<td>305</td>
<td>370</td>
<td>420</td>
<td>690</td>
<td></td>
</tr>
<tr>
<td>Total Kjeldahl Nitrogen</td>
<td>mg/L</td>
<td>912</td>
<td>&lt;0.1</td>
<td>0.4</td>
<td>0.5</td>
<td>0.8</td>
<td>1.2</td>
<td>1.8</td>
<td>7.7</td>
<td></td>
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<tr>
<td>Total Phosphorus</td>
<td>mg/L</td>
<td>912</td>
<td>&lt;0.05</td>
<td>0.09</td>
<td>0.13</td>
<td>0.20</td>
<td>0.33</td>
<td>0.54</td>
<td>5.4</td>
<td></td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
<td>913</td>
<td>&lt;1</td>
<td>6</td>
<td>17</td>
<td>45</td>
<td>110</td>
<td>290</td>
<td>6,300</td>
<td></td>
</tr>
<tr>
<td>Turbidity</td>
<td>NTU</td>
<td>900</td>
<td>&lt;1.0</td>
<td>3.4</td>
<td>8.8</td>
<td>23</td>
<td>53</td>
<td>130</td>
<td>2,600</td>
<td></td>
</tr>
</tbody>
</table>

**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](http://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.
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 very poor category, 3% were poor, 30% were fair, 45% were good, and 22% were poor. For 2007, rainfall was 5 inches or more above normal for most of Iowa (see map above).

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