



**2004 Surface Water Quality Integrated Report  
Nebraska Department of Environmental Quality  
Water Quality Division**

**March 2004**

## Table of Contents

1.0 Introduction .....	1
2.0 Waterbody Categories .....	1
3.0 Data Sources .....	2
4.0 Assessment Outcomes and Interpretation.....	2
5.0 Waterbody Beneficial Uses .....	2
6.0 Waterbody Assessment Results.....	5
7.0 Total Maximum Daily Loads Targeted for Completion in Next 2 Years .....	6
8.0 Public Participation .....	6

## List of Tables

Table 5a – Beneficial Use Totals for Streams .....	3
Table 5b – Beneficial Use Totals for Lakes/Reservoirs .....	4
Table 6a – Results of 2004 Assessment for Streams .....	5
Table 6b – Results of 2004 Assessments for Lakes/Reservoirs	

## Waterbody Assessment Tables

Big Blue River Basin.....	BB-1
Elkhorn River Basin .....	EL-1
Little Blue River Basin.....	LB-1
Loup River Basin.....	LO-1
Lower Platte River Basin.....	LP-1
Middle Platte River Basin .....	MP-1
Missouri Tributaries Basin .....	MT-1
Nemaha River Basin.....	NE-1
Niobrara River Basin.....	NI-1
North Platte River Basin.....	NP-1
Republican River Basin.....	RE-1
South Platte River Basin.....	SP-1
White River-Hat Creek Basin.....	WH-1

## 1.0 Introduction

Section 303(d) of the federal Clean Water Act (CWA), which Congress enacted in 1972 requires states, territories and authorized tribes to identify and establish a priority ranking for all waterbodies in which technology-based effluent limitations required by section 301 are not stringent enough to attain and maintain applicable water quality standards, 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 at § 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 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.

On July 21, 2003 EPA issued guidance for the 2004 waterbody assessments and reporting requirements for Section 303(d) and Section 305(b) of the Clean Water Act. The final product is referred to as an “Integrated Report” and 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 2004 Integrated Report for Nebraska*. These procedures lay out the step-by-step process that was undertaken to characterize the waterbodies.

## 2.0 Waterbody Categories

Similar to the 2002 Section 303(d) List, the 2004 Integrated Report 2002 includes multiple categories of waterbodies to present information in a descriptive and comprehensive manner. The 5 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-C 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 definition is not inclusive.

**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 Data Sources**

The data assessed for the Integrated Report was obtained from several sources, including federal, state and local agencies and entities. A formal request for the data was made in September 2003. A copy of the data request letter will be submitted to EPA Region 7 as an attachment to the Integrated Report.

### **4.0 Assessment Outcomes and Interpretation**

Based on the procedures cited above, a waterbody beneficial use assessment can have 1 of 3 outcomes:

S = Beneficial use is supported

I = Beneficial use is impaired

Blank = insufficient data to determine if the beneficial use is supported or impaired.

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. Shaded cells indicate the beneficial use has not been assigned to the waterbody.

### **5.0 Waterbody Beneficial Uses**

Beneficial uses are assigned to all 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 1556 designated stream segments and 515 lakes/impounded waters. The waterbody assessments also included 5 lakes/reservoirs that have not been assigned a waterbody identification number. Table 5.0a presents the beneficial use totals by river basin for streams and 5.0b presents the beneficial use totals by river basin for the lakes/impounded waters.

**Table 5a – Beneficial Use Totals for Streams**

	<b>Big Blue</b>	<b>Elkhorn</b>	<b>Little Blue</b>	<b>Loup</b>	<b>Lower Platte</b>	<b>Middle Platte</b>	<b>Missouri Tributaries</b>	<b>Nemaha</b>	<b>Niobrara</b>	<b>North Platte</b>	<b>Republican</b>	<b>South Platte</b>	<b>White River-Hat Creek</b>	<b>Total Segments</b>
<b>Total Segments</b>	63	135	38	106	126	29	136	326	268	136	102	28	63	1556
<b>Primary Contact Recreation</b>	3	5	2	23	8	6	4	7	14	11	11	1	1	96
<b>Aquatic Life – Coldwater Class A</b>	0	0	0	0	0	0	0	0	14	21	0	1	15	51
<b>Aquatic Life – Coldwater Class B</b>	0	1	0	36	1	3	3	0	164	80	19	13	36	356
<b>Aquatic Life – Warmwater Class A</b>	16	38	14	26	13	12	15	40	15	6	24	11	1	231
<b>Aquatic Life – Warmwater Class B</b>	47	96	24	44	112	14	118	286	75	29	59	3	11	918
<b>Water Supply – Public Drinking Water</b>	0	0	0	0	2	0	2	1	0	0	0	0	6	11
<b>Water Supply – Industrial</b>	0	0	0	0	0	0	1	1	1	0	0	0	0	3
<b>Water Supply – Agriculture Class A</b>	63	135	38	106	121	29	136	326	268	136	102	28	63	1551
<b>Water Supply – Agriculture Class B</b>	0	0	0	0	5	0	0	0	0	0	0	0	0	5
<b>Aesthetics</b>	63	135	38	106	126	29	136	326	268	136	102	28	63	1556
<b>Total</b>														<b>1556</b>

**Table 5b – Beneficial Use Totals for Lakes/Reservoirs**

	<b>Big Blue</b>	<b>Elkhorn</b>	<b>Little Blue</b>	<b>Loup</b>	<b>Lower Platte</b>	<b>Middle Platte</b>	<b>Missouri Tributaries</b>	<b>Nemaha</b>	<b>Niobrara</b>	<b>North Platte</b>	<b>Republican</b>	<b>South Platte</b>	<b>White River-Hat Creek</b>	<b>Total Segments</b>
<b>Total Lakes</b>	29	30	13	58	73	97	28	33	54	48	18	13	26	520
<b>Primary Contact Recreation</b>	29	30	13	58	73	97	28	33	54	48	18	13	26	520
<b>Aquatic Life – Coldwater Class A</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Aquatic Life – Coldwater Class B</b>	0	0	0	1	1	0	0	0	2	3	1	1	14	23
<b>Aquatic Life – Warmwater Class A</b>	29	30	13	57	72	97	28	33	52	45	17	12	12	497
<b>Aquatic Life – Warmwater Class B</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Water Supply – Public Drinking Water</b>	0	0	0	0	0	0	1	0	0	0	0	0	0	1
<b>Water Supply – Industrial</b>	0	0	0	0	2	2	1	0	3	1	0	2	0	11
<b>Water Supply – Agriculture Class A</b>	29	30	13	58	73	97	28	33	54	48	18	13	26	520
<b>Water Supply – Agriculture Class B</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Aesthetics</b>	29	30	13	58	73	97	28	33	54	48	18	13	26	520
<b>Total</b>														<b>520</b>

## 6.0 Waterbody Assessment Results

The results of the assessments by river basin and the state as a whole can be found on Table 6.0a for stream segments and 6.0b for lakes/reservoirs.

**Table 6a Results of 2004 Assessments for Streams**

Basin	Category 1	Category 2	Category 3	Category 4A	Category 4B	Category 4C	Category 5	Basin Total
Big Blue	0	9	49	0	0	0	5	63
Elkhorn	0	5	118	0	1	0	11	135
Little Blue	0	3	33	0	0	0	2	38
Loup	0	12	80	0	0	3	12	107
Lower Platte	0	5	100	0	1	6	14	126
Middle Platte	0	5	17	4	0	1	2	29
Missouri Tributaries	0	2	129	0	0	0	5	136
Nemaha	0	4	317	0	0	0	5	326
Niobrara	0	14	245	0	0	0	9	268
North Platte	0	15	112	3		2	4	136
Republican	0	15	74	0	1	4	8	102
South Platte	0	1	19	0	1	0	7	28
White-Hat	0	5	57	0	0	0	1	63
<b>Category Total</b>	<b>0</b>	<b>95</b>	<b>1350</b>	<b>7</b>	<b>4</b>	<b>16</b>	<b>85</b>	

**Table 6b Results of 2004 Assessments for Lakes/reservoirs**

Basin	Category 1	Category 2	Category 3	Category 4A	Category 4B	Category 4C	Category 5	Basin Total
Big Blue	0	9	16	0	0	0	4	29
Elkhorn	0	3	22	0	0	0	5	30
Little Blue	0	1	8	0	0	0	4	13
Loup	1	4	52	0	0	1	0	58
Lower Platte	2	3	52	3	0	0	13	73
Middle Platte	0	15	77	0	0	0	5	97
Missouri Tributaries	0	5	16	0	0	0	7	28
Nemaha	0	2	28	1	0	0	2	33
Niobrara	0	14	31	0	0	3	6	54
North Platte	1	2	37	0	0	4	4	48
Republican	2	1	10	0	0	0	5	18
South Platte	1	1	6	0	0	0	5	13
White-Hat	0	6	18	0	0	0	2	26
<b>Category Total</b>	<b>7</b>	<b>66</b>	<b>373</b>	<b>4</b>	<b>0</b>	<b>8</b>	<b>62</b>	

## **7.0 Total Maximum Daily Loads Targeted for Completion in Next 2 Years**

As required by 40 CFR Part 130.7, the TMDLs targeted for development within the next two years and the pollutants addressed are as follows:

Big Blue River Basin: BB1-10000, BB1-20000 and BB3-10000 (*E. coli*), BB2-L0020 (Atrazine and pH)

Little Blue River Basin: LB1-10000 and LB1-20000 (*E. coli*)

Middle Platte River Basin: MP2-L0520 (Fecal coliform and Nutrients)

Missouri Tributaries Basin: MT-L0120 (Sediment)

Nemaha River Basin: NE2-L0090 (Nutrients and Sediment)

Republican River Basin: RE1-10000, RE1-20000, RE1-50000, RE3-20000 and RE3-20300 (*E. coli*)

## **8.0 Public Participation**

The availability of the TMDLs in draft form was published in the Omaha World Herald, Lincoln Journal Star, Grand Island Independent, Kearney Daily Hub, Norfolk Daily News, North Platte Telegraph and the Scottsbluff Star-Herald with the public comment period running from February 5 to March 12, 2004. The Integrated Report and assessment methodologies were also made available to the public on the NDEQ's Internet site and announcement letters were mailed to interested stakeholders.

In response to the public notice, comment letters were received from: the City of Lincoln, Nebraska Farm Bureau, Nebraska Pork Producers Association and EPA Region 7. A summary of the comments and the Department's responses has been prepared and submitted with the final 2004 Surface Water Quality Integrated Report. No changes were made to the Integrated Report as a result of the comments.

It should be noted, minor modifications were made to the draft report prior to finalizing. These modifications were clarification or organizational in nature, formatting and errors in the pollutants identified. Included in these changes was the removal of atrazine as a pollutant impairing BB4-20800, Lincoln Creek. A re-review of the data indicated an error in the initial assessment. The final assessment did not yield an impaired status for BB4-20800.