



2012 Water Quality Integrated Report

Nebraska Department of Environmental Quality

Water Quality Division

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1.0 Introduction

Section 303(d) of the federal Clean Water Act (CWA), which Congress enacted in 1972, requires states, territories, and authorized tribes (states) to identify and establish a priority ranking for all waterbodies where technology-based effluent limitations required by section 301 are not stringent enough to attain and maintain applicable water quality standards. Once identified, states are to establish total maximum daily loads (TMDLs) for the pollutants causing impairment in those waterbodies, and submit, from time to time, the (revised) list of impaired waterbodies and TMDLs to the U.S. Environmental Protection Agency (EPA). The requirements to identify and establish TMDLs apply to all waterbodies regardless of whether a waterbody is impaired by point sources, nonpoint sources, or a combination of both (*Pronsolino v. Marcus*, 2000 WL 356305 (N.D. Cal. March 30, 2000)).

EPA issued regulations governing identification of impaired waterbodies and establishment of TMDLs in 40 CFR 130.7 in 1985 and revised them in 1992 and again in 2000. However, on March 19, 2003, a final rule to formally and completely withdraw the 2000 regulations was published in the *Federal Register*. Therefore, the 2012 listing of impaired waters will be conducted under the 1985 TMDL regulations, as amended in 1992.

Section 305(b) of the CWA directs states to prepare a report every two (2) years that describes the status and trends of existing water quality, the extent to which designated uses are supported, pollution problems and sources, and the effectiveness of the water pollution control programs.

Section 314 of the CWA requires that each Section 305(b) submittal include an assessment of water quality trends of public owned lakes including the extent of point and nonpoint source impacts due to toxics, conventional pollutants, and acidification.

On May 09, 2009, EPA issued guidance for the 2010 waterbody assessments and reporting requirements for Section 303(d), Section 305(b), and Section 314 of the Clean Water Act. The final product is again being referred to as an “Integrated Report”. EPA’s goal for this report is to provide the general public with a comprehensive summary of state and national water quality. The NDEQ has opted to prepare such a report not only for the general public but also for water quality management planning purposes (e.g. future monitoring, TMDL development, best management practice implementation).

To facilitate the waterbody assessment process and accommodate the above recognized needs, the Department prepared and utilized the *Methodologies for Waterbody Assessment and Developing the 2012 Integrated Report for Nebraska* (available on NDEQ’s website at www.deq.state.ne.us/). These procedures lay out the step-by-step process that was undertaken to characterize surface waterbodies.

2.0 Surface Water Waterbody Categories

Similar to the previous Integrated Reports (IR), the 2012 IR includes multiple categories of waterbodies to present information in a descriptive and comprehensive manner. The designated uses of waterbodies is explained in Section 5. The five waterbody categories are as follows:

Category 1 – Waterbodies where all designated uses are met.

Category 2 – Waterbodies where some of the designated uses are met but there is insufficient information to determine if all uses are being met.

Category 3 – Waterbodies where there is insufficient data to determine if any beneficial uses are being met.

Category 4 – Waterbody is impaired, but a TMDL is not needed. Sub-categories 4A, 4B, 4C and 4R outline the rationale for the waters not needing a TMDL:

Category 4A – Waterbody assessment indicates the waterbody is impaired, but all of the required TMDLs have been completed.

Category 4B – Waterbody is impaired, but “other pollution control requirements” are expected to address the water quality impairment(s) within a reasonable period of time. Other pollution control requirements include but are not limited to, National Pollutant Discharge Elimination System (NPDES) permits and best management practices.

Category 4C – Waterbody is impaired but the impairment is not caused by a pollutant. This category also includes waters where natural causes/sources have been determined to be the cause of the impairment. In general, natural causes/sources shall refer to those pollutants that originate from landscape geology and climactic conditions. It should be noted, this general description does not exclude parameters and can be utilized when appropriate justification is provided.

Category 4R – Waterbody data exceeds the impairment threshold, however a TMDL may not be needed. The category will only be used for nutrient assessments in new or renovated lakes and reservoirs. Newly filled reservoirs usually go through a period of trophic instability – a trophic upsurge followed by the trophic decline (Holdren, et. al. 2001). Erroneous or non representative water quality assessments are likely to occur during this period. To account for this, all new or renovated reservoirs will be placed in this category for a period not to exceed eight years following the fill or re-fill process. After the eighth year monitoring data will be assessed and the waterbody will be appropriately placed into category 1, 2, or 5.

Category 5 – Waterbodies where one or more beneficial uses are determined to be impaired by one or more pollutants and all of the TMDLs have not been developed. **Category 5 waters constitute the Section 303(d) list subject to EPA approval/disapproval.**

3.0 Surface Water Data Sources

40 CFR Part 130.7 requires that “each state assemble and evaluate all existing and readily available water quality related data and information” to make the listing and assessment decisions. To facilitate this requirement, data was requested via email on June 20, 2011 from numerous sources, including federal, state and local agencies and other entities. A copy of the data request email will be submitted to EPA Region 7 as an attachment to this Integrated Report.

4.0 Surface Water Assessment Outcomes and Interpretation

Based on the procedures cited above, a waterbody beneficial use assessment can have one of four outcomes:

S = Supported Beneficial Use

I = Impaired Beneficial Use

NA = Not assessed

A blank cell in the tables will indicate the beneficial use is not assigned to this waterbody in Title 117-Nebraska’s Surface Water Quality Standards.

The format of the Integrated Report is set to allow the user to navigate through a river basin, similar to the tables found in Title 117 – Nebraska Surface Water Quality Standards. The tables list the waterbody identification number, name, and applicable beneficial uses.

5.0 Surface Water Waterbody Beneficial Uses

Beneficial uses are assigned to all designated surface waters within or bordering the State and descriptions of each can be found in Title 117 – Nebraska Surface Water Quality Standards (Title 117), Chapter 4. All uses are not assigned to all waters and use attainability analyses are utilized on a waterbody by waterbody basis to determine whether or not the use(s) are applicable. The beneficial uses defined by Title 117 are:

- Primary Contact Recreation
- Aquatic Life – Coldwater A, Coldwater B, Warmwater A and Warmwater B
- Water Supply – Public Drinking Water, Agriculture and Industrial
- Aesthetics

Title 117 includes 1558 designated stream segments and 528 lakes/impounded waters. Table 5a presents the beneficial use totals by river basin for streams and 5b presents the beneficial use totals by river basin for the lakes/impounded waters.

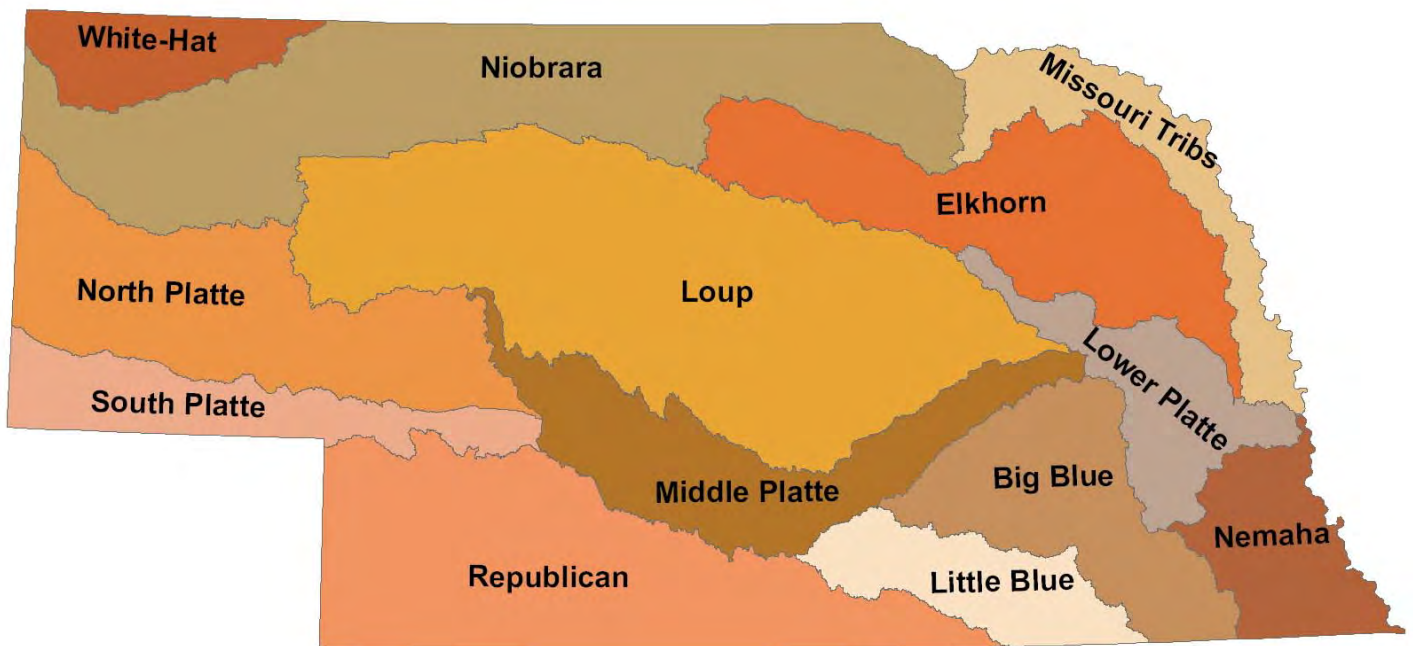


Figure 1. Nebraska's Major River Basins. Nebraska's surface water quality assessments are organized by major river basin.

Table 5a – Beneficial Use Totals for Streams

	Big Blue	Elkhorn	Little Blue	Loup	Lower Platte	Middle Platte	Missouri Tributaries	Nemaha	Niobrara	North Platte	Republican	South Platte	White River-Hat Creek	Total Segments
Total Segments	63	135	38	107	126	29	136	326	269	136	102	28	63	1558
Primary Contact Recreation	10	23	6	37	16	13	21	20	53	42	33	16	18	308
Aquatic Life – Coldwater Class A	0	0	0	0	0	0	0	0	14	21	0	1	15	51
Aquatic Life – Coldwater Class B	0	1	0	36	1	3	3	0	164	79	19	13	36	355
Aquatic Life – Warmwater Class A	16	38	14	26	13	12	15	40	15	7	24	11	1	232
Aquatic Life – Warmwater Class B	47	96	24	45	112	14	118	286	76	29	59	3	11	920
Water Supply – Public Drinking Water	0	0	1	0	2	1	2	2	0	0	0	0	7	15
Water Supply – Industrial	0	0	0	0	1	1	1	1	1	1	0	4	0	10
Water Supply – Agriculture Class A	63	135	38	107	120	29	136	326	269	136	102	28	63	1553
Water Supply – Agriculture Class B	0	0	0	0	6	0	0	0	0	0	0	0	0	5
Aesthetics	63	135	38	107	126	29	136	326	269	136	102	28	63	1558
Total														1558

Table 5b – Beneficial Use Totals for Lakes/Reservoirs

	Big Blue	Elkhorn	Little Blue	Loup	Lower Platte	Middle Platte	Missouri Tributaries	Nemaha	Niobrara	North Platte	Republican	South Platte	White River-Hat Creek	Total Lakes
Total Lakes	31	31	13	47	75	95	29	33	64	48	20	13	27	526
Primary Contact Recreation	31	31	13	47	75	95	29	33	64	48	20	13	27	526
Aquatic Life – Coldwater Class A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aquatic Life – Coldwater Class B	0	0	0	1	1	0	0	0	2	3	1	1	14	23
Aquatic Life – Warmwater Class A	31	31	13	46	74	95	29	33	63	45	19	12	13	505
Aquatic Life – Warmwater Class B	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Supply – Public Drinking Water	0	0	3	0	0	0	1	0	0	0	0	0	0	4
Water Supply – Industrial	0	0	0	0	2	2	1	0	2	1	0	2	0	10
Water Supply – Agriculture Class A	31	31	13	47	75	95	29	33	64	48	20	13	27	526
Water Supply – Agriculture Class B	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics	31	31	13	47	75	95	29	33	64	48	20	13	27	526
Total														526

6.0 Surface Water Waterbody Assessment Results

The results of the assessments by river basin and the state as a whole can be found in Table 6a for stream segments and 6b for lakes/reservoirs. As well, table 6c provides a summary of the monitoring and assessment activities for the number and sizes of waterbodies designated in Title 117.

Table 6a –Summary of 2012 Assessments for Streams

Basin	Category 1	Category 2	Category 3	Category 4A	Category 4B	Category 4C	Category 5	Basin Total
Big Blue	0	16	31	0	0	0	16	63
Elkhorn	0	14	97	4	0	5	20	135
Little Blue	0	5	24	0	0	0	9	38
Loup	7	11	64	11	0	3	11	107
Lower Platte	3	18	74	3	1	7	20	126
Middle Platte	4	3	14	2	0	0	6	29
Missouri Tributaries	3	19	87	4	0	1	22	136
Nemaha	4	27	275	3	0	0	17	326
Niobrara	5	20	226	7	0	0	11	269
North Platte	1	16	100	4	0	4	11	136
Republican	5	11	54	5	0	1	26	102
South Platte	1	9	11	0	1	0	6	28
White-Hat	3	10	46	1	0	0	3	63
Total	34	187	1128	43	1	17	148	1558

Table 6b – Summary of 2012 Assessments for Lakes/reservoirs

Basin	Category 1	Category 2	Category 3	Category 4A	Category 4B	Category 4C	Category 4R	Category 5	Basin Total
Big Blue	0	8	7	1	0	0	0	15	31
Elkhorn	0	3	23	0	0	0	2	3	31
Little Blue	0	3	1	0	0	0	0	9	13
Loup	0	7	31	0	0	0	1	8	47
Lower Platte	1	21	20	0	0	0	5	28	75
Middle Platte	1	18	63	0	0	0	0	13	95
Missouri Tributaries	0	8	7	0	0	0	1	13	29
Nemaha	0	10	16	0	0	0	0	7	33
Niobrara	0	18	35	0	0	1	0	10	64
North Platte	1	7	32	0	0	2	1	5	48
Republican	0	4	5	0	0	0	1	10	20
South Platte	2	2	2	0	0	1	0	6	13
White-Hat	0	3	19	0	0	0	0	5	27
Total	5	112	261	1	0	4	11	132	526

Table 6c – Statewide Monitoring and Assessment Summary for 2012

<i>Streams</i>	Number of Segments	Percentage of Total Segments	Size Stream = miles, Lakes = acres	Percentage of Total Size
Total	1,548		16,212	
Category 1	36	2%	859	5%
Category 2	179	12%	2,371	15%
Category 3	1,103	71%	7,271	45%
Category 4A	34	2%	1,327	8%
Category 4B	2	0.13%	97	1%
Category 4C	16	1%	259	2%
Category 5	178	11%	4,029	25%
Assessed	445	29%	8,941	55%
Lakes				
Total	528		148,920	
Category 1	6	1%	5,632	4%
Category 2	114	22%	13,487	9%
Category 3	260	49%	11,930	8%
Category 4A	1	0.19%	74	.05%
Category 4B	0	0%	0	0%
Category 4C	3	.57%	604	.41%
Category 4R	11	2%	1,687	1%
Category 5	126	24%	106,640	72%
Assessed	261	49%	140,054	94%

7.0 Completed TMDLs and TMDLs Targeted for Completion in Next Two Years

Section 303(d) of the CWA required that TMDLs be established for all identified impaired waters and set at a level to achieve the applicable water quality standards and assigned beneficial uses. Over the last several listing cycles the Department has made significant progress in the preparation and completion of the necessary TMDLs. Table 7 provides a listing of the completed TMDLs within each river basin.

As required by 40 CFR Part 130.7, the TMDLs targeted for development within the next two years include all waterbodies in the North Platte, South Platte, White-Hat, and Republican basins. TMDLs may also be completed for additional waterbodies not in these basins in order to accompany Section 319 or other water quality improvement projects and as prioritized by the department.

Table 7 – Waterbodies with Established/Approved TMDLs

River Basin	Stream TMDLs	Lake/Reservoir TMDLs	Total
Big Blue	3	2	5
Elkhorn	9	0	9
Little Blue	12	0	12
Loup	14	0	14
Lower Platte	13	18	31
Middle Platte	4	1	5
Missouri Tributaries	6	5	11
Nemaha	12	3	15
Niobrara	8	0	8
North Platte	21	1	22
Republican	5	0	5
South Platte	0	0	0
White-Hat	1	0	1
Total	108	30	138

8.0 Surface Water Quality Trends

8.1 Streams and Rivers

In 2001, the Department re-established a fixed station ambient network whereby several streams across the state would be systematically monitored. In 2002, the network was expanded by the inclusion of additional monitoring locations.

Stream monitoring locations can be segregated into one of two categories; basin *integrator* sites and basin *indicator* sites. Basin integrator sites are chosen to represent water-quality conditions of rivers and streams in large heterogeneous basins that are affected by complex combinations of land use settings and natural and human influences. Only one basin integrator site shall be selected for each major river basin. Basin indicator sites are those sites selected to characterize one or more factors influencing water quality such as significant point and non-point sources. A consideration given to site selection is the presence of a stream gauging station.

In 2004, the frequency of sampling was increased from once per month to twice per month during the months of April through September. The increase was aimed at obtaining data across the hydrograph.

For the purposes of evaluating trends in stream water quality, four parameters were evaluated: Dissolved oxygen, conductivity, atrazine, and ammonia. Time series trends analysis was conducted for each of the four parameters at the basin integrator site and one basin indicator site.

A summary is provided in Table 8.1. The results of the analysis can be: increasing trend observed, decreasing trend observed, and stable water quality (not increasing or decreasing). The Department considers a trend to be significant when the p-value is ≤ 0.05 (the probability of the observed trend being due to random chance is less than 5%).

Table 8.1 – Stream Water Quality Trend Information for Four Parameters

Waterbody ID	Waterbody Name	Dissolved Oxygen		Conductivity		Atrazine		Ammonia	
		Trend Status	P-value	Trend Status	P-value	Trend Status	P-value	Trend Status	P-value
BB1-10000	Big Blue River	Increase	<.0001	Stable	0.915	Stable	0.622	Stable	0.356
BB3-10000	W. Fork Big Blue River	Increase	0.018	Stable	0.435	Decrease	0.137	Stable	0.872
EL1-10000	Elkhorn River	Decrease	0.14	Stable	0.799	Stable	0.207	Decrease	0.035
EL1-20100	Pebble Creek	Stable	0.944	Stable	0.433	Stable	0.206	Decrease	0.002
LB1-10000	Little Blue River	Increase	0.265	Stable	0.811	Stable	0.639	Stable	0.921
LB2-10100	Big Sandy Creek	Increase	<0.001	Decrease	0.175	Stable	0.203	Stable	0.972
LO1-20200	Loup River Power Canal	Stable	0.92	Increase	0.001	Stable	0.257	Increase	0.019
LO4-10000	South Loup River	Increase	<0.001	Increase	0.002	Stable	0.411	Increase	0.184
LP1-10000	Platte River	Stable	0.915	Increase	0.062	Stable	0.405	Stable	0.629
LP2-10000	Salt Creek	Increase	0.012	Increase	0.36	Stable	0.378	Decrease	<0.001
MP1-20000	Platte River	Increase	<0.001	Stable	0.765	Stable	0.448	Increase	0.135
MP2-20000	Platte River	Stable	0.264	Increase	0.035	Increase	0.12	Stable	0.673
MT1-10000	Missouri River	Decrease	0.001	Stable	0.277	Stable	0.41	Decrease	0.02
MT1-10100	Papillion Creek	Stable	0.326	Stable	0.608	Decrease	0.131	Increase	0.154
NE2-10000	Big Nemaha River	Increase	0.039	Stable	0.278	Stable	0.367	Stable	0.944
NE3-10000	Little Nemaha River	Increase	0.002	Stable	0.458	Stable	0.506	Stable	0.527
NI2-10000	Niobrara River	Stable	0.895	Stable	0.908	Stable	0.557	Increase	0.105
NI3-13100	Plum Creek	Stable	0.539	Increase	0.014	Decrease	0.109	Increase	0.04
NP1-10000	North Platte River	Increase	<0.001	Stable	0.49	Decrease	0.001	Stable	0.172
NP3-12600	Winters Creek	Stable	0.247	Increase	<0.001	Stable	0.435	Increase	0.018
RE1-10000	Republican River	Stable	0.707	Stable	0.305	Stable	0.552	Stable	0.476
RE3-10200	Medicine Creek	Increase	0.021	Stable	0.361	Increase	0.01	Increase	0.028
SP1-20000	South Platte River	Increase	<0.001	Stable	0.383	Decrease	0.089	Stable	0.312
SP2-50000	Lodgepole Creek	Decrease	0.132	Stable	0.008	Decrease	0.077	Increase	0.091
WH1-10000	White River	Decrease	0.003	Stable	0.575	Stable	0.861	Increase	0.026
WH1-11300	Chadron Creek	Decrease	<0.001	Decrease	<0.001	Stable	0.407	Stable	0.665

8.2 Lakes and Reservoirs

Trend information was evaluated for seven waterbodies based on the quality and quantity of the existing data set. Future IRs may include additional waterbodies as the data sets are updated. For the purpose of evaluating trends in lake water quality, five parameters were evaluated: transparency, atrazine, chlorophyll a, total phosphorus, and total nitrogen. Trend analysis for these five parameters can be found in Table 8.2. Similar to streams, significant trends are those with a p-value of ≤ 0.05 .

8.3 Assessment of Lake Trophic Status

Along with the reporting on the beneficial use status of lakes and reservoirs, Section 314 of the CWA requires that states submit information on the eutrophic condition of publicly owned lakes. While the Department has not monitored all classified public lakes, there is sufficient information to report on 80 waterbodies. The assessment and classification was conducted using Carlson's Trophic State Index (Carlson, 1977) and the results can be found in Table 8.3.

9.0 Cost/Benefit Assessment

The cost of protecting and improving water quality can be measured or estimated using grant, loans and other programs. In contrast, estimating the monetary value of the benefits of water quality protection and improvements is more difficult. Rather than attempt to identify specific monetary values, the overwhelming belief that the ecological and societal benefits outweigh the costs will be accepted. Following is information on some of the costs associated with water quality protection and improvement.

9.1 Clean Water State Revolving Loan Fund

The Clean Water State Revolving Loan Fund (CWSRF) provides low interest loans to municipalities for construction of wastewater treatment facilities and sanitary sewer collection systems. The sources of funding for this program include federal grants, an initial state general fund appropriation, and funds from Nebraska Investment Financial Authority (NIFA) through bond issuance. In FY2009 and FY2010 \$20 million in Recovery Act funds have been allocated to Nebraska for wastewater treatment facility improvements. These funds have been distributed to 19 projects and nearly all funds have been expended.

9.2 Nebraska Environmental Partnerships

NEP used CWSRF administrative cash funds to provide financial assistance to eligible municipalities for facility planning reports for wastewater treatment system improvement projects that will seek funding through the Water Wastewater Advisory Committee (WWAC) Common Pre-application Process in SFY2011 and SFY2012. This financial assistance is being provided to communities to identify capital improvement needs as well as increase their readiness to proceed in accomplishing these improvements.

Facility planning grants may be provided to municipalities with populations of 5,000 or fewer people that are identified with a financial hardship. This includes any city, town, village, sanitary improvement district, natural resource district, or other public body created by or pursuant to state law having jurisdiction over a wastewater treatment facility. Privately owned wastewater treatment systems are not eligible for assistance.

Grants are provided for up to 90% of the eligible facility plan project cost, but cannot exceed \$20,000. Grant awards for SFY2009, totaling \$215,810, were awarded to 11 communities: Arapahoe, Ashton, Chambers, Colon, Elm Creek, Gothenburg, Linwood, Loup City, McCool Junction, Pawnee City and Winslow. No grants were awarded for SFY2010.

Since its inception in SFY2004, NEP, through the CWSRF, has awarded planning grants to 47 communities, for a total of \$723,710.

9.3 Nonpoint Source Management

The Nonpoint Source Management program provides pass through funding for the prevention and abatement of nonpoint source water pollution and the restoration of watershed resources under Section 319 of the federal Clean Water Act. This funding is provided to units of government, educational institutions, and non-profit organizations, for projects that facilitate implementation of the state Nonpoint Source Management Plan. A total of 180 large projects, spending \$58,581,456, have been funded through Section 319 grants since the beginning of the program in 1990. Of these 180 projects, 107 have addressed surface water, 49 have addressed groundwater and 24 have focused on both surface water and groundwater problems.

10.0 Groundwater Monitoring and Assessment

The 2001 Nebraska Legislature passed LB329 (Neb. Rev. Stat. §46-1304) which, in part, directed the Nebraska Department of Environmental Quality (NDEQ) to report on groundwater quality monitoring in Nebraska. Specifically:

“The Department of Environmental Quality shall prepare a report outlining the extent of ground water quality monitoring conducted by natural resources districts during the preceding calendar year. The department shall analyze the data collected for the purpose of determining whether or not ground water quality is degrading or improving and shall present the results to the Natural Resources Committee of the Legislature beginning December 1, 2001, and each year thereafter. The districts shall submit in a timely manner all ground water quality monitoring data collected to the department or its designee. The department shall use the data submitted by the districts in conjunction with all other readily available and compatible data for the purpose of the annual ground water quality trend analysis.”

Rather than regenerate this information, a copy of the *2011 Groundwater Quality Report* has been included as an appendix.

11.0 Public Participation

On June 20, 2011, NDEQ issued a request for all existing and readily available surface water quality data to Federal, State, and Local agencies, members of the public, and academic institutions. The draft version of this document was available for public viewing via the Departments website www.deq.state.ne.us beginning February 1, 2012 and remained available for viewing through March 6, 2012.

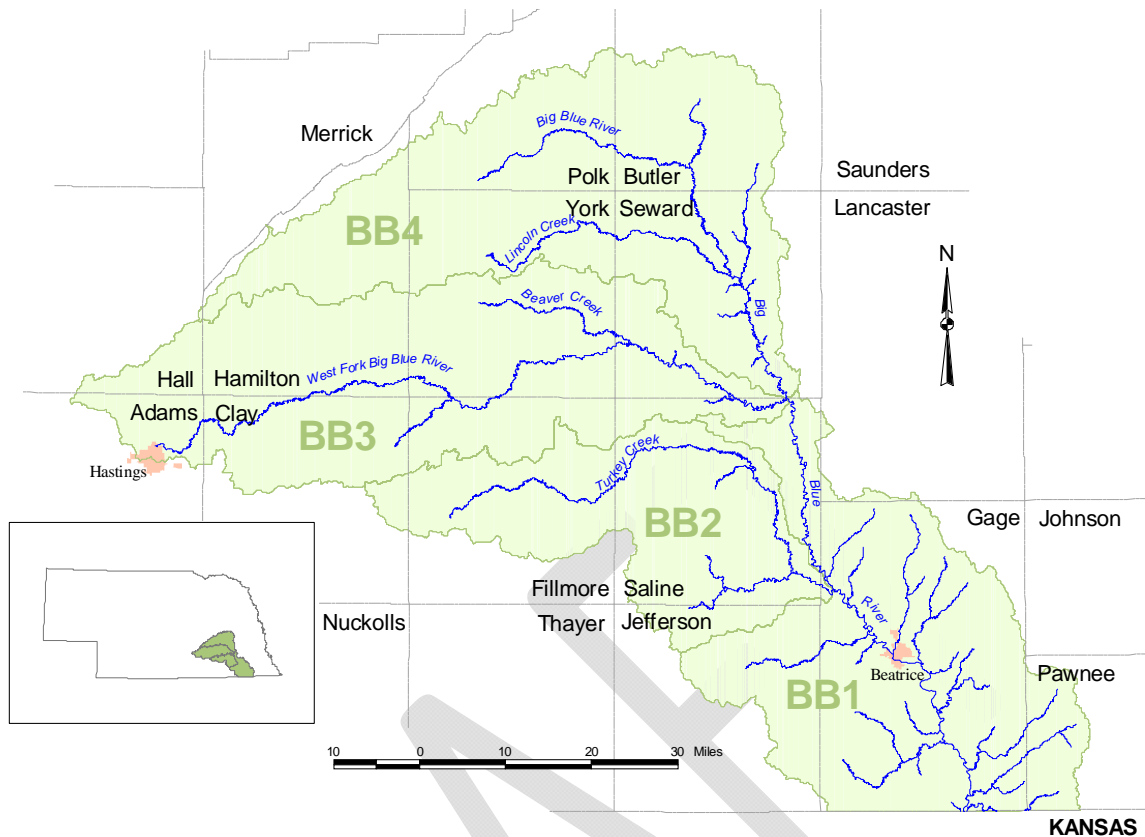
Table 8.2 Lake Water Quality Trend Information

Waterbody ID	Waterbody Name	Transparency		Atrazine		Chlorophyll a		Total Phosphorus		Total Nitrogen	
		Trend Status	P-value	Trend Status	P-value	Trend Status	P-value	Trend Status	P-value	Trend Status	P-value
BB2-L0020	Wagontrain	Decreasing	0.002	Increasing	0.026	Stable	0.839	Increasing	0.010	Increasing	0.146
LP2-L0050	Stagecoach	Decreasing	0.046	Stable	0.871	Decreasing	0.002	Increasing	0.038	Stable	0.687
LP2-L0130	Conestoga	Decreasing	<0.001	Stable	0.968	Increasing	0.127	Increasing	<0.001	Increasing	<0.001
MT1-L0030	Wehrspann	Decreasing	0.006	Decreasing	0.021	Increasing	<0.001	Decreasing	0.001	Decreasing	<0.001
MT1-L0100	Standing Bear	Increasing	0.049	Decreasing	0.074	Decreasing	0.020	Decreasing	<0.001	Stable	0.607
MT1-L0150	Summit	Decreasing	0.429	Decreasing	0.699	Increasing	0.003	Increasing	0.004	Decreasing	0.429
NE2-L0040	Kirkman's Cove	Decreasing	0.007	Decreasing	0.007	Increasing	0.020	Decreasing	0.622	Increasing	<0.001

Table 8.3 Eutrophic Conditions of Public Lakes Using the Trophic State Index (TSI)

Description	Number of Lakes	Waterbody Acres
Total Identified in Title 117	522	148,920
Total Assessed for TSI	80	99,369
Oligotrophic (TSI <40)	0	0
Mesotrophic (TSI 40-50)	6	153
Eutrophic (TSI (51-70)	42	90,417
Hypereutrophic (TSI >70)	32	8,799

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BIG BLUE RIVER BASIN (and Subbasins)

Big Blue Basin – Hydrologic Units 10270201, 10270202, 10270203, 10270204 and 10270205

The Big Blue River Basin includes 63 designated stream segments and 31 lakes/reservoirs. Beneficial uses assigned to designated water in the basin can be found in the below table.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	31	0	0	31	0	0	31	0	31
Streams	10	0	0	16	47	0	63	0	63

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

BB1-L0010: Donald Whitney Memorial Lake, BB1-L0020: Diamond Lake South- These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined these waterbody’s recreational and aquatic life beneficial uses are impaired. The recreational beneficial use is impaired for E. coli and the aquatic life beneficial use is impaired for total phosphorus, total nitrogen, and low dissolved oxygen. These waterbodies will be moved to Category 5.

BB1-L0020: Diamond Lake South-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's recreational use is impaired for E. coli and aquatic life for low dissolved oxygen, total nitrogen, and total phosphorus. This waterbody will be moved to Category 5.

BB1-L0040: Arrowhead Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus, total nitrogen, chlorophyll a, and low dissolved oxygen. This waterbody will be moved to Category 5.

BB1-L0100: Walnut Creek Lake, BB2-L0005: Swanton Lake- These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined these waterbodies' aquatic life beneficial use is impaired for total phosphorus, total nitrogen, and high pH. These waterbodies will be placed in Category 5.

BB2-L0005: Swanton Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus, total nitrogen, and pH. This waterbody will be moved to Category 5.

BB3-L0030: Waco Basin- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's recreational and aquatic life beneficial uses are impaired. The recreational use is impaired for E. coli and the aquatic life use is impaired for total phosphorus and total nitrogen. This waterbody will be moved to Category 5.

BB3-L0040: Henderson Pond-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus, total nitrogen, and chlorophyll a. This waterbody will be placed in Category 5.

BB3-L0060: Hastings Northwest Dam Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus, total nitrogen, chlorophyll a, and high pH. This waterbody will be placed in Category 5.

BB4-L0010: David City Park Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus, total nitrogen, and chlorophyll a. This waterbody will be placed in Category 5.

BB4-L0035: Oxbow Trail Reservoir- This waterbody was listed as Category 5 in the 2010. This waterbody's aquatic life use was impaired for total phosphorus and chlorophyll a. Data collected in 2009 determined this waterbody's aquatic life use is also impaired for total nitrogen. This waterbody will remain Category 5.

BB1-10000: Big Blue River- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational use was impaired for E. coli and aquatic life for atrazine, hazard index compounds, mercury, and cancer risk compounds. A TMDL has been approved for this waterbody. This waterbody will be placed in Category 4a.

BB1-11110: Bloody Run- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined all beneficial uses are being met. This waterbody will be placed in Category 1.

BB1-20000: Big Blue River-This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational use was impaired for E. coli and aquatic life for selenium and atrazine. A TMDL has been approved for this waterbody. This waterbody will be placed in Category 4a.

BB3-1000: West Fork Big Blue River-This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational use was impaired for E. coli and aquatic life for selenium and atrazine. A TMDL has been approved for this waterbody. This waterbody will be placed in Category 4a.

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Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
BB1-L0010	Donald Whitney Memorial Lake	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-DO, Nutrients	E. coli, Total Phosphorus, Total Nitrogen, Unknown	
BB1-L0020	Diamond Lake South	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Nutrients, DO	E. coli, Total Phosphorus, Total Nitrogen, Unknown	
BB1-L0030	Big Indian Lake (11A)	S	I		S		I	I	4a	Aesthetics-Sedimentation, Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Sedimentation	Nutrient and Sediment TMDL approved 09/09, Fish consumption assessment
BB1-L0040	Arrowhead Lake	S	I		S		S	I	5	Aquatic Life-DO, Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	
BB1-L0050	Wolf Wildcat Lake	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
BB1-L0060	Rockford Lake	S	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index Compounds*, Mercury	Fish consumption assessment
BB1-L0065	Bear Creek Lake	NA	S		S		S	S	2			
BB1-L0070	Leisure Lake	NA	S		NA		S	S	2			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
BB1-L0080	Cub Creek Lake	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Nutrients	E. coli, Total Phosphorus	
BB1-L0090	Clatonia Lake (3A)	NA	S		S		S	S	2			
BB1-L0100	Walnut Creek Lake (2A)	S	I		S		S	I	5	Aquatic Life-Nutrients, pH	Total Phosphorus, Total Nitrogen, Unknown	
BB2-L0005	Swanton Lake	S	I		S		S	I	5	Aquatic Life-Nutrients, pH	Total Phosphorus, Total Nitrogen, Unknown	
BB2-L0010	Swan Creek Lake 2A	NA	I		S		S	I	5	Aquatic Life-DO	Unknown	Fish consumption assessment
BB2-L0020	Swan Creek Lake 5A	S	I		S		S	I	5	Aquatic Life-pH, Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown, Hazard Index Compounds*, Mercury	Fish consumption assessment
BB2-L0030	Friend City Park Lake	NA	NA		NA		S	S	2			
BB2-L0040	Geneva City Lake	NA	NA		NA		NA		3			
BB3-L0010	Smith Creek Lake	NA	S		S		S	S	2			
BB3-L0030	Waco Basin	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Nutrients	E. coli, Total Phosphorus, Total Nitrogen	
BB3-L0035	Overland Trail Reservoir	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
BB3-L0040	Henderson Pond	S	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	
BB3-L0045	Clark's Pond (Sutton)	NA	NA		NA		S	S	2			
BB3-L0050	Lake Hastings	NA	I		NA		I	I	5	Aesthetics-Sedimentation, Aquatic Life-Fish Consumption Advisory	Sedimentation, Hazard Index compounds*, Cancer Risk Compounds*	Fish consumption assessment
BB3-L0060	Hastings Northwest Dam Lake	S	I		S		S	I	5	Aquatic Life - Nutrients, pH	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	
BB3-L0070	Heartwell Lake	NA	NA		NA		I	I	5	Aesthetics-Algae Blooms	Nutrients	
BB3-L0080	Recharge Lake	NA	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index Compounds*, Mercury	Fish consumption assessment
BB4-L0010	David City Park Lake	S	I		S		S	I	5	Aquatic Life - Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	
BB4-L0020	Seward City Park Pond	NA	NA		NA		NA		3			
BB4-L0030	Surprise City Lake	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
BB4-L0035	Oxbow Trail Reservoir	NA	I		S		S	I	5	Aquatic Life - Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	
BB4-L0040	Pioneer Trails Lake	NA	NA		NA		NA		3			
BB4-L0045	Aurora Leadership Center Lake	NA	NA		NA		NA		3			
Streams												
BB1-10000	Big Blue River	I	I		S		S	I	4a	Recreation-Bacteria, Aquatic Life-May-June atrazine, Fish consumption advisory	E. coli, Atrazine, Cancer risk compounds*, Hazard index compounds*, Mercury	E. coli TMDL approved 3/05, Fish consumption assessment
BB1-10100	Mission Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine	E. coli, Atrazine	
BB1-10200	Mission Creek		NA		NA		NA		3			
BB1-10300	Spring Creek		S		NA		NA	S	2			Aquatic community assessment
BB1-10400	Plum Creek		NA		NA		NA		3			
BB1-10410	Arkeketa Creek		NA		NA		NA		3			
BB1-10500	Plum Creek		NA		NA		NA		3			
BB1-10510	Tipps Creek		NA		NA		NA		3			
BB1-10600	Wildcat Creek		NA		NA		NA		3			
BB1-10610	Wolf Creek		S		NA		NA	S	2			Aquatic community

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
												assessment
BB1-10700	Wildcat Creek		NA		NA		NA		3			
BB1-10800	Big Indian Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine	E. coli, Atrazine	
BB1-10810	Squaw Creek		NA		NA		NA		3			
BB1-10820	Sicily Creek		NA		NA		NA		3			
BB1-10900	Big Indian Creek	NA	I		NA		NA	I	5	Aquatic Life-May-June atrazine	Atrazine	Fish consumption assessment
BB1-11000	Bills Creek		NA		NA		NA		3			
BB1-11100	Mud Creek		S		NA		NA	S	2			Aquatic community assessment
BB1-11110	Bloody Run		S		S		S	S	1			Aquatic community assessment
BB1-11200	Mud Creek		NA		NA		NA		3			
BB1-11300	Cedar Creek		NA		NA		NA		3			
BB1-11400	Bear Creek		NA		NA		NA		3			
BB1-11410	Pierce Creek		S		NA		NA	S	2			Aquatic community assessment
BB1-11500	Bear Creek		S		NA		NA	S	2			Aquatic community assessment
BB1-11600	Indian Creek		NA		NA		NA		3			
BB1-11610	Town Creek		NA		NA		NA		3			
BB1-11700	Indian Creek		NA		NA		NA		3			

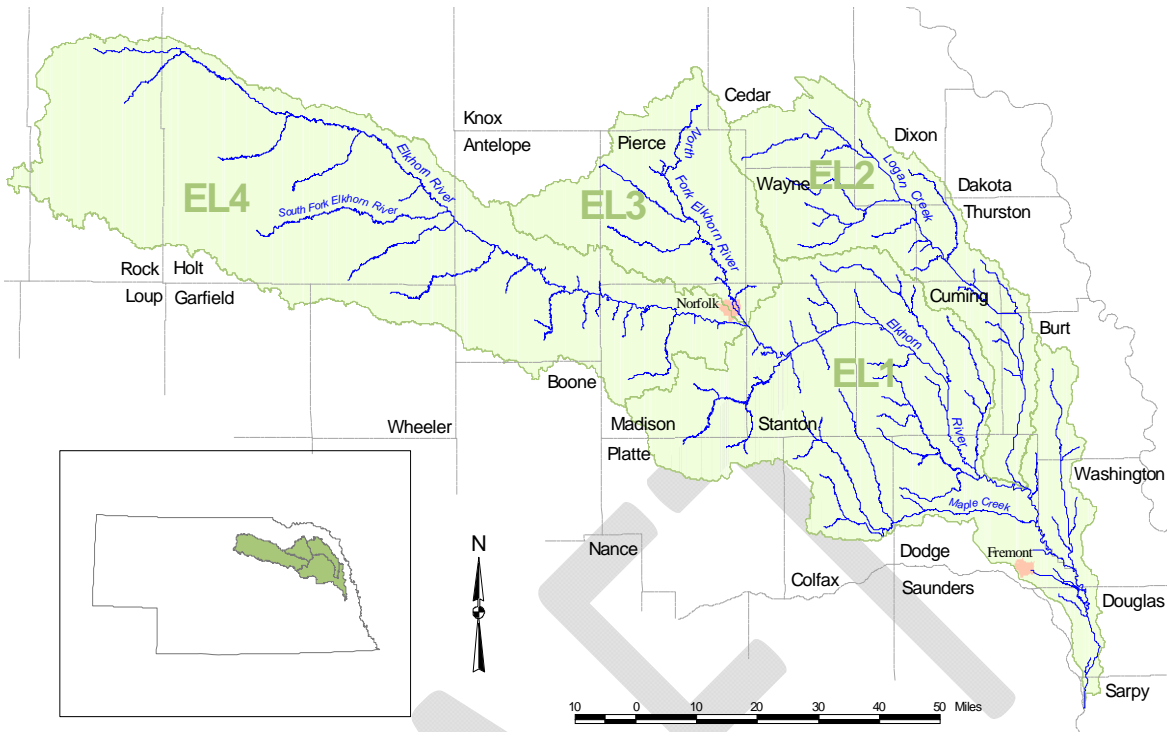
Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
BB1-11800	Bottle Creek		NA		NA		NA		3			
BB1-11900	Cub Creek		S		NA		NA	S	2			Aquatic community assessment
BB1-12000	Soap Creek		S		NA		NA	S	2			Aquatic community assessment
BB1-20000	Big Blue River	I	I		S		S	I	4a	Recreation-Bacteria, Aquatic Life-Selenium, May-June atrazine	E. coli, Selenium, Atrazine	E. coli TMDL approved 3/05, Fish consumption assessment
BB1-20100	Clatonia Creek		NA		NA		NA		3			
BB2-10000	Turkey Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine, Selenium, Impaired aquatic community	E. coli, Atrazine, Selenium, Unknown	Aquatic community and Fish consumption assessment
BB2-10100	Swan Creek		S		NA		S	S	2			
BB2-10110	South Fork Swan Creek		S		NA		NA	S	2			Aquatic community assessment
BB2-10120	North Fork Swan Creek		NA		NA		NA		3			
BB2-20000	Turkey Creek	I	I		NA		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine	E. coli, Atrazine	Aquatic community assessment
BB2-20100	Spring Creek		NA		NA		NA		3			
BB2-30000	Turkey Creek		S		NA		NA	S	2			Aquatic community assessment
BB2-40000	Turkey Creek		S		NA		NA	S	2			Aquatic community

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
												assessment
BB3-10000	West Fork Big Blue River	I	I		S		S	I	4a	Recreation-Bacteria, Aquatic Life-May-June atrazine, Selenium	E. coli, Atrazine, Selenium	E. coli TMDL approved 3/05, Fish consumption assessment
BB3-10100	Johnson Creek		NA		NA		NA		3			
BB3-10200	Walnut Creek		NA		NA		NA		3			
BB3-10300	Beaver Creek		I		NA		S	I	5	Aquatic Life-May-June atrazine	Atrazine	
BB3-10400	Beaver Creek		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
BB3-20000	West Fork Big Blue River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine, Impaired aquatic community	E. coli, Atrazine, Unknown	Aquatic community and Fish consumption assessment
BB3-20100	School Creek		NA		NA		NA		3			
BB3-30000	West Fork Big Blue River		S		NA		NA	S	2			Aquatic community assessment
BB4-10000	Big Blue River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine	E. coli, Atrazine	
BB4-20000	Big Blue River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
BB4-20100	Coon Creek		NA		NA		NA		3			
BB4-20200	Wolf Creek		NA		NA		NA		3			
BB4-20300	Crooked Creek		NA		NA		NA		3			
BB4-20400	Clark Creek		NA		NA		NA		3			
BB4-20500	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
BB4-20600	Plum Creek		S		NA		NA	S	2			Aquatic community assessment
BB4-20610	Big Weedy Creek		NA		NA		NA		3			
BB4-20700	Plum Creek		S		NA		NA	S	2			Aquatic community assessment
BB4-20800	Lincoln Creek		I		S		S	I	5	Aquatic Life- May-June atrazine, Selenium, Impaired aquatic community	Atrazine, Selenium, Unknown	Aquatic community and Fish consumption assessment
BB4-20900	Lincoln Creek		I		NA		NA	I	5	Aquatic Life- Impaired aquatic community	Unknown	Aquatic community assessment
BB4-30000	Big Blue River		NA		NA		NA		3			
BB4-30100	North Fork Big Blue River		NA		NA		NA		3			
BB4-30200	North Fork Big Blue River		NA		NA		NA		3			
BB4-40000	Big Blue River		I		S		S	I	5	Aquatic Life-DO, Atrazine	Unknown, Atrazine	Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Wetlands												
BB3-Undesg.	County Line WPA		NA		NA		NA		3			
BB3-Undesg.	Harvard WPA		NA		NA		NA		3			
BB3-Undesg.	Real WPA		NA		NA		NA		3			
BB3-Undesg.	Sininger WPA		NA		NA		NA		3			
BB3-Undesg.	Wilkins WPA		NA		NA		NA		3			

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium



ELKHORN RIVER BASIN (and Subbasins)

Elkhorn Basin – Hydrologic Units 10220001, 10220002, 10220003 and 10220004

The Elkhorn River Basin includes 137 designated stream segments and 31 lakes/reservoirs. Beneficial uses assigned to designated water in the basin can be found in the below table.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply- Ind.	Aesthetics
Lakes	31	0	0	31	0	0	31	0	31
Streams	23	0	1	38	99	0	137	0	137

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

EL1-L0140: Dead Timber Lake-This waterbody was listed as Category 2 in the 2010 IR. Data collected in 2009 determined this waterbody has a fish consumption advisory and is impaired for hazard index compounds and mercury. This waterbody will be moved to Category 5.

EL2-L0010: Lyons City Park Lake- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined this waterbody supported its recreational beneficial use. Although other

parameters need to be collected and analyzed to determine if all beneficial uses are being met the recreational use is supported. This waterbody will be moved to Category 2.

EL4-L0020: Skyview-This waterbody was listed as Category 5, impaired for hazard index compounds in the 2010 IR. Data collected in 2010 determined this waterbody is also impaired for total phosphorus. This waterbody will remain in Category 5.

EL1-10000: Elkhorn River-This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational use was impaired for E. coli and aquatic life for selenium, hazard index compounds and mercury. A TMDL has been approved for this waterbody and it will be moved to Category 4a. The selenium impairment is not caused by a pollutant placing it in Category 4c. This waterbody will be listed as Category 4 a,c.

EL1-10700: Bell Creek- This waterbody was listed as Category 2 in the 2010 IR. Data collected in 2010 determined this waterbody's aquatic life beneficial use has an impaired aquatic community. This waterbody will be moved to Category 5.

EL1-10900: Maple Creek; EL1-20100: Pebble Creek - These waterbodies were listed as Category 5 in the 2010 IR. These waterbody's recreational use was impaired for E. coli and aquatic life for selenium and an impaired aquatic community. A TMDL has been approved for these waterbody and they will be moved to Category 4a. The selenium impairment is not caused by a pollutant placing it in Category 4c. These waterbodies will be listed as Category 4 a,c.

EL1-20900: Plum Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined the aquatic community is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community provides support to the aquatic life. This waterbody will be moved to Category 2.

EL1-21000: Rock Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined this waterbody's aquatic life beneficial use has an impaired aquatic community and recreational use is impaired for E. coli. This waterbody will be moved to Category 5.

EL1-21310: South Humbug Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined the aquatic community is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community provides support to the aquatic life. This waterbody will be moved to Category 2.

EL1-21900: Union Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

EL1-21920: Meridian Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined the aquatic community is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community provides support to the aquatic life. This waterbody will be moved to Category 2.

EL2-10000: Logan Creek- This waterbody was listed as Category 5 in the 2010 IR. In 2010 this waterbody's aquatic life beneficial use was impaired by selenium and cancer risk and hazard index compounds. In 2012 this waterbody's aquatic life use has the same impairments additionally it is also impaired for E. coli. This waterbody will remain in Category 5.

EL2-10300: Little Logan Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined the aquatic community is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community provides support to the aquatic life. This waterbody will be moved to Category 2.

EL2-20000: Logan Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

EL2-20400: Rattlesnake Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined this waterbody's aquatic life beneficial use has an impaired aquatic community. This waterbody will be moved to Category 5.

EL2-20800: South Logan Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

EL2-20920: Deer Creek: This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined the aquatic community is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community provides support to the aquatic life. This waterbody will be moved to Category 2.

EL2-40300: Perrin Creek: This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined the aquatic community is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community provides support to the aquatic life. This waterbody will be moved to Category 2.

EL3-10000: North Fork Elkhorn River- This waterbody was listed as Category 2 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational beneficial use is impaired for E. coli and selenium. This waterbody will be moved to Category 5.

EL3-20200: Willow Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

EL3-20400: Dry Creek and EL4-10400: Battle Creek - This waterbody was listed as Category 2 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

EL3-30000: North Fork Elkhorn River- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined the aquatic community is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community provides support to the aquatic life. This waterbody will be moved to Category 2.

EL4-10400: Battle Creek- This waterbody was listed as Category 2 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational use is impaired for E. coli. This waterbody will be moved to Category 5.

EL4-10700: Buffalo Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined the aquatic community is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community provides support to the aquatic life. This waterbody will be moved to Category 2.

EL4-11300: Cedar Creek- This waterbody was listed as Category 3 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

EL4-20300: Clearwater Creek- This waterbody was listed as category 2 in the 2010 IR. The ICI score for the aquatic community was poor due to a lack of in-stream habitat. This waterbody was re-sampled in 2010 and the aquatic community has a good ICI score and excellent IBI score showing full support. The ICI

score impacted by extreme flow events in the comments/action section will be removed. This waterbody will remain Category 2.

EL4-20600: Cache Cree- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's aquatic life beneficial use has an impaired aquatic community due to a poor ICI score, however, the IBI score is excellent. The poor ICI score is a result of extreme flow events so the IBI score will be used for this listing. This waterbody will be moved to Category 2.

EL4-20800: South Fork Elkhorn River- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's aquatic life beneficial use has an impaired aquatic community due to a poor ICI score, however, the IBI score is good. The poor ICI score is a result of no habitat from flooding so the IBI score will be used for this listing. This waterbody will be moved to Category 2.

EL4-20700: South Fork Elkhorn River- This waterbody was listed as Category 2 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

EL4-30000: Elkhorn River- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational use was impaired for E. coli and aquatic life for hazard index compounds and mercury. A TMDL is approved for this waterbody. This waterbody will be moved to Category 4a.

EL4-40000: Elkhorn River- This waterbody was listed as Category 5 in the 2010 IR. Data collected in 2010 determined this waterbody's recreational beneficial use is also impaired for E. coli. This waterbody will remain in Category 5.

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
EL1-L0010	Highway 275 Bypass Lake No. 1	NA	NA		NA		NA		3			
EL1-L0020	Highway 275 Bypass Lake No. 2	NA	NA		NA		NA		3			
EL1-L0030	Highway 275 Bypass Lake No. 4	NA	NA		NA		NA		3			
EL1-L0040	Highway 275 Bypass Lake No. 3	NA	NA		NA		NA		3			
EL1-L0050	Hooper City Lake	NA	NA		NA		NA		3			
EL1-L0060	Neligh Park Lake (West Point City Lake)	NA	I		S		S	I	4r	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	Lake renovated 2002
EL1-L0070	Pilger Reservoir	NA	S		S		S	S	2			
EL1-L0080	Maskenthine Reservoir	S	I		S		S	I	5	Aquatic Life-DO, Nutrients, Fish consumption advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown, Hazardous Index Compounds*, Mercury	Fish consumption assessment
EL1-L0090	Leigh Tri-County Lake	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL1-L0100	Wood Duck Lake (WMA)	NA	NA		NA		NA		3			
EL1-L0110	Loes Lake (Wood Duck WMA)	NA	NA		NA		NA		3			
EL1-L0120	Pillar Lake (Wood Duck WMA)	NA	NA		NA		NA		3			
EL1-L0130	Wood Duck Pond (Wood Duck WMA)	NA	NA		NA		NA		3			
EL1-L0140	Dead Timber Lake	NA	I		S		S	I	5	Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
EL2-L0010	Lyons City Park Lake	S	NA		NA		NA	S	2			
EL2-L0020	Wayne Issac Walton Lake	NA	NA		NA		NA		3			
EL3-L0010	Willow Creek Reservoir	S	I		S		S	I	5	Aquatic Life-pH, Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll, Unknown, Hazardous Index Compounds*, Mercury	Fish consumption assessment
EL3-L0020	Pierce City Lake	NA	NA		NA		NA		3			
EL4-L0005	Andy's Lake	NA	NA		NA		NA		3			
EL4-L0010	Ta-Ha-Zouka Park Lagoon	NA	S		NA		NA	S	2			Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL4-L0020	Skyview Lake	NA	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Hazardous Index Compounds*	Fish consumption assessment
EL4-L0025	Horseshoe Bend (Tilden City Lake)	NA	I		S		S	I	4r	Aquatic Life-Nutrients	Chlorophyll a	Lake renovated 2002
EL4-L0030	Antelope County Country Club Lake	NA	NA		NA		NA		3			
EL4-L0040	Penn Park Lake (Neligh)	NA	NA		NA		NA		3			
EL4-L0050	Goose Lake	NA	S		NA		NA	S	2			Fish consumption assessment
EL4-L0060	O'Neill City Lake	NA	NA		NA		NA		3			
EL4-L0070	Atkinson Lake (SRA)	NA	NA		NA		NA		3			
EL4-L0080	Swan Lake	NA	S		NA		NA	S	2			Fish consumption assessment
EL4-L0090	Overton Lake	NA	S		NA		NA	S	2			Fish consumption assessment
EL4-L0100	Fish Lake	NA	S		NA		NA	S	2			Fish consumption assessment
EL4-L0110	Peterson Lake	NA	NA		NA		NA		3			
Streams												
EL1-10000	Elkhorn River	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-Selenium, Fish consumption	E. coli, Selenium, Hazard index compounds*, Mercury	E. coli TMDL approved 9/09 Selenium impairment re-categorized to 4c 3/09†, Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										advisory		
EL1-10100	Unnamed Creek		NA		NA		NA		3			
EL1-10200	Big Slough		NA		NA		NA		3			
EL1-10300	Rawhide Creek		NA		NA		NA		3			
EL1-10400	Rawhide Creek		S		NA		NA	S	2			Aquatic community assessment
EL1-10500	Rawhide Creek		NA		NA		NA		3			
EL1-10600	Bell Creek		NA		NA		NA		3			
EL1-10610	Brown Creek		NA		NA		NA		3			
EL1-10620	Little Bell Creek		NA		NA		NA		3			
EL1-10630	Unnamed Creek		NA		NA		NA		3			
EL1-10700	Bell Creek		I		NA		NA	I	5	Aquatic Life-Impaired Aquatic Community	Unknown	Aquatic community assessment
EL1-10800	Unnamed Creek		NA		NA		NA		3			
EL1-10900	Maple Creek	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-Selenium, Impaired	E. coli, Selenium, Unknown	E. coli TMDL approved 9/09 Selenium impairment re-categorized to 4c 3/09†, Aquatic community & Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										aquatic community		
EL1-10910	Crystal Creek		NA		NA		NA		3			
EL1-10920	East Fork Maple Creek		S		NA		NA	S	2			Aquatic community assessment
EL1-10930	West Fork Maple Creek		NA		NA		NA		3			
EL1-10931	Dry Creek		NA		NA		NA		3			
EL1-10931.1	South Fork Dry Creek		NA		NA		NA		3			
EL1-10932	Dry Creek		I		NA		NA	I	5	Impaired aquatic community	Unknown	Aquatic community assessment
EL1-10933	Unnamed Creek		NA		NA		NA		3			
EL1-10934	Unnamed Creek		NA		NA		NA		3			
EL1-10940	West Fork Maple Creek		I		NA		NA	I	5	Impaired aquatic community	Unknown	Aquatic community assessment
EL1-11000	Clark Creek		NA		NA		NA		3			
EL1-20000	Elkhorn River	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-Selenium	E. coli, Selenium	E. coli TMDL approved 9/09 Selenium impairment re-categorized to 4c 3/09†, Aquatic community & Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL1-20100	Pebble Creek	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-Selenium, Impaired aquatic community	E. coli,, Selenium, Unknown	E. coli TMDL approved 9/09 Selenium impairment re-categorized to 4c 3/09†, Aquatic community assessment
EL1-20110	Silver Creek		NA		NA		NA		3			
EL1-20120	Unnamed Creek		NA		NA		NA		3			
EL1-20121	Unnamed Creek		NA		NA		NA		3			
EL1-20130	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
EL1-20200	Pebble Creek		NA		NA		NA		3			
EL1-20210	South Branch Pebble Creek		NA		NA		NA		3			
EL1-20220	North Branch Pebble Creek		NA		NA		NA		3			
EL1-20300	Pebble Creek		NA		NA		NA		3			
EL1-20400	Cuming Creek		NA		NA		NA		3			
EL1-20410	Willow Creek		NA		NA		NA		3			
EL1-20500	Cuming Creek		NA		NA		NA		3			
EL1-20600	Fisher Creek		NA		NA		NA		3			
EL1-20700	Plum Creek		NA		NA		NA		3			
EL1-20800	Plum Creek		NA		NA		NA		3			
EL1-20810	Dry Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL1-20820	Kane Creek		NA		NA		NA		3			
EL1-20900	Plum Creek		S		NA		NA		2			Aquatic community assessment
EL1-21000	Rock Creek	I	I		S		S	I	5	Recreation-Bacteria, Impaired Aquatic Community	E. coli, Unknown	Aquatic community assessment
EL1-21100	Leisy Creek		NA		NA		NA		3			
EL1-21200	Sand Creek		NA		NA		NA		3			
EL1-21300	Humbug Creek		S		NA		NA	S	2			Aquatic community assessment
EL1-21310	South Humbug Creek		S		NA		NA		2			Aquatic community assessment
EL1-21400	Humbug Creek		NA		NA		NA		3			
EL1-21500	Payne Creek		NA		NA		NA		3			
EL1-21600	Cedar Creek		NA		NA		NA		3			
EL1-21700	Indian Creek		NA		NA		NA		3			
EL1-21800	Butterfly Creek		NA		NA		NA		3			
EL1-21900	Union Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
EL1-21910	Sand Creek		NA		NA		NA		3			
EL1-21920	Meridian Creek		S		NA		NA		2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL1-21921	Tracy Creek		S		NA		NA	S	2			Aquatic community assessment
EL1-21930	Meridian Creek		NA		NA		NA		3			
EL1-22000	Union Creek	NA	NA		NA		NA		3			
EL1-22010	Taylor Creek		NA		NA		NA		3			
EL1-22100	Union Creek		I		NA		NA	I	5	Impaired aquatic community	Unknown	Aquatic community assessment
EL1-22200	Unnamed Creek		NA		NA		NA		3			
EL1-22300	Unnamed Creek		NA		NA		NA		3			
EL2-10000	Logan Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Selenium, Fish consumption advisory	E. coli, Selenium, Cancer risk compounds*, Hazard index compounds*	Selenium impairment re-categorized to 4c 3/09†, Fish consumption assessment
EL2-10100	Unnamed Creek		NA		NA		NA		3			
EL2-10200	Little Logan Creek		NA		NA		NA		3			
EL2-10210	Unnamed Creek		NA		NA		NA		3			
EL2-10300	Little Logan Creek		S		NA		NA		2			Aquatic community assessment
EL2-10400	Big Slough Creek		NA		NA		NA		3			
EL2-20000	Logan Creek	1	S		S		S	I	5	Recreation-Bacteria	E. coli	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL2-20100	Rattlesnake Creek		NA		NA		NA		3			
EL2-20200	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
EL2-20300	Middle Creek		NA		NA		NA		3			
EL2-20400	Rattlesnake Creek		I		NA		NA		5	Impaired aquatic community	Unknown	Aquatic community assessment
EL2-20500	Unnamed Creek		NA		NA		NA		3			
EL2-20600	Unnamed Creek		NA		NA		NA		3			
EL2-20700	Coon Creek		NA		NA		NA		3			
EL2-20800	South Logan Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
EL2-20810	Dog Creek		S		NA		NA	S	2			Aquatic community assessment
EL2-20900	South Logan Creek		NA		NA		NA		3			
EL2-20910	Deer Creek		NA		NA		NA		3			
EL2-20911	Unnamed Creek		NA		NA		NA		3			
EL2-20920	Deer Creek		S		NA		NA		2			Aquatic community assessment
EL2-21000	South Logan Creek		NA		NA		NA		3			
EL2-30000	Logan Creek		NA		NA		NA		3			
EL2-30100	North Logan Creek		NA		NA		NA		3			
EL2-40000	Logan Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL2-40100	Baker Creek		S		NA		NA	S	2			Aquatic community assessment
EL2-40200	Middle Logan Creek		I		NA		NA	I	5	Impaired aquatic community	Unknown	Aquatic community assessment
EL2-40300	Perrin Creek		S		NA		NA		2			Aquatic community assessment
EL3-10000	North Fork Elkhorn River	I	I		NA		NA	I	5	Recreation-Bacteria, Aquatic Life-Selenium	E. coli, Selenium	Fish consumption assessment
EL3-10100	Spring Creek		NA		NA		NA		3			
EL3-20000	North Fork Elkhorn River	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-Selenium	E. coli, Selenium	E. coli TMDL approved 9/09 Selenium impairment re-categorized to 4c 3/09†, Aquatic community and Fish consumption assessment
EL3-20100	Hadar Creek		NA		NA		NA		3			
EL3-20200	Willow Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
EL3-20300	Willow Creek	NA	NA		NA		NA		3			
EL3-20400	Dry Creek	I	S		NA		NA	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
EL3-20500	Dry Creek		S		NA		NA	S	2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL3-30000	North Fork Elkhorn River		S		NA		NA		2			Aquatic community assessment
EL3-30100	West Branch North Fork Elkhorn River		NA		NA		NA		3			
EL3-30110	Breslau Creek		NA		NA		NA		3			
EL3-40000	North Fork Elkhorn River		NA		NA		NA		3			
EL4-10000	Elkhorn River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 9/09, Aquatic community & fish consumption assessment
EL4-10100	Unnamed Creek		NA		NA		NA		3			
EL4-10200	Unnamed Creek		NA		NA		NA		3			
EL4-10300	Unnamed Creek		NA		NA		NA		3			
EL4-10400	Battle Creek	I	S		S		S	I	5	Recreation-Bacteria	E. Coli	Aquatic community & fish consumption assessment
EL4-10500	Battle Creek		S		NA		NA	S	2			Aquatic community assessment
EL4-10600	Deer Creek		NA		NA		NA		3			
EL4-10700	Buffalo Creek		S		NA		NA		2			Aquatic community assessment
EL4-10800	Dry Creek		NA		NA		NA		3			
EL4-10900	Al Hopkins Creek		NA		NA		NA		3			
EL4-11000	Giles Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL4-11100	Ives Creek		NA		NA		NA		3			
EL4-11200	Trueblood Creek		NA		NA		NA		3			
EL4-11300	Cedar Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
EL4-11310	Blacksnake Creek		NA		NA		NA		3			
EL4-11400	Cedar Creek		NA		NA		NA		3			
EL4-20000	Elkhorn River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 9/09
EL4-20100	Belmer Creek		NA		NA		NA		3			
EL4-20200	Antelope Creek		NA		NA		NA		3			
EL4-20300	Clearwater Creek	NA	S		NA		NA	S	2			Aquatic community assessment
EL4-20400	Clearwater Creek		NA		NA		NA		3			
EL4-20500	Cache Creek		NA		NA		NA		3			
EL4-20600	Cache Creek		S		NA		NA		2			Aquatic community assessment, ICI score influenced by extreme flow events †
EL4-20700	South Fork Elkhorn River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
EL4-20800	South Fork Elkhorn River		S		NA		NA		2			Aquatic community assessment, ICI score influenced by extreme flow events †

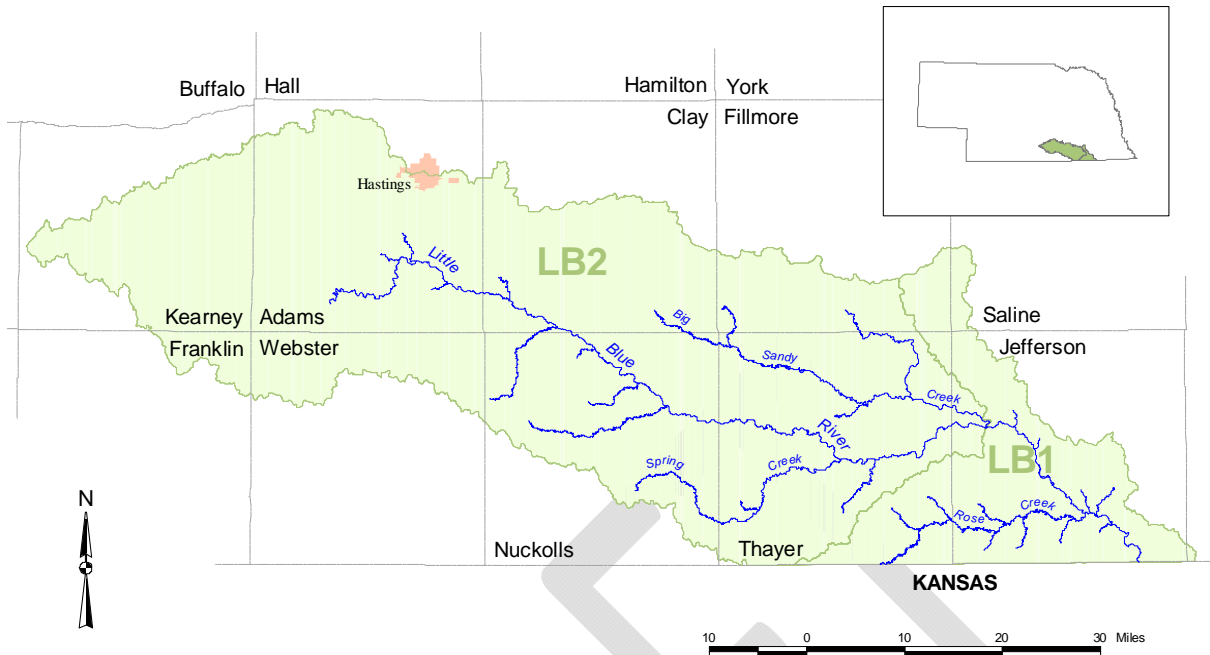
Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
EL4-30000	Elkhorn River	I	I		S		S	I	4a	Recreation-Bacteria, Aquatic Life-Fish consumption advisory	E. coli, Hazard index compounds*, Mercury	E. coli TMDL approved 9/09 Aquatic community & Fish consumption assessment, ICI score impacted by extreme flow events‡
EL4-30100	Willow Swamp Creek		NA		NA		NA		3			
EL4-30200	Dry Creek		NA		NA		NA		3			
EL4-30300	Dry Creek		NA		NA		NA		3			
EL4-30400	Holt Creek		S		NA		NA	S	2			Aquatic community assessment
EL4-30500	Holt Creek		S		NA		NA	S	2			Aquatic community assessment
EL4-40000	Elkhorn River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-pH	Unknown	Aquatic community assessment, ICI score impacted by extreme flow events‡
EL4-40100	South Fork Elkhorn River		NA		NA		NA		3			
EL4-40200	North Fork Elkhorn River		NA		NA		NA		3			

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

‡ See Appendix A: Ecological Justification for Excluding Specific Bio-Indicator Results When Determining Attainment Status of the Aquatic Life Beneficial Use for Nebraska's 2012 Water Quality Integrated Report

† See Appendix B: Natural Occurrence of Selenium in the Elkhorn River Basin

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LITTLE BLUE RIVER BASIN (and Subbasins)

Little Blue Basin – Hydrologic Units 10270206 and 10270207

The Little Blue River Basin includes 38 designated stream segments and 13 designated lakes/reservoirs.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	13	0	0	13	0	3	13	0	13
Streams	6	0	0	14	24	1	38	0	38

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

LB1-L0020: Crystal Springs Northwest Lake- This waterbody was listed as Category 2 in the 2010 IR. Data collected in 2010 determined this waterbody’s aquatic life beneficial use is impaired for total phosphorus, total nitrogen, chlorophyll a, and pH. This waterbody will be moved to Category 5.

LB1-L0030: Crystal Springs Center Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody’s aquatic life beneficial use is impaired for total phosphorus, total nitrogen, chlorophyll a, and pH. This waterbody will be moved to Category 5.

LB1-L0040: Crystal Springs East Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody’s recreational beneficial use is impaired

for E. coli and aquatic life beneficial use is impaired for total phosphorus, total nitrogen, and chlorophyll a. This waterbody will be moved to Category 5.

LB2-L0070: Crystal Lake (SRA)- This waterbody was listed as Category 5 in the 2010 IR. In 2010 this waterbody's recreational beneficial use was impaired by high pH. In 2012 this waterbody's aquatic life beneficial use is impaired for high pH, total phosphorus, total nitrogen, chlorophyll a, and low dissolved oxygen. This waterbody will remain in Category 5.

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Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
LB1-L0010	Buckley Reservoir (3F)	NA	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen	
LB1-L0020	Crystal Springs Northwest Lake	S	I		S		S	I	5	Aquatic Life-Nutrients, pH	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	Fish consumption assessment
LB1-L0030	Crystal Springs Center Lake	S	I		S		S	I	5	Aquatic Life-Nutrients, pH	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	
LB1-L0040	Crystal Springs East Lake	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Nutrients	E. coli, Total Phosphorus, Total Nitrogen, Chlorophyll a	
LB1-L0050	Lone Star Reservoir	S	I		S		S	I	4r	Aquatic Life-DO, Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	Lake recently renovated
LB2-L0010	Alexandria Lake No. 1 & 2	S	NA		NA		S	S	2			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LB2-L0030	Alexandria Lake No. 3	I	I		S		S	I	5	Recreation- Algae Toxins, Aquatic Life- DO, pH	Nutrients	Fish consumption assessment
LB2-L0040	Bruning Dam Lake	NA	S		S		S	S	2			
LB2-L0050	Liberty Cove Lake	S	I		S		S	I	5	Aquatic Life- pH, Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown, Hazardous Index Compounds*, Mercury	Fish consumption assessment
LB2-L0060	Brick Yard Park Pond	NA	NA		NA		NA		3			
LB2-L0070	Crystal Lake (SRA)	S	I		S		S	I	5	Aquatic Life- pH, Nutrients, DO	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	
LB2-L0080	Prairie Lake (32-Mile H)	NA	I		S		S	I	5	Aquatic Life- pH	Unknown	Fish consumption assessment
LB2-L0090	Roseland (32-Mile D)	NA	S		S		S	S	2			
Streams												

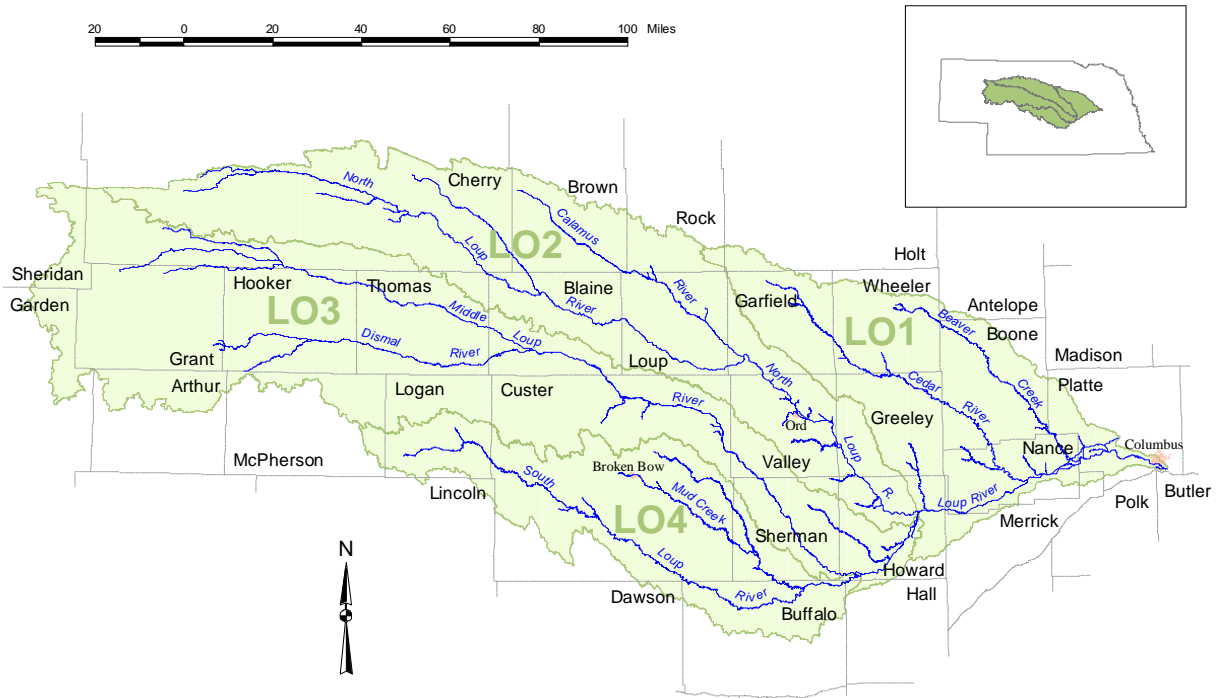
Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LB1-10000	Little Blue River	I	I	I	S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine, Public Drinking Water Supply-Atrazine	E. coli, Atrazine	E. coli TMDL approved 3/05, Aquatic community & Fish consumption assessment
LB1-10100	Coon Creek		S		NA		NA	S	2			Aquatic community assessment
LB1-10200	Rock Creek	I	S		NA		NA	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
LB1-10300	Smith Creek		NA		NA		NA		3			
LB1-10400	Rose Creek		NA		NA		NA		3			
LB1-10410	Dry Branch		S		NA		S	S	2			Aquatic community assessment
LB1-10420	Silver Creek		NA		NA		NA		3			
LB1-10430	Buckley Creek		NA		NA		NA		3			
LB1-10500	Rose Creek		NA		NA		NA		3			
LB1-10510	Wiley Creek		NA		NA		NA		3			
LB1-10520	Balls Branch		NA		NA		NA		3			
LB1-10530	Spring Branch		NA		NA		NA		3			
LB1-10600	Rose Creek		NA		NA		NA		3			
LB1-10700	Whisky Run		NA		NA		NA		3			
LB1-10800	Little Sandy Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LB2-10000	Little Blue River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine	E. coli, Atrazine	E. coli TMDL approved 3/05
LB2-10100	Big Sandy Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine	E. coli, Atrazine	Aquatic community assessment
LB2-10110	Dry Sandy Creek		NA		NA		NA		3			
LB2-10200	Big Sandy Creek		I		NA		NA	I	5	Aquatic Life-Fish consumption advisory	Hazard index compounds*, Mercury	Aquatic community & Fish consumption assessment
LB2-10210	South Fork Big Sandy Creek		NA		NA		NA		3			
LB2-10220	Little Sandy Creek		NA		NA		NA		3			
LB2-10300	Big Sandy Creek		NA		NA		NA		3			
LB2-10400	Dry Creek		NA		NA		NA		3			
LB2-10500	Spring Creek		I		NA		S	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
LB2-10510	Unnamed Creek		NA		NA		NA		3			
LB2-10600	Spring Creek		I		NA		S	I	5	Aquatic Life-Impaired aquatic	Unknown	Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										community		
LB2-20000	Little Blue River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine	E. coli, Atrazine	Aquatic community & Fish consumption assessment
LB2-20100	Elk Creek		NA		NA		NA		3			
LB2-20200	Elk Creek		S		NA		S	S	2			Aquatic community assessment
LB2-20300	Ox Bow Creek		NA		NA		NA		3			
LB2-20400	Walnut Creek		NA		NA		NA		3			
LB2-20500	Liberty Creek		S		NA		NA	S	2			Aquatic community assessment
LB2-30000	Little Blue River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
LB2-30100	Pawnee Creek		NA		NA		NA		3			
LB2-30200	Ash Creek		NA		NA		NA		3			
LB2-30300	Thirty-two Mile Creek		NA		NA		NA		3			
LB2-40000	Little Blue River		S		NA		NA	S	2			Aquatic community assessment
LB2-40100	Scott Creek		NA		NA		NA		3			
Wetlands												
LB2-Undesig.	Gleason WPA		NA		NA		NA		3			
LB2-Undesig.	Massie WPA		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LB2-Undesig.	McMurtrey WPA		NA		NA		NA		3			
LB2-Undesig.	Moger WPA		NA		NA		NA		3			

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium



LOUP RIVER BASIN (and Subbasins)

Loup River Basin – Hydrologic Units 10210001, 10210002, 10210003, 10210004, 10210005, 10210006, 10210007, 10210008, 10210009 and 10210010

The Loup River Basin includes 110 designated stream segments and 47 designated lakes/reservoirs. Beneficial uses assigned to designated water in the basin can be found in the below table.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	47	0	1	46	0	0	47	0	47
Streams	37	0	36	26	48	0	110	0	110

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

LO1-LO130 Pible Lake- This waterbody was listed as Category 5 in the 2010 IR. In 2010 this waterbody’s aquatic life beneficial use was impaired due to high pH, low dissolved oxygen, total phosphorus, total nitrogen, chlorophyll a, and mercury in the 2010 IR. In the 2010 IR hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. In 2012 the pH impairment came off and the other impairments remained. Additionally, conductivity was added to the impairments. This waterbody will remain in Category 5.

LO2-L0015 Davis Creek- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's aquatic life beneficial use was impaired by total phosphorus and chlorophyll a. In 2012 the chlorophyll a impairment came off and the total phosphorus impairment remained. This waterbody will remain in Category 5.

LO2-L0050 Calamus- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's aquatic life beneficial use was impaired due to pH in the 2010 IR. In 2012 the waterbody remained impaired due to pH and new impairments include total phosphorus and chlorophyll a. This waterbody will remain in Category 5.

LO3-L0010: Farwell South Reservoir- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's aquatic life use had a fish consumption advisory and impaired for mercury. In 2010 hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. This waterbody will remain in Category 5.

LO3-L0020: Sherman Reservoir- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's aquatic life use had a fish consumption advisory and impaired for mercury along with total phosphorus and low dissolved oxygen. In 2010 hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. This waterbody will remain in Category 5.

LO4-L0010: Ravenna Lake (SRA)- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's aquatic life use had a fish consumption advisory and impaired for mercury. In 2010 hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. This waterbody will remain in Category 5.

LO4-10100 Mud Creek- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational beneficial use was impaired for E. coli and aquatic life was impaired for atrazine in the 2010 IR. Data collected in 2009 and 2010 was assessed and the results indicated the waterbody is no longer impaired for atrazine. This waterbody's recreational use remains impaired for E. coli. This waterbody will remain in Category 5.

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Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
LO1-L0010	Columbus City Park Pond	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazardous Index Compounds, Mercury	Fish consumption assessment
LO1-L0020	Columbus Issac Walton Lake	NA	NA		NA		NA		3			
LO1-L0030	Pawnee Park Lake (Columbus)	NA	NA		NA		NA		3			
LO1-L0040	Stires Lake	NA	NA		NA		NA		3			
LO1-L0050	Wagner's Lake	NA	NA		NA		NA		3			
LO1-L0060	Loup Power District Headgate Pond No. 1	NA	NA		NA		NA		3			
LO1-L0070	Loup Power District Headgate Pond No. 2	NA	NA		NA		NA		3			
LO1-L0080	Loup Power District Headgate Pond No. 3	NA	NA		NA		NA		3			
LO1-L0090	Loup Power District Headgate Pond No. 4	NA	NA		NA		NA		3			
LO1-L0100	Loup Power District Headgate Pond No. 5	NA	NA		NA		NA		3			
LO1-L0110	Stevenson's Lake	NA	NA		NA		NA		3			
LO1-L0120	Wolbach City Lake	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO1-L0130	Pibel Lake	NA	I		I		S	I	5	Aquatic Life-DO, Nutrients, Fish Consumption Advisory, Ag Water Supply-Conductivity	Unknown, Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index Compounds*, Mercury, Unknown	Delist pH, Fish consumption assessment
LO1-L0140	Lake Ericson	NA	S		S		S	S	2			Fish consumption assessment
LO1-L0150	Fullerton City Lake	NA	NA		NA		NA		3			
LO2-L0010	North Loup Lake (SRA)	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazardous Index Compounds	Fish consumption assessment
LO2-L0015	Davis Creek Reservoir	S	I		S		S	I	5	Aquatic Life-DO, Nutrients	Unknown, Total Phosphorus	Delist chlorophyll a, Fish consumption assessment
LO2-L0020	Ord City Lake	NA	NA		NA		S	S	2			
LO2-L0030	Burwell Lake	NA	NA		NA		NA		3			
LO2-L0040	Burwell Park Lake	NA	NA		NA		NA		3			
LO2-L0050	Calamus Reservoir	S	I		S		S	I	5	Aquatic Life-Nutrients, pH	Total Phosphorus, Chlorophyll a, Unknown	Fish consumption assessment
LO2-L0055	Willow Lake B.C.	NA	NA		NA		NA		3			
LO2-L0060	Clear Lake	NA	S		S		S	S	2			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO2-L0070	Enders Overflow Lake	NA	NA		NA		NA		3			
LO2-L0080	Long Lake (SRA)	NA	S		S		S	S	2			
LO2-L0090	South Twin Lake (WMA)	a	NA		NA		NA		3			
LO2-L0100	Dew Lake (Valentine NWR)	NA	NA		NA		NA		3			
LO2-L0110	Crooked Lake (Valentine NWR)	NA	NA		NA		NA		3			
LO2-L0120	East Long Lake (Valentine NWR)	NA	NA		NA		NA		3			
LO2-L0180	Cow Lake (Valentine NWR)	NA	NA		NA		NA		3			
LO2-L0250	Coleman Lake (Valentine NWR)	NA	NA		NA		NA		3			
LO2-L0260	Rat and Beaver Lake (WMA)	NA	NA		NA		NA		3			
LO2-L0270	Mule Lake (Valentine NWR)	NA	NA		NA		NA		3			
LO2-L0280	Devil's Punch Bowl Lake	NA	NA		NA		NA		3			
LO3-L0010	Farwell South Reservoir	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
LO3-L0020	Sherman Reservoir	S	I		S		S	I	5	Aquatic Life-Nutrients, DO, Fish Consumption Advisory	Total Phosphorus, Unknown, Hazard Index Compounds*, Mercury	Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO3-L0030	Bowman Lake (SRA)	NA	NA		NA		NA		3			
LO3-L0040	Victoria Springs Lake (SRA)	NA	NA		NA		NA		3			
LO3-L0050	Halsey Trout Pond (Nebraska National Forest)	NA	NA		NA		NA		3			
LO3-L0060	Spring Valley Lake	NA	NA		NA		NA		3			
LO3-L0070	Frey Lake	NA	S		S		S	S	2			
LO3-L0090	Alkali Lake	NA	S		S		S	S	2			Naturally alkaline Sandhills lake
LO4-L0010	Ravenna Lake (SRA)	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
LO4-L0020	Beaver Creek Lake (SWA)	NA	NA		NA		NA		3			
LO4-L0030	Ansley City Lake	NA	I		S		S	I	4r	Aquatic Life-Nutrients	Total Nitrogen, Chlorophyll a	Lake recently renovated, Fish consumption assessment
LO4-L0040	Melham Park Lake (Broken Bow)	NA	NA		NA		NA		3			
LO4-L0050	Arnold Lake (SRA)	NA	S		NA		NA	S	2			Fish consumption assessment
Streams												
LO1-10000	Loup River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Fish consumption assessment
LO1-10100	Barnum Creek		NA		NA		NA		3			
LO1-10200	Cherry Creek		NA		NA		NA		3			
LO1-10300	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO1-10400	Looking Glass Creek		NA		NA		NA		3			
LO1-10500	Looking Glass Creek		NA		NA		NA		3			
LO1-10600	Beaver Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
LO1-10610	Bogus Creek		NA		NA		NA		3			
LO1-10700	Beaver Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Impaired aquatic community	E. coli, Unknown	Aquatic community & Fish consumption assessment
LO1-10800	Beaver Creek		S		NA		NA	S	2			Aquatic community assessment
LO1-10900	Beaver Creek		NA		NA		NA		3			
LO1-10910	Unnamed Tributary		NA		NA		NA		3			
LO1-11000	Beaver Creek		NA		NA		NA		3			
LO1-20000	Loup River	NA	NA		NA		NA		3			
LO1-20100	Unnamed Creek		NA		NA		NA		3			
LO1-20200	Loup River Canal	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
LO1-30000	Loup River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06
LO1-30100	Council Creek		NA		NA		NA		3			
LO1-30200	Plum Creek		NA		NA		NA		3			
LO1-30300	Cedar River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO1-30310	Timber Creek		S		S		S	S	1			
LO1-30311	South Branch Timber Creek		S		NA		NA	S	2			Aquatic community assessment
LO1-30312	North Branch Timber Creek		NA		NA		NA		3			
LO1-30320	Clear Creek		NA		NA		NA		3			
LO1-30400	Cedar River		NA		NA		NA		3			
LO1-30500	Cedar River		S		NA		NA	S	2			Aquatic community assessment
LO1-30510	Dry Cedar Creek		NA		NA		NA		3			
LO1-30600	Cedar River		NA		NA		NA		3			
LO1-30610	Little Cedar Creek		NA		NA		NA		3			
LO1-30620	Big Cedar Creek		NA		NA		NA		3			
LO1-30700	Spring Creek		NA		NA		NA		3			
LO1-30710	West Branch Spring Creek		NA		NA		NA		3			
LO1-30800	Spring Creek		NA		NA		NA		3			
LO2-10000	North Loup River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Aquatic community & Fish consumption assessment
LO2-10100	Auger Creek		NA		NA		NA		3			
LO2-10200	Munson Creek		S		NA		NA	S	2			Aquatic community assessment
LO2-10300	Davis Creek		S		NA		NA	S	2			Aquatic community assessment
LO2-10400	Mira Creek		S		S		S	S	1			Aquatic community assessment
LO2-10410	South Branch Mira Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO2-10420	North Branch Mira Creek		NA		NA		NA		3			
LO2-10500	Messenger Creek		NA		NA		NA		3			
LO2-10600	Spring Creek		NA		NA		NA		3			
LO2-10700	Elm Creek		NA		NA		NA		3			
LO2-10800	Unnamed Creek		NA		NA		NA		3			
LO2-10900	Dane Creek		NA		NA		NA		3			
LO2-11000	Haskell Creek		NA		NA		NA		3			
LO2-11100	Turtle Creek		S		NA		NA	S	2			Aquatic community assessment
LO2-11200	Bean Creek		NA		NA		NA		3			
LO2-11300	Calamus River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-High temperature	E. coli, Temperature	
LO2-11310	Gracie Creek		NA		NA		NA		3			
LO2-11320	Bloody Creek		NA		NA		NA		3			
LO2-11330	Skull Creek		NA		NA		NA		3			
LO2-11400	Calamus River	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-High temperature	E. coli, Temperature	E. coli TMDL approved 1/06
LO2-11500	Calamus River	NA	NA		NA		NA		3			
LO2-11600	Calamus River		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO2-20000	North Loup River	S	I		S		S	I	4c	Aquatic Life-High Temperature	Temperature	Fish consumption assessment
LO2-20100	Goose Creek	NA	S		NA		NA	S	2			Aquatic community assessment
LO2-20200	Goose Creek		NA		NA		NA	NA	3			Aquatic community assessment results were inconclusive - site will be reassessed†
LO2-30000	North Loup River	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-High temperature	E. coli, Temperature	E. coli TMDL approved 1/06
LO2-30100	Pass Creek		NA		NA		NA		3			
LO2-40000	North Loup River	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-High temperature	E. coli, Temperature	E. coli TMDL approved 1/06, Aquatic community assessment, ICI score not representative of water quality conditions†
LO2-40100	Brush Creek		NA		NA		NA		3			
LO2-40200	Big Creek		S		NA		NA	S	2			Aquatic community assessment
LO2-50000	North Loup River		NA		NA		NA		3			
LO2-60000	North Loup River		S		NA		NA	S	2			Aquatic community assessment
LO2-70000	North Loup River		NA		NA		NA		3			
LO2-70100	Mud Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO3-10000	Middle Loup River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Fish consumption assessment
LO3-10100	Lake Creek		NA		NA		NA		3			
LO3-10200	Turkey Creek		I		S		S	I	5	Aquatic Life-May-June atrazine	Atrazine	
LO3-10300	Oak Creek		NA		NA		NA		3			
LO3-10400	Oak Creek	NA	I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
LO3-20000	Middle Loup River	S	S		S		S	S	1			
LO3-30000	Middle Loup River	S	S		S		S	S	1			Aquatic community & Fish consumption assessment
LO3-40000	Middle Loup River	S	S		S		S	S	1			Fish consumption assessment
LO3-40100	Unnamed Creek		NA		NA		NA		3			
LO3-40200	Wagner Creek		NA		NA		NA		3			
LO3-40300	Lillian Creek		NA		NA		NA		3			
LO3-40400	Victoria Creek		S		NA		NA	S	2			Aquatic community assessment
LO3-50000	Middle Loup River	S	S		S		S	S	1			
LO3-50100	Dismal River	S	I		S		S	I	4c	Aquatic Life-High Temperature	Temperature	Fish consumption assessment
LO3-50200	Dismal River	S	S		S		S	S	1			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO3-50300	Dismal River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06
LO3-50310	South Fork Dismal River	NA	NA		NA		NA		3			
LO3-50320	South Fork Dismal River		NA		NA		NA		3			
LO3-50330	North Fork Dismal River	NA	S		NA		NA	S	2			Aquatic community assessment
LO3-50340	North Fork Dismal River		NA		NA		NA		3			
LO3-60000	Middle Loup River	S	I		S		S	I	4c	Aquatic Life-High Temperature	Temperature	Aquatic community assessment
LO3-70000	Middle Loup River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
LO3-70100	South Branch Middle Loup River		NA		NA		NA		3			
LO3-70200	North Branch Middle Loup River		NA		NA		NA		3			
LO3-70210	Middle Branch Middle Loup River		NA		NA		NA		3			
LO3-70300	North Branch Middle Loup River		NA		NA		NA		3			
LO4-10000	South Loup River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Aquatic community & Fish consumption assessment
LO4-10100	Mud Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Delist atrazine
LO4-10110	Spring Branch		NA		NA		NA		3			
LO4-10120	Clear Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LO4-10200	Mud Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Impaired aquatic community	E. coli, Unknown	Aquatic community assessment
LO4-10210	Dutchman Valley		NA		NA		NA		3			
LO4-20000	South Loup River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Aquatic community & Fish consumption assessment
LO4-20100	Spring Creek		NA		NA		NA		3			
LO4-30000	South Loup River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
LO4-30100	Sand Creek		NA		NA		NA		3			
LO4-30200	Unnamed Creek		NA		NA		NA		3			
LO4-40000	South Loup River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
LO4-40100	North Fork South Loup River		NA		NA		NA		3			
LO4-50000	South Loup River		NA		NA		NA		3			

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

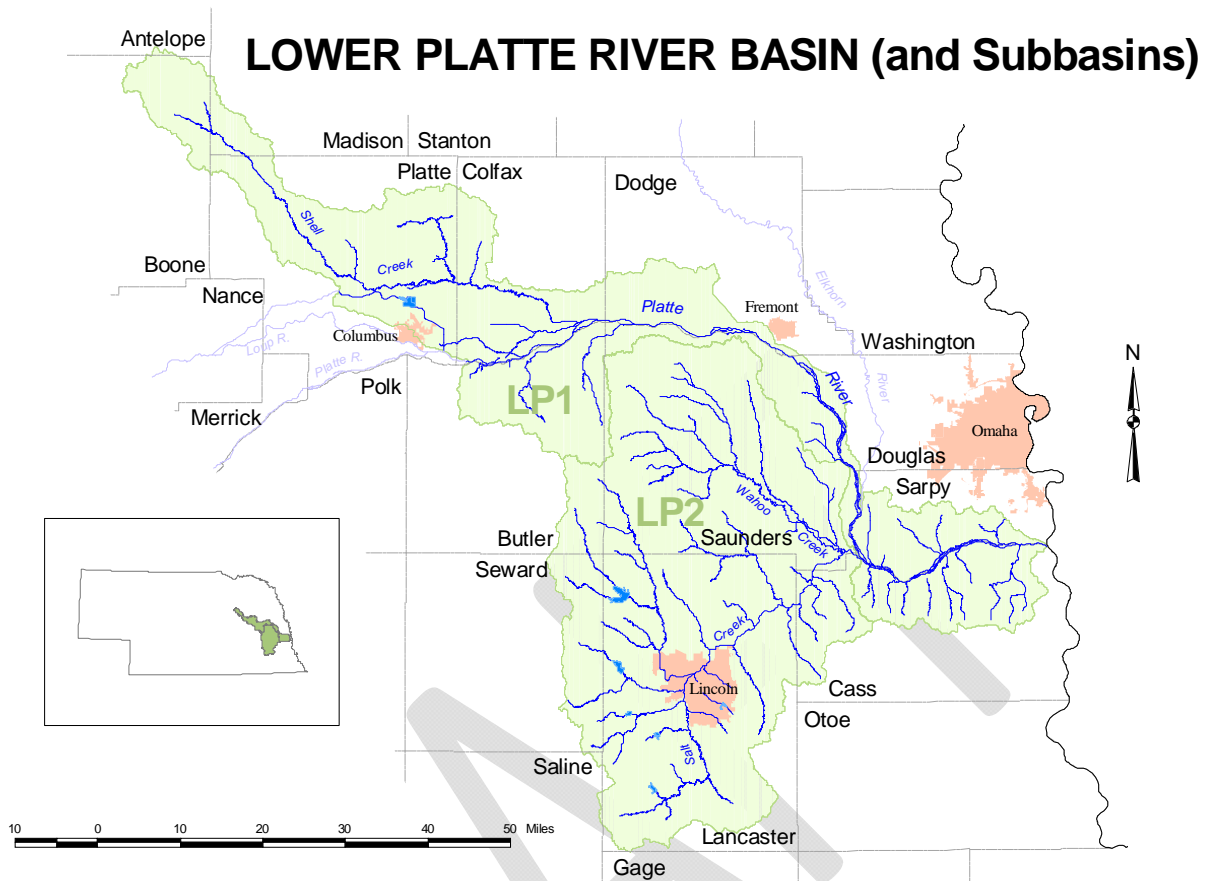
† See Appendix A: Ecological Justification for Excluding Specific Bio-Indicator Results When Determining Attainment Status of the Aquatic Life Beneficial Use for Nebraska's 2012 Water Quality Integrated Report

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DRAFT



+Lower Platte River Basin – Hydrologic Units 10200201, 10200202 and 10200203

The Lower Platte River Basin includes 127 designated stream segments and 75 designated lakes/reservoirs.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply –Ag	Water Supply-Ind.	Aesthetics
Lakes	75	0	1	74	0	0	75	2	75
Streams	16	0	1	13	112	2	121	1	127

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

LP1-Undesg.: Johnson Lake- This waterbody was not listed in the 2010 IR and is not designated in Title 117. Data collected in 2009 determined this waterbody’s aquatic life use has a fish consumption advisory and is impaired for hazard index compounds and mercury. This waterbody will be placed in Category 5.

LP1-L0020: Louisville Lake No. 1A (SRA)- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody’ aquatic life beneficial use is

supported. Although additional data must be collected and analyzed to determine if all beneficial uses are being met this data provides support for the aquatic life. This waterbody will be moved to Category 2.

LP1-L0040: Louisville Lake No. 3 (SRA)- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's recreational beneficial use is supported. Although additional data must be collected and analyzed to determine if all beneficial uses are being met this data provides support for the recreational use. This waterbody will be moved to Category 2.

LP1-L0060: Jenny Newman Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus and chlorophyll a. This waterbody will be moved to Category 5.

LP1-L0090: Marina Lake (Mahoney State Park); LP1-L0100: Two Rivers Lake No. 5 (SRA); LP1-L0120: Two Rivers Lake No. 6 (SRA); LP1-L0130: Two Rivers Lake No. 1 and 2 (SRA); LP1-L0140: Two Rivers Lake No. 3 (SRA)- These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined these waterbody's recreational beneficial uses are supported. Although additional data must be collected and analyzed to determine if all beneficial uses are being met this data provides support for the recreational use. These waterbodies will be moved to Category 2.

LP1-L0220: Fremont Lake No. 18 (SRA)- This waterbody was listed as Category 1 in the 2010 IR. An error in the 2010 listing was detected and this waterbody should be listed as Category 2. E. coli data needs to be collected to determine if all beneficial uses are being met.

LP1-L0290: Fremont Lake No. 1- This waterbody was listed as Category 5 in the 2010 IR. In 2010 this waterbody's aquatic life beneficial use was impaired for dissolved oxygen, pH, and mercury. Data collected in 2009 and 2010 determined this waterbody's aquatic life beneficial use is also impaired for total phosphorus and chlorophyll a. In the 2010 IR hazard index compounds should have also been listed with the mercury impairment and will be added to the 2012 IR. This waterbody will remain in Category 5.

LP1-L0300: Fremont Lake No. 2- This waterbody was listed as Category 5 in the 2010 IR. In 2010 this waterbody's aquatic life beneficial use was impaired for algal toxins and chlorophyll a. Data collected in 2009 and 2010 determined this waterbody was no longer impaired for algal toxins, however, it remains impaired by chlorophyll a. Additionally, the waterbody's aquatic life beneficial use is impaired for total phosphorus and total nitrogen. This waterbody will remain in Category 5.

LP1-L0330: Fremont Lake No. 4- This waterbody was listed as Category 1 in the 2010 IR. Data collected in 2009 and 2010 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus, total nitrogen, chlorophyll a, and high pH. This waterbody will be moved to Category 5.

LP1-L0350: Fremont Lake No. 7 & 8- This waterbody was listed as Category 5 in the 2010 IR. In 2010 the waterbody's aquatic life beneficial use was impaired for high pH. Data collected in 2009 and 2010 determined this waterbody's aquatic life use is also impaired for total phosphorus, total nitrogen, and chlorophyll a. This waterbody will remain Category 5.

LP1-L0355: Homestead Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus, total nitrogen, and chlorophyll a. This waterbody will be moved to Category 5.

LP2-L0010: Memphis Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is impaired for hazard index compounds and mercury. This waterbody will be moved to Category 5.

LP2-L0030: Wagon Train Lake- This waterbody was listed as Category 5 in the 2010 IR. In 2010 the waterbody's aquatic life beneficial use was impaired for arsenic, total phosphorus, total nitrogen, chlorophyll a, hazard index compounds, and mercury. Data collected in 2009 determined this waterbody's

aquatic life is also impaired for low dissolved oxygen. This waterbody will move to Category 4r due to being renovated.

LP2-L0040: Holmes Lake- This waterbody was listed as Category 4r in the 2010 IR. In 2010 this waterbody's aquatic life beneficial use was impaired for total phosphorus, total nitrogen, chlorophyll a, and high pH. Data collected in 2009 determined this waterbody's aquatic life use is also impaired for hazard index compounds and mercury. This waterbody will move to Category 5 due to fish consumption advisory.

LP2-L0050: Stagecoach Lake- This waterbody was listed as Category 5 in the 2010 IR. In 2010 this waterbody's aquatic life beneficial use was impaired for total phosphorus, total nitrogen, and chlorophyll a. Additionally this waterbody's aesthetics beneficial use was impaired for sediments. Data collected in 2009 determined this waterbody's aquatic life use is also impaired for hazard index compounds and mercury. This waterbody will remain Category 5.

LP2-L0070: Cottontail Lake (17A)- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's recreational beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met E. coli data provides support to the recreational use. This waterbody will be moved to Category 2.

LP2-L0100: Bowling Lake- This waterbody was listed in Category 2 in the 2010 IR. Data collected in 2009 and 2010 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus, total nitrogen, and chlorophyll a. In 2006 the lake was renovated and newly filled reservoirs usually go through a period of trophic instability. As a result of the trophic instability of this waterbody, the nutrients have increased. This waterbody will be moved to Category 4r.

LP2-L0110: Bluestem Lake- This waterbody was listed in Category 5 in the 2010 IR. In 2010 this waterbody's aquatic life beneficial use was impaired for total phosphorus, total nitrogen, chlorophyll a, and the aesthetics was impaired for sedimentation. Data collected in 2009 determined this waterbody's aquatic life is also impaired for hazard index compounds and mercury. This waterbody will remain Category 5.

LP2-L0120: Wildwood Lake- This waterbody was listed in Category 4r in the 2010 IR. In 2010 this waterbody's aquatic life beneficial use was impaired for total phosphorus, total nitrogen, and chlorophyll a. Data collected in 2009 determined this waterbody's aquatic life use is also impaired for hazard index compounds and mercury. This waterbody will move to Category 5 due to fish consumption advisory.

LP2-L0170: Merganser Lake (25A)- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life is impaired for hazard index compounds and mercury. This waterbody will be moved to Category 5.

LP2-L0190: Red Cedar Lake; LP2-L0200: Wild Plum Lake (26A)- These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined the recreational beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met E. coli data provides support to the recreational use. These waterbodies will be moved to Category 2.

LP2-L0220: Meadowlark Lake- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's aquatic life beneficial use was impaired for total phosphorus, total nitrogen, chlorophyll a, and dissolved oxygen. While no new data was collected the lake was renovated in 2007 relocating this waterbody to Category 4r.

LP2-L0250: Timber Point Lake (6C)- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's recreational beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met E. coli data provides support to the recreational use. This waterbody will be moved to Category 2.

LP2-L0270: Czechland Lake-This waterbody was listed as Category 5 in the 2010 IR. This waterbody's aquatic life beneficial use was impaired for total phosphorus, total nitrogen, chlorophyll a, and mercury. While no new water quality data was collected an error was detected in the 2010 listing. Additionally, pH should be listed as an impairment. Also, in 2009 data was collected on the fish community and hazard index compounds should be added to the list of impairments. This waterbody will remain Category 5.

LP2-L0280: Redtail Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's aquatic life beneficial use is impaired for total phosphorus and chlorophyll. This waterbody will be moved to Category 5.

LP1-10000: Platte River- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational beneficial use was impaired for E. coli and aquatic life use impaired for selenium, atrazine, and pH. Data collected in 2009 on the fish community determine this waterbody is also impaired for hazard index compounds. This waterbody will remain Category 5.

LP1-10200:Fourmile Creek: This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is supported by the aquatic community assessment. Although additional parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community assessment provides support. This waterbody will be moved to Category 2.

LP1-20600: Shell Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

LP1-20640:Loseke Creek; LP1-21400:Bone Creek- These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined these waterbodies aquatic life beneficial use is supported by the aquatic community assessment. Although additional parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic community assessment provides support. These waterbodies will be moved to Category 2.

LP1-21800: Loup River Canal- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's aquatic life was impaired for hazard index compounds. Data collected in 2009 determined this waterbody is no longer impaired for hazard index compounds. Although more parameters need to be collected and analyzed to determine if all beneficial uses are being met the fish assessment provides support. This waterbody will be moved to Category 2.

LP2-10000: Salt Creek- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational beneficial use was impaired for E. coli and aquatic life use impaired for chloride, and hazard index compounds. Data collected in 2009 determined the hazard index compound impairment should be removed. This waterbody's recreational use remains impaired for E. coli therefore will remain Category 5.

LP2-10110: Clear Creek- This waterbody was listed as Category 2 in the 2010 IR. This waterbody supported its beneficial uses of aquatic life, agriculture water supply, and aesthetics. Data collected in 2009 determined this waterbody's recreational use was impaired for E. coli. This waterbody will be moved to Category 5.

LP2-10121: Johnson Creek-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody has an impaired aquatic community. This waterbody will be moved to Category 5.

LP2-20000: Salt Creek-This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational beneficial use was impaired for E. coli and aquatic life use impaired for ammonia, chloride, cancer risk & hazard index compounds, mercury, and an impaired aquatic community. Data collected in 2009 determined this waterbody is no longer impaired for cancer risk compounds and mercury. However,

this waterbody remains impaired for E. coli, chloride, ammonia and an impaired aquatic community. This waterbody will remain Category 5.

LP2-20500: Oak Creek-This waterbody was listed as Category 5 in the 2010 IR. This waterbody's recreational beneficial use was impaired for E. coli and aquatic life use impaired for chloride. Data collected in 2009 determined this waterbody's aquatic life is also impaired for hazard index compounds. This waterbody will remain Category 5.

LP2-20600: Oak Creek-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody has an impaired aquatic community. Additionally the recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

LP2-21000: Middle Creek- This waterbody was listed as Category 5 in the 2010 IR. This waterbody had an impaired aquatic community. Data collected in 2009 determined this waterbody no longer has an impaired aquatic community and shows full support of all beneficial uses. This waterbody will be moved to Category 1.

LP2-21500: Beal Slough- This waterbody was listed as Category 4c in the 2010 IR. This waterbody's aquatic life beneficial use was impaired for pH coming from natural sources. Data collected in 2009 determined this waterbody's recreational use is impaired for E. coli. This waterbody will be moved to 5 until a TMDL is written for the E. coli impairment.

LP2-30000: Salt Creek-This waterbody was listed as Category 4a in the 2010 IR. This waterbody's recreational use was impaired for E. coli. Data collected in 2009 determined this waterbody also has an impaired aquatic community. This waterbody will move to Category 5.

LP2-30100: Cardwell Branch-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
LP1-Undesg.	Johnson Lake	NA	I		NA		NA	I	5	Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
LP1-L0010	Louisville Lake No. 1 (SRA)	S	NA		NA		NA	S	2			Fish consumption assessment
LP1-L0020	Louisville Lake No. 1A (SRA)	NA	S		NA		NA	S	2			
LP1-L0030	Louisville Lake No. 2 (SRA)	S	NA		NA		S	S	2			
LP1-L0040	Louisville Lake No. 3 (SRA)	S	NA		NA		NA	S	2			
LP1-L0050	Louisville Lake No. 2A (SRA)	S	NA		NA		NA	S	2			
LP1-L0060	Jenny Newman Lake (Platte River State Park)	NA	I		NA		NA	I	5	Aquatic Life-Nutrients	Total Phosphorus, Chlorophyll a	
LP1-L0070	Schramm Park Ponds (10 Ponds) (SRA)	NA	NA		NA		NA		3			
LP1-L0080	U.S. West Lake (Mahoney State Park)	NA	NA		NA		NA		3			
LP1-L0090	Owen Marina Lake (Mahoney State Park)	S	NA		NA		NA	S	2			
LP1-L0100	Two Rivers Lake No. 5 (SRA)	S	NA		NA		NA	S	2			
LP1-L0110	Two Rivers Carp Lake (SRA)	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP1-L0120	Two Rivers Lake No. 6 (SRA)	S	NA		NA		NA	S	2			
LP1-L0130	Two Rivers Lake No. 1 and 2 (SRA)	S	NA		NA		NA	S	2			
LP1-L0140	Two Rivers Lake No. 3 (SRA)	S	NA		NA		NA	S	2			
LP1-L0150	Two Rivers Lake No. 4 (SRA)	S	NA		NA		S	S	2			
LP1-L0160	Fremont Lake No. 14 (SRA)	NA	NA		NA		NA		3			
LP1-L0170	Fremont Lake No. 13 (SRA)	NA	NA		NA		NA		3			
LP1-L0180	Fremont Lake No. 12 (SRA)	NA	S		S		S	S	2			
LP1-L0190	Fremont Lake No. 19 (SRA)	NA	NA		NA		NA		3			
LP1-L0200	Fremont Lake No. 15 (Victory) (SRA)	NA	NA		NA		S	S	2			
LP1-L0210	Fremont Lake No. 11 (SRA)	NA	NA		NA		NA		3			
LP1-L0220	Fremont Lake No. 18E (SRA)	NA	S		S		S	S	2			Error in 2010 listing- moved to category 2
LP1-L0230	Fremont Lake No. 17 (SRA)	S	I		S		S	I	5	Aquatic Life-pH, Nutrients	Unknown, Chlorophyll a, Total Nitrogen , Total Phosphorus	
LP1-L0240	Fremont Lake No. 10 (SRA)	S	NA		NA		S	S	2			Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP1-L0250	Fremont Lake No. 20 (SRA)	S	S		S		S	S	1			
LP1-L0270	Fremont Lake No. 16 (SRA)	S	I		S		S	I	5	Aquatic Life-pH, Nutrients	Unknown, Chlorophyll a, Total Nitrogen	
LP1-L0280	Fremont Lake No. 9 (SRA)	S	NA		NA		S	S	2			
LP1-L0290	Fremont Lake No. 1 (SRA)	S	I		S		S	I	5	Aquatic Life-Nutrients, DO, pH, Fish Consumption Advisory	Total Phosphorus, Chlorophyll a, Unknown, Hazard Index Compounds*, Mercury	Fish consumption assessment
LP1-L0300	Fremont Lake No. 2 (SRA)	S	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	Delist algal toxin
LP1-L0310	Fremont Lake No. 3 (SRA)	S	I		S		S	I	5	Aquatic Life-DO, Nutrients	Unknown, Total Phosphorus, Total Nitrogen, Chlorophyll a	
LP1-L0320	Fremont Lake No. 5 (SRA)	S	I		S		S	I	5	Aquatic Life-pH, DO, Nutrients	Unknown, Total Phosphorus,	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
											Total Nitrogen, chlorophyll a	
LP1-L0330	Fremont Lake No. 4 (SRA)	S	I		S		S	I	5	Aquatic Life-Nutrients, pH	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	
LP1-L0340	Fremont Lake No. 6 (SRA)	NA	NA		NA		NA		3			
LP1-L0350	Fremont Lake No. 7 and 8 (SRA)	S	I		S		S	I	5	Aquatic Life-Nutrients, pH	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	
LP1-L0355	Homestead Lake	S	I		NA		NA	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	
LP1-L0360	Schuyler East Park Pond	NA	NA		NA		NA		3			
LP1-L0370	Schuyler City Lake	NA	NA		NA		I	I	4r	Aesthetics-Algae Blooms	Nutrients	Lake recently renovated
LP1-L0380	Camp Luther Pond	NA	NA		NA		NA		3			
LP1-L0390	McAllister Lake	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP1-L0400	Christopher Cove Lake	NA	NA		NA		NA		3			
LP1-L0410	Country Club Shores Lake	NA	NA		NA		NA		3			
LP1-L0420	Columbus Country Club Lake	NA	NA		NA		NA		3			
LP1-L0430	Oconee Siphon Pond	NA	NA		NA		NA		3			
LP1-L0440	Lake North	S	I		S		S	I	5	Aquatic Life-pH	Unknown	Fish consumption assessment
LP1-L0450	Lake Babcock	I	S		NA		S	I	5	Recreation-Bacteria	E. coli	Fish consumption assessment
LP2-L0010	Memphis Lake (SRA)	S	I		NA		NA		5	Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
LP2-L0020	Hedgefield Lake (WMA)	NA	NA		NA		NA		3			
LP2-L0030	Wagon Train Lake	S	I		S		S	I	4r	Aquatic Life-Nutrients, DO, Arsenic (natural), Fish Consumption Advisory	Arsenic, Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown, Mercury, Hazard Index Compounds*	Fish consumption assessment, Lake renovated 2001

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-L0040	Holmes Lake	S	I		S		S	I	5	Aquatic Life-pH, nutrients, Fish Consumption Advisory	Unknown, Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index Compounds*, Mercury	Fish consumption assessment, Lake recently renovated
LP2-L0050	Stagecoach Lake	S	I		S		I	I	5	Aesthetics-Sedimentation, Aquatic Life-Nutrients, Fish Consumption Advisory	Sedimentation, Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index Compounds*, Mercury	Fish consumption assessment
LP2-L0060	Oak Lake	NA	I		NA		S	I	5	Aquatic Life-DO, Chlorides	Unknown	Salinity is natural. List for DO, Fish consumption assessment
LP2-L0065	Regional Center Pond	NA	NA		NA		NA		3			
LP2-L0070	Cottontail Lake (17A)	S	NA		NA		NA	S	2			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-L0080	Killdeer Lake (WMA)	NA	S		NA		NA	S	2			Fish consumption assessment
LP2-L0090	Yankee Hill Lake	S	I		S		S	I	4r	Aquatic Life-pH	Unknown	Lake Renovated 2004
LP2-L0100	Bowling Lake	NA	I		NA		S	I	4r	Aquatic Life-nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	Lake Renovated 2006
LP2-L0110	Bluestem Lake	S	I		S		I	I	5	Aesthetics-Sedimentation, Aquatic Life-Nutrients, Fish Consumption Advisory	Sedimentation, Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index Compounds*, Mercury	Fish consumption assessment
LP2-L0120	Wildwood Lake	S	I		S		S	I	5	Aquatic Life-Nutrients, DO, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown, Hazard Index	Fish consumption assessment, Lake Renovated 2002

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
											Compounds*, Mercury	
LP2-L0130	Conestoga Lake	I	I		S		I	I	5	Recreation- Algae Toxins, Aesthetics- Sedimentation, Aquatic Life- Nutrients	Sedimentation, Total Phosphorus, Total Nitrogen, Chlorophyll a	Fish consumption assessment
LP2-L0140	Olive Creek Lake	S	I		S		S	I	5	Aquatic Life-pH, Arsenic (natural), Dissolved Oxygen(fish kills), Ammonia, Nutrients	Unknown, Total Phosphorus, Total Nitrogen, Chlorophyll a, Ammonia, Arsenic	Fish consumption assessment
LP2-L0150	Branched Oak Lake	S	I		S		S	I	5	Aquatic Life- Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-L0160	Pawnee Lake	I	I		S		I	I	5	Recreation- Algae Toxins, Aesthetics- Sedimentation, Aquatic Life- Arsenic(natural), Nutrients	Arsenic, Sedimentation, Total Phosphorus, Total Nitrogen, Chlorophyll a	Fish consumption assessment
LP2-L0170	Merganser Lake (25A)	NA	I		NA		NA	I	5	Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
LP2-L0180	Teal Lake (27C)	NA	NA		NA		NA		3			
LP2-L0190	Red Cedar Lake	S	NA		NA		NA	S	2			
LP2-L0200	Wild Plum Lake (26A)	S	NA		NA		NA	S	2			
LP2-L0210	Tanglewood Lake (27C)	NA	NA		NA		NA		3			
LP2-L0220	Meadowlark Lake	NA	I		S		S	I	4r	Aquatic Life- Nutrients, DO	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	Lake renovated 2007
LP2-L0230	Twin Lakes WMA Pond	NA	NA		NA		NA		3			
LP2-L0240	East Twin Lake	S	I		S		S	I	5	Aquatic Life- Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-L0250	Timber Point Lake (6C)	S	NA		NA		NA	S	2			
LP2-L0260	West Twin Lake	NA	I		S		S	I	5	Aquatic Life-Ammonia, Nutrients	Ammonia, Total Phosphorus, Total Nitrogen, Chlorophyll a	
LP2-L0270	Czechland Lake	NA	I		S		S	I	5	Aquatic Life-Nutrients, pH, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown, Hazard Index Compounds*, Mercury	pH impairment missed in 2010 listing, Fish consumption assessment
LP2-L0280	Redtail Lake	NA	I		NA		NA	I	5	Aquatic Life-Nutrients	Total Phosphorus, Chlorophyll a	
Streams												
LP1-10000	Platte River	S	I	I	S		S	I	5	Recreation-Bacteria, Aquatic Life-Selenium, Atrazine-water supply, High pH, Fish Consumption	E. coli, Selenium, Atrazine, Unknown, Hazard Index compounds*	E. coli TMDL approved 9/07, Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										Advisory		
LP1-10100	Fourmile Creek		S	NA	NA	NA	S	S	2			Aquatic community assessment
LP1-10110	Eightmile Creek		S	NA	NA	NA	S	S	2			Aquatic community assessment
LP1-10111	Bachelor Branch		NA	NA	NA	NA	NA	NA	3			
LP1-10200	Fourmile Creek		S	NA	NA	NA	NA	NA	2			Aquatic community assessment
LP1-10210	Unnamed Creek		NA	NA	NA	NA	NA	NA	3			
LP1-10300	Fourmile Creek		NA	NA	NA	NA	NA	NA	3			
LP1-10400	Zwiebel Creek		I	NA	NA	NA	I	I	4b	Aquatic Life-High pH	pH	NPDES permit enforcement
LP1-10410	Unnamed Creek		NA	NA	NA	NA	NA	NA	3			
LP1-10500	Zwiebel Creek		NA	NA	NA	NA	NA	NA	3			
LP1-10600	Turkey Creek		NA	NA	NA	NA	NA	NA	3			
LP1-10700	Cedar Creek		NA	NA	NA	NA	NA	NA	3			
LP1-10710	Unnamed Creek		NA	NA	NA	NA	NA	NA	3			
LP1-10800	Cedar Creek		NA	NA	NA	NA	NA	NA	3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP1-10900	Springfield Creek		NA		NA		NA		3			
LP1-11000	Buffalo Creek		NA		NA		NA		3			
LP1-11100	Mill Creek		NA		NA		NA		3			
LP1-11200	Decker Creek	NA	S		NA		NA	S	2			Aquatic community assessment
LP1-11300	Fountain Creek		NA		NA		NA		3			
LP1-11400	Unnamed Creek		NA		NA		NA		3			
LP1-11500	Pawnee Creek		S		NA		NA	S	2			Aquatic community assessment
LP1-11510	West Branch Pawnee Creek		NA		NA		NA		3			
LP1-11600	Pawnee Creek		S		NA		NA	S	2			Aquatic community assessment
LP1-11700	Western Sarpy Ditch		NA		NA		NA		3			
LP1-20000	Platte River	I	I	I	S		S	I	5	Recreation-Bacteria, Aquatic Life, Public Drinking Water Supply-Atrazine	E. coli, Atrazine	E. coli TMDL approved 9/07, Fish consumption assessment
LP1-20100	Clear Creek		NA		NA		NA		3			
LP1-20110	Upper Clear Creek		NA		NA		NA		3			
LP1-20200	Clear Creek		NA		NA		NA		3			
LP1-20300	Otoe Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP1-20400	Skull Creek		NA		NA		NA		3			
LP1-20410	Unnamed Creek		NA		NA		NA		3			
LP1-20500	Skull Creek		NA		NA		NA		3			
LP1-20600	Shell Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
LP1-20610	Taylor Creek		NA		NA		NA		3			
LP1-20620	Loseke Creek		NA		NA		NA		3			
LP1-20621	Schaad Creek		NA		NA		NA		3			
LP1-20621.1	Unnamed Creek		NA		NA		NA		3			
LP1-20630	Loseke Creek		NA		NA		NA		3			
LP1-20631	Unnamed Creek		NA		NA		NA		3			
LP1-20640	Loseke Creek		S		NA		NA		2			Aquatic community assessment
LP1-20700	Shell Creek		I		S		S	I	5	Aquatic Life-May-June atrazine, Selenium	Atrazine, Selenium	Atrazine TMDL approved 9/07
LP1-20710	Unnamed Creek		NA		NA		NA		3			
LP1-20720	Elm Creek		NA		NA		NA		3			
LP1-20800	Shell Creek		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP1-20810	North Shell Creek		NA		NA		NA		3			
LP1-20900	Shell Creek		NA		NA		NA		3			
LP1-21000	Lost Creek		NA		NA		NA		3			
LP1-21010	Shonka Ditch		S		NA		NA	S	2			
LP1-21100	Lost Creek		S		NA		NA	S	2			Aquatic community assessment
LP1-21200	Lost Creek		NA		NA		NA		3			
LP1-21300	Bone Creek		NA		NA		NA		3			
LP1-21310	Unnamed Creek		NA		NA		NA		3			
LP1-21400	Bone Creek		S		NA		NA		2			Aquatic community assessment
LP1-21500	Unnamed Creek		NA		NA		NA		3			
LP1-21600	Deer Creek		NA		NA		NA		3			
LP1-21700	Unnamed Creek		NA		NA		NA		3			
LP1-21800	Loup River Canal	S	S		NA	S	S	S	2			Delist fish consumption advisory, Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-10000	Salt Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Delist fish consumption advisory, E. coli TMDL approved 9/07, Fish consumption assessment
LP2-10100	Wahoo Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Selenium	E. coli, Selenium	E. coli TMDL approved 9/07, Aquatic community & Fish consumption assessment
LP2-10110	Clear Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
LP2-10111	Silver Creek		NA		NA		NA		3			
LP2-10120	Clear Creek		NA		NA		NA		3			
LP2-10121	Johnson Creek		I		NA		NA		5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
LP2-10130	Clear Creek		NA		NA		NA		3			
LP2-10140	Silver Creek		S		NA		NA	S	2			Aquatic community assessment
LP2-10150	Mosquito Creek		NA		NA		NA		3			
LP2-10160	Sand Creek		S		NA		NA	S	2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-10161	Duck Creek		S		S		S	S	1			Aquatic community assessment
LP2-10170	Sand Creek		S		S		S	S	1			Aquatic community assessment
LP2-10171	Spring Creek		NA		NA		NA		3			
LP2-10180	Sand Creek		NA		NA		NA		3			
LP2-10200	Wahoo Creek		NA		NA		NA		3			
LP2-10210	Cottonwood Creek		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
LP2-10211	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
LP2-10220	Miller Branch		S		NA		NA	S	2			Aquatic community assessment
LP2-10230	North Fork Wahoo Creek		NA		NA		NA		3			
LP2-10231	Unnamed Creek		NA		NA		NA		3			
LP2-10240	North Fork Wahoo Creek		NA		NA		NA		3			
LP2-10300	Wahoo Creek		NA		NA		NA		3			
LP2-10310	Dunlap Creek		NA		NA		NA		3			
LP2-10400	Wahoo Creek		S		NA		NA	S	2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-10500	Callahan Creek		S		NA		NA	I	4c		Iron	
LP2-10600	Robinson Creek		I		NA		NA	I	4c		Iron	
LP2-10700	Greenwood Creek		I		NA		NA	I	4c		Iron	
LP2-10800	Dee Creek		I		NA		NA	I	4c		Iron	Aquatic community assessment
LP2-10900	Camp Creek		I		NA		NA	I	4c		Iron	Aquatic community assessment
LP2-11000	Rock Creek		I		S		S	I	4c		Iron	Fish consumption assessment, Aquatic community assessment
LP2-11010	North Fork Rock Creek		I		NA		NA	I	4c		Iron	Aquatic community assessment
LP2-11100	Rock Creek		S		NA		NA	S	2			Aquatic community assessment
LP2-11110	Ash Hollow Creek		NA		NA		NA		3			
LP2-11120	Little Rock Creek		NA		NA		NA		3			
LP2-11200	Rock Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-20000	Salt Creek	I	I		I		S	I	5	Recreation-Bacteria, Aquatic Life-Ammonia, Chloride, Fish consumption advisory, Impaired aquatic community, Ag Water Supply-Conductivity	E. coli, Ammonia, Chloride Hazard Index compounds*, Unknown	Delist cancer risk compounds and mercury, E. coli TMDL approved 9/07, Aquatic community & Fish consumption assessment
LP2-20100	Jordan Creek		NA		NA		NA		3			
LP2-20200	Stevens Creek		NA		NA		NA		3			
LP2-20300	Little Salt Creek		I		S		S	I	5	Aquatic Life-Chloride, Selenium, Impaired aquatic community	Copper, Chloride, Selenium	Aquatic community assessment
LP2-20400	Dead Man's Run	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-High pH	E. coli, Unknown	E. coli TMDL approved 9/07
LP2-20500	Oak Creek	I	S		S		S	I	5	Recreation-Bacteria, Aquatic Life-Chloride, Fish Tissue-Hazard index compounds	E. coli, Chloride, Hazard Index Compounds*	E. coli TMDL approved 9/07, Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-20510	Elk Creek		NA		NA		NA		3			
LP2-20511	West Oak Creek		NA		NA		NA		3			
LP2-20520	Elk Creek		NA		NA		NA		3			
LP2-20600	Oak Creek	I	I		S		S	I	5	Aquatic Life-Impaired aquatic community, Recreation-Bacteria	Unknown, E. coli	Aquatic community assessment
LP2-20610	North Oak Creek		S		NA		NA	S	2			Aquatic community assessment
LP2-20611	Wagon Tongue Creek		NA		NA		NA		3			
LP2-20612	Bates Branch		S		NA		NA	S	2			Aquatic community assessment
LP2-20700	Oak Creek		S		NA		NA	S	2			Aquatic community assessment
LP2-20710	Middle Oak Creek		I		S		S	I	5	Aquatic Life-Atrazine	Atrazine	Aquatic community assessment
LP2-20800	Oak Creek		I		S		S	I	5	Aquatic Life-Atrazine	Atrazine	
LP2-20900	Antelope Creek	I	I		I		S	I	5	Recreation-Bacteria, Aquatic Life-Selenium, Copper,	E. coli, Chloride, Selenium, Copper	E. coli and ammonia TMDL approved 9/07

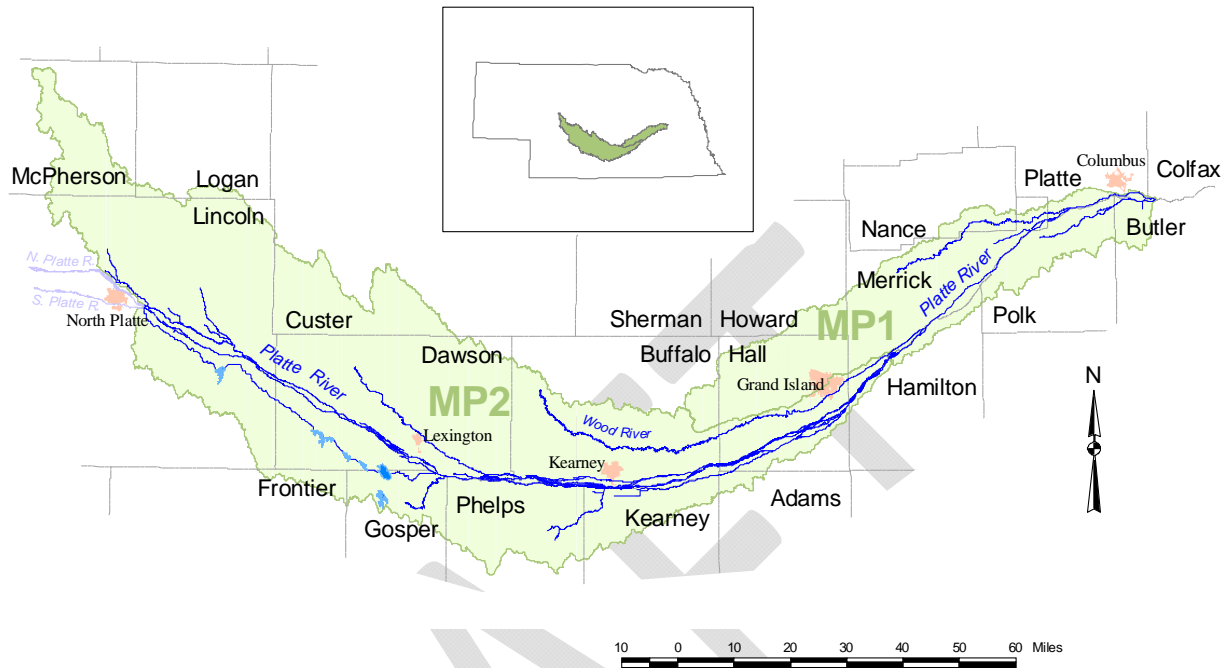
Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										Chloride, Ag Water Supply-Conductivity		
LP2-21000	Middle Creek		S		S		S	S	1			Delist impaired aquatic community, Aquatic community assessment
LP2-21010	South Branch Middle Creek		NA		NA		NA		3			
LP2-21100	Middle Creek		I		S		S	I	4a	Aquatic Life-Atrazine	Atrazine	Atrazine TMDL approved 9/07
LP2-21200	Haines Branch		NA		NA		NA		3			
LP2-21210	Holmes Creek		S		S		S	S	1			
LP2-21300	Haines Branch		NA		NA		NA		3			
LP2-21310	Cheese Creek		NA		NA		NA		3			
LP2-21400	Haines Branch		NA		NA		NA		3			
LP2-21500	Beal Slough	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-High pH	E. coli, Unknown	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
LP2-30000	Salt Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Impaired aquatic community	E. coli	E. coli TMDL approved 9/07, Fish consumption assessment, Aquatic community assessment
LP2-30100	Cardwell Branch	I	NA		NA		NA	I	5	Recreation-Bacteria	E. coli	
LP2-30200	Hickman Branch		S		NA		NA	S	2			Aquatic community assessment
LP2-40000	Salt Creek		NA		NA		NA		3			
LP2-40100	Wittstruck Creek		NA		NA		NA		3			
LP2-40200	Spring Branch		NA		NA		NA		3			
LP2-40300	Olive Branch		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community Assessment
LP2-40310	North Branch		S		NA		NA	S	2			Aquatic community assessment

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

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MIDDLE PLATTE RIVER BASIN (and Subbasins)



Middle Platte River Basin – Hydrologic Units 10200101, 10200102 and 10200103

The Middle Platte River Basin includes 29 designated stream segments and 95 designated lakes/reservoirs

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	95	0	0	95	0	0	95	2	95
Streams	13	0	3	12	14	1	29	1	29

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

MP2-Undesg.:Yanney Park Lake- This waterbody was not listed in the 2010 IR and is not designated in Title 117. Data collected in 2009 determined this waterbody’s aquatic life use has a fish consumption advisory and is impaired for hazard index compounds and mercury. This waterbody will be placed in Category 5.

MP1-L0120: Grand Island Detention Cell- This waterbody was listed in Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody is impaired for hazard index compounds and mercury. This waterbody will be moved to Category 5.

MP2-L0360: Cottonmill Lake- This waterbody was listed as Category 5 in the 2010 IR. This waterbody's aquatic life use had a fish consumption advisory and impaired for mercury. In 2010 hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. This waterbody will remain in Category 5.

MP2-L0570: Gallagher Canyon- This waterbody was listed in Category 2 in the 2010 IR with the following beneficial uses supported: aquatic life, agriculture water supply, and aesthetics. An error was detected in the 2010 assessment and the aquatic life beneficial use is impaired for total phosphorus. This waterbody will be moved to Category 5.

MP2-L0750: Maxwell Rest Area Lake (I-80 mile 194.0 N)- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is partially supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life is partially supported. This waterbody will be moved to Category 2.

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Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
MP1-L0010	Lease Lake	NA	NA		NA		NA		3			
MP1-L0015	Silver Creek City Pond	S	NA		NA		S	S	2			
MP1-L0020	Morman Trail Lake (SWA)	NA	S		NA		NA	S	2			Fish consumption assessment
MP1-L0030	Hord Lake East	NA	S		NA		NA	S	2			Fish consumption assessment
MP1-L0040	Hord Lake West	NA	NA		NA		NA		3			
MP1-L0050	Bader Memorial Lake No. 7	NA	NA		NA		NA		3			
MP1-L0060	Bader Memorial Lake No. 6	NA	NA		NA		NA		3			
MP1-L0070	Bader Memorial Lake No. 5	NA	NA		NA		NA		3			
MP1-L0080	Bader Memorial Lake No. 4	NA	NA		NA		NA		3			
MP1-L0090	Bader Memorial Lake No. 2	S	NA		NA		S	S	2			
MP1-L0100	Bader Memorial Lake No. 3	NA	NA		NA		NA		3			
MP1-L0110	Bader Memorial Lake No. 1	NA	NA		NA		NA		3			
MP1-L0120	Grand Island Detention Cell	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
MP1-L0130	Cornhusker Lake (WMA)	NA	NA		NA		NA		3			
MP2-Undesg.	Yanney Park Lake	NA	I		NA		NA	I	5	Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
MP2-L0010	Grand Island Rest Area Lake (I-80 mile 315.0 S)	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MP2-L0020	Grand Island Pier Lake	NA	NA		NA		NA		3			
MP2-L0030	Grand Island L. E. Ray Lake	NA	S		NA		NA	S	2			Fish consumption assessment
MP2-L0040	Grand Island Such's Lake	NA	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	
MP2-L0050	Mormon Island Lake (SWA)	NA	S		S		S	S	2			Fish consumption assessment
MP2-L0060	East Mormon Island Lake (SRA)	NA	NA		NA		NA		3			
MP2-L0070	West Mormon Island Lake (SRA)	S	I		S		S	I	5	Aquatic Life-DO	Unknown	
MP2-L0090	Alda Rest Area Lake (I-80 mile 306.0 N)	NA	S		S		S	S	2			
MP2-L0100	Cheyenne Lake (SRA)	NA	S		S		S	S	2			Fish consumption assessment
MP2-L0110	West Wood River Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0120	War Axe (SRA)	NA	S		S		S	S	2			
MP2-L0130	Windmill Lake No. 4 (SRA)	NA	NA		NA		NA		3			
MP2-L0140	Windmill Lake No. 5 (SRA)	NA	NA		NA		NA		3			
MP2-L0150	Windmill Lake No. 3 (SRA)	NA	NA		NA		NA		3			
MP2-L0160	Windmill Lake No. 2 (SRA)	NA	NA		NA		NA		3			
MP2-L0170	Windmill Lake No. 1 (SRA)	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MP2-L0180	Windmill Lake No. 6 (SRA)	NA	NA		NA		NA		3			
MP2-L0190	Bassway Strip Lake No. 5 (WMA)	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish Consumption Assessment
MP2-L0200	Bassway Strip Lake No. 4 (WMA)	NA	NA		NA		NA		3			
MP2-L0210	Bassway Strip Lake No. 3 (WMA)	NA	NA		NA		NA		3			
MP2-L0220	Bassway Strip Lake No. 2 (WMA)	NA	NA		NA		NA		3			
MP2-L0230	Bassway Strip Lake No. 1 (WMA)	NA	I		S		S	I	5	Aquatic Life-pH	Unknown	
MP2-L0240	Bufflehead Lake (WMA)	NA	I		S		S	I	5	Aquatic Life-pH	Unknown	
MP2-L0250	Ft. Kearny Lake No. 1	NA	NA		NA		NA		3			
MP2-L0260	Ft. Kearny Lake No. 2	NA	NA		NA		NA		3			
MP2-L0270	Ft. Kearny Lake No. 3	NA	NA		NA		NA		3			
MP2-L0280	Ft. Kearny Lake No. 4	NA	NA		NA		NA		3			
MP2-L0290	Ft. Kearny Lake No. 5	NA	NA		NA		NA		3			
MP2-L0300	Ft. Kearny Lake No. 6	NA	NA		NA		NA		3			
MP2-L0310	Ft. Kearny Lake No. 7	NA	NA		NA		NA		3			
MP2-L0320	Kea Lake (WMA)	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
MP2-L0330	Kearney Lake	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MP2-L0340	Kea West Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0350	North Kearney Rest Area Lake (I-80 mile 271.0 N)	NA	NA		NA		NA		3			
MP2-L0360	Cottonmill Lake	NA	I		S		S	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
MP2-L0370	South Kearney Rest Area Lake (I-80 mile 269.0 S)	NA	NA		NA		NA		3			
MP2-L0380	East Odessa Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0390	Union Pacific Lake (SRA)	NA	NA		NA		NA		3			
MP2-L0400	Coot Shallows (WMA)	NA	S		S		S	S	2			
MP2-L0410	Blue Hole East Lake (WMA)	NA	I		S		S	I	5	Aquatic Life-pH, Nutrients	Unknown, Total Phosphorus, Chlorophyll a	
MP2-L0420	Sandy Channel (WMA)	NA	S		S		S	S	2			Fish consumption assessment
MP2-L0430	Blue Hole Lake (Elm Creek) (WMA)	NA	NA		NA		NA		3			
MP2-L0440	West Elm Creek Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0450	Overton Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0460	Dogwood Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0470	Dawson County Museum Lake	NA	NA		NA		NA		3			
MP2-L0480	Interstate Lake (Lexington)	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MP2-L0490	Plum Creek Park Lake (Lexington)	NA	NA		NA		NA		3			
MP2-L0500	Phillips Lake	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
MP2-L0510	Bossung Lake	NA	NA		NA		NA		3			
MP2-L0520	Johnson Lake	S	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, chlorophyll a	Fish consumption assessment
MP2-L0530	Buffalo Creek Lake	NA	NA		NA		NA		3			
MP2-L0540	Elwood Reservoir	S	S		S		S	S	1			
MP2-L0550	Darr Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0560	Plum Creek Lake	NA	S		NA		NA	S	2			Fish consumption assessment
MP2-L0570	Gallagher Canyon Reservoir	NA	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus	Fish consumption assessment
MP2-L0580	Cozad Lake (WMA)	NA	I		S		S	I	5	Aquatic Life-pH	Unknown	Fish consumption assessment
MP2-L0590	West Cozad Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0600	East Willow Island Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0610	Willow Island Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0620	Midway Lake (8 Lakes)	NA	S		NA		NA	S	2			Fish consumption assessment
MP2-L0630	East Gothenberg Lake (WMA)	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MP2-L0640	Little Canyon Lake No. 2	NA	NA		NA		NA		3			
MP2-L0650	Lake Helen	NA	I		NA		S	I	5	Aquatic Life-DO	Unknown	
MP2-L0660	Little Canyon Lake No. 1	NA	NA		NA		NA		3			
MP2-L0680	West Gothenburg Lake (WMA)	NA	S		S		S	S	2			
MP2-L0690	Brady Lake (WMA)	NA	S		S		S	S	2			
MP2-L0700	Chester Island Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0710	Jeffrey Reservoir	NA	S		S		S	S	2			Fish consumption assessment
MP2-L0720	West Brady Lake (WMA)	NA	NA		NA		NA		3			
MP2-L0730	Snell Canyon Lake No. 2	NA	NA		NA		NA		3			
MP2-L0740	Snell Canyon Lake No. 1	NA	NA		NA		NA		3			
MP2-L0750	Maxwell Rest Area Lake (I-80 mile 194.0 N)	NA	S		NA		NA	S	2			
MP2-L0760	Target Lake	NA	NA		NA		NA		3			
MP2-L0770	Ft. McPherson Lake (SWA)	NA	S		NA		NA	S	2			Fish consumption assessment
MP2-L0780	Cottonwood Canyon Lake	NA	NA		NA		NA		3			
MP2-L0790	I-80 BLM Lake	NA	NA		NA		NA		3			
MP2-L0800	West Maxwell Lake (WMA)	NA	NA		NA		NA		3			Fish consumption assessment
MP2-L0810	Box Elder Canyon Lake	NA	NA		NA		NA		3			
MP2-L0820	Crystal Lake	NA	NA		NA		NA		3			
MP2-L0840	Fremont Slough Lake	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name (WMA)	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Streams												
MP1-10000	Platte River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	Fecal coliform TMDL approved 5/03
MP1-10100	Clear Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-High Temperature	E. coli, Temperature	Aquatic community assessment
MP1-10110	Wilson Creek		NA		NA		NA		3			
MP1-10120	South Channel Platte River		NA		NA		NA		3			
MP1-10200	Loup Power Canal	I	NA		NA		NA	I	5	Recreation-Bacteria	E. coli	
MP1-20000	Platte River	S	S		S		S	S	1			Fecal coliform TMDL approved 5/03
MP1-20100	Prairie Creek		I		S		S	I	5	Aquatic Life-DO	Unknown	Aquatic community assessment
MP1-20200	Silver Creek		NA		NA		NA		3			
MP1-20300	Silver Creek		S		NA		NA	S	2			Aquatic community assessment
MP2-10000	Platte River	S	S	S	S		S	S	1			
MP2-10100	Wood River		NA		NA		NA		3			
MP2-10200	Wood River		I		S		S	I	5	Aquatic Life-Selenium	Selenium	
MP2-10300	Wood River		NA		NA		NA		3			
MP2-10400	Crooked Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MP2-20000	Platte River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	Fecal coliform TMDL approved 5/03, Aquatic community & Fish consumption assessment
MP2-20100	North Dry Creek		S		NA		NA	S	2			Aquatic community assessment
MP2-20110	Whiskey Slough		NA		NA		NA		3			
MP2-20120	Unnamed Creek		NA		NA		NA		3			
MP2-20200	Turkey Creek	NA	NA		NA		NA		3			
MP2-20300	Spring Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
MP2-20400	Plum Creek		S		S		S	S	1			
MP2-20500	Tri-County Canal	NA	NA		NA	NA	NA		3			
MP2-30000	Platte River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
MP2-40000	Platte River	S	S		S		S	S	1			Fecal coliform TMDL approved 5/03, Aquatic community assessment
MP2-40100	Pawnee Creek		S		NA		NA	S	2			Aquatic community assessment
MP2-40200	Pawnee Slough	NA	NA		NA		NA		3			
MP2-40300	Unnamed Slough		NA		NA		NA		3			
MP2-40400	White Horse Creek	NA	NA		NA		NA		3			
MP2-40410	Unnamed Creek		NA		NA		NA		3			
Wetlands												

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MP2-Undesig.	Cottonwood WPA		NA		NA		NA		3			
MP2-Undesig.	Linder WPA		NA		NA		NA		3			

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin.
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium.

†See Appendix A: Ecological Justification for Excluding Specific Bio-Indicator Results When Determining Attainment Status of the Aquatic Life Beneficial Use for Nebraska's 2012 Water Quality Integrated Report



MISSOURI TRIBUTARIES RIVER BASIN

Missouri Tributaries Basin – Hydrologic Units 10170101, 10230001 and 10230006

The Missouri Tributaries Basin includes 136 designated stream segments and 30 designated lakes. The waterbody assessment also included a lake that has not been identified in Title 117 – Nebraska Surface Water Quality Standards.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	30	0	0	30	0	1	29	1	30
Streams	21	0	3	15	118	2	136	1	136

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

MT1-L0020: Haworth Park Lake (Bellevue)- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody’s recreational, aquatic life, and agricultural water supply beneficial uses are being met. This waterbody will be moved to Category 2 until it is determined if the aesthetics beneficial use is being met.

MT1-L0023: Halleck Park (Papillion)- This waterbody was listed as Category 2 in the 2010 IR. Data collected in 2009 determined this waterbody’s aquatic life beneficial use is impaired for hazard index compounds. This waterbody will be moved to Category 5.

MT1-L0040: Hitchcock Park Lake (Omaha)-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody’s aquatic life beneficial use is impaired for high pH. This waterbody will be moved to Category 5.

MT1-L0060: Hanscom Park Lake (Omaha)-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody’s aquatic life beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life use is supported. This waterbody will be moved to Category 2.

MT1-L0080: Benson Park Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody’s recreational beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the recreational use is supported. This waterbody will be moved to Category 2.

MT1-L0090: Carter lake- This waterbody was listed as Category 5 in the 2010 IR. This waterbody’s aquatic life beneficial use was impaired for algal toxins, hazard index compounds, total phosphorus, total nitrogen, and chlorophyll a. Data collected in 2009 and 2010 determined this waterbody’s aquatic life use is no longer impaired for algal toxins however, the rest of the impairments remain. This waterbody will remain Category 5.

MT1-L0110: Miller Park Lake (Omaha)- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody’s aquatic life beneficial use is impaired for high pH. This waterbody will be moved to Category 5.

MT1-L0190: Gateway Lake- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody’s recreational beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the recreational use is supported. This waterbody will be moved to Category 2.

MT2-L0040: Lewis and Clark- This waterbody was listed in Category 5 in the 2010 IR. This waterbody’s aquatic life beneficial use was impaired for total phosphorus and total nitrogen. An error was detected in the 2010 listing and this waterbody shows full support for total phosphorus and total nitrogen, however, it is impaired for chlorophyll a. This waterbody will remain Category 5.

MT2-L0060: Plainview Country Club Lake-This waterbody was listed in Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined the recreational beneficial use to be impaired for E. coli. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met this waterbody will be moved to Category 5 due to its impaired recreational use.

MT1-10111.2: Thomas Creek, MT1-10252: North Branch West Papillion Creek - These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined these waterbodies have an impaired aquatic community. These waterbodies will be moved to Category 5.

MT1-10140: Big Papio Creek; MT1-11700: Elm Creek - These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined these waterbodies aquatic life beneficial use is supported by the aquatic community assessment. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life use is supported. These waterbodies will be moved to Category 2.

MT1-12000: Omaha Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's recreational beneficial use to be impaired for E. coli. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met this waterbody will be moved to Category 5 due to its impaired recreational use.

MT1-12171: Cow Creek-This waterbody was listed as Category 5 in the 2010 IR due to an impaired aquatic community. Data collected in 2005 resulted in a poor habitat and IBI score. Field notes stating no habitat was supported by a poor habitat score. Data collected in 2010 resulted in a fair habitat and good IBI score removing the aquatic community impairment. This waterbody will be moved to Category 2 because additional parameters need to be collected and analyzed to determine if all beneficial uses are being met.

MT2-10100: Elk Creek-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's recreational beneficial use to be impaired for E. coli. This waterbody will be moved to Category 5.

MT2-10300: Elk Creek- This waterbody was listed as Category 5 in the 2010 IR due to an impaired aquatic community. Data collected in 2005 resulted in a poor habitat, IBI, and ICI score. Field notes stating no habitat, bugs, or fish were supported by poor scores. Data collected in 2010 resulted in a fair habitat and ICI score and good IBI score removing the aquatic community impairment. This waterbody will be moved to Category 2 because additional parameters need to be collected and analyzed to determine if all beneficial uses are being met.

MT2-10400: Elk Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody to have an impaired aquatic community. This waterbody will be moved to Category 5.

MT2-10500: Aowa Creek- This waterbody was listed as Category 2 in the 2010 IR with a healthy aquatic community and fish consumption assessment supporting its aquatic life beneficial use. Data collected in 2010 determined this waterbody's recreational beneficial use to be impaired for E. coli. This waterbody will move be moved to Category 5.

MT2-10510: Badger Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's aquatic life beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life use is supported. This waterbody will be moved to Category 2.

MT2-10520: South Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's aquatic life beneficial use has an impaired aquatic community and the recreational use is impaired for E. coli. This waterbody will be moved to Category 5.

MT2-10521: Daily Branch, MT2-10530: South Creek- These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined these waterbodies did not support their recreational beneficial use due to E. coli. These waterbodies will be moved to Category 5.

MT2-10540: South Creek-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's aquatic life beneficial use to have an impaired aquatic community. This waterbody will be moved to Category 5.

MT2-11000: Lime Creek-This waterbody was listed as Category 5 in the 2010 IR due to an impaired aquatic community. Data collected in 2005 resulted in a poor ICI score and an impaired aquatic community. Data collected in 2010 resulted in a good ICI score and delisting the aquatic community impairment. This waterbody will be moved to Category 2.

MT2-11300: Bow Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's recreational beneficial use to be impaired for E. coli. This waterbody will be moved to Category 5.

MT2-11400: Bow Creek- This waterbody was listed as Category 2 in the 2010 IR with partial support of the aquatic life beneficial use due to a fish consumption assessment. Data collected in 2010 determined this waterbody does not support its recreation beneficial use due to E. coli. This waterbody will be moved to Category 5.

MT2-11800: Antelope Creek-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's aquatic life beneficial use has an impaired aquatic community. This waterbody will be moved to Category 5.

MT2-12400: Bazile Creek- This waterbody was listed as Category 2 in the 2010 IR with the aquatic life beneficial use being supported by the aquatic community and fish consumption assessment. Data collected in 2010 determined this waterbody does not support its recreation beneficial use due to E. coli. This waterbody will be moved to Category 5.

MT2-12500: Bazile Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2010 determined this waterbody's recreational beneficial use is impaired for E. coli. This waterbody will be moved to Category 5.

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
MT1-L0010	Offutt Lake	NA	NA		NA		NA		3			
MT1-L0020	Haworth Park Lake (Bellevue)	S	S		S		NA	S	2			
MT1-L0023	Halleck Park (Papillion)	NA	I		NA		S	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*	Fish consumption assessment
MT1-L0025	Walnut Creek Lake	S	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index compounds*, Mercury	Fish consumption assessment
MT1-L0030	Wehrspann Lake (Site No. 20)	S	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index compounds*, Mercury	Fish consumption assessment
MT1-L0040	Hitchcock Park Lake (Omaha)	S	I		S		S	I	5	Aquatic Life-pH	Unknown	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MT1-L0050	Ed Zorinsky Lake (site No. 18)	S	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index compounds*, Mercury	Sediment and Nutrient TMDLs approved September 2002, Fish consumption assessment
MT1-L0060	Hanscom Park Lake (Omaha)	NA	S		NA		NA	S	2			
MT1-L0070	Fontenelle Park Lake (Omaha)	NA	NA		NA		NA		3			
MT1-L0080	Benson Park Lake	S	NA		NA		NA	S	2			
MT1-L0090	Carter Lake	S	I		S		I	I	5	Aesthetics-Algae Blooms, Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index compounds*	Delist algal toxins, TMDL approved September 2007, Fish consumption assessment
MT1-L0100	Standing Bear Lake (Site No. 16)	S	I		S		I	I	5	Aesthetics-Sedimentation, Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Sedimentation, Hazard Index compounds*, Mercury	Fish consumption assessment
MT1-L0110	Miller Park Lake (Omaha)	S	I		S		NA	I	5	Aquatic Life-pH	Unknown	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MT1-L0120	Glenn Cunningham Lake (Site No. 11)	NA	I		S		S	I	4r	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	Lake Renovated 2005
MT1-L0130	Papio D-4 Lake	NA	NA		NA		NA		3			
MT1-L0140	DeSoto Lake (DeSoto NWR)	NA	S		NA		NA	S	2			Fish consumption assessment
MT1-L0150	Summit Lake	S	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index compounds*, Mercury	Fish consumption assessment
MT1-L0160	Mud Creek SCS Pond	NA	NA		NA		NA		3			
MT1-L0170	Middle Decatur Bend Lake (WMA)	NA	NA		NA		NA		3			
MT1-L0180	Omadi Bend Lake (WMA)	NA	NA		NA		NA		3			
MT1-L0190	Gateway Lake	S	NA		NA		NA		2			
MT1-L0200	Crystal Cove Lake (South Sioux City)	S	I		NA		S	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
MT2-L0005	Powder Creek Lake	NA	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MT2-L0010	Buckskin Hills Lake	S	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Chlorophyll a	Fish consumption assessment
MT2-L0020	Chalkrock Lake	NA	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index compounds*	Fish consumption assessment
MT2-L0030	Cottonwood Lake (Lake Yankton)	S	S		NA		S	S	2			Fish consumption assessment
MT2-L0040	Lewis and Clark Lake	S	I		S		S	I	5	Aquatic Life-Nutrients	Chlorophyll a	Error in 2010 listing: delist total phosphorus and total nitrogen, add chlorophyll a, Fish consumption assessment
MT2-L0050	Crofton City Lake	NA	NA		NA		NA		3			
MT2-L0060	Plainview Country Club Lake	I	NA		NA		NA	I	5	Recreation-Bacteria	E. coli	
Streams												
MT1-10000	Missouri River	S	I	S	S	S	S	I	5	Aquatic Life-Fish consumption advisory	Cancer Risk & Hazard Index compounds*	Fish consumption assessment
MT1-10100	Papillion Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-	E. coli, Selenium, Cancer Risk &	E. coli TMDL approved 9/09, Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										Selenium, Fish consumption advisory	Hazard Index compounds*	
MT1-10110	Big Papillion Creek	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 9/09, Fish consumption assessment
MT1-10111	Little Papillion Creek	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 9/09
MT1-10111.1	Cole Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-DO	E. coli, Unknown	E. coli TMDL approved 9/09
MT1-10111.2	Thomas Creek		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
MT1-10112	Little Papillion Creek		S		S		S	S	1			
MT1-10120	Big Papillion Creek	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 9/09, Aquatic community assessment
MT1-10121	Butter Flat Creek		NA		NA		NA		3			
MT1-10130	Big Papillion Creek		NA		NA		NA		3			
MT1-10131	Unnamed Creek		NA		NA		NA		3			
MT1-10132	Northwest Branch		NA		NA		NA		3			
MT1-10140	Big Papillion Creek		S		NA		NA	S	2			Aquatic community assessment
MT1-10200	Papillion Creek	I	NA		NA		NA	I	4a	Recreation-	E. coli	E. coli TMDL approved

Waterbody ID	Waterbody Name	Recreation	Aquatic Life Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
									Bacteria		9/09
MT1-10210	Walnut Creek		I	S		S	I	5	Aquatic Life- Impaired aquatic community	Unknown	Aquatic community assessment
MT1-10220	Hell Creek		NA	NA		NA		3			
MT1-10230	South Papillion Creek		NA	NA		NA		3			
MT1-10231	Unnamed Creek		S	S		S	S	2			
MT1-10240	South Papillion Creek		I	NA		NA	I	5	Aquatic Life- Impaired aquatic community	Unknown	Aquatic community assessment
MT1-10250	West Papillion Creek		I	NA		NA	I	5	Aquatic Life- Fish consumption advisory	Cancer Risk & Hazard Index compounds*	Fish consumption assessment
MT1-10251	Boxelder Creek		S	S		S	S	1			
MT1-10252	North Branch West Papillion Creek		I	NA		NA	I	5	Aquatic Life- Impaired aquatic community		Aquatic community assessment
MT1-10260	West Papillion Creek		NA	NA		NA		3			
MT1-10300	Ponca Creek		NA	NA		NA		3			
MT1-10400	Deer Creek		NA	NA		NA		3			
MT1-10500	Turkey Creek		NA	NA		NA		3			
MT1-10600	Moore's Creek		NA	NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MT1-10700	Long Creek		S		NA		NA	S	2			Aquatic community assessment
MT1-10710	Mill Creek		NA		NA		NA		3			
MT1-10800	Long Creek		I		NA		NA	I	4c	Aquatic Life-Impaired aquatic community	In-stream structures prevent fish passage	Aquatic community assessment
MT1-10900	Cameron Ditch		NA		NA		NA		3			
MT1-10910	Couble Creek		NA		NA		NA		3			
MT1-10920	South Creek		NA		NA		NA		3			
MT1-10930	North Creek		NA		NA		NA		3			
MT1-10940	Stuart Creek		NA		NA		NA		3			
MT1-11000	Cameron Ditch		NA		NA		NA		3			
MT1-11100	Hill Creek		NA		NA		NA		3			
MT1-11110	New York Creek		NA		NA		NA		3			
MT1-11120	Carr Creek		NA		NA		NA		3			
MT1-11121	Davis Creek		NA		NA		NA		3			
MT1-11200	Hill Creek		NA		NA		NA		3			
MT1-11300	Combination Ditch		NA		NA		NA		3			
MT1-11400	Combination Ditch		NA		NA		NA		3			
MT1-11500	Tekamah Creek		NA		NA		NA		3			
MT1-11510	Silver Creek		I		NA		NA	I	5	Aquatic Life-Impaired aquatic	Unknown	Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										community		
MT1-11600	Tekamah Creek		S		NA		NA	S	2			Aquatic community assessment
MT1-11700	Elm Creek		S		NA		NA	S	2			Aquatic community assessment
MT1-11710	Lone Tree Creek		NA		NA		NA		3			
MT1-11800	Wood Creek		S		NA		NA	S	2			Aquatic community assessment
MT1-11900	Blackbird Creek	NA	NA		NA		NA		3			
MT1-11910	South Blackbird Creek		NA		NA		NA		3			
MT1-11920	South Blackbird Creek		NA		NA		NA		3			
MT1-11930	North Blackbird Creek		NA		NA		NA		3			
MT1-11931	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
MT1-11940	North Blackbird Creek		NA		NA		NA		3			
MT1-12000	Omaha Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
MT1-12100	Omaha Creek		I		S		S	I	5	Aquatic Life-Fish consumption advisory	Cancer Risk & Hazard Index compounds*	Aquatic community & Fish consumption assessment
MT1-12110	Fiddlers Creek		NA		NA		NA		3			
MT1-12120	Wigle Creek		NA		NA		NA		3			
MT1-12130	Turtle Creek		NA		NA		NA		3			
MT1-12140	Morgan Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MT1-12150	North Omaha Creek		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
MT1-12151	Unnamed Creek		NA		NA		NA		3			
MT1-12152	Unnamed Creek		NA		NA		NA		3			
MT1-12160	North Omaha Creek		NA		NA		NA		3			
MT1-12170	South Omaha Creek		NA		NA		NA		3			
MT1-12171	Cow Creek		S		NA		NA	S	2			Delist impaired aquatic community, Aquatic community assessment
MT1-12180	South Omaha Creek		NA		NA		NA		3			
MT1-12200	Pigeon Creek		S		NA		NA	S	2			Aquatic community assessment
MT1-12300	Pigeon Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-10000	Missouri River	S	S	S	S		S	S	1			Fish consumption assessment
MT2-10100	Elk Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
MT2-10200	Elk Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-10210	Otter Creek		NA		NA		NA		3			
MT2-10211	Minnow Creek		NA		NA		NA		3			
MT2-10220	Otter Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MT2-10300	Elk Creek		S		NA		NA	S	2			Delist impaired aquatic community, Aquatic community assessment
MT2-10310	Pigeon Creek		NA		NA		NA		3			
MT2-10400	Elk Creek		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community		Aquatic community assessment
MT2-10500	Aowa Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community and fish consumption assessment
MT2-10510	Badger Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-10520	South Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Impaired aquatic community	E. coli, unknown	Aquatic community assessment
MT2-10521	Daily Branch	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
MT2-10530	South Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
MT2-10531	Jordan Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-10540	South Creek		I		NA		NA	I	5	Aquatic Life-Impaired	Unknown	Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										aquatic community		
MT2-10600	Aowa Creek		NA		NA		NA		3			
MT2-10610	Silver Creek		NA		NA		NA		3			
MT2-10620	Powder Creek		NA		NA		NA		3			
MT2-10700	Aowa Creek		NA		NA		NA		3			
MT2-10800	Turkey Creek		NA		NA		NA		3			
MT2-10900	Walnut Creek		NA		NA		NA		3			
MT2-11000	Lime Creek		S		NA		NA	S	2			Delist impaired aquatic community, Aquatic community assessment
MT2-11010	West Branch Lime Creek		NA		NA		NA		3			
MT2-11100	Lime Creek		NA		NA		NA		3			
MT2-11200	Ames Creek		NA		NA		NA		3			
MT2-11300	Bow Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
MT2-11310	West Bow Creek	NA	S		NA		NA	S	2			Aquatic community assessment
MT2-11311	Second Bow Creek		NA		NA		NA		3			
MT2-11311.1	Unnamed Creek		NA		NA		NA		3			
MT2-11312	Second Bow Creek		NA		NA		NA		3			
MT2-11320	West Bow Creek		S		NA		NA	S	2			Aquatic community assessment

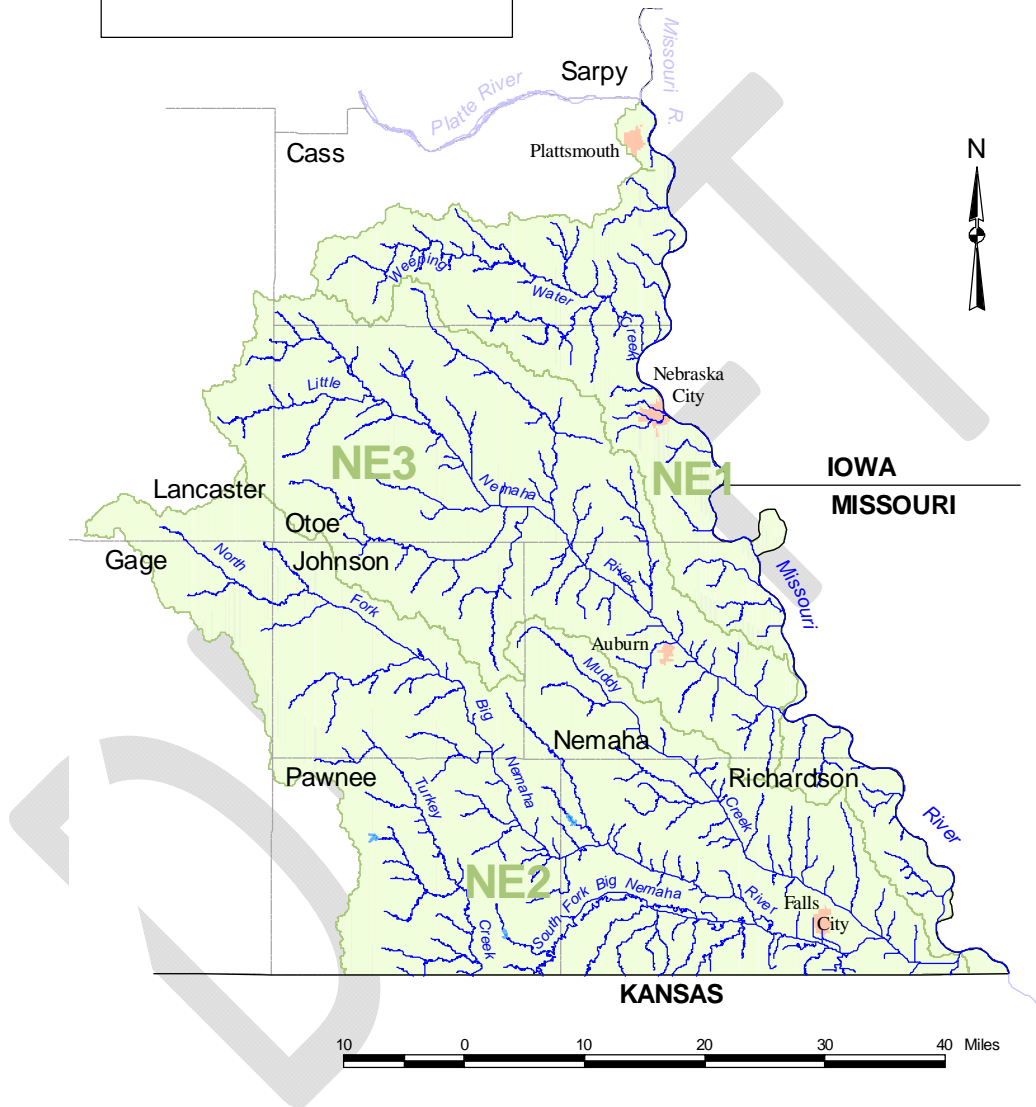
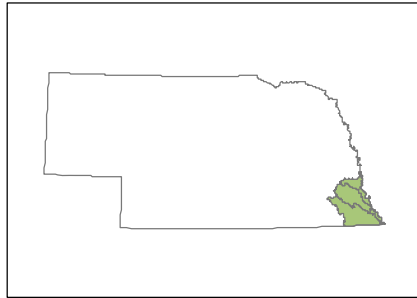
Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MT2-11400	Bow Creek	I	S		S		S	S	5	Recreation-Bacteria	E. coli	Fish consumption assessment
MT2-11410	East Bow Creek	NA	S		NA		NA	S	2			Aquatic community assessment
MT2-11411	Unnamed Creek		NA		NA		NA		3			
MT2-11412	Unnamed Creek		NA		NA		NA		3			
MT2-11420	East Bow Creek		NA		NA		NA		3			
MT2-11500	Bow Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-11510	Dead Creek		NA		NA		NA		3			
MT2-11520	Norwegian Bow Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-11521	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-11600	Bow Creek		NA		NA		NA		3			
MT2-11610	Pearl Creek		NA		NA		NA		3			
MT2-11611	Kerloo Creek		NA		NA		NA		3			
MT2-11620	Pearl Creek		NA		NA		NA		3			
MT2-11700	Bow Creek		NA		NA		NA		3			
MT2-11710	Unnamed Creek		NA		NA		NA		3			
MT2-11800	Antelope Creek		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
MT2-11900	Beaver Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
MT2-12000	Beaver Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-12100	Weigand Creek		NA		NA		NA		3			
MT2-12200	Devils Nest Creek		NA		NA		NA		3			
MT2-12300	Cooks Creek		NA		NA		NA		3			
MT2-12400	Bazile Creek	I	S		S		S	S	5	Recreation-Bacteria	E. coli	Aquatic community and fish consumption assessment
MT2-12410	Lost Creek		NA		NA		NA		3			
MT2-12420	Howe Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-12421	Unnamed Creek		NA		NA		NA		3			
MT2-12500	Bazile Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
MT2-12510	Little Bazile Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-12511	Unnamed Creek		NA		NA		NA		3			
MT2-12520	Little Bazile Creek		S		NA		NA	s	2			Aquatic community assessment
MT2-12600	Bazile Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-12610	Spring Creek		NA		NA		NA		3			
MT2-12620	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
MT2-12630	Unnamed Creek		NA		NA		NA		3			
MT2-12700	Bazile Creek		NA		NA		NA		3			

* ***Cancer risk compounds*** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

† See Appendix A: Ecological Justification for Excluding Specific Bio-Indicator Results When Determining Attainment Status of the Aquatic Life Beneficial Use for Nebraska's 2012 Water Quality Integrated Report

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NEMAHA RIVER BASIN (and Subbasins)

Nemaha Basin – Hydrologic Units 10240001, 10240005, 10240006 and 10240007

The Nemaha River Basin includes 326 designated stream segments and 33 designated lake/reservoirs.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply- Ind.	Aesthetics
Lakes	33	0	0	33	0	0	33	0	33
Streams	20	0	0	40	286	2	326	1	326

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

NE1-L0010: Steinhart Park Lake (Nebraska City)-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined the aquatic life is impaired due to hazard index compounds and mercury. This waterbody will be moved to Category 5.

NE1-L0020: Weeping Water City Lake- This waterbody was listed as Category 2 in the 2010 IR with the aesthetic beneficial use being supported. Data collected in 2009 determined the aquatic life is impaired for to hazard index compounds and mercury. This waterbody will be moved to Category 5.

NE1-L0030: Plattsmouth City Lake; NE2-L0010: Falls City Lake (Stanton Lake); NE2-L0030: Humboldt City Lake- These waterbodies were listed as Category 3 on the 2010 IR due to no available data. Data collected in 2009 determined these waterbodies recreational beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the recreational use provides support. These waterbodies will be moved to Category 2.

NE2-Undesg.: Mayberry Lake (WMA)- This waterbody was not listed in the 2010 IR and is not designated in Title 117. Data collected in 2009 determined this waterbody’s aquatic life use has a fish consumption advisory and is impaired for hazard index compounds and mercury. This waterbody will be placed in Category 5.

NE2-L0040: Kirkman’s Cove- This waterbody was listed as Category 5 in the 2010 IR with impaired recreational and aquatic life beneficial uses. This waterbody was impaired for algal toxins, total phosphorus, total nitrogen, and chlorophyll a. Data collected in 2009 and 2010 determined this waterbody was no longer impaired for algal toxins but the other impairments remained. Additionally, this waterbody is impaired for hazard index compounds, mercury and sedimentation. This waterbody will remain Category 5.

NE2-L0090: Iron Horse Trail- This waterbody was listed as Category 5 in the 2010 IR with impaired recreational, aquatic life, and aesthetic beneficial uses. This waterbody was impaired for algal toxins, total phosphorus, total nitrogen, chlorophyll a, mercury, and sedimentation. In the 2010 IR hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. Data collected in 2009 and 2010 determined this waterbody is no longer impaired for algal toxins however the other impairments remain. This waterbody will remain Category 5.

NE2-L0120: Burchard- This waterbody was listed as Category 5 in the 2010 IR with an impaired aquatic life beneficial use. This waterbody was impaired for total phosphorus, total nitrogen, and chlorophyll a. Data collected in 2009 determined this waterbody is also impaired for hazard index compounds and mercury. This waterbody will remain Category 5.

NE2-L0210: Big Nemaha Lake (27R); NE3-L0010: Auburn City Park Lake; NE3-L0020: Gritzka Lake (Talmage); NE3-L0040: Wilson Creek Lake 2x (WMA); NE3-L0045: Wirth Brothers Lake (Site 27)- These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined these waterbody's recreational beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met E. coli data collected supports the recreational use. These waterbodies will be moved to Category 2.

NE1-11600: Buck Creek; NE1-11610: Duck Creek- These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined these waterbodies' aquatic life and agriculture water supply beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life and agriculture water supply provide support of beneficial uses. These waterbodies will be moved to Category 2.

NE1-11700: Buck Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life, agriculture water supply, and aesthetics beneficial uses are supported. This provides support for all beneficial uses for this waterbody. This waterbody will be moved to Category 1.

NE1-12840:South Branch Weeping Water Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life use provides support. This waterbody will be moved to Category 2.

NE1-12310: Unnamed Creek, NE1-13000: Weeping Water Creek, NE2-10750: Little Muddy Creek - These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined these waterbodies are impaired for E. coli not supporting the recreational beneficial use. These waterbodies will be moved to Category 5.

NE2-10770: Little Muddy Creek-This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determine this waterbody's aquatic life beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life use provides support. This waterbody will be moved to Category 2.

NE2-11200: Pony Creek- This waterbody was listed as Category 2 in the 2010 IR with the aquatic life beneficial use being supported by the aquatic community assessment. Data collected in 2009 determined this waterbody is impaired for E. coli not supporting the recreational beneficial use. This waterbody will be moved to Category 5.

NE2-11920: Rock Creek; NE2-11982: Spring Creek; NE2-12140:Turkey Creek- These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined these waterbodies' aquatic life recreational use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life use provides support. These waterbodies will be moved to Category 2.

NE2-12500: North Fork Big Nemaha River- This waterbody was listed as Category 5 in the 2010 IR with recreational and aquatic life beneficial uses being impaired. The waterbody was impaired for E. coli and had an impaired aquatic community. Data collected in 2009 determined the aquatic community is no longer impaired resulting in full support of the aquatic life beneficial use. This waterbody will be moved to Category 4a due to the E. coli impairment with an approved TMDL.

NE3-10000: Little Nemaha River- This waterbody was listed as Category 5 in the 2010 IR with recreational and aquatic life beneficial uses being impaired. The waterbody was impaired for E. coli, cancer risk and hazard index compounds. Data collected in 2009 determined the cancer risk and hazard index compounds could be removed. This waterbody will remain Category 5 due to the E. coli impairment.

NE3-11920: Unnamed Creek- This waterbody was listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined this waterbody's aquatic life beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life use provides support. This waterbody will be moved to Category 2.

NE3-13100: North Fork Little Nemaha River, NE3-20000: Little Nemaha River, NE3-20300: South Fork Little Nemaha River, NE3-30000: Little Nemaha River-These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined the waterbodies are impaired for E. coli not supporting their recreational beneficial use. These waterbodies will be moved to Category 5.

NE3-20310: Coon Creek; NE3-50000: Little Nemaha River - These waterbodies were listed as Category 3 in the 2010 IR due to no available data. Data collected in 2009 determined these waterbodies aquatic life beneficial use is supported. Although other parameters need to be collected and analyzed to determine if all beneficial uses are being met the aquatic life use provides support. These waterbodies will be moved to Category 2.

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Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
NE1-L0010	Steinhart Park Lake (Nebraska City)	S	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
NE1-L0020	Weeping Water City Lake	S	I		NA		S	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
NE1-L0030	Plattsmouth City Lake	S	NA		NA		NA	S	2			
NE1-L0040	Randall Schilling Lake No. 1 (WMA)	NA	NA		NA		NA		3			
NE1-L0050	Randall Schilling Lake No. 2 (WMA)	NA	NA		NA		NA		3			
NE2-Undesg.	Mayberry Lake (WMA)	NA	I		NA		NA	I	5	Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
NE2-L0010	Falls City Lake (Stanton Lake)	S	NA		NA		NA	S	2			
NE2-L0020	Verdon Lake (SRA)	S	I		S		S	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
NE2-L0030	Humboldt City Lake	S	NA		NA		NA	S	2			
NE2-L0040	Kirkman's Cove Lake	S	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a,	Delist algal toxins, Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
											Hazard Index Compounds*, Mercury, Sedimentation	
NE2-L0050	Kinters Ford Lake (WMA)	NA	NA		NA		NA		3			
NE2-L0060	Twin Oaks Lake No. 9 (WMA)	NA	NA		NA		NA		3			
NE2-L0070	Twin Oaks Lake No. 7 (WMA)	NA	NA		NA		NA		3			
NE2-L0080	Prairie Knoll Lake (WMA)	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
NE2-L0090	Iron Horse Trail (WAM)	I	I		S		I	I	5	Aesthetics-Sedimentation, Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index Compounds*, Mercury, Sedimentation	Delist algal toxins, Fish consumption assessment
NE2-L0100	Pawnee City Lake	S	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	
NE2-L0110	Tecumseh City Lake	S	NA		NA		S	S	2			
NE2-L0120	Burchard Lake (WMA)	NA	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption	Total Phosphorus, Total Nitrogen,	Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										Advisory	Chlorophyll a, Hazard Index Compounds*, Mercury	
NE2-L0130	Pawnee Prairie Lake No. 3 (WMA)	NA	NA		NA		NA		3			
NE2-L0140	Pawnee Prairie Lake No. 6 (WMA)	NA	NA		NA		NA		3			
NE2-L0150	Pawnee Prairie Lake No. 8 (WMA)	NA	NA		NA		NA		3			
NE2-L0160	Pawnee Prairie Lake No. 10 (WMA)	NA	NA		NA		NA		3			
NE2-L0170	Pawnee Prairie Lake No. 1 (WMA)	NA	NA		NA		NA		3			
NE2-L0180	Pawnee Prairie Lake No. 7 (WMA)	NA	NA		NA		NA		3			
NE2-L0190	Pawnee Prairie Lake No. 9 (WMA)	NA	NA		NA		NA		3			
NE2-L0200	Site 41-B Lake	NA	NA		NA		NA		3			
NE2-L0210	Big Nemaha Lake (27R)	S	NA		NA		NA	S	2			
NE3-L0010	Auburn City Park Lake	S	NA		NA		NA	S	2			
NE3-L0020	Gritzka Lake (Talmage)	S	NA		NA		NA	S	2			
NE3-L0030	Prairie Owl Lake	S	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus	
NE3-L0040	Wilson Creek Lake 2X (WMA)	S	NA		NA		NA	S	2			
NE3-L0045	Wirth Brothers Lake (Site 27)	S	NA		NA		NA	S	2			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE3-L0050	Osage Lake No. 1 (WMA)		NA		NA		NA		3			
NE3-L0060	Osage Lake No. 2 (WMA)		NA		NA		NA		3			
Streams												
NE1-10000	Missouri River	I	I	S	S	S	S	I	5	Recreation-Bacteria, Fish Consumption Advisory	E. coli, Cancer Risk & Hazard Index Compounds*	Delist fish consumption advisory, E. coli TMDL approved 9/07 Fish consumption assessment
NE1-10100	Winnebago Creek		NA		NA		NA		3			
NE1-10110	Bean Creek		NA		NA		NA		3			
NE1-10200	Winnebago Creek		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
NE1-10210	Unnamed Creek		NA		NA		NA		3			
NE1-10220	Unnamed Creek		NA		NA		NA		3			
NE1-10300	Unnamed Creek		NA		NA		NA		3			
NE1-10400	Unnamed Creek		NA		NA		NA		3			
NE1-10500	Cottier Creek		S		NA		NA	S	2			Aquatic community assessment
NE1-10510	Wine Branch		NA		NA		NA		3			
NE1-10600	Cottier Creek		NA		NA		NA		3			
NE1-10610	Unnamed Creek		NA		NA		NA		3			
NE1-10700	Unnamed Creek	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE1-10800	Beadow Creek		NA		NA		NA		3			
NE1-10810	Unnamed Creek	NA	NA		NA		NA		3			
NE1-10900	Beadow Creek		NA		NA		NA		3			
NE1-10910	Unnamed Creek		NA		NA		NA		3			
NE1-11000	Deroin Creek		NA		NA		NA		3			
NE1-11100	Unnamed Creek		NA		NA		NA		3			
NE1-11200	Unnamed Creek		NA		NA		NA		3			
NE1-11300	Honey Creek		NA		NA		NA		3			
NE1-11400	Honey Creek		NA		NA		NA		3			
NE1-11410	Unnamed Creek		NA		NA		NA		3			
NE1-11500	Honey Creek		S		NA		NA	S	2			Aquatic community assessment
NE1-11600	Buck Creek		S		S		NA	S	2			
NE1-11610	Duck Creek		S		S		NA	S	2			Aquatic community assessment
NE1-11700	Buck Creek		S		S		S	S	1			Aquatic community assessment
NE1-11800	Camp Creek		NA		NA		NA		3			
NE1-11810	South Branch Camp Creek		NA		NA		NA		3			
NE1-11900	Camp Creek		NA		NA		NA		3			
NE1-12000	Fourmile Creek		NA		NA		NA		3			
NE1-12100	Fourmile Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE1-12110	Threemile Creek		NA		NA		NA		3			
NE1-12200	Fourmile Creek		NA		NA		NA		3			
NE1-12300	South Table Creek		NA		NA		NA		3			
NE1-12310	Unnamed Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NE1-12400	South Table Creek		NA		NA		NA		3			
NE1-12500	North Table Creek		NA		NA		NA		3			
NE1-12600	Walnut Creek		NA		NA		NA		3			
NE1-12700	Squaw Creek		NA		NA		NA		3			
NE1-12800	Weeping Water Creek		S		S		S	S	1			Fish consumption assessment
NE1-12810	Wolf Creek		NA		NA		NA		3			
NE1-12820	Coal Creek		NA		NA		NA		3			
NE1-12830	South Branch Weeping Water Creek		NA		NA		NA		3			
NE1-12831	Big Slough		S		NA		NA	S	2			Aquatic community assessment
NE1-12832	Goose Creek		NA		NA		NA		3			
NE1-12840	South Branch Weeping Water Creek		S		NA		NA	S	2			Aquatic community assessment
NE1-12841	Jordan Creek		NA		NA		NA		3			
NE1-12842	Flood Creek		NA		NA		NA		3			
NE1-12843	Wilson Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE1-12850	South Branch Weeping Water Creek		NA		NA		NA		3			
NE1-12851	Unnamed Creek		NA		NA		NA		3			
NE1-12860	Tyson Creek		NA		NA		NA		3			
NE1-12870	North Branch Weeping Water Creek		NA		NA		NA		3			
NE1-12871	Unnamed Creek		NA		NA		NA		3			
NE1-12880	North Branch Weeping Water Creek		S		NA		NA	S	2			Aquatic community assessment
NE1-12881	Unnamed Creek		NA		NA		NA		3			
NE1-12900	Weeping Water Creek		NA		NA		NA		3			
NE1-12910	Unnamed Creek		NA		NA		NA		3			
NE1-12920	South Cedar Creek		S		NA		NA	S	2			Aquatic community assessment
NE1-13000	Weeping Water Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Fish consumption assessment
NE1-13010	Cascade Creek		NA		NA		NA		3			
NE1-13020	Unnamed Creek		NA		NA		NA		3			
NE1-13030	Unnamed Creek		NA		NA		NA		3			
NE1-13040	Unnamed Creek		NA		NA		NA		3			
NE1-13050	Unnamed Creek		NA		NA		NA		3			
NE1-13060	Unnamed Creek		NA		NA		NA		3			
NE1-13070	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE1-13080	Unnamed Creek		NA		NA		NA		3			
NE1-13090	Unnamed Creek		NA		NA		NA		3			
NE1-13100	Beaver Creek		NA		NA		NA		3			
NE1-13110	Stove Creek		NA		NA		NA		3			
NE1-13200	Weeping Water Creek		NA		NA		NA		3			
NE1-13300	East Chute		NA		NA		NA		3			
NE1-13400	Ervine Creek		S		NA		NA	S	2			Aquatic community assessment
NE1-13500	Rakes Creek		S		NA		NA	S	2			Aquatic community assessment
NE1-13600	Unnamed Creek		NA		NA		NA		3			
NE1-13700	Rock Creek		NA	NA	NA		NA		3			
NE1-13710	Squaw Creek		NA		NA		NA		3			
NE1-13800	Unnamed Creek		NA		NA		NA		3			
NE2-10000	Big Nemaha River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Impaired aquatic community	E. coli, Unknown	E. coli & Atrazine TMDL approved 9/07, Aquatic community & Fish consumption assessment
NE2-10100	Roys Creek		NA		NA		NA		3			
NE2-10200	Noharts Creek		NA		NA		NA		3			
NE2-10300	Mooney Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE2-10400	Snake Creek		NA		NA		NA		3			
NE2-10500	Canada Creek		NA		NA		NA		3			
NE2-10600	Muddy Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Impaired aquatic community	E. coli, Unknown	E. coli TMDL approved 9/07, Aquatic community assessment
NE2-10610	Berard Creek		NA		NA		NA		3			
NE2-10620	Halfbreed Creek		NA		NA		NA		3			
NE2-10630	Silver Creek		NA		NA		NA		3			
NE2-10640	Goolsby Branch		NA		NA		NA		3			
NE2-10641	Temple Creek		NA		NA		NA		3			
NE2-10650	Unnamed Creek		NA		NA		NA		3			
NE2-10660	Mackelroy Creek		NA		NA		NA		3			
NE2-10670	Unnamed Creek		NA		NA		NA		3			
NE2-10680	Unnamed Creek		NA		NA		NA		3			
NE2-10690	Unnamed Creek		NA		NA		NA		3			
NE2-10700	Sardine Creek		NA		NA		NA		3			
NE2-10710	Wolf Creek		NA		NA		NA		3			
NE2-10711	Spring Creek		NA		NA		NA		3			
NE2-10720	Wolf Creek		NA		NA		NA		3			
NE2-10730	Deer Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE2-10740	Unnamed Creek		NA		NA		NA		3			
NE2-10750	Little Muddy Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NE2-10751	Whiskey Run		S		NA		NA	S	2			Aquatic community assessment
NE2-10751.1	Dry Branch		NA		NA		NA		3			
NE2-10751.2	Porter Branch		NA		NA		NA		3			
NE2-10752	Whiskey Run		NA		NA		NA		3			
NE2-10760	Little Muddy Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-10761	Unnamed Creek		NA		NA		NA		3			
NE2-10770	Little Muddy Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-10800	Muddy Creek		NA		NA		NA		3			
NE2-10810	Hoosier Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-10820	Unnamed Creek		NA		NA		NA		3			
NE2-10830	Unnamed Creek		NA		NA		NA		3			
NE2-10840	Unnamed Creek		NA		NA		NA		3			
NE2-10850	Unnamed Creek		NA		NA		NA		3			
NE2-10860	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE2-10870	Unnamed Creek		NA		NA		NA		3			
NE2-10880	Unnamed Creek		NA		NA		NA		3			
NE2-10881	Unnamed Creek		NA		NA		NA		3			
NE2-10900	Muddy Creek		NA		NA		NA		3			
NE2-11000	Walnut Creek		NA		NA		NA		3			
NE2-11010	Unnamed Creek		NA		NA		NA		3			
NE2-11020	Unnamed Creek		NA		NA		NA		3			
NE2-11100	Unnamed Creek		NA		NA		NA		3			
NE2-11200	Pony Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
NE2-11300	Unnamed Creek		NA		NA		NA		3			
NE2-11400	Unnamed Creek		NA		NA		NA		3			
NE2-11500	Unnamed Creek		NA		NA		NA		3			
NE2-11600	Unnamed Creek		NA		NA		NA		3			
NE2-11700	Wildcat Creek		NA		NA		NA		3			
NE2-11800	Old Channel Big Nemaha River		NA		NA		NA		3			
NE2-11900	South Fork Big Nemaha River	S	S		S		S	S	1			Aquatic community & Fish consumption assessment
NE2-11910	Unnamed Creek		NA		NA		NA		3			
NE2-11920	Rock Creek		S		NA		NA	S	2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE2-11921	Contrary Creek		NA		NA		NA		3			
NE2-11922	Rabbit Creek		NA		NA		NA		3			
NE2-11930	Old Channel South Fork Big Nemaha River		NA		NA		NA		3			
NE2-11940	Unnamed Creek		NA		NA		NA		3			
NE2-11950	Honey Creek		NA		NA		NA		3			
NE2-11960	Old Channel South Fork Big Nemaha River		NA		NA		NA		3			
NE2-11970	Holy Creek		NA		NA		NA		3			
NE2-11980	Rattlesnake Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-11981	Easley Creek		NA		NA		NA		3			
NE2-11982	Spring Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-11990	Rattlesnake Creek		NA		NA		NA		3			
NE2-12000	Fourmile Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-12010	Unnamed Creek		NA		NA		NA		3			
NE2-12020	Unnamed Creek		NA		NA		NA		3			
NE2-12100	South Fork Big Nemaha River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 9/07
NE2-12110	Lores Branch		S		NA		NA	S	2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE2-12120	Negro Branch		NA		NA		NA		3			
NE2-12130	Turkey Creek	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 9/07
NE2-12131	Unnamed Creek		NA		NA		NA		3			
NE2-12132	Johnson Creek		I		S		S	I	5	Aquatic Life-DO	Unknown	
NE2-12132.1	Beebe Creek		NA		NA		NA		3			
NE2-12132.2	Wildcat Creek		NA		NA		NA		3			
NE2-12133	Johnson Creek		NA		NA		NA		3			
NE2-12134	Chatawa Creek		NA		NA		NA		3			
NE2-12135	West Branch Turkey Creek		S		S		S	S	1			
NE2-12135.1	Balls Branch		NA		NA		NA		3			
NE2-12135.11	Unnamed Creek		NA		NA		NA		3			
NE2-12135.12	Unnamed Creek		NA		NA		NA		3			
NE2-12135.2	Balls Branch		NA		NA		NA		3			
NE2-12135.21	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-12136	West Branch Turkey Creek		NA		NA		NA		3			
NE2-12140	Turkey Creek		S		NA		NA	S	2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE2-12141	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-12142	Unnamed Creek		NA		NA		NA		3			
NE2-12143	Unnamed Creek		NA		NA		NA		3			
NE2-12144	Unnamed Creek		NA		NA		NA		3			
NE2-12145	Rock Creek		NA		NA		NA		3			
NE2-12150	Turkey Creek		NA		NA		NA		3			
NE2-12151	Sampson Branch		NA		NA		NA		3			
NE2-12152	Unnamed Creek		NA		NA		NA		3			
NE2-12200	North Fork Big Nemaha River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 9/07, Fish consumption assessment
NE2-12210	Unnamed Creek		NA		NA		NA		3			
NE2-12220	Deer Branch		NA		NA		NA		3			
NE2-12230	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-12240	Unnamed Creek		NA		NA		NA		3			
NE2-12250	Bradley Branch		NA		NA		NA		3			
NE2-12260	Barneys Branch		NA		NA		NA		3			
NE2-12270	Unnamed Creek		NA		NA		NA		3			
NE2-12280	Cottonwood Creek		NA		NA		NA		3			
NE2-12290	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE2-12300	Unnamed Creek		NA		NA		NA		3			
NE2-12310	Unnamed Creek		NA		NA		NA		3			
NE2-12320	Unnamed Creek		NA		NA		NA		3			
NE2-12330	Long Branch Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Impaired aquatic community	E. coli, Unknown	E. coli TMDL approved 9/07, Aquatic community assessment
NE2-12331	Kirkham Creek		NA		NA		NA		3			
NE2-12340	Unnamed Creek		NA		NA		NA		3			
NE2-12350	Round Grove Creek		NA		NA		NA		3			
NE2-12360	Dry Branch		NA		NA		NA		3			
NE2-12370	Unnamed Creek		NA		NA		NA		3			
NE2-12380	Unnamed Creek		NA		NA		NA		3			
NE2-12390	Unnamed Creek		NA		NA		NA		3			
NE2-12400	Unnamed Creek		NA		NA		NA		3			
NE2-12410	Unnamed Creek		NA		NA		NA		3			
NE2-12420	Taylor Branch		NA		NA		NA		3			
NE2-12421	Unnamed Creek		NA		NA		NA		3			
NE2-12430	Taylor Branch		NA		NA		NA		3			
NE2-12440	Clear Creek		NA		NA		NA		3			
NE2-12441	Coopers Branch		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE2-12450	Clear Creek		NA		NA		NA		3			
NE2-12460	Unnamed Creek		NA		NA		NA		3			
NE2-12470	Robinson Creek		NA		NA		NA		3			
NE2-12480	Todd Creek		NA		NA		NA		3			
NE2-12481	Elk Creek		NA		NA		NA		3			
NE2-12490	Todd Creek		NA		NA		NA		3			
NE2-12500	North Fork Big Nemaha River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	Delist impaired aquatic community, E. coli TMDL approved 9/07, Aquatic community & Fish consumption assessment
NE2-12510	Unnamed Creek		NA		NA		NA		3			
NE2-12520	Corson Branch		NA		NA		NA		3			
NE2-12530	Town Branch		NA		NA		NA		3			
NE2-12540	Badger Branch		NA		NA		NA		3			
NE2-12541	Unnamed Creek		NA		NA		NA		3			
NE2-12550	Badger Branch		NA		NA		NA		3			
NE2-12560	Unnamed Creek		NA		NA		NA		3			
NE2-12570	Yankee Creek		S		NA		NA	S	2			Aquatic community assessment
NE2-12571	Brewers Branch		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE2-12572	Lost Branch		S		NA		NA	S	2			Aquatic community assessment
NE2-12580	Yankee Creek		NA		NA		NA		3			
NE2-12590	Hooker Creek		NA		NA		NA		3			
NE2-12600	Middle Branch Big Nemaha River		S		NA		NA	S	2			Aquatic community assessment
NE2-12601	Shaw Creek		NA		NA		NA		3			
NE2-12610	Middle Branch Big Nemaha River		I		NA		NA	I	5	Aquatic Life-Impaired aquatic community	Unknown	Aquatic community assessment
NE2-12700	North Fork Big Nemaha River		S		NA		NA	S	2			Aquatic community assessment
NE3-10000	Little Nemaha River	I	I		S		S	I	5	Recreation-Bacteria	E. coli	Delist fish consumption advisory, E. coli TMDL approved 9/07, Aquatic community & Fish consumption assessment
NE3-10100	Whiskey Run		NA		NA		NA		3			
NE3-10200	Jarvis Creek		NA		NA		NA		3			
NE3-10210	Unnamed Creek		NA		NA		NA		3			
NE3-10220	Unnamed Creek		NA		NA		NA		3			
NE3-10300	Jarvis Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE3-10400	Happy Hollow Creek		NA		NA		NA		3			
NE3-10500	Swartz Run		NA		NA		NA		3			
NE3-10510	Unnamed Creek		NA		NA		NA		3			
NE3-10600	Swartz Run		NA		NA		NA		3			
NE3-10700	Indian Creek		NA		NA		NA		3			
NE3-10800	Indian Creek		S		NA		NA	S	2			Aquatic community assessment
NE3-10900	Unnamed Creek		NA		NA		NA		3			
NE3-11000	Hughes Creek		NA		NA		NA		3			
NE3-11100	Codington Creek		NA		NA		NA		3			
NE3-11200	Unnamed Creek		NA		NA		NA		3			
NE3-11300	Unnamed Creek		NA		NA		NA		3			
NE3-11400	Longs Creek		NA		NA		NA		3			
NE3-11410	Scotch Branch		NA		NA		NA		3			
NE3-11500	Longs Creek		NA		NA		NA		3			
NE3-11600	Willow Creek		NA		NA		NA		3			
NE3-11700	Ord Creek		NA		NA		NA		3			
NE3-11800	Rock Creek		NA		NA		NA		3			
NE3-11810	Plum Run		NA		NA		NA		3			
NE3-11820	Unnamed Creek		NA		NA		NA		3			
NE3-11900	Rock Creek		NA		NA		NA		3			
NE3-11910	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE3-11920	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
NE3-11930	Unnamed Creek		NA		NA		NA		3			
NE3-12000	Rock Creek		NA		NA		NA		3			
NE3-12100	Unnamed Creek		NA		NA		NA		3			
NE3-12200	Unnamed Creek		NA		NA		NA		3			
NE3-12210	Unnamed Creek		NA		NA		NA		3			
NE3-12300	Unnamed Creek		NA		NA		NA		3			
NE3-12400	Houchen Creek		NA		NA		NA		3			
NE3-12500	Unnamed Creek		NA		NA		NA		3			
NE3-12600	Piper Creek		NA		NA		NA		3			
NE3-12700	Sand Creek		S		NA		NA	S	2			Aquatic community assessment
NE3-12710	Unnamed Creek		NA		NA		NA		3			
NE3-12800	Sand Creek		NA		NA		NA		3			
NE3-12900	Jones Creek		NA		NA		NA		3			
NE3-12910	East Branch Jones Creek		NA		NA		NA		3			
NE3-13000	Jones Creek		NA		NA		NA		3			
NE3-13100	North Fork Little Nemaha River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NE3-13110	Unnamed Creek		NA		NA		NA		3			
NE3-13120	Unnamed Creek		NA		NA		NA		3			

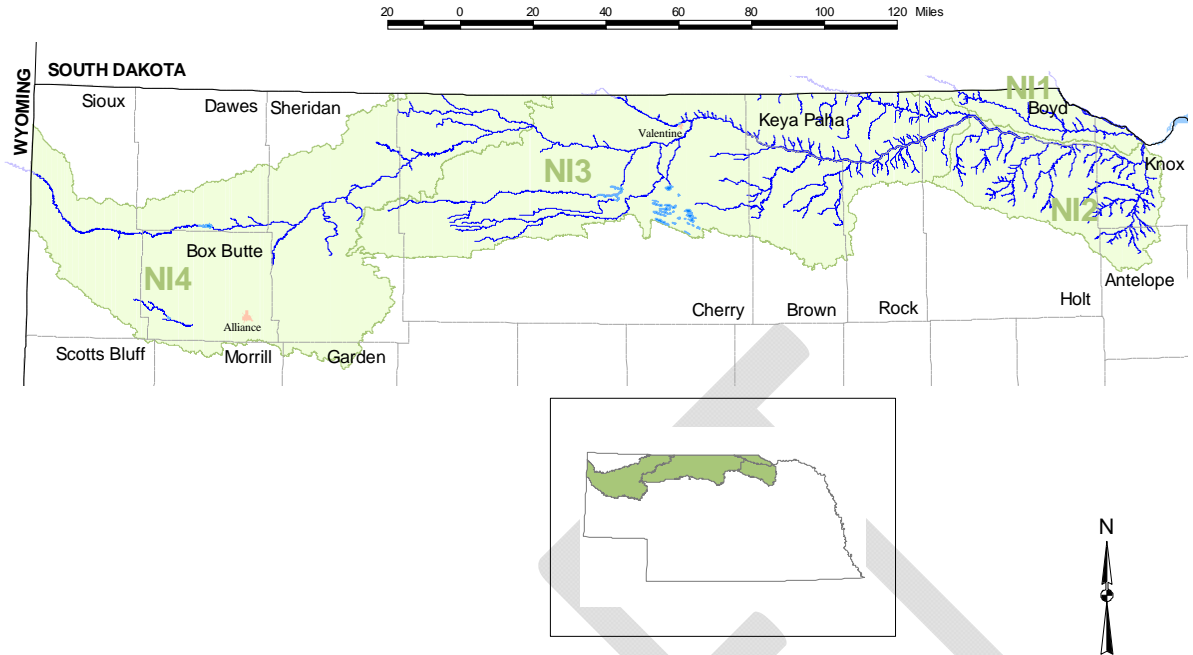
Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE3-13130	Fox Creek		NA		NA		NA		3			
NE3-13140	Wilson Creek		NA		NA		NA		3			
NE3-13150	Deer Creek		NA		NA		NA		3			
NE3-13200	North Fork Little Nemaha River		NA		NA		NA		3			
NE3-13210	Unnamed Creek		NA		NA		NA		3			
NE3-13220	Unnamed Creek		NA		NA		NA		3			
NE3-13300	North Fork Little Nemaha River		NA		NA		NA		3			
NE3-20000	Little Nemaha River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NE3-20100	Spring Creek		S		NA		NA	S	2			Aquatic community assessment
NE3-20110	Ayres Creek		NA		NA		NA		3			
NE3-20120	Manns Branch		NA		NA		NA		3			
NE3-20200	Spring Branch		NA		NA		NA		3			
NE3-20300	South Fork Little Nemaha River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Fish consumption assessment, Aquatic community assessment
NE3-20310	Coon Creek		S		NA		NA	S	2			Aquatic community assessment
NE3-20320	Unnamed Creek		NA		NA		NA		3			
NE3-20330	Turkey Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE3-20400	South Fork Little Nemaha River		NA		NA		NA		3			
NE3-20410	Silver Creek		NA		NA		NA		3			
NE3-20420	Saunders Creek		NA		NA		NA		3			
NE3-20421	Unnamed Creek		NA		NA		NA		3			
NE3-20430	Saunders Creek		NA		NA		NA		3			
NE3-20500	South Fork Little Nemaha River		NA		NA		NA		3			
NE3-20510	Unnamed Creek		NA		NA		NA		3			
NE3-20520	Unnamed Creek		NA		NA		NA		3			
NE3-30000	Little Nemaha River	I	S	S			S	I	5	Recreation-Bacteria	E. coli	
NE3-30100	Unnamed Creek		NA		NA		NA		3			
NE3-30200	Muddy Creek		S		NA		NA	S	2			Aquatic community assessment
NE3-30210	Little Muddy Creek		S		NA		NA	S	2			Aquatic community assessment
NE3-30300	Brownell Creek		NA		NA		NA		3			
NE3-30310	Unnamed Creek		NA		NA		NA		3			
NE3-30400	Brownell Creek		NA		NA		NA		3			
NE3-30500	Boxelder Creek		NA		NA		NA		3			
NE3-30600	Unnamed Creek		NA		NA		NA		3			
NE3-30700	Ziegler Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NE3-30800	Wolf Creek		NA		NA		NA		3			
NE3-30810	Owl Creek		NA		NA		NA		3			
NE3-30900	Wolf Creek		NA		NA		NA		3			
NE3-30910	Unnamed Creek		NA		NA		NA		3			
NE3-31000	Russell Creek		NA		NA		NA		3			
NE3-31100	Henry Creek		NA		NA		NA		3			
NE3-31200	Hooper Creek		S		NA		NA	S	2			Aquatic community assessment
NE3-31210	Unnamed Creek		NA		NA		NA		3			
NE3-31220	Unnamed Creek		NA		NA		NA		3			
NE3-31230	Unnamed Creek		NA		NA		NA		3			
NE3-31300	Hooper Creek		NA		NA		NA		3			
NE3-31310	Unnamed Creek		NA		NA		NA		3			
NE3-31320	Unnamed Creek		NA		NA		NA		3			
NE3-40000	Little Nemaha River		NA		NA		NA		3			
NE3-40100	Silver Creek		NA		NA		NA		3			
NE3-50000	Little Nemaha River		S		NA		NA	S	2			Aquatic community assessment
NE3-50100	Unnamed Creek		NA		NA		NA		3			
NE3-50200	Unnamed Creek		NA		NA		NA		3			
NE3-50300	Unnamed Creek		NA		NA		NA		3			

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

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Niobrara River Basin (and Subbasins)

Niobrara River Basin – Hydrologic Units 10150001, 10150002, 10150003, 10150004, 10150005, 10150006, 10150007 and 10140203

The Niobrara River Basin includes 270 designated stream segments and 65 designated lakes/reservoirs.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	65	0	2	63	0	0	65	2	65
Streams	53	14	164	15	77	0	269	1	270

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

NI3-L0070: Cub Creek Lake- This waterbody was listed as Category 5 in the 2010 IR due to a fish consumption advisory. This waterbody was impaired for hazard index compounds and mercury. An error was detected in the 2010 listing and this waterbody is also impaired for total phosphorus, total nitrogen, and chlorophyll a. This waterbody will remain Category 5.

NI3-L0170: Valentine Mill Pond- This waterbody was listed as Category 5 in the 2010 IR. This waterbody’s aquatic life was impaired for total phosphorus, total nitrogen, chlorophyll a, hazard index compounds, and mercury. The 2012 assessment determined this waterbody is no longer impaired for total nitrogen however, the rest of the impairments remain. This waterbody will remain Category 5.

NI3-L0220: Big Alkali Lake (WMA)- This waterbody was listed as Category 2 in the 2010 IR with the aquatic life, agricultural water supply, and aesthetic beneficial uses being supported. An error was detected in the 2010 listing and this waterbody does not support the aquatic life and agriculture water supply beneficial uses. This waterbody is impaired for total phosphorus, total nitrogen, chlorophyll a, and conductivity. This waterbody will be moved to Category 5.

NI3-L0330: Merritt Reservoir; NI4-L0010: Cottonwood Lake; NI4-L0020: Shell Lake- These waterbodies were listed as Category 5 in the 2010 IR. These waterbodies aquatic life use had a fish consumption advisory and impaired for mercury. In 2010 hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. These waterbodies will remain in Category 5.

NI4-L0080: Box Butte Reservoir- This waterbody was listed as Category 5 in the 2010 IR due to a fish consumption advisory. This waterbody was impaired for mercury. In the 2010 IR hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. The 2012 assessment determined this waterbody is also impaired for pH. This waterbody will remain Category 5.

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Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
NI1-L0010	Hull Lake (WMA)	NA	NA		NA		NA		3			
NI2-L0010	Creighton Rod and Gun Club Lake	NA	NA		NA		NA		3			
NI2-L0020	Niobrara State Park Lake No. 1	NA	NA		NA		NA		3			
NI2-L0030	Niobrara State Park Lake No. 2	NA	NA		NA		NA		3			
NI2-L0050	Grove Sandpit Lake (WMA)	NA	NA		NA		NA		3			
NI2-L0060	Grove Lake (WMA)	NA	I		S		S	I	5	Aquatic Life-pH, nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a, pH	Fish consumption assessment
NI2-L0070	Spencer Hydro Dam Lake	NA	NA		NA		NA		3			
NI3-L0010	F. Peterson Pond	NA	NA		NA		NA		3			
NI3-L0020	Keller Park Lake No. 1 (SRA)	NA	NA		NA		NA		3			
NI3-L0030	Keller Park Lake No. 2 (SRA)	NA	S		NA		NA	S	2			Fish consumption assessment
NI3-L0040	Keller Park Lake No. 3 (SRA)	NA	NA		NA		NA		3			
NI3-L0050	Keller Park Lake No. 4 (SRA)	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-L0060	Keller Park Lake No. 5 (SRA)	NA	NA		NA		NA		3			
NI3-L0070	Cub Creek Lake	NA	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Total Nitrogen, Chlorophyll a, Hazard Index compounds*, Mercury	Error in 2010 listing-add total phosphorus, total nitrogen, and chlorophyll a, Fish consumption assessment
NI3-L0080	Williams Pond	NA	NA		NA		NA		3			
NI3-L0090	Cornell Dam Lake	NA	NA		NA		NA		3			
NI3-L0100	North Marsh Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0110	Middle Marsh (Valentine NWR)	NA	S		S		S	S	2			
NI3-L0120	South Marsh Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0130	East Twin Lake (Valentine NWR)	NA	S		S		S	S	2			
NI3-L0140	Valentine Fish Hatchery Lake	NA	NA		NA		NA		3			
NI3-L0150	Calf Camp Marsh (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0160	Little Hay Lake (Valentine NWR)	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-L0170	Valentine Mill Pond	S	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Chlorophyll a, Hazard Index compounds*, Mercury	Fish consumption assessment
NI3-L0180	Ballards Marsh (WMA)	NA	NA		NA		NA		3			
NI3-L0181	Twenty-one Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0182	Center Lake (Valentine NWR)	NA	S		S		S	S	2			
NI3-L0183	Lee Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0184	Pony Lake (Valentine NWR)	NA	S		S		S	S	2			
NI3-L0185	East Sweetwater Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0190	West Twin Lake (Valentine NWR)	NA	S		S		S	S	2			
NI3-L0191	Round Lake (Tom's Lake) (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0192	Homestead Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0193	Campbell Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0194	Lost Lake (Valentine NWR)	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-L0195	Dad's Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0196	Baker Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0200	Hackberry (Valentine NWR)	NA	S		S		S	S	2			Fish consumption assessment
NI3-L0210	Willow Lake (WMA)	NA	S		NA		NA	S	2			Fish consumption assessment
NI3-L0220	Big Alkali Lake (WMA)	NA	I		I		S	I	5	Aquatic Life-Nutrients, Ag Water Supply-Conductivity	Total Phosphorus, Total Nitrogen, Chlorophyll a, Unknown	Fish consumption assessment
NI3-L0230	McKeel Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0240	Dewey Lake (Valentine NWR)	NA	S		S		S	S	2			
NI3-L0250	School Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0260	Clear Lake (Valentine NWR)	NA	S		S		S	S	2			
NI3-L0270	Pelican Lake (Valentine NWR)	NA	S		S		S	S	2			Fish consumption assessment
NI3-L0280	Whitewater Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0290	Watts Lake (Valentine NWR)	NA	S		S		S	S	2			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-L0300	West Long Lake (Valentine NWR)	NA	S		S		S	S	2			
NI3-L0310	Rice Lake (Valentine NWR)	NA	NA		NA		NA		3			
NI3-L0320	Duck Lake (Valentine NWR)	NA	S		S		S	S	2			
NI3-L0330	Merritt Reservoir	S	I		S		S	I	5	Aquatic Life-pH, Fish Consumption Advisory	Unknown, Hazard Index Compounds*, Mercury	Fish consumption assessment
NI3-L0340	Cody Lake	NA	S					S	2			Fish consumption assessment
NI3-L0350	Shaup Lake	NA	S		S		S	S	2			
NI3-L0360	Medicine Lake	NA	NA		NA		NA		3			
NI3-L0370	Round Lake	NA	S		I		S	I	4c	High Conductivity	Unknown	Sandhills lakes have naturally elevated conductivity
NI3-L0380	Three Corners Lake	NA	NA		NA		NA		3			
NI4-L0010	Cottonwood Lake (SRA)	NA	I		NA		NA	I	5	Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
NI4-L0020	Shell Lake	NA	I		NA		NA	I	5	Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
NI4-L0030	Leistrantz-Meyer Lake	NA	NA		NA		NA		3			
NI4-L0040	Smith Lake (WMA)	NA	S		NA		NA	S	2			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI4-L0050	Walgren Lake (SRA)	NA	I		S		S	I	5	Fish Consumption Advisory	Hazard Index compounds*, Mercury	Fish consumption assessment
NI4-L0060	Alliance City Lake	NA	NA		NA		NA		3			
NI4-L0070	Maxwell Pond	NA	NA		NA		NA		3			
NI4-L0080	Box Butte Reservoir	S	I		S		S	I	5	Aquatic Life-pH, Fish Consumption Advisory	Unknown, Hazard Index Compounds*, Mercury	Fish consumption assessment
NI4-L0090	Kilpatrick Lake	NA	I		S		S	I	5	Aquatic Life-pH	Unknown	
Streams												
NI1-10000	Missouri River	S	S		S		S	S	1			Fish consumption assessment
NI1-10100	Ponca Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Selenium	E. coli, Selenium	
NI1-10110	Unnamed Creek		NA		NA		NA		3			
NI1-10120	Unnamed Creek		NA		NA		NA		3			
NI1-10130	Unnamed Creek		NA		NA		NA		3			
NI1-10140	Unnamed Creek		NA		NA		NA		3			
NI1-10150	Whiskey Creek		NA		NA		NA		3			
NI1-10151	Silver Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI1-10160	Whiskey Creek		NA		NA		NA		3			
NI1-10170	Unnamed Creek		NA		NA		NA		3			
NI1-10180	Beaver Creek	NA	NA		NA		NA		3			
NI1-10200	Ponca Creek		S		NA		NA	S	2			Aquatic community assessment
NI1-10210	Unnamed Creek		NA		NA		NA		3			
NI1-10220	Unnamed Creek		NA		NA		NA		3			
NI1-10230	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
NI1-10240	Unnamed Creek		NA		NA		NA		3			
NI1-10250	Unnamed Creek		NA		NA		NA		3			
NI1-10260	Unnamed Creek		NA		NA		NA		3			
NI2-10000	Niobrara River	I	I		S	S	S	I	5	Recreation-Bacteria, Aquatic Life-Fish consumption advisory	E. coli, Hazard Index compounds*	E. coli TMDL approved 1/06, Aquatic community and Fish consumption assessment
NI2-10100	Verdigre Creek	I	S		S		S	I	5	Recreation-Bacteria, Aquatic Life-Impaired aquatic community	E. coli, Unknown	Aquatic community assessment
NI2-10110	Unnamed Creek		NA		NA		NA		3			
NI2-10120	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI2-10130	Unnamed Creek		NA		NA		NA		3			
NI2-10140	North Branch Verdigre Creek	NA	NA		NA		NA		3			
NI2-10141	Unnamed Creek		NA		NA		NA		3			
NI2-10142	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
NI2-10143	Unnamed Creek		NA		NA		NA		3			
NI2-10144	Unnamed Creek		NA		NA		NA		3			
NI2-10200	Verdigre Creek	NA	S		NA		NA	S	2			Aquatic community assessment
NI2-10210	Unnamed Creek		NA		NA		NA		3			
NI2-10220	Unnamed Creek		NA		NA		NA		3			
NI2-10221	Unnamed Creek		NA		NA		NA		3			
NI2-10222	Unnamed Creek		NA		NA		NA		3			
NI2-10230	Middle Branch Verdigre Creek	NA	NA		NA		NA		3			
NI2-10231	Unnamed Creek		NA		NA		NA		3			
NI2-10232	Unnamed Creek		NA		NA		NA		3			
NI2-10233	Unnamed Creek		NA		NA		NA		3			
NI2-10234	Unnamed Creek		NA		NA		NA		3			
NI2-10235	Unnamed Creek		NA		NA		NA		3			
NI2-10236	Lamb Creek		NA		NA		NA		3			
NI2-10237	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI2-10238	Unnamed Creek		NA		NA		NA		3			
NI2-10239	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
NI2-10240	Unnamed Creek		NA		NA		NA		3			
NI2-10250	Unnamed Creek		NA		NA		NA		3			
NI2-10260	Unnamed Creek		NA		NA		NA		3			
NI2-10270	Merriman Creek	NA	NA		NA		NA		3			
NI2-10271	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
NI2-10280	Merriman Creek		NA		NA		NA		3			
NI2-10281	Unnamed Creek		NA		NA		NA		3			
NI2-10290	Cottonwood Creek		NA		NA		NA		3			
NI2-10300	South Branch Verdigre Creek	NA	NA		NA		NA		3			
NI2-10310	East Branch Verdigre Creek	NA	NA		NA		NA		3			
NI2-10311	Hay Creek		NA		NA		NA		3			
NI2-10320	East Branch Verdigre Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NI2-10330	Unnamed Creek		NA		NA		NA		3			
NI2-10340	Unnamed Creek		NA		NA		NA		3			
NI2-10350	Big Springs Creek		NA		NA		NA		3			
NI2-10351	Hathoway Slough		NA		NA		NA		3			
NI2-10352	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI2-10400	Schindler Creek		NA		NA		NA		3			
NI2-10500	Unnamed Creek		NA		NA		NA		3			
NI2-10600	Soldier Creek		NA		NA		NA		3			
NI2-10610	Unnamed Creek		NA		NA		NA		3			
NI2-10700	Pishel Creek		NA		NA		NA		3			
NI2-10800	Steel Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NI2-10810	Long Gulch		NA		NA		NA		3			
NI2-10900	Squaw Creek		NA		NA		NA		3			
NI2-11000	Unnamed Creek		NA		NA		NA		3			
NI2-11100	Sand Creek		NA		NA		NA		3			
NI2-11200	Louse Creek	NA	NA		NA		NA		3			
NI2-11300	Louse Creek		S		S		S	S	1			
NI2-11400	Redbird Creek	NA	NA		NA		NA		3			
NI2-11410	Unnamed Creek		NA		NA		NA		3			
NI2-11420	Spring Creek		S		NA		NA	S	2			Aquatic community assessment, ICI score influenced by extreme flows†
NI2-11430	Blackbird Creek		NA		NA		NA		3			
NI2-11500	Redbird Creek		NA		NA		NA		3			
NI2-11510	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI2-11520	Unnamed Creek		NA		NA		NA		3			
NI2-11600	Unnamed Creek		NA		NA		NA		3			
NI2-11700	Eagle Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NI2-11710	Camp Creek		NA		NA		NA		3			
NI2-11720	Unnamed Creek		NA		NA		NA		3			
NI2-11730	Honey Creek		NA		NA		NA		3			
NI2-11740	Unnamed Creek		NA		NA		NA		3			
NI2-11750	Oak Creek		NA		NA		NA		3			
NI2-11760	Unnamed Creek		NA		NA		NA		3			
NI2-11770	East Branch Eagle Creek		NA		NA		NA		3			
NI2-11771	Unnamed Creek		NA		NA		NA		3			
NI2-11772	Unnamed Creek		NA		NA		NA		3			
NI2-11780	Middle Branch Eagle Creek	NA	S		NA		NA	S	2			Aquatic community assessment, ICI score influenced by extreme flows†
NI2-11781	North Branch Eagle Creek	NA	NA		NA		NA		3			
NI2-11781.1	Unnamed Creek		NA		NA		NA		3			
NI2-11781.2	Unnamed Creek		NA		NA		NA		3			
NI2-11781.3	Unnamed Creek		NA		NA		NA		3			
NI2-11782	Unnamed Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI2-11783	Unnamed Creek		NA		NA		NA		3			
NI2-11784	Unnamed Creek		NA		NA		NA		3			
NI2-11800	Unnamed Creek		NA		NA		NA		3			
NI2-11900	Turkey Creek		NA		NA		NA		3			
NI2-12000	Brush Creek		NA		NA		NA		3			
NI2-12010	Spring Creek		NA		NA		NA		3			
NI2-12020	Unnamed Creek		NA		NA		NA		3			
NI2-12030	Unnamed Creek		NA		NA		NA		3			
NI2-12040	Unnamed Creek		NA		NA		NA		3			
NI2-12041	Unnamed Creek		NA		NA		NA		3			
NI2-12100	Brush Creek		NA		NA		NA		3			
NI2-12200	Little Sandy Creek		NA		NA		NA		3			
NI2-12300	Big Sandy Creek	NA	NA		NA		NA		3			
NI2-12310	Unnamed Creek		NA		NA		NA		3			
NI2-12320	Unnamed Creek		NA		NA		NA		3			
NI2-12330	Unnamed Creek		NA		NA		NA		3			
NI2-12340	Unnamed Creek		NA		NA		NA		3			
NI2-12350	Spring Creek		NA		NA		NA		3			
NI2-12400	Big Sandy Creek	NA	NA		NA		NA		3			
NI2-12410	Unnamed Creek		NA		NA		NA		3			
NI3-10000	Niobrara River	I	S		S		S	I	4a	Recreation-	E. coli	E. coli TMDL approved

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										Bacteria		1/06
NI3-10100	Keya Paha River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Fish consumption assessment
NI3-10110	Morse Creek		NA		NA		NA		3			
NI3-10111	Unnamed Creek		NA		NA		NA		3			
NI3-10120	Big Creek		NA		NA		NA		3			
NI3-10130	Meglin Creek		NA		NA		NA		3			
NI3-10140	Oak Creek		NA		NA		NA		3			
NI3-10141	Unnamed Creek		NA		NA		NA		3			
NI3-10142	Unnamed Creek		NA		NA		NA		3			
NI3-10150	Alkali Creek		NA		NA		NA		3			
NI3-10160	Spotted Tail Creek		NA		NA		NA		3			
NI3-10170	Coon Creek		NA		NA		NA		3			
NI3-10171	Unnamed Creek		NA		NA		NA		3			
NI3-10180	Wolf Creek		NA		NA		NA		3			
NI3-10190	Spring Creek		NA		NA		NA		3			
NI3-10200	Dry Creek		NA		NA		NA		3			
NI3-10210	Buffalo Creek		NA		NA		NA		3			
NI3-10211	Unnamed Creek		NA		NA		NA		3			
NI3-10220	Burton Creek		S		NA		NA	S	2			Aquatic community assessment
NI3-10230	Lute Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-10240	Jordan Creek		NA		NA		NA		3			
NI3-10250	Holt Creek		NA		NA		NA		3			
NI3-10251	East Branch Holt Creek		NA		NA		NA		3			
NI3-10260	Holt Creek		NA		NA		NA		3			
NI3-10261	Unnamed Creek		NA		NA		NA		3			
NI3-10270	Timber Creek		NA		NA		NA		3			
NI3-10280	Cottonwood Creek		NA		NA		NA		3			
NI3-10290	Lost Creek		NA		NA		NA		3			
NI3-10300	Shadley Creek		NA		NA		NA		3			
NI3-10400	Beaver Creek		NA		NA		NA		3			
NI3-10500	Clay Creek		NA		NA		NA		3			
NI3-10510	West Branch Clay Creek		NA		NA		NA		3			
NI3-10600	Unnamed Creek		NA		NA		NA		3			
NI3-10700	Otter Creek		NA		NA		NA		3			
NI3-10800	Unnamed Creek		NA		NA		NA		3			
NI3-10900	Simpson Creek		NA		NA		NA		3			
NI3-10910	Unnamed Creek		NA		NA		NA		3			
NI3-11000	Big Anne Creek		NA		NA		NA		3			
NI3-11010	Haughin Creek		NA		NA		NA		3			
NI3-11011	Unnamed Creek		NA		NA		NA		3			
NI3-11100	Ash Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-11110	Unnamed Creek		NA		NA		NA		3			
NI3-11120	Unnamed Creek		NA		NA		NA		3			
NI3-11200	Oak Creek		NA		NA		NA		3			
NI3-11210	Unnamed Creek		NA		NA		NA		3			
NI3-11220	Unnamed Creek		NA		NA		NA		3			
NI3-11300	Willow Creek		NA		NA		NA		3			
NI3-11310	Sand Creek		NA		NA		NA		3			
NI3-11400	Unnamed Creek		NA		NA		NA		3			
NI3-11500	Rock Creek		NA		NA		NA		3			
NI3-11600	Unnamed Creek		NA		NA		NA		3			
NI3-11700	West Branch Laughing Water Creek		NA		NA		NA		3			
NI3-11710	East Branch Laughing Water Creek		NA		NA		NA		3			
NI3-11720	Middle Branch Laughing Water Creek		NA		NA		NA		3			
NI3-11800	Coon Creek		NA		NA		NA		3			
NI3-11900	Elk Creek		NA		NA		NA		3			
NI3-12000	Wyman Creek		NA		NA		NA		3			
NI3-12100	Sand Creek		NA		NA		NA		3			
NI3-12200	Long Pine Creek	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-12210	Short Pine Creek		S		NA		NA	S	2			Aquatic community assessment
NI3-12220	Bone Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-High temperature	E. coli, temperature	Aquatic community assessment
NI3-12221	Sand Draw		NA		NA		NA		3			
NI3-12222	Unnamed Creek		NA		NA		NA		3			
NI3-12230	Bone Creek		NA		NA		NA		3			
NI3-12300	Long Pine Creek	NA	NA		NA		NA		3			
NI3-12310	Willow Creek		S		NA		NA	S	2			Aquatic community assessment
NI3-12400	Long Pine Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Fish consumption assessment
NI3-12500	Thomas Creek		NA		NA		NA		3			
NI3-12600	Prosser Creek		NA		NA		NA		3			
NI3-12700	Jewett Creek		NA		NA		NA		3			
NI3-12800	Dutch Creek		NA		NA		NA		3			
NI3-12900	Rock Creek		NA		NA		NA		3			
NI3-12910	Unnamed Creek		NA		NA		NA		3			
NI3-13000	Plum Creek	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-13010	Little Minnie Creek		NA		NA		NA		3			
NI3-13020	Evergreen Creek		NA		NA		NA		3			
NI3-13021	Cedar Creek		NA		NA		NA		3			
NI3-13021.1	Dry Creek		NA		NA		NA		3			
NI3-13100	Plum Creek	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06
NI3-13110	North Branch Plum Creek		NA		NA		NA		3			
NI3-13111	Brush Creek		NA		NA		NA		3			
NI3-13120	South Branch Plum Creek		S		NA		NA	S	2			Aquatic community assessment
NI3-20000	Niobrara River	S	S		S		S	S	1			Fish consumption assessment
NI3-20100	Cub Creek		NA		NA		NA		3			
NI3-20110	Unnamed Creek		NA		NA		NA		3			
NI3-20200	Chimney Creek		NA		NA		NA		3			
NI3-20210	Unnamed Creek		S		NA		NA	S	2			Aquatic community assessment
NI3-20300	Turkey Creek		NA		NA		NA		3			
NI3-20400	Middle Creek		NA		NA		NA		3			
NI3-20410	East Middle Creek		NA		NA		NA		3			
NI3-20500	Fairfield Creek	NA	S		NA		NA	S	2			Aquatic community assessment
NI3-20510	South Fork Fairfield Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-20600	McGill Creek		NA		NA		NA		3			
NI3-20700	Mulshoe Creek		S		NA		NA	S	2			Aquatic community assessment
NI3-20800	Coleman Creek		NA		NA		NA		3			
NI3-20900	Unnamed Creek		NA		NA		NA		3			
NI3-21000	Clapp Creek		NA		NA		NA		3			
NI3-21100	Unnamed Creek		NA		NA		NA		3			
NI3-21200	Unnamed Creek		NA		NA		NA		3			
NI3-21300	Unnamed Creek		NA		NA		NA		3			
NI3-21400	Unnamed Creek		NA		NA		NA		3			
NI3-21500	Crooked Creek		NA		NA		NA		3			
NI3-21600	Little Beaver Creek		NA		NA		NA		3			
NI3-21700	Big Beaver Creek		NA		NA		NA		3			
NI3-21800	Coon Creek		NA		NA		NA		3			
NI3-21900	Minnechaduza Creek	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-High Temperature	E. coli, Temperature	E. coli TMDL approved 1/06, Aquatic community assessment
NI3-21910	Spring Creek		NA		NA		NA		3			
NI3-21920	Fishberry Creek		NA		NA		NA		3			
NI3-21930	Dry Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-22000	Minnechaduza Creek	NA	NA		NA		NA		3			
NI3-22010	Bull Creek		NA		NA		NA		3			
NI3-22100	Schlagel Creek	NA	NA		NA		NA		3			
NI3-22200	Gordon Creek		S		NA		NA	S	2			Aquatic community assessment
NI3-22210	Betsy Creek		NA		NA		NA		3			
NI3-22300	Gordon Creek	NA	NA		NA		NA	NA	3			Aquatic community assessment results were inconclusive - site will be reassessed†
NI3-22310	Arkansas Flats		NA		NA		NA		3			
NI3-22320	Sandy Richards Creek		NA		NA		NA		3			
NI3-22400	Snake River	S	S		S		S	S	1			Delist pH based on additional data assessments
NI3-22500	Snake River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06
NI3-22510	Boardman Creek		NA		NA		NA	NA	3			Aquatic community assessment results were inconclusive - site will be reassessed†
NI3-22511	Unnamed Creek		NA		NA		NA		3			
NI3-22520	Clifford Creek	NA	NA		NA		NA		3			
NI3-22521	Willow Creek		NA		NA		NA		3			
NI3-22600	Snake River		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI3-30000	Niobrara River	S	S		S		S	S	1			All parameters support beneficial use
NI3-30100	Unnamed Creek		NA		NA		NA		3			
NI3-30200	McCann Canyon		NA		NA		NA		3			
NI3-30300	Medicine Creek		NA		NA		NA		3			
NI4-10000	Niobrara River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Aquatic community assessment
NI4-10100	Bear Creek	NA	NA		NA		NA		3			
NI4-10110	Dry Creek	NA	NA		NA		NA	NA	3			Aquatic community assessment results were inconclusive - site will be reassessed†
NI4-10120	Dry Creek	NA	NA		NA		NA		3			
NI4-10121	Unnamed Creek		NA		NA		NA		3			
NI4-10200	Leander Creek	NA	NA		NA		NA		3			
NI4-10300	Hay Creek		NA		NA		NA		3			
NI4-10400	Antelope Creek		NA		NA		NA		3			
NI4-10500	Pole Creek		NA		NA		NA		3			
NI4-10600	Rush Creek		S		NA		NA	S	2			Aquatic community assessment, ICI score influenced by low water conditions†
NI4-10700	Deer Creek	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NI4-10800	Pine Creek	NA	S		S		S	S	2			
NI4-10900	Pine Creek		NA		NA		NA		3			
NI4-11000	Box Butte Creek		NA		NA		NA		3			
NI4-20000	Niobrara River	NA	S		NA		NA	S	2			Aquatic community assessment
NI4-20100	Pepper Creek		NA		NA		NA		3			
NI4-20200	Cottonwood Creek		NA		NA		NA		3			
NI4-20300	Snake Creek		NA		NA		NA		3			
NI4-20310	Spring Creek		NA		NA		NA		3			
NI4-20320	North Branch Snake Creek		NA		NA		NA		3			
NI4-20330	South Branch Snake Creek		NA		NA		NA		3			
NI4-30000	Niobrara River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NI4-40000	Niobrara River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Fish consumption assessment
NI4-40100	Whistle Creek		NA		NA		NA		3			
NI4-50000	Niobrara River	NA	S		NA		NA	S	2			Aquatic community assessment

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

† See Appendix A: Ecological Justification for Excluding Specific Bio-Indicator Results When Determining Attainment Status of the Aquatic Life Beneficial Use for Nebraska's 2012 Water Quality Integrated Report

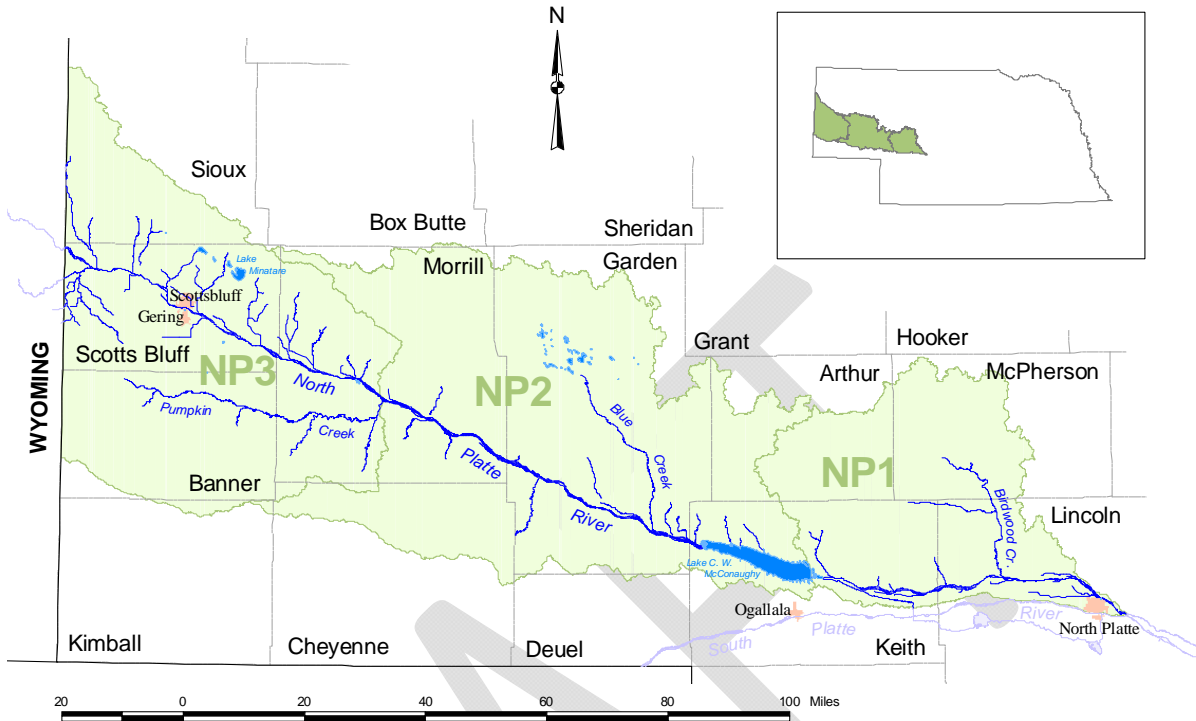
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NORTH PLATTE RIVER BASIN (and Subbasins)



North Platte River Basin – Hydrologic Units 10180009, 10180012, 10180013 and 10180014

The North Platte River Basin includes 137 designated stream segments and 49 designated lakes/reservoirs.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	49	0	3	46	0	0	48	1	49
Streams	42	21	79	7	30	0	136	1	137

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

There were no changes or delistings in this basin.

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
NP1-L0010	Cody Park Lake (North Platte)	NA	NA		NA		NA	NA	3			
NP1-L0020	North Platte City Lake	NA	NA		NA		NA	NA	3			
NP1-L0030	Lake Ogallala	NA	I		S		S	I	4a,r	Aquatic Life-Dissolved Oxygen, Nutrients	Unknown, Total Phosphorus, Total Nitrogen, Chlorophyll a	Dissolved oxygen TMDL approved September 2007, Lake Renovated 2009
NP2-L0010	Lake C. W. McConaughy	S	I		S		S	I	5	Aquatic Life-Dissolved Oxygen, Nutrients	Unknown, Total Phosphorus, Total Nitrogen, Chlorophyll a	Fish consumption assessment
NP2-L0020	Camp Valley Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0030	Phillips Flats Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0040	Upper East Jones Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0050	Lower West Jones Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0060	Swede Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0070	Deer Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP2-L0080	Christ Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0090	Crane Lake (Crescent Lake NWR)	NA	S		S		S	S	2			
NP2-L0100	Hackberry Lake (Crescent Lake NWR)	NA	S		S		S	S	2			
NP2-L0110	Island Lake (Crescent Lake NWR)	NA	S		S		S	S	2			Fish consumption assessment
NP2-L0120	Shafer Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0130	Roundup Lake (Crescent Lake NWR)	NA	S		S		S	S	2			
NP2-L0140	Mallard Arm (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0150	Blue Lake (Crescent Lake NWR)	NA	I		S		S	I	5	Aquatic Life-DO	None	Low dissolved oxygen occurs naturally in highly productive lakes of the Sandhills
NP2-L0160	Duck Slough (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0170	Gimlet Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0180	Goose Lake (Crescent Lake NWR)	NA	S		I		S	I	4c	Ag Water Supply-	None	Sandhill lakes have naturally elevated

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										Conductivity		conductivity
NP2-L0190	West Jones Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0200	Swan Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0210	Boyd Pond (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0220	Lost Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0230	Lower Harrison Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0240	Upper Harrison Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0250	Redhead Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0260	Perrin Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0270	Tree Claim Lake (Crescent Lake NWR)	NA	S		I		S	I	4c	Ag Water Supply-Conductivity	None	
NP2-L0280	Upper Tree Claim Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP2-L0290	Smith Lake (Crescent Lake NWR)	NA	S		S		S	S	2			
NP2-L0300	Border Lake (Crescent Lake NWR)	NA	I		I		S	I	5	Aquatic Life-DO, Ag Water Supply-Conductivity	None	Low dissolved oxygen and high conductivity occur naturally in Sandhill lakes
NP2-L0310	Ramelli Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP2-L0320	Martin Lake (Crescent Lake NWR)	NA	NA		NA		NA	NA	3			
NP3-L0010	Bridgeport Southeast Lake (SRA)	NA	S		S		S	S	2			
NP3-L0020	Bridgeport Northeast Lake (SRA)	NA	NA		NA		NA	NA	3			
NP3-L0030	Bridgeport Middle Lake (SRA)	S	S		S		S	S	1			Fish consumption assessment
NP3-L0040	Bridgeport Southwest Lake (SRA)	NA	NA		NA		NA	NA	3			
NP3-L0050	Bridgeport Northwest Lake (SRA)	NA	S		S		S	S	2			
NP3-L0060	Lake Minatare (North Platte NWR)	S	I		S		S	I	5	Aquatic Life-DO, Nutrients	Unknown, Total Phosphorus	Fish consumption assessment
NP3-L0070	Winters Creek Lake	NA	NA		NA		NA	NA	3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
	(North Platte NWR)											
NP3-L0080	Cochran Lake	NA	I		S		S	I	5	Aquatic Life-pH	Unknown	Fish consumption assessment
NP3-L0090	Little Lake Alice (No. 2) (North Platte NWR)	NA	NA		NA		NA	NA	3			
NP3-L0100	Buffalo Springs Lake (WMA)	NA	NA		NA		NA	NA	3			
NP3-L0110	Lake Alice (North Platte NWR)	NA	NA		NA		NA	NA	3			
NP3-L0120	Terry's Pit Lake	NA	NA		NA		NA	NA	3			
NP3-L0130	University Lake	NA	NA		NA		NA	NA	3			
Streams												
NP1-10000	North Platte River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Fish consumption advisory	E. coli, Hazard Index compounds*, Mercury	Fecal coliform TMDL approved 10/03, Aquatic community & fish consumption assessment
NP1-10100	Scout Creek	NA	NA		NA		NA		3			
NP1-10110	Ditch No. 2	NA	NA		NA		NA		3			
NP1-10200	Scout Creek		NA		NA		NA		3			
NP1-20000	North Platte River	S	S		S		S	S	1			Aquatic community

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
												assessment
NP1-20100	Unnamed Creek		NA		NA		NA		3			
NP1-20200	Unnamed Creek		NA		NA		NA		3			
NP1-20300	Unnamed Creek		NA		NA		NA		3			
NP1-20400	Ditch No. 3		NA		NA		NA		3			
NP1-20500	Birdwood Creek	S	I		S		S	I	4c	Aquatic Life-High temperature	Temperature	Aquatic community assessment
NP1-20510	West Birdwood Creek	NA	NA		NA		NA		3			
NP1-20520	North Fork Birdwood Creek		NA		NA		NA		3			
NP1-20521	Squaw Creek		NA		NA		NA		3			
NP1-20530	North Fork Birdwood Creek		NA		NA		NA		3			
NP1-30000	North Platte River	S	I		S		S	I	4c	Aquatic Life-High Temperature	Temperature	Aquatic community assessment
NP1-30100	Bull Ditch		NA		NA		NA		3			
NP1-30200	East Clear Creek		NA		NA		NA		3			
NP1-30300	Unnamed Drain		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP1-30400	Unnamed Drain		NA		NA		NA		3			
NP1-30500	Cedar Creek		NA		NA		NA		3			
NP1-30600	Lake Creek		NA		NA		NA		3			
NP1-30700	Unnamed Drain		NA		NA		NA		3			
NP1-30800	Sand Creek		NA		NA		NA		3			
NP1-30900	Whitetail Creek	NA	S		NA		NA	S	2			Aquatic community assessment
NP1-30910	Unnamed Creek		NA		NA		NA		3			
NP1-31000	Whitetail Creek		NA		NA		NA		3			
NP1-40000	North Platte River	S	I		S		S	I	4c	Aquatic Life-High Temperature	Temperature	
NP1-40100	Unnamed Drain		NA		NA		NA		3			
NP1-40200	Sutherland Canal	NA	S		NA		NA	S	2			Fish consumption assessment
NP2-10000	North Platte River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	Fecal coliform TMDL approved 10/03, Aquatic community & fish consumption assessment
NP2-10100	Lonergan Creek		NA		NA		NA		3			
NP2-10200	Sand Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP2-10300	Otter Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NP2-10400	Clear Creek		NA		NA		NA		3			
NP2-10500	Plum Creek		NA		NA		NA		3			
NP2-10600	Plum Creek		NA		NA		NA		3			
NP2-10700	Ash Creek		S		NA		NA	S	2			Aquatic community assessment
NP2-10800	Blue Creek		I		S		S	I	4c	Aquatic Life-High Temperature	Temperature	Aquatic community assessment
NP2-10900	Blue Creek	NA	NA		NA		NA		3			
NP2-11000	Blue Creek	NA	S		NA		NA	S	2			Aquatic community assessment
NP2-11100	Blue Creek	NA	NA		NA		NA		3			
NP2-11200	Blue Creek	NA	S		NA		NA	S	2			Aquatic community assessment
NP2-11300	Blue Creek	NA	S		NA		NA	S	2			Aquatic community assessment
NP2-11400	Blue Creek	NA	NA		NA		NA		3			
NP2-11500	Lost Creek		NA		NA		NA		3			
NP2-11600	Rush Creek		S		NA		NA	S	2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP2-11700	Coldwater Creek		NA		NA		NA		3			
NP2-11800	Cedar Creek		NA		NA		NA		3			
NP2-11900	Cedar Creek		NA		NA		NA		3			
NP2-12000	Deep Holes Creek		NA		NA		NA		3			
NP2-12100	Lower Dugout Creek		NA		NA		NA		3			
NP2-12200	Silvernail Drain		NA		NA		NA		3			
NP3-10000	North Platte River	I	S		S		S	I	5	Recreation- Bacteria, Aquatic Life- Fish consumption advisory	E. coli, Hazard index compounds*	Fecal coliform TMDL approved 10/03, Aquatic community & Fish consumption assessment
NP3-10100	Pumpkin Creek		I		S		S	I	5	Aquatic Life- Selenium, DO	Selenium, Unknown	
NP3-10200	Pumpkin Creek		NA		NA		NA		3			
NP3-10210	Greenwood Creek		NA		NA		NA		3			
NP3-10300	Pumpkin Creek	NA	NA		NA		NA		3			
NP3-10310	Lawrence Fork		NA		NA		NA		3			
NP3-10400	Pumpkin Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP3-10410	Big Horn Gulch		NA		NA		NA		3			
NP3-10500	Pumpkin Creek		NA		NA		NA		3			
NP3-10510	Willow Creek		NA		NA		NA		3			
NP3-10600	Upper Dugout Creek		NA		NA		NA		3			
NP3-10700	Indian Creek		NA		NA		NA		3			
NP3-10800	DeGraw Drain		NA		NA		NA		3			
NP3-10900	Red Willow Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NP3-10910	Wildhorse Drain		S		NA		NA	S	2			Aquatic community assessment
NP3-10911	Wildhorse Canyon		NA		NA		NA		3			
NP3-10920	Wildhorse Drain	NA	NA		NA		NA		3			
NP3-11000	Red Willow Creek		S		NA		NA	S	2			Aquatic community assessment
NP3-11100	Red Willow Creek		S		NA		NA	S	2			Fish consumption assessment
NP3-11110	West Water Creek		NA		NA		NA		3			
NP3-11200	Red Willow Creek		NA		NA		NA		3			
NP3-11300	Bayard Drain		NA		NA		NA		3			
NP3-11400	Bayard Drain	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP3-11410	Stuckenhole Drain		NA		NA		NA		3			
NP3-11500	Bayard Drain		NA		NA		NA		3			
NP3-11600	Cleveland Drain		NA		NA		NA		3			
NP3-11700	Ninemile Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NP3-11800	Ninemile Creek	NA	NA		NA		NA		3			
NP3-11810	Moffat Drain		NA		NA		NA		3			
NP3-11820	Alliance Drain	NA	NA		NA		NA		3			
NP3-11900	Ninemile Creek	NA	S		NA		NA	S	2			Fish consumption assessment
NP3-11910	East Ninemile Creek		NA		NA		NA		3			
NP3-12000	Ninemile Creek	S	I		S		S	I	5	Aquatic Life-DO	Unknown	
NP3-12100	Fairfield Seep		NA		NA		NA		3			
NP3-12200	Melbeta Drain		NA		NA		NA		3			
NP3-12300	Scottsbluff Drain No. 2		NA		NA		NA		3			
NP3-12400	Gering Drain	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NP3-12500	Gering Drain		S		NA		NA	S	2			Aquatic community assessment
NP3-12600	Winters Creek	I	S		S		S	I	5	Recreation-	E. coli	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										Bacteria		
NP3-12610	Scottsbluff Drain No. 1		NA		NA		NA		3			
NP3-12620	Dunham Andrews Drain		NA		NA		NA		3			
NP3-12700	Winters Creek		NA		NA		NA		3			
NP3-12800	Unnamed Creek		NA		NA		NA		3			
NP3-12900	Tub Springs Drain	NA	S		NA		NA	S	2			Fish Consumption Assessment
NP3-12910	Unnamed Creek		NA		NA		NA		3			
NP3-12911	Unnamed Creek		NA		NA		NA		3			
NP3-13000	Tub Springs Drain	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Selenium	E. coli, Selenium	
NP3-13010	Sunflower Drain		NA		NA		NA		3			
NP3-13100	Tub Springs Drain	NA	S		NA		NA	S	2			Fish consumption assessment
NP3-13110	Hiersche Drain	NA	NA		NA		NA		3			
NP3-13200	Tub Spring Drain		NA		NA		NA		3			
NP3-20000	North Platte River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	Fecal coliform TMDL approved 10/03, Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP3-20100	Unnamed Creek		NA		NA		NA		3			
NP3-20200	Mitchell Drain		NA		NA		NA		3			
NP3-20300	Spottedtail Creek		NA		NA		NA		3			
NP3-20310	Unnamed Creek		NA		NA		NA		3			
NP3-20400	Spottedtail Creek		NA		NA		NA		3			
NP3-20500	Browns Canyon		NA		NA		NA		3			
NP3-20600	Dry Spottedtail Creek		NA		NA		NA		3			
NP3-20610	Unnamed Drain		NA		NA		NA		3			
NP3-20700	Dry Spottedtail Creek		S		NA		NA	S	2			Aquatic community assessment
NP3-30000	North Platte River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	Fecal coliform TMDL approved 10/03, Aquatic community assessment
NP3-30100	Unnamed Drain		NA		NA		NA		3			
NP3-30200	Sheep Creek		NA		NA		NA		3			
NP3-30300	Sheep Creek	NA	NA		NA		NA		3			
NP3-30310	Dry Sheep Creek	NA	NA		NA		NA		3			
NP3-30400	Sheep Creek	NA	S		NA		NA	S	2			Aquatic community & Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP3-30410	Unnamed Creek		NA		NA		NA		3			
NP3-30500	Sheep Creek		NA		NA		NA		3			
NP3-30600	Horse Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
NP3-30610	Unnamed Drain		NA		NA		NA		3			
NP3-30620	Owl Creek		NA		NA		NA		3			
NP3-30621	Dry Creek		NA		NA		NA		3			
NP3-30621.1	Dry Creek-Branch A		NA		NA		NA		3			
NP3-30621.2	Dry Creek-Branch B		NA		NA		NA		3			
NP3-30622	Dry Creek		NA		NA		NA		3			
NP3-30622.1	Unnamed Drain		NA		NA		NA		3			
NP3-30623	Kiowa Creek		NA		NA		NA		3			
NP3-30623.1	Kiowa Creek-Branch B		NA		NA		NA		3			
NP3-30624	Kiowa Creek		NA		NA		NA		3			
NP3-30630	Owl Creek		NA		NA		NA		3			
NP3-30640	Owl Creek		NA		NA		NA		3			
NP3-40000	North Platte River	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
NP3-50000	North Platte River	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-High temperature	E. coli, temperature	Fecal coliform TMDL approved 10/03, Aquatic community & Fish consumption assessment

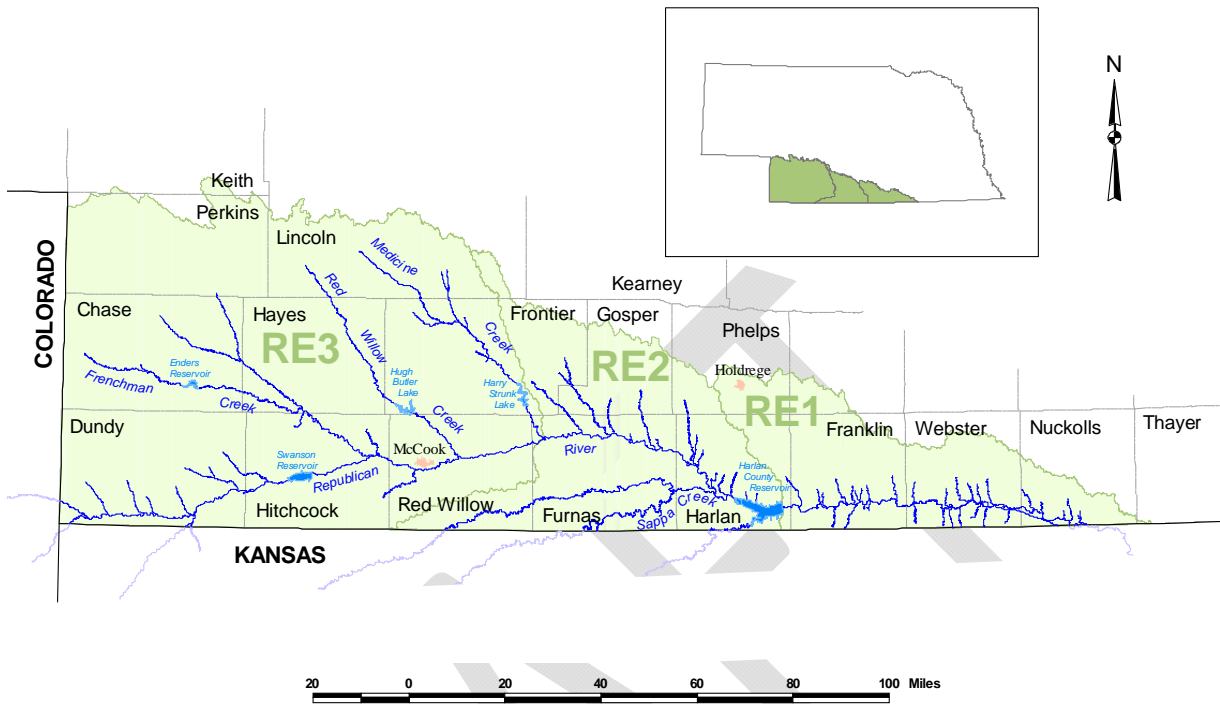
* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

Literature Cited:

McCarragher, D. B. 1964. Limnology of carbonate – bicarbonate lakes in Nebraska. Nebraska Game and Parks Commission: White Papers and Manuscripts. <http://digitalcommons.unl.edu/nebgamewhitpap/8/>

McCarragher, D. B. 1977. Nebraska’s Sandhills Lakes. Nebraska Game and Parks Commission. Lincoln, NE.

REPUBLICAN RIVER BASIN (and Subbasins)



Republican River Basin – Hydrologic Units 10250001, 10250002, 10250003, 10250004, 10250006, 10250007, 10250008, 10250009, 10250011, 10250014, 10250015 and 0250016

The Republican River basin includes 102 designated stream segments and 20 designated lakes/reservoirs.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	20	0	1	19	0	0	20	0	20
Streams	33	0	19	24	59	0	102	0	102

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

RE1-L0040: Holdrege City Lake- This waterbody was listed as Category 5 in the 2010 IR. This waterbody was impaired for high pH. Data collected in 2009 determined this waterbody is also impaired for hazard index compounds and mercury. This waterbody will remain Category 5.

RE3-L0080: Camp Hayes Lake (WMA)- This waterbody was listed as Category 3 in the 2010 IR due to no available data. An error was detected in the 2010 listing and data collected in 2007 determined this waterbody's aquatic life beneficial use is impaired for chlorophyll a. This waterbody will be moved to Category 5.

RE3-L0060: Hugh Butler Lake- This waterbody was listed as Category 5 in the 2010 IR. This waterbody was impaired for low dissolved oxygen, total phosphorus, total nitrogen, and mercury. In the 2010 IR hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. Data collected in 2009 determined this waterbody is no longer impaired for total nitrogen but the rest of the impairments remain the same. This waterbody will remain Category 5.

RE3-L0100: Enders Reservoir; RE3-L0120 Rock Creek lake (SRA)- These waterbodies were listed as Category 5 in the 2010 IR. These waterbodies aquatic life use had a fish consumption advisory and impaired for mercury. In 2010 hazard index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. These waterbodies will remain in Category 5.

RE2-10600: Sappa Creek- This waterbody was listed as Category 5 in the 2010 IR. This waterbody was impaired by low dissolved oxygen and did not support its aquatic life beneficial use. Data collected in 2009 and 2010 determined this waterbody is no longer impaired for low dissolved oxygen and supports all of its beneficial uses. This waterbody will be moved to Category 1.

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Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
RE1-Undesg.	Frenchman WMA Lake	NA	I		NA		NA	I	Not in WQS	Aquatic Life-Fish Consumption Advisory	Hazardous Index Compounds, Mercury	Fish consumption assessment
RE1-L0005	Big Indian Pond (WMA)	NA	S		S		S	S	2			
RE1-L0010	Sacramento-Wilcox No. 1	NA	S		S		S	S	2			
RE1-L0020	Sacramento-Wilcox No. 2	NA	NA		NA		NA		3			
RE1-L0030	Sacramento-Wilcox No. 3	NA	NA		NA		NA		3			
RE1-L0040	Holdrege Park Lake	NA	I		S		S	I	5	Aquatic Life-pH, Fish Consumption Advisory	Unknown, Hazardous Index Compounds*, Mercury	Fish consumption assessment
RE1-L0050	Limestone Bluffs Lake (WMA)	NA	NA		NA		NA		3			
RE2-L0010	Harlan County Reservoir	S	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen	Fish consumption assessment
RE2-L0020	Oxford City Lake	NA	NA		NA		I	I	5	Aesthetics-Algae Blooms	Nutrients	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
RE3-L0010	Harry Strunk Lake (Medicine Creek Reservoir)	S	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	Fish consumption assessment
RE3-L0020	Bartley Diversion Dam Lake (WMA)	NA	NA		NA		NA		3			
RE3-L0030	Hansen Memorial Reserve Lake	NA	I		S		S	I	4r	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen	Lake recently renovated
RE3-L0040	Red Willow Diversion Dam Lake (WMA)	NA	NA		NA		NA		3			
RE3-L0050	Barnett Park Lake (McCook)	NA	NA		NA		S	S	2			
RE3-L0060	Hugh Butler Lake (Red Willow Reservoir)	S	I		S		S	I	5	Aquatic Life-DO, Nutrients, Fish Consumption Advisory	Unknown, Total Phosphorus, Hazard Index Compounds*, Mercury	Delist total nitrogen, Fish consumption assessment
RE3-L0070	Wellfleet Lake	S	I		S		S	I	5	Aquatic Life-DO	Unknown	Fish consumption assessment
RE3-L0080	Camp Hayes Lake (WMA)	NA	I		S		S	S	5	Aquatic Life-Nutrients	Chlorophyll a	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
RE3-L0090	Swanson Reservoir	S	I		S		S	I	5	Aquatic Life-Nutrients	Total Phosphorus, Total Nitrogen, Chlorophyll a	Fish consumption assessment
RE3-L0100	Enders Reservoir	S	I		S		S	I	5	Aquatic Life-Nutrients, Fish Consumption Advisory	Total Phosphorus, Chlorophyll a, Hazard Index Compounds*, Mercury	Fish consumption assessment
RE3-L0110	Champion Mills Pond (SRA)	NA	S		S		S	S	2			
RE3-L0120	Rock Creek Lake (SRA)	NA	I		S		S	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
Streams												
RE1-10000	Republican River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 3/05, Aquatic community & Fish consumption assessment
RE1-10100	Blakely Creek		NA		NA		NA		3			
RE1-10110	Oak Creek		NA		NA		NA		3			
RE1-10200	Lost Creek	I	I		NA		NA	I	5	Recreation-	E. coli,	

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										Bacteria, Aquatic Life-DO	unknown	
RE1-10300	Unnamed Creek		NA		NA		NA		3			
RE1-10400	Cottonwood Creek		NA		NA		NA		3			
RE1-10500	Beaver Creek		NA		NA		NA		3			
RE1-20000	Republican River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 3/05
RE1-20100	Rankin Creek		NA		NA		NA		3			
RE1-20200	Willow Creek		NA		NA		NA		3			
RE1-20300	Courtland Canal	I	NA		NA		NA	I	5	Recreation-Bacteria	E. coli	
RE1-30000	Republican River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
RE1-30100	Elm Creek		S		S		S	S	1			
RE1-30200	Lost Creek		NA		NA		NA		3			
RE1-30300	Hicks Creek		S		NA		NA	S	2			Aquatic community assessment
RE1-30400	Dry Creek		NA		NA		NA		3			
RE1-30500	Crooked Creek		NA		NA		NA		3			
RE1-30600	Cedar Creek		NA		NA		NA		3			
RE1-30700	Indian Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
RE1-30800	East Penny Creek		S		NA		NA	S	2			Aquatic community assessment
RE1-30900	Louisa Creek		NA		NA		NA		3			
RE1-31000	Walnut Creek		NA		NA		NA		3			
RE1-31100	Farmers Creek		S		NA		NA	S	2			Aquatic community assessment
RE1-31200	Thompson Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-High temperature	E. coli, Temperature	
RE1-40000	Republican River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community & Fish consumption assessment
RE1-40100	Wortham Creek		NA		NA		NA		3			
RE1-40200	Lovely Creek		NA		NA		NA		3			
RE1-40300	Reams Creek		NA		NA		NA		3			
RE1-40400	Coates Creek		NA		NA		NA		3			
RE1-40410	Wasp Creek		NA		NA		NA		3			
RE1-40500	Calumet Creek		NA		NA		NA		3			
RE1-40600	Walnut Run		NA		NA		NA		3			
RE1-40700	Center Creek		S		NA		NA	S	2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
RE1-40800	Lost Creek		NA		NA		NA		3			
RE1-40900	Little Cottonwood Creek		NA		NA		NA		3			
RE1-41000	Cottonwood Creek		S		NA		NA	S	2			Aquatic community assessment
RE1-41100	Turkey Creek		NA		NA		NA		3			
RE1-50000	Republican River	S	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-May-June atrazine, DO	E. coli, atrazine, unknown	
RE2-10000	Republican River	I	S		S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 3/05
RE2-10100	Methodist Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
RE2-10200	Cook Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
RE2-10300	Prairie Dog Creek	I	S		S		S	I	5	Recreation-Bacteria, Aquatic Life-DO	E. coli, unknown	Aquatic community assessment
RE2-10400	Rope Creek		NA		NA		NA		3			
RE2-10500	Flag Creek		S		NA		NA	S	2			Aquatic community assessment
RE2-10600	Sappa Creek		S		S		S	S	1			Delist low dissolved oxygen, Aquatic community

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
												assessment
RE2-10610	Beaver Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-DO	E. coli, Unknown	Aquatic community assessment
RE2-10620	Sheep Creek		NA		NA		NA		3			
RE2-10630	Dutch Creek		NA		NA		NA		3			
RE2-10700	Milrose Creek		NA		NA		NA		3			
RE2-10800	Foster Creek		NA		NA		NA		3			
RE2-10900	Spring Creek		NA		NA		NA		3			
RE2-10910	Deep Creek		NA		NA		NA		3			
RE2-11000	Swartz Creek		NA		NA		NA		3			
RE2-11100	Turkey Creek		S		S		S	S	1			
RE2-11200	Dry Creek		NA		NA		NA		3			
RE2-11300	Elk Creek		NA		NA		NA		3			
RE2-11400	Muddy Creek		I		S		S	I	5	Aquatic Life-Fish consumption advisory	Hazard Index compounds*, Mercury	Aquatic community & Fish consumption assessment
RE2-11410	West Muddy Creek		NA		NA		NA		3			
RE2-11500	Muddy Creek		S		NA		NA	S	2			Aquatic community assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
RE2-11600	Deer Creek		S		NA		NA	S	2			Aquatic community assessment
RE3-10000	Republican River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Selenium	E. coli, Selenium	E. coli TMDL approved 3/05
RE3-10100	Medicine Creek	S	I		S		S	I	5	Aquatic Life-DO	Unknown	Aquatic community assessment, ICI score influenced by low water†
RE3-10200	Medicine Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Fish consumption assessment
RE3-10210	Cedar Creek		NA		NA		NA		3			
RE3-10220	Spring Creek		NA		NA		NA		3			
RE3-10230	Curtis Creek		NA		NA		NA		3			
RE3-10240	Fox Creek		NA		NA		NA		3			
RE3-10241	Cut Canyon		NA		NA		NA		3			
RE3-10300	Medicine Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
RE3-10310	Brushy Creek		NA		NA		NA		3			
RE3-10400	Medicine Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
RE3-10500	Red Willow Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
RE3-10600	Red Willow Creek	I	S		S		S	I	5	Recreation-	E. coli	Aquatic community

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										Bacteria		assessment
RE3-10700	Red Willow Creek		NA		NA		NA		3			
RE3-10800	Driftwood Creek		S		S		S	S	1			
RE3-20000	Republican River	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-DO	E. coli, unknown	Aquatic community assessment
RE3-20100	Blackwood Creek		NA		NA		NA		3			
RE3-20200	Frenchman Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-Selenium	E. coli, Selenium	Aquatic community assessment
RE3-20210	Bobtail Creek		NA		NA		NA		3			
RE3-20220	Stinking Water Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-High Temperature	E. coli, Temperature	Aquatic community & Fish consumption assessment
RE3-20221	Spring Creek		S		NA		NA	S	2			Aquatic community assessment
RE3-20300	Frenchman Creek	I	I		S		S	I	4a,c	Recreation-Bacteria, Aquatic Life-High Temperature	E. coli, Temperature	E. coli TMDL approved 3/05

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
RE3-20400	Frenchman Creek	I	I		S		S	I	5	Recreation-Bacteria, Aquatic Life-High Temperature	E. coli, Temperature	Aquatic community assessment
RE3-20410	Sand Draw		NA		NA		NA		3			
RE3-20500	Frenchman Creek	NA	S		NA		NA	S	2			Fish consumption assessment
RE3-30000	Republican River	NA	S		NA		NA	S	2			Aquatic community assessment
RE3-40000	Republican River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
RE3-40100	Muddy Creek		NA		NA		NA		3			
RE3-40200	Burntwood Creek		NA		NA		NA		3			
RE3-40300	Indian Creek		NA		NA		NA		3			
RE3-40310	Rock Canyon		NA		NA		NA		3			
RE3-40400	Indian Creek		NA		NA		NA		3			
RE3-40500	South Fork Republican River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
RE3-40510	Big Timber Creek		NA		NA		NA		3			
RE3-40600	Spring Creek		NA		NA		NA		3			
RE3-40700	Horse Creek		NA		NA		NA		3			
RE3-40800	Rock Creek	S	I		S		S	I	4c	Aquatic Life-	Temperature	

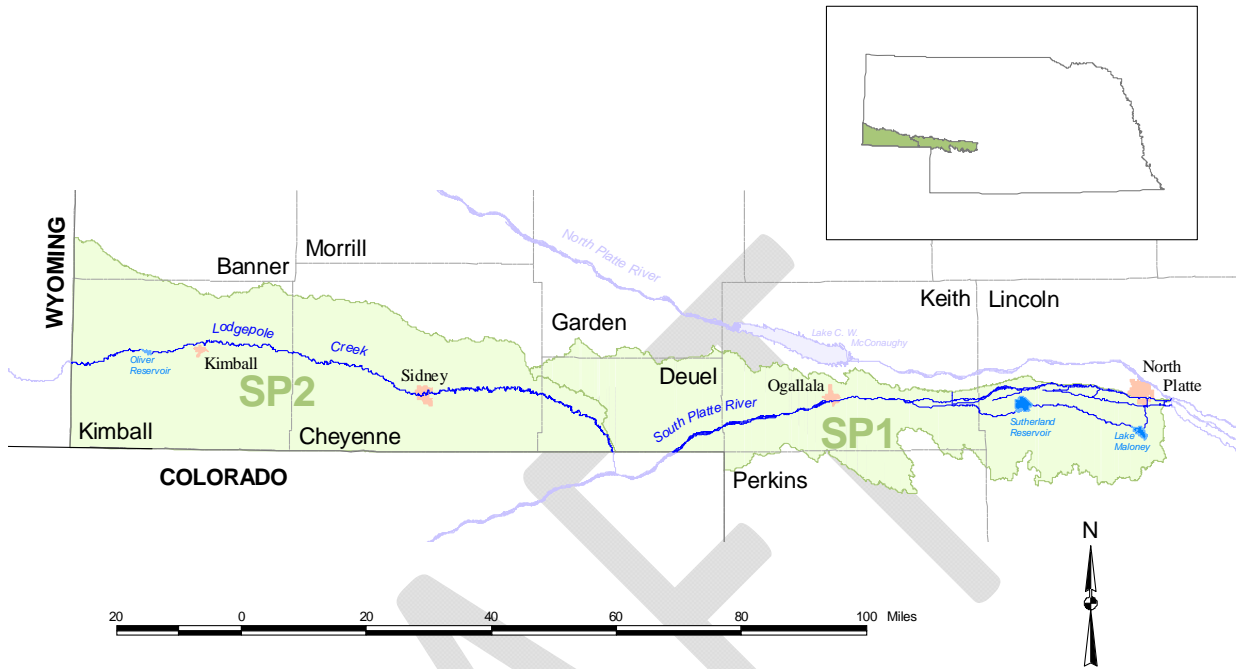
Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
										High Temperature		
RE3-50000	Republican River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	Aquatic community assessment
RE3-50100	Buffalo Creek		S		S		S	S	1			
RE3-50200	Buffalo Creek		NA		NA		NA		3			
RE3-50300	North Fork Republican River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
RE3-50400	Arikaree River	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
Wetlands												
RE1-Undesg.	Killdeer WPA		NA		NA		NA		3			
RE1-Undesg.	Prairie Dog WPA		NA		NA		NA		3			
RE1-Undesg.	Atlanta WPA		NA		NA		NA		3			
RE1-Undesg.	Jones WPA		NA		NA		NA		3			

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

† See Appendix A: Ecological Justification for Excluding Specific Bio-Indicator Results When Determining Attainment Status of the Aquatic Life Beneficial Use for Nebraska's 2012 Water Quality Integrated Report

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SOUTH PLATTE RIVER BASIN (and Subbasins)



South Platte Basin – Hydrologic Units 10190012, 10190015, 10190016, 10190017 and 10190018

The South Platte River Basin includes 28 designated stream segments and 13 designated lakes/reservoirs.

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	13	0	1	12	0	0	13	2	13
Streams	16	1	13	11	3	0	28	4	28

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

SP2-L0030: Oliver Reservoir- This waterbody was listed as Category 5 in the 2010 IR. The waterbody’s aquatic life beneficial use was impaired for total phosphorus, total nitrogen, chlorophyll a, and mercury. Data collected in 2009 determined this waterbody is no longer impaired for mercury and the fish consumption advisory will be removed. All other impairments remain, leaving this waterbody in Category 5.

SP1-L0050: Hershey Lake (WMA)- This waterbody was listed as Category 5 in the 2010 IR. This waterbody’s aquatic life use had a fish consumption advisory and impaired for mercury. In 2010 hazard

index compounds should have been listed with the mercury impairment and will be added to the 2012 IR. This waterbody will remain in Category 5.

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Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
SP1-L0010	Interstate Lake (North Platte)	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
SP1-L0020	Lake Maloney	S	S		S		S	S	1			Fish consumption assessment
SP1-L0030	Birdwood Lake (WMA)	NA	S		S		S	S	2			Fish consumption assessment
SP1-L0040	East Hershey Lake (WMA)	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index Compounds*, Mercury	Fish consumption assessment
SP1-L0050	Hershey Lake (WMA)	NA	I		S		S	I	5	Aquatic Life-pH, Fish Consumption Advisory	Unknown, Hazard Index Compounds*, Mercury	Fish consumption assessment
SP1-L0060	West Hershey Lake (WMA)	NA	NA		NA		NA		3			
SP1-L0070	East Sutherland Lake (WMA)	NA	NA		NA		NA		3			
SP1-L0080	Sutherland Reservoir	S	S		S		S	S	1			
SP1-L0090	Ogallala City Park Lake	NA	NA		NA		S	S	2			
SP1-L0095	Big Springs Community Lake	NA	NA		NA		I	I	4c	Aesthetics-Dead Trees	None	Received complaints about dead trees around the lake

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
SP1-L0100	Goldeneye Pond (WMA)	NA	S		I		S	I	5	Ag Water Supply-Conductivity	Unknown	Fish consumption assessment
SP2-L0010	Chappell Interstate Lake	NA	I		NA		NA	I	5	Aquatic Life-Fish Consumption Advisory	Hazard Index Compounds*	Fish consumption assessment
SP2-L0030	Oliver Reservoir	S	I		S		S	I	5	Aquatic Life-DO, Nutrients	Unknown, Total Phosphorus, Total Nitrogen, Chlorophyll a	Delist fish consumption advisory, Fish consumption assessment
Streams												
SP1-10000	South Platte River	S	I		S		S	I	5	Aquatic Life-Fish consumption advisory	Hazard Index compounds*	Fish consumption assessment
SP1-10100	Fremont Slough	NA	NA		NA		NA		3			
SP1-10200	Fremont Slough	NA	NA		NA		NA		3			
SP1-10300	Fremont Slough		NA		NA		NA		3			
SP1-10400	Fremont Slough		NA		NA		NA		3			
SP1-10500	Outlet Canal	S	I		NA	S	NA	I	5	Aquatic Life-Fish consumption advisory	Hazard Index compounds*, Mercury	Fish consumption assessment

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
SP1-10600	Outlet Canal	NA	I		NA	S	NA	I	5	Aquatic Life-Fish consumption advisory	Cancer Risk & Hazard Index compounds*	Fish consumption assessment
SP1-10700	Sutherland Canal	NA	NA		NA		NA		3			
SP1-10710	South Platte River Supply Canal		NA		NA	NA	NA		3			
SP1-20000	South Platte River	S	I		S		S	I	5	Aquatic Life-Selenium	Selenium	Aquatic community & Fish consumption assessment
SP1-20100	Fremont Slough	NA	S		NA		NA	S	2			Aquatic community assessment
SP1-20200	Fremont Slough		NA		NA		NA		3			
SP1-30000	South Platte River	NA	NA		NA		NA		3			
SP1-30100	Fremont Slough		S		NA		NA	S	2			Aquatic community assessment
SP1-30200	Unnamed Creek	NA	NA		NA		NA		3			
SP1-40000	South Platte River	NA	S		NA		NA	S	2			Aquatic community assessment
SP1-40100	Unnamed Creek		NA		NA		NA		3			
SP1-50000	South Platte River	NA	S		NA		NA	S	2			Fish consumption assessment
SP1-60000	South Platte River	NA	S		NA		NA	S	2			Aquatic community assessment
SP1-70000	South Platte River	S	S		S		S	S	1			
SP1-80000	South Platte River	NA	S		NA		NA	S	2			Aquatic community

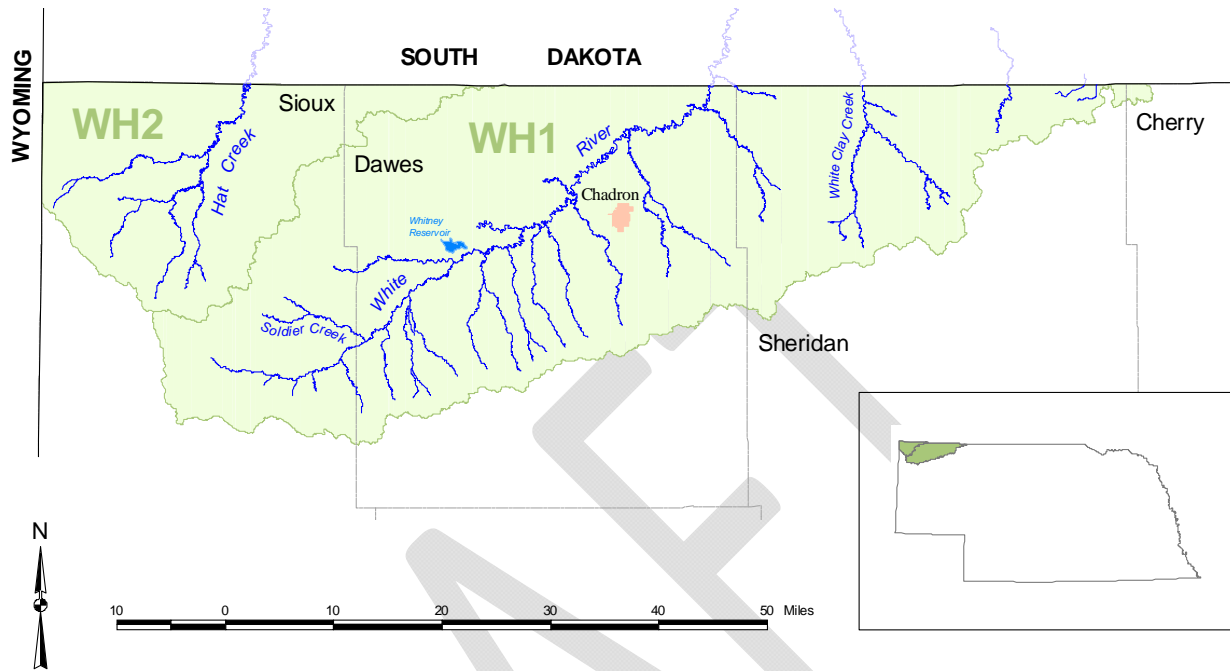
Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
												assessment
SP1-90000	South Platte River	S	I		I		S	I	5	Aquatic Life-Selenium, Ag Water Supply-Conductivity	Selenium, Conductivity	
SP2-10000	Lodgepole Creek		S		NA		NA	S	4b			Aquatic community assessment, IBI score is influenced by low water†, NPDES permit issues
SP2-20000	Lodgepole Creek		S		NA		NA	S	2			Aquatic community assessment, ICI score is influenced by low water†
SP2-30000	Lodgepole Creek		S		NA		NA	S	2			Aquatic community assessment
SP2-40000	Lodgepole Creek		S		NA		NA	S	2			Aquatic community assessment
SP2-50000	Lodgepole Creek		I		S		S	I	5	Aquatic Life-DO	Unknown	
SP2-60000	Lodgepole Creek		NA		NA		NA		3			

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

† See Appendix A: Ecological Justification for Excluding Specific Bio-Indicator Results When Determining Attainment Status of the Aquatic Life Beneficial Use for Nebraska's 2012 Water Quality Integrated Report

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WHITE RIVER - HAT CREEK BASIN (and Subbasins)



White River-Hat Creek Basin – Hydrologic Units 10120108, 10120108 and 10140201

The White River-Hat Creek Basin includes 63 designated stream segments and 27 designated lake/reservoirs

Waterbody Type	Primary Contact Recreation	Aquatic Life CA ¹	Aquatic Life CB ¹	Aquatic Life WA ¹	Aquatic Life WB ¹	Water Supply – Public Drinking	Water Supply – Ag	Water Supply-Ind.	Aesthetics
Lakes	27	0	14	13	0	0	27	0	27
Streams	18	15	36	1	11	7	63	0	63

¹ CA = Coldwater Class A, CB = Coldwater Class B, WA = Warmwater Class A and WB = Warmwater Class B

Delisting/ Changes from 2010 IR

The following are waters and or parameters that were delisted – removed from category 5 or other significant changes from the 2010 Integrated Report (IR).

There were no changes or delistings in this basin.

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
Lakes												
WH1-L0010	Isham Lake	NA	I		S		S	I	5	Aquatic Life-pH	Unknown	
WH1-L0020	Chadron City Reservoir South	NA	NA		NA		NA		3			
WH1-L0030	Chadron City Reservoir North	NA	S		S		S	S	2			
WH1-L0040	Chadron State Park Pond	NA	NA		NA		NA		3			
WH1-L0050	Snus Lake	NA	NA		NA		NA		3			
WH1-L0060	Whitney Reservoir	NA	S		S		S	S	2			Fish consumption assessment
WH1-L0070	Dodd Dam Lake	NA	NA		NA		NA		3			
WH1-L0080	Rock Bass Dam Lake	NA	S		S		S	S	2			
WH1-L0090	Lake Crawford (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0100	Cherry Creek Pond (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0105	Cherry Creek Diversion Pond (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0110	Lower Ice House Pond (Ft. Robinson State Park)	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
WH1-L0120	Ice House Diversion Pond (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0130	Upper Ice House Pond (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0140	Grabel Pond No 1 (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0150	Grabel Pond No 2 (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0160	Grabel Pond No 3 (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0170	Grabel Pond No 5 (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0180	Boardgate Pond	NA	I		S		S	I	5	Aquatic Life-pH	Unknown	
WH1-L0190	Crazy Horse Lake (Ft. Robinson State Park)	NA	NA		NA		NA		3			
WH1-L0200	Lake Carter P. Johnson (Ft. Robinson State Park)	NA	I		S		S	I	5	Aquatic Life-pH, Fish Consumption Advisory	Unknown, Hazard Index Compounds*, Mercury	Fish consumption assessment
WH1-L0210	Beaver Dam Pond	NA	NA		NA		NA		3			
WH1-L0220	Round Top Pond	NA	NA		NA		NA		3			
WH2-L0010	Lundy Pond	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
WH2-L0020	Agate Pond	NA	I		S		S	I	5	Aquatic Life-pH	Unknown	
WH2-L0030	Meng Lake	NA	I		I		S	I	5	Aquatic Life-pH, Nutrients, Ag Water Supply-Conductivity	Total Phosphorus, Unknown	
WH2-L0040	Gilbert Baker Pond (WMA)	NA	NA		NA		NA		3			
Streams												
WH1-10000	White River		S	S	S		S	S	2			Aquatic community & Fish consumption assessment, IBI score influenced by low water†
WH1-10100	Unnamed Creek		NA		NA		NA		3			
WH1-10200	Unnamed Creek		NA		NA		NA		3			
WH1-10300	Wounded Knee Creek		NA		NA		NA		3			
WH1-10400	White Clay Creek		NA		NA		NA		3			
WH1-10410	Patton Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
WH1-10420	Larabee Creek		S		NA		NA	S	2			Aquatic community assessment
WH1-10421	Unnamed Creek		NA		NA		NA		3			
WH1-10422	Unnamed Creek		NA		NA		NA		3			
WH1-10430	Larabee Creek		NA		NA		NA		3			
WH1-10500	White Clay Creek		NA		NA		NA		3			
WH1-10510	Unnamed Creek		NA		NA		NA		3			
WH1-10600	White Clay Creek		NA		NA		NA		3			
WH1-10610	Unnamed Creek		NA		NA		NA		3			
WH1-10700	Limekiln Creek		NA		NA		NA		3			
WH1-10800	Beaver Creek		NA		NA		NA		3			
WH1-10810	Little Beaver Creek		NA		NA		NA		3			
WH1-10900	Beaver Creek		S		NA		NA	S	2			Aquatic community assessment
WH1-11000	Alkali Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
WH1-11100	Bordeaux Creek		S		NA		NA	S	2			Fish consumption assessment
WH1-11110	Little Bordeaux Creek	NA	NA		NA		NA		3			
WH1-11120	Big Bordeaux Creek		S		NA		NA	S	2			Aquatic community assessment
WH1-11200	Lone Tree Creek		NA		NA		NA		3			
WH1-11300	Chadron Creek	I	S	S	S		S	I	5	Recreation-Bacteria	E. coli	Fish consumption assessment
WH1-11400	Dead Horse Creek	NA	NA		NA		NA		3			
WH1-11500	Trunk Butte Creek	NA	NA		NA		NA		3			
WH1-11600	Big Cottonwood Creek	NA	NA		NA		NA		3			
WH1-11700	Indian Creek	NA	NA		NA		NA		3			
WH1-11710	Cunningham Creek	NA	NA		NA		NA		3			
WH1-11800	Ash Creek		NA		NA		NA		3			
WH1-11810	East Ash Creek	NA	NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
WH1-11820	West Ash Creek	NA	S		NA		NA	S	2			Aquatic community assessment
WH1-11900	Little Cottonwood Creek		NA		NA		NA		3			
WH1-12000	Little Cottonwood Creek	NA	NA		NA		NA		3			
WH1-20000	White River	I	S	S	S		S	I	4a	Recreation-Bacteria	E. coli	E. coli TMDL approved 1/06, Aquatic community & Fish consumption assessment
WH1-20100	White Clay Creek	I	S		S		S	I	5	Recreation-Bacteria	E. coli	
WH1-20110	Squaw Creek		NA		NA		NA		3			
WH1-20111	English Creek		NA		NA		NA		3			
WH1-20120	Squaw Creek	NA	NA		NA		NA		3			
WH1-20130	Unnamed Creek	NA	NA		NA		NA		3			
WH1-20200	Bozle Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
WH1-20300	Soldier Creek		S	S	S		S	S	1			Fish consumption assessment
WH1-20310	Middle Fork Soldier Creek		S		NA		NA	S	2			Aquatic community assessment
WH1-20400	Soldier Creek		NA		NA		NA		3			
WH1-30000	White River	I	S	S	S		S	I	5	Recreation-Bacteria	E. coli	Fish consumption assessment
WH1-30100	Dead Man's Creek	NA	NA	NA	NA		NA		3			
WH1-30200	Deep Creek		NA		NA		NA		3			
WH1-30300	Bull Creek		NA		NA		NA		3			
WH1-30400	Kyle Creek		NA		NA		NA		3			
WH1-40000	White River		S	NA	NA		NA	S	2			Aquatic community assessment
WH2-10000	Hat Creek	NA	S		S		S	S	2			
WH2-10100	Squaw Creek	NA	NA		NA		NA		3			
WH2-10110	West Squaw Creek		NA		NA		NA		3			

Waterbody ID	Waterbody Name	Recreation	Aquatic Life	Public Drinking Water Supply	Agriculture Water Supply	Industrial Water Supply	Aesthetics	Overall Assessment	2012 IR	Impairments	Parameters of Concern	Comments/Actions
WH2-10200	Warbonnet Creek		S		NA		NA	S	2			Aquatic community assessment
WH2-10210	Sowbelly Creek		NA		NA		NA		3			
WH2-10220	Sowbelly Creek		NA		NA		NA		3			
WH2-10230	Monroe Creek		NA		NA		NA		3			
WH2-10240	Monroe Creek		S		S		S	S	1			
WH2-20000	Hat Creek		NA		NA		NA		3			
WH2-30000	Hat Creek		S		S		S	S	1			
WH2-30100	East Hat Creek		NA		NA		NA		3			
WH2-30200	West Hat Creek		NA		NA		NA		3			
WH2-30300	West Hat Creek		NA		NA		NA		3			

* **Cancer risk compounds** -Aroclor-1248 (PCB-1248), Aroclor-1254 (PCB-1254), Aroclor-1260 (PCB-1260), cis-chlordane, Chlordane, trans-chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin
Hazard index compounds- Aroclor-1254 (PCB-1254), Lindane (g-BHC), cis-chlordane, Chlordane, trans-chlordane, DDT, Dieldrin, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, cis-nonachlor, trans-nonachlor, Oxychlordane, Pentachloroanisole, Trifluralin, Mercury, Cadmium, Selenium

† See Appendix A: Ecological Justification for Excluding Specific Bio-Indicator Results When Determining Attainment Status of the Aquatic Life Beneficial Use for Nebraska's 2012 Water Quality Integrated Report

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2011 Nebraska Groundwater Quality Monitoring Report

Prepared Pursuant
to Neb. Rev. Stat. §46-1304
(LB329 – 2001)



**Nebraska Department of Environmental Quality
Water Quality Assessment Section
Groundwater Unit
December 2011**

Photo on front cover:
Nebraska Sunset, (Dale Link, Sodtown)

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2011 Nebraska Groundwater Quality Monitoring Report

INTRODUCTION

The 2001 Nebraska Legislature passed LB329 (Neb. Rev. Stat. §46-1304) which, in part, directed the Nebraska Department of Environmental Quality (NDEQ) to report on groundwater quality monitoring in Nebraska. Reports have been issued annually since December 2001. The text of the statute applicable to this report follows:

“The Department of Environmental Quality shall prepare a report outlining the extent of ground water quality monitoring conducted by natural resources districts during the preceding calendar year. The department shall analyze the data collected for the purpose of determining whether or not ground water quality is degrading or improving and shall present the results to the Natural Resources Committee of the Legislature beginning December 1, 2001, and each year thereafter. The districts shall submit in a timely manner all ground water quality monitoring data collected to the department or its designee. The department shall use the data submitted by the districts in conjunction with all other readily available and compatible data for the purpose of the annual ground water quality trend analysis.”

The section following the statute quoted above (§ 46-1305), requires the State’s Natural Resources Districts to submit an annual report to the legislature with information on their water quality programs, including financial data. That report has been prepared by the Nebraska Association of Resources Districts and is being issued concurrently with this groundwater quality report.

GROUNDWATER IN NEBRASKA

Groundwater can be defined as water that occurs in the open spaces below the surface of the earth (Figure 1). In Nebraska (as in many places worldwide), useable groundwater occurs in voids or pore spaces in various layers of geologic material such as sand, gravel, silt, sandstone, and limestone. These layers are referred to as aquifers where such geologic units yield sufficient water for human use. In parts of the state, groundwater may be encountered just a few feet below the surface, while in other areas; it may be a few hundred feet underground. This underground water “surface” is usually referred to as the water table, while water which soaks downward through overlying rocks and sediment to the water table is called recharge (Figure 1). The amount of water that can be obtained from a given aquifer may range from a few gallons per minute (which is just enough to supply a typical household) to many hundreds or even thousands of gallons per minute (which is the yield of large irrigation, industrial or public water supply wells).



Public Water Supply well capable of pumping thousands of gallons per minute (Hastings, NE).

Groundwater Velocity

In general, groundwater flows very slowly, especially when compared to the flow of water in streams and rivers. Many factors determine the speed of groundwater and most of these factors cannot be measured or observed directly. The most important geologic characteristics that impact groundwater velocity are as follows:

- o The sediments in the saturated zone of the aquifer – for example, groundwater generally flows faster through gravel sediments than clay sediments.
- o The ‘sorting’ of the sediments. Groundwater in aquifers with a mix of clay, sand, and gravel (poor sorting) generally does not flow as fast as in aquifers that are composed of just one sediment, such as gravel (good sorting).
- o The ‘gradient’ of the water table. Groundwater flows from higher elevations toward lower elevations under the force of gravity. In areas of high relief, groundwater flows faster. A typical groundwater gradient in Nebraska is 10 feet of drop over a mile (0.002 ft/ft).
- o Well pumping influences. In areas of the State with numerous high capacity wells (mainly irrigation wells), groundwater velocity and direction can be changed seasonally as water is pulled toward these wells.

Ultimately, groundwater scientists have determined that groundwater in Nebraska can flow as fast as one to two feet per day in areas like the Platte River valley and as slow as one to two inches per year in areas like the Pine Ridge in northwest Nebraska or the glacially deposited sediments in southeast Nebraska.

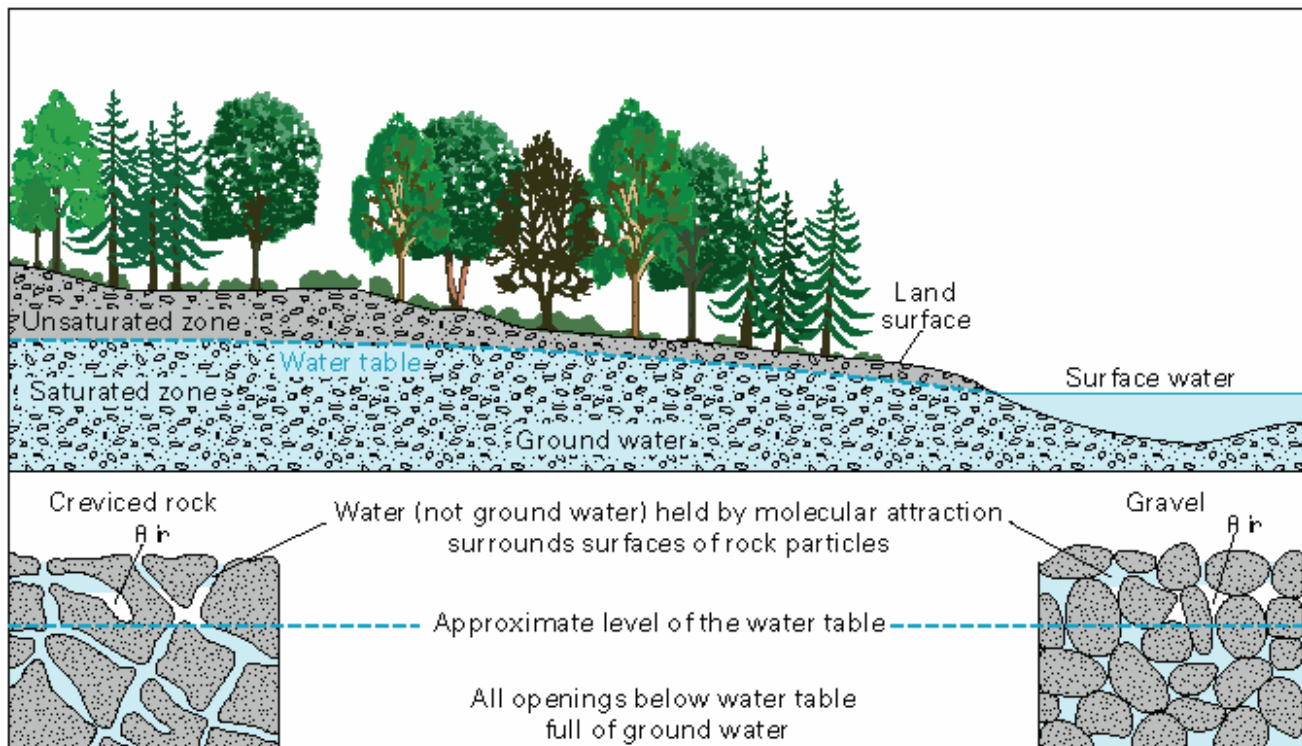


Figure 1. Basic groundwater features and terms (U.S. Geological Survey).

Depth to Groundwater

The depth to groundwater plays a very important role in Nebraska's valuable water resource. Obviously, a shallow well is cheaper to drill, construct, and pump. Conversely, shallow groundwater is more at-risk from impacts from human activities. Surface spills, application of agricultural chemicals, effluent from septic tank leach fields, and other sources of contamination will impact shallow groundwater more quickly than groundwater found at depth. The map in Figure 2 shows the great variation of depth to water across the State.

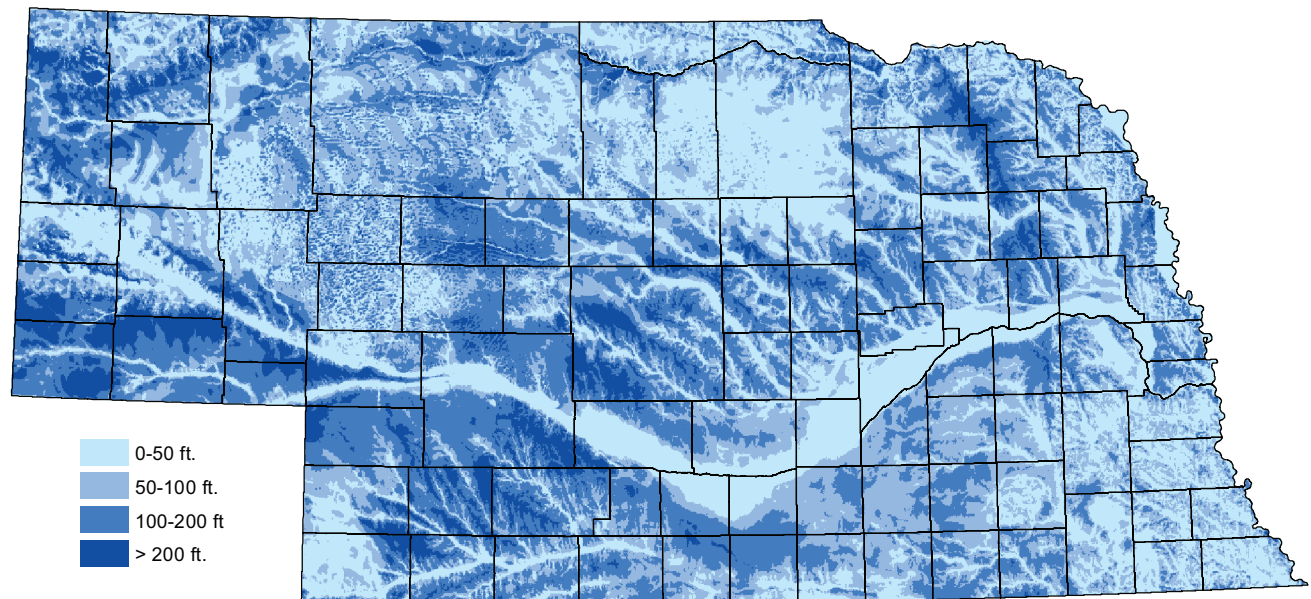


Figure 2. Generalized depth to groundwater. (Source: University of Nebraska, Conservation and Survey Division, 1998)

Importance of Groundwater

Nebraska is one of the most groundwater-rich places in the entire world. Nearly 85% of the state's residents use groundwater as their source of drinking water. If the public water supply for the City of Omaha (which gets about half of its water supply from the Missouri River) isn't counted, this rises to nearly 100%. Essentially all of the rural residents of the state use groundwater for their domestic supply. Not only does Nebraska depend on groundwater for its drinking water supply, the state's agricultural industry utilizes vast amounts of groundwater to irrigate crops. Most of Nebraska experiences variable amounts of precipitation throughout the year, so irrigation is used, where possible, to ensure adequate amounts of moisture for raising such crops as corn, soybeans, alfalfa, and edible beans. As of October 2011, the Nebraska Department of Natural Resources (NDNR) listed over 92,400 active irrigation wells and nearly 24,700 domestic wells registered in the state. Domestic wells were not required to be registered with the state prior to September 1993, therefore thousands of domestic wells exist that are not registered with the NDNR.

Groundwater Monitoring

The above information shows clearly that groundwater is vital to the well-being of all Nebraskans. Fortunately, our state has a long tradition of progressive action in monitoring, managing, and protecting this most precious resource. Several agencies perform monitoring of groundwater for a variety of purposes.

Those entities include:

- Natural Resources Districts (23)
- Nebraska Department of Agriculture
- Nebraska Department of Environmental Quality
- Nebraska Department of Health and Human Services
- University of Nebraska-Lincoln
- United States Geological Survey

Groundwater monitoring performed by these organizations meets a variety of needs, and therefore is not always directly comparable. For instance, the state's 23 Natural Resources Districts (NRDs) perform groundwater monitoring primarily to address contaminants over which they have some jurisdiction; mainly nitrates and agricultural chemicals. In contrast, the state's nearly 550 public water suppliers monitor groundwater for a large number of possible pollutants. These include basic field parameters, agricultural compounds, and industrial chemicals. Not only are these samples analyzed for many different parameters, the methods used for sampling and analysis vary widely as well.





_____canal

Partly in response to this situation, the Nebraska Departments of Agriculture (NDA) and Environmental Quality and the University of Nebraska - Lincoln (UNL) began a project in 1996 to develop a centralized data repository for groundwater quality information that would allow comparison of data obtained at different times and for different purposes. The result of this project is the Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater (referred to as the Database in this publication). The Database brings together groundwater data from many different sources and provides public access to this data.

The Database serves two primary functions. First, it provides to the public the results of groundwater monitoring for agricultural compounds in Nebraska as performed by a variety of entities. At present, agricultural contaminants (mainly nitrate and pesticides) are the focus of the Database because of their widespread use, and also because historical data suggests that these compounds pose the greatest threat to the quality of groundwater across Nebraska. Second, the Database provides an indicator of the methodologies that were used in sampling and analysis for each of the results. UNL staff examines the methods used for sampling and analysis to assign a quality “flag” consisting of a number from 1 to 5 to each of the sample results. The flag depends upon the amount and type of quality assurance/quality control (QA/QC) that was identified in obtaining each of the results. The higher the “flag” number, the better the QA/QC, and the higher the confidence in that particular result.

During the past several years, UNL staff have worked vigorously to establish contact with all the entities performing groundwater monitoring of agricultural chemicals (namely nitrates and pesticides) in Nebraska. Groundwater data is submitted to UNL by these entities each year, where it is assigned a quality “flag” and entered into the Database. The updated information is then forwarded to the Nebraska Department of Natural Resources (NDNR), which places the data on its website (<http://www.dnr.ne.gov/> or <http://dnrdata.dnr.ne.gov/clearinghouse/>). The entire Database can be accessed at NDNR’s website, where the database may be searched or ‘queried’ for numerous subsets of data, such as results by county, type of well, Natural Resources District, etc.

GROUNDWATER QUALITY DATA

Groundwater quality data presented in the remainder of this report reflect the data present in the Database as of October 1, 2011. The dates for these data range from mid-1974 to mid-2010. Some groundwater results from some of the agencies working in Nebraska have not been submitted to UNL to be entered into the Database, but NDEQ is confident that the information presented represents the majority of sample results available. Table 1 lists each agency producing groundwater quality data for this report.

Agency	
Central Platte NRD	Nebraska Health & Human Services/CDC
Lewis & Clark NRD	Nemaha NRD
Little Blue NRD	North Platte NRD
Lower Big Blue NRD	Papio-Missouri River NRD
Lower Elkhorn NRD	South Platte NRD
Lower Loup NRD	Tri-Basin NRD
Lower Niobrara NRD	Twin Platte NRD
Lower Platte North NRD	University of Nebraska - Lincoln
Lower Platte South NRD	Upper Big Blue NRD
Lower Republican NRD	Upper Elkhorn NRD
Middle Niobrara NRD	Upper Loup NRD
Middle Republican NRD	Upper Niobrara-White NRD
Nebraska Dept. of Agriculture	Upper Republican NRD
Nebraska Dept. of Environmental Quality	U.S. Geological Survey

Table 1. Various agencies providing groundwater analyses in Nebraska to be used in the Database. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)



Types of Wells Sampled

The data summarized in Table 2 represent the quantity of water samples analyzed from a variety of well types. Historically, most wells that have been sampled are irrigation or domestic supply wells. Irrigation and domestic wells are constructed to yield adequate supplies of water, not to provide water quality samples. However, in recent years, monitoring agencies have been installing increasing numbers of dedicated groundwater monitoring wells designed and located specifically to produce samples. By utilizing such varied sources, groundwater data from a wide range of geologic conditions can be obtained.

Well Type	Number of Analyses
Monitoring	244,265
Irrigation	91,218
Domestic	68,109
Public Water Supply	24,569
Commercial/Industrial	2,039
Livestock/Other	1,768
Total	431,968

Table 2. Total number of groundwater analyses by well type. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

Monitoring Parameters

As already mentioned, numerous entities across Nebraska have been monitoring groundwater quality for many years, for a wide variety of possible contaminants. However, much of this monitoring has been for area-specific (part of an NRD), or at most, regional purposes (entire NRDs), and it has been difficult to assess data on a statewide basis for more than a short period of time. Creation of the Database has provided an important tool for such analysis. Appendix A lists the compounds for which groundwater has been sampled and analyzed since 1974. Table 3, found on page 8 lists the compounds from Appendix A (Tables A1 and A2) for which at least 2 percent of the samples collected exceeded the **Reporting Limit (RL)** *. This comparison gives an indication of which compounds are more prevalent than others in Nebraska's groundwater. For example, only 9 of the 237 compounds sampled met the 2 percent criteria.

**Reporting Limit (RL) refers to the concentration a laboratory has indicated their analysis method can be validated. For example, if a contaminant were at a level below the reporting limit, the laboratory's analysis method could not detect it and the concentration would be reported as "below the reporting limit".*

Throughout this report, the number of sample analyses for any one contaminant refers only to the number of analyses as reported in the **Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater**, and not for the total number of analyses for that contaminant taken in the state. As already mentioned, data which are currently in the process of being submitted to UNL to be entered into the database are not reflected in this report. In addition, there are undoubtedly samples for various contaminants taken by entities other than the agencies referred to in this report (for instance, private consulting firms, or other programs within some of the reporting agencies), which are not included in this database.

The tables in Appendix A show the analyses of groundwater samples for a wide variety of compounds, all of which are used in agricultural production. As mentioned previously, there is a significant effort in monitoring groundwater for other, non-agricultural contaminants. Examples of such compounds include petroleum products and additives, industrial chemicals, hazardous wastes, contaminants associated with landfills and other waste disposal sites, and effluent from wastewater treatment facilities. Such issues are beyond the scope of §46-1304, and information about such monitoring data is not contained in any centralized database at present.

Compounds	Number of Samples Collected	Percent of Samples that exceeded the Reporting Limit (RL)
cyanazine	17,831	2.40%
prometron	2,520	2.40%
alachlor ethane sulfonic acid	584	5%
metolachlor	17,771	6%
deisopropylatrazine	13,651	6.30%
metolachlor ethane sulfonic acid	584	6.30%
atrazine	18,702	14.40%
deethylatrazine	13,905	14.90%
nitrate-N	96,053	93.30%

Table 3. Compounds listed in Appendix B that at least 2% of the samples collected were detected above the Reporting Limit. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

DISCUSSION AND ANALYSIS

The information presented previously in this report shows that a considerable amount of effort has gone into groundwater quality monitoring in Nebraska since the mid-1970s, especially in areas that are heavily farmed. **It is worth noting that the majority of samples taken during this period show that groundwater in the State is of very high quality.** An examination of Appendix A and Table 3 shows that most parameters that have been analyzed have never been detected in the samples. However, these same data show that several contaminants have been detected in numerous samples throughout the monitoring period. Levels and distribution of these compounds are issues of concern to Nebraskans.

As Table 3 shows, the compounds that have been detected more than just a few times throughout the period of record include nitrate-nitrogen (nitrate-N) and atrazine. Nitrate is a form of nitrogen common in human and animal waste, plant residue, and commercial fertilizers. Atrazine and metolachlor are herbicides used for weed control in crops such as corn and sorghum while deethylatrazine, deisopropylatrazine, and metolachlor ethane sulfonic acid are degradation products, or metabolites of atrazine and metolachlor. Cyanazine is a trizine herbicide similar to atrazine but its use has been discontinued. Prometron is a herbicide used to control both broadleaf's and grasses. In addition to atrazine and metolachlor, the Nebraska Department of Agriculture identified two other priority compounds (alachlor and simazine) for development of pesticide State Management Plans, following guidance produced by the U.S. Environmental Protection Agency. While these compounds (alachlor and simazine) were not identified in any significant quantities in Nebraska's groundwater, (alachlor ethane sulfonic acid is a degradation product of alachlor) they will be discussed later in this report.

Occurrence of elevated levels of nitrate and herbicides in groundwater has been associated with the practice of irrigated agriculture, especially corn production. A good summary of this can be found in Exner and Spalding (1990). The Natural Resources Districts have instituted Groundwater Management Areas (GWMAs) over all or parts of nearly all of the 23 districts based on NRD and NDEQ groundwater sampling. The NRDs' institution of these GWMAs indicates a concern and recognition of nonpoint source groundwater contamination. Additionally, NDEQ's Groundwater Management Area program (Title 196, 2002) has completed 20 studies across the state since 1988 identifying areas of nonpoint source contamination from the widespread application of commercial fertilizer and animal waste.

The State of Nebraska is a large geographic area, over 77,000 square miles. Accurately showing the quality of Nebraska's groundwater is becoming an easier task, but this highly complex system is still difficult to characterize. The acquisition of more data is making a trend analysis more viable. However, practices of sampling the "problem" areas have skewed the data and make it very difficult to show the areas in Nebraska where the contaminant levels are decreasing through better management and farming practices.

Another difficulty is obtaining the resources and the logistics of collecting groundwater samples. There are approximately 160,000 active registered wells in Nebraska and only enough resources to collect samples from 4,079 wells in 2010. Also, not all water well owners are receptive to having their well sampled. Figure 3 below is a map showing all registered wells in Nebraska as of October 2011. As discussed earlier in this document, not all water wells are registered and will not show up on this map. Later figures should be compared to Figure 3 as an indicator of where there is a need for additional wells to be sampled. An example of this would be to compare the water wells registered in Cherry County (the largest county) in Figure 3 to the wells that were actually sampled in Figure 4.



Flowing artesian irrigation well near Verdel, NE.

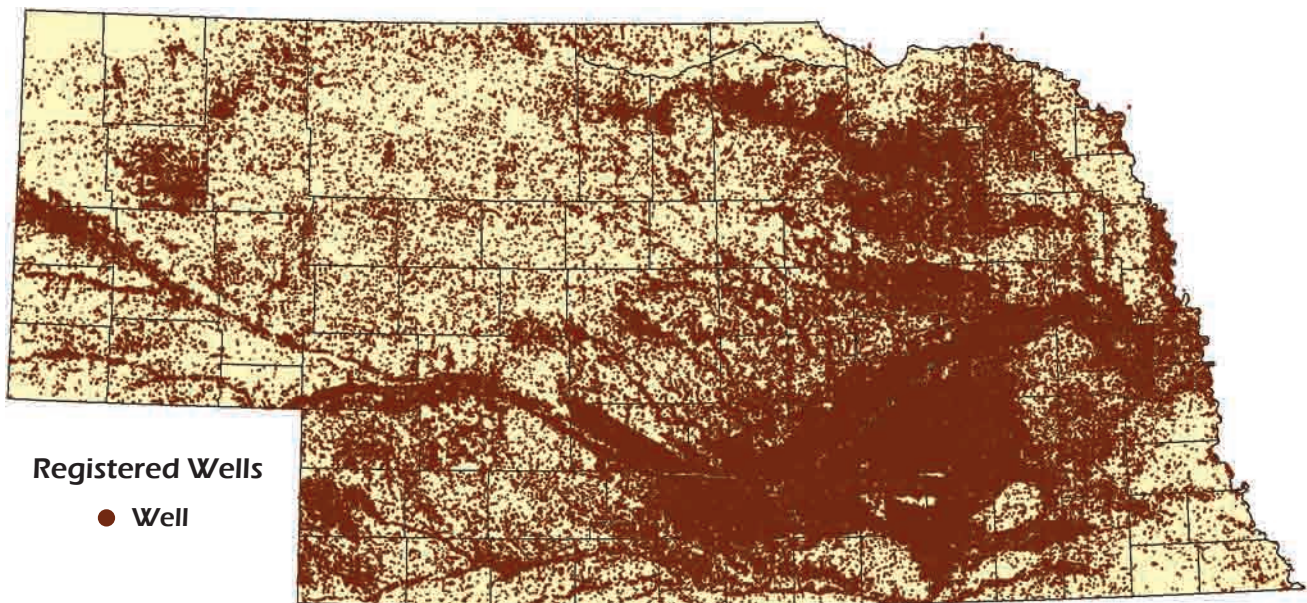


Figure 3. Registered water wells as of October 2011. (Source: Nebraska Department of Natural Resources Registered Well Database, 2011)

Nitrates and Trends Utilizing all Clearinghouse Data

Several different methods will be used in an attempt to present and interpret the nitrate data collected over the last 35 years.

First, Table 4 below uses all of the nitrate data collected for each year's report and shows the percentage of analyses that are greater than 10 mg/l, which is the U.S. Environmental Protection Agencies (USEPA) maximum contaminant level (MCL) on which the federal drinking water standard for nitrate-nitrogen is based





Years	Total # Analyses	> 0 - < 7.5 mg/l 	7.5 - 10 mg/l 	10 - 20 mg/l 	> 20 mg/l 	% > 10 mg/l
1974 - 2001 (2002 Report)	33,075	21,504	2,707	5,554	3,310	26.80%
1974 - 2002 (2003 Report)	44,721	28,394	3,931	8,128	4,268	27.70%
1974 - 2003 (2004 Report)	52,798	33,100	4,606	9,857	5,027	28.20%
1974 - 2004 (2005 Report)	66,822	37,346	5,603	12,244	11,629	35.70%
1974 - 2005 (2006 Report)	74,522	42,916	6,573	13,161	11,872	34.20%
1974 - 2006 (2007 Report)	77,820	44,901	6,407	13,864	12,648	34.10%
1974 - 2007 (2008 Report)	83,002	48,010	6,971	14,949	13,072	33.80%
1974 - 2008 (2009 Report)	86,765	50,450	7,300	15,609	13,406	33.40%
1974 - 2009 (2010 Report)	91,184	53,307	7,691	16,374	13,812	33.10%
1974 - 2010 (This Report)	96,053	56,327	8,109	17,303	13,955	32.50%

Table 4. Nitrate – nitrogen concentrations sorted by concentration categories. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011).

Note: The colored dots used in the heading will be used in subsequent figures indicating the nitrate concentration.

Table 4 also indicates that since the 2005 report, the percent of analyses greater than 10 mg/l (the federal drinking water standard) has decreased by over 2 percent.

Second, the data in Table 4 will be shown geographically in Figures 4 and 5 to get a sense of where that nitrate concentrations are within the state. It should be noted that a single well could have been sampled more than one time per reporting year. For example, 96,053 samples were collected for nitrate from 23,438 wells over the “life” of the Database. Because there would be overlapping “dots” when creating a state wide map if all 96,053 nitrate analyses were used, Figure 4 indicates the locations of all the wells sampled for nitrate since 1974 and Figure 5 indicates the most current nitrate concentration for each of those wells, no matter what year the last sample was collected.

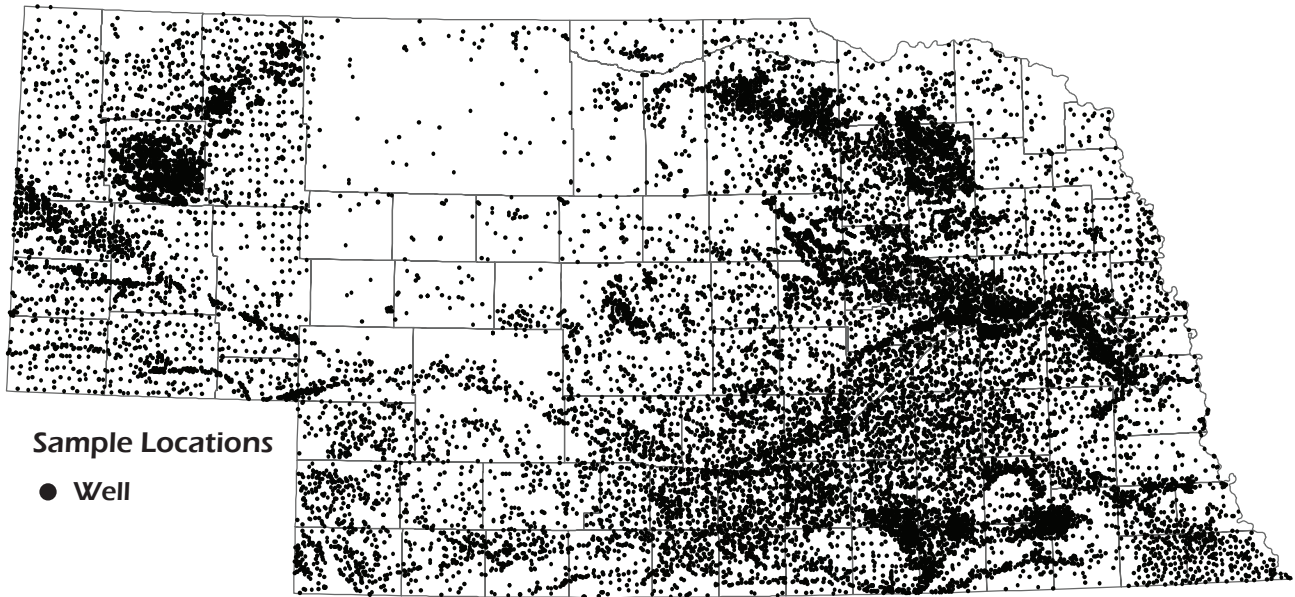


Figure 4. Location of 23,438 wells that have been analyzed for nitrate from 1974 - 2010. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

Please note that ‘empty’ areas only denote areas where samples have not been taken or have not yet been reported. In other words, there is no way to tell anything about the groundwater quality in the ‘empty’ parts of the state. ‘Empty’ areas indicate no data, not an absence of nitrate in the groundwater.

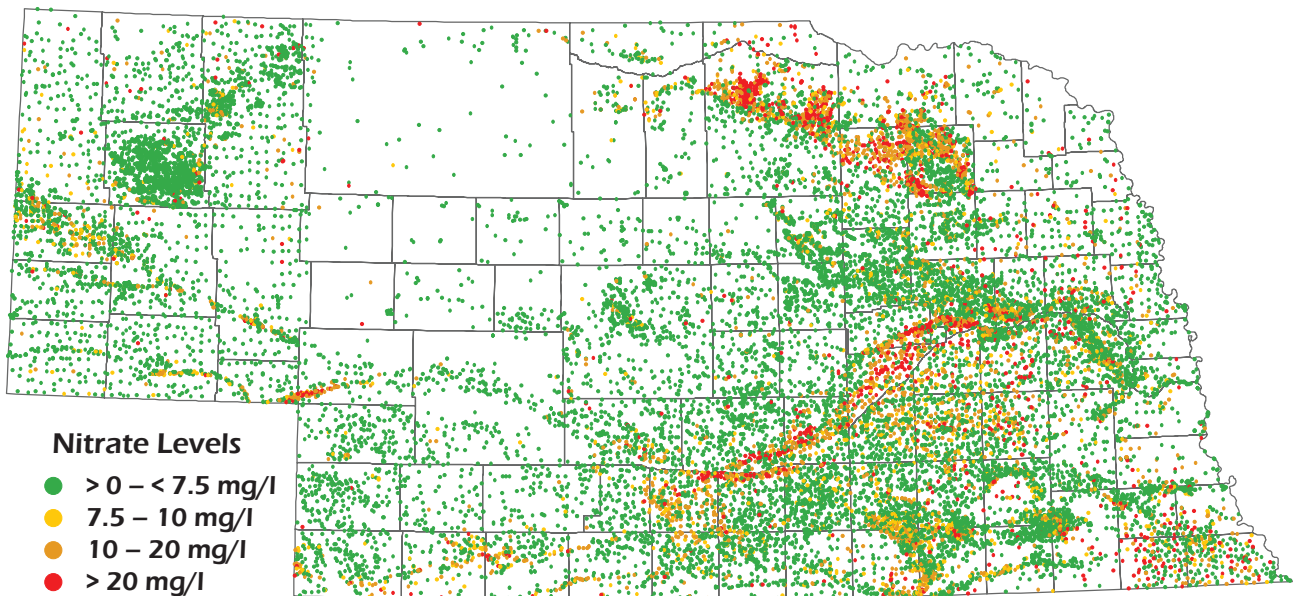


Figure 5. Last recorded concentration of nitrate from 1974 - 2010. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

Figure 6 indicates where sampling was conducted in 2010, and Figure 7 indicates the nitrate concentration for each well. Again, 'empty' areas indicated that no data was collected in those areas in 2010, or the data collected has not yet been submitted to the Database.

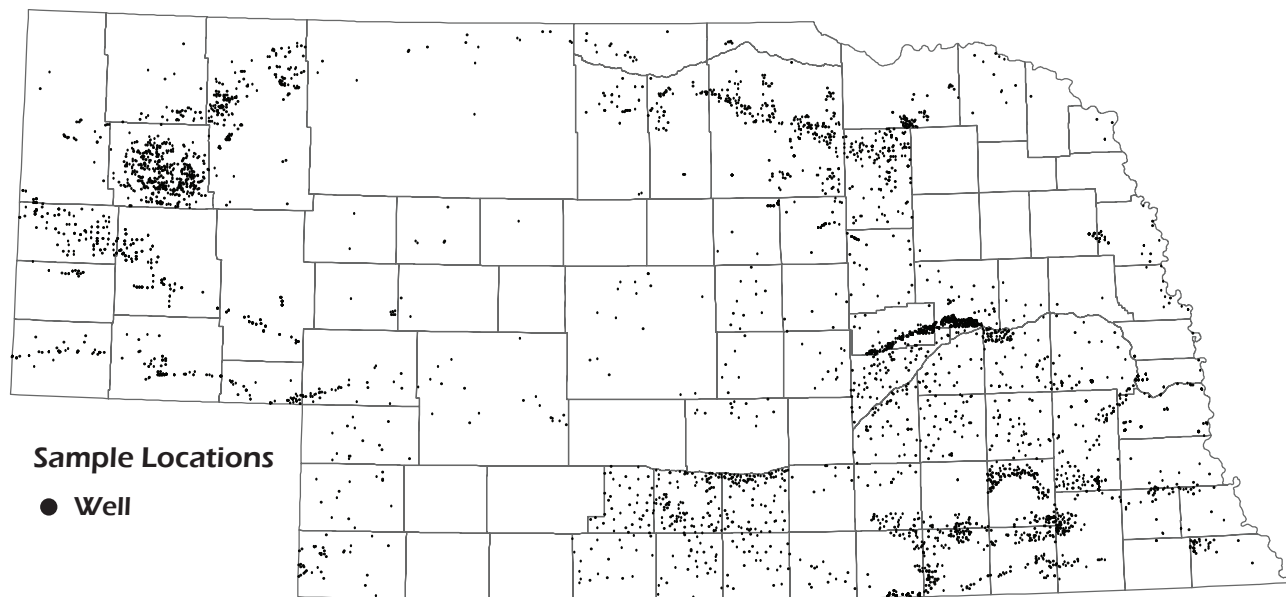


Figure 6. Location of 4,079 wells sampled for nitrate in 2010. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

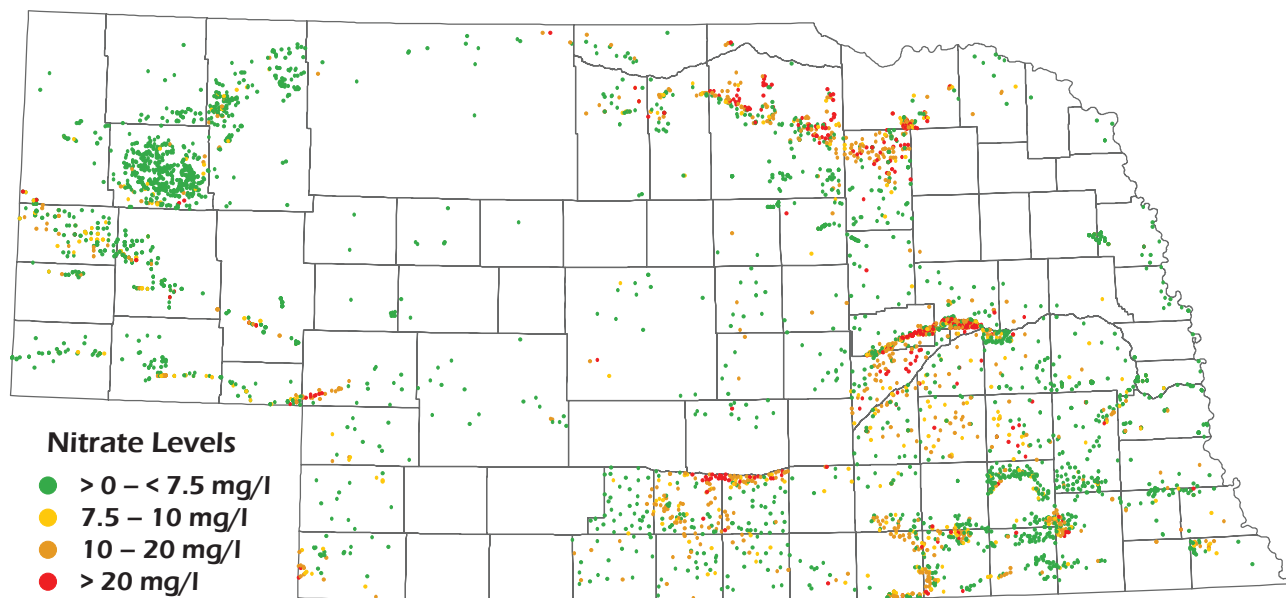
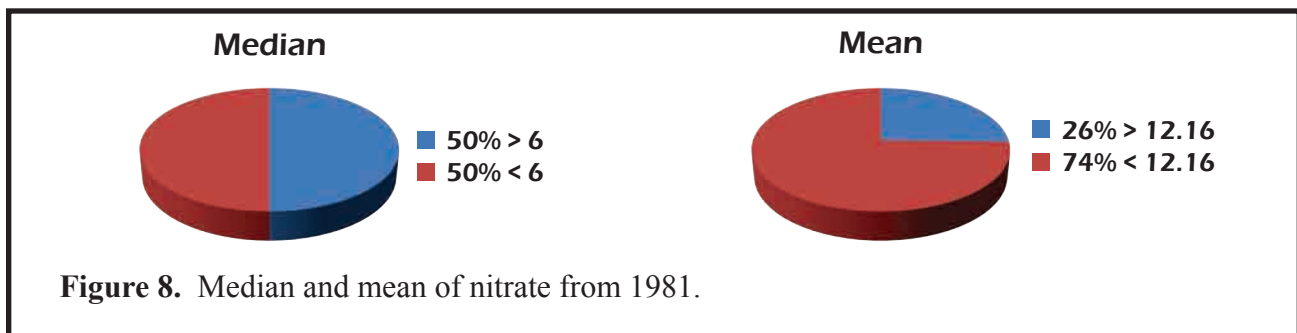


Figure 7. Nitrate concentrations of wells sampled in 2010. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

The data will be used to show any trends in nitrate concentrations. Since there is a large number of analyses, the arithmetic mean or average would normally be used to represent the data for any given time period. However, the groundwater sampling program in Nebraska started out by sampling mainly areas in which an NRD was considering institution of a Groundwater Management Area (refer to Figures B-1 through B-4 in Appendix B). As a result, more data was collected from known problem areas with high nitrates which skew the mean. Therefore, it was determined that a better way to describe the data would be to use the median of the analyses. The median is simply the center of the data set.

An example of how the median is more representative than the mean can be shown by using the data from 1981. In 1981, there were 197 analyses collected from 143 wells with a low concentration of 0.0 mg/l and a high concentration of 121 mg/l. The median of the data set is 6.0 mg/l, while the mean (average) is 12.16 mg/l. Figure 8 below shows a visual representation of this data.



In simple terms, 50 percent of the sample set is both greater and lesser than the median of 6 mg/l. However, only 26 percent of the samples are greater than the calculated mean. In that 26 percent, 17 of the 197 analyses are greater than 40 mg/l which skews the mean much higher than the median.

To complicate matters even more, not only were samples collected from very specific locations, but multiple samples were collected from the same well during the same year. Again, here is an example from the 1981 data set. There were 197 samples collected from 143 wells, as shown in Figure 9 below. However, 40 percent of the samples were collected from only 17 percent of the wells in the same location. The red circle on Figure 9 below shows the location of these wells in Central Nebraska. By reviewing the data, one can see how a single location impacts the entire state's nitrate statistics.

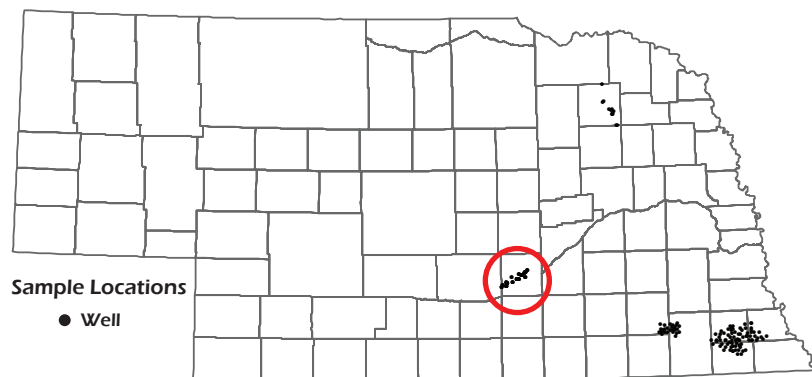


Figure 9. Sampling locations for nitrate in 1981. Red Circle indicates location of 24 wells sampled in Central Nebraska. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

If we review all of the samples collected from the 24 wells in Central Nebraska during 1981, it can be seen that there is a wide range of nitrate concentrations (Figure 10).

Nitrate Concentrations for All Samples Collected in Central Nebraska - 1981

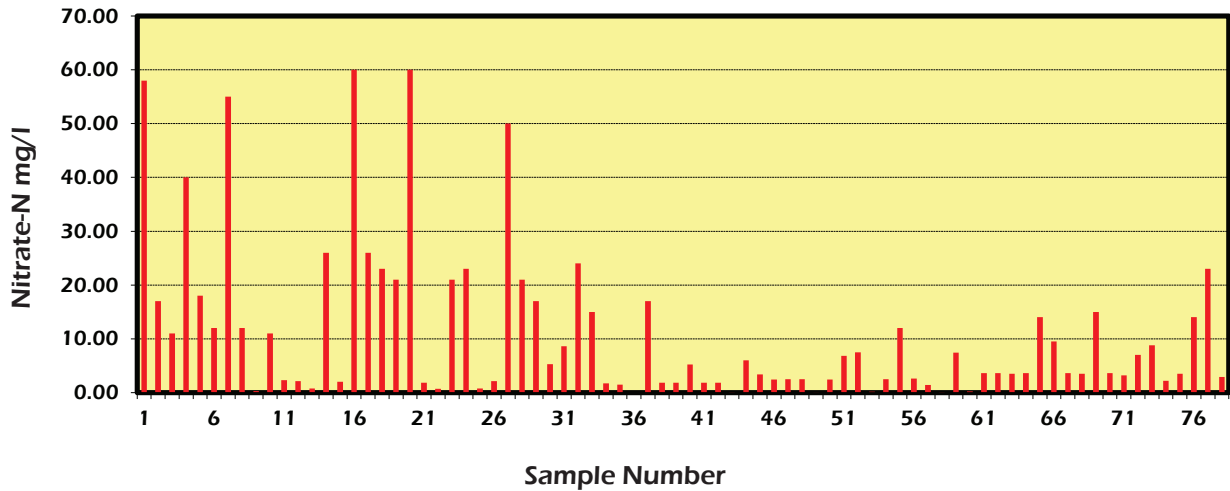


Figure 10. All 80 samples collected from 24 wells in Central Nebraska in 1981. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

Minimum and Maximum Nitrate Concentration at Each Well Location Central Nebraska - 1981

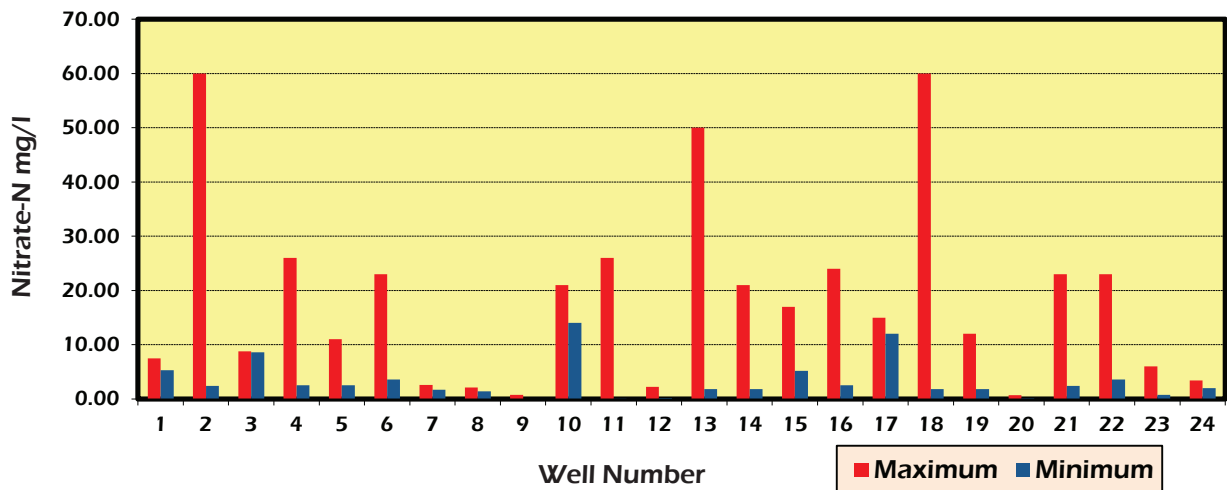
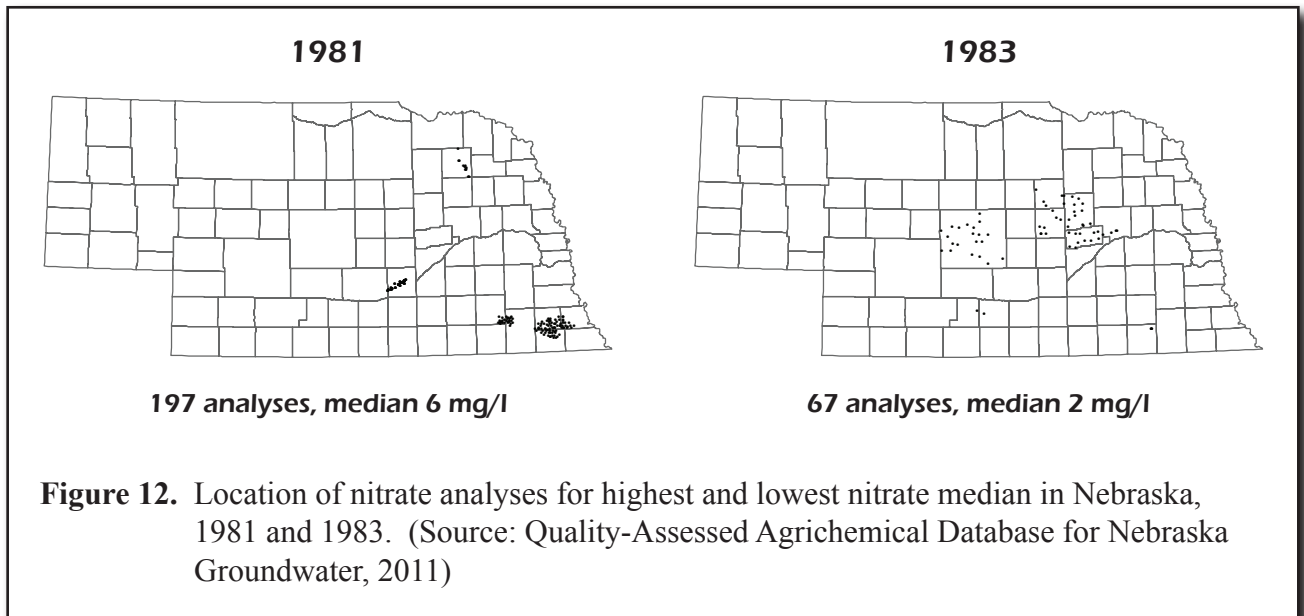


Figure 11. Samples collected from 24 wells in Central Nebraska in 1981 indicating the high and low concentration from each well. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

Figure 12 was taken from Appendix B of this report and represents the highest (1981) and lowest (1983) median nitrate concentration from the 1974 to 1993. As can be seen from these two maps, sample locations for this time period are not statewide. Figures B-1 through B-4 in Appendix B also indicate how the data from these years is not very representative of “statewide” based on sampling location alone.



In the past, the median concentrations for **ALL** analyses were used to show a trend in nitrates statewide as presented in Figure 13 below. A low number of samples from 1974 to 1993 led to a very inconsistent nitrate median during those years.

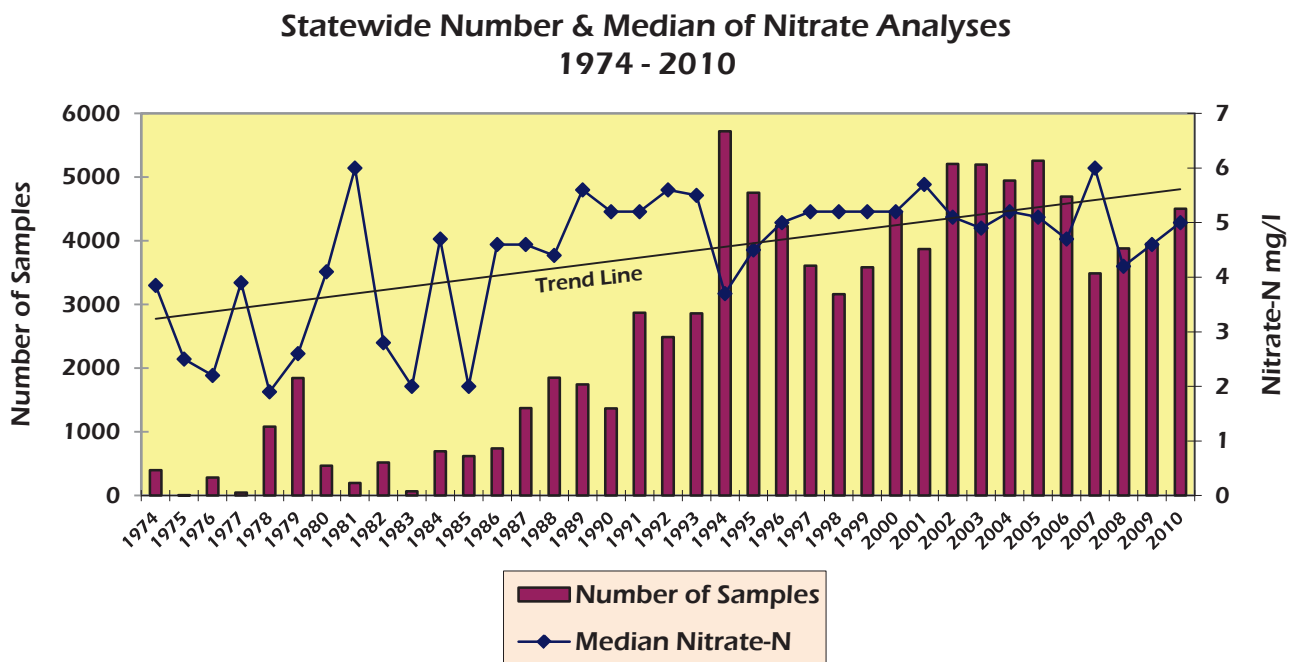


Figure 13. All 96,053 analyses and median nitrate-nitrogen levels for Nebraska, 1974-2010. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

Charting the data from 1974 to 1993 shows the sporadic nature of the median concentration when the number of samples is relatively small (Figure 14). For example, the 1,845 analyses collected in 1979 have a median of 2.6 mg/l versus 197 samples collected in 1981 with a median of 6 mg/l. From 1991 to 1993, the median starts to level off as a steady number of samples are being collected. The increasing median trend is also relatively steep for this time period.

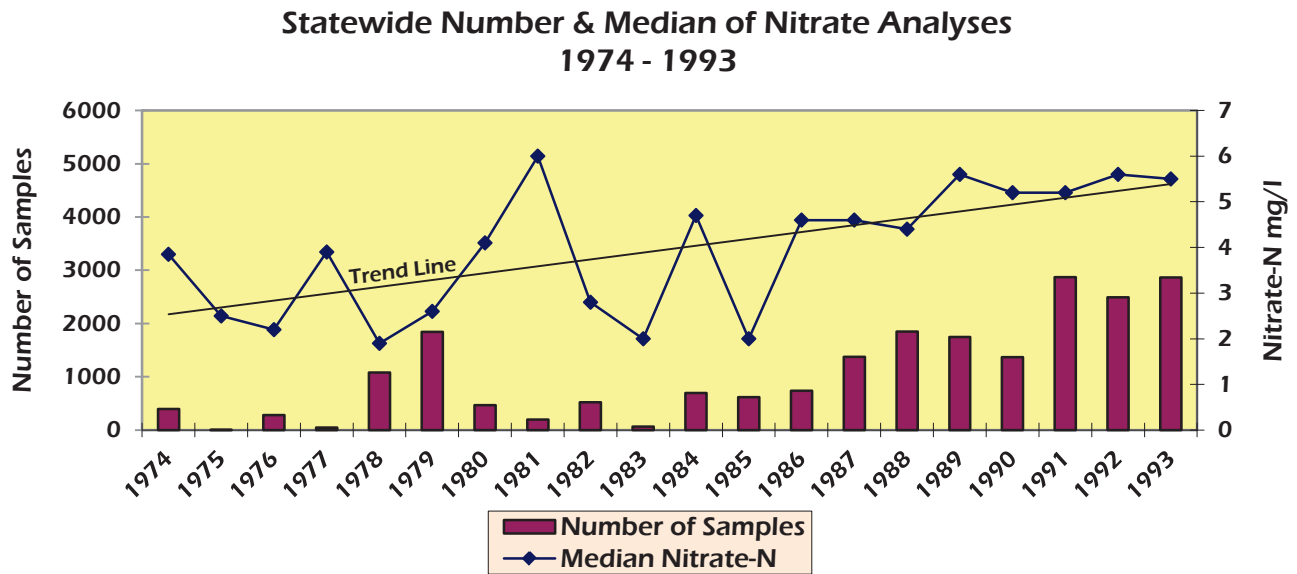


Figure 14. All 21,527 analyses and median nitrate-nitrogen levels for Nebraska, 1974-1993. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

A more representative picture of the statewide median nitrate concentration is from the time period 1994 to 2010. Figure 15 below shows the number of analyses and median nitrate concentration for that time period. The overall trend indicates only a slight increase in nitrate median concentrations statewide.

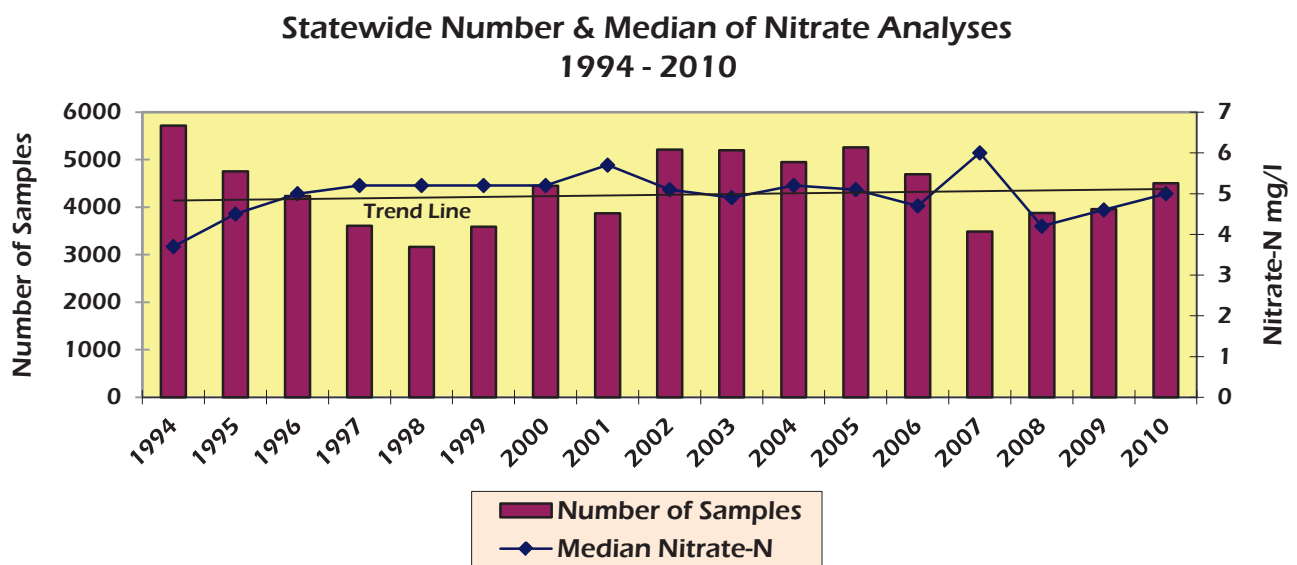
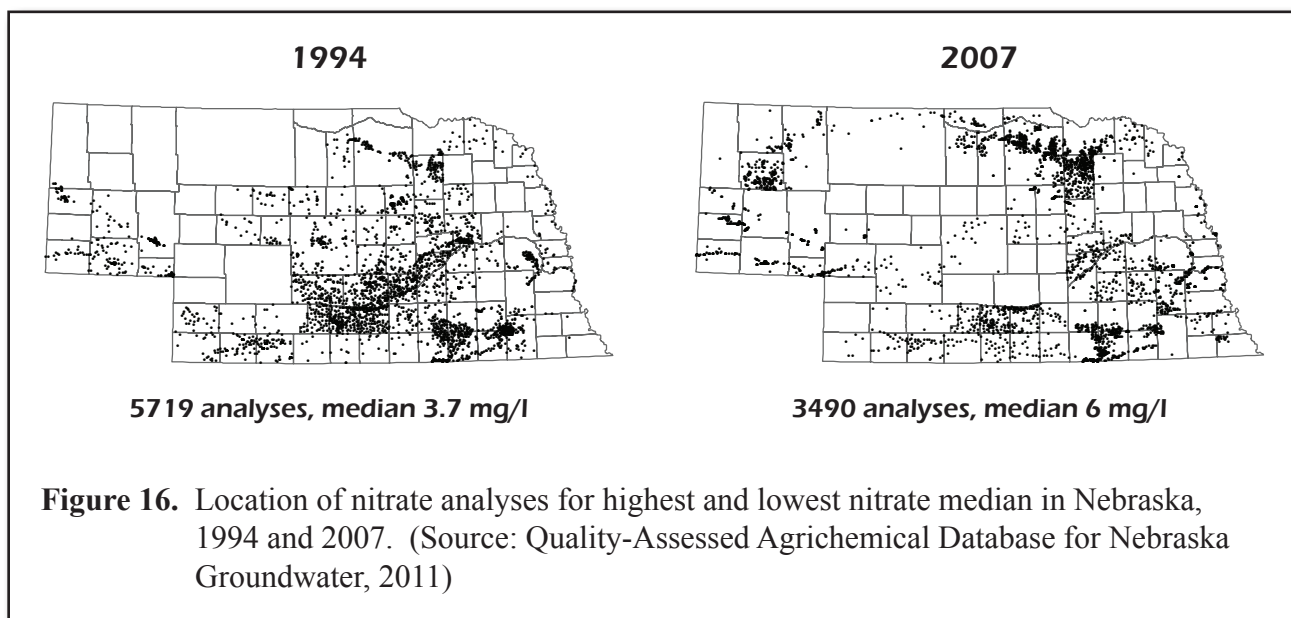


Figure 15. All 74,532 analyses and median nitrate-nitrogen levels for Nebraska, 1994-2010. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

Figure 16 was taken from Appendix B of this report and represents the highest (2007) and lowest (1994) median nitrate concentration from the 1994 to 2008. As can be seen from these two maps, sample locations for this time period are statewide. The Statewide Groundwater Monitoring Network (Figure 18 on page 19) was started in 2004 and is very similar to locations sampled throughout 1994 to 2010.



Nitrates in Public Water Supplies

Public water supply systems are required to test for a variety of potential contaminants in the drinking water that they serve to the public. When a contaminant in the drinking water is over the federal Safe Drinking Water Act limit (also known as the maximum contaminant level [MCL]), the water system will receive an Administrative Order for that contaminant from the Nebraska Department of Health and Human Services (DHHS) and must



Ion Exchange plant to remove nitrates (McCook, NE).



Reverse Osmosis plant to remove nitrates (Seward, NE).

somehow 'fix' the problem. The MCL for nitrate-nitrogen is 10 mg/l, but public water supply systems with wells or intakes testing over 5 mg/l may be required to perform quarterly sampling. Approximately 465 wells for the nearly 550 groundwater based community water systems in Nebraska must perform quarterly sampling for nitrates. Common methods to solve a nitrate Administrative Order include drilling a new or deeper well, hooking on to a neighboring water system, or building a treatment plant. Figure 17 shows the location of 11 community public water supply systems with Administrative Orders for nitrate, as of October 2011. Please note that the public water supply system data from DHHS is not in the Database. Also note that nitrate Administrative Orders do not necessarily fall in the areas of highest nitrate problems, as indicated in Figure 7 and the figures in Appendix B.

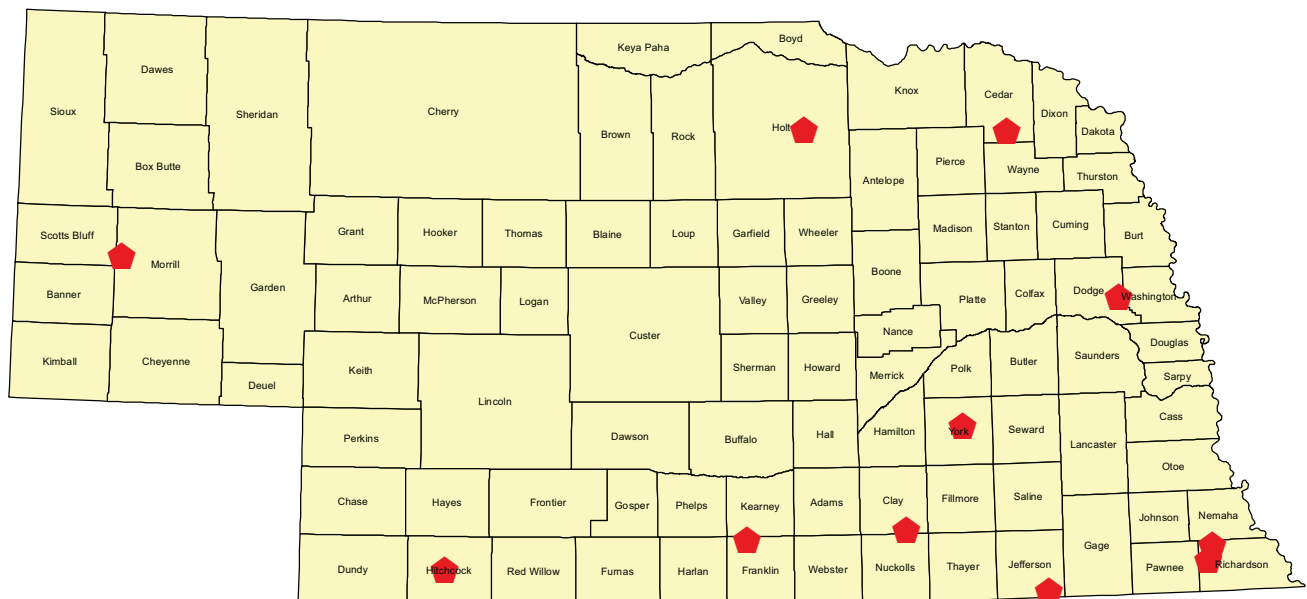


Figure 17. Eleven groundwater based community public water supply systems on DHHS Administrative Order for nitrate above the 10 mg/l MCL. (Source: DHHS, October 2011)

Nitrates and Trends Utilizing the Statewide Groundwater Monitoring Network

The development of a trend analysis for the entire State of Nebraska using the Database would not be practical. Of specific concern is the lack of data collected from year to year at all locations. Nitrate concentration data exists where specific areas were monitored and not necessarily repeated, with the program goal being a statewide coverage. In contrast, accurate and statistically significant trend analysis should be based on data collected from the same site(s) over a long period of time. While unpractical, the need for the assessment and reporting of groundwater nitrate concentrations remained.

In response to the need for more the more consistent collection of nitrate data and trend assessment, the Natural Resources Districts (NRDs) developed a Statewide Groundwater Monitoring Network (Figure 18). 2010 was the sixth year of utilizing the network to characterize groundwater nitrate concentrations. Thus far, not all network wells are sampled annually; however, there are efforts towards this.

According to the Nebraska Department of Natural Resources there are approximately 160,000 registered wells in the state (Figure 3) with many more existing unregistered wells. Sampling these wells is unfeasible due to resources constraints, logistics and access issues. Each NRD annually monitors groundwater to meets the objectives established by their Groundwater Management Plan. To allow flexibility for the NRDs while maintaining a consistent network, a target subset of wells to be monitored annually was set at 1,500 when the network was established. Over the course of the last 6 years, modifications have been made and the current network consists of 1,391 (Figure 18). It is anticipated that future review and assessment of the selected wells will continue with the goal of having a 1,500 well network. Table 5 on page 22 presents the number and type of wells assorted by each NRD.

As stated, trend assessment could be accomplished but would not be practical at this time given the nature of the groundwater data. In the future, as the network continues, a more thorough trend analysis and assessment will be pursued. Until then, there is still a need to assess nitrate changes over time. In lieu of trends, nitrates changes over the short term and long term are calculated for this report. “Short-term change” refers to the positive or negative difference in the last two reported nitrate concentrations for an individual well. “Long-term change” refers to the positive or negative difference in the first and last concentration reported for an individual well. Figure 19 and Table 6 found on pages 23 and 24 present the 2010 short term change assessment and Figure 20 and Table 7 found on pages 23 and 24 present the 2010 long term change assessment.

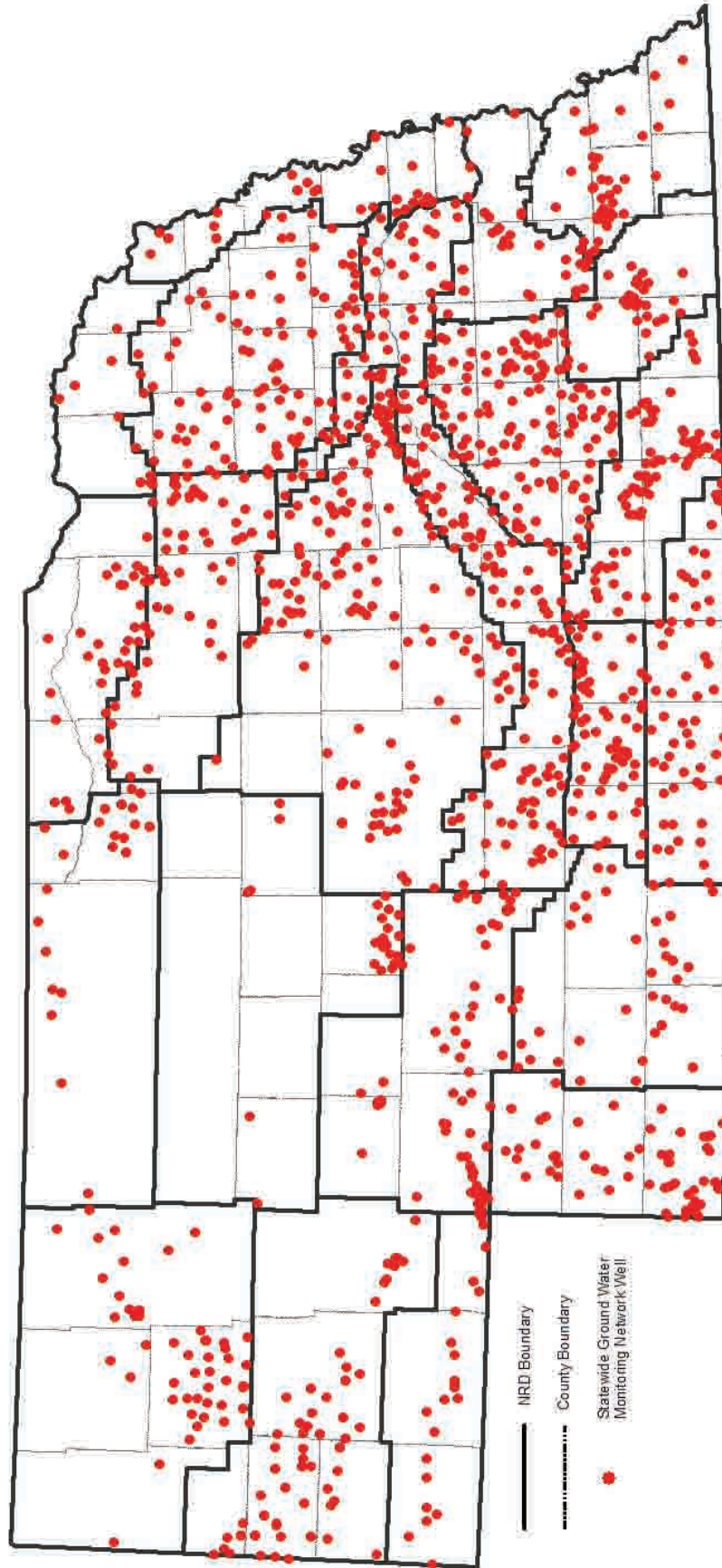


Figure 18. Statewide Groundwater Monitoring Network

Natural Resources District	Total Wells	Irrigation	Monitoring	Domestic	Stock	Commercial
Central Platte	108	104		4		
Lewis and Clark	15	9	6			
Little Blue	81	81				
Lower Big Blue	30	30				
Lower Elkhorn	90	90				
Lower Loup	142	138		2	2	
Lower Niobrara	33	33				
Lower Platte North	52	52				
Lower Platte South	37	12	24			1
Lower Republican	63	54	9			
Middle Niobrara	29	10	17	1	1	
Middle Republican	46	31	15			
Nemaha	41	28	1	11	1	
North Platte	76	15	60	1		
Papio-Missouri River	45	17	26	1		1
South Platte	25	9	16			
Tri-Basin	63	63				
Twin Platte	73	63	8	2		
Upper Big Blue	136	114	18	4		
Upper Elkhorn	64	47	17			
Upper Loup	25	23		2		
Upper Niobrara-White	58	43	15			
Upper Republican	59	59				
Totals	1391	1125	232	28	4	2

Table 5. Well numbers, types, and totals by Natural Resources District for the Statewide Groundwater Monitoring Network.

Figures 19 and 20 and Tables 6 and 7 show the changes in nitrate-nitrogen levels in the 1391 network wells. Figures 19 and 20 show those wells where nitrate levels were increasing, decreasing, or showed no change or insufficient data. Figure 19 shows changes in nitrate levels between the last two monitoring events for each well, giving a general idea of the most recent changes in those levels. This can be considered a map of “short-term” changes in nitrate levels, in most cases showing how nitrates have changed over the last few years. Figure 20 shows changes in nitrate levels over the entire record of each well, which gives a better indication of “long-term” changes in those levels. This “long-term” change usually represents variations in nitrate levels over several years or even a few decades.

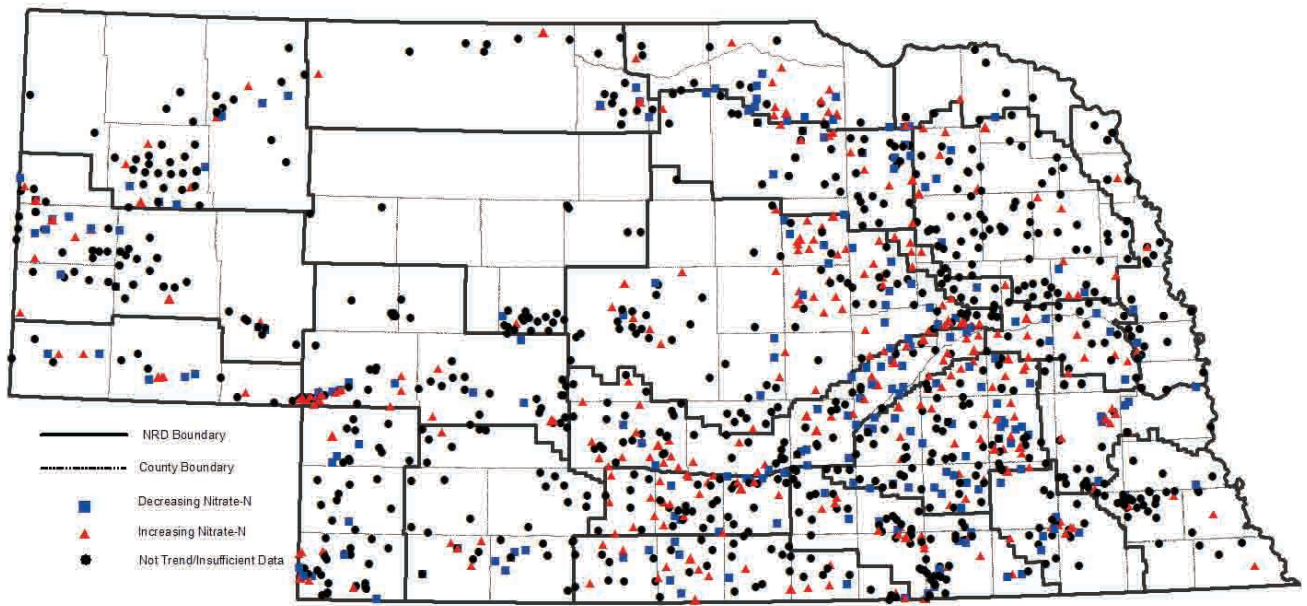


Figure 19. Change in nitrate-N levels between the last two monitoring events (“short-term”).

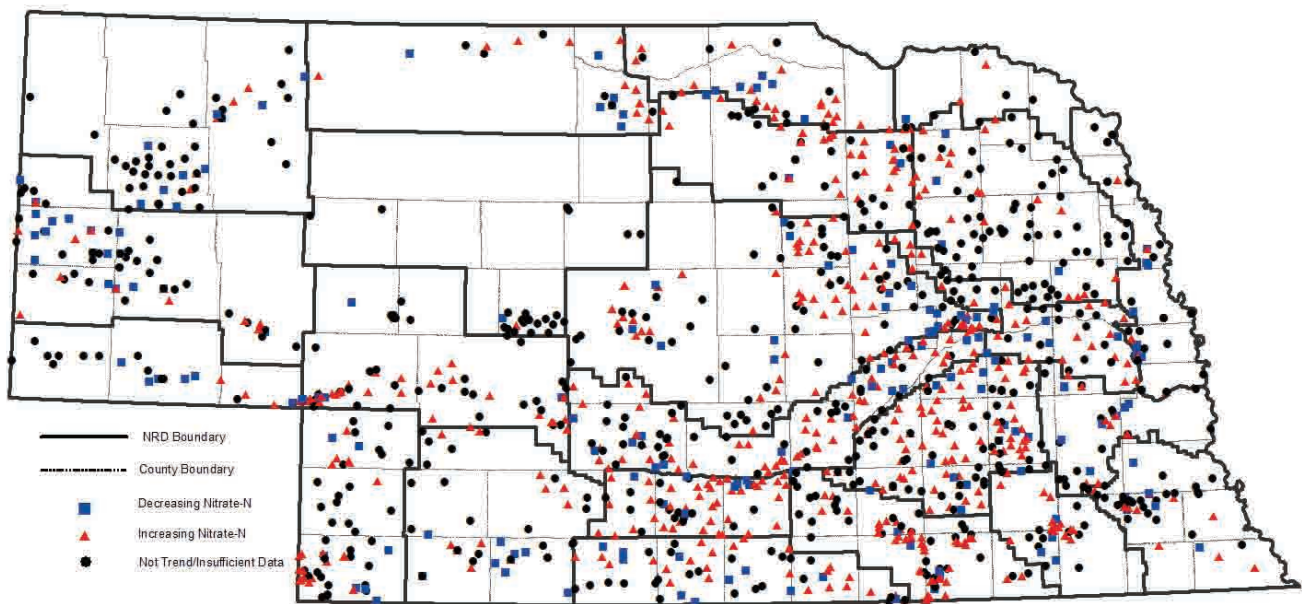


Figure 20. Change in nitrate-N levels between the first and last monitoring events (“long-term”).

Tables 6 and 7 give a more detailed breakdown of the magnitude of the “short-term” and “long-term” changes in nitrate levels. Table 6 shows the numbers of wells for each category of increase, decrease, no change/no trend, and insufficient data for the “short-term” wells, while Table 7 shows the numbers for the same categories in the “long-term” wells.

“Short-Term” Changes in Nitrate Levels (Differences between the two most recent sampling events)	
Category	#
Total Number of Wells Showing “Short-Term” Increases	321
Increase >1 to 5 mg/l	247
Increase >5 to 10 mg/l	47
Increase >10 mg/l	27
Total Number of Wells Showing “Short-Term” Decreases	231
Decrease >1 to 5 mg/l	162
Decrease >5 to 10 mg/l	45
Decrease >10 mg/l	24
Total Number of Wells Showing No “Short-Term” Trend	706
Total Number of Wells w/ Insufficient Data to Determine Trend	133
Total Number of Wells	1391

Table 6. Numbers of “short-term” wells in the Statewide Groundwater Monitoring Network showing increases, decreases, or no change in nitrate levels (this information is summarized in Figure 19).

“Long-Term” Changes in Nitrate Levels (Differences between the initial and most recent sampling events)	
Category	#
Total Number of Wells Showing “Long-Term” Increases	542
Increase >1 to 5 mg/l	355
Increase >5 to 10 mg/l	115
Increase >10 mg/l	72
Total Number of Wells Showing “Long-Term” Decreases	202
Decrease >1 to 5 mg/l	132
Decrease >5 to 10 mg/l	45
Decrease >10 mg/l	25
Total Number of Wells Showing No “Long-Term” Trend	514
Total Number of Wells w/ Insufficient Data to Determine Trend	133
Total Number of Wells	1391

Table 7. Numbers of “long-term” wells in the Statewide Groundwater Monitoring Network showing increases, decreases, or no change in nitrate levels (this information is summarized in Figure 20).

It is important to keep some qualifications in mind when interpreting these maps. Since each NRD has its own schedule for monitoring, individual samples may not have been taken at the same time as other samples within the same District or between Districts. Thus, at this point, each map does not necessarily represent a “snapshot” in time of nitrate levels or changes, but they do give a very general indication of how nitrate levels are changing over time. However, as time passes and the network becomes more well-established, samples will be more representative of equivalent time periods, and will be more directly comparable. It is also important to remember that aquifer systems and nitrate-nitrogen levels within them are very dynamic, complex, and variable. Although care was taken to select wells that were fairly representative of the geologic conditions present in various areas of the state, it is impossible to extrapolate conditions in a given well to a large area. Therefore, the several hundred wells in the statewide network give a general indication of how nitrate levels are changing over time across the state as a whole, but it would be inappropriate to use one or a few wells in the network to try to analyze nitrate levels in a specific part of the state.

In mid-2004, the NRDs, working with NDEQ and the Nebraska Department of Agriculture (NDA), also began two new monitoring efforts. Using funding from USEPA Region 7, NDEQ, and NDA placed in-house monitoring equipment for the analysis of priority herbicides (atrazine, alachlor, metolachlor, and acetochlor) in several District offices, and for the analysis of coliform bacteria in 22 offices. In 2005, NDEQ obtained additional funding from USEPA to place herbicide units in four additional NRD offices.

Monitoring for these parameters continues as resources allow. The data and information are being compiled, reviewed, and analyzed. The pesticide data received from this project can be considered qualitative or semi-quantitative, and the results have been roughly similar to the pattern of detections discussed in the sections dealing with pesticides in this report. A section on this data and information is expected for the 2011 Groundwater Monitoring Report.

Bacteria data from wells comes mostly from domestic and stock wells, and serves mostly as an indicator of point source contamination and/or poor well construction. This data is being used to assist well owners in decontaminating their wells and/or locating new wells, but it doesn't reflect on overall groundwater quality of the state.

Future efforts will concentrate on evaluating these methodologies for inclusion of data in the Clearinghouse, improving quality and comparability of data, and obtaining further funding for ongoing sampling and analysis.

Atrazine

The locations of all wells sampled for atrazine from 1974 to 2010 and then the last recorded concentration of that herbicide are presented in Figures 21 and 22. Atrazine is used as an herbicide to eradicate broad leaf weeds. Common commercial trademark names include (but are not limited to) Aatrex and Bicep.

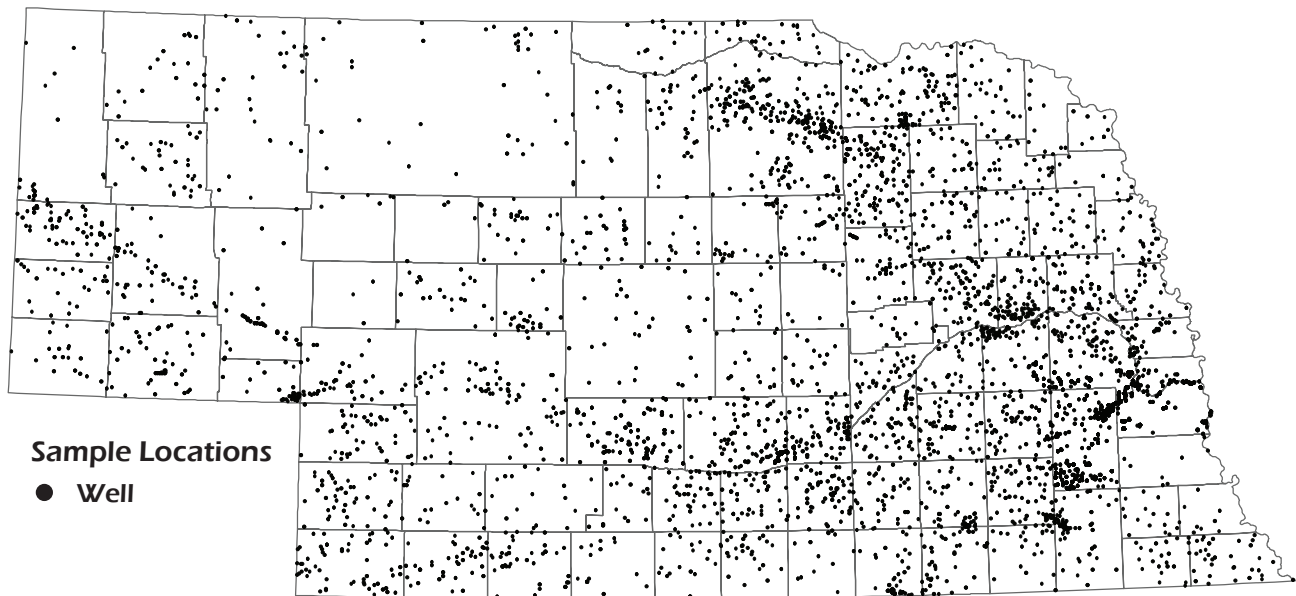


Figure 21. Location of 4,803 wells sampled for atrazine from 1974 – 2010. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

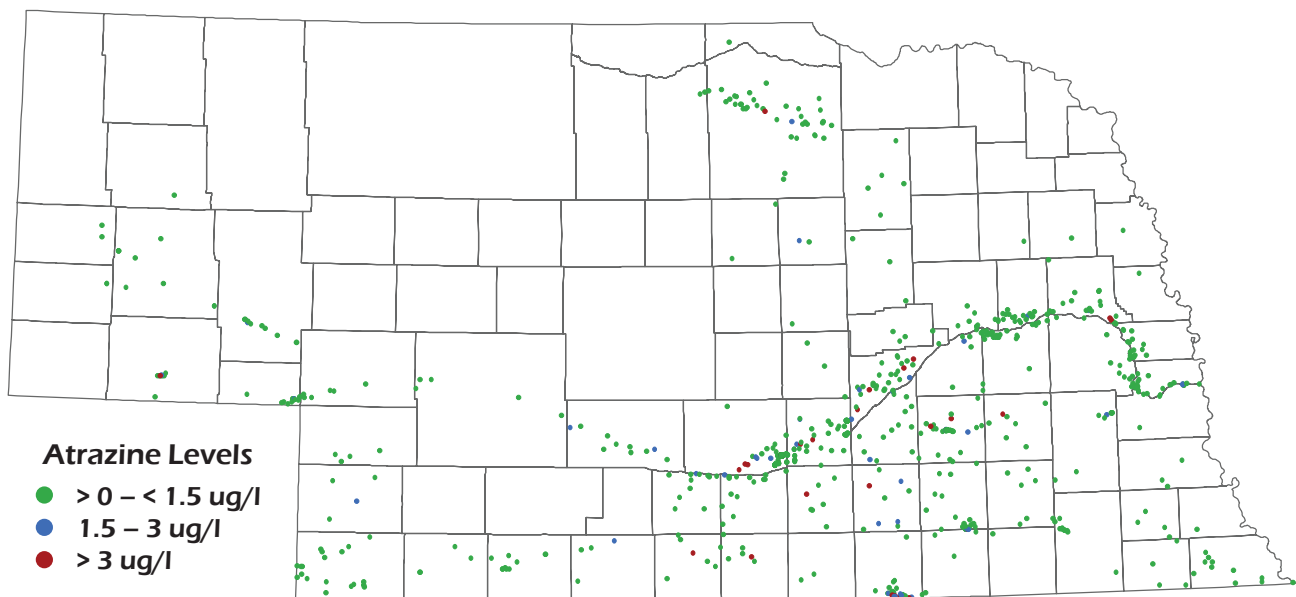


Figure 22. Last recorded concentration of atrazine from 1974 – 2010. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

The locations of all wells sampled for atrazine in 2010 are presented in Figure 23, there were no detections for a herbicide in the 2010 sampling.

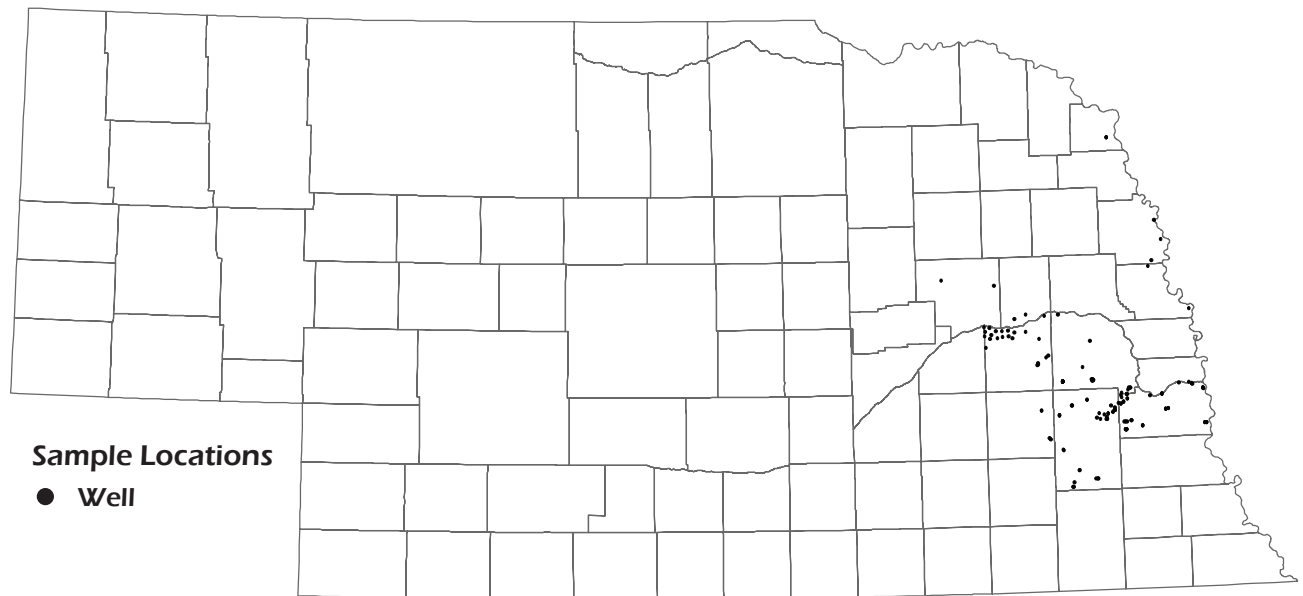


Figure 23. Location of 157 wells sampled for atrazine in 2010. (Source: Quality-Assessed Agrichemical Database for Nebraska Groundwater, 2011)

The mean atrazine concentration calculated from the Database for all wells sampled has been less than 1 $\mu\text{g/L}$ since 1979, compared to the USEPA's MCL of 3 $\mu\text{g/L}$. Fourteen of the 23 NRDs are currently using the in-house analysis described on page 23, and that data is not yet in the Database.

Alachlor

Alachlor is used as an herbicide to eradicate broad leaf weeds and grasses. Common commercial trademark names include (but are not limited to) Lasso, Bullet, and Lariat. There have been no reported concentrations of Alachlor in the 2,733 samples collected since 2000.

The mean alachlor concentration calculated from the Database for the entire record from 1974 is 0.008 µg/L, compared to the USEPAs MCL of 6 µg/L. Fourteen of the 23 NRDs are currently using the in-house analysis described on page 23, but that data is not yet in the Database.

Metolachlor

Metolachlor is used as an herbicide to eradicate broad leaf weeds. Common commercial trademark names include (but are not limited to) Bicep and Dual. There have been no reported concentrations of Metolachlor in the 607 samples collected since 2007.

The mean metolachlor concentration calculated from the Database for the entire record from 1974 is 0.17 µg/L. There is no USEPA MCL for metolachlor. Fourteen of the 23 NRDs are currently using the in-house analysis described on page 23, but that data is not yet in the Database.

Simazine

Simazine is used as an herbicide to eradicate broad leaf weeds. Common commercial trademark names include (but are not limited to) Princep and Aladdin. There have been no reported concentrations of Simazine in the 1,737 samples collected since 2003.

The mean simazine concentration calculated from the Database for the entire record from 1974 is 0.004 µg/L, compared to the USEPAs MCL of 4 µg/L. Fourteen of the 23 NRDs are currently using the in-house analysis described on page 23, but that data is not yet in the Database.

Pesticides and Trends

An in-depth analysis of statewide trends for any of the pesticides has not been attempted this year because the number of detections in separate wells for these compounds was too small to permit a reliable trend analysis. Many of the detections for these compounds were in the same wells or a series of closely spaced wells. Therefore, an analysis for trends in these parameters would not be valid. In general, the greater numbers of detections of pesticides in groundwater follows the same overall pattern of higher nitrates in groundwater.

As mentioned previously in this report, 14 of the 23 NRDs continue to sample for atrazine, metolachlor, and acetochlor and analyze on a case-by-case basis using the in-house technology described on page 23.



CONCLUSIONS

Groundwater is a valuable resource for Nebraska. The majority of Nebraska's residents rely on groundwater for drinking water, agriculture, and industry. Most public water supplies that utilize groundwater do not require any form of treatment for drinking water before serving it to the public. There are some limited areas in Nebraska where the nitrate concentration is greater than the drinking water standard of 10 mg/L. The state's reliance on groundwater alone makes it important to continue to monitor groundwater quality and to coordinate and share monitoring techniques, to enable decision makers to make more informed management decisions.

The Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater has been invaluable to decision makers in managing Nebraska's groundwater resource. This report authorized by Neb. Rev. Stat. § 46-1304 (LB 329, 2001) would be extremely difficult, if not impossible, to prepare were it not for the existence of the Database. More importantly, the Database has made it possible to quickly and confidently retrieve both recent and historic groundwater quality data for the entire state. These data not only are utilized to make regulatory decisions to protect groundwater quality, but can also be used by the private sector to identify alternate sources of groundwater for drinking water purposes. Most of the 23 NRDs and several state and federal agencies are conducting or analyzing groundwater monitoring, resulting in a large number of analyses spread across the entire state. It is imperative that the Database continue to be implemented and updated for the foreseeable future.

Nebraska's Natural Resources Districts are conducting extensive groundwater quality monitoring, focusing on nitrate and pesticides and have instituted many Groundwater Management Areas (GWMA). Most of the NRDs have submitted groundwater quality monitoring data to the Database. The other NRDs are submitting data through a cooperative agreement with USGS. In addition, the NRDs have also developed a Statewide Groundwater Monitoring Network that has been sampled for six years. Not only are the NRDs data vital to the Database, but their implementation of GWMA is essential in the protection of groundwater quality in Nebraska. NRDs with GWMA have instituted farm operator certification, soil testing for nitrogen, irrigation water management, and other best management practices. It will be through these GWMA and related practices that Nebraskans will see a decrease in contaminants such as nitrate over the next several decades.



Concentrations and trends of contaminants. As with all previous reports, an attempt has been made to show the trends of several of the agricultural related contaminants detected in the states groundwater. Utilizing all of the data to show realistic trends has been proven to be at best, difficult. The data does indicate that overall, since the 2005 report the number of analyses for nitrate greater than 10 mg/l has decreased. As discussed previously in this report, data from 1994 to 2011 is more representative of the “statewide” concentration of nitrogen and indicates a slight upward trend. Utilizing the data from the NRDs’ Statewide Groundwater Monitoring Network, (Figures 19, 20 and Tables 6 and 7) for both short term and long term analysis, there are a greater number of wells that show an increase than show a decrease. It should be noted that the number of wells showing no change is greater than either those that show increases or decreases. There is not enough recent data for atrazine, alachlor, metolachlor, or simazine to conduct any trend analyses. Even with the future inclusion of data sets, it will be only through a continued identification of a set of wells that are sampled on an on-going basis, similar to the NRDs’ Statewide Groundwater Monitoring Network, and coordination of monitoring activities that will help manage and protect groundwater.

The Future. There has been a significant amount of time and effort expended to populate the Database and the importance of its merits cannot be emphasized enough. The NRDs’ Statewide Groundwater Monitoring Network has been very useful and consists of many dedicated monitoring wells. However, the NRDs’ network has limitations and the resources are not available to improve the dedicated monitoring well network or maintain the necessary yearly sampling routine. A Statewide Groundwater Monitoring Network requires dedicated monitoring wells with strict well construction, and standards for sample collection and reporting. Continued attention and resources (i.e. local and state time, funding, and staff) directed toward monitoring to implement the Statewide Groundwater Monitoring Network are crucial for the successful management of Nebraska’s valuable natural resource, groundwater.



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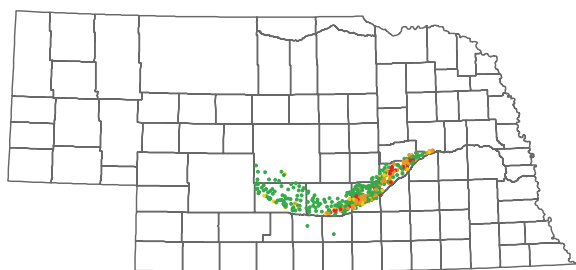
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Appendix A. Compounds for which groundwater samples have been analyzed

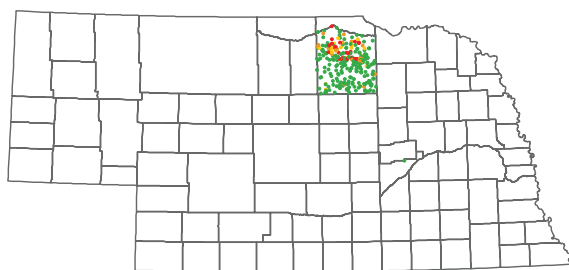
Compound	Compound	Compound
1,1,1-trichloroethane	aldrin	dechloroalachlor
1,2,4-trichlorobenzene	alpha-HCH	dechlorodimethenamid
1,2-dibromo-3-chloropropane	ametryn	dechlorometolachlor
1,2-dibromoethane	atrazine	deethylatrazine
1,2-dichlorobenzene	azinphos-methyl	deethylcyanazine
1,2-dichloroethane	azinphos-methyl oxon	deethylcyanazine acid
1,2-dichloropropane	bendiocarb	deethylcyanazine amid
1,3-dichloropropane	benfluralin	deethylhydroxyatrazine
1,4-dichlorobenzene	benomyl	deisopropylatrazine
1-naphthol	bensulfuron-methyl	deisopropylhydroxyatrazine
2,4,5-T	bentazon	delta-HCH
2,4,6-trichlorophenol	benzo(a)pyrene	demethylfluometuron
2,4-D	beta-HCH	desulfinylfipronil
2,4-D methyl ester	bromacil	desulfinylfipronil amide
2,4-DB	bromomethane	di(2-ethylhexyl)adipate
2,4-dinitrophenol	bromoxnyl	di(2-ethylhexyl)phtalate
2,6-diethylaniline	butachlor	diazinon
2-[(2-ethyl-6-methylphenyl) amino]-1-propanol	butylate	diazoxon
	carbaryl	dicamba
2-[(2-ethyl-6-methylphenyl) amino]-2-oxoethane sulfonic acid	carbofuran	dichlobenil
	carbon disulfide	dichlorprop
2-chloro-2',6'-diethylacetanilide	carbon tetrachloride	dichlorvos
2-ethyl-6-methylaniline	carboxin	dicrotophos
3,4-dichloroaniline	chloramben methyl ester	didealkyl atrazine
3-hydroxycarbofuran	chlordane	dieldrin
4,6-dinitro-o-cresol	chlorimuron-ethyl	dimethenamid
4-chloro-2-methylphenol	chloroform	dimethenamid ethane sulfonic acid
4-chloro-3-methylphenol	chlorothalonil	
4-nitrophenol	chlorpyrifos	dimethenamid oxalinic acid
acenaphthene	chlorpyrifos oxon	dimethoate
acetochlor	cis-1,3-dichloropropene	dinoseb
acetochlor ethane sulfonic acid	cis-permethrin	diphenamid
acetochlor oxanilic acid	clopyralid	disulfoton
acetochlor sulfynilacetic acid	cyanazine	diuron
acifluorfen	cyanazine acid	endosulfan I
acrylonitrile	cyanazine amide	endosulfan II
alachlor	cycloate	endosulfan sulfate
alachlor ethane sulfonic acid	cyfluthrin	endrin
alachlor ethane sulfonic acid, secondary amide	cypermethrin	endrin aldehyde
	cyprazine	EPTC
alachlor oxanilic acid	DCPA	esfenvalerate
alachlor sulfynilacetic acid	DCPA monoacid	ethalfuralin
aldicarb	DDD	ethion
aldicarb sulfone	DDT	ethion monoxon
aldicarb sulfoxide	dechloroacetochlor	ethoprop

Appendix A. Compounds for which groundwater samples have been analyzed

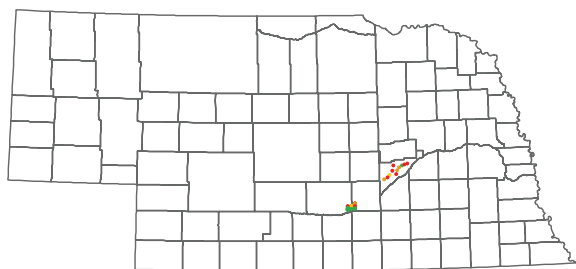
Compound	Compound	Compound
ethyl parathion	linuron	phosmet
fenamiphos	malathion	phosmet oxon
fenamiphos sulfone	malathion oxon	picloram
fenamiphos sulfoxide	MCPA	propachlor ethane sulfonic acid
fenuron	MCPB	propachlor oxalinic acid
fipronil	metalaxyl	propanil
fipronil sulfide	methidathion	propargite
fipronil sulfone	methiocarb	propazine
flufenacet	methomyl	propham
flufenacet ethane sulfonic acid	methoxychlor	propiconazole
flufenacet oxalinic acid	methyl paraoxon	propoxur
flumetsulam	methyl parathion	propyzamide
fluometuron	methylene chloride	prometon
fonofos	metolachlor	prometryn
fonofos oxon	metolachlor ethane	propachlor
heptachlor	sulfonic acid	siduron
heptachlor epoxide	metolachlor oxalinic acid	silvex
hexachlorobenzene	metribuzin	simazine
hexachlorocyclopentadiene	metsulfuron-methyl	simetryn
hexazinone	molinate	sulfometuron-methyl
hydroxyacetochlor	myclobutanil	tebuthiuron
hydroxyalachlor	naphthalene	terbacil
hydroxyatrazine	napropamide	terbufos
hydroxydimethenamid	neburon	terbufos oxon sulfone
hydroxymetolachlor	nicosulfuron	terbuthylazine
hydroxysimazine	nitrate-N	terbutryn
imazaquin	norflurazon	tetrachloroethene
imazethapyr	oryzalin	thiobencarb
imidacloprid	oxamyl	toxaphene
iodomehtane	p,p'-DDE	trans-1,3-dichloropropene
iprodione	pebulate	triallate
isofenphos	pendimethalin	trichloroethene
isoxaflutole	pentachlorophenol	triclopyr
isoxaflutole benzoic acid	permethrin	trifluralin
isoxaflutole diketonitrile	phorate	vernolate
lindane	phorate oxon	



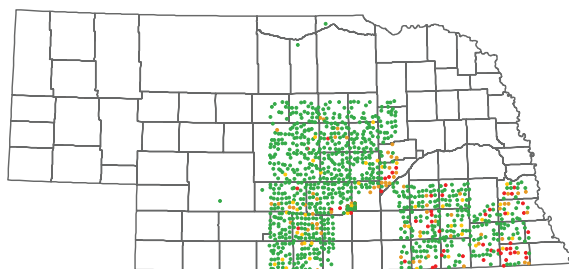
1974 - 1975 (397 wells, 397 analyses)



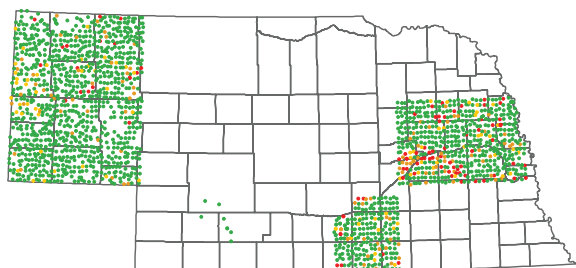
1976 (283 wells, 283 analyses)



1977 (45 wells, 45 analyses)

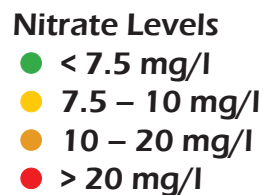


1978 (1057 wells, 1082 analyses)



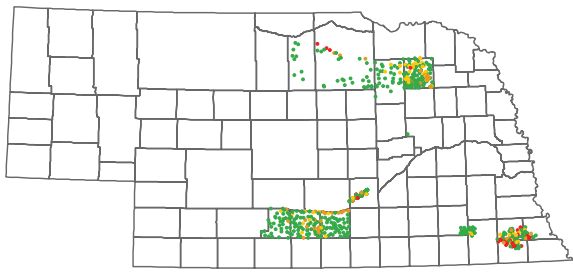
1979 (1844 wells, 1845 analyses)

Figure B-1
Nitrate analyses for years 1974 - 1979
(Source: Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater)

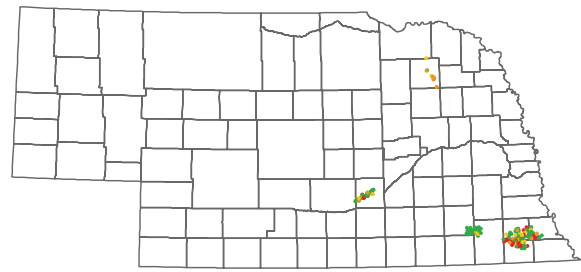


Empty areas indicate no data reported. These Maps were provided to give you a snapshot of the data. To see them better, view the report on NDEQ’s web site (www.deq.state.ne.us) and use your Adobe Acrobat reader to enlarge individual maps.

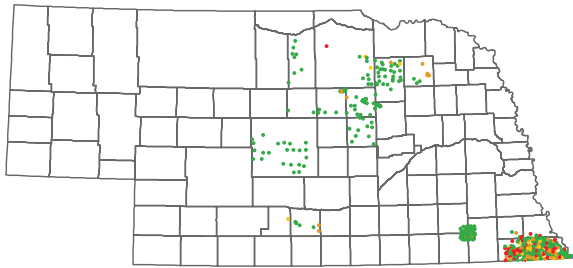
Appendix B. Maps of Annual Nitrate Analyses, 1974 - 2010



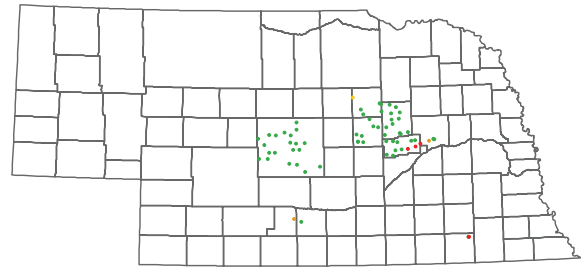
1980 (403 wells, 470 analyses)



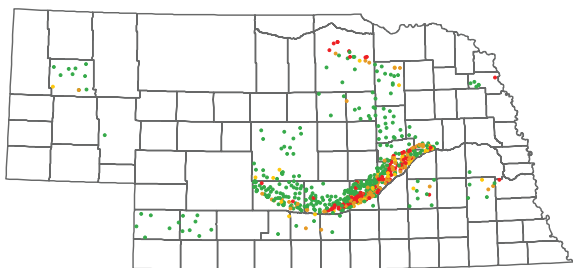
1981 (143 wells, 197 analyses)



1982 (506 wells, 519 analyses)



1983 (65 wells, 67 analyses)



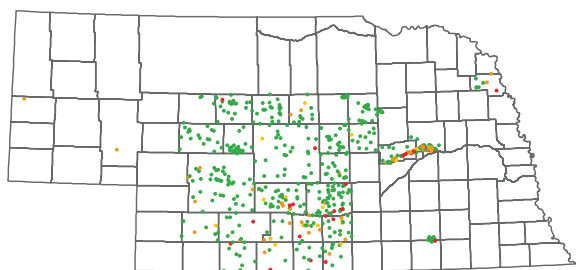
1984 (691 wells, 695 analyses)

Figure B-2
Nitrate analyses for years 1980 - 1984
(Source: *Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater*)

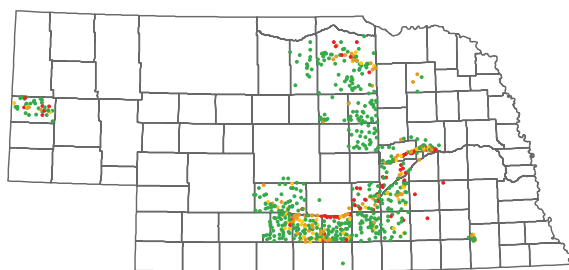
Nitrate Levels

- < 7.5 mg/l
- 7.5 – 10 mg/l
- 10 – 20 mg/l
- > 20 mg/l

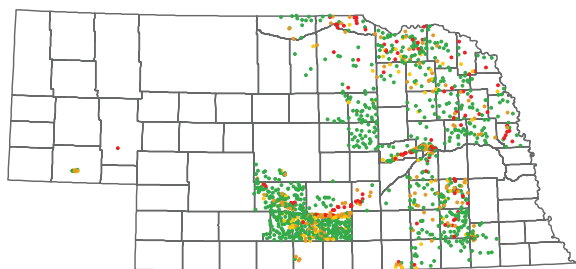
Empty areas indicate no data reported. These Maps were provided to give you a snapshot of the data. To see them better, view the report on NDEQ's web site (www.deq.state.ne.us) and use your Adobe Acrobat reader to enlarge individual maps.



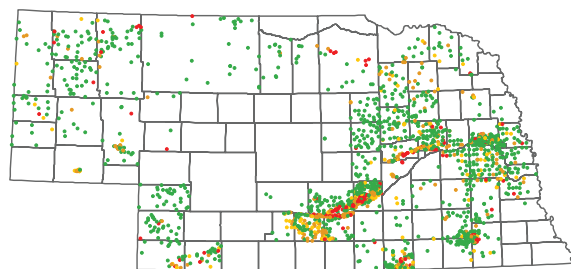
1985 (621 wells, 621 analyses)



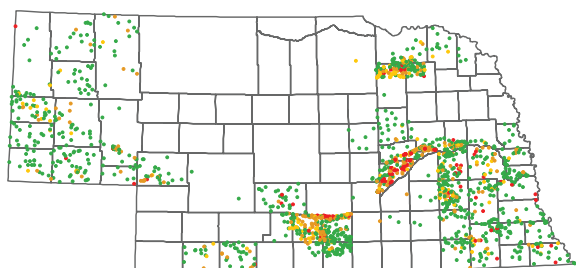
1986 (739 wells, 739 analyses)



1987 (1324 wells, 1972 analyses)



1988 (1795 wells, 1851 analyses)



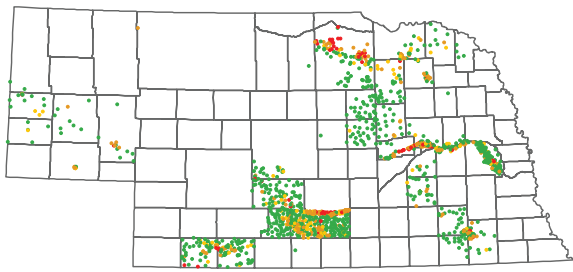
1989 (1665 wells, 1746 analyses)

Figure B-3
Nitrate analyses for years 1985 - 1989
(Source: Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater)

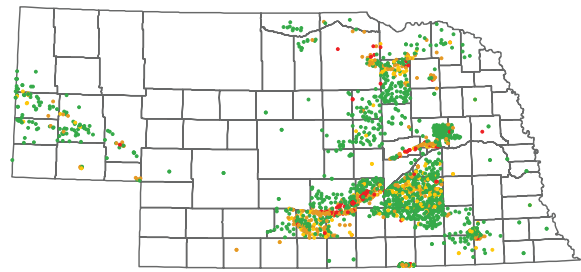
- Nitrate Levels**
- < 7.5 mg/l
 - 7.5 – 10 mg/l
 - 10 – 20 mg/l
 - > 20 mg/l

Empty areas indicate no data reported. These Maps were provided to give you a snapshot of the data. To see them better, view the report on NDEQ’s web site (www.deq.state.ne.us) and use your Adobe Acrobat reader to enlarge individual maps.

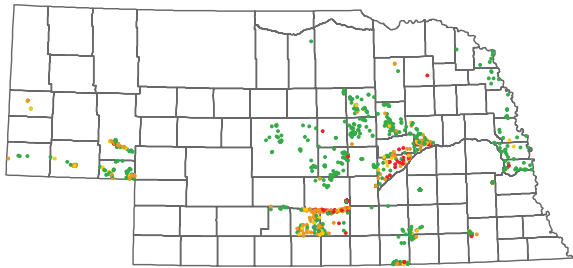
Appendix B. Maps of Annual Nitrate Analyses, 1974 - 2010



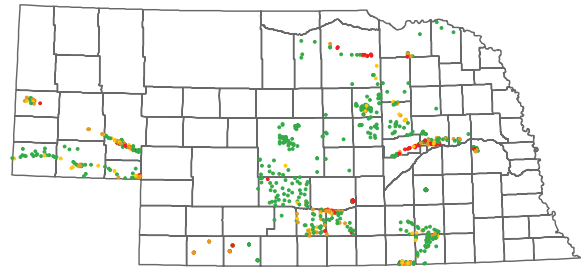
1990 (1337 wells, 1366 analyses)



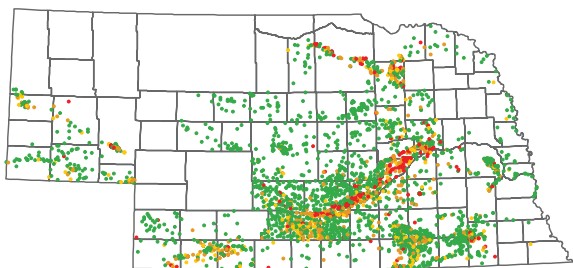
1991 (2344 wells, 2872 analyses)



1992 (1327 wells, 2490 analyses)



1993 (1438 wells, 2863 analyses)



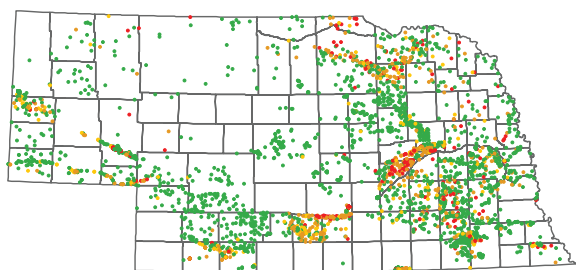
1994 (3778 wells, 5719 analyses)

Figure B-4
Nitrate analyses for years 1990 - 1994
(Source: *Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater*)

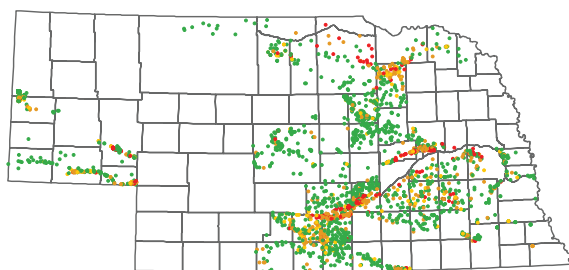
Nitrate Levels

- < 7.5 mg/l
- 7.5 – 10 mg/l
- 10 – 20 mg/l
- > 20 mg/l

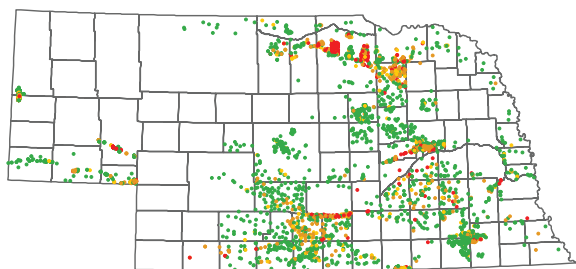
Empty areas indicate no data reported. These Maps were provided to give you a snapshot of the data. To see them better, view the report on NDEQ's web site (www.deq.state.ne.us) and use your Adobe Acrobat reader to enlarge individual maps.



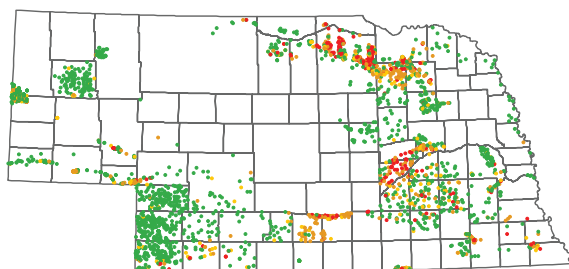
1995 (3390 wells, 4753 analyses)



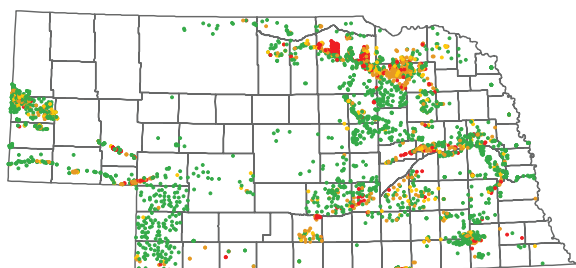
1996 (2584 wells, 4233 analyses)



1997 (2631 wells, 3611 analyses)

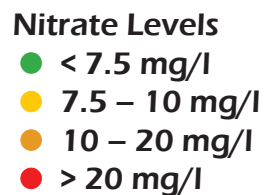


1998 (2430 wells, 3162 analyses)



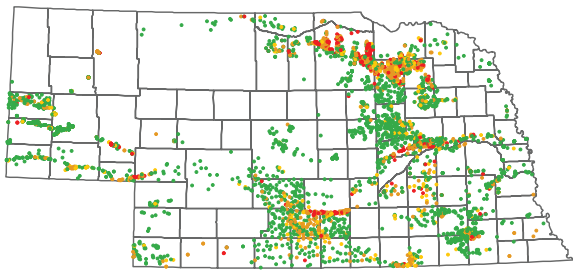
1999 (2894 wells, 3586 analyses)

Figure B-5
Nitrate analyses for years 1995 - 1999
(Source: Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater)

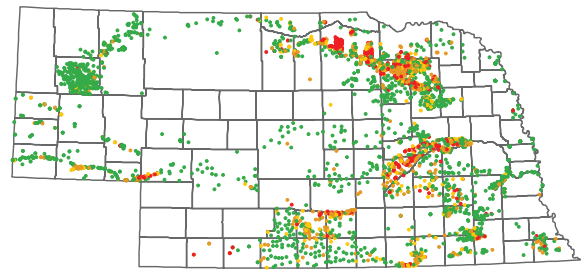


Empty areas indicate no data reported. These Maps were provided to give you a snapshot of the data. To see them better, view the report on NDEQ’s web site (www.deq.state.ne.us) and use your Adobe Acrobat reader to enlarge individual maps.

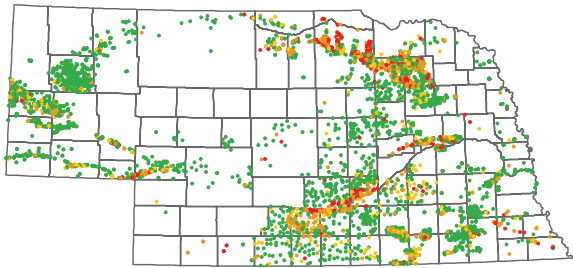
Appendix B. Maps of Annual Nitrate Analyses, 1974 - 2010



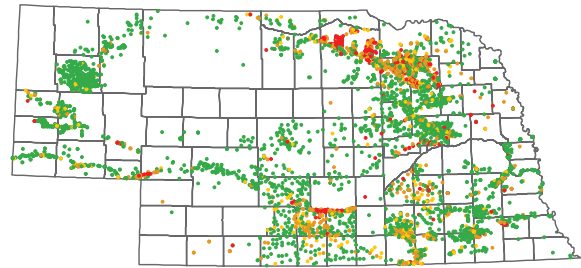
2000 (3514 wells, 4454 analyses)



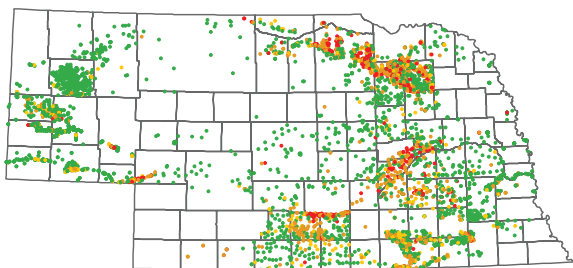
2001 (3254 wells, 3871 analyses)



2002 (4280 wells, 5209 analyses)



2003 (4429 wells, 5199 analyses)

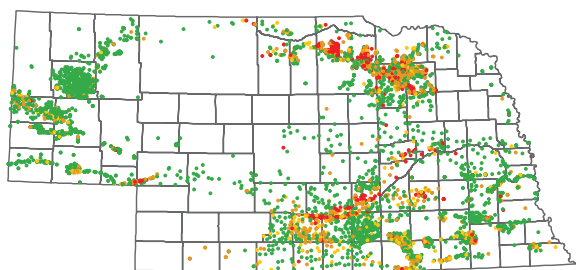


2004 (3979 wells, 4947 analyses)

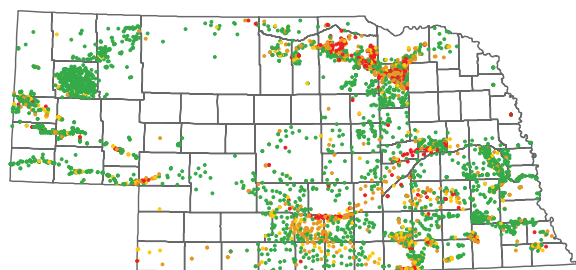
Figure B-6
Nitrate analyses for years 2000 - 2004
(Source: *Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater*)

Nitrate Levels
● < 7.5 mg/l
● 7.5 – 10 mg/l
● 10 – 20 mg/l
● > 20 mg/l

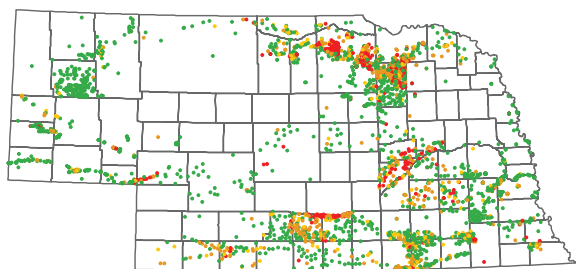
Empty areas indicate no data reported. These Maps were provided to give you a snapshot of the data. To see them better, view the report on NDEQ's web site (www.deq.state.ne.us) and use your Adobe Acrobat reader to enlarge individual maps.



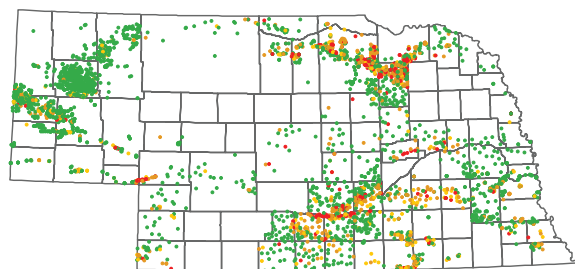
2005 (4261 wells, 5260 analyses)



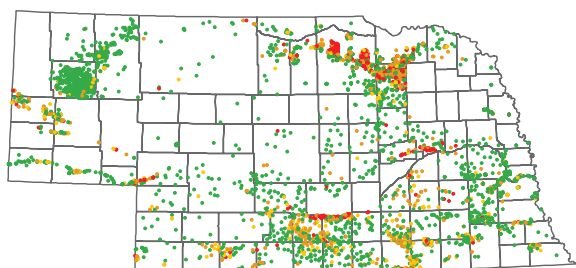
2006 (3741 wells, 4696 analyses)



2007 (2967 wells, 3490 analyses)



2008 (3403 wells, 3879 analyses)

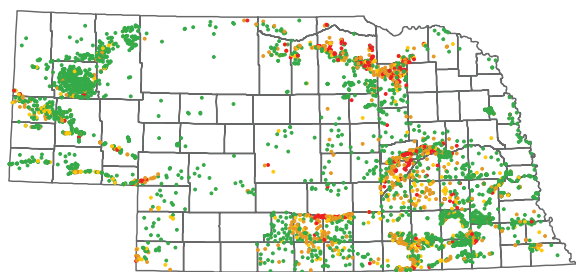


2009 (3376 wells, 3957 analyses)

Figure B-7
Nitrate analyses for years 2005 - 2009
(Source: Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater)

- Nitrate Levels**
- < 7.5 mg/l
 - 7.5 – 10 mg/l
 - 10 – 20 mg/l
 - > 20 mg/l

Empty areas indicate no data reported. These Maps were provided to give you a snapshot of the data. To see them better, view the report on NDEQ’s web site (www.deq.state.ne.us) and use your Adobe Acrobat reader to enlarge individual maps.



2010 (4079 wells, 4506 analyses)

Figure B-8
Nitrate analyses for year 2010
(Source: Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater)

Nitrate Levels
● < 7.5 mg/l
● 7.5 – 10 mg/l
● 10 – 20 mg/l
● > 20 mg/l

Empty areas indicate no data reported. These Maps were provided to give you a snapshot of the data. To see them better, view the report on NDEQ's web site (www.deq.state.ne.us) and use your Adobe Acrobat reader to enlarge individual maps.

Appendix B: Ecological Justification for Excluding Specific Bio-Indicator Results When Determining Attainment Status of the Aquatic Life Beneficial Use for Nebraska’s 2012 Water Quality Integrated Report.

Waterbody ID	Waterbody Name	Sampling Date	Impairment*	Justification†	2012 IR Category
EL4-20600	Cache Creek	8/11/2010	ICI	Extreme flow events, heated water	2
EL4-20800	South Fork Elkhorn River	8/11/2010	ICI	Extreme flow events	2
EL4-30000	Elkhorn River	8/16/2005	ICI	Extreme flow events	5
EL4-40000	Elkhorn River	8/11/2005	ICI	Extreme flow events	5
LO2-20200	Goose Creek	8/14/2008	ICI	Unique system	3
LO2-40000	North Loup River	8/14/2008	ICI	Unique system	4a,c
MP2-20300	Spring Creek	7/14/2006	IBI	Low flow	5
NI2-11420	Spring Creek	7/24/2008	ICI	Extreme flow events	2
NI2-11780	Middle Branch Eagle Creek	7/24/2008	ICI	Extreme flow events	2
NI3-22300	Gordon Creek	8/13/2008	ICI	Unique system	3
NI3-22510	Boardman Creek	8/14/2008	ICI	Unique system	3
NI4-10110	Dry Creek	7/15/2008	ICI	Unique system	3
NI4-10600	Rush Creek	7/16/2008	ICI	Low flow	2
RE3-10100	Medicine Creek	8/31/2007	ICI	Low flow	5
SP2-10000	Lodgepole Creek	7/19/2006	IBI	Low flow	4b
SP2-20000	Lodgepole Creek	7/20/2006	ICI	Low flow	2
WH1-10000	White River	7/08/2008	IBI	Low flow	2

* The bio-indicator metric that scored the waterbody as impaired. **ICI**-(Invertebrate Community Index) Uses macroinvertebrate community data as a bio-indicator of ecosystem health. **IBI**-(Index of Biotic Integrity) Uses fish community data as a bio-indicator of ecosystem health.

† The ecological explanation for the poor bio-metric score. Each waterbody is discussed in more detail in the following sections.

EL4-20600: Cache Creek –ICI Score=Poor

Field data sheets along with hydrologic and climatologic data indicate that the poor ICI score was due to flooding water levels (See Attachment B: Elkhorn Basin), sand deposition in June, and high water temperatures during collection and not due to pollution. Field data sheets document that the substrate in this creek was 100% shifting and that flood waters in June scoured the banks and deposited large amounts of sand atop stream banks, thus lessening the in-stream and near shore invertebrate habitat. The water temperature at time of collection was found to be very high (37.5 C) which was attributed to solar radiation and not anthropogenic pollution. The land use surrounding the site and in the watershed is pasture. The watershed is located in the Nebraska Sandhills, one of the least disturbed regions in the Great Plains. The field data sheets document that the river was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. The ICI score is a reflection of the aftermath of flooding and not the water quality of the stream. This stream will be placed in category 2 based on the IBI score.

EL4-20800: South Fork Elkhorn River – ICI=Poor

Field data sheets and hydrologic data document that the poor ICI score was due to lack of in-stream habitat and not due to pollution. The field data sheets, completed at time of collection, documented the following habitat limitations: 1. Shifting sand substrate due to flooding, 2. Little in-stream vegetation or woody debris, 3. Wetted channel width is less than bank full width. Much of the roots found on the shore for in-stream invertebrate habitat did not have the macroinvertebrate population that is usually present. In addition, the stream filled only a portion of the stream channel (wetted width 3.4m, bank full width 4.5m). Watershed land use is pasture. Lastly, hydrologic data shows that in June 2010, the streams in the upper Elkhorn watershed experienced extreme high flows that would have resulted in bank and riverbed scour. Major sediment re-distribution reset the aquatic plant and invertebrate communities. The second most common fish species captured was a pollution sensitive species (IBI=good), all measured water quality parameters met Nebraska water quality standards. Nine EPT species and one cold water midge species was collected at the site. The stream was placed in category 2 based on the IBI score.

EL4-30000: Elkhorn River – ICI score = Poor

Field data sheets and hydrologic data indicate that the poor ICI score was due to a lack of in-stream habitat and not pollution. The field data sheets, completed at the time of sample collection, documented the following habitat limitations: 1. Shifting sand substrate 2. Little in-stream vegetation or woody debris 3. Wetted channel width of 20 meters while the bank-full width was 40.5 meters. The field data sheets also document that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, all water quality parameters, measured at the time of sample collection, met Nebraska water quality standards, numerous fish species were captured including several pollution sensitive species (IBI score=good), and the ecological integrity of the site was sufficient to score it as a possible reference site. Lastly, hydrologic data shows that in June 2005, the streams in the upper Elkhorn watershed experienced extreme high flows that would have resulted in bank and riverbed scour, major sediment redistribution and a resetting of the aquatic plant and invertebrate communities (Allan and Castillo 2007, Poff et al. 1997, and Resh et al. 1988). For the reasons listed above, the ICI score was not considered when determining the attainment status of the aquatic life use in this stream. This waterbody will remain in category 5 due to a fish consumption advisory (See Attachment B: Elkhorn Basin).

EL4-40000: Elkhorn River – ICI score = Poor

Field data sheets and hydrologic data indicate that the poor ICI score was due to a lack of in-stream habitat and not pollution. The field data sheets, completed at the time of sample collection, documented the following habitat limitations: 1. Shifting sand substrate 2. Little in-stream vegetation or woody debris 3. Wetted channel width of 3.8 meters while the bank-full width was 15 meters. The field data sheets also document that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, all water quality parameters, measured at the time of sample collection, met Nebraska water quality standards, numerous fish species were captured including several pollution sensitive species (IBI score=good), and the ecological integrity of the site was sufficient to score it as a possible reference site. Lastly, hydrologic data shows that in June 2005, the streams in the upper Elkhorn watershed experienced extreme high flows that would have resulted in bank and riverbed scour, major sediment redistribution and a resetting of the aquatic plant and invertebrate communities (Allan and Castillo 2007, Poff et al. 1997, and Resh et al. 1988). For the reasons listed above, the ICI score was not considered when determining the attainment status of the aquatic life use in this stream. This waterbody will remain in category 5 with the pollutant of concern being high pH (See Attachment B: Elkhorn Basin).

LO2-20200: Goose Creek – ICI score = Poor

Field data sheets and watershed land use data indicate that the poor ICI score was not due to pollution. Field data sheets document that the substrate in this creek was 100% shifting sand and that very little in-stream or near shore invertebrate habitat was present. Conversely, the field data sheets documented that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, numerous fish species were captured, including several pollution sensitive species (IBI score=excellent), all water quality parameters, measured at the time of sample collection, met Nebraska water quality standards, and the ecological integrity of the site was sufficient to score it as a possible reference site. Furthermore, examination of the land use finds that there is no row-crop agriculture, no industry, and no town or village within this 150,000 acre watershed. This watershed is located in the Nebraska Sandhills, one of the least disturbed regions in the Great Plains. The ICI score is a reflection of the unique ecological conditions within the Sandhills and not the water quality of this stream (McCarragher 1960, 1964, and 1977). NDEQ is currently refining its biological assessment criteria to better address the unique ecological conditions in the Sandhills, until the refinement is complete this stream will be placed in category 3. (See Attachment C: Loup Basin).

LO2-40000: North Loup River – ICI Score = Poor

Field data sheets and watershed land use data indicate that the poor ICI score was not due to pollution. Field data sheets document that the substrate in this river was 100% shifting sand and that very little in-stream or near shore invertebrate habitat was present. Conversely, the field data sheets documented that the river was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, numerous fish species were captured, including several pollution sensitive species (IBI score=excellent), all water quality parameters, measured at the time of sample collection, met Nebraska water quality standards, and the ecological integrity of the site was sufficient to score it as a possible reference site. Furthermore, examination of the land use finds that there is no row-crop agriculture, no industry, and no town or village within this 400,000 acre watershed. This watershed is located in the Nebraska Sandhills, one of the least disturbed regions in the Great Plains. The ICI score is a reflection of the unique ecological conditions within the Sandhills and not the water quality of this stream (McCarragher 1960, 1964, and 1977). For the reasons listed above, the ICI score was not considered when determining the attainment status of the aquatic life use in this stream. This stream will be placed in category 4a,c for E. coli and temperature impairments (See Attachment C: Loup Basin).

MP2-20300: Spring Creek – IBI Score = Poor

Review of the field data sheets, hydrologic, and climatologic data indicate that the poor IBI score was due to low water levels and not pollution. Field data sheets document that at its deepest this stream was 1.0ft deep, and filled only a portion of the stream channel (wetted width 2.0m, channel width 3.3m). Hydrologic data shows that this stream often goes dry and was dry for several months in early 2006. Climatologic data shows that the Spring Creek watershed was in a severe drought during the summer of 2006 and had received between 6 to 9 inches less precipitation than the historic average. Lastly, other biological observations document that this stream did support robust invertebrate community (ICI score=good) and numerous frogs and crayfish were observed during fish collection. For the reasons listed above, the IBI score was not considered when determining the attainment status of the aquatic life use in this stream. This stream will remain in category 5 with the pollutant of concern being E. coli (See Attachment D: Middle Platte Basin).

NI2-11420: Spring Creek – ICI Score = Poor

Review of the field data sheets, climatologic, and hydrologic data indicate that the poor ICI score was due to low water levels and a lack of in-stream habitat and not due to pollution. Field data sheets document that there was little in-stream invertebrate habitat and the stream filled only a portion of the stream channel (wetted width 2.1m, bank full width 6.6m). The field data sheets also document that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, all water quality parameters, measured at the time of sample collection, met Nebraska water quality standards, pollution sensitive fish species were captured (IBI score=good), and the ecological integrity of the site was sufficient to score it as a possible reference site. Lastly, precipitation data from three weather stations surrounding the Spring Creek watershed showed that greater than normal precipitation fell in May and June 2008, followed by an abnormally dry July 2008. This precipitation pattern resulted in exceptionally high flows in the nearby Niobrara River, followed by a period of low flow, and a similar flow regime would have occurred in Spring Creek. The observed flow regime would have resulted in bank and riverbed scour, major sediment redistribution, and a resetting of the aquatic plant and invertebrate communities (Allan and Castillo 2007, Poff et al. 1997, and Resh et al. 1988). For the reasons listed above, the ICI score was not considered when determining the attainment status of the aquatic life use in this stream. The stream was placed in category 2 based on the IBI score (See Attachment E: Niobrara Basin).

NI2-11780: Middle Branch Eagle Creek – ICI Score = Poor

Review of the field data sheets and hydrologic data indicate that the poor ICI score was due to low water levels and a lack of in-stream habitat and not due to pollution. Field data sheets document that there was little in-stream invertebrate habitat and the stream filled only a portion of the stream channel (wetted width 3.4m, bank full width 6.9m). The field data sheets also document that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, all water quality parameters, measured at the time of sample collection, met Nebraska water quality standards, pollution sensitive fish species were captured (IBI score=good), and the ecological integrity of the site was sufficient to score it as a possible reference site. Lastly, precipitation data from three weather stations near the Eagle Creek watershed showed that greater than normal precipitation fell in May and June 2008, followed by an abnormally dry July 2008. This precipitation pattern resulted in exceptionally high flows in the nearby Niobrara River, followed by a period of low flow, and a similar flow regime would have occurred in Eagle Creek. The observed flow regime would have resulted in bank and riverbed scour, major sediment redistribution, and a resetting of the aquatic plant and invertebrate communities (Allan and Castillo, 2007, Poff, et al., 1997, Resh et al., 1988). For the reasons listed above, the ICI score was not considered when determining the attainment status of the aquatic life use in this stream. The stream was placed in category 2 based on the IBI score (See Attachment E: Niobrara Basin).

NI3-22300: Gordon Creek – ICI Score = Poor

Field data sheets and watershed land use data indicate that the poor ICI score was due to a lack of in-stream habitat and not pollution. Field data sheets document that the substrate in this creek is 100% shifting sand and that very little in-stream or near shore invertebrate habitat was present. The field data sheets also documented that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, nine fish species were captured, including six pollution sensitive species (IBI score=excellent), all measured water quality parameters met Nebraska water quality standards, and the ecological integrity of the site was sufficient to score it as a possible reference site. Furthermore, examination of the land use finds that there is no row-crop agriculture, no industry, and no town or village within this 55,000 acre watershed. This watershed is located in the Nebraska Sandhills, one of the least disturbed regions in the Great Plains. The ICI score is a reflection of the unique ecological conditions within the Sandhills and not the water quality of this stream (McCarragher 1960, 1964, 1977). NDEQ is currently refining its biological assessment criteria to better address the unique

ecological conditions in the Sandhills, until the refinement is complete this stream will be placed in category 3. (See Attachment E: Niobrara Basin).

NI3-22510: Boardman Creek – ICI Score = Poor

Field data sheets and watershed land use data indicate that the poor ICI score was due to a lack of in-stream habitat and not pollution. Field data sheets document that the substrate in this creek is 100% shifting sand and that very little in-stream or near shore invertebrate habitat was present. The field data sheets also documented that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, the most common fish species captured was a pollution sensitive species (IBI score=good), all measured water quality parameters met Nebraska water quality standards, and the ecological integrity of the site was sufficient to score it as a possible reference site. Furthermore, examination of the land use finds that there is no row-crop agriculture, no industry, and no town or village within this 40,000 acre watershed. This watershed is located in the Nebraska Sandhills, one of the least disturbed regions in the Great Plains, and the ICI score is a reflection of the unique ecological conditions within the Sandhills and not the water quality of this stream (McCarragher 1960, 1964, 1977). NDEQ is currently refining its biological assessment criteria to better address the unique ecological conditions in the Sandhills, until the refinement is complete this stream will be placed in category 3. (See Attachment E: Niobrara Basin).

NI4-10110: Dry Creek – ICI Score = Poor

Field data sheets and watershed land use data indicate that the poor ICI score was due to a lack of in-stream habitat and not pollution. Field data sheets document that the substrate in this creek is 100% shifting sand and the stream was experiencing low flows (wetted width 1.8m, bank full width 3.1m). The field data sheets also documented that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, all measured water quality parameters met Nebraska water quality standards, the fish community score was good (IBI=good), and the ecological integrity of the site was sufficient to score it as a possible reference site. Furthermore, examination of the land use finds that there is no row-crop agriculture, no industry, and only one village (Merriman) within this 30,000 acre watershed. This watershed is located in the Nebraska Sandhills, one of the least disturbed regions in the Great Plains. The ICI score is a reflection of the unique ecological conditions within the Sandhills and not the water quality of this stream (McCarragher 1960, 1964, 1977). NDEQ is currently refining its biological assessment criteria to better address the unique ecological conditions in the Sandhills, until the refinement is complete this stream will be placed in category 3. (See Attachment E: Niobrara Basin).

NI4-10600: Rush Creek – ICI Score = Poor

Review of the field data sheets and climatologic data indicate that the poor ICI score was due to low water levels and not pollution. Field data sheets document that at its deepest this stream was 0.45ft deep, and filled only a portion of the stream channel (wetted width 1.0m, channel width 2.0m), and had very little in-stream invertebrate habitat. Climatologic data shows that the Rush Creek watershed was abnormally dry during the summer of 2008 and had received up to 4 inches less precipitation than the historic average. The field data sheets also documented that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, numerous fish species were captured, including sensitive species (IBI score=excellent), all measured water quality parameters met Nebraska water quality standards, and the ecological integrity of the site was sufficient to score it as a possible reference site. For the reasons listed above, the ICI score was not considered when determining the attainment status of the aquatic life use in this stream. The stream was placed in category 2 based on the IBI score (See Attachment E: Niobrara Basin).

RE3-10100 Medicine Creek – ICI Score = Poor

Field data sheets and hydrologic data indicate that the poor ICI score was due to a lack of in-stream habitat and not pollution. Field data sheets document that at its deepest this stream was 0.5ft deep, filled only a portion of the stream channel (wetted width 4.6m, channel width 19.0m), and had very little in-stream invertebrate habitat. This sampling site is located approximately two miles downstream of the 34,700 acre-feet Medicine Creek Reservoir and flow within this stream is dictated by the discharge from the reservoir. Hydrologic data from Medicine Creek documents a large discharge from the reservoir in early June 2007, followed by very low flow conditions during the time of sample collection (discharge June 3, 2007 was 777 cfs, discharge August 31, 2007 was 0.33 cfs). Lastly, the stream showed no obvious signs of pollution, all water quality parameters measured at the time of sample collection, met Nebraska water quality standards and 16 fish species were identified during the collection (IBI score=excellent). For the reasons listed above, the ICI score was not considered when determining the attainment status of the aquatic life use in this stream. This stream was placed in category 5 because of low dissolved oxygen values that resulted from a lack of water releases from the upstream dam (See Attachment F: Republican Basin).

SP2-10000: Lodgepole Creek – IBI Score = Poor

Review of the field data sheets, hydrologic, and climatologic data indicate that the poor IBI score was due to low water levels and not pollution. Field data sheets document that at its deepest this stream was 0.6 ft deep and filled only a portion of the stream channel (wetted width 3.4m, channel width 7.1m). Hydrologic data shows that this stream often goes dry and was dry for several months in 2006. Climatologic data shows that the Lodgepole Creek watershed was in an extreme drought during the summer of 2006 and had received between 3 to 6 inches less precipitation than historic average. Lastly, other biological, habitat, and water quality data document that this stream was capable of supporting aquatic life (ICI score=good). For the reasons listed above, the IBI score was not considered when determining the attainment status of the aquatic life use in this stream. The stream was placed in category 4b based on NPDES permit issues (See Attachment G: South Platte Basin).

SP2-20000: Lodgepole Creek – ICI Score = Poor

Review of the field data sheets, hydrologic, and climatologic data indicate that the poor ICI score was due to low water levels and lack of invertebrate habitat, not pollution. Field data sheets document that at its deepest this stream was 0.6 ft deep, and filled only a portion of the stream channel (wetted width 3.9m, channel width 9.5m). Hydrologic data shows that this stream often goes dry and was dry for several months in 2006. Climatologic data shows that the Lodgepole Creek watershed was in an extreme drought during the summer of 2006 and had received between 3 to 6 inches less precipitation than historic average. Other biological and water quality data collected document that this stream was capable of supporting aquatic life; all water quality data met Nebraska's water quality standards and numerous pollution sensitive fish species were collected (IBI score=good). Additionally, a second biological collection conducted in this stream segment on the same day where more woody habitat was available, documented healthy fish and invertebrate communities (IBI score=excellent, ICI score=good). For the reasons listed above, the ICI score was not considered when determining the attainment status of the aquatic life use in this stream. The stream was placed in category 2 based on the IBI score (See Attachment G: South Platte Basin).

WH1-10000: White River – IBI Score = Poor

Review of the field data sheets, hydrologic, and climatologic data indicate that the poor IBI score was due to low water levels and a lack of in stream habitat not pollution. The field data sheets completed at the time of sample collection documented the following habitat limitations: Little in-stream vegetation or woody debris, a wetted channel width of 2.3m, while the bankfull width was 5.3m, and a maximum depth of 1.0 feet. The field data sheets also document that the stream was experiencing little anthropogenic disturbance and showed no obvious signs of pollution. For example, all measured water quality parameters met Nebraska water quality standards, numerous invertebrate taxa, including pollution sensitive taxa, were captured (ICI score=excellent), and the ecological integrity of the site was sufficient to score it as a possible reference site. This stream segment is also part of NDEQ's ambient stream monitoring program and monthly water quality samples have been collected from this segment since January, 2001. Analysis of the ambient monitoring water quality data shows this stream to be meeting the Nebraska water quality standards for all parameters collected. For the reasons listed above, the IBI score was not considered when determining the attainment status of the aquatic life use in this stream. The stream was placed in category 2 based on the ICI score and ambient water quality monitoring data (See Attachment H: White River Basin).

Field data sheets are available for review: contact Chris Pracheil at (402) 471-4249 or chris.pracheil@nebraska.gov to arrange a viewing.

DRAFT

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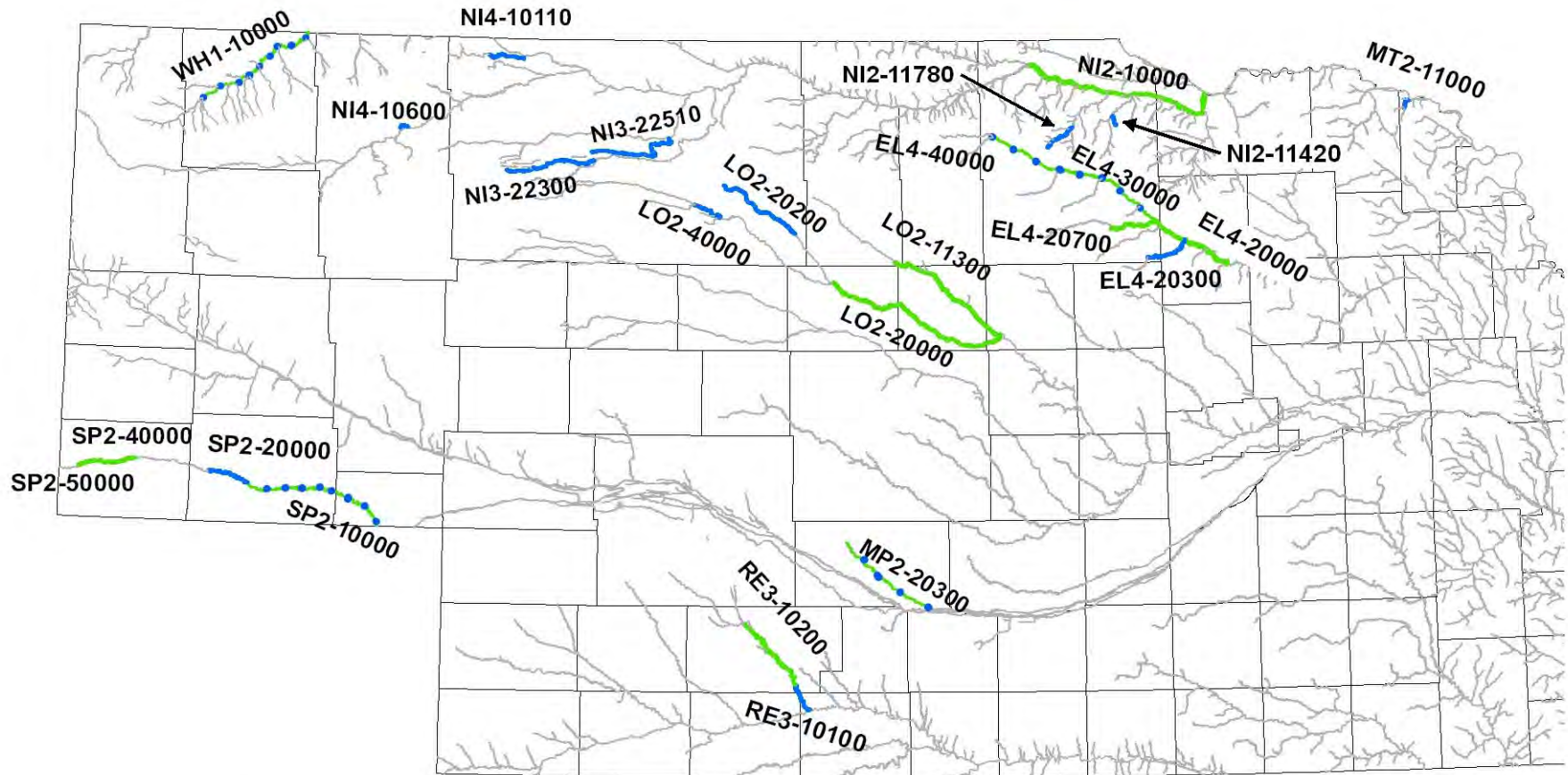
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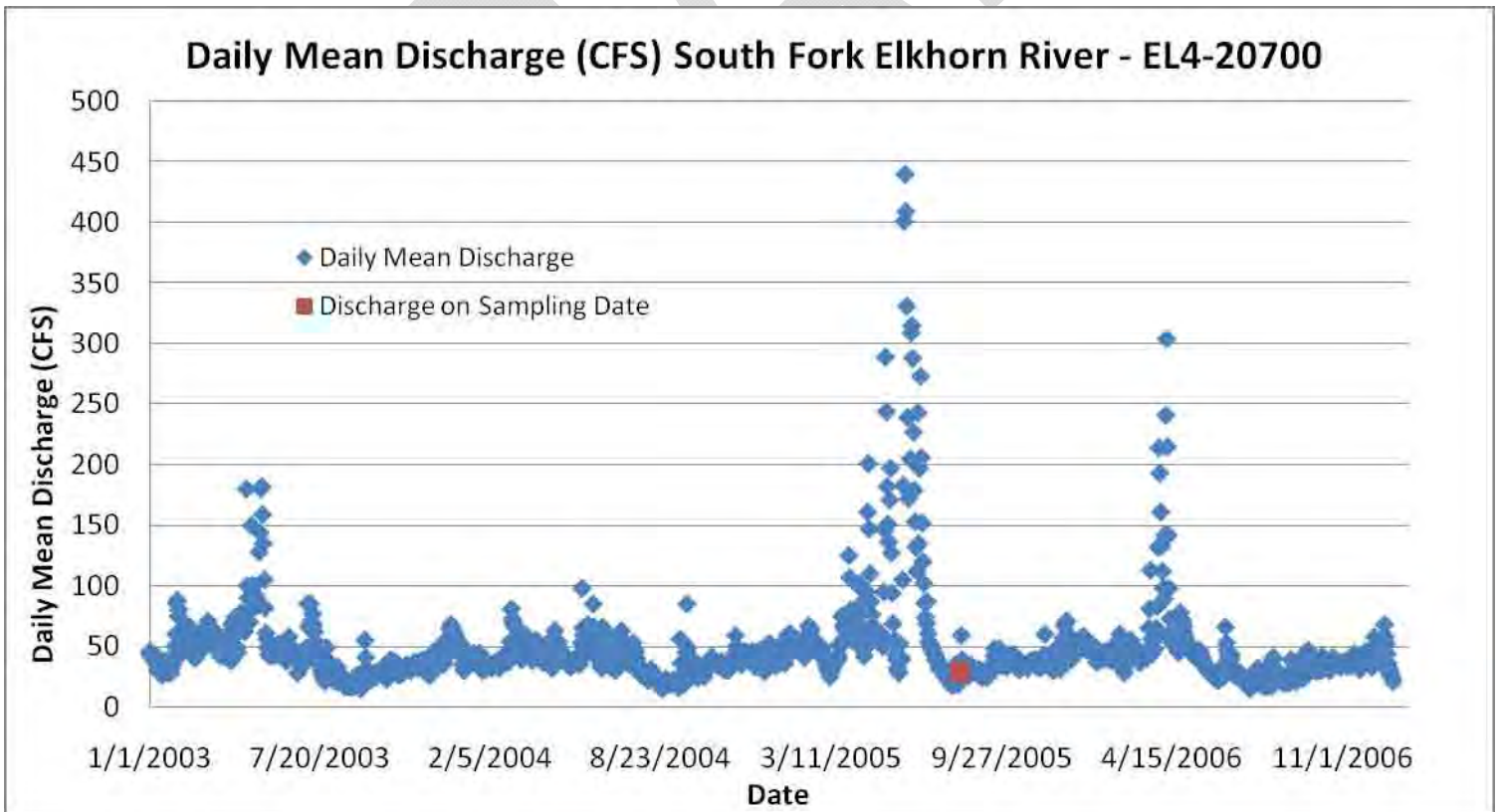
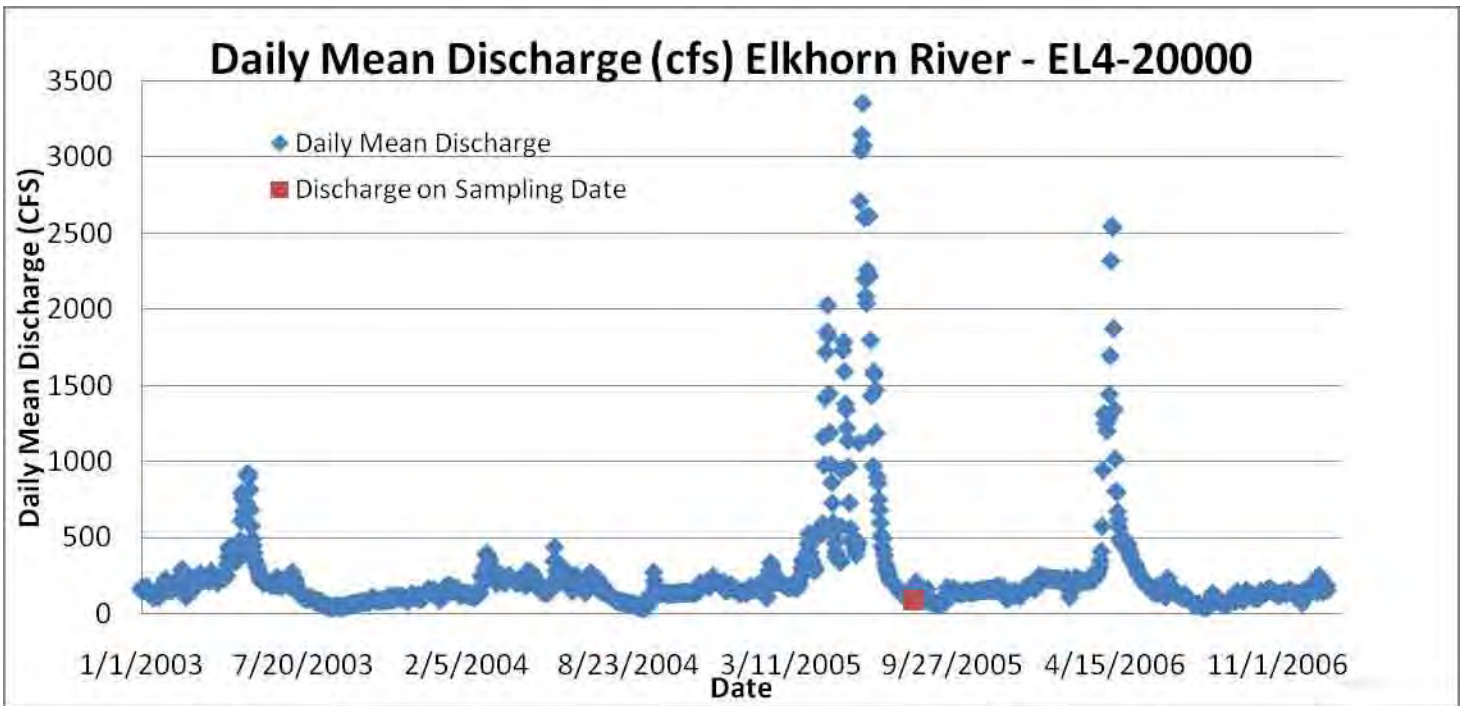
Attachment A: Map of Assessed and Flow Gauged Sites



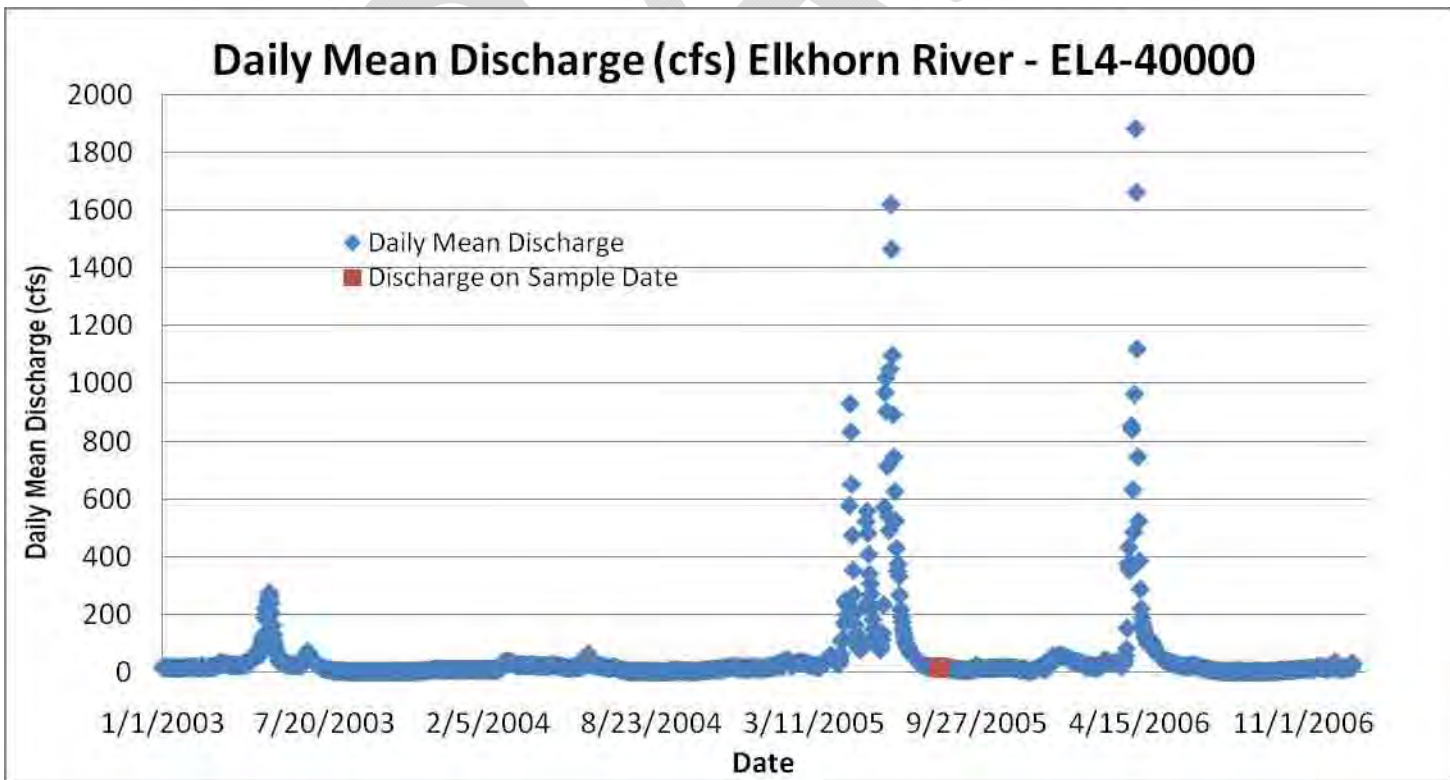
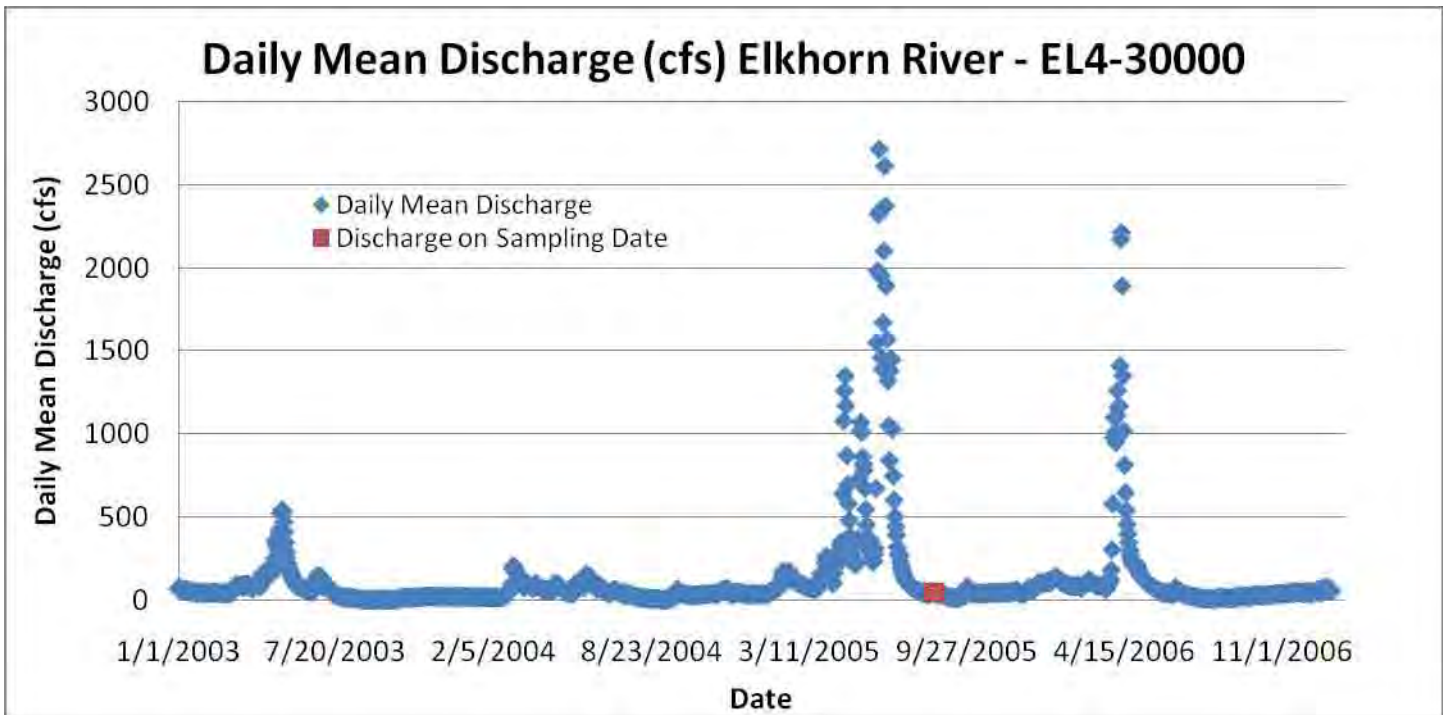
Assessed and Flow Gauged Streams

- Assessed Streams
- Flow Gauged Streams
- Assessed & Flow Gauged Streams

Attachment B: Elkhorn Basin (EL4-20300 Clearwater Creek, EL4-30000 Elkhorn River, EL4-40000 Elkhorn River)

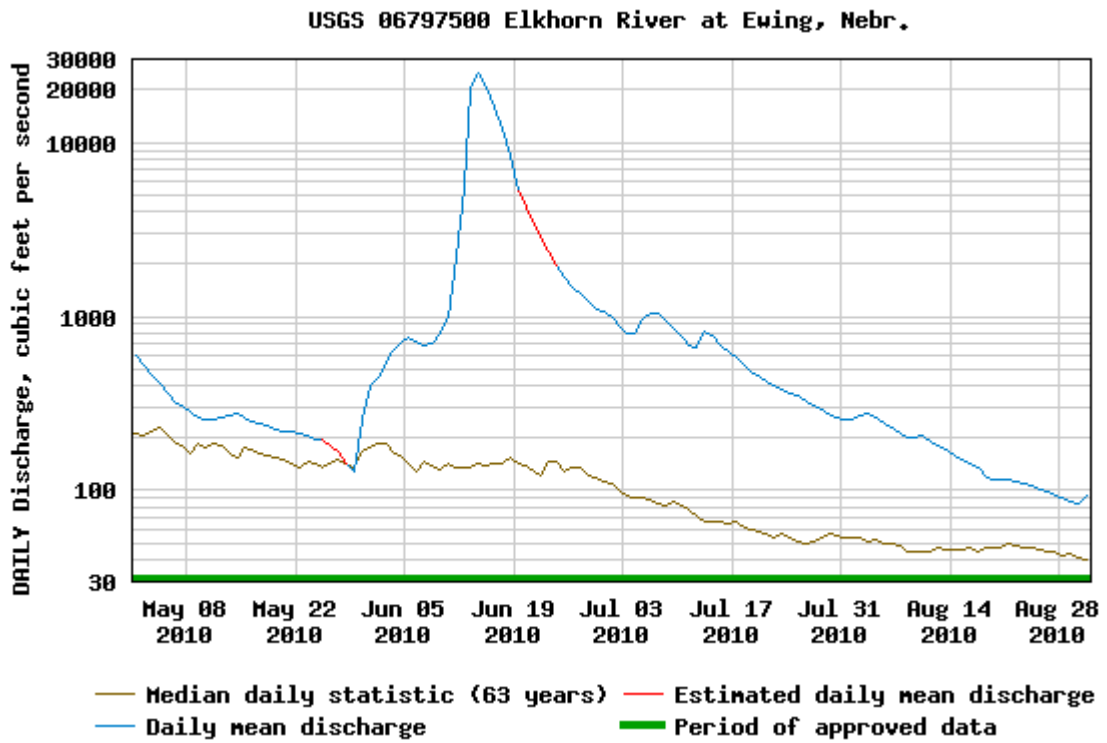


Attachment B: Elkhorn Basin (EL4-20300 Clearwater Creek, EL4-30000 Elkhorn River, EL4-40000 Elkhorn River)

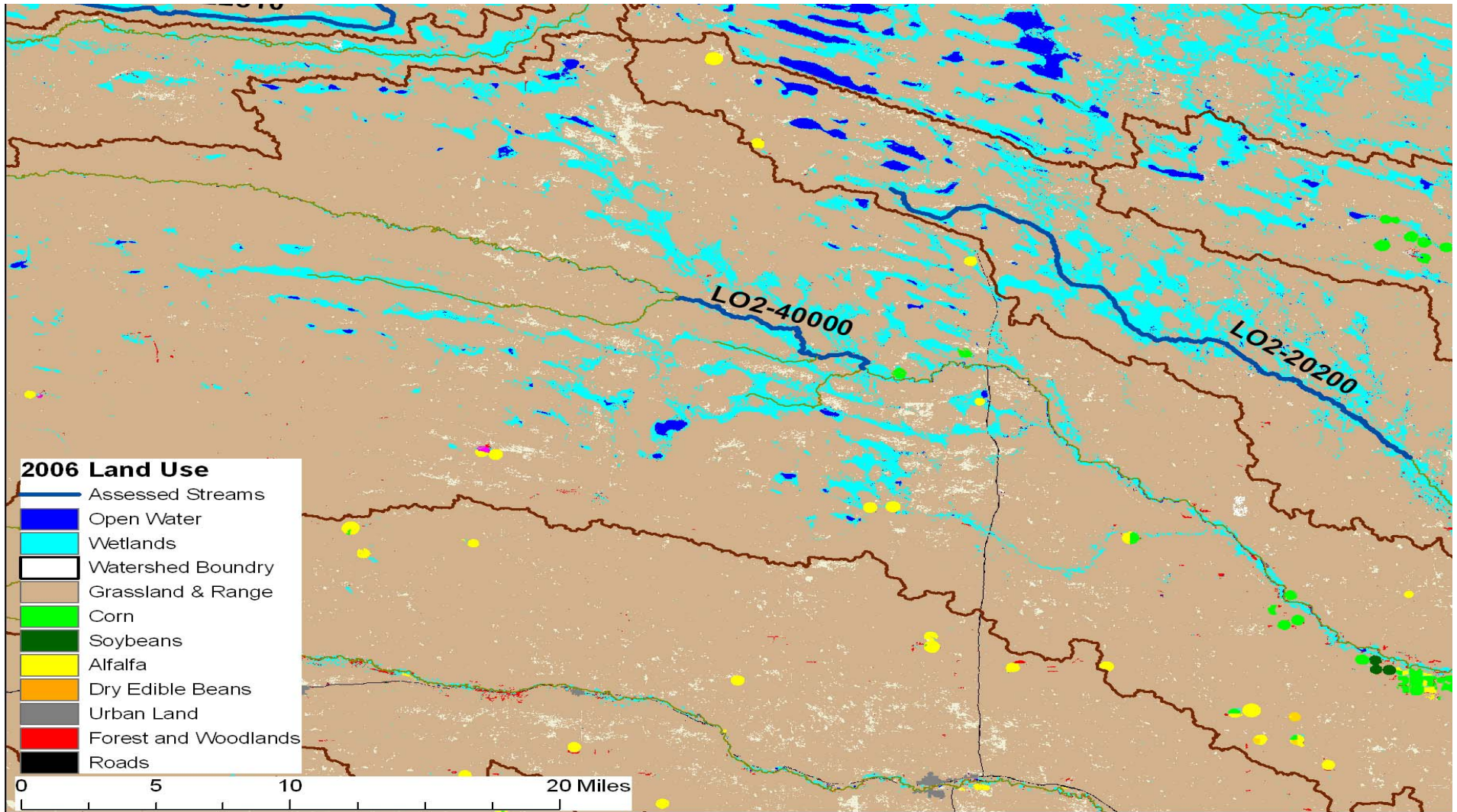


Discharge Data courtesy the USGS and NDNR

Attachment B: Elkhorn Basin-Elkhorn River Discharge at Ewing, Nebraska (Nearest discharge site to EL4-20600: Cache Creek and EL4-20800: South Fork Elkhorn River).

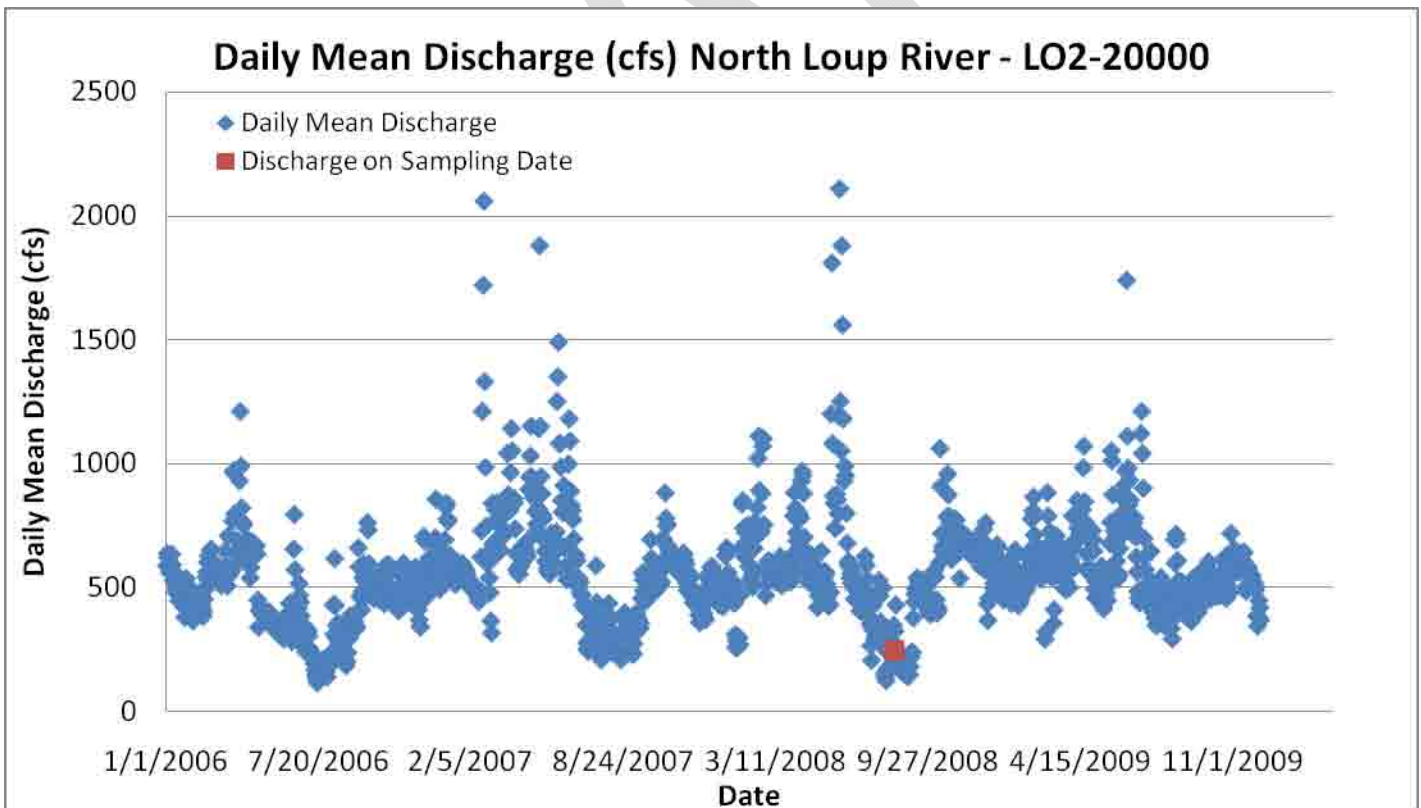
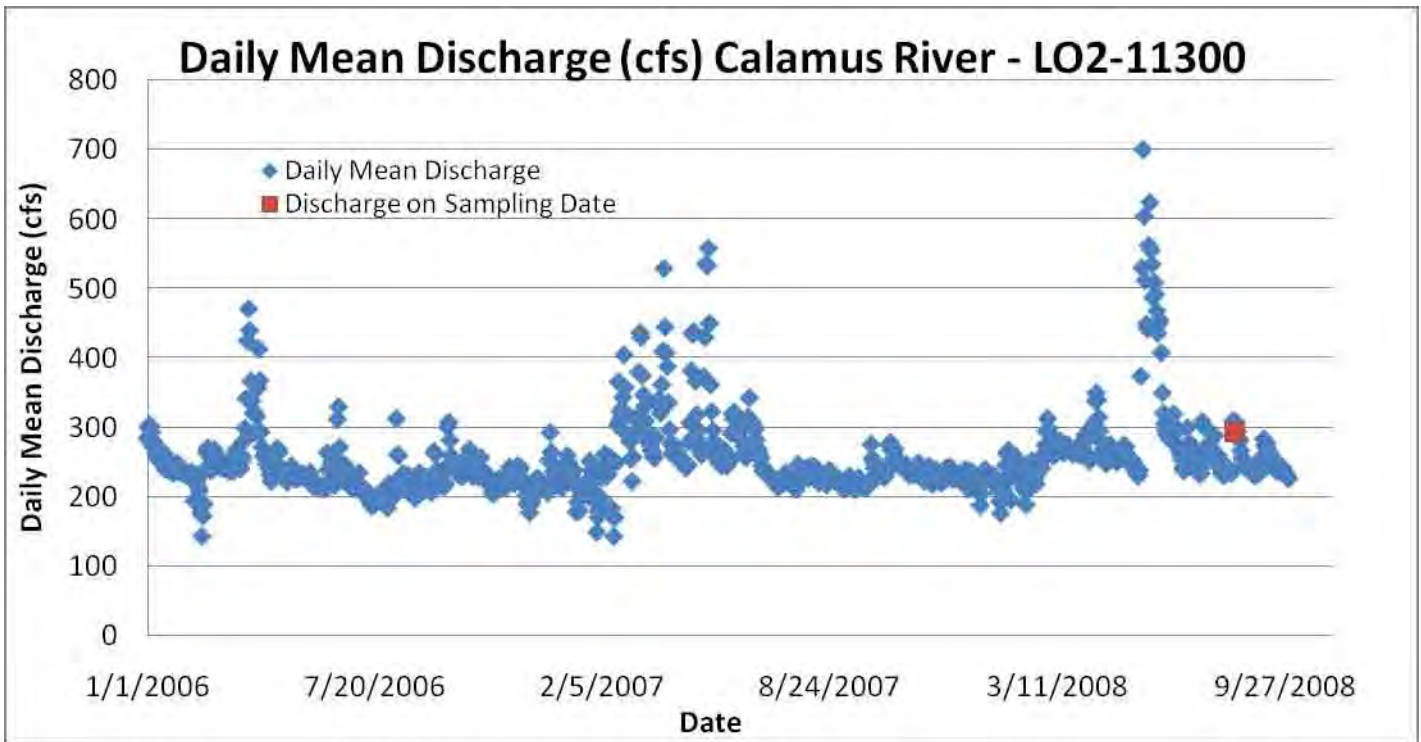


Attachment C: Loup Basin (LO2-20200 Goose Creek & LO2-40000 North Loup River)



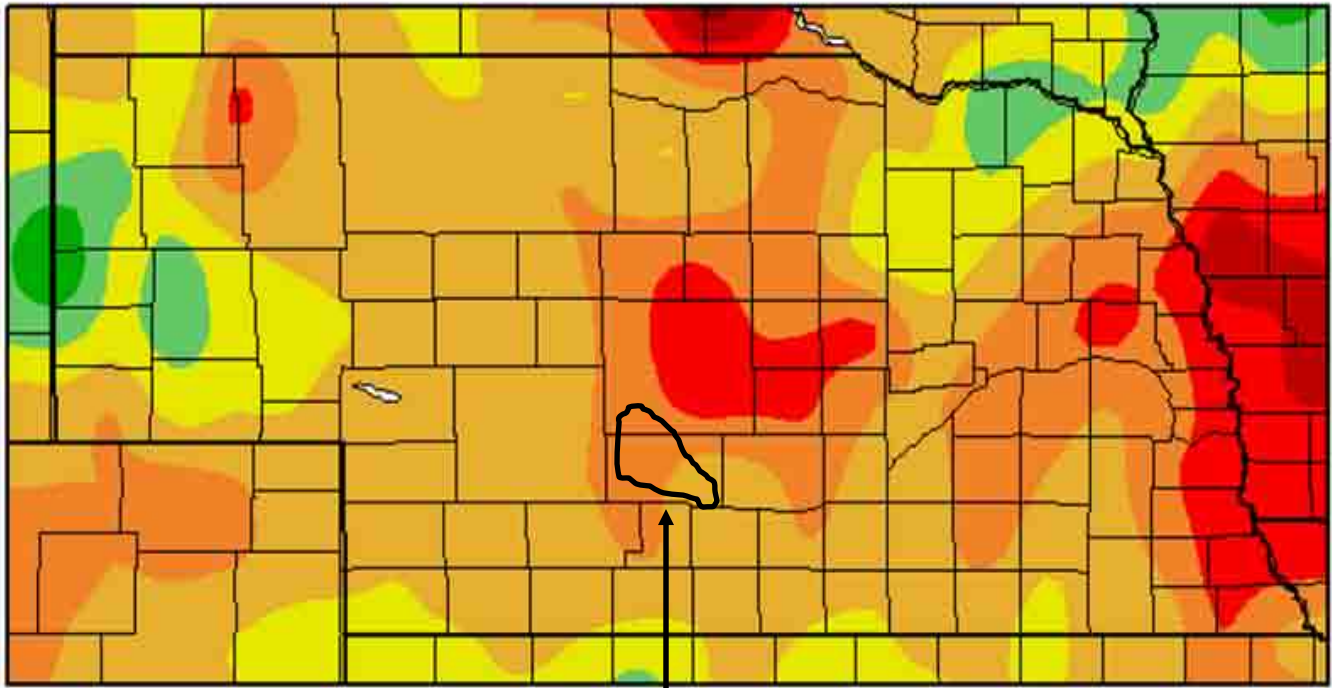
Land use data courtesy Center for Advanced Land Management Information Technologies

Attachment C: Loup Basin (LO2-20200 Goose Creek & LO2-40000 North Loup River)

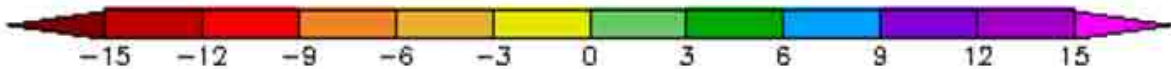


Discharge data courtesy the USGS and NDNR

Departure from Normal Precipitation (in) 7/1/2005 – 6/30/2006



Spring Creek Watershed



Generated 2/14/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

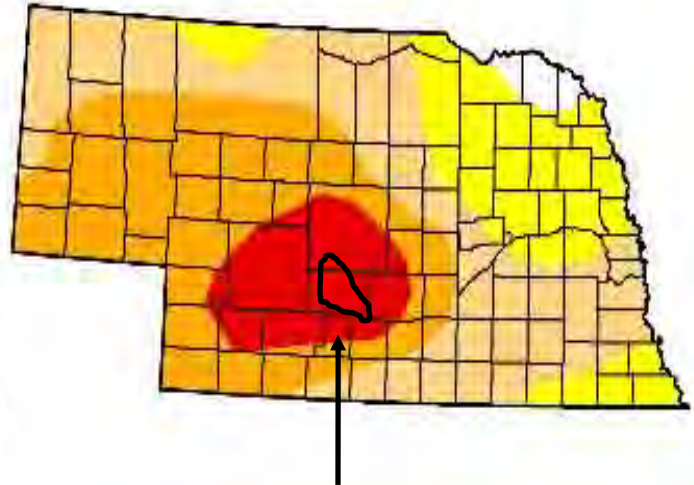
U.S. Drought Monitor

Nebraska

July 4, 2006
Valid 8 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	1.8	98.2	79.0	44.1	11.4	0.0
Last Week (06/27/2006 map)	1.9	98.1	69.6	44.2	16.9	0.0
3 Months Ago (04/11/2006 map)	33.4	66.6	44.2	0.0	0.0	0.0
Start of Calendar Year (01/03/2006 map)	13.0	87.0	34.5	0.2	0.0	0.0
Start of Water Year (10/04/2005 map)	27.5	72.5	40.5	0.0	0.0	0.0
One Year Ago (07/05/2005 map)	46.7	53.3	22.5	1.1	0.0	0.0



Spring Creek Watershed

Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

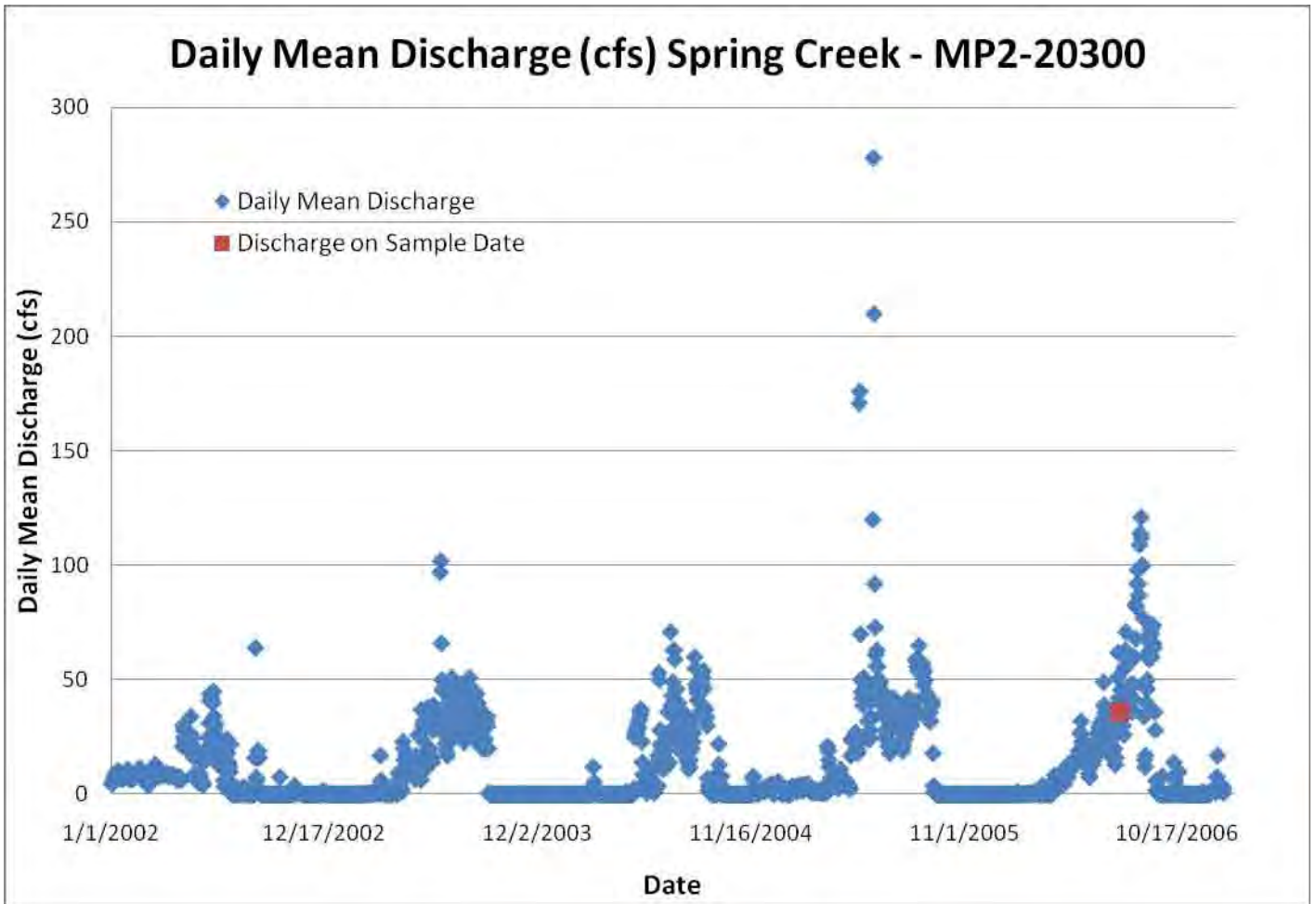


Released Thursday, July 6, 2006

Author: Douglas Le Comte and Tom Heddinghaus, NOAA/CPC

<http://drought.unl.edu/dm>

Attachment D: Middle Platte Basin (MP2-20300 Spring Creek)



Discharge data courtesy USGS and NDNR

SPENCER 5 SE, NE

Monthly Total Precipitation (inches)

(258040)

File last updated on Dec 22,

*** Note *** Provisional Data *** After Year/Month 200908

a = 1 day missing, b = 2 days missing, c = 3 days, ..etc.,
z = 26 or more days missing, A = Accumulations present

Long-term means based on columns; thus, the monthly row may not sum (or average) to the long-term annual value.

MAXIMUM ALLOWABLE NUMBER OF MISSING DAYS : 5

Individual Months not used for annual or monthly statistics if more than 5 days are missing.

Individual Years not used for annual statistics if any month in that year has more than 5 days missing.

YEAR (S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
2007	0.27	1.51	1.47	2.90	5.04	2.21	0.29	4.98	1.11	3.73	0.01	0.75b	24.27
2008	0.20a	0.44	0.62	1.56	3.57	4.77	2.11	3.03	2.20	4.36	0.45	0.21b	23.52
2009	0.14	0.39	0.58	0.00z	0.00z	0.00z	0.00z	4.31	0.00z	0.00z	0.00z	0.00z	5.42
Period of Record Statistics													
MEAN	0.37	0.54	1.28	2.57	3.34	3.48	2.81	2.63	2.35	1.58	0.82	0.43	22.24
S.D.	0.36	0.46	1.16	1.70	1.74	1.93	1.97	1.58	1.57	1.36	0.71	0.46	5.43
SKEW	1.95	1.19	2.08	1.40	0.83	0.70	1.58	1.17	0.78	0.80	1.07	1.88	0.35
MAX	1.92	2.12	6.31	8.19	9.72	8.38	10.10	8.59	6.45	4.92	3.20	2.09	35.42
MIN	0.00	0.00	0.00	0.15	0.48	0.28	0.29	0.30	0.00	0.00	0.00	0.00	12.72
NO YRS	69	69	67	66	65	66	67	67	68	66	67	67	58

May 1-June 30, 2008 precipitation = 10.64" Mean May 1 – June 30 precipitation = 7.08"

Sample collection occurred 7-24-2008.

Precipitation data courtesy High Plains Regional Climate Center

O'NEILL, NE

Monthly Total Precipitation (inches)

(256290)

File last updated on Dec 22,

*** Note *** Provisional Data *** After Year/Month 200908

a = 1 day missing, b = 2 days missing, c = 3 days, ..etc.,

z = 26 or more days missing, A = Accumulations present

Long-term means based on columns; thus, the monthly row may not sum (or average) to the long-term annual value.

MAXIMUM ALLOWABLE NUMBER OF MISSING DAYS : 5

Individual Months not used for annual or monthly statistics if more than 5 days are missing.

Individual Years not used for annual statistics if any month in that year has more than 5 days missing.

YEAR (S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
2005	0.28	0.60	2.69	5.34	5.35	7.41a	0.75	1.73	4.48	0.57	1.93	0.24	31.37
2006	0.50	0.16	1.31	2.79	0.22	2.89	0.71	4.63	3.67	0.94	0.28	2.58	20.68
2007	0.43	1.39	2.74	4.95	5.19	3.62	0.81	5.74	1.30	4.70a	0.16	2.05a	33.08
2008	0.28b	0.42	0.51	2.28	9.00	1.64	2.75	1.75	2.64	4.71	1.49a	0.76	28.23
2009	0.31	0.60	1.41	1.03a	2.70	3.25	1.90	5.64	1.23	4.41b	0.00	0.40u	22.48
Period of Record Statistics													
MEAN	0.47	0.61	1.42	2.50	3.34	3.74	2.86	2.57	2.20	1.49	0.90	0.58	23.24
S.D.	0.37	0.48	1.26	1.62	1.79	1.90	1.84	1.50	1.56	1.26	0.79	0.59	4.89
SKEW	1.43	1.21	3.49	1.10	0.59	1.09	1.01	1.04	1.50	1.01	0.97	1.91	0.12
MAX	1.95	2.17	9.92	8.22	9.00	10.95	9.17	7.74	8.14	4.75	3.21	2.95	33.08
MIN	0.00	0.00	0.03	0.02	0.03	0.75	0.05	0.29	0.40	0.00	0.00	0.00	14.00
NO YRS	102	101	102	102	100	101	98	100	103	99	102	99	77

May 1-June 30, 2008 precipitation = 10.64" Mean May 1 – June 30 precipitation = 7.08"

Sample collection occurred 7-24-2008.

Precipitation data courtesy High Plains Regional Climate Center

LYNCH, NE

Monthly Total Precipitation (inches)

(255040)

File last updated on Dec 22,

*** Note *** Provisional Data *** After Year/Month 200908

a = 1 day missing, b = 2 days missing, c = 3 days, ..etc.,
z = 26 or more days missing, A = Accumulations present

Long-term means based on columns; thus, the monthly row may not sum (or average) to the long-term annual value.

MAXIMUM ALLOWABLE NUMBER OF MISSING DAYS :5

Individual Months not used for annual or monthly statistics if more than 5 days are missing.

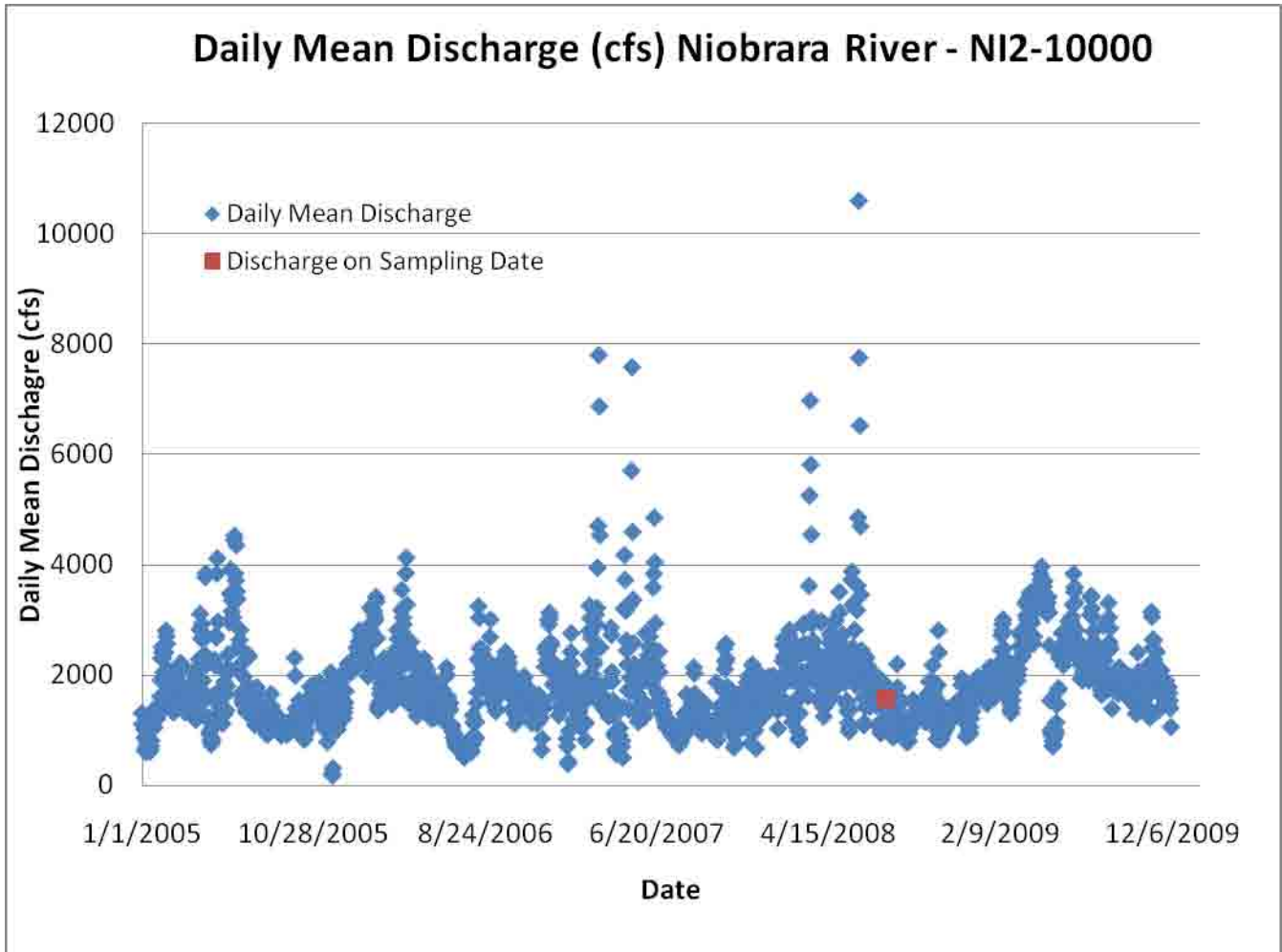
Individual Years not used for annual statistics if any month in that year has more than 5 days missing.

YEAR (S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
2005	0.51a	0.64	2.38	5.18	4.05	7.52	2.14	0.68	3.30	0.60	1.48	0.44c	28.92
2006	0.00a	0.23	1.60b	3.64x	1.19	2.92	0.43	2.69	5.59	0.36a	0.55	2.83a	18.39
2007	0.55p	1.72a	1.69a	4.07	4.64	3.58	0.28	5.29	1.64	5.74	0.04	1.40a	30.09
2008	0.00z	0.76	0.88	2.29	4.51	3.42	1.61	4.82	2.61	5.27	0.45	0.60	27.22
2009	0.12	0.67	0.00z	2.79	2.12	4.03a	3.23	4.77	1.55z	3.16z	0.00z	0.00z	17.73
Period of Record Statistics													
MEAN	0.48	0.72	1.48	2.67	3.37	3.62	2.96	2.81	2.33	1.61	0.84	0.58	23.49
S.D.	0.40	0.58	1.17	1.76	1.71	2.16	1.98	1.70	1.43	1.38	0.70	0.57	5.42
SKEW	1.29	1.48	2.06	1.26	0.52	1.07	1.18	1.09	0.82	1.16	0.90	1.87	0.05
MAX	1.85	3.18	7.58	8.68	8.95	10.64	10.10	9.25	6.65	5.74	2.77	2.83	36.62
MIN	0.00	0.00	0.09	0.00	0.05	0.55	0.12	0.00	0.12	0.00	0.00	0.00	12.63
NO YRS	98	99	97	100	98	101	103	103	100	102	100	101	81

May 1-June 30, 2008 precipitation = 7.93" Mean May 1 – June 30 precipitation = 6.99"
Sample collection occurred 7-24-2008.

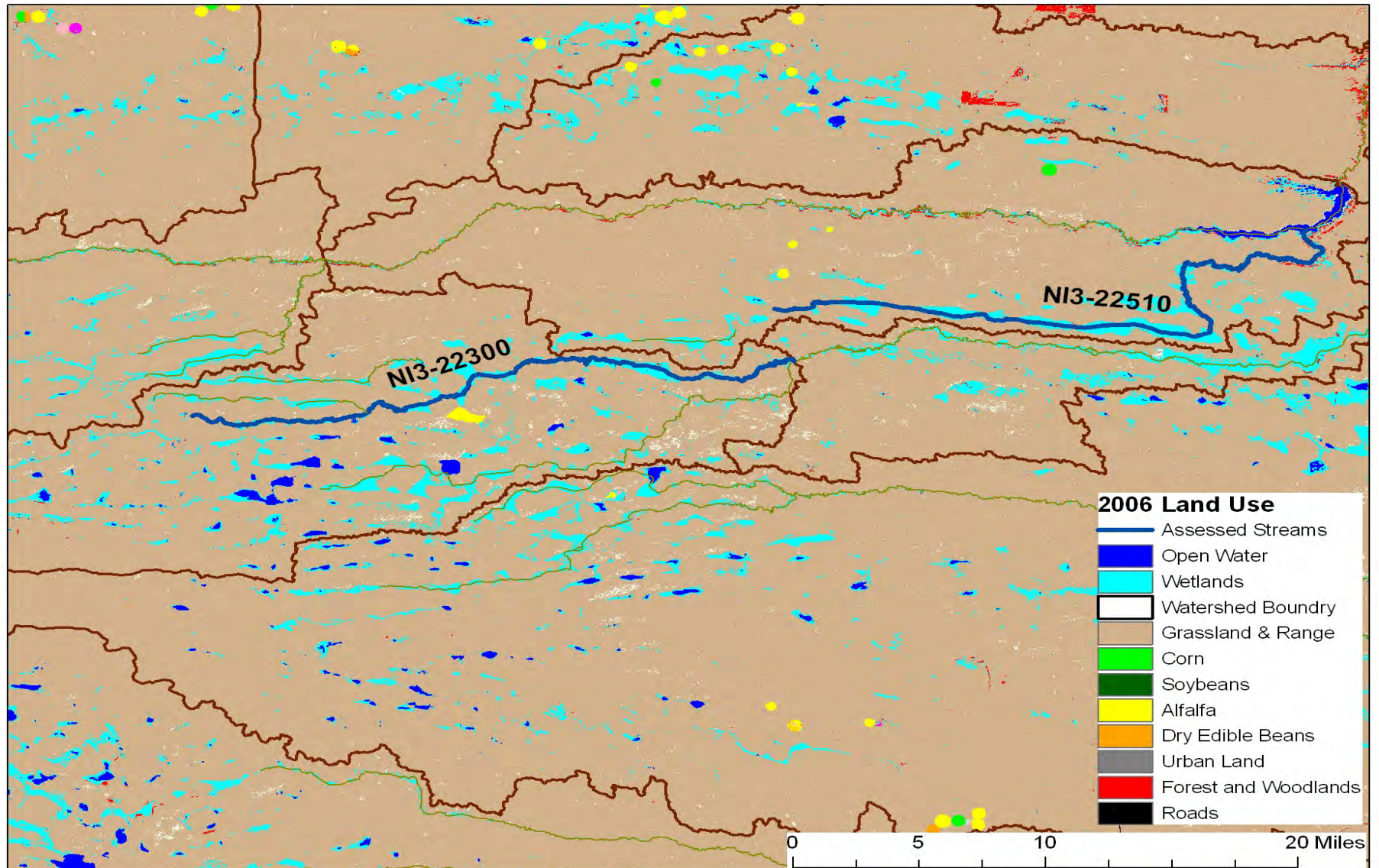
Precipitation data courtesy High Plains Regional Climate Center

Attachment E: Niobrara Basin (NI2-11420 Spring Creek & NI2-11780 Middle Branch Eagle Creek)



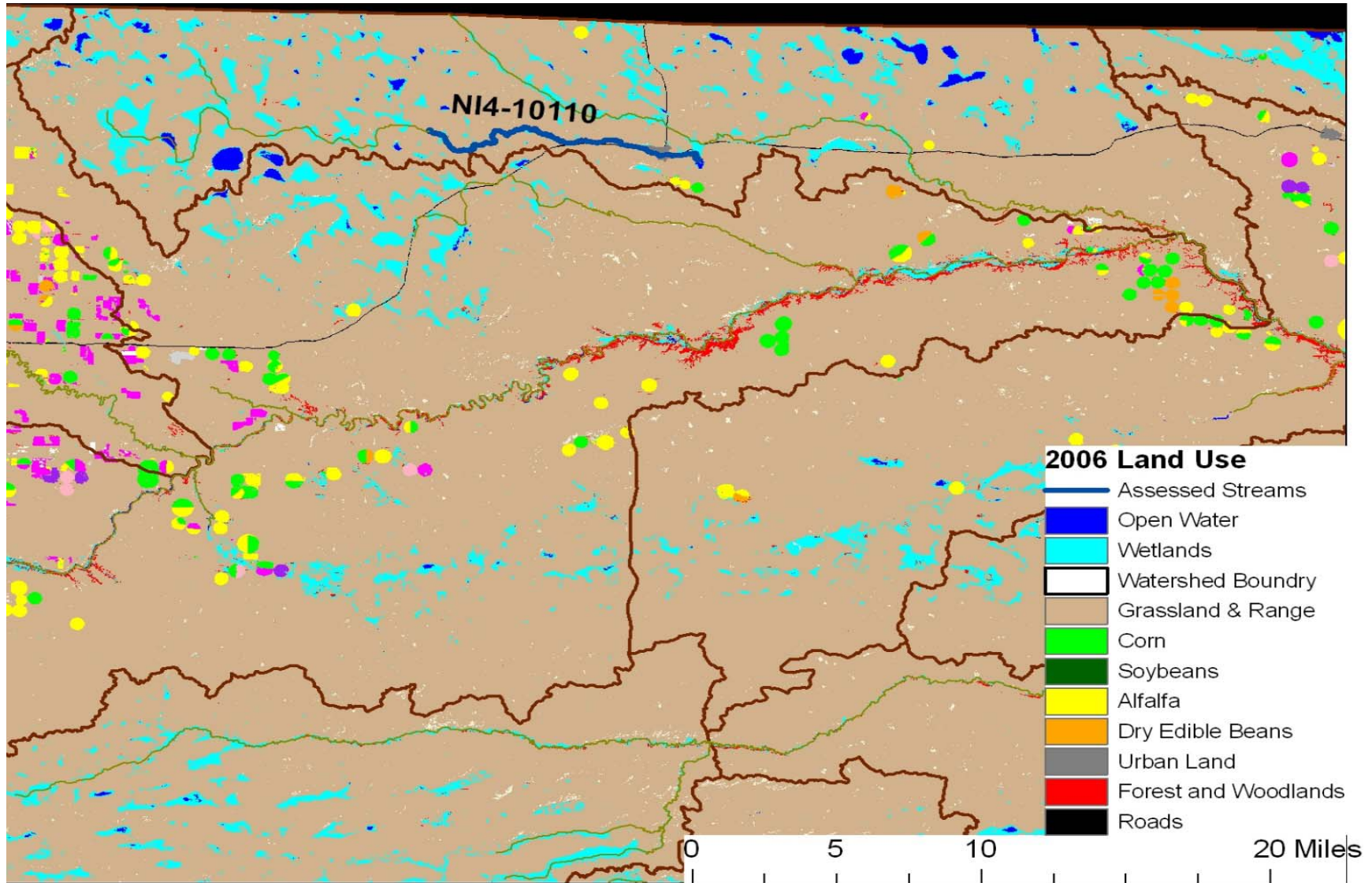
Discharge data courtesy USGS and NDNR

Attachment E: Niobrara Basin (NI3-22300 Gordon Creek & NI3-22510 Boardman Creek)



Land use data courtesy Center for Advanced Land Management Information Technologies

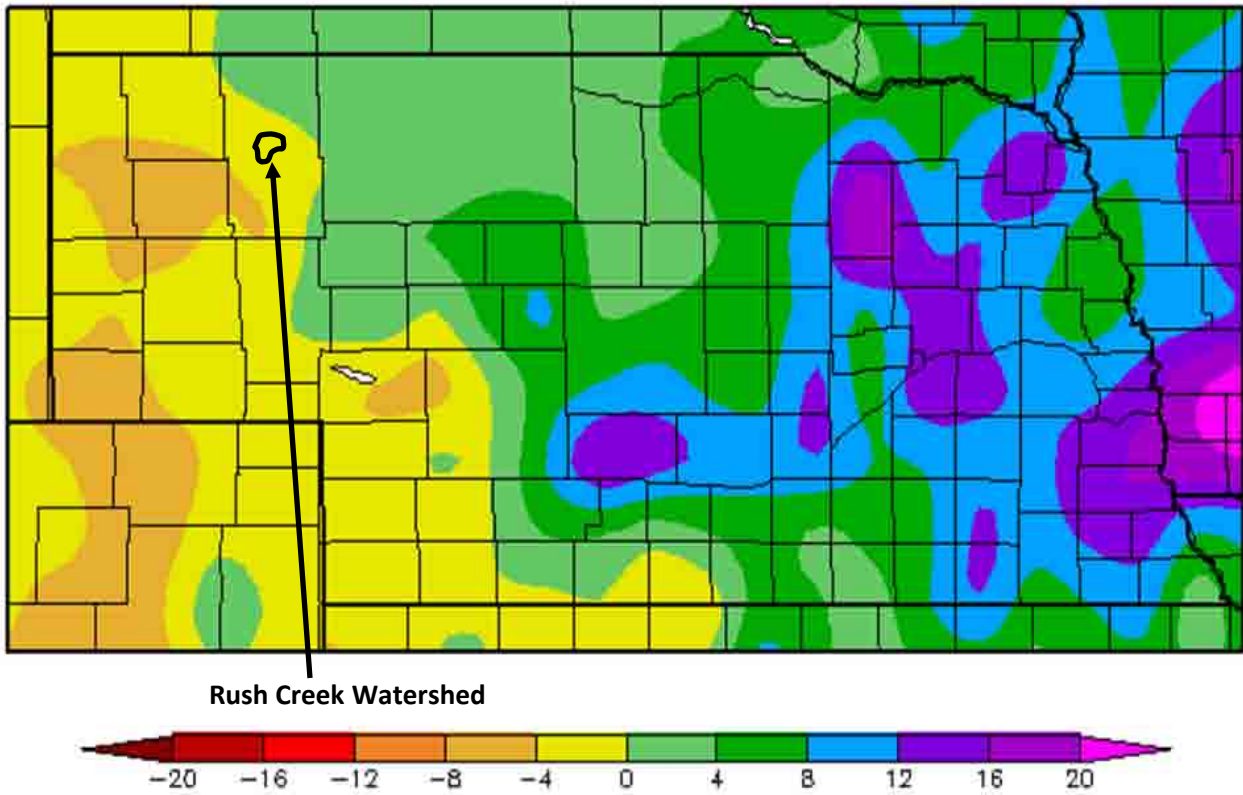
Attachment E: Niobrara Basin (NI4-10110 Dry Creek)



Land use data courtesy Center for Advanced Land Management Information Technologies

Attachment E: Niobrara Basin (NI4-10600 Rush Creek)

Departure from Normal Precipitation (in)
8/1/2007 - 7/31/2008



Generated 9/16/2008 at HPRCC using provisional data.

NOAA Regional Climate Centers

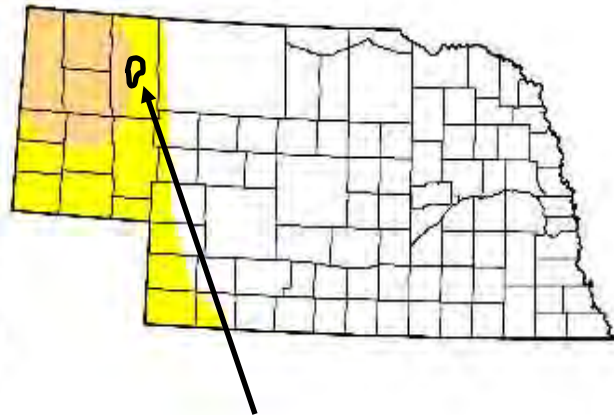
U.S. Drought Monitor

Nebraska

July 15, 2008
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	76.8	23.2	8.8	0.0	0.0	0.0
Last Week (07/08/2008 map)	77.0	23.0	8.8	0.0	0.0	0.0
3 Months Ago (04/22/2008 map)	66.7	33.3	19.1	7.8	1.7	0.0
Start of Calendar Year (01/01/2008 map)	66.7	33.3	15.9	7.8	1.7	0.0
Start of Water Year (10/02/2007 map)	70.9	29.1	13.6	7.0	1.7	0.0
One Year Ago (07/17/2007 map)	52.9	47.1	20.8	9.0	0.4	0.0



Rush Creek Watershed

Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

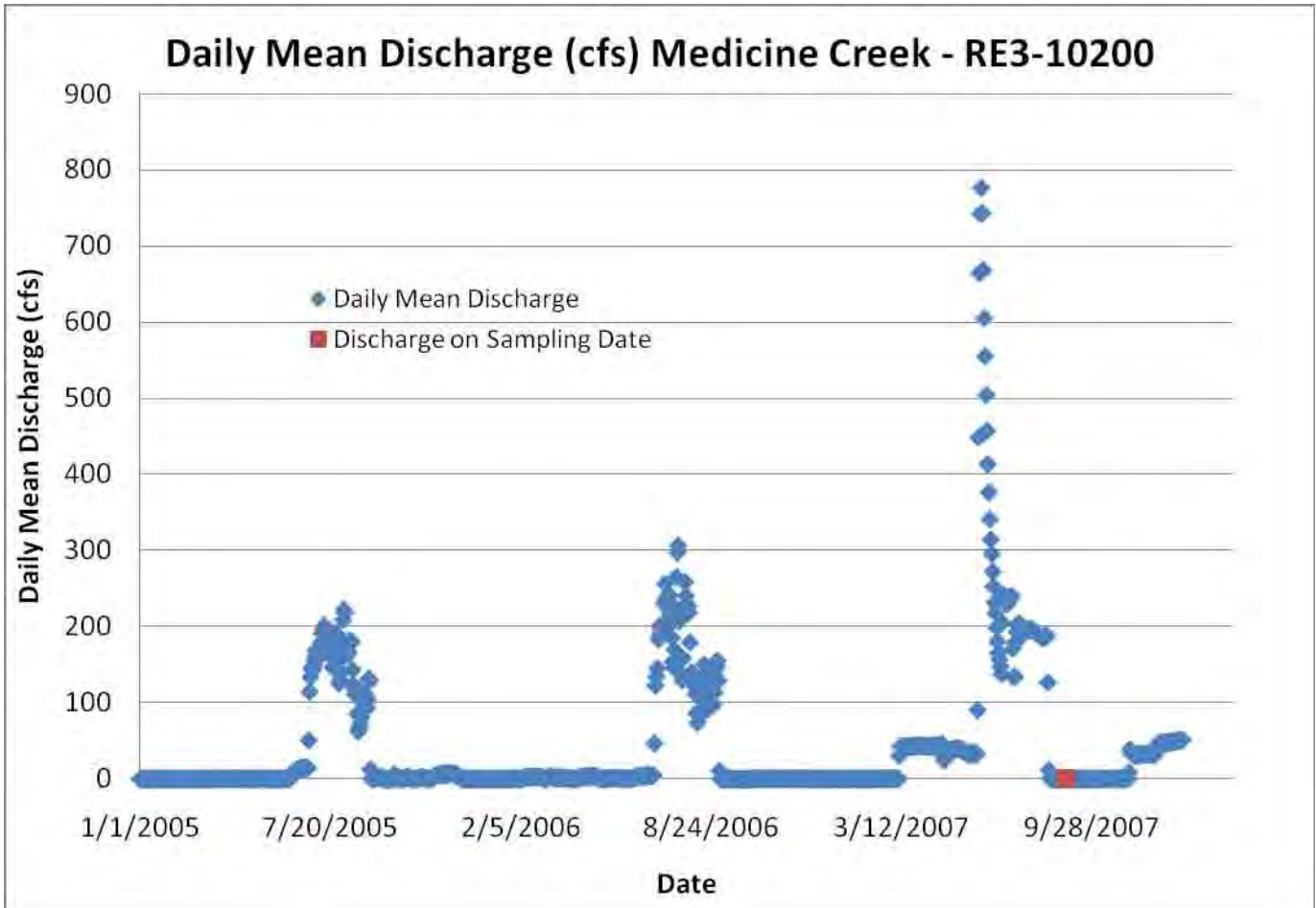
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>



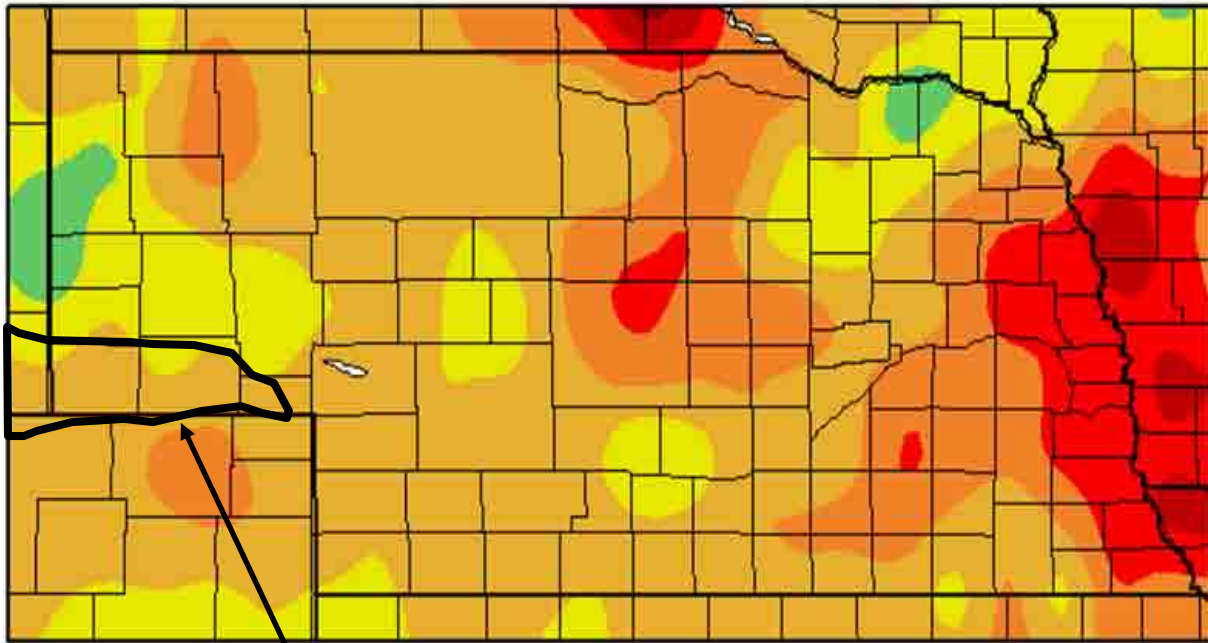
Released Thursday, July 17, 2008
Author: Brad Rippey, U.S. Department of Agriculture

Attachment F: Republican Basin (RE3-10100 Medicine Creek)

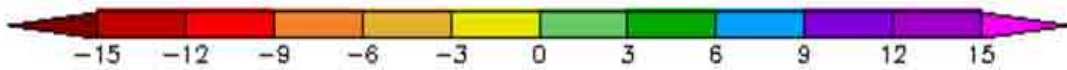


Discharge data courtesy USGS and NDNR

Departure from Normal Precipitation (in) 8/1/2005 - 7/31/2006



Lodgepole Creek Watershed



Generated 2/14/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers



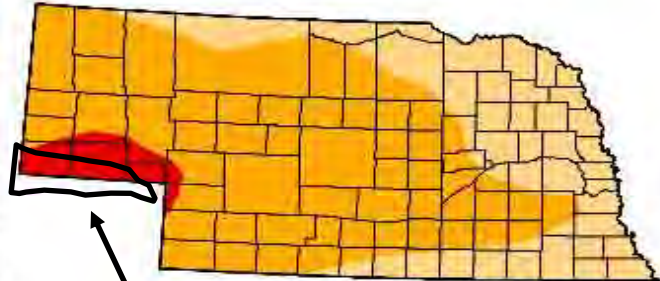
U.S. Drought Monitor

Nebraska

July 18, 2006
Valid 8 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.0	100.0	100.0	68.3	4.6	0.0
Last Week (07/11/2006 map)	0.0	100.0	78.4	38.1	0.0	0.0
3 Months Ago (04/25/2006 map)	33.1	66.9	43.4	0.0	0.0	0.0
Start of Calendar Year (01/03/2006 map)	13.0	87.0	34.5	0.2	0.0	0.0
Start of Water Year (10/04/2005 map)	27.5	72.5	40.5	0.0	0.0	0.0
One Year Ago (07/19/2005 map)	16.9	83.1	41.6	1.1	0.0	0.0



Intensity:



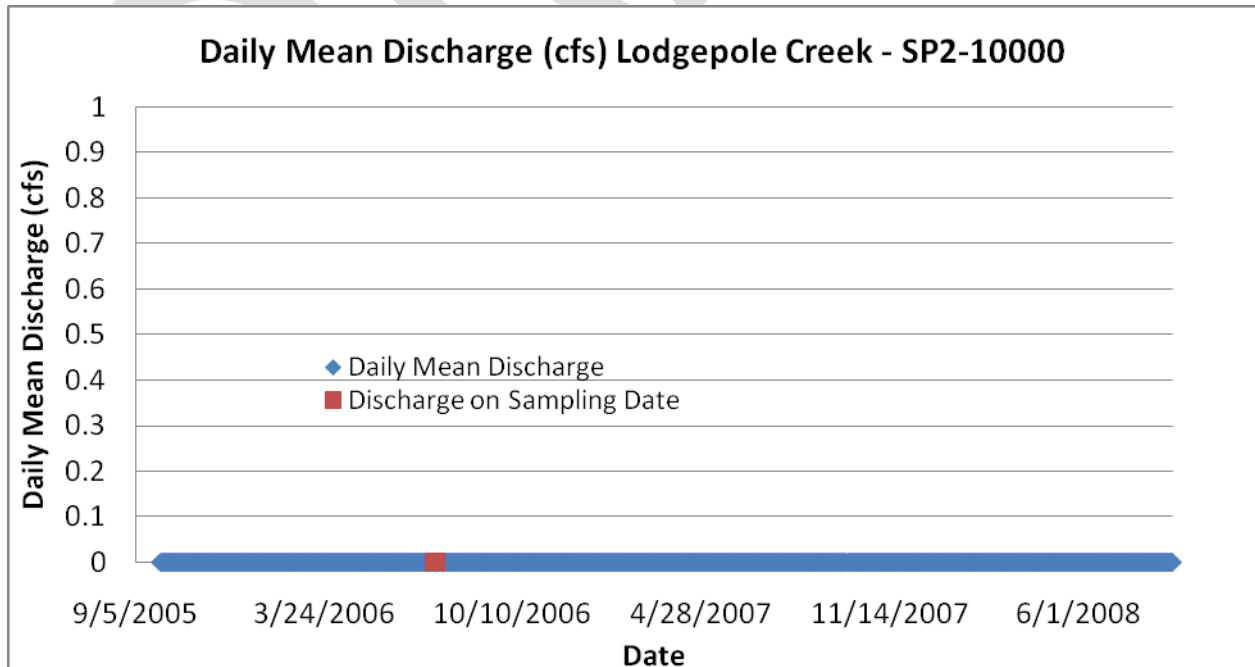
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements



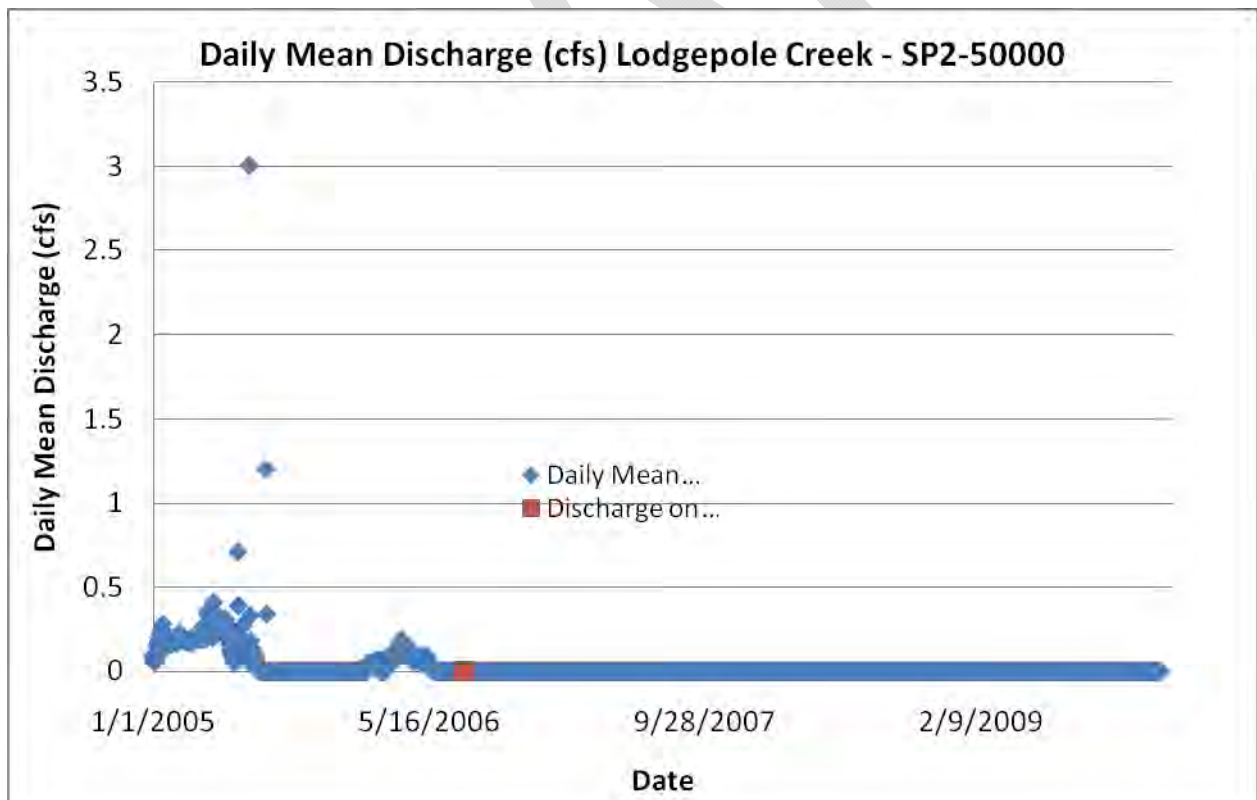
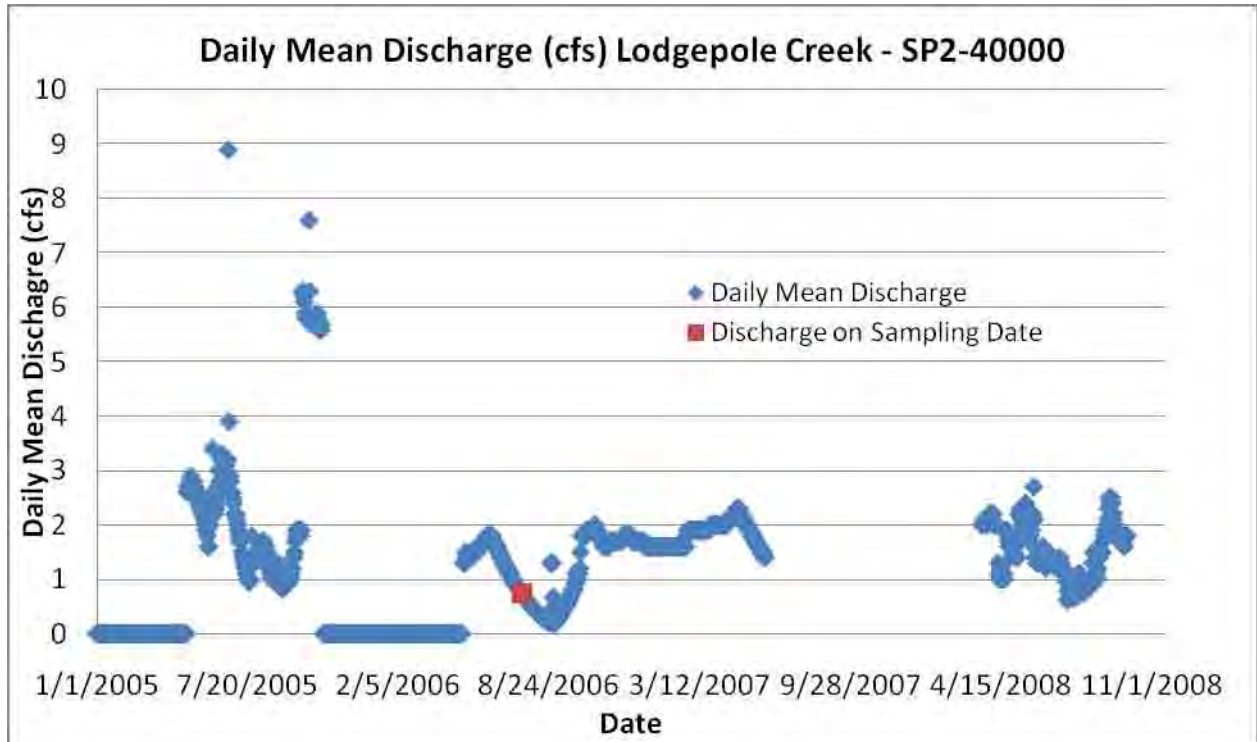
Released Thursday, July 20, 2006

Author: Richard Heim/Liz Love-Brotak, NOAA/NESDIS/NCDC

<http://drought.unl.edu/dm>



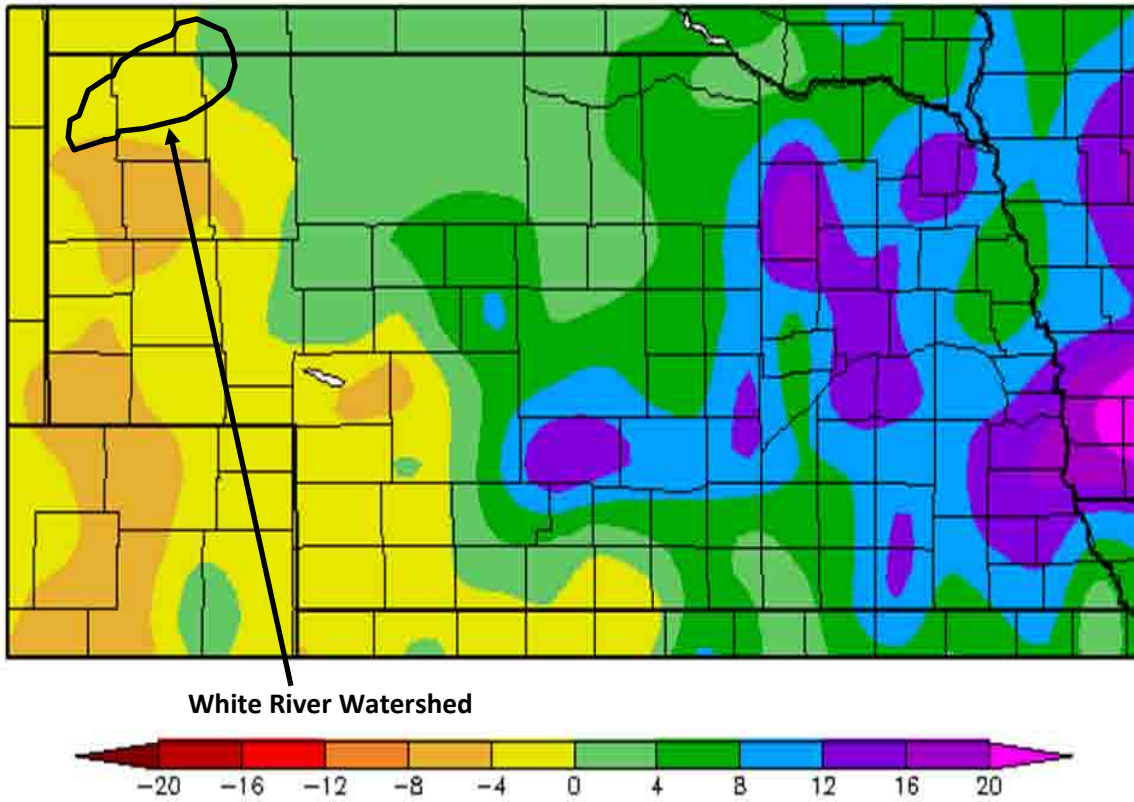
Attachment G: South Platte Basin (SP2-10000 Lodgepole Creek & SP2-20000 Lodgepole Creek)



Discharge data courtesy USGS and NDNR

Attachment H: White Basin (WH1-10000 White River)

Departure from Normal Precipitation (in)
8/1/2007 - 7/31/2008



Generated 9/16/2008 at HPRCC using provisional data.

NOAA Regional Climate Centers

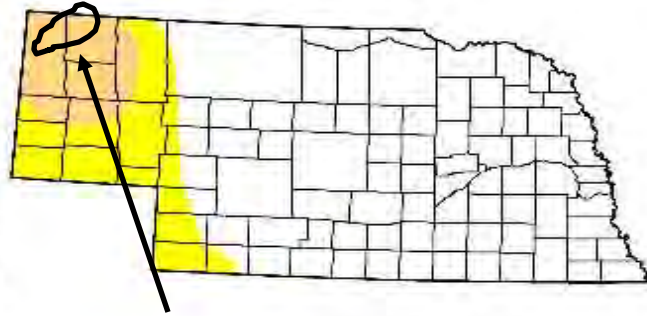
U.S. Drought Monitor

Nebraska

July 8, 2008
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	77.0	23.0	8.8	0.0	0.0	0.0
Last Week (07/01/2008 map)	77.0	23.0	9.9	0.0	0.0	0.0
3 Months Ago (04/15/2008 map)	66.7	33.3	19.1	7.8	1.7	0.0
Start of Calendar Year (01/01/2008 map)	66.7	33.3	15.9	7.8	1.7	0.0
Start of Water Year (10/01/2007 map)	70.9	29.1	13.6	7.0	1.7	0.0
One Year Ago (07/10/2007 map)	61.8	38.2	16.1	8.1	0.0	0.0



White River Watershed

Intensity:

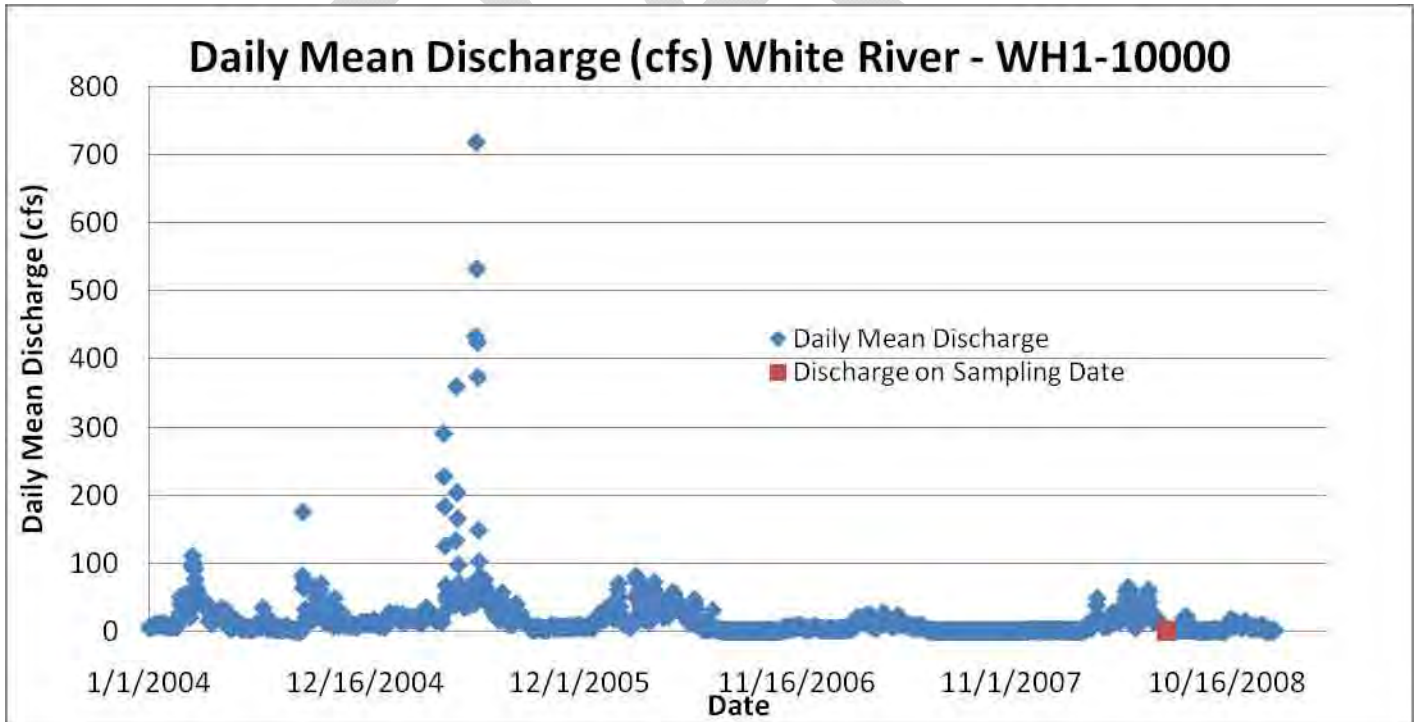
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>

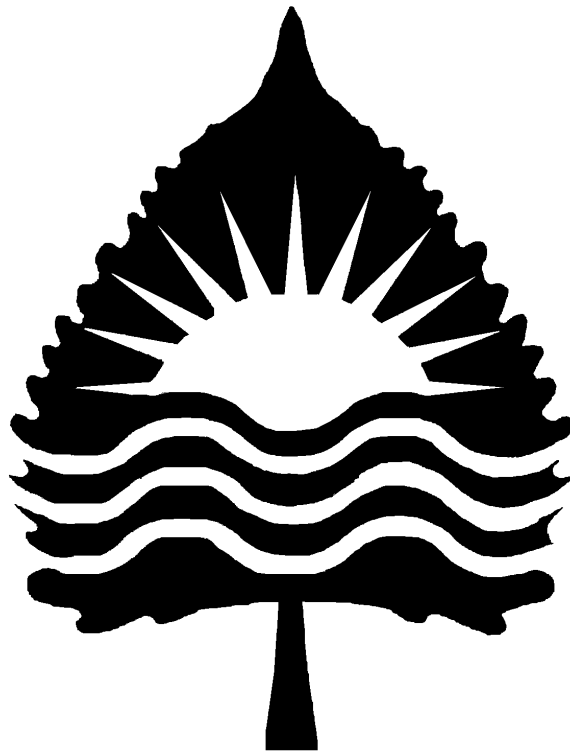


Released Thursday, July 10, 2008
Author: Rich Tinker, CPC/NOAA



Discharge data courtesy USGS and NDNR

Appendix C: Documentation for Elkhorn River Basin 4c Listings



**Nebraska Surface Water Quality Integrated Report Category
Change for Waters in the Elkhorn River Basin Impaired by
Selenium**

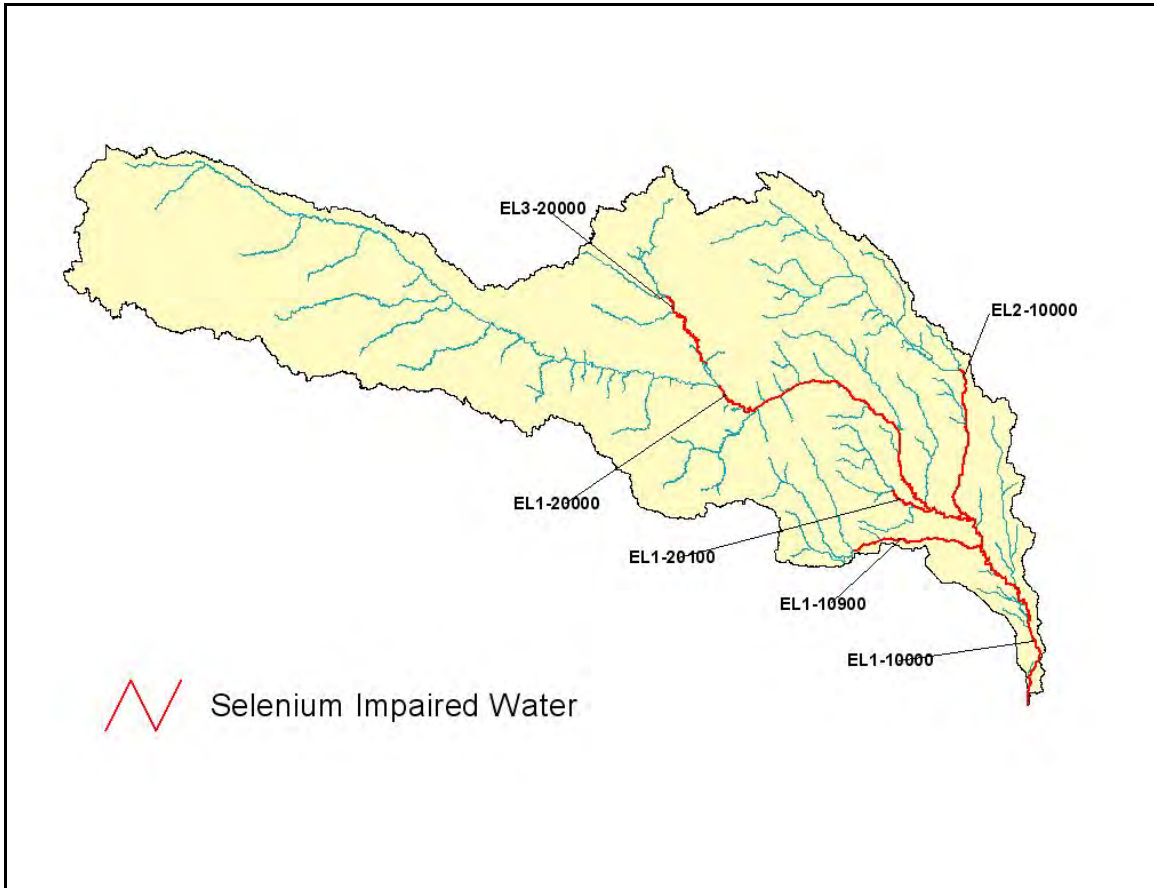
**Water Quality Planning Unit
Water Quality Division
Nebraska Department of Environmental Quality**

March 2009

Introduction

The 2008 Nebraska Water Quality Integrated Report (IR) identified five waterbodies in the Elkhorn River Basin as impaired by excessive selenium (Figure 1). Initially, and in accordance with EPA guidance, the waterbodies were included in category 5 – waters needing a TMDL. Further investigation has indicated the excess selenium is not the result of anthropogenic pollutants rather a function of the geology of the area. The purpose of this document is to provide the information necessary to document the natural condition of the Elkhorn Basin and the justification to include the selenium impairments as Category 4C candidates in future IRs.

Figure 1 Selenium Impaired Segments in the Elkhorn River Basin



EPA Guidance and Title 117

The *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Section 303(d), 305(b) and 314 of the Clean Water Act* provides information on the placement of waters into category 4C. Specifically:

“Segments should be placed in Category 4c when the state demonstrates that the failure to meet an applicable water quality standard is not caused by a pollutant, but instead is caused by other types of pollution. Segments placed in Category 4c do not require the development of a TMDL. Pollution, as defined by the CWA is “the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water” (section 502(19)). In some cases, the pollution is caused by the presence of a pollutant and a TMDL is required. In other cases, pollution does not result from a pollutant and a TMDL is not required. States should schedule these segments for monitoring to confirm that there continues to be no pollutant associated with the failure to meet the water quality standard and to support water quality management actions necessary to address the cause(s) of the impairment. Examples of circumstances where an impaired segment may be placed in Category 4c include segments impaired solely due to lack of adequate flow or to stream channelization.

EPA encourages the state to collect or assemble additional data and/or information to verify the initial placement of the segment, and to re-categorize the segment based on the assessment of the additional data and/or information where appropriate.”

As well, Title 117 Nebraska Surface Water Quality Standards (Title 117) does include a definition of natural background. The definitions states: “natural background shall mean quantifiable measurements of water quality existing in the absence of water pollution.”

Water pollution in turn is defined as: “the manmade or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.”

Assessment and Reporting Methodologies

Historic water quality data and assessments have presented situations where the data indicates criteria are not being met however the parameter exceedance is not the result of a pollution source. Because of these, the “*Methodologies for Waterbody Assessments and Development of the 2008 Integrated Report for Nebraska*”, as well as the 2004-06 versions included a category for placement and identification of these types of waterbodies. Consistent with the EPA guidance, Category 4C is the identified category and is defined to be:

“Waterbody is impaired but the impairment is not caused by a pollutant. This category also includes waters where natural causes/sources have been determined to be the cause of the impairment. In general, natural causes/sources shall refer to those pollutants that originate from landscape geology and climactic conditions. It should be noted, this definition is not inclusive.”

Title 117 and the assessment methodologies do not contain specific implementation language for the use or identification of natural background. It is the Department’s intent to address situations independently as the circumstances will differ given the diverse nature of Nebraska’s geology, land use, water policies and climate.

Current and Historic Water Quality Data

As indicated, the 2008 Integrated Report included six waterbodies as impaired by excessive selenium. A summary of the assessments can be found in Table 1 and boxplots of the data can be found in Figure 2. The assessments and subsequent impairment status was based on the comparison to the aquatic life beneficial use and the chronic criteria of 5 µg/l.

Water quality data used in the assessment was obtained through the Nebraska Ambient Stream Monitoring Network. Within the Elkhorn Basin there are ten waterbodies included in the network. As shown above six of the ten are considered impaired. The remaining four are not and monitoring and analysis have not detected selenium in any samples (n=75). Figure 3 provides a comparison of the data from impaired versus non-impaired segments. The data has been separated into above and below (Title 117) EL3-10000 which is also the boundaries of sub-basins EL1, EL3 and EL4

Table 1 Water Quality Data Assessments of Selenium Impaired Elkhorn River Basin Segments

Waterbody Title 117 ID	Waterbody Name	Data Period of Record	Number of Observations	Number >5 µg/l	Minimum needed for Impaired Assessment	Maximum Value (µg/l)
EL1-10000	Elkhorn River	2001-06	24	24	5	11.57
EL1-10900	Maple Creek	2002-06	17	17	4	19.35
EL1-20000	Elkhorn River	2002-06	16	9	4	7.02
EL1-20100	Pebble Creek	2001-06	23	22	5	19.06
EL2-10000	Logan Creek	2002-06	18	18	4	27.39
EL3-20000	N. Fork Elkhorn River	2002-06	17	17	4	11.71

From the surface water quality data and analysis the 4C justification will only be applied to specified waterbodies in the Elkhorn sub-basins EL1, EL2 and EL3. The area is shown in Figure 3.

Historic data and information was retrieved from the United States Geological Survey (USGS) for comparison to the current information. Three sites/sources of information were located in the USGS data base; two are similar to the NDEQ ambient stream locations and one is upstream of a NDEQ ambient site. The sites are as follows:

- Elkhorn River @ Waterloo (EL1-10000)
- Elkhorn River @ West Point (EL1-20000)
- Logan Creek @ Pender (EL2-20000)

Figure 1 Boxplots of the Elkhorn River Basin Selenium Impaired Waters

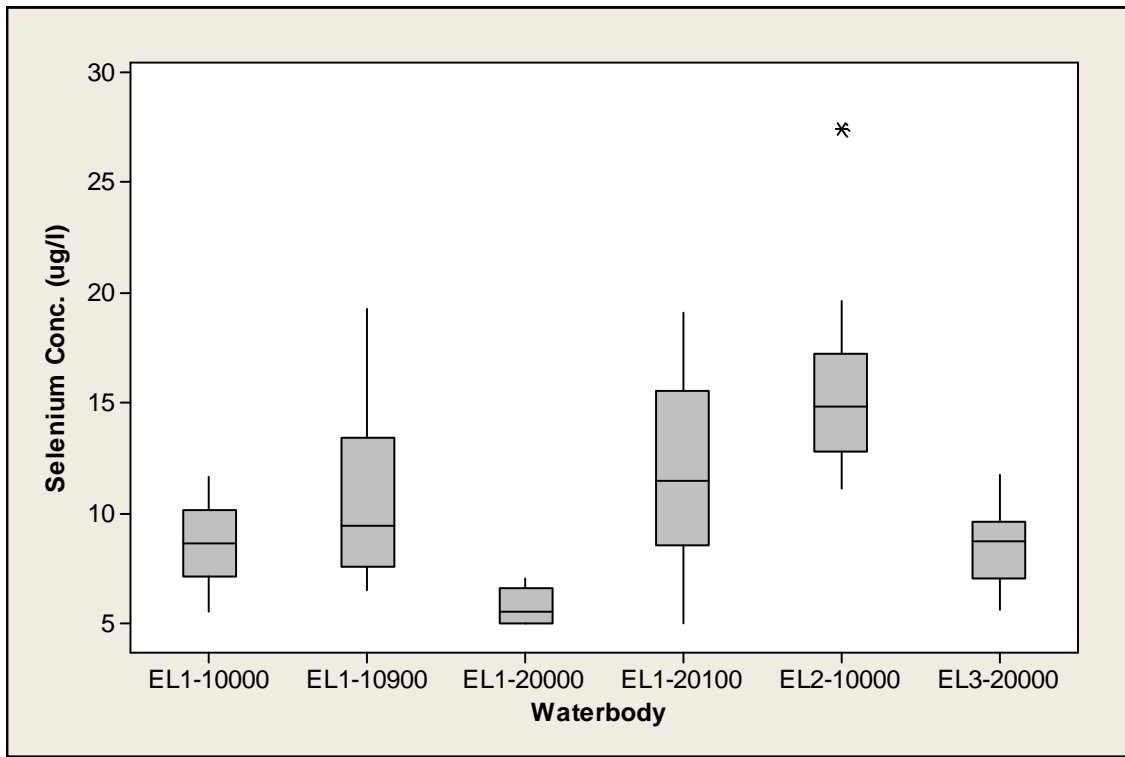
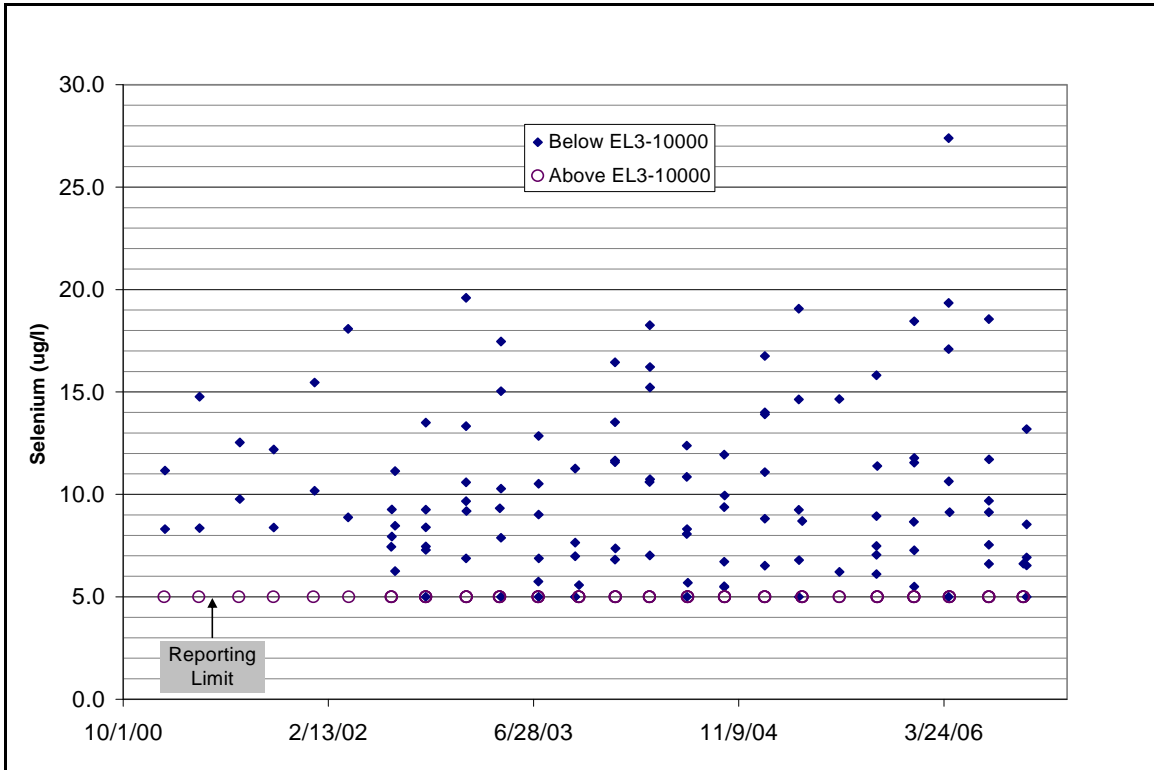


Figure 2 Elkhorn River Basin Selenium Concentrations



Although the data and information is collected from two similar sites, a direct comparison is not appropriate based on several factors including:

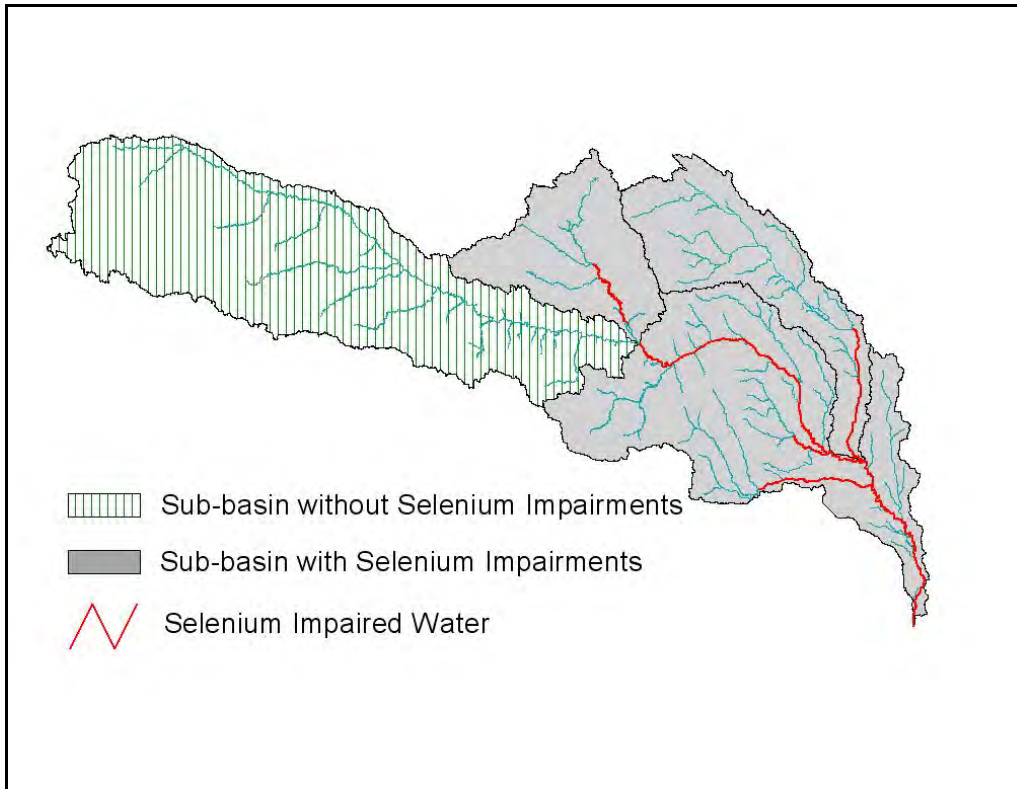
- sample type (width and depth integrated vs. centroid grab)
- stream flow conditions
- Analytical techniques and differing reporting and/or method detection limits

While a direct comparison will not be conducted, the data can be used to illustrate the long-term selenium conditions in the Elkhorn River Basin. The period of record for the historic data from the three sites is 1973-89, contains 81 observations and is shown in Figure 4.

Geologic Considerations

Selenium in surface and ground water can be ascribed to both natural and human sources. Natural sources include soils, plant decay, and aquifer materials, while human sources include waste products from uranium, bentonite, or coal mining, oil refinery wastewater, and irrigation wastewater (Engberg and Spalding, 1978; Stanton and Qi, 2007). The Elkhorn River basin in Nebraska exhibits several features associated with natural sources of selenium, and little in the way of human-induced sources.

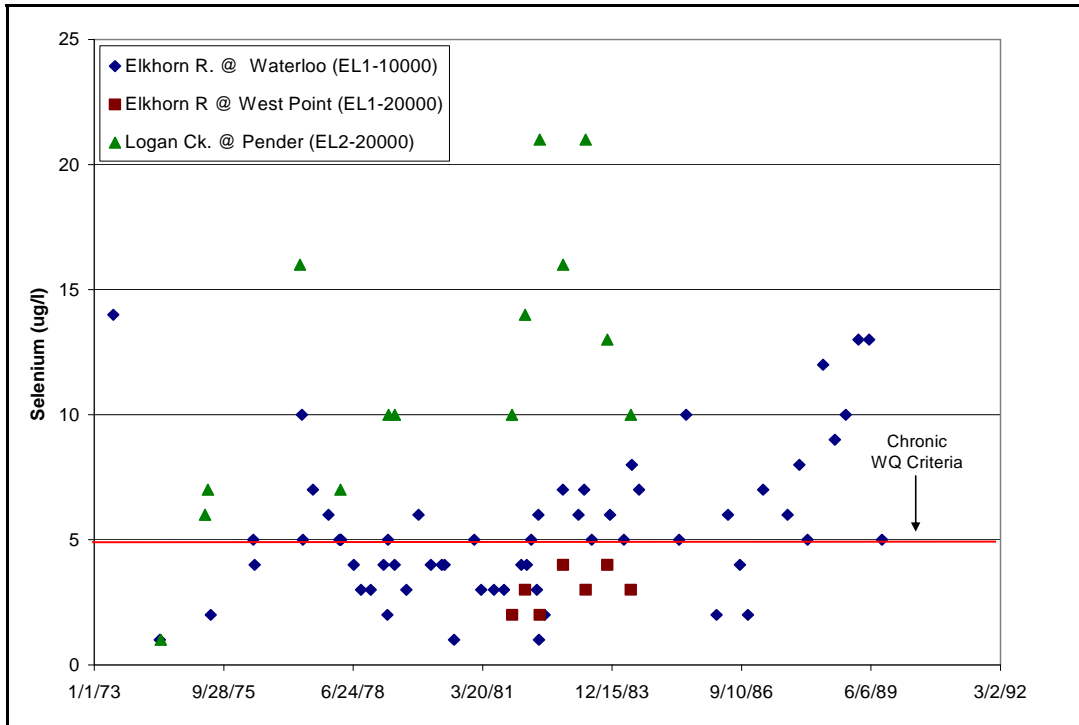
Figure 3 Elkhorn River Basin 4C Sub-basins



Most selenium near the Earth's surface is the result of volcanic activity (Engberg and Spalding, 1978). Volcanic activity in the Late Cretaceous and Tertiary Periods contributed considerable amounts of selenium to marine sediments accumulating in the Cretaceous, and to terrestrial sediments generated during the Tertiary (Engberg and Spalding, 1978). Seleniferous volcanic ash deposited along with these sediments was then incorporated into the resulting bedrock. The bedrock units of the Elkhorn River basin in Nebraska include several Upper Cretaceous marine units associated with elevated selenium, especially the Pierre Shale, Niobrara Formation, Carlile Shale, Greenhorn-Graneros Formation, and Dakota Group (Burchett *et al.*, 1986; Engberg and Spalding, 1978; Seiler *et al.*, 1999; see Figure 5).

In most cases, naturally-occurring levels of selenium rarely exceed $1 \mu\text{g}/\ell$ (Hem, 1989). In the upper portion of the Elkhorn River Basin in Nebraska, existing surface water quality sample results are generally at this level or below as described above. However, sample results from further downstream in the basin tend to increase, in some cases reaching levels of a few tens of $\mu\text{g}/\ell$ (Figure 2). This is to be expected as near-surface bedrock in the upper portion of the basin consists mostly of the Tertiary Ogallala Group, a variable unit of sand, sandstone, gravel, and conglomerate with localized volcanic ash deposits (Stanton and Qi, 2007). Such localized deposits would be expected to supply only limited amounts of selenium to runoff and/or baseflow. Also, in this portion of the basin (roughly above Pierce and western Madison Counties), the Ogallala is frequently covered by varying thicknesses of eolian dune sand, which is also not a source for selenium in runoff or baseflow. However, in the lower portion of the basin, the Ogallala thins out and disappears, and eolian dune sand is generally not present. Existing ground water quality data from the U.S. Geological Survey indicates that ground water samples from the upper portion of the Elkhorn River Basin, where wells are completed primarily in the Ogallala, exhibit levels of dissolved selenium generally below $2 \mu\text{g}/\ell$ (USGS ground water data for Nebraska available online at: <http://groundwaterwatch.usgs.gov/StateMaps.asp?sc=31>).

Figure 4 1973-89 Selenium Data from Three Elkhorn River Basin Sites



The nearsurface bedrock in the lower portion of the basin consists of upper Cretaceous units known to exhibit considerable selenium content (Engberg and Spalding, 1978). In addition, the surficial deposits in the lower portion of the basin consist largely of glacial till which often contains rock debris from the underlying Cretaceous bedrock units (Engberg and Spalding, 1979). It is illustrative to note that the highest levels of selenium in ground water from the Elkhorn basin in the USGS' online database range from about 55 to 129 $\mu\text{g}/\ell$; these are shallow wells completed in a local aquifer composed of glacial till (USGS ground water data available at <http://groundwaterwatch.usgs.gov/StateMaps.asp?sc=31>) and shown in Figure 6. Thus, both the bedrock units (which can supply some baseflow to streams) and the surficial sediments (over which runoff flows and from which plants take up nutrients) are likely to exhibit elevated selenium concentrations as compared to the upper portion of the basin. As a result, it appears that the major input of selenium in the lower portion of the Elkhorn River Basin is derived from naturally occurring bedrock, soil, and plant sources.

Industrial Sources

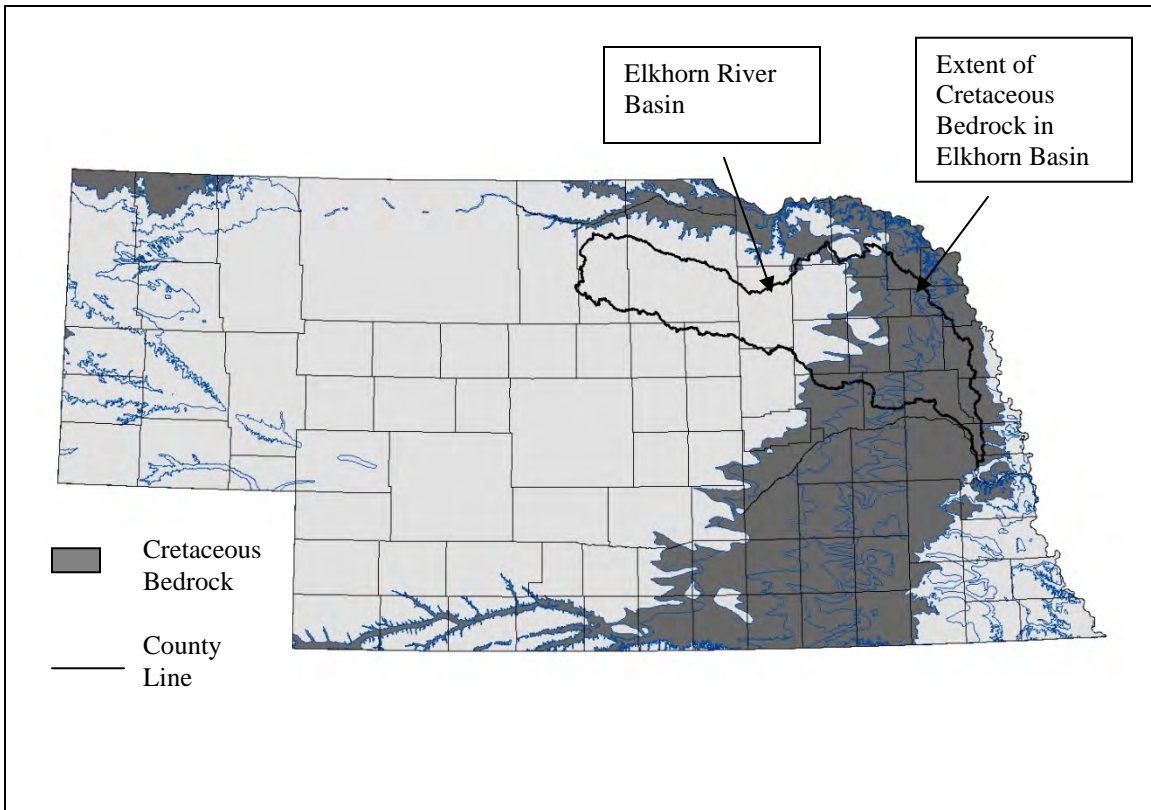
As stated above, industrial selenium sources include waste products from uranium, bentonite, coal mining, or oil refinery wastewater. Nebraska does have deposits of bentonite present at a few locations however, these deposits are not located in the lower Elkhorn River basin. Also, there has been no major mining of bentonite deposits in Nebraska (Burchett 1990).

Irrigation Water

Irrigation with groundwater is important to crop production in the Elkhorn River Basin. According to the Nebraska Department of Natural Resources, there are approximately 5,800 irrigation wells in the Lower Elkhorn Natural Resource District (LENRD) (NDNR 2008). The area of concern identified mostly lies in the LENRD.

While groundwater use is widespread in the LENRD, Nebraska state statute §46-663.02 requires each person to who uses groundwater to take action to control or prevent runoff. The same statute requires the NRDs to adopt rules and regulations to necessary to control or prohibit surface runoff of water derived from groundwater irrigation including the ability to issue cease and desist orders.

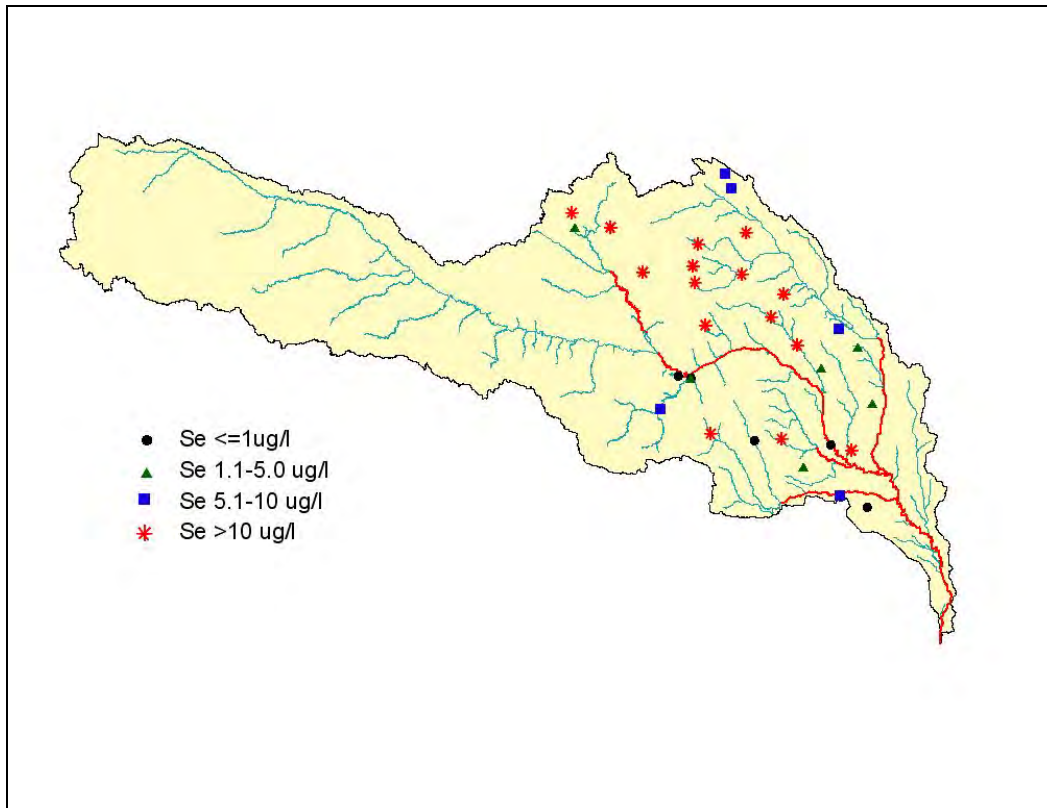
Figure 5 Simplified geologic bedrock map showing extent of Cretaceous bedrock units in Nebraska and Elkhorn River Basin. Modified from Conservation & Survey Division, University of Nebraska-Lincoln, 1996. (NOTE: irregular blue lines indicate boundaries between various bedrock units; specific units not differentiated for purposes of this figure.)



The LENRD has adopted the rules and regulation necessary to control and prohibit surface runoff of groundwater derived irrigation water. Specifically; the LENRD’s Administrative Policy No. 10. defines improper irrigation runoff to be the occurrence of irrigation runoff water that...causes or contributes to the deterioration of water quality by depositing sediment and/or associated chemicals ins surface waters within the area. The policy includes procedures for issuing cease and desist orders.

While irrigation return flow and runoff of irrigation water is regulated, a concern could exist over the build-up of selenium in the soils as a result of irrigation practices. Specifically, as water is lost through evaporation or evapotranspiration the selenium will remain in the soil. In response to these concerns in the semiarid and arid western states, the USGS developed methods to predict where selenium contamination is likely. The methods are documented in the publication entitled “*Methods to Identify Areas Susceptible to Irrigation Induced Selenium Contamination in the Western United States*”.

Figure 6 Groundwater Selenium Concentrations in the Lower Elkhorn Basin



Two methods were devised to identify areas susceptible with the first using a decision tree and the second based one based on a map that combines geologic and climatic data (Seiler , 1999). Use of the decision tree considers an evaporation index (annual free water surface evaporation/annual precipitation) where areas ≥ 2.5 are considered likely candidates. The Elkhorn Basin evaporation index is less than 2.5 and thus selenium contamination is considered to be unlikely.

Conclusion

While selenium can be a function of anthropogenic activities, geologic circumstances appear to be the overwhelming source in surface water of the lower Elkhorn basin and are supported by:

- Selenium is not detected in surface water above EL3-10000;
- Historic surface water quality data is consistent with the current data;
- Cretaceous bedrock underlies the area where the impairments occur;
- Groundwater data from the area of concern frequently exceeds the 5 $\mu\text{g/l}$ surface water quality criteria;

The evidence above demonstrates that selenium a concentration in surface water is naturally occurring, not a pollutant and a candidate for Nebraska Water Quality Report – Category 4C designation.

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Appendix F: Project Information for Category 4r Designated Waters

West Point City Lake – EL1-L0060

- Lake drained in 2001
- Sediment excavation in 2002
- Shoreline stabilization in 2003
- Lake re-filled in 2004

Horseshoe Bend Lake – EL4-L0025

- Lake drained in 2001
- Sediment excavation in 2002
- Shoreline stabilization in 2002
- Lake re-filled in 2003

Ansley City Lake – LO4-L0030

- Lake drained in 2001
- Sediment excavation 2002
- Lake re-filled in 2003

South Park Lake, Schuyler – LP1-L0370

- Lake drained in 2005
- Supplemental water source installed in 2005
- Shoreline stabilization in 2006
- Sediment excavation 2006
- Lake remained drained for work in 2009

Holmes Lake – LP2-L0040

- Reservoir drained in 2003
- Sediment excavation in 2004
- Jetty and breakwater construction in 2004
- Shoreline stabilization in 2004
- Wetland development in 2004
- Reservoir re-filled in 2005

Yankee Hill Reservoir – LP2-L0090

- Reservoir drained in 2004
- Sediment excavation in 2005
- Jetty and breakwater construction in 2005
- Shoreline stabilization in 2005
- Wetland development in 2005
- Reservoir re-filled in 2006

Wildwood Reservoir – LP2-L0120

- Reservoir drained in 2002
- Sediment excavation in 2003
- Jetty and breakwater construction in 2003
- Shoreline stabilization in 2003
- Reservoir re-filled in 2004

Glenn Cunningham Reservoir – MT1-L0120

- Reservoir drained in 2006
- Sediment removal in 2007 & 2008
- Shoreline stabilization in 2008 – 2009
- Reservoir currently re-filling
- Upstream wetland development initiated in 2010

Lake Ogallala – NP1-L0030

- Lake drained in 2009
- Sediment excavation in 2009
- Lake re-filled in 2010

Hansen Memorial Reserve Lake – RE3-L0030

- Lake drained in 2006
- Sediment excavation in 2007
- Shoreline stabilization in 2007
- Wetland development in 2007
- Aeration installed in 2007
- Lake re-filled in 2008

Lone Star Reservoir- LB1-L0050

- Construction started in 2004
- Sediment basin installed above lake
- Pond cleanouts within the watershed
- Buffer strips were planted adjacent to the lake

- Construction completed in 2006

Schuyler City Lake-LP1-L0370

- Construction started in October 2005
- Groundwater well to supplement lake was drilled
- Bank stabilization occurred
- Rock waterfall for aeration was installed
- Construction was completed in May 2006

Wagon Train Lake- LP2-L0030

- Lake drained in 2000
- Sediment excavation in 2001
- Shoreline Stabilization in 2001
- Wetland/Sediment Basin development in 2001
- Lake re-filled in 2002

Bowling Lake- LP2-L0100

- Lake drained in 2005
- Sediment excavation in 2006
- Lake re-filled in 2006

Meadowlark Lake- LP2-L0220

- Lower Platte South NRD performed a renovation in 2006